OPTIMIZATION OF SEDIMENT BASIN CONFIGURATIONS

by

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A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Master of Science

Auburn, Alabama
August 5th, 2023

Keywords: sediment basin, small-scale, energy dissipation, baffles, pollution prevention, sediment, stormwater

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ABSTRACT

Highway construction projects typically involve the disturbance of existing on-site vegetation, leaving bare soil vulnerable to erosion from environmental factors such as rainfall and wind. Soil erosion caused by precipitation events is transported via stormwater runoff and is deposited into receiving waterways. To reduce downstream sedimentation in receiving waterbodies, stormwater regulations mandate on-site control of pollution produced by construction activities. These regulations require designing, installing, and maintaining erosion and sediment control practices on construction sites. One of the more commonly used sediment control practices in Alabama is sediment basins. Sediment basins are sediment control structures used to capture, detain, and remove sediment from stormwater runoff. While standardized sediment basin design guidance exists, further research is necessary to optimize designs and ensure that guidance is backed by engineering principles.

This research focuses on understanding the performance of sediment basin designs in terms of their geometry and the effectiveness of various treatment elements. A performance-based testing methodology and apparatuses were developed in the Stormwater Lab at Auburn University to address this need. Three small-scale sediment basins were constructed for this project, each with a trapezoidal cross-section configuration. The standard and in-channel basins were designed with similar volume capacities, mimicking the size of a 3,600 ft^3 basin designed to treat 1 acre of disturbance on a representative construction site in central Alabama. In contrast, the undersized basin was intended to simulate the previous design standard of 1,800 ft^3, resulting in a volume capacity approximately half that of the standard and in-channel basins. Specifically,

the total water volume up to the spillway for the standard, in-channel, and undersized basins was measured at 15.3 ft^3 (0.43 m^3), 13.50 ft^3 (0.38 m^3), and 6.99 ft^3 (0.20 m^3) respectively. Small-scale testing allowed a higher degree of control of sediment basin parameters and conditions to optimize settling conditions.

Nine treatment methods were tested in the standard basin (2L:1W). This included (1) three coir baffles, (2) an open basin without energy dissipators, (3) increased flow path length using impervious barriers, (4) a single coir baffle (5) a level spreader forebay (6) a check dam constructed in the inflow channel with a single coir baffle, (7) a level spreader forebay with a single coir baffle, (8) no energy dissipators or skimmer, and (9) flocculant with a single coir baffle. This paper investigates the performance of the most feasible and effective installation (MFE-I) in the standard basin (2L:1W), then replicating the MFE-I within the in-channel and undersized basins. Results indicate that the undersized sediment basin was nearly as effective (73%) in capturing sediment than the standard geometry basin (87%) without the addition of flocculants. Research is ongoing and the next task is to identify the most efficient sediment basin geometry.

This research aims to improve sediment basin efficiency by modifying small-scale basins and performing tests to improve geometric properties combined with additional treatment methods. Overall, sediment basin design parameters can be combined and modified to optimize sedimentation, including geometric designs and treatment methods used within the basin. Results indicate that the introduction of flocculant can significantly enhance sediment retention in undersized basins, surpassing the performance of standard-sized basins without flocculant treatment. In the case of the standard model basin, designed to mimic a capacity of 3,600 ft^3/ac (252 m^3/ha), the utilization of a skimmer and three coir baffles (ALDOT Standard) resulted in an overall sediment retention percentage of 88% within the basin. Conversely, the undersized basin, replicating the previous design standard of 1,800 ft^3/ac (125 m^3/ha), achieved a total sediment retention percentage of 91% by incorporating a single coir baffle and applying a 5 mg/L dosage of flocculant emulsion.

The finding that the introduction of flocculant significantly enhances sediment retention in undersized basins suggests that incorporating flocculant treatment can be an effective strategy to improve sediment capture. Field practitioners and engineers can consider the use of flocculant emulsion in their sediment basin designs to achieve higher sediment retention percentages.

ACKNOWLEDGEMENTS

I would like to express gratitude to Dr. Michael Perez and Dr. Wesley Donald for their continuous support and guidance throughout the research. Special thanks are extended to the Auburn Stormwater research team, particularly Jaime Schussler and Billur Kazaz, for their collaboration during various stages of the model sediment basin project. I would also like to acknowledge the invaluable contributions of the undergraduate workers, namely Blake Daiber, Lilly Smith, Zoey Thompson, without whom this project would not have been possible. Appreciation is extended to Dr. Xing Fang for their guidance and to the Highway Research Center for their financial support of the small-scale sediment basin project. Lastly, I want to thank my family, including Greg, Michelle, Colin, and Abby, as well as my significant other, Collin, and grandparents, Carol, Cecil, and Dora, for their unwavering love and support throughout my academic journey. One final thank you goes out to my best friend, Gypsy, for being the best college dog and always being by my side.

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INTRODUCTION

1.1 BACKGROUND

The construction industry is essential to the growth and development of the United States economy. According to the United States Census Bureau (2023), the U.S. spent $1.8 trillion on construction activities. Construction projects typically involve land clearing, grading, excavating, and filling activities. These activities disturb the earth's natural surface and leave topsoil exposed for periods of time. Disturbance of the natural landscape during construction activities can increase soil exposure to erosive forces, leading to soil transportation and eventual deposition in nearby waterways (Fang et al. 2015a). In fact, construction sites can deposit sediment into waterways at rates 10 to 20 times greater than agricultural lands and 1,000 to 2,000 times greater than forests (USEPA 2018). As a result, annual erosion rates from construction sites can range from 20 to 200 tons per acre (448 tons per hectare) (Pitt et al. 2007). As a result, the United States Environmental Protection Agency (USEPA) (1998, 2016) identifies sediment as one of the most widespread pollutants affecting our waterbodies.

1.2 DOWNSTREAM EFFECTS OF SEDIMENTATION

Even under natural circumstances, all streams carry varied amounts of suspended particulates (Ryan 1991). However, when concentrations are increased due to human-induced disturbances, various changes occur in the waterbody's physical, chemical, and biological characteristics, leading to impairments in downstream waterbodies (Maxted and Shaver 1998).

The physical modifications caused by suspended solids encompass diminished light penetration (Donohue and Garcia Molinos 2009; USEPA 2009a; Vasconcelos et al. 2014), temperature fluctuations, and sediment deposition leading to reduced water storage. These changes not only have unfavorable aesthetic factors (Lloyd 1987) but also result in increased water treatment expenses (Ryan 1991), reduced navigability of channels, and decreased longevity of dams and reservoirs (Butcher et al. 1993; Verstraeten and Poesen 2000).

Construction activities can generate various pollutants that are of concern, including sediment, pesticides, fertilizers used for vegetative stabilization, petrochemicals (e.g., oils, gasoline, and asphalt chemicals), construction chemicals, and paints, wash water linked to paper, wood, trash, and sanitary waste (Washington State Department of Ecology 1991). Additionally, pollutants have a high organic content, and their decomposition in water can lead to oxygen depletion, causing critical oxygen shortages during periods of low flow and potentially resulting in fish mortality (Ryan 1991). The USEPA (2005b) states that the type and intensity of pollutants found at a construction site and their potential impacts are influenced by several factors, including the type of construction activity, physical attributes of the site, and proximity of surface waters to the source of nonpoint pollutants.

Overall, sediment loss affects the environment on- and off-site. On-site, the loss of soil can lead to the depletion of essential nutrients for vegetation and undermine the stability of plant roots due to reduced compaction. This loss of nutrients and nutrient-carrying capacity can result in a less fertile environment for landscapes and vegetation. Moreover, the loss of organic matter can lead to increased soil density and compression, reducing the available water-carrying capacity on-site. These changes can negatively affect plant growth and hinder the infiltration of fertilizers and pesticides, potentially resulting in the transport of these chemicals via runoff into nearby waterbodies (Soil Quality Institute (SQI) 2000).

1.2.1 Primary Producers

Excessive turbidity can limit the growth and distribution of macrophytes, algae, and phytoplankton (Berry et al. 2003). Several studies have researched the negative effects of elevated turbidity on primary production caused by light limitation. LaPerriere et al. (1983) observed that moderate turbidity levels of approximately 170 NTU decreased oxygen production in a stream, while primary production became undetectable above 1,000 NTU. Lloyd (1987) developed a model that indicated a decrease in primary production of 3 to 13 percent with a turbidity increase of 5 NTU in a clear, shallow stream. A 25 NTU increase resulted in a reduction of primary production by up to 50%. According to a study by Quinn et al. (1992), researchers discovered that the biomass of phytoplankton experienced a 40% decline after being subjected to suspended sediment concentrations of 10 mg/L for a duration of 56 days.

1.2.2 Invertebrates

Numerous studies conducted over several decades have focused on the effects of elevated sediment and turbidity levels on invertebrates. Aquatic invertebrates, including zooplankton, insects, crustaceans, and bivalves (e.g., mussels and clams), are widely distributed across various aquatic ecosystems, even in small bodies of water. They play a crucial role in the aquatic food chain, linking primary producers and larger organisms like amphibians, reptiles, fish, birds, and mammals (Waters 1995). The impact of elevated sediment and turbidity levels on invertebrates, as reviewed by (Henley et al. 2000; Kerr and Ontario Ministry of Natural Resources 1995; Waters 1995), includes reduced health, decreased resistance to diseases and parasites, and an overall decline in abundance. Consequently, the density, diversity, and structure of aquatic invertebrate communities can change, with a higher proportion of species tolerant to sediment.

1.2.3 Habitat

Elevated sediment and turbidity levels in aquatic environments can also have detrimental effects on the habitat of these aquatic invertebrates. These effects include degrading important habitats such as pools, spaces between particles in the medium, and wetland areas. Changes in the composition of the medium can lead to alterations in the distribution and density of various invertebrate species, consequently impacting the overall structure of the invertebrate ecosystem. Previous studies have observed this phenomenon (Berry et al. 2003; Waters 1995). The presence of increased sediment and turbidity levels can exacerbate the effects of pollutants by contributing to the loss of algae and macrophytes. This loss of vegetation reduces the availability of structures that help slow water velocity and facilitate the settling of suspended sediment. Consequently, increased levels of suspended sediment and turbidity can persist and extend further downstream as a result (Wood and Armitage 1997). Increased sedimentation can also lead to the loss of water storage capacity, increasing the risk of flooding. To mitigate these adverse effects, stormwater is mitigated via various passive Best Management Practices (BMPs), such as sediment basins, infiltration swales, saturated buffers, constructed wetlands, and ESC practices specifically designed for construction sites (Forrest and Harding 1994).

1.3 GOVERNING REGULATIONS

To minimize environmental impacts, federal, state, and local governments have enacted regulations requiring construction sites to implement ESC measures. The Clean Water Act (CWA) of 1972, enacted by Congress, serves as the predominant legislature for safeguarding and improving water quality in the U.S. Under the authority of the CWA, the USEPA issues National

Pollutant Discharge Elimination System (NPDES) permits for both point and non-point source pollutant discharges. The NPDES requires construction operators to obtain a Construction General Permit (CGP) to regulate stormwater runoff as a pollutant (United States Congress 2002). A CGP is mandatory for land-disturbing projects that impact an area of 1 acre (0.4 ha) or larger. Compliance with CGP requirements is crucial to limit environmental hazards associated with stormwater runoff from construction activities. The CGP requires contractors to develop a comprehensive Stormwater Pollution Prevention Plan (SWPPP) detailing their planned ESC practices for all land-disturbing activities (ADEM 2011). Contractors should include project information, erosion ESC plans, and a description of stormwater management practices for the site within the SWPPP (USEPA 2007).

Properly planned and installed ESC practices aim to preserve downstream waterbodies by minimizing soil loss and detaining eroded sediment particulates prior to off-site discharge. Covering exposed land or slowing the flow of runoff can minimize the risk of soil dislodgement. The effectiveness of SWPPPs depends on the design, installation, and maintenance of ESC practices. Federal regulations and permits are in place to ensure that appropriate ESC practices are implemented during all phases of construction (i.e., pre-construction, construction, and post-construction), with the goal of minimizing the risk of waterbody impairments. Regulatory actions such as fines or stop-work orders may result from failure to comply with CGP requirements.

In the Southeastern U.S., erosion emanating from construction sites primarily occurs due to stormwater runoff via rainfall events. Implementing control measures can help reduce the amount of sediment transported downstream and reduce the environmental impact of construction activities. Some common ESC measures include silt fences, sediment basins, and erosion control blankets. These measures are designed to reduce erosion and capture suspended sediment.

1.4 DEFINITION AND PURPOSE OF SEDIMENT BASINS

A sediment basin is a sediment control measure commonly used on construction sites to capture and treat sediment-laden runoff from disturbed areas. Sediment basins are structures with a large, excavated area designed to trap sediment-laden water and allow suspended sediment to settle. The settling process allows suspended particles to settle to the bottom of the basin while the least turbid water is discharged through a pipe or other outlet structure. By capturing sediment and preventing it from entering streams, rivers, lakes, and other waterbodies, sediment basins help to minimize erosion and sediment transport, protect water quality, and ensure compliance with environmental regulations.

Sediment basins are effective in reducing sediment from entering downstream water bodies. The efficiency of a sediment basin is described as the retention percentage of sediment that enters the basin. Sediment basin configurations with the least amount of sediment discharge, through the skimmer and spillway, are the most efficient (Fang et al. 2015a). Designing and constructing sediment basins appropriately is important to ensure optimal efficiency. The size and shape of basins should be based on the drainage area and the expected sediment load. High efficacy is essential for sediment basins as it determines their sediment removal capacity. An efficient sediment basin can capture a significant portion of sediment and other pollutants carried by stormwater runoff, leading to improved water quality downstream. Additionally, high efficiency reduces the frequency of maintenance required, thereby minimizing operational costs and disruptions.

1.5 RESEARCH OBJECTIVES

The primary objective of this study was to evaluate geometric and volumetric sediment basin configurations and treatments placed within the basin. The efficiency of a sediment basin is determined by the percentage of sediment retained, with the most efficient configuration being the one that results in the least amount of sediment discharge through the skimmer and spillway. Three specific objectives were sought in this study:

1) Assess the performance of standard basin design, and treatment methods within the standard basin design,
2) Design and assess the performance of multiple geometric and volumetric basin layouts,
3) Determine overall most feasible and efficient installation (MFE-I)

To achieve these objectives, the project was divided into the following tasks:

1) Conduct a literature review of sediment basin standards and prior research,
2) Develop an small-scale testing regime,
3) Construct three small-scale basins and supporting test apparatus
4) Conduct small-scale experiments on existing standard sediment basin geometry and configurations to access current performance metrics,
5) Conduct experiments in the in-channel and undersized apparatuses,
6) Evaluate basins using flocculant as a treatment mechanism,
7) Analyze the experimental data gathered to generate evaluations of performance and design of sediment basins.

1.6 EXPECTED OUTCOMES

The outcome of this project is to provide the ESC industry with the necessary knowledge and advanced guidance regarding sediment basins. The scientific data collected through this project will lead to enhanced guidance and more economical options for designing and constructing sediment basins. By reducing the land area and materials needed to construct a basin, the initial and maintenance costs for the projects will be reduced.

1.7 ORGANIZATION OF THESIS

This thesis is structured into five distinct chapters aimed at achieving the project's defined research objectives. Following this introductory chapter, Chapter Two: *Literature Review*, offers a comprehensive analysis of the regulatory framework and currently employed sediment basin standards implemented. This chapter also provides a review of past studies and experiments that have examined the performance of sediment basins. Chapter Three: *Means and Methods*, outlines the design, testing apparatus, flow and sediment introduction, and sampling procedures used for preparing and performing small-scale sediment basin experiments. In Chapter Four: *Results and Discussion*, the data, analyses, and overall findings of the performed tests are discussed. Finally, Chapter Five: *Conclusions and Recommendations* details the performance of tested sediment basin configurations and identifies areas for further research that can be conducted to improve guidance for ESCs.

CHAPTER TWO:
LITERATURE REVIEW

2.1 DEFINITION AND PURPOSE OF SEDIMENT BASINS

Sediment basins are one of the most widely used sediment control practices. Sediment basins reduce sediment transport into receiving waterbodies by facilitating sedimentation within the practice. Sediment basin construction involves excavating a land area and diverting runoff into the practice. The primary objective of sediment basins is to temporarily detain and treat stormwater runoff before discharging from the site. Basins promote gravitational settling by allowing sediment-laden runoff to pond within their confines (Bidelspach and Jarrett 2004). Extensive research has demonstrated their impressive efficiency, with capture rates ranging from 75% to 90% for suspended particulates, heavy metals, and other biological compounds (Bidelspach and Jarrett 2004; Fennessey and Jarrett 1997; Perez et al. 2016b). The efficiency of sediment basins is influenced by factors such as Efficiency of a sediment basin in removing suspended sediments relies on multiple aspects, including sediment particle dimensions, the ratio of basin surface area to inflow rate, sediment characteristics (i.e., particle density, shape, and concentration), and particle settling velocities (Fang et al. 2015).

The four primary components of a standard basin, as recognized by the International Erosion Control Association (IECA), Alabama Department of Transportation (ALDOT), and Alabama Soil and Water Conservation Committee (AL-SWCC), include a forebay or channel, energy dissipaters (e.g., baffles), a primary discharge outlet, and a stabilized spillway (ALDOT

2010; AL-SWCC 2018; IECA 2021). The standard detail drawings for sediment basins created by the IECA require a length-to-width (L:W) ratio of 2L:1W, three coir baffles evenly distributed in the basin, a floating surface skimmer, and an auxiliary spillway capable of withstanding the peak flow rate from a 10-yr, 24-hr design storm (Figure 2.1). The standard drawings for ALDOT and AL-SWCC are similar to the detailed drawing provided by IECA.

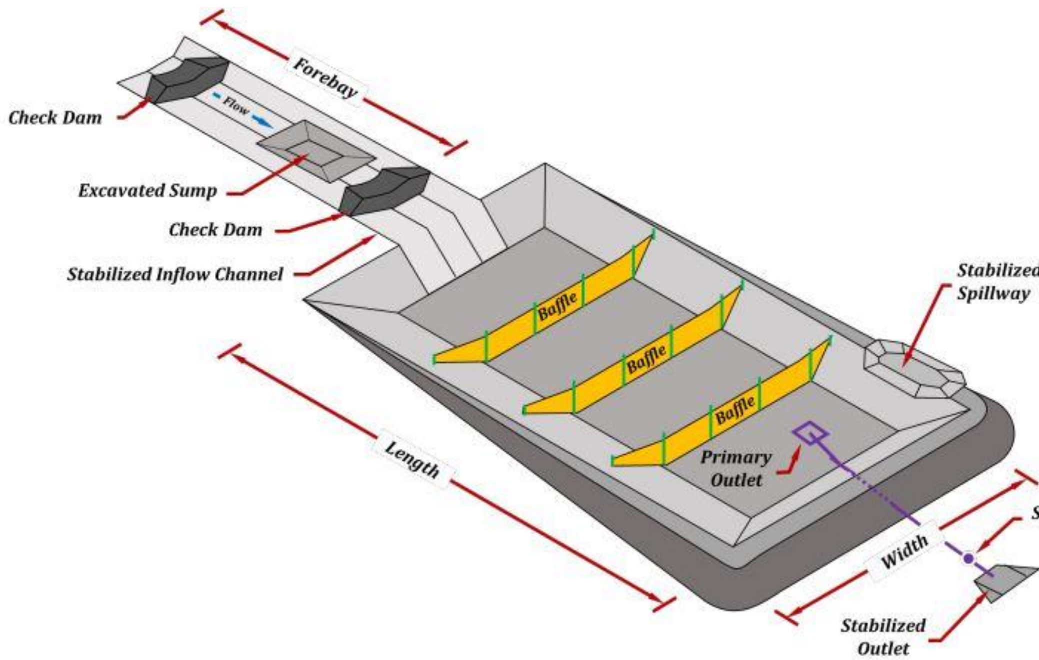


Figure 2.1 IECA Sediment Basin Standard Drawing (IECA 2021)**.**

2.2 SEDIMENT BASIN DESIGN

Sediment basins are essential to construction sites because they provide containment volume and residence time for sediment particles to settle. Typically situated near discharge points, these basins facilitate the treatment of stormwater runoff. The discharge of treated water to nearby waterbodies is achieved through floating surface skimmers and spillway overflows.

2.2.1 Sizing and Geometry

When designing a sediment basin, geometric and volumetric factors are essential to consider because they ensure that basins are adequately sized to accommodate the runoff generated during storm events. Hazen (1904) found that sediment capture was proportional to the surface area of a sediment basin but was independent of its depth. Therefore, dimensional requirements such as length-to-width ratio have been found to affect trapping efficiency and downstream turbidity values. Sizing and geometric characteristics of basins are fundamental design considerations that significantly influence the effectiveness of sediment removal and trapping.

2.2.1.1 Volume Requirements

According to the Alabama Department of Environmental Management (ADEM) (2017), site-specific conditions necessitate the proper selection, installation, and maintenance of sediment control measures (e.g., sediment basins) to effectively minimize discharges during storm events, including the 2-yr, 24-hr storm event. Proper design of sediment basins requires consideration of geometric and volumetric guidelines to ensure they have sufficient capacity to contain stormwater runoff. Adequate basin volume is essential to prevent overflow conditions that discharge untreated runoff from the site. Stormwater runoff must be captured within the basin to allow sedimentation to occur before discharging offsite (Bidelspach et al. 2004; Millen et al. 1997).

Previously, sediment basin design standards required a minimum volume sizing factor (VSF) of 1,800 ft^3 per ac (125 m^3 per ha) of disturbed land within the contributing drainage area. This guidance allowed for capturing the equivalent of the first 0.5 in. (1.27 cm) of runoff across the disturbed area (N.C. DOT, 2012). However, the USEPA (1992) increased the VSF to 3,600 ft^3 per ac (252 m^3 per ha) of disturbance. This provided a sediment basin with a storage volume equivalent of 1.0 in. (2.5 cm) of runoff per acre of disturbed area under construction conditions. Based on the assumption of a 2-yr, 24-hr rainfall event with a depth of 3-in. (7.62 cm), the sizing guideline determined that it would result in 1.0-in. (2.54 cm) of runoff, corresponding to approximately 3,600 ft^3 per ac (252 m^3 per ha) per drainage area. Inadequate basin storage volume can have harmful environmental impacts such as increased flooding risk and downstream turbidity, which can further impact aquatic habitats and hinder the ecosystem's natural balance. Therefore, the AL-SWCC (2018) recommends using a maximum drainage area of 10 ac (4 ha) per sediment basin. This is recommended in the event of structural failure to mitigate potential risks to the public and the environment.

However, the VSF one-size-fits-all approach has faced criticism due to its inadequate storage capacity for effectively capturing the runoff volume from the 2-yr, 24-hr rainfall event (Fifield 2015). This criticism stems from recognizing that average rainfall depths and peak flow rates vary geographically. Figure 2.2 presents average rainfall depths in a Southeastern U.S., it can be observed that the average 2-yr, 24-hr rainfall depth increases from north to south. Notably, the Southeast region's average rainfall depth exceeds the overall average. For the state of Alabama, Huntsville, AL (northern Alabama) has an average 2-yr., 24-hr rainfall depth range of 3.8 to 4.0 in. (9.6 to 10.1 cm), while Mobile, AL (southern Alabama) receives an average of 5.8 to 6.1 in. (14.7 to 15.4 cm) of rainfall for the 2-yr, 24-hr storm. Consequently, larger storms necessitate a larger storage volume for effective runoff capture. Therefore, the need arises for an alternative sizing method that accounts for the geographical characteristics of the site.

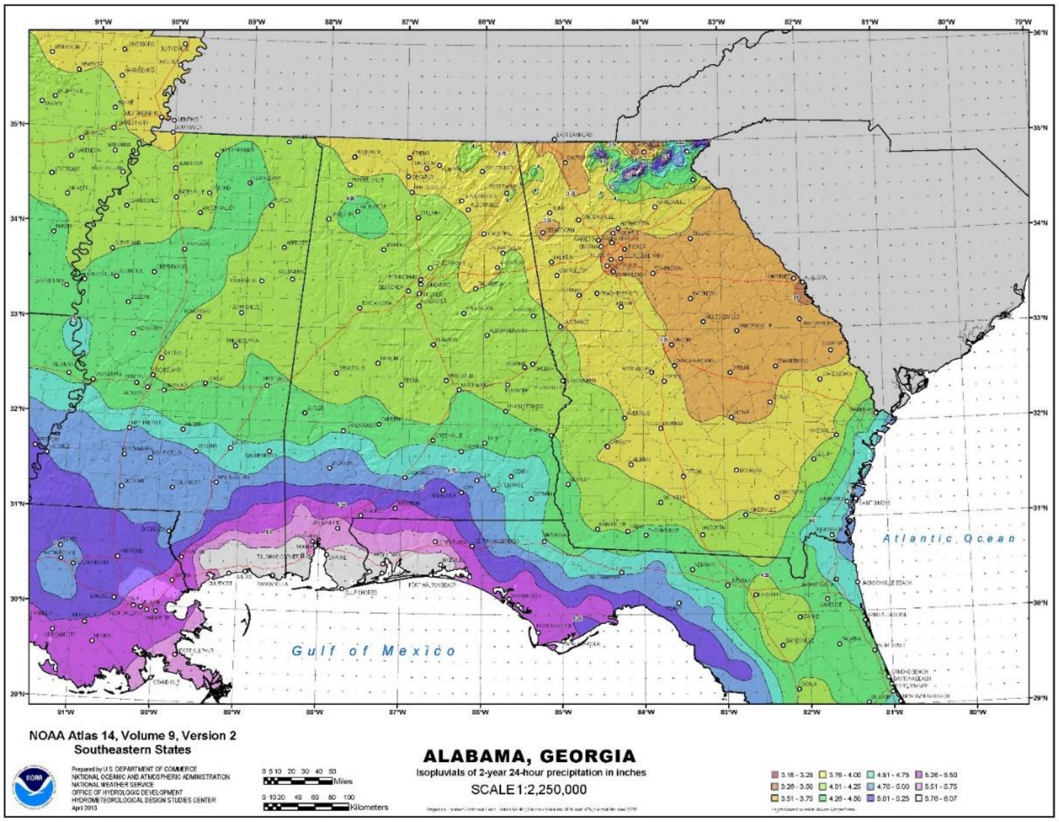


Figure 2.2 NOAA Atlas 14 Cartographic Maps of Precipitation Frequency Estimates for Selected Frequencies and Durations (Atlas 14 2023)**.**

In 2016, Perez et. al developed a design tool called SEDspread, which allows designers to select site-specific parameters for sediment basin sizing. Varying site-specific parameters, including the sizing factors such as the 2-yr, 24-hr design storm or the 3,600 ft^3/ac (252 m^3/ha), to determine the appropriate basin capacity and layout. Additionally, the tool allows designers to input a U.S. zip code to access rainfall and soil information. Researchers performed a case study on two sediment basins located on construction sites in Auburn, AL, comparing the basin design and implementation with the results generated by SEDSpread. It was observed that although the basins were designed based on the 3,600 ft^3/ac (252 m^3/ha) VSF, they were undersized by a factor of three when compared to the 2-yr, 24-hr design storm (Perez et al. 2016a).

Another study conducted at Auburn University observed a newly constructed sediment basin throughout a three-month period during highway construction in Franklin County, AL (Fang et al. 2015b). The excavated basin was designed to accommodate 20,287 ft^3 (574.5 m^3) of stormwater runoff for a contributing drainage area of 9.1 ac (3.7 ha). Therefore, the basin had a storage volume of 2,202 ft^2 per acre (505.5 m^2 per ha) of disturbed area. As mentioned in the study, the basin was designed and sized based on outdated standards that recommended a minimum sediment basin storage of 1,800 ft^3 per acre (125 m^3 per ha) for the contributing drainage area. Among the sixteen storms monitored, five resulted in overflow over the auxiliary basin spillway. Inflow from larger storms caused an increase in downstream turbidity and resuspended previously settled sediment. This indicated the basin was undersized by a factor of 4.8 when compared to the 2-yr, 24-hr design storm (97,115 ft^3 [2,750 m^3] as determined from modeling)

2.2.1.2 Storage Zones

Design guidance for determining basin storage volume relies on either standard VSF values or design rainfall events. This design guidance considers volumetric capacities for each of the basin's zones. Sediment basins are comprised of four primary zones: a standing pool, stormwater storage, auxiliary spillway flow, and freeboard. The standing pool, typically 1 ft (0.3 m) in height, refers to the volume of water that remains within a system without discharging. Additional standing pool depth within the basin is necessary to ensure sufficient storage capacity for deposited sediment. The primary outlet orifice in the basin separates the standing pool zone from the stormwater storage, depicted in Figure 2.3. Stormwater storage, on the other hand, represents the designed volume intended to be discharged through the floating surface skimmer, which serves as the primary outlet. Based on dimensional parameters, sediment basins typically require a storage capacity depth of 2 to3 ft (0.6 to 0.9 m) to accommodate runoff volumes from a 2-yr, 24-hr design storm event. In cases where the primary outlet is insufficient, an auxiliary spillway serves as an alternate path for the runoff. When flow is discharged through the secondary outlet, it is called auxiliary spillway flow. Auxiliary spillway flow typically does not exceed 1 ft (0.3 m). Additionally, freeboard is the term used to describe the extra storage capacity beyond the design volume of the spillway. This acts as a safety factor and can discharge through the auxiliary spillway when necessary.

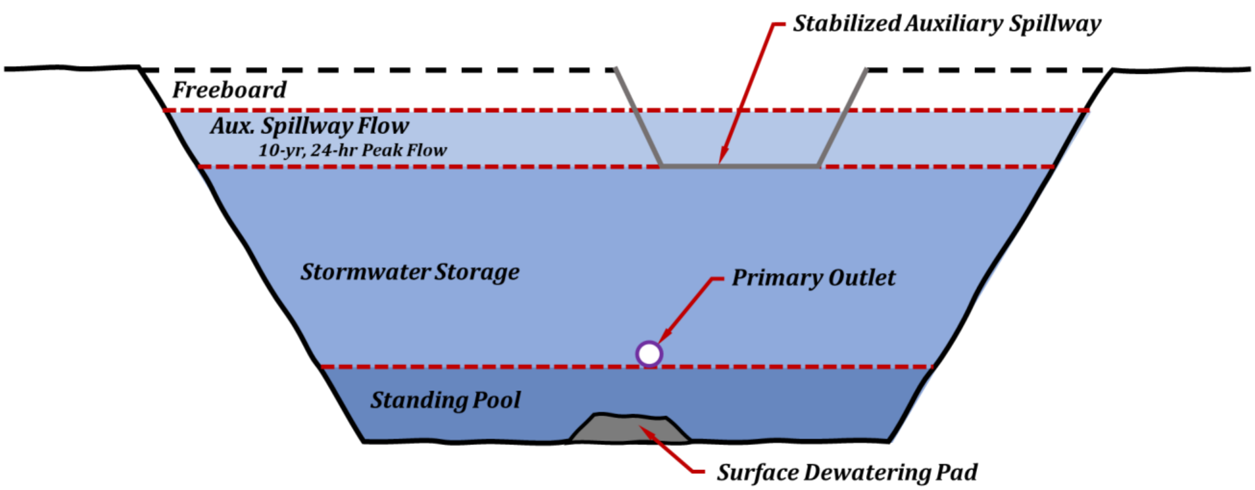


Figure 2.3 Sediment Basin Cross-Section (IECA 2021)**.**

2.2.1.3 Residence Time

Geometric and volumetric parameters directly affect trapping efficiency, as they affect the length of flow paths and residence times (Thaxton and McLaughlin 2004). Sediment particles settle out at a specific rate based on the particles' size and density, making the basin's detention time a critical factor in the amount of sediment captured. The residence time is a dynamic parameter influenced by various environmental and basin-specific factors. These include flow rate, particle size diameter, fluid viscosity, and basin turnover. Stokes' law is shown in Eq. 2.1 refers to a fundamental principle in fluid dynamics that describes the settling velocity of small particles in a viscous fluid. It states that the drag force acting on a spherical particle in a fluid is directly proportional to the particle's radius, the fluid viscosity, and the velocity of the particle relative to the fluid.

$$V_s = \frac{g(s-1)d^2}{18\mu} \qquad \textbf{Eq. 2.1}$$

Where,

V_s = terminal velocity, ft/s (m/s)

g = acceleration of gravity, 32.2 ft/s^2 (9.81 m/s^2)

s = specific gravity of suspended particle

d = diameter of suspended particle, ft (m)

μ = kinematic viscosity of fluid, ft^2/s (m^2/s)

Stokes' law states that the settling velocity of a particle is inversely proportional to its radius and directly proportional to the viscosity of the fluid. This fundamental principle finds extensive application in estimating particle settling behavior in various contexts, including sedimentation processes and the study of particle dynamics in fluids. The settling velocity is also influenced by the viscosity of the fluid, resulting in faster settling times in warmer water. Considering the basin depth, designers leverage this equation to assess the sedimentation rate. Moreover, the gradation and classification of soil composition on sites can significantly impact sediment capture. For instance, sandy soils tend to settle at a faster rate compared to soils with higher clay or silt content, primarily due to the larger size of sand particles relative to clay or silt particles.

Nevertheless, it is important to acknowledge the inherent limitations of Stokes' law. The law assumes the particles to be perfectly spherical and assumes ideal settling conditions without accounting for interactions between intermolecular and electromagnetic forces. Sediment particles are not always spherical, and non-uniform flow conditions can exist. Moreover, sediment-laden runoff introduces interactions and collisions between particles, leading to hindered settling phenomena.

2.2.1.4 Length-to-Width

The configuration of a sediment basin, as indicated by the relationship between the length of flow, L, and the effective width of the basin, W, (L:W ratio), plays a vital role in facilitating sedimentation. This ratio is of utmost importance as it determines the appropriate distance between the inlet and outlet, impacting sediment particles' travel and settling duration within the basin. It also minimizes the risk of sediment-laden water short-circuiting the basin from inlet to outlet. The flow path length represents the distance from the inflow point to the primary outlet structure.

Several studies have shown that the length-to-width ratio of a sediment basin is an essential factor in determining its efficiency. For example, Zech et al. (2012a) found that a basin with a length-to-width ratio of 2L:1W was more effective at capturing sediment than basins with lower ratios because longer basins provide a longer flow path with more opportunity to capture particles. Optimizing sedimentation across the basin’s length can be achieved by designing basins to be long and narrow, traditionally with a minimum ratio of 2L:1W (AL-SWCC 2018; Chen 1975; Griffin et al. 1985; North Carolina Department of Environment and Resources 2013). The USEPA (1976) advises that the length-to-width ratio be greater than 2L:1W, suggesting a 5L:1W ratio maximizes settling efficiency (Madaras and Jarrett 2000). However, more recent studies have suggested that sediment basin ratios of 1L:2W may be equally effective if velocity is adequately dissipated across the basin’s width (Kang et al. 2015).

A report by McLaughlin (2015) provides an alternative method for increasing the particle flow path length without changing the physical dimensions of the basin. To increase the flow path within the basin, a practical approach is the installation of solid baffles, as depicted in Figure 2.4. These baffles, typically constructed from durable materials like plywood, create a labyrinth flow pattern by incorporating notches or weirs at opposite ends. Another option that has been utilized is the use of silt fencing or geotextile. This material, known for its affordability, ease of installation, and wide availability at construction sites, provides a viable solution to extend the flow path within the basin.

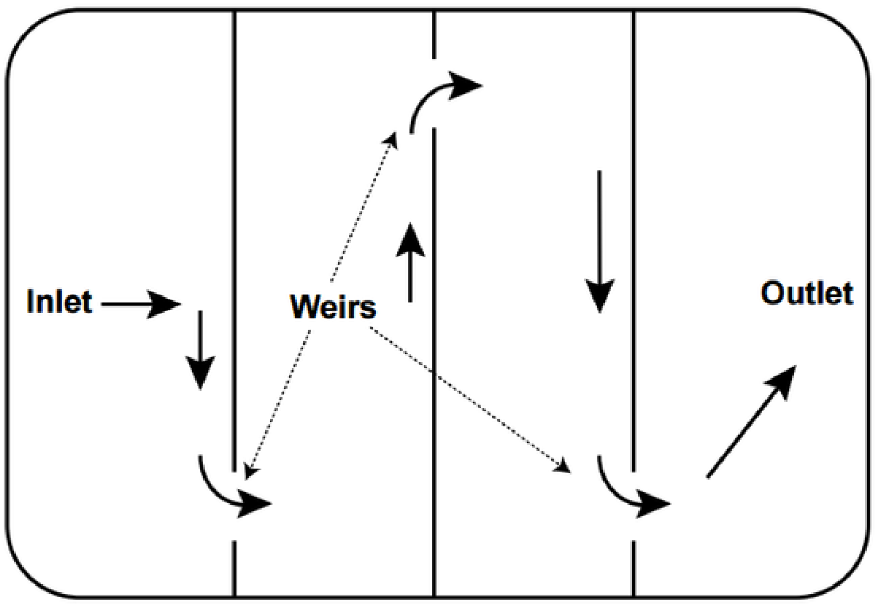


Figure 2.4 Baffles Lengthen the Flow Path of the Runoff (McLaughlin 2015)**.**

2.2.2 Sediment Basin Components

Incorporating efficient treatment methods within sediment basins is important for maximizing their ability to capture sediment. Energy dissipation devices (e.g., baffles), floating surface skimmers, auxiliary spillways, and the utilization of chemical treatment, play a significant role in achieving these objectives. Baffles help dissipate the energy of incoming flow, promoting sediment settling. Floating surface skimmers efficiently dewater the basin from the top of the water column. Auxiliary spillways provide an alternative discharge route for excessive runoff, ensuring proper basin functionality during peak flow conditions. Additionally, the use of flocculants aids in aggregating fine sediment particles, facilitating their removal from the water column. Understanding the importance and benefits of these components is crucial for designing and implementing effective sediment control measures.

2.2.2.1 Energy Dissipation

When stormwater runoff enters a sediment basin, flow conditions are typically turbulent. Turbulent flow conditions are undesirable as it may hinder settlement and resuspend previously captured sediment particles, decreasing the basins' capture efficiency. To reduce turbulence and create laminar flow conditions favorable for settlement, energy dissipaters (i.e., baffles) can be used. As depicted in Figure 2.5, baffles are typically installed in sediment basins to reduce velocity, create uniform flow, and increase the effective width of the practice (Chen 1975; Goldman et al. 1986; Thaxton and McLaughlin 2005c).

Figure 2.5 AU-SRF Sediment Basin Subjected to Green Dye to Show Baffle Performance.

Studies have shown that baffles can significantly improve sediment basin efficiency (Fang et al. 2015b; Farjood et al. 2015; Thaxton et al. 2004; Thaxton and McLaughlin 2005a), particularly when combined with extended detention time (Kalainesan et al. 2008). The placement and design of baffles can also affect basin efficiency. Some studies suggest that the baffle height must exceed the highest possible water level in the sediment basin including when discharge occurs through the auxiliary spillway. This is important to prevent any short-circuiting flow and increase residence time (Fang et al. 2015b). For baffles to be effective, they must be installed properly. Improper baffle installation can lead to short-circuiting, reducing treatment efficiency (McCaleb et al. 2008).

Baffles come in various designs and configurations, and their performance can depend on several factors, including their placement location, pore size (percent open area), material, shape, and spacing. A study was conducted at the Auburn University- Stormwater Research Facility (AU-SRF) to test the configuration of baffles within an in-channel basin for the Iowa Department of Transportation (Iowa DOT). The study involved constructing a 200-ft (70 m) in-channel basin with a storage volume of 3,031 ft^3 (86 m^3). Eight test series were performed in the sediment basin, where Series 3 represented a geotextile-lined basin, and Series 5 represented three coir baffles. Series 5 yielded 8% more sediment capture by weight versus Series 3. Both series were subjected to identical flow rates, sediment types, and sediment weights (Schussler 2022).

Further, a study conducted in New Zealand used small-scale sediment basin testing techniques to evaluate baffle configurations. Traditionally, baffles have been used to enhance the settling rate of suspended particles, but there is a lack of guidance on their optimal configuration and type. To address this, the study examined the hydraulic performance and trap efficiency of a model sediment basin (i.e., sediment retention pond) by evaluating the impact of submerged porous and impervious baffles. The study evaluated various configurations using four different metal meshes (with varying aperture size and open area) as porous baffles and acrylic sheets as impervious baffles. Based on this analysis, it was concluded that the hydraulic performance of ponds is influenced by the mesh aperture, regardless of the open area percentage. Among the various configurations tested, the best results were observed when utilizing five porous baffles with a 0.04-in. (1 mm) aperture and 42% percent open area (POA). Additionally, it was determined that installing the first porous baffle near the inlet structure is advantageous. This placement allows for the early dispersion of inflow momentum upon entering the basin, resulting in increased hydraulic residence time. Therefore, the findings suggest that properly designed and installed baffles in existing ponds can significantly improve sediment removal, resulting in fewer highly effective ponds and reduced treatment costs.

Thaxton et al. (2004) conducted experiments within a sediment basin at the Sediment and Erosion Control Research and Education Facility (SECREF) at North Carolina State University using three different types of baffles (e.g., silt fence, tree protection fence, and jute/coir). The jute/coir baffle was concluded to be the most effective in reducing velocity and turbulence, capturing more sediment and smaller particles than the tree protection fence and silt fence materials Velocity reduction values of 75% from baffle 1 to baffle 2 and a total of 85% from inlet to the outlet was found from the coir material.

Another part of this study aimed to validate Thaxton's hypothesis by measuring sediment capture in an experimental basin, with jute/coir, silt fence, and tree protection fence materials. Additionally, the study replicated the hydrodynamic findings of Thaxton et al. (2004) and compared the amount and size distribution of captured sediment in the basin with the characteristics of the soil introduced upstream from the practice. Analysis of the flow data yielded results comparable to Thaxton et al. (2004). During testing, three baffles were spaced in (0.92 m) intervals. To provide support, three metal stakes were evenly positioned across the basin's width to secure the baffles. Additionally, landscape staples were utilized along the basin floor and walls to prevent short-circuiting of the practice. The study yielded important findings regarding the impact of the first baffle on velocity reduction and the critical role played by the POA of the baffle material in determining its effectiveness. It was observed that baffle materials with POAs that were either too large or too small did not achieve optimal results. These findings depict the significance of the material's POA to ensure maximum efficiency (Thaxton and McLaughlin 2005). In contrast, McLaughlin et al. (2009) found that basin treatments such as baffles and skimmer mechanisms have less of an impact on improving turbidity when compared to PAM treatments.

Existing methods for treating stormwater primarily target larger soil particles that settle quickly, leaving behind suspended fine particles that contribute to high turbidity levels. Therefore, there is a need for a cost-effective and passive solution to effectively remove these suspended solids. Lamella settlers have demonstrated their ability to improve the capture of soil particles by increasing the available surface area and reducing the distance for settling. Lamella settlers are typically used in wastewater treatment, and they contain a series of inclined parallel plates that provide a larger surface area for sediment settling (Hewitech 2023). Lamella settlers, when utilized for stormwater treatment, employ closely spaced parallel plates to reduce the distance sediment travels vertically and reduce flow velocity (Figure 2.6). This arrangement promotes laminar flow and facilitates the settling of suspended solids from the water (Weiss 2016).

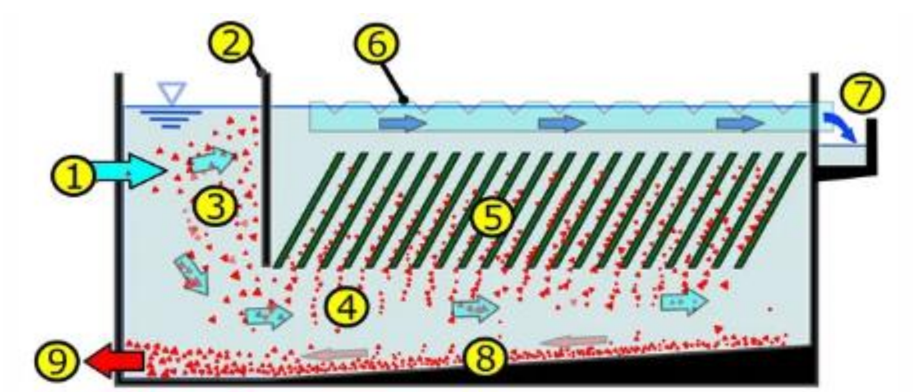


Figure 2.6 Lamella Settling Tank (Hewitech 2023)**.**

In a study by Liu et al., researchers sought to discover and enhance the design setups of a lamella settler system to effectively treat different types of synthetic soils. Synthetic soils of five different compositions were suspended in simulated stormwater at 500, 1,000, and 5,000 mg/L concentrations. These soil mixtures were subjected to three distinct configurations of lamella settler reactors with residence times of 0.5, 1.0, and 1.5 hrs. The statistical analyses conducted in this study indicated a significant difference between the experimental variables and the levels of turbidity. An enhanced lamella settler reactor, designed with a settling space of 1.8 cm (0.7 in.) and a residence time of 1.5 hrs, reduced turbidity from inflow to outflow by up to 90%. This reduction was compared to a control reactor without lamella plates and a residence time of 0.5 hrs. Furthermore, an analysis of particle size distribution revealed an 84% reduction in the D_{90} parameter. This finding demonstrates the efficiency of the optimized reactor in effectively capturing soil particles with larger diameters.

2.2.2.2 Floating Surface Skimmer

Floating surface skimmers are devices that are designed to draw water from a basin at a controlled rate. Surface skimmers function by floating on the basin's surface, dewatering from the top of the water column. Dewatering from the upper strata of a basin is desirable as it functions to decant water that contains less sediment due to soil particles gravitationally settling towards the bottom of the basin. A study by Zech et al. (2012b) determined that skimmers were the most effective basin-dewatering mechanism because of their ability to dewater from the top of the water column. Skimmers come equipped with adjustable orifices or openings that can regulate the dewatering rate of the basin, shown in Figure 2.7.

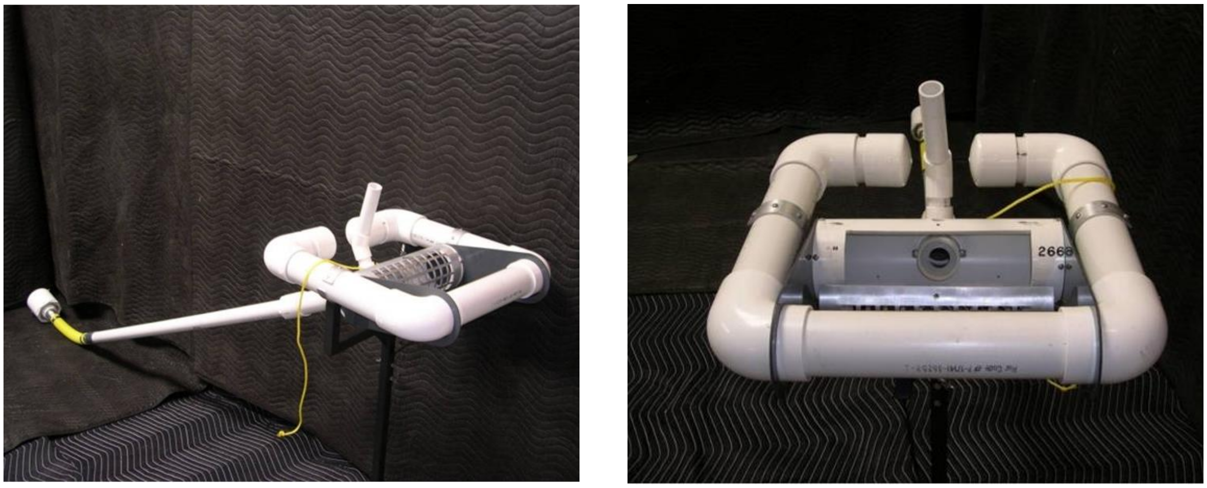


Figure 2.7 Faircloth Skimmer ® (Faircloth 2007)**.**

Sediment basins on construction sites are specifically designed to retain captured runoff for a period between two to five days (AL-SWCC 2018). To comply with detention requirements for sediment basins, it is necessary to carefully choose and appropriately size skimmers. The selection and sizing of skimmers are determined by the opening size of the device and the basin's storage volume. Combining the skimmer size with the basin's dimensions is crucial for achieving appropriate dewatering flow rates. Skimmer flow rate requirements are usually determined using equations that involve the orifice diameter and basin volume or through experimental testing. Although these methods of skimmer sizing are typically reliable for a particular skimmer product, research indicates that each product has its own hydraulic characteristics that can impact the flow rate (Sharpe et al. 2023; Sprague et al. 2015).

Traditional riser structures are known for uniformly dewatering sediment basins across their entire depth, including areas with varying sediment concentrations. In contrast, sediment basins containing floating surface skimmers have exhibited increased sediment capture. In a comprehensive study conducted by Rauhofer et al. (2001), the effectiveness of a perforated riser pipe was compared to that of a floating surface skimmer as the primary outlet structure in a sediment basin. The research aimed to evaluate and discern the optimal choice for efficient sediment management in such contexts. The results showed that the sediment loss was 1.8 times higher when using the perforated riser pipe compared to the floating surface skimmer. Furthermore, research studies, such as the one by Millen et al. (1997), have shown that floating surface skimmers can achieve an impressive sediment capture rate of 96.8%. Another advantage of skimmers over riser structures is that most skimmer products come with an adjustable orifice, allowing for proper sizing to meet detention requirements. This further enhances the effectiveness of skimmers in sediment retention.

Schussler’s (2022) in-channel basin study at the AU-SRF indicated a 12% increase in sediment retention by weight when using a floating surface skimmer compared to a perforated riser. Furthermore, when the skimmer was implemented, the depth and length of the impoundment were increased, leading to sediment settling over a larger distance within the basin.

In a study conducted by Barnette et al. (2019) on behalf of South Carolina's Department of Transportation (SCDOT), the influence of stormwater discharge from construction sites on surface water turbidity levels was investigated. The study also assessed the effectiveness of baffle configurations and surface water withdrawal systems in sediment basins without the use of chemical treatments. Results showed that skimmers or a combination of skimmer and baffle configurations could achieve more than an 80% reduction in turbidity and TSS.

2.2.2.3 Auxiliary Spillway

Basins are typically designed to hold the runoff volume from a 2-yr., 24-hr. design storm. When this volume is exceeded, sediment basins require a controlled discharge mechanism known as the auxiliary spillway, shown in Figure 2.8. According to the USEPA, an auxiliary spillway is a contingency discharge mechanism designed to serve as a backup outlet for water when the primary discharge mechanism becomes obstructed or exceeds capacity (USEPA 2009b). This backup feature is necessary to prevent catastrophic failure of the sediment basin, which could result in a substantial release of sediment-laden water into downstream areas. The USEPA, AL-SWCC, IECA, and ALDOT specify that auxiliary spillways be designed to withstand the peak flow from a 10-yr, 24-hr design storm (ALDOT 2020).

Figure 2.8 Auxiliary Spillway.

Barnette et al. (2019) conducted a study for South Carolina's Department of Transportation (SCDOT) investigating the impact of stormwater discharge from construction sites on surface water turbidity levels. The outcomes demonstrated that skimmers alone could achieve a reduction of 80% in turbidity or greater than 82% in total suspended solids (TSS) levels.

2.2.2.4 Chemical Treatment

Polyacrylamide (PAM) is a chemical compound composed of long chains of repetitive small molecules soluble in water (USEPA 2013a; Vajihinejad et al., 2019). Their main function is to separate suspended, fine particles from a water-based solution by binding them together and increasing their settling velocity (Pillai 2013). Flocculants are available in various physical forms, including granular, blocks, socks, and emulsion, as shown in Figure 2.9. (De Milieux

2003). Flocculants tend to be soil-specific, and their efficiency depends on soil characteristics (Kazaz et al. 2021).

(a) granular (Applied Polymer Systems Inc. 2023)

(b) block (Applied Polymer Systems Inc. 2023)

(c) sock (Floc Systems Inc. 2023)

(d) emulsion (Lords World Inc. 2023)

Figure 2.9 Flocculant Forms.

Although flocculation and coagulation are often thought of as the same process due to their similar nature, they are distinct procedures. While some studies, such as Chibowski (2014), use the terms interchangeably, other researchers, such as Vajihinejad et al. (2019), define them separately. Vajihinejad et al. describe flocculation as the gathering of particles due to high molecular weight polymers that form bridges between particles. Coagulation is defined as the gathering of particles through the manipulation of solid superficial charges. Similarly, Stechemesser and Dobias (2005) differentiate between the two processes, describing flocculation as an agitation stage that transforms particle size from micro-floc to macro-floc particles and coagulation as a neutralization stage of atom charges by adding oppositely charged chemicals.

Flocculants are divided into four major categories: synthetic, inorganic, bio/natural, and stimuli responsive. Synthetic flocculants, the most widely used type, are classified according to their net charge: cationic, anionic, nonionic, and amphoteric (Lee et al. 2014; Tarleton and Wakema 2007). Cationic flocculants can be hazardous to aquatic life because their polymers can bind to negatively charged hemoglobin found in fish gills, leading to suffocation (Auckland Regional Council 2004; Biesinger and Stokes 1986; Duggan et al. 2019; USEPA 2005a). Anionic flocculants are commonly used in industrial wastewater treatment and exhibit low residual concentrations in treated water and low toxicity compared to cationic flocculants (Auckland Regional Council 2004; Dao et al. 2016; Kurenkov et al. 2002; Rabiee 2010; USEPA 2013b)

Flocculants are commonly used in sediment basins to improve sediment retention efficiency by agglomerating soil particles. Several studies have evaluated using anionic PAM in sediment basins through large-scale laboratory testing. According to Bhardwaj and McLaughlin's (2008) research, two dosing systems were assessed to determine their effectiveness in reducing Total Suspended Solids (TSS) in sediment basins. The two systems evaluated were passive and active dosing of PAM. The passive dosing approach involved using a PAM block, while the active dosing approach involved injecting a PAM emulsion directly into the water pump. This study aimed to investigate the settling behavior of flocculated sediment in soils typical of construction sites in North Carolina and determine whether treatment with polyacrylamide (PAM) could lead to reductions in basin size. The study found that a 66% and 88% reduction in turbidity can be obtained using the passive and active dosing methods, respectively. Furthermore, flocculation can increase sedimentation rates and potentially reduce sediment basins' required size (i.e., surface area). Thus, resulting in lower installation costs, reduced land area required, and easier maintenance for contractors and DOTs.

In addition, Kang (2013)conducted several studies on the impacts of flocculation on sediment basin performance and design. One study investigated the effects of PAM dosing rates and particle size distribution on sediment basin performance. The study used sediment basin simulation tests to evaluate different PAM dosing rates and particle size distributions. The basis of this study stems from conventional sediment control BMPs based on gravity are ineffective in removing fine particles responsible for turbidity. Results showed that PAM applied to a rock check dam (RCD) encased in an erosion control blanket (ECB) can effectively reduce sediment volume in basins and turbidity in off-site discharges (Kang et al. 2013). In a separate study, Kang (2015) evaluated the impact of PAM on runoff quality improvement in sediment basins. The study used field testing methods and found that PAM application reduced turbidity and improved sediment removal efficiency, improving runoff quality in sediment basins (Kang et al. 2015).

Barnette’s 2019 study investigated the impact of stormwater discharge from construction sites on surface water turbidity levels. PAM was used to assess its effectiveness in reducing TSS and turbidity values from SCDOT BMPs. It was found that PAM could reduce turbidity and TSS values to over 90% (Barnette et al. 2019).

2.3 SMALL-SCALE TESTING

Inadequate design, incorrect installation, and poor maintenance are common issues in ESC practices due to a lack of performance-based design guidance (Emmett 2022). Initially, field monitoring was used to evaluate ESC practices, but objective research was difficult due to uncontrolled site conditions. As a result, controlled testing at bench, small, and large scales was adopted to validate the effectiveness of practices before field testing. small-scale basin testing methods are preferred because they provide controlled testing and proof of practice before field testing, which can be challenging due to uncontrolled site conditions (Donald 2014; Fang et al. 2015b; McLaughlin 2001; Zech et al. 2009). Further, small-scale basin testing methods also provide a cost-effective and efficient way to evaluate the performance of sediment basins (Millen et al. 1997b).

A field study conducted by Rauhofer et al. (2001) in Pennsylvania compared the sediment retention results from two sediment basins of varying sizes. The basin has a volume of 1,800 ft^3 (51 m^3), and the large basin has a volume of 5,015 ft^3 (142 m^3). Simulated 2-yr, 24-hour storm events with a runoff volume of 3,530 ft^3 (100 m^3) and sediment introduction of 1,000 lbs (454 kg) were introduced into the basins. This study found that the smaller basin discharged 150% more sediment than the larger basin. Overall, the study suggests partial impoundment basins can facilitate sediment retention within the practice, but complete impoundment basins may provide better results.

A study was conducted by Cavalcante (2021),in Atlanta, Georgia evaluating an urban bioretention basin. The findings of this study highlight the performance of a 511 ft^2 (156 m^2) bioretention basin, specifically focusing on the removal efficiency of nitrogen, phosphorus, and sediments. Over a six-month duration, a total of 17 monitored storms, characterized by varying rainfall patterns, were analyzed to assess the basin's effectiveness in mitigating these pollutants. The entry point for runoff into the bioretention basin is facilitated by a trapezoidal concrete flume with dimensions of 24 in. (61 cm) bottom width, 48 in. (122 cm) top width, 39.4 ft (12 m) length, and a slope ratio of 5:1. Subsequently, the runoff is directed into an energy dissipator forebay. The laboratory analysis of Total Suspended Solids (TSS) concentrations revealed significant differences between inflow and outflow. This storm's sediment removal efficiency was 99.9%, with an inflow load of 1,419.8 lbs (644 kg) and an outflow load of 2.2 lbs (1 kg). This indicates that the basin effectively retained loads from all smaller storms.

McLaughlin (2004), conducted a study to evaluate baffle efficiency using a small-scale basin. Researchers constructed a rectangular sediment basin with a length-to-width ratio of 2L:1W and a total volume of 812 ft^3 (23 m^3). The basin had a length of 26.2 ft (8 m), a functional width of 12.4 ft (3.8 m) and included a permanent pool with a depth of 3.2 ft (1 m). During the experimentation, water samples from the outlet were collected for each baffle configuration. Three fixed intake flow rates were maintained at 222, 444, and 666 gal/min (14, 28, and 42 L/s), carefully monitoring and adjusting the intake control valve to ensure the flow rate remained within 10% of the desired target for each test. The soil was manually introduced into the inlet flow pipe, located approximately 65 ft (20 m) upstream from the pond inlet, at an approximate rate of 12 lbs (5.6 kg) per minute. The pipe was straight and smooth, ensuring no soil accumulation inside during the experiments. Soil used was a sandy loam with a composition of 53% sand, 39% silt, and 8% clay, sourced from a local construction site at depths ranging from 6.6- to 16.4-ft (2 to 5 m). Water samples were collected at 5-minute intervals from the outlet using an ISCO 6712 sampler, and these samples were later analyzed for turbidity.

A study conducted by Farjood (2015) in Auckland, New Zealand aimed to investigate baffle configurations within a model sediment basin. The experimental setup consists of a rectangular basin with a trapezoidal cross-section, as illustrated in Figure 2.10. The basin, constructed using acrylic sheets, had dimensions of 13.5 x 5.2 ft (4.1 m × 1.6 m) at the top and a depth of 1.0 ft (0.3 m), with side slopes of 2H:1V.

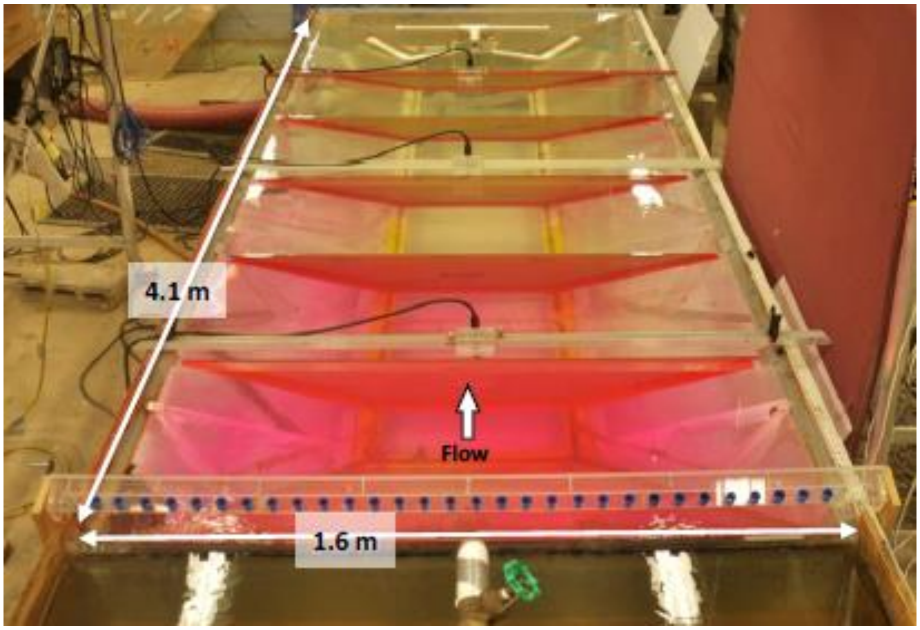


Figure 2.10 New Zealand Small -Scale Basin with Dimensions (Farjood et al. 2015)**.**

Experiments were carried out at a consistent flow rate of 15.9 gpm (60.2 L/min.). Located upstream of the basin is a rectangular tank with dimensions of 1.0 x 5.2 x 0.7-ft (0.3 × 1.6 × 0.2 m), simulating a sediment forebay. A manual system, comprised of a rotating bar with 30 plastic caps attached, is employed to introduce the tracer dye into the basin. An even quantity of dye, varied between 0.2 to 0.7 oz. (2 to 6 mL), was carefully placed in each plastic cap, and as the bar rotated, the dye was evenly spread across the entire width of the inlet.

2.4 SUMMARY

In conclusion, sediment basins temporarily capture and treat stormwater runoff by promoting gravitational settling of suspended sediments. The efficiency of sediment basins depends on factors such as size, geometry, energy dissipation, dewatering mechanism, and chemical additives. However, a universal sizing approach does not account for local hydrologic conditions or soil characteristics of construction sites.

Designing sediment basins requires careful consideration of various factors such as basin size, geometry, and volume, as they impact the basin's trapping efficiency. Factors such as maintenance practices and extended detention time can also affect basin efficiency. By carefully considering these factors, sediment basins can be designed to effectively reduce sediment runoff and protect downstream water bodies. Small-scale basin testing methods provide a cost-effective and efficient method of evaluating sediment basins to improve design guidance and more effective BMP implementation.

The efficiency of sediment basins can be improved by reducing turbulent flow conditions that cause resuspension of sediment particles. Baffles are commonly used to create laminar flow conditions that allow sediment to settle more effectively. Their design, placement, and configuration can affect the basin's efficiency, and studies have shown that baffles can improve sediment basin efficiency, especially when combined with extended detention time. Surface skimmers are also effective basin-dewatering mechanisms that reduce turbidity by dewatering from the top of the water column. Proper installation and sizing of skimmers and baffles are essential to prevent bypass flow and ensure efficient sediment retention within the basin.

CHAPTER THREE:
MEANS AND METHODS

3.1 INTRODUCTION

This chapter outlines the testing procedures and methodology specifically designed for conducting tests on model sediment basins. The methodology employed in this study references established industry practices and relevant literature on sediment basin testing. This study's primary objective is to evaluate the performance of model sediment basins and identify areas for improvement in their geometry and energy dissipation arrangement. The testing protocols developed for this study involved subjecting model sediment basins to scaled in-situ conditions that are commonly encountered in Alabama, thereby ensuring the relevance and applicability of the results to the local context. Performing experimental tests aims to evaluate and improve design guidance for the installation and placement of components within sediment basins.

3.2 TESTING REGIME

A two-phased testing protocol was established to facilitate guideline improvements and assess the performance of sediment basins subjected to multiple treatment methods. In Phase I, a scaled, standardized sediment basin was utilized to conduct a series of tests. A total of nine treatment method configurations were evaluated within the standard basin. Notably, two of the test series excluded energy dissipation materials and consisted of either a skimmer and spillway or just a skimmer.

All configurations were exposed to sediment-laden flow with a consistent flow rate and sediment input for a duration of 30 minutes. The tests for each treatment configuration in the standard basin focused on evaluating the standard installation method and determining whether there were opportunities for enhancing sediment retention and reducing effluent turbidity. Subsequently, up to seven test series with differing energy dissipation arrangements were conducted to refine the standard installation technique. Data collected from each test was summarized and analyzed to ascertain if alternative installation configurations could lead to further improvements.

Upon completing Phase I testing, the MFE-I was determined. For a comprehensive overview of the testing process for each of the nine total treatment arrangements, refer to Figure 3.1, which provides a summarized flowchart of the testing regime. Phase II testing aimed to assess the performance of the MFE-I installation by varying volumetric and geometric basin designs. The evaluation involved designing and constructing two more model basins, an in-channel, and an undersized basin. The MFE-I determined from the standard basin was tested in the in-channel and undersized model basins. After Phase II was complete, the overall MFE-I was identified.

Phase II testing aimed to assess the performance of the MFE-I installation by varying volumetric and geometric basin designs. The evaluation involved designing and constructing two more model basins, an in-channel, and an undersized basin. The MFE-I determined from the standard basin was tested in the in-channel and undersized model basins. After Phase II was complete, the overall MFE-I was identified.

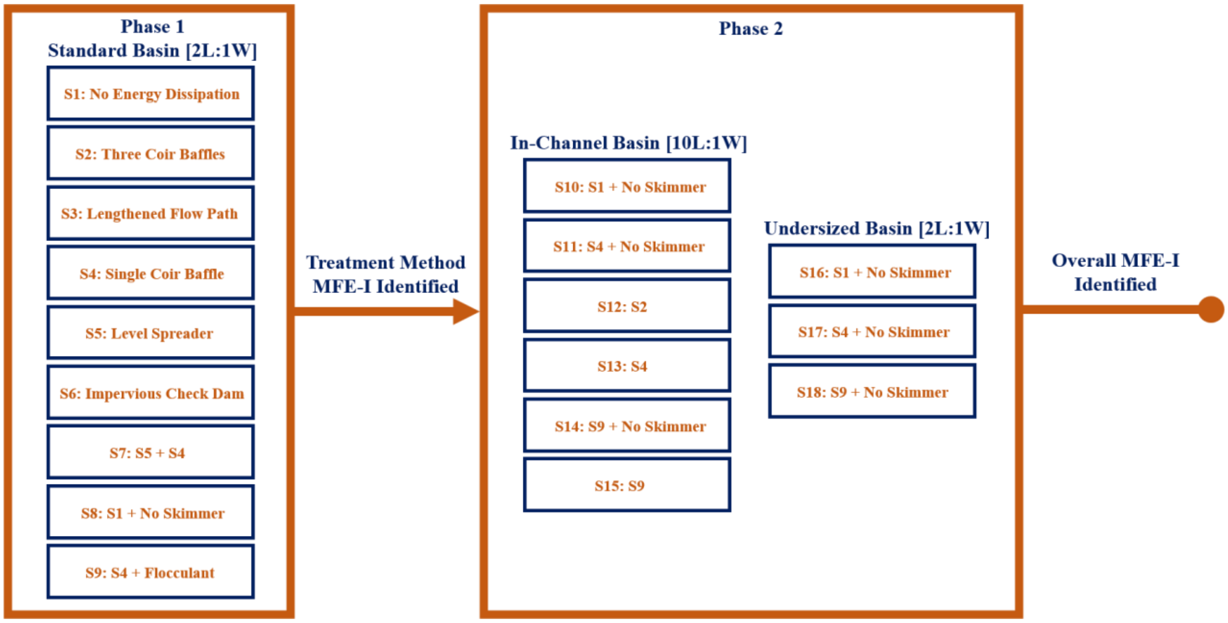


Figure 3.1 Experimental Testing Regime.

3.3 BASIN GEOMETRY AND DESIGN

This project involved designing and constructing three small-scale sediment basins to evaluate the effectiveness of varying energy dissipation arrangements. The three basin designs evaluated in this study were (a) a standard basin (2L:1W), (b) an in-channel basin (10L:1W), and (c) an undersized basin (2L:1W). For all three basins, the length-to-width ratio is located on the bottom dimensions. The standard and in-channel basins were designed to mimic the current standard of 3,600 ft^3 per ac (252 m^3 per ha) of disturbed area. In other words, these two basins were subjected to scaled sediment-laden water loads equivalent to 1.0 in. (2.5 cm) of runoff over an ac (ha) of land. The undersized basin was designed to mimic the previous standard of 1,800 ft^3 per ac (125 m^3 per ha) volume of drainage area.

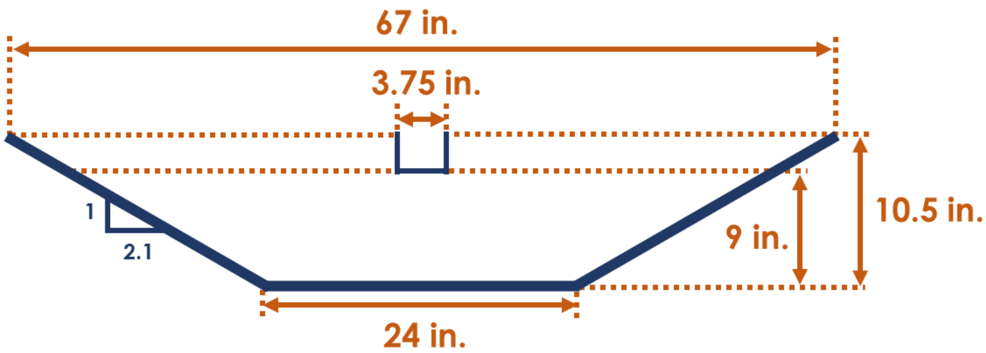
Three basins were constructed using plywood and 2x4 in. (5x10 cm) nominal lumber as the primary materials. The standard and in-channel basins were designed with similar volume capacities, mimicking the size of a 3,600 ft^3 basin designed to treat 1 acre of disturbance on a representative construction site in central Alabama. In contrast, the undersized basin was intended to simulate the previous design standard of 1,800 ft^3, resulting in a volume capacity approximately half that of the standard and in-channel basins. Specifically, the total water volume up to the spillway for the standard, in-channel, and undersized basins was measured at 15.3 ft^3 (0.43 m^3), 13.50 ft^3 (0.38 m^3), and 6.99 ft^3 (0.20 m^3) respectively (Table 3.1).

Table 3.1 Basin Parameters

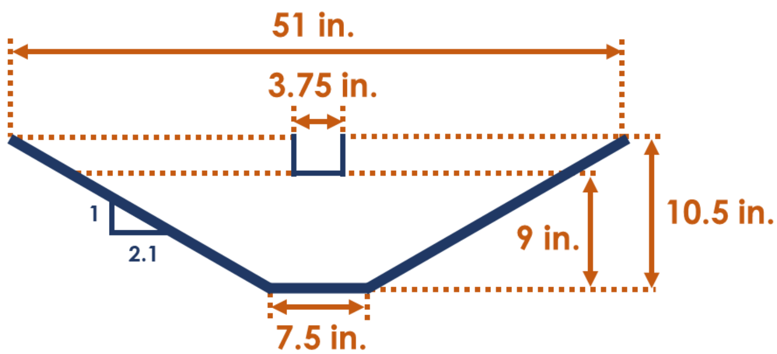
	Standard	**In-Channel**	**Undersized**
Top Length, ft (m)	7.58 (2.31)	9.83 (3.00)	5.25 (1.6)
Top Width, ft (m)	5.58 (1.7)	4.25 (1.30)	4.58 (1.40)
$Volume_{sp}$, ft3 (m3)	15.30 (0.43)	13.50 (0.38)	6.99 (0.20)
$Volume_{T,}$ ft3 (m3)	20.50 (0.58)	18.40 (0.52)	9.80 (0.28)
Bottom L:W	2:1	10:1	2:1
Top L:W	1.36:1	1.15:1	2.31:1
Side Slopes (H:V)	2.1:1	2.1:1	2.1:1
Total Depth, ft (cm)	10.50 (26.7)	10.50 (26.7)	10.5 (26.7)
Spillway Depth, ft (cm)	9.00 (22.9)	9.00 (22.9)	9.00 (22.9)
Residence Time (min.)	15.3	13.5	7.0

Note: $Volume_{sp}$ = volume to spillway
$Volume_T$ = total volume

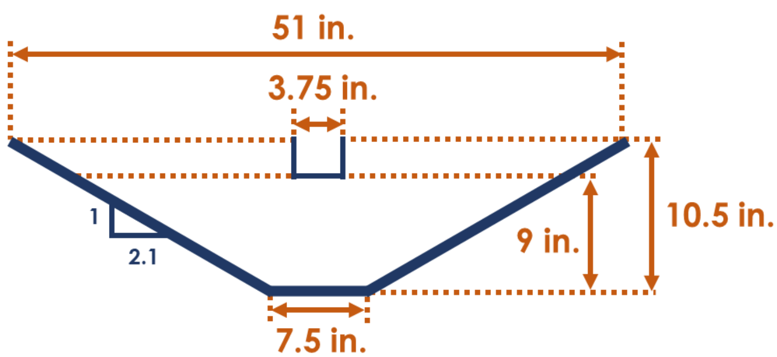
Each basin featured a spillway positioned at a height of 9.0-in. (22.9-cm) from the base of the basin with a total height of 10.5 in. (26.7-cm). Detailed cross-section dimensions for each basin can be found in Figure 3.2. The standard and in-channel basins were equipped with discharge outlets on the bottom panel, allowing for the connection of a skimmer. However, due to its shorter length on the bottom panel, the undersized basin did not accommodate the installation of a skimmer. For all three basin designs, the dimensions of the inflow channel, spillway, and skimmer structures remained constant.



(a) standard basin dimensions



(b) in-channel basin dimensions

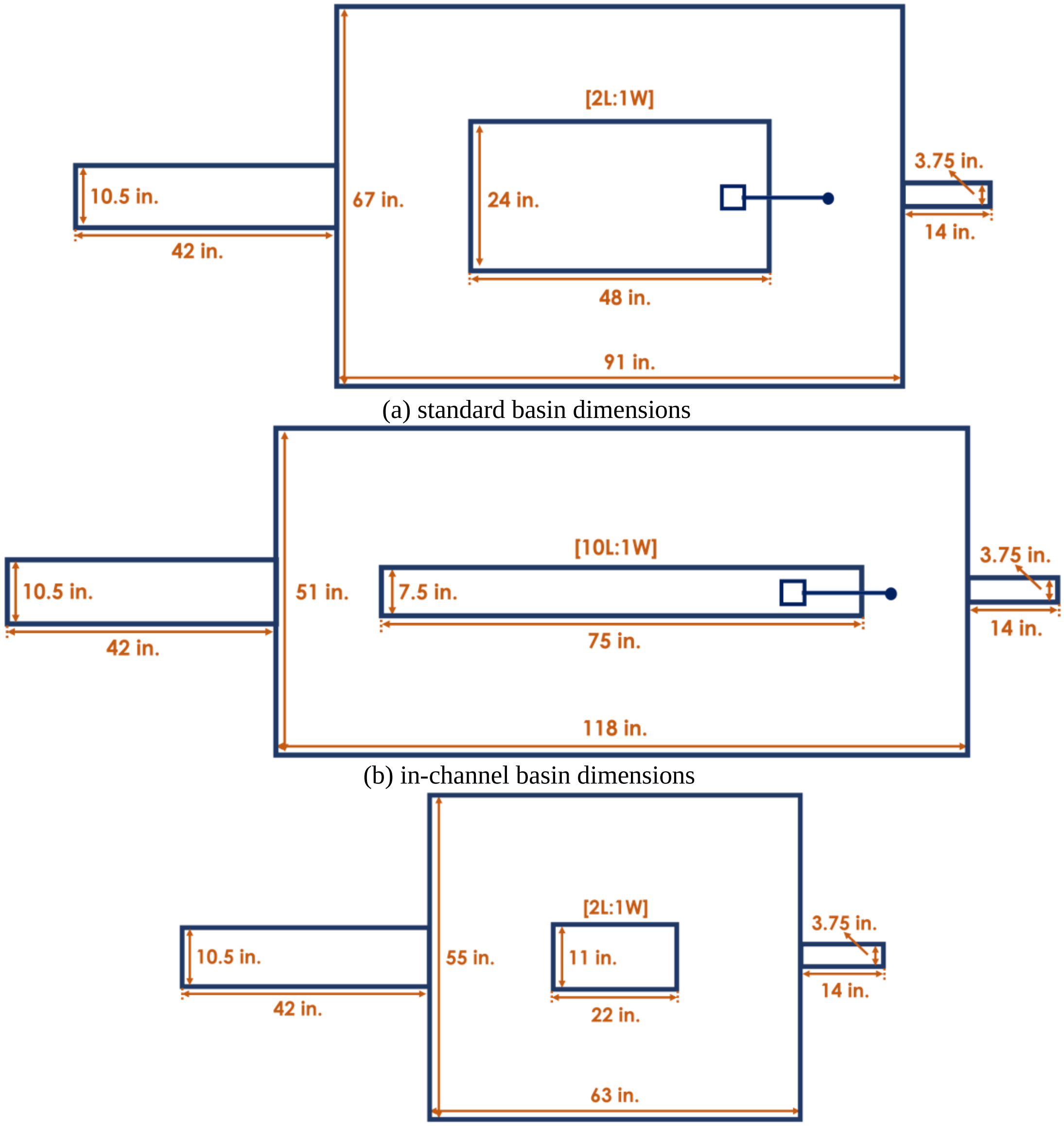


(c) undersized basin dimensions

Figure 3.2 Model Cross-Section Basin Dimensions.

Note: 1 in. = 2.54 cm

Full basin dimensions can be found in Figure 3.3.



(a) standard basin dimensions

(b) in-channel basin dimensions

(c) undersized basin dimensions

Figure 3.3 Model Basin Dimensions.

Note: 1 in. = 2.54 cm

This project entailed the assessment of small-scale basin configurations to confirm proof of concepts prior to conducting large-scale testing. The evaluation of small-scale testing offers several advantages, including a highly controlled environment, ease of basin manipulation and reconfiguration, and increased efficiency in terms of time, resources, and cost. In this context, small-scale testing refers to the scaling down of all basin parameters, such as volume, dimensions, flow rate, sediment gradation, and baffle POA.

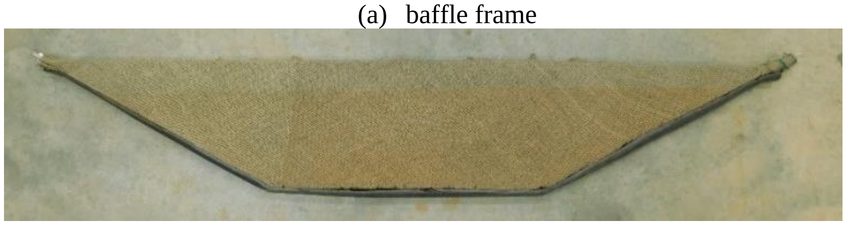
3.4 BASIN COMPONENTS

Components within the model sediment basin were custom designed to closely replicate their real-world counterparts and simulate their performance under field conditions. This approach aimed to ensure that the basin's components, including the coir baffles, floating surface skimmer, and flocculant, functioned in a manner consistent with their intended field application. The design, materials, and dimensions of the basin components are specified in this section.

3.4.1 Baffle Design

Each baffle frame designed for scaled testing in the standard basin was constructed using 1.0-in. (2.5 cm) wide and 0.25 in. (0.64 cm) thick aluminum bars and 0.25 in. (0.64 cm) diameter threaded metal rods, Figure 3.4(a). The baffles were designed to have a height of 11 in. (28 cm), allowing for baffle use during spillway overflow. After the frames were assembled, two layers of coconut coir baffle material were stretched and glued to the frame below Figure 3.4(b). Clean water tests were conducted to evaluate baffle performance. During this evaluation, it was found that the water was undermining the baffles. To prevent this undermining, 1.0 in. (2.5 cm) foam tubular pipe insulation was placed on the bottom of the baffle’s frame.

(a) baffle frame



(b) baffle framed wrapped in coir with seal to prevent undermining

Figure 3.4 Baffle Construction.

The coconut coir used for the construction of the baffles exhibited a lower POA compared to the coir baffle material deployed in practical field applications. A POA analysis was conducted on both the single-layer and double-layer configurations of the baffle material, employing ImageJ as the analytical tool. The assessment revealed a 53% POA for the single-layered coir baffle, whereas the double-layered coir baffle exhibited a POA of 23%.

3.4.2 Skimmer Design

The skimmer used for testing in the standard and in-channel model basins was fabricated using 0.75 in. (1.95 cm) diameter PVC, 0.75 in. (1.95 cm) foam tubular pipe insulation, 0.75 in. (1.95 cm) rubber tubing, and wire. Skimmer design involved connecting a 0.75 in. (1.95 cm) elbow at the discharge location and attaching a 2.0 in. (5.0 cm) piece of 0.75 in. (1.95 cm) PVC (Figure 3.5). Subsequently, the length of the barrel was determined based on calculations. As per the Faircloth Skimmer® guidelines, the barrel length should be at least 1.4 times the depth of the basin at overflow (Faircloth 2007). Considering the spillway placement at 9.0 in. (22.9 cm), a barrel length of 13.0 in. (33.0 cm) was determined.

(a) top view of skimmer (b) view of skimmer orifice

Figure 3.5 Skimmer Components.

In real-world scenarios, basin dewatering typically occurs over a period of 24-72 hrs. However, for the purposes of this study, it was necessary to deviate from this timeframe due to the limitations of the orifice used for dewatering. Scaling down the orifice to achieve a dewatering duration of 24 to 72 hrs would have rendered it too small to allow the passage of sediment-laden flow effectively. Specifically, the objective was to completely dewater the standard and in-channel model basins within 5-6 hours. To determine the appropriate sizing of the skimmer's orifice, initial tests were conducted using an orifice with a 0.38 in. (0.95 cm) diameter, which resulted in a dewatering duration of 4 hrs (Table 3.2). Subsequently, an orifice size of 0.25 in. (0.64 cm) was tested to assess its potential for achieving the desired dewatering duration of 5–6 hrs. The analysis revealed that the overall dewatering duration with the 0.25 in. (0.64 cm) orifice was 8.5 hrs. Ultimately, a test was conducted using an orifice size of 0.31-in. (0.79 cm), resulting in a dewatering time of 5.5 hrs.

Table 3.2 Skimmer Dewatering Rates for 0.38 in. (1.0 cm) Orifice

Water Depth, in. (cm)	Volume, gal. (L)	Dewatering Duration for Skimmer Orifice Diameter (min)		
		0.38 in. (1.0 cm)	0.31 in. (0.8 cm)	0.25 in. (0.6 cm)
22.9	432.6	162.8	72.3	116.4
20.3	352.8	147.6	54.7	92.8
17.8	282.0	121.1	46.5	70.8
15.2	220.3	109.8	34.6	57.0
12.7	166.2	87.1	29.2	42.2
10.2	120.0	68.1	23.3	33.9
7.6	81.0	64.4	17.1	26.1
5.1	48.1	83.3	18.2	26.6
2.5	21.6	68.1	35.6	42.9
0.0	15.5	162.8	72.3	116.4
Total Dewatering Time (hr.)		**4.0**	**5.5**	**8.5**

3.4.3 Flocculant

PAM is a synthetic polymer widely used as a flocculant in sediment basins and various other applications. As a flocculant, PAM facilitates the aggregation and settling of fine suspended particles in water, leading to the formation of larger, heavier clumps called flocs. These flocs can then settle more rapidly, allowing for effective sedimentation and separation of suspended solids from the water. The flocculant used in this study was H30 PAM, manufactured by Carolina Hydrologic. H30 PAM is a non-toxic flocculating agent that meets the requirements of a BMP as recognized by the USEPA. By using PAM, sediment basins can have increased sediment retention, thereby protecting downstream water bodies from sedimentation and associated water quality impairments.

3.5 FLOW INTRODUCTION

Water introduction is an important element in the model sediment basin testing process. The inflow utilized during the experiments accurately replicated the scaled in-situ conditions that sediment basin practices typically encounter in the field. The testing flow rate was calculated based on data from a study performed by conducting a comprehensive analysis using Alabama-specific Geographic Information System (GIS) data (Wan 2015). The resulting flow rate was scaled to proportionality with the model basin. To ensure precise control over the flow rates and the movement of water during the testing process, a water introduction system was designed and implemented. The flow rate determination method, system, and calibration will be described in detail in this section.

3.5.1 Flow Rate Determination

The water introduction rate into the model sediment basin was determined by calculating the peak 60-minute average flow rate for an arbitrary 1.0-ac (0.6 ha) drainage area in east-central Alabama. First, the model basin was scaled by volume. ALDOT regulations stipulate a minimum volume requirement of 3,600 ft^3 per acre (252 m^3 per ha) of contributing drainage for sediment basins. The standard small-scale sediment basin constructed has a total storage volume of 15.3 ft^3 (0.4 m^3), therefore, it is 6.2 times smaller than the field-scale basin. Eq. 3.1 expresses the volume scale calculation.

$$scale = \left(\frac{3600}{15.3}\right)^{1/3} \quad \textbf{Eq. 3.1}$$

Furthermore, an equation was required to calculate the local 60-minute peak flow rate. Regions in the U. S. are classified by the Soil Conservation Service (SCS) based on distinct storm patterns, encompassing Type I and Ia for Pacific climates, Type III for areas along the Gulf of Mexico and Atlantic seaboard, and Type II for the rest of the country. Each region exhibits comparable meteorological patterns and associated rainfall depths (USASCE 1975). Two regions encompass the state of Alabama, with Type II rainfall distribution prevailing in the northern part and Type III rainfall distribution characterizing the southern part. To determine the peak 60-minute average flow rate equation specific to Alabama, an analysis was conducted using regional Geographic Information Systems (GIS) data (Perez et al. 2018a; Wan 2015). Equation 3.2 presents the worst-case scenario for the peak 60-minute average flow rate during a Type III storm.

$$Q_{60} = -2.938 + 0.029(CN_w) + 0.422(P) \quad \textbf{Eq. 3.2}$$

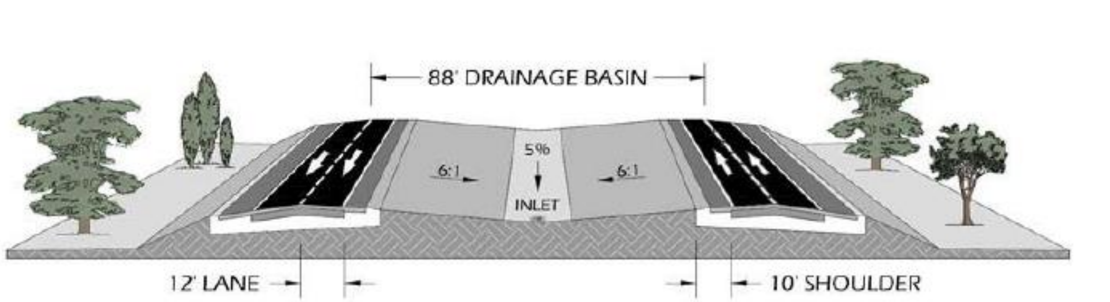
Where,

Q_{60} = peak 60-minute average flow rate, ft^3/s

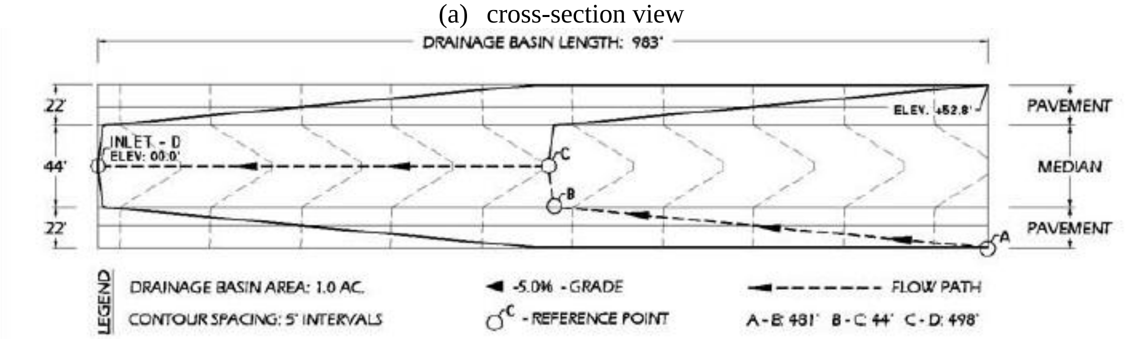
CN_w = weighted curve number

P = averaged 2-year, 24-hour rainfall event, in.

Next, it was necessary to determine the local weighted curve number. The SCS curve number method is widely recognized and employed as an efficient approach for estimating runoff from rainfall events in specific areas. While initially designed for individual storm events, the method can be scaled to determine average annual runoff values. The method's requirements are minimal, typically involving the measurement of rainfall amount and the curve number. The curve number is derived based on factors such as the hydrologic soil group, land use, treatment, and hydrologic condition of the area, with particular emphasis on the first two factors. In this project, the decision was made to utilize the weighted curve number instead of the standard curve number. To calculate the weighted curve number, an assumption was made that 50% of the drainage area is covered by impervious surfaces, as clearly illustrated in Figure 3.6. The choice to use the weighted curve number was driven by the nature of highway construction projects, which often entail construction work near impervious roadways.



(a) cross-section view



(b) plan view

Figure 3.6 Simulated Typical Drainage Basin (Perez et al., 2018).

In addition, it is necessary to determine the local rainfall depth to calculate the 60-minute peak runoff volume. Middle east Alabama is located in the Type III rainfall area, inferring that rainfall depths and corresponding storm volumes are higher in this region of the U.S. According to Wan's paper, the representative value for the 2-year, 24-hour design storm in the Type III rainfall region is 4.5-in. (11.4 cm) and the weighted CN is 93.1, Table 3.3.

Table 3.3 Summary of Alabama Statistical Data (Wan 2015).

AL		Statewide	Type II Region	Type III Region
P^1:2-yr 24-hr Rainfall (in.)	Max.	6.03	4.32	6.03
	Avg.	4.37	4.06	4.50
	Min.	3.68	3.68	3.99
CN	Max.	94	93.31	94
	Avg.	88.41	88.90	88.36
	Min.	78.61	85.84	78.61
CN^2_w	Max.	96	96	95.66
	Avg.	93.21	93.45	93.18
	Min.	88.31	88.31	91.92
S:Retention (in.)	Max.	2.72	1.65	2.70
	Avg.	1.30	1.25	1.33
	Min.	1.68	0.72	0.64
Q:Runoff (in.)	Max.	4.52	3.25	4.52
	Avg.	2.79	2.51	2.91
	Min.	1.66	1.66	1.72

Note: 1. Rainfall depth came from Atlas14 rainfall database
2. Weighted curve number CN_W is estimated by equation CN_W=0.5**CN*+0.5*98

Using these parameters, the peak 60-minute average flow rate for the state was found to be 683.8 gpm (2,588.5 L/min), which is representative of field sediment basin conditions. To apply this flow rate to the model sediment basin, Froude's number was used to scale the velocity, Equation 3.3. After scaling down the flow rate, the introduced flow rate into the model basin was determined to be 7.2 gpm (27.2 L/min).

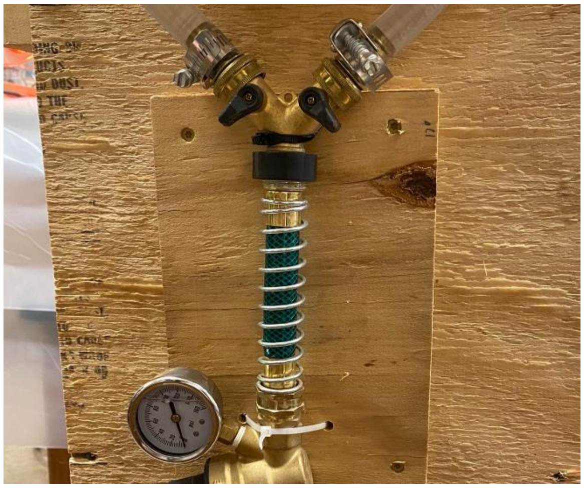
$$Q = \frac{Q_{60}}{(scale)^{5/2}} \qquad \textbf{Eq. 3.3}$$

Sediment-laden water discharges out of the spillway approximately 15.5 minutes after flow introduction for the standard basin and 14.5 minutes for the in-channel basin. The model basin had a steady discharge flow rate 5 minutes after spillway discharge began, and to ensure testing accounted for this steady flow state, a 30-minute testing duration was chosen. Each test's resulting model storm volume was approximately 215 gal. (814 L) of sediment-laden water.

3.5.2 Flow Introduction Apparatus

Each test involved introducing water and sediment into the basin for a duration of 30 minutes. A 100-ft (30-m) long, 0.75 in. (1.9 cm) diameter garden hose connected to a pressure regulator was utilized to ensure the appropriate flow rate, as depicted in Figure 3.7 Flow Introduction Apparatus. The pressure regulator was attached to a two-way split connector, with two pieces of tubing connected. Each piece of tubing had a length of 5-ft (12.7 m) and a diameter of 0.5-in. (1.2 cm). The two tubes were securely fastened to two ribbed elbows that entered an 8 to 4 in. (20.3 to 10.1 cm) PVC coupler. The design of the elbows in the funnel facilitated a swirling motion, effectively mixing the water and sediment. Subsequently, the sediment-laden water was discharged through a 10-in. (25.4-cm) PVC pipe that was cut in half longitudinally that acted as the channel. The flow maintained a consistent flow rate of 7.2 gpm (27.2 L/min.) throughout the test, resulting in a total volume of approximately 215 gal. (813 L) per test.

(a) hose connected to a pressure regulator



(b) pressure regulator attached to a two-way split connector

(c) two hoses attached to the 8-in. PVC

Figure 3.7 Flow Introduction Apparatus.

A sediment basin conveyance system is the mechanism that transports sediment-laden flows within the basin. This includes the introduction of sediment-laden flow, and its progression to two discharge outlets for controlled dewatering: a floating surface skimmer (i.e., primary outlet), and an auxiliary spillway (secondary outlet), Figure 3.8.

(a) sediment-laden flow introduction (b) spillway flow

Figure 3.8 Model Basin Conveyance System

3.5.3 Water Introduction System Calibration

As previously mentioned, water was introduced into the system using a 100-foot hose connected to a pressure regulator. The objective was to maintain a consistent flow rate of 7.2 gpm (27.3 L/min.). To achieve this, an analysis of pressure versus flow rate was conducted. The pressure valve was adjusted to various readings between 10 and 50 pounds per square inch (psi), with flow rate measurements taken at 5 psi intervals. To calculate the flow rate, a 5-gallon (19 L) bucket was filled to its brim, resulting in a volume of 5.4 gal. (20.2 L), and the time taken to fill the bucket was recorded. The volume of the bucket, 5.4 gal. (20.2 L), was found by calculating volume of water based on its weight per gallon. This process was repeated three times for each pressure interval. The detailed outcomes of the pressure versus flow rate analysis can be found in Table 3.4.

Table 3.4 Pressure Versus Flow Rate Analysis

Pressure, psi (kPa)	Trial 1 (s)	Trial 2 (s)	Trial 3 (s)	Average Duration (s)	Flow Rate, gal/min (L/s)
10 (69)	225	237	235	232	1.38 (0.09)
15(103)	126	122	121	123	2.61 (0.16)
20 (138)	77	83	81	80	3.99 (0.25)
25 (172)	62	63	62	62	5.15 (0.32)
30 (207)	53	52	52	52	6.13 (0.39)
35 (241)	46	47	47	47	6.87 (0.43)
40 (276)	46	46	4	45	7.02 (0.44)
45 (310)	44	43	46	44	7.23 (0.46)
50 (345)	43	44	44	43	7.34 (0.46)

3.6 SEDIMENT INTRODUCTION

The inclusion of sediment plays a pivotal role in the sediment basin experiments. By introducing sediment-laden stormwater, the effectiveness of the basin in capturing runoff and facilitating the settling of suspended sediment before discharging downstream can be assessed. To replicate real-world conditions, sediment was introduced into the flow prior to entering the basin, generating sediment-laden runoff. This carefully controlled sediment introduction system enabled the testing of basin against anticipated field conditions.

3.6.1 Sediment Introduction Rate Determination

The sediment introduction into the model basin is designed to replicate soil transport scenarios commonly observed in Alabama. A study by Fang et al. (2015b) was conducted in Franklin County, Alabama, focused on the assessing of two newly constructed sediment basins. During a four-month period, six distinct rainfall events were monitored, and samples were collected to measure the turbidity of the runoff inflow. By averaging the turbidity data points, corresponding Total Suspended Solids (TSS) values were determined, yielding the following results: 5,430, 1,305, 7,433, 275, 1,105, and 1,068 mg/L. For this project, the average TSS data points were further averaged to establish an appropriate inflow concentration for the model basin. An outlier within the dataset 275 mg/L was excluded prior to averaging to ensure a reliable concentration value. Consequently, the resulting inflow concentration for the model basin was determined to be 3,268.2 mg/L. This yields a sediment introduction rate of 5.9 lbs (2.7 kg) per 30-min testing duration for a rate of 3.3 oz./min (92 g/min).

3.6.2 Soil Classification

For all experimental tests in this study, soil obtained from the Auburn University - Stormwater Research Facility (AU-SRF) was utilized. Soil classification analysis involved both hydrometer testing and dry sieve analysis to assess soil gradation, Figure 3.9.

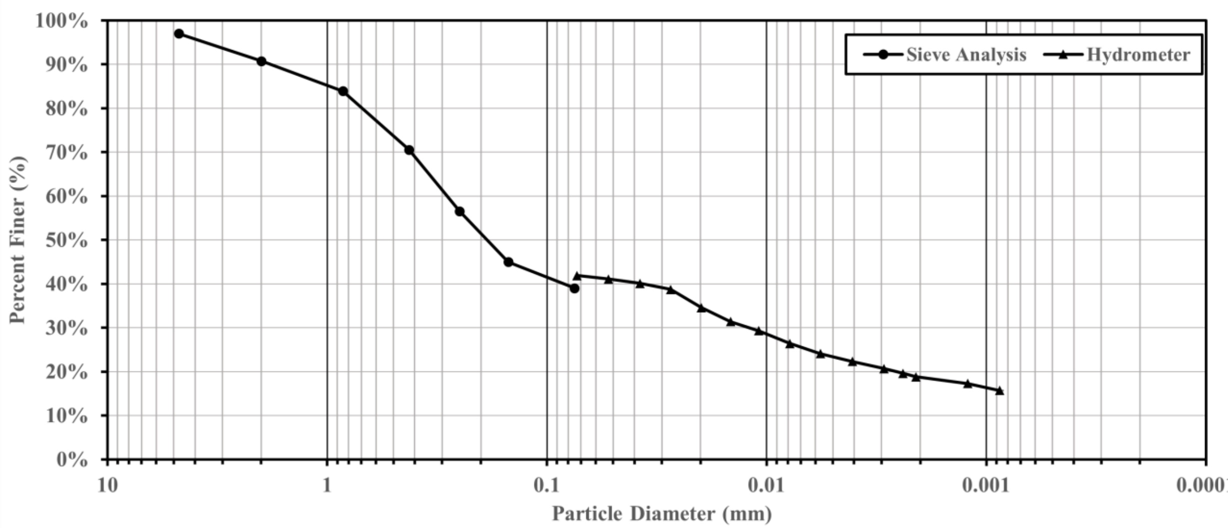


Figure 3.9 AU-SRF Soil Gradation Curve (Kazaz et al. 2021).

The hydrometer testing specifically focused on sediment particles smaller than 75 µm, as determined by the No. 200 sieve, targeting the fine-grained fraction. Conversely, the dry sieve analysis focused on sediment particles larger than 75 µm. By conducting a comprehensive gradation analysis, the soil's gradation was determined and is presented in Table 3.5.

Table 3.5 AU-SRF Soil Classification

Type	Size (mm)	Percentage
Clay	<0.002	34%
Silt	0.002-0.05	5%
Sand	0.005-2.00	61%

Based on the findings from these tests, the AU-SRF soil was classified as a sandy clay loam, providing valuable information about its composition and characteristics (Figure 3.10).

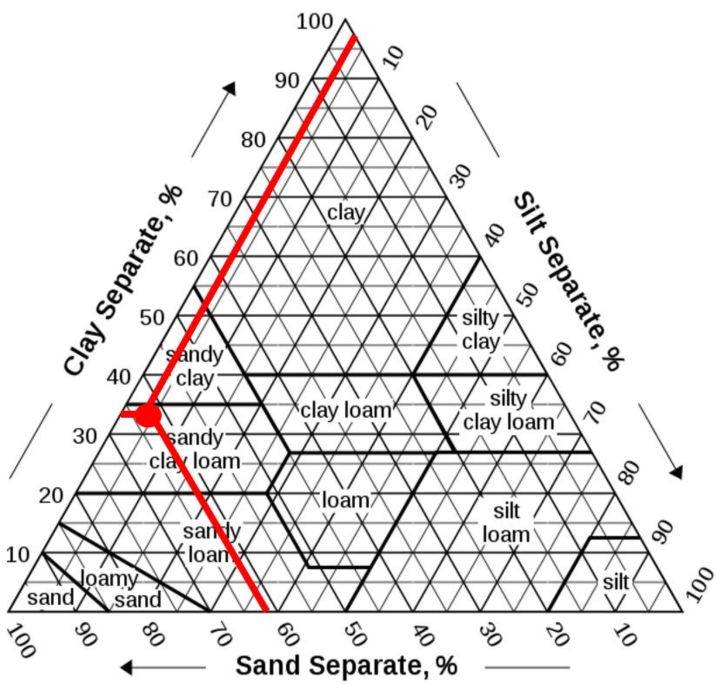


Figure 3.10 AU-SRF Soil Triangle.

3.6.3 Stokes' Law Analysis

After analyzing the soil's properties, the sediment gradation was adjusted to account for the depth differences between the model and field-scale basins. The model basin, with a depth of 9 in. (22.9 cm), needed to mimic the sediment settling behavior of the field-scale basin, which has an average depth of 3.5 ft (1.0 m). To achieve this, Stokes' law was employed to scale the sediment gradation, as described by Eq. 2.1. To calculate the soil's bulk density, the classification was needed. After obtaining the soil's classification, the bulk density for sandy clay loam was found to be 103.0 lbs/ft^3 (1,650 kg/ m^3). Additionally, a fluid density of 62.4 lbs/ft^3 (1,000 kg/m^3) was used for water at a temperature of 77 degrees Fahrenheit (25 degrees Celsius).

For the soil gradation adjustment, the average particle diameter values for the respective sieve numbers (4, 10, 20, 60, 100, and 200) were used in Stokes' law (Table 3.6). The amount of sediment by weight per particle size was determined and included in the percent mass from the dry sieve analysis.

Table 3.6 Sieve Size with Particle Diameter

Sieve No.	**4**	**10**	**20**	**40**	**60**	**100**	**200**
Particle Diameter (mm)	4.75-2.00	2.00-0.85	0.85-0.42	0.42-0.25	0.25-0.15	0.15-0.07	0.07-0.05
Percent of Total Mass (%)	3.0	6.2	13.1	13.1	14.0	17.2	21.0

The values were entered into an Excel spreadsheet to determine the resulting velocities as per Stokes' Law. These calculations and analyses determined corresponding velocities for each particle diameter value, facilitating a comprehensive understanding of the sediment settling duration. After calculating velocities, settling time determined the required for particles of a specific size in a field-scale basin with a depth of 3.5 ft (1.1 m). The Excel solver tool was employed to find the corresponding particle diameter that would settle in the same duration within a 9-in (0.2 m) deep basin. The objective was to maintain a time difference of zero, indicating equal settling times between the two basin depths. This iterative process allowed for the determination of the particle size that would exhibit comparable settling behavior in the model basin. Table 3.8 and Table 3.8 provides a comparison between the particle size diameters of the AU-SRF soil and the scaled soil gradation used in the model basin testing.

Furthermore, the dry sieve analysis was conducted to determine the weight of sediment per particle size. The resulting data was then converted into percent mass, providing a comprehensive understanding of the distribution of sediment across different particle sizes. This analysis quantified the relative contribution of each particle size fraction in terms of weight, contributing to a more comprehensive characterization of the sediment composition. The percentages of weight for each article size diameter are listed in Table 3.9.

Table 3.7 AU-SRF Soil Data

Particle Size (mm)	Classification	Sieve No.
4.988	Gravel	4
2.303	Coarse Sand	10
0.979	Medium Sand	20
0.488		40
0.289		60
0.173	Fine Sand	100
0.086		200
0.084		Pan
0.061		
0.043	Silt	

Table 3.8 Scaled Soil Gradation

Particle Size (mm)	Classification	Sieve No.
2.265	Coarse Sand	10
0.924	Medium Sand	20
0.393		60
0.196	Fine Sand	100
0.116		200
0.069		Pan
0.035	Silt	
0.034		
0.024		
0.017		

To attain a desired concentration of 3,268.2 mg/L for a storm volume of 215 gal. (813.9 L), a total sediment quantity of 5.9 lbs (2.7 kg) was introduced into the model basin. The proportion of total weight for the scaled gradation varies from the AU-SRF soil's total mass percentages due to the alignment of scaled sediment particle sizes with multiple sieve sizes corresponding to non-scaled particle diameters. Table 3.9 displays the resulting sediment gradation employed in the model basin.

Table 3.9 Sediment Introduction Gradation

Sieve No.	Percent of Total Mass	Sediment Weight (g)
10	3.0%	80.3
20	6.2%	165.9
40	8.7%	232.8
60	4.4%	117.8
100	13.1%	350.6
200	14.0%	374.7
Pan	50.4%	1,348.8
	Total	**2,670.8**

3.6.4 Sediment Introduction Apparatus

The sediment introduction system used in the study involved the use of a feeder from the Schenck AccuRate® series, as depicted in Figure 3.11a. This feeder features a helix with a diameter of 0.75 in. (1.91 cm) and a hopper with a capacity of 0.25 ft^3 (7.08 L). To ensure consistency in auger speeds across tests and achieve precise sediment introduction, the system is equipped with a three-digit thumbwheel speed potentiometer, which enhances repeatability. The auger served to introduce the sediment mixture into the experimental setup at a controlled rate. Specifically, the sediment was introduced at a consistent rate of 3.3 oz./min (92 g/min). This resulted in a total sediment amount of 5.9 lbs (2.7 kg) for each test conducted. The controlled and precise introduction of sediment allowed for accurate and reproducible experimental conditions.

(a) sediment auger

(b) sediment introduction into PVC funnel

(c) sediment-laden flow introduction

Figure 3.11 Sediment Introduction System.

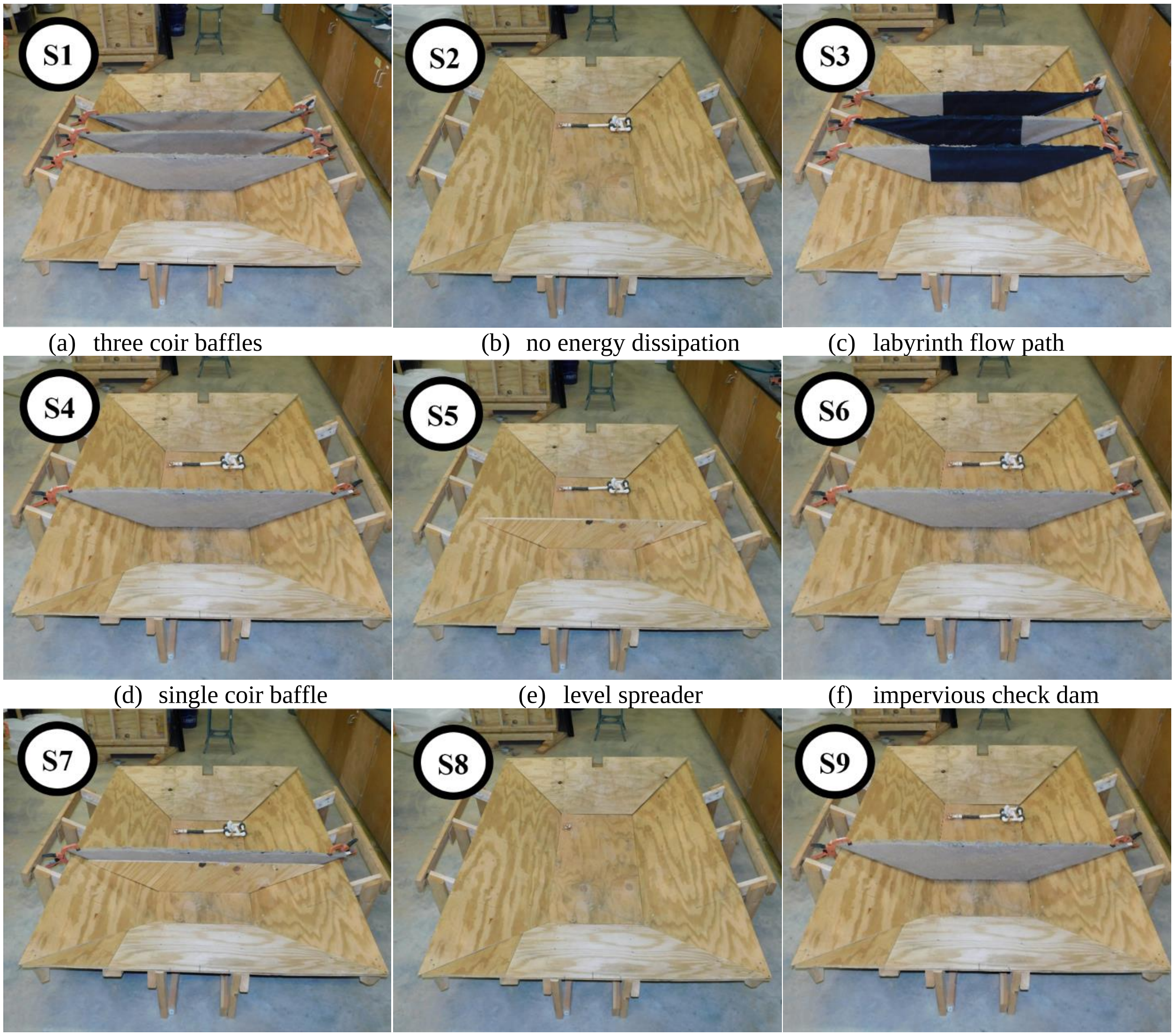
3.6.5 Calibration

To ensure the auger device's accurate sediment introduction rate, an analysis was conducted on its discharge performance. The auger exhibited a wide range of sediment discharge rates, spanning from 1 to 999 units. To determine the desired rate of 3.3 oz/min (92 g/min), a systematic approach was employed. First, a timer was set for 60 seconds, and the sediment discharged during this duration was carefully weighed. This process was repeated for every 100 iterations to establish a range of discharge rates that approached the target rate. Subsequently, a more refined analysis was conducted, focusing on every five iterations of the auger to narrow down the range of rates.

Once an appropriate sediment introduction rate was identified, the entire procedure was repeated three times to ensure precision and reliability of the measurements. Based on the comprehensive set of data obtained, it was determined that a sediment introduction rate of 950 units should be implemented for the specific auger device, aligning with the desired discharge rate of 3.3 oz./min (92 g/min). This analysis and validation process ensured the accuracy and suitability of the selected sediment introduction rate for the experimental setup.

3.7 TREATMENT METHODS IN STANDARD BASIN

Nine treatment methods were tested in the standard basin. This included (1) three coir baffles, (2) an open basin without energy dissipators, (3) increased flow path length using impervious barriers, (4) a single coir baffle (5) a level spreader forebay (6) a check dam constructed in the inflow channel with a single coir baffle, (7) a level spreader forebay with a single coir baffle, and (8) no energy dissipators and no skimmer, and (9) flocculant with a single coir baffle. All nine treatment methods can be found in Figure 3.12.



(a) three coir baffles
(b) no energy dissipation
(c) labyrinth flow path
(d) single coir baffle
(e) level spreader
(f) impervious check dam
(g) level spreader and single coir baffle
(h) no energy dissipators and no skimmer
(i) flocculant and single coir baffle

Figure 3.12 Nine Energy Dissipation Arrangements in the Standard Basin.

The initial treatment method examined in the standard basin (referred to as S1) is denoted as the ALDOT standard, which highlights the configuration comprising three coir baffles along with a floating surface skimmer. Subsequently, the evaluation encompassed a basin without energy dissipation (S2) to assess the contribution of baffles in sediment capture and downstream turbidity reduction. Furthermore, a labyrinth flow path configuration (S3) was tested to investigate the potential enhancement in sediment retention by increasing the length of the particle flow path while maintaining the basin's dimensions. The subsequent basin (S4) underwent testing using a single coir baffle and skimmer. This combination aimed to discern the disparity in sediment retention and downstream turbidity reduction when using a single coir baffle as opposed to three coir baffles (ALDOT Standard). As for the fifth configuration (S5), a level spreader was employed to impound the inflow runoff, creating a forebay. The runoff was then discharged from the top of the water column into the rear of the basin, ultimately exiting through either the skimmer or the spillway overflow. Another technique involving a second forebay was implemented through the use of an impervious check dam (S6) in the inflow channel. Typically, this design captures larger sediment particles upstream of the basin, thereby reducing the need for basin maintenance. The seventh configuration (S7) combined the level spreader with a single coir baffle. The eighth configuration (S8) was assessed without any treatment methods. This comparison was necessary as spatial constraints prevented the installation of a skimmer in the undersized basin. Lastly, the ninth configuration (S9), tested in the standard basin, encompassed a single coir baffle along with the addition of flocculant emulsion dosed at a rate of 5 mg/L. This configuration aimed to examine the impact of the flocculant on sediment retention within the basin.

3.7.1 Three Coir Baffles

In the standard basin, three coir baffles were designed, constructed, and installed, aligning with the ALDOT sediment basin standard (Figure 3.13). This configuration was chosen as the ALDOT standard because the model basin was subjected to a flow that mimics a 2-year, 24-hour storm event in a basin with a capacity of 3,600 ft3/ac (252 m3/ha). According to the ALDOT standard, this configuration includes a 2L:1W basin with three coir baffles, a floating surface skimmer, and a spillway designed to handle a 10-year, 24-hour design storm.

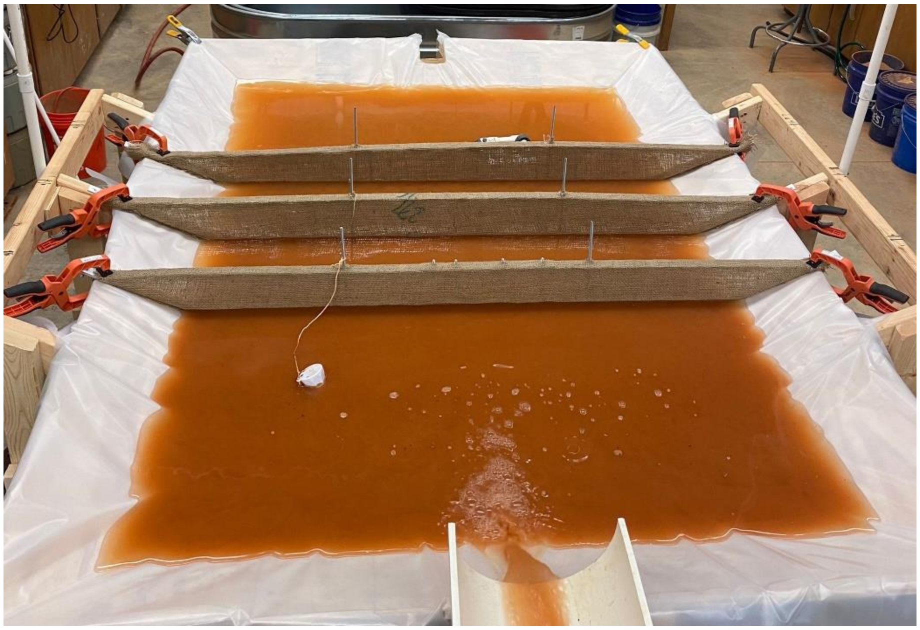


Figure 3.13 Standard Basin: Three Coir Baffles.

3.7.2 Open Basin Without Energy Dissipation

The standard basin was tested using only a skimmer as the treatment method (Figure 3.14). This design was implemented to gather control data without utilizing energy dissipation techniques. It served as a baseline for comparing other configurations in the standard basin that also incorporated a floating surface skimmer. This enabled us to assess the effectiveness of each energy dissipation combination in the standard basin, relative to the absence of energy dissipation techniques.

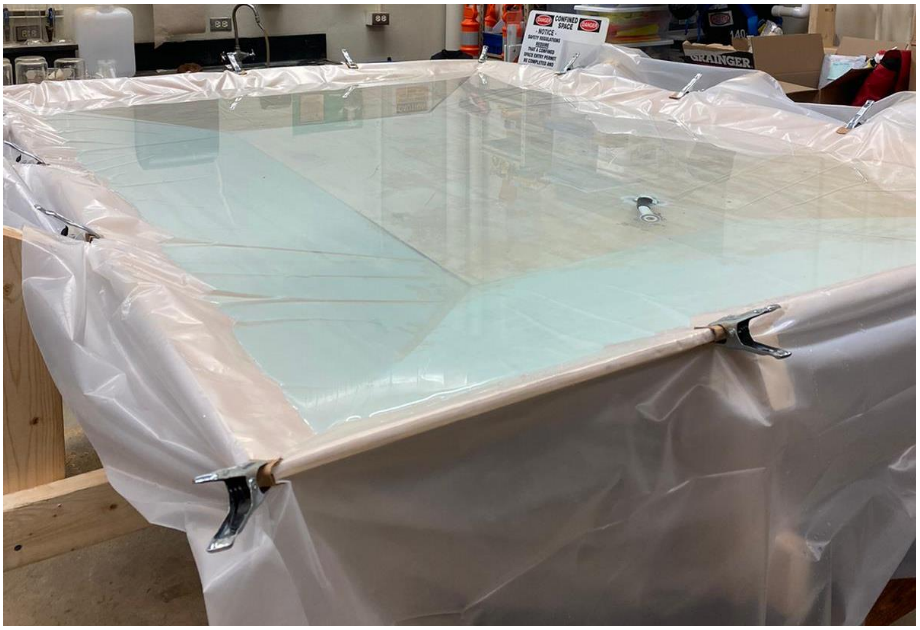


Figure 3.14 Standard Basin: Open Basin Without Energy Dissipation.

3.7.3 Labyrinth Flow Path

The third testing series involved placing a non-woven geotextile over the coconut coir to create impervious barriers, thus increasing sediment particle travel length (Figure 3.15). As per Stokes' law governing settling velocity, when the density of a particle exceeds that of the fluid, it will gravitationally settle out of suspension. For smaller, less dense, sediment particles such as clay soil, it takes more distance for the particle to settle. By increasing the flow path, smaller sediment particles will have more time for sedimentation to occur.

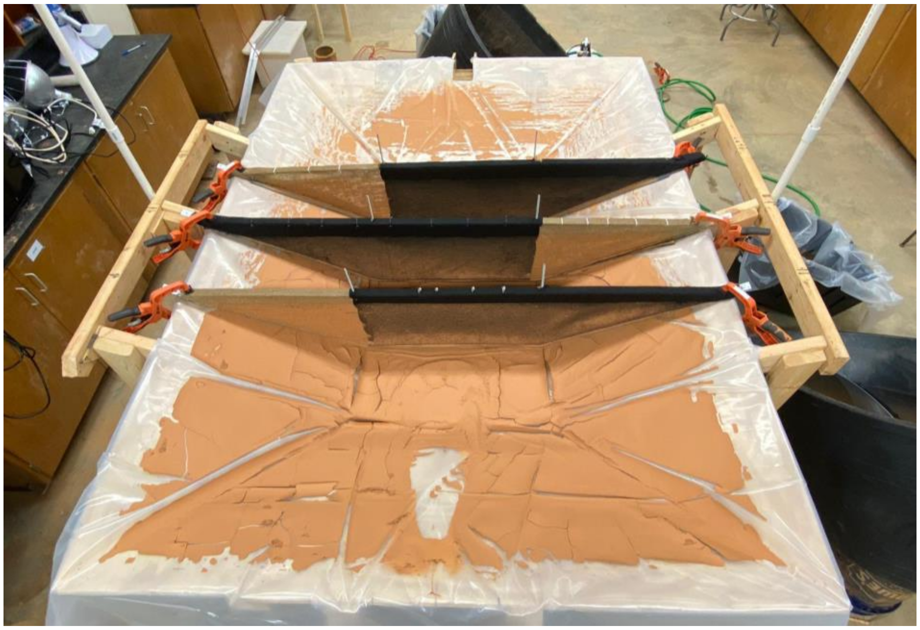


Figure 3.15 Standard Basin: Labyrinth Flow Path.

3.7.4 Single Coir Baffle

The fourth energy dissipation arrangement installed in the standard basin was a singular coir baffle (Figure 3.16). As mentioned before, in 2008 a study evaluating baffle materials was conducted at North Carolina State University. The findings of this study revealed that coir baffle material retains more sediment than tree protection fence or silt fence materials. Also, it was found that the first baffle is more efficient than the second or third baffle. This configuration was tested to compare the sediment retention difference between three baffles and one baffle. It was desired to investigate whether the inclusion of multiple coir baffles in sediment basins is necessary.

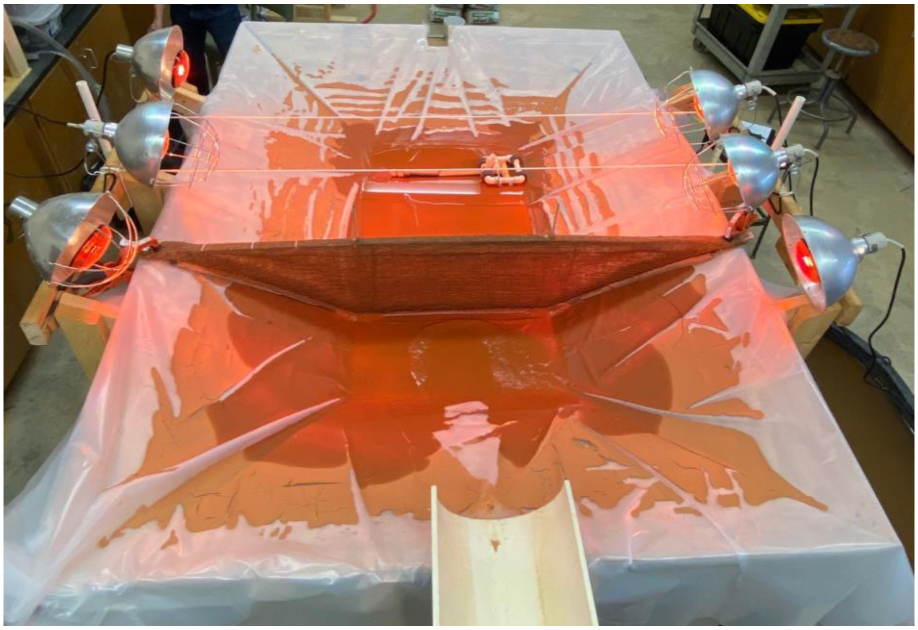


Figure 3.16 Standard Basin: Single Coir Baffle.

3.7.5   Level Spreader

The fifth energy dissipation arrangement installed in the standard basin was a level spreader (Figure 3.17). For this installation, a structurally stable and impervious material was required to impound water in the first bay before uniformly discharging it to the downstream area of the basin. The material utilized for the level spreader consisted of two layers of 0.75-in. (2.0 cm) plywood cut to a height of 9-in. (22.9 cm), identical to the height of the spillway. Sections of 2 x 2-in. (5 x 5 cm) wood were affixed to the basin, creating a slot to insert the plywood. This arrangement established a structurally stable impervious barrier for water ponding in the first bay, facilitating gravitational settling.

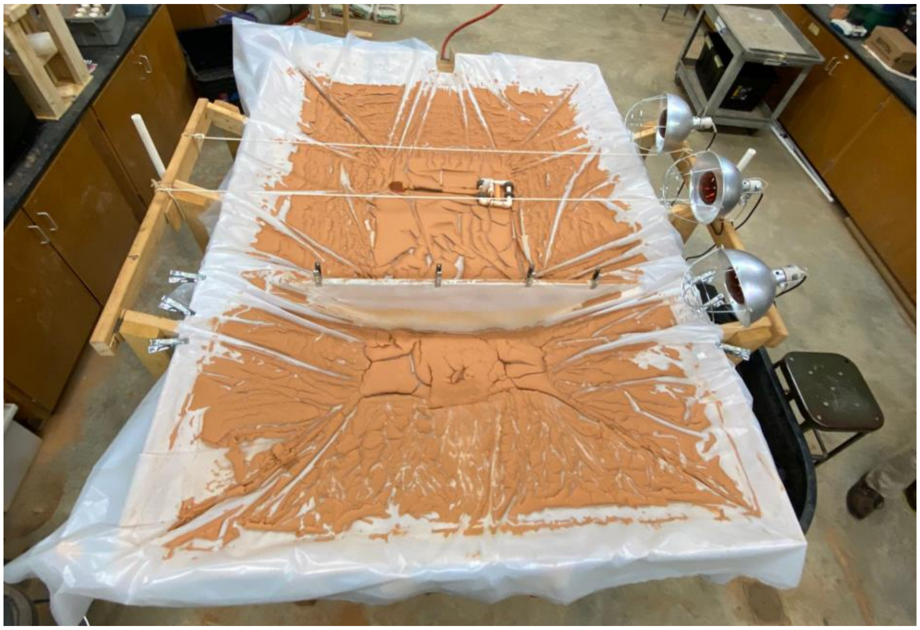


Figure 3.17 Standard Basin: Single Coir Baffle.

3.7.6 Impervious Check Dam

Subsequently, an alternative method was explored to establish a forebay. This involved the customization of a 2 x 4 in. (5 x 10 cm) wooden piece, tailored to fit snugly within the channel at a height of 1-in. (2.5 cm) (Figure 3.18). Given that the model basin's volume is approximately six times smaller than that of a standard 3,600 ft^3/ac (252 m^3/ha) sediment basin, scaling of the check dam was necessary. Additionally, a baffle was incorporated in the first bay for enhanced performance. However, due to the perception that this configuration deviated from real-world conditions, only one test was conducted on this arrangement.

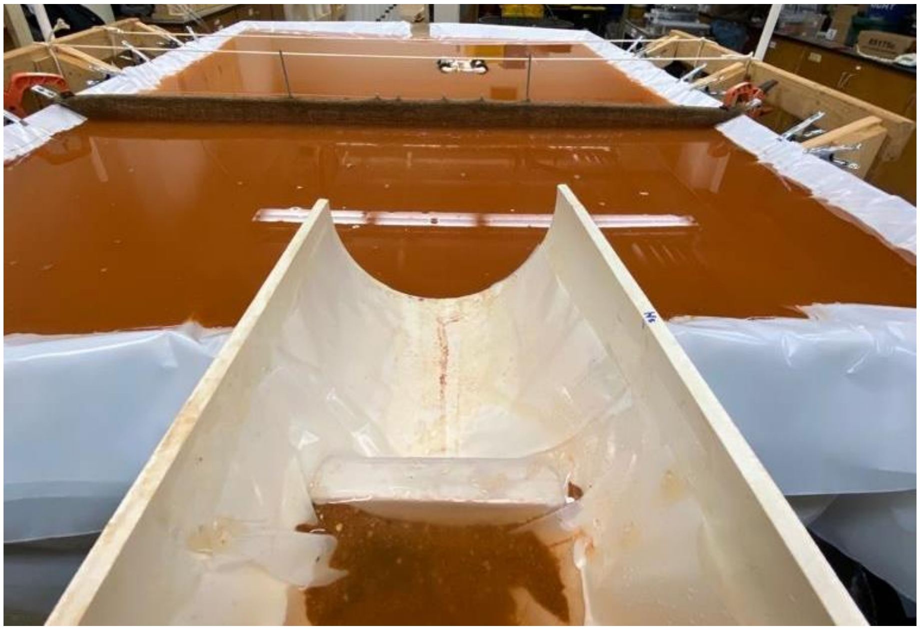


Figure 3.18 Standard Basin: Impervious Check Dam.

3.7.7 Level Spreader with One Coir Baffle

Next, an attempt was made to enhance the performance of the level spreader by incorporating a baffle positioned behind the practice (Figure 3.19). The rationale behind this modification was based on the hypothesis that the baffle would effectively increase sediment retention within the basin by decelerating the velocity of sediment-laden water as it overflowed the level spreader.

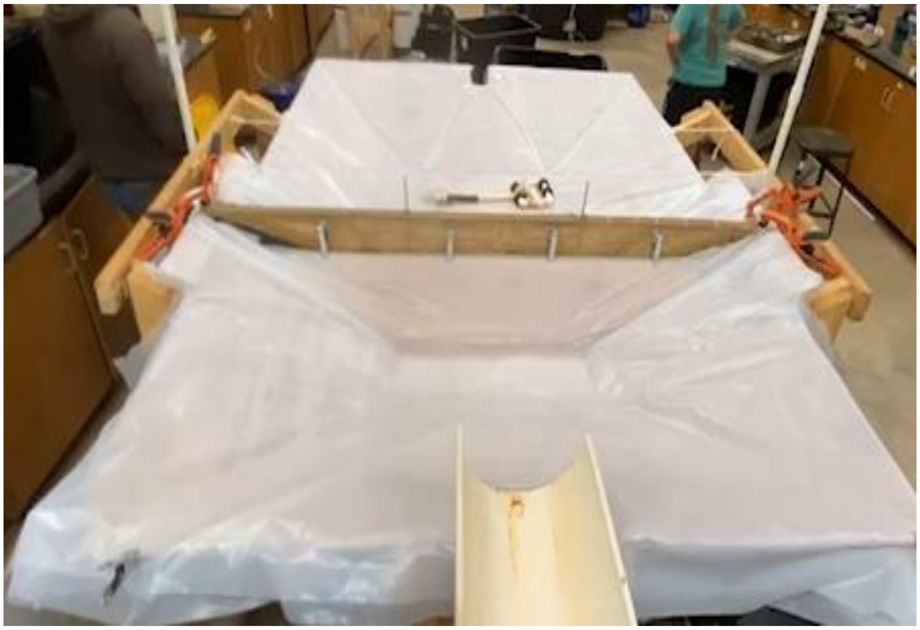


Figure 3.19 Standard Basin: Level Spreader and Single Coir Baffle.

3.7.8 No Energy Dissipation or Skimmer

Next, a test series was conducted without incorporating energy dissipation and a skimmer (Figure 3.20). This configuration was chosen to establish a control group of data for comparison with the results obtained from the undersized basin. Due to spatial constraints and limited capacity, it was not feasible to install a skimmer in the undersized basin or incorporate energy dissipation measures alongside it. Consequently, in this installation, the absence of a skimmer necessitated a 24-hr waiting period after testing to extract the water from the top of the basin into a 110-gal. (416 L) tank. Following the water extraction, the same data collection procedures were implemented as with the other configurations.

Figure 3.20 Standard Basin: No Energy Dissipation or Skimmer.

3.7.9 Flocculant and One Coir Baffle

After conducting thorough research on flocculants used in sediment basins, it was decided to add 5 mg/L of flocculant to the model basin with one coir baffle (Figure 3.21). To achieve this concentration, 0.1 oz. (4.1 g) of flocculant was mixed with 2.5 gal. (9.5 L) of water. The flocculant emulsion mixture was prepared two hours before testing, agitated for 5 minutes, and then pumped into the basin at a rate of 5.0 gal/hr. (310 mL/min.). A peristaltic pump ensured a uniform and consistent flow of the flocculant into the basin over the 30-min duration of the tests. The storm volume introduced into the basin during each test was approximately 210 gal (794 L).

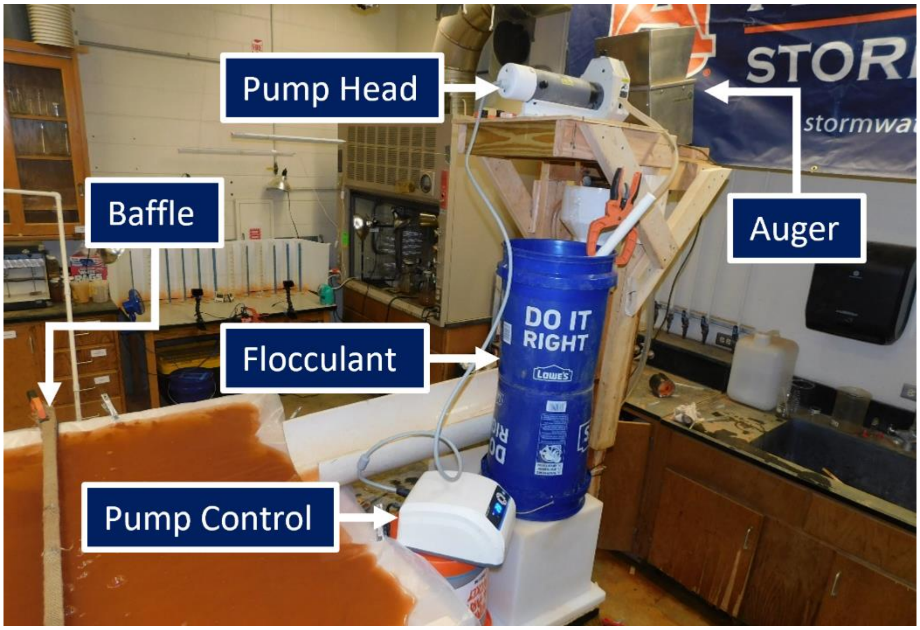
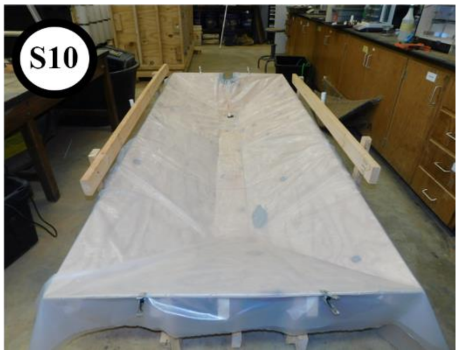


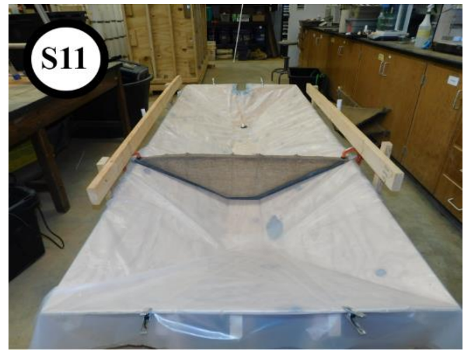
Figure 3.21 Standard Basin: Flocculant and a Single Coir Baffle.

3.8 IN-CHANNEL BASIN

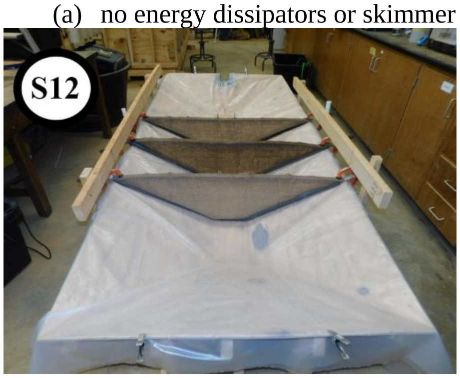
Six treatment methods were tested in the in-channel basin. This included (1) no energy dissipators or skimmer, (2) a single coir baffle and no skimmer, (3) three coir baffles, (4) a single coir baffle (5) flocculant, a single coir baffle, and no skimmer (6) flocculant with a single coir baffle. All six treatment methods can be found in Figure 3.22.



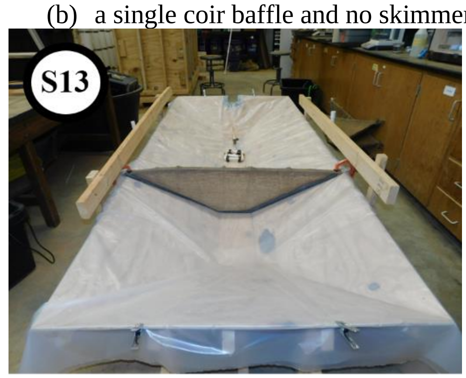
(a) no energy dissipators or skimmer



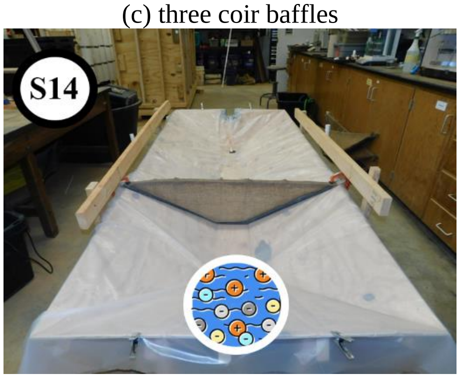
(b) a single coir baffle and no skimmer



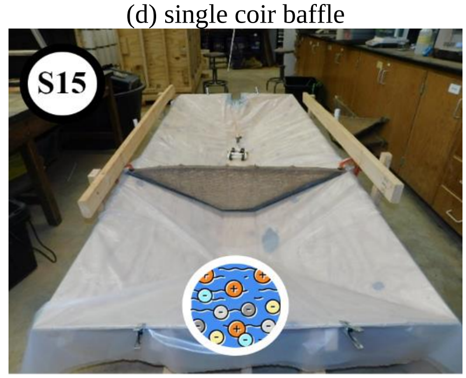
(c) three coir baffles



(d) single coir baffle



(e) flocculant, a single coir baffle, and no skimmer



(f) flocculant with a single coir baffle.

Figure 3.22 Treatment Methods Employed in the In-Channel Basin.

3.8.1 No Energy Dissipation or Skimmer

First, a test series was conducted to examine the performance of the basin configuration without the inclusion of energy dissipation and a skimmer, as depicted in Figure 3.23. This setup served as the control group for comparative analysis with the results obtained from the undersized basin.

Figure 3.23 In-Channel Basin: without Energy Dissipation or Skimmer.

3.8.2 Single Coir Baffle and No Skimmer

Next, the second energy dissipation arrangement in the in-channel basin involved the installation of a single coir baffle and the exclusion of the skimmer, as shown in Figure 3.24. The decision to test a single coir baffle was based on consistent reasoning applied throughout the testing process. A previous study conducted in 2008 indicated that the initial baffle significantly reduced velocity and demonstrated superior sediment capture compared to subsequent baffles within the basin. Hence, this approach was adopted to investigate the effectiveness of a single coir baffle in achieving the desired outcomes in terms of sediment retention.

Figure 3.24 In-Channel Basin: Single Coir Baffle without Skimmer.

3.8.3 Three Coir Baffles

For the third arrangement, three coir baffles were constructed and implemented in the in-channel basin. Figure 3.25, shows the baffles implemented within the in-channel basin. Similar to the standard basin, a comparison was sought between using three coir baffles and a single coir baffle in the in-channel basin. This comparison aimed to assess the effectiveness of different baffle configurations in achieving sediment retention objectives.

Figure 3.25 In-Channel Basin: Three Coir Baffles.

3.8.4 Single Coir Baffle

Subsequently, the fourth arrangement for energy dissipation in the in-channel basin entailed the incorporation of a solitary coir baffle while omitting the skimmer, as illustrated in Figure 3.26.

Figure 3.26 In-Channel Basin: Single Coir Baffle.

3.8.5 Flocculant, Single Coir Baffle, and No Skimmer

The fifth configuration involved the application of flocculant, the installation of a single coir baffle, and the exclusion of a skimmer. The decision was made to introduce a concentration of 5 mg/L of flocculant to the model basin, (Figure 3.27). In addition, the emulsion mixture containing flocculant was prepared using the same procedure employed for the standard basin. This specific energy dissipation arrangement was selected to assess the effectiveness of the chemical agent and to conduct a comparative analysis of its performance in relation to other configurations.

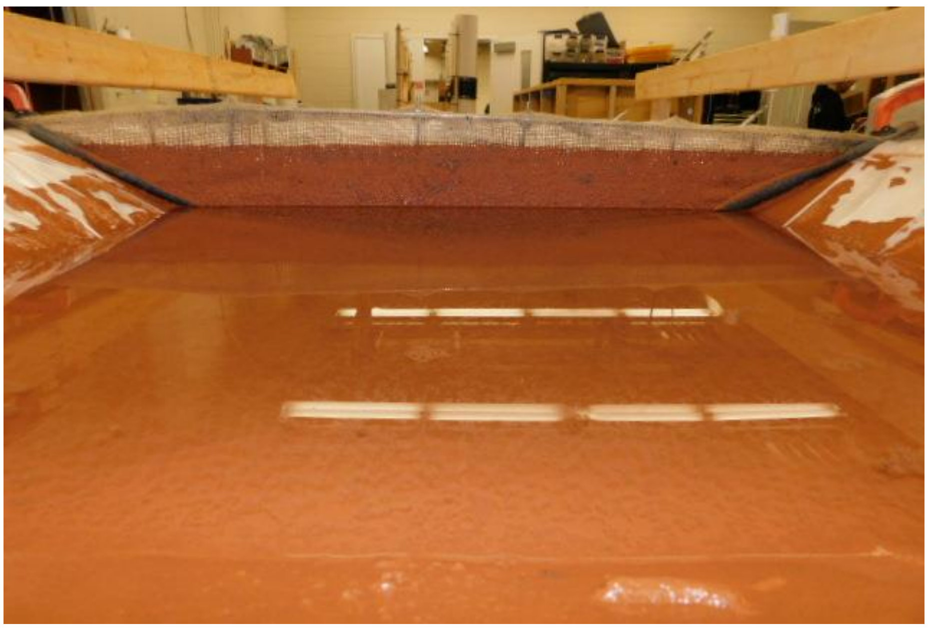


Figure 3.27 In-Channel Basin: Flocculant, Single Coir Baffle, and No Skimmer.

3.8.6 Flocculant and a Single Coir Baffle

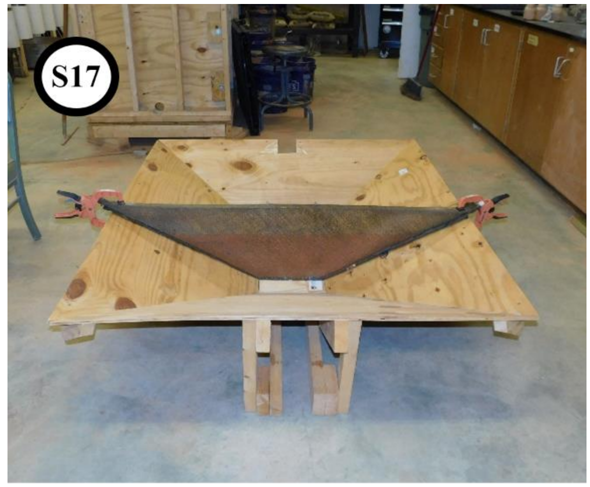
Furthermore, the final configuration examined in this series included flocculant, a single coir baffle, and a floating surface skimmer, Figure 3.28. Flocculant introduction remained the same throughout all test series for all basin designs. For this series, a single-layered baffle was employed instead of a double-layered coir baffle. This decision was influenced by the outcome of the initial test within the series, wherein the baffle completely blinded, leading to the complete obstruction of flow and subsequent overflow of the basin. As a result, the data obtained from the first test was disregarded, and three additional tests were performed to ensure the acquisition of accurate and dependable results.

Figure 3.28 In-Channel Basin: Flocculant and a Single Coir Baffle.

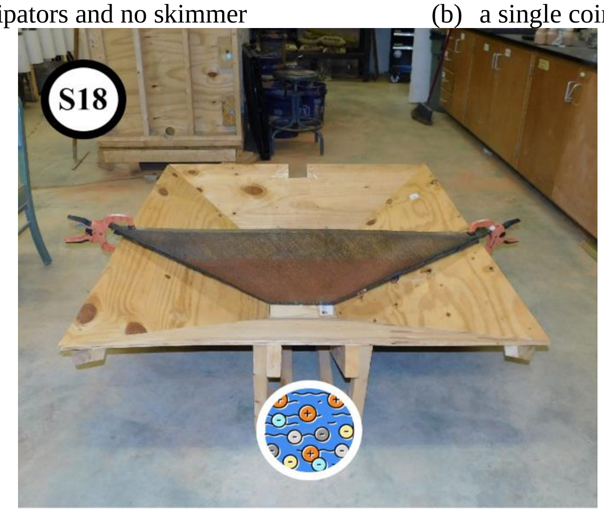
3.9 UNDERSIZED BASIN

Three treatment methods were tested in the in-channel basin. This included (1) no energy dissipators or skimmer, (2) a single coir baffle and no skimmer, (3) flocculant, a single coir baffle, and no skimmer. All three treatment methods can be found in Figure 3.29.

(a) no energy dissipators and no skimmer



(b) a single coir baffle and no skimmer



(c) flocculant, a single coir baffle, and no skimmer

Figure 3.29 Treatment Methods in Undersized Basin.

3.9.1 No Energy Dissipation or Skimmer

To conduct a comprehensive analysis, the initial energy dissipation arrangement employed in the undersized basin involved the absence of both energy dissipation measures and a skimmer, as depicted in Figure 3.30. This configuration was also implemented in the standard and in-channel basins to facilitate a thorough comparison of data across all three basin designs.

Figure 3.30 Undersized Basin: No Energy Dissipation or Skimmer.

3.9.2 Single Coir Baffle and No Skimmer

The second energy dissipation configuration installed in the undersized basin, a singular coir baffle, as illustrated in Figure 3.31. This arrangement aimed to assess the performance of a single coir baffle in achieving the desired energy dissipation outcomes, independent of the presence of a skimmer.

Figure 3.31 Undersized Basin: Single Coir Baffle and No Skimmer.

3.9.3 Flocculant, Single Coir Baffle, and No Skimmer

Based on research findings highlighting the effectiveness of flocculants by enhancing sediment retention within basins, the decision was made to incorporate flocculants in conjunction with a single coir baffle (Figure 3.32). Since the volume of water maintained consistent for all 18-testing series, the same amount of flocculant was utilized for the undersized basin. The introduction of flocculant followed the same procedure employed in the standard and in-channel basins, maintaining uniformity across the testing configurations.

Figure 3.32 Undersized Basin: Flocculant, Single Coir Baffle, and No Skimmer.

3.10 DATA COLLECTION

For this project, data collection involved sampling from key locations such as the inflow channel, floating surface skimmer, and auxiliary spillway. The duration of sample collection spanned the entire sediment-laden flow introduction and discharge process. Turbidity and total suspended solids (TSS) measurements were taken to assess the sediment content and clarity of the water samples. Additionally, the mass balance of sediment introduced and discharged through the floating surface skimmer and spillway was analyzed to determine the sediment retention percentages. By collecting and analyzing this data, insights were gained into the treatment method's performance and informed improvements in sediment basin management.

3.10.1 Sampling

For every energy dissipation arrangement, a total of three testing replications were carried out. Each test involved the introduction of flow and sediment for a duration of 30 minutes. Throughout the duration of each test, samples were collected from three specific locations: the inflow channel, skimmer outlet, and spillway, Figure 3.33.

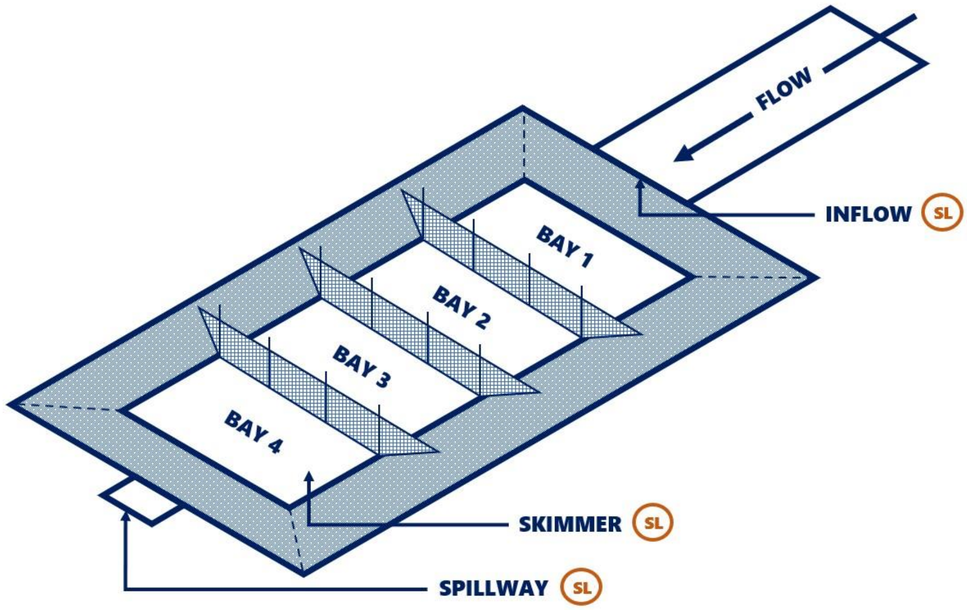


Figure 3.33 Model Sediment Basin Layout with Sampling Locations.

The sampling process commenced 3 minutes after the initiation of flow introduction and continued for approximately 5 hours after the cessation of flow. In total, 10 samples were taken from the inflow channel, 9 samples from the spillway, and approximately 35 samples from the skimmer outlet, as depicted in Figure 3.34.

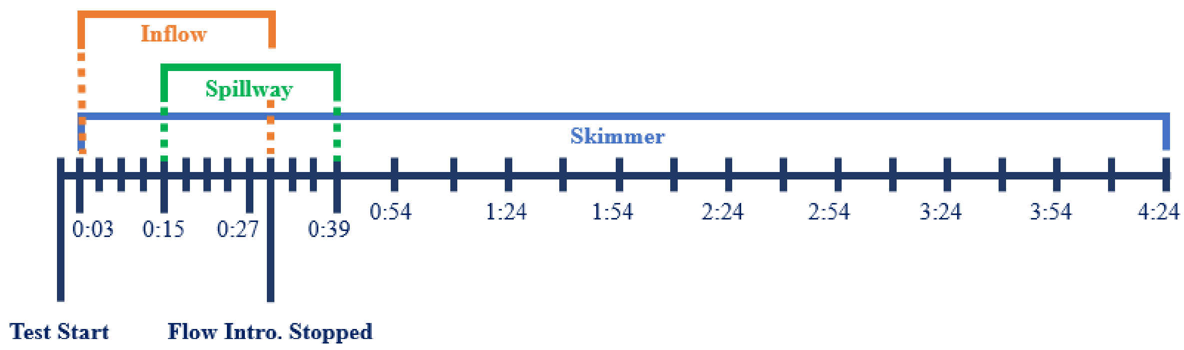


Figure 3.34 Sampling Interval Graphic.

3.10.2 Turbidity and TSS

Turbidity and total solids testing are essential methods used to assess the quality and characteristics of water samples. Turbidity refers to the cloudiness or haziness of water caused by suspended particles, while total solids represent the total amount of solid matter present in the water. These tests provide valuable insights into the clarity, purity, and potential contaminants in a water source.

The American Society for Testing and Materials (ASTM) has established standards for turbidity and total solids testing to ensure consistent and reliable measurement procedures. ASTM D6698 outlines the standard test method for determining the turbidity of water using the nephelometric method. This method involves measuring the scattering of light by suspended particles in the water sample using a nephelometer, Figure 3.35a. The results are typically reported in nephelometric turbidity units (NTU) and serve as a quantitative measure of the turbidity level.

Similarly, ASTM D5907 provides guidelines for the determination of total solids in water samples. This standard test method involves evaporating a measured volume of the water sample and weighing the residue to determine the concentration of total solids, Figure 3.35b. The results are typically reported as milligrams per liter (mg/L) or parts per million (ppm) of total solids.

(a) Hach® Turbidimeter (b) Oven dried TS pans

Figure 3.35 Sample Processing Methods.

3.10.3 Mass Balance

The mass balance analysis of the model sediment basin testing encompassed various steps to quantify and collect sediment from different locations. These locations included bay 1, 2, 3, and 4, as well as discharges from the floating surface skimmer and auxiliary spillway. Upon the entry of sediment-laden water into the model basin, the discharge process commenced, with the floating surface skimmer initiating discharge approximately 2 minutes after flow commencement, and the auxiliary spillway taking approximately 15.5 minutes for discharge the standard basin, 14.5 minutes for the in-channel basin, and 6.5 for the undersized basin.

The discharge from the floating surface skimmer and auxiliary spillway was carefully collected in 110 gal. (416 L) rubber troughs. Following the completion of the testing and sampling procedures, flocculant with a concentration of 5 mg/L was mixed into each trough to facilitate the settlement of the sediment, Figure 3.36. After the addition of flocculant, a waiting period of 24 hours was observed to allow sufficient time for sediment settling.

Figure 3.36 Flocculating Runoff Storage Tanks.

To account for any suspended sediment that remained in the troughs during the discharge process, five samples were extracted from each trough (both skimmer and spillway) during the discharge phase. This ensured that any suspended sediment, known as supernatant, was accurately considered in the analysis.

Once the sampling collection was completed, the remaining sediment in the troughs was transferred into a 27 gal. (102 L) metal pan Figure 3.37. This pan was then placed in an oven and dried for a duration of 10-20 hours. The drying process aimed to remove any remaining moisture from the sediment, ensuring accurate measurement of the dry sediment mass.

These procedures for collecting and analyzing sediment samples were integral to the mass balance assessment of the model sediment basin, providing valuable insights into sediment retention and settling characteristics within the basin.

(a) storage tank after flocculation and pumping from the top of the water column (b) dried sediment from storage tank

Figure 3.37 Sediment Collection and Drying.

The drying process of the basin involved the strategic placement of three heat lamps on each side of the basin's length. This arrangement facilitated the efficient drying of the sediment within the basin. Once the sediment reached an adequately dry state, it was carefully divided into the four designated bays of the basin. Each bay's sediment was then collected and transferred into separate bowls in preparation for weighing, as illustrated in Figure 3.38.

Figure 3.38 Dried Sediment Split by Bays.

The division of the dried sediment into separate bays facilitated a more precise evaluation of sediment mass within each specific area of the basin, enabling an accurate measurement and analysis of the sediment retained in different sections of the basin. Weighing the collected sediment from each bay provided valuable data on the distribution and concentration of sediment within the basin, contributing to the assessment of sediment deposition patterns and the evaluation of the effectiveness of sediment control measures implemented within the basin.

3.10 SUMMARY

This section presented the testing procedures and methodology that were employed to evaluate model sediment basins. The objective of the study was to assess basin performance and identify areas for improvement in geometry and energy dissipation arrangements. The testing protocol consisted of two phases. Phase I focused on testing various treatment methods in a standard basin to evaluate sediment retention and turbidity reduction. Phase II involved testing the most effective treatment method in different basin designs.

In the standard basin, nine treatment methods were tested, including variations energy dissipators arrangements. Treatment methods included coir baffles, lengthening flow path with impervious barriers, a level spreader, a check dam, and chemical additives. The in-channel basin underwent testing with six treatment methods, while the undersized basin was tested with three treatment methods.

Accurate water introduction was crucial to replicate field conditions in the model sediment basin testing process. Flow rates were determined based on Alabama-specific data and were calibrated accordingly using a designed water introduction system. This system allowed for precise control overflow rates and ensured accurate replication of field sediment basin conditions during testing.

The sediment introduction in the sediment basin experiments played a critical role in assessing effectiveness. Sediment-laden stormwater was introduced to replicate real-world conditions and evaluate the basin's ability to capture runoff and settle suspended sediment. The sediment introduction rate was determined based on a study in Alabama. Soil used in the experiments was classified as a sandy clay loam, and the sediment gradation was adjusted using Stokes' law to mimic field-scale basin behavior. Controlled introduction of the sediment mixture was achieved using an auger.

Data collection involved sampling from key locations and analyzing turbidity and total suspended solids. Mass balance analysis was conducted to quantify and collect sediment from different areas within the basin, providing insights into sediment retention and settling characteristics. A complete list of testing series with their corresponding characteristics can be found in Table 3.10.

Table 3.10 Test Series Summary Chart

Test ID	Basin	Baffles	Skimmer	Other Materials	No. of Tests
S1	Standard (2L:1W)	0	Yes	N/A	4
S2	Standard (2L:1W)	3	Yes	N/A	3
S3	Standard (2L:1W)	3	Yes	Silt Fence	4
S4	Standard (2L:1W)	1	Yes	N/A	3
S5	Standard (2L:1W)	0	Yes	Level Spreader	4
S6	Standard (2L:1W)	1	Yes	Check Dam	1
S7	Standard (2L:1W)	1	Yes	Level Spreader	3
S8	Standard (2L:1W)	0	No	N/A	3
S9	Standard (2L:1W)	1	Yes	Flocculant	3
S10	In-Channel (10L:1W)	0	No	N/A	3
S11	In-Channel (10L:1W)	1	No	N/A	2
S12	In-Channel (10L:1W)	3	Yes	N/A	3
S13	In-Channel (10L:1W)	1	Yes	N/A	3
S14	In-Channel (10L:1W)	1	No	Flocculant	1
S15	In-Channel (10L:1W)	1	Yes	Flocculant	3
S16	Undersized (2L:1W)	0	No	N/A	3
S17	Undersized (2L:1W)	1	No	N/A	2
S18	Undersized (2L:1W)	1	No	Flocculant	3
				Total No. Tests	**51**

CHAPTER FOUR:
RESULTS AND DISCUSSION

4.1 INTRODUCTION

The assessment of sediment basin performance in this research study was conducted through the systematic collection and analysis of data and observations. Multiple parameters were measured to comprehensively evaluate the effectiveness of sediment basins, including sediment retention, turbidity, flow rates, and dewatering time. The primary objective for improving sediment basin installations was to optimize basin efficiency while minimizing installation costs. Multiple variables were considered during basin testing, encompassing volumetric and geometric factors, and varying treatment methods. Each of these parameters played a crucial role in influencing sediment retention and the turbidity of the effluent.

A mass balance analysis was conducted to account for the total amount of sediment captured within evaluated basins. This analysis enabled the calculation of sediment retention percentages, providing valuable insights into the effectiveness of the basin in retaining sediment. Furthermore, water samples were collected from inflow and outflow locations within the model basin as part of the experimental procedure. These samples underwent processing to determine the corresponding turbidity and total solids concentration. The obtained data established a correlation between turbidity and total solid concentration specific to the AU-SRF soil used in this study.

4.2 PERFORMANCE

Proper design and construction of sediment basins plays a vital role in achieving high efficacy and optimal performance. The effectiveness of sediment basins is closely tied to the treatment methods employed within the basin. In this study, two essential performance parameters were evaluated during the testing of model sediment basins: sediment retention values and turbidity reduction from inflow to outflow. Each configuration was subjected to a 30-minute flow duration where 5.9 lbs (2.7 kg) of sediment was introduced.

4.2.1 Sediment Retention Quantification

Sediment retention measures the basin's capability to capture and retain sediment particles and is crucial in assessing the overall efficiency of sediment basins. Determination of sediment retention in the model basin involved capturing and drying sediment from various locations within the basin and discharge points, including bay 1-4, skimmer, and spillway.

The testing methodology differs slightly between test series using a floating surface skimmer and those without a skimmer, Table 4.1. In the case of test series using a skimmer, the simulated runoff present in the basin is completely drained through the floating surface skimmer throughout both the flow introduction period and through the settling period. Conversely, for test series without a skimmer, the simulated runoff remains ponded in the basin for approximately 24 hours after the spillway flow stops. Subsequently, the water is manually pumped out from the top of the water column.

Table 4.1 Test Series Without Skimmer

	Standard Basin	In-Channel Basin	Undersized Basin
Test Series	S8	S10, S11, S14	S16, S17, S18 (ALL)

4.2.2 Water Quality Analysis

Turbidity and TS analyses were performed on water samples for all 18 configurations. Turbidity measurements were conducted using the HACH® TL2300 Tungsten Lamp Turbidimeter (0-4,000 NTU). Upon examination, it was observed that the relationship between turbidity and TS concentrations was influenced by outliers, mainly emanating from inflow data. Factors such as sediment composition, particle size distribution, and particle shape can influence the turbidity-TS relationship. To mitigate this impact, the sample pairs (turbidity-total solids) were sorted based on turbidity values to clean the data. The data was then divided into 28 ranges (50-99, 100-149, 150-199... 1,400-1,449), and each range was assessed. Samples identified as values that were 1.5 times higher or lower than the interquartile range. The resulting turbidity and TS values were plotted on the x- and y-axis, respectively, as depicted in Figure 4.1.

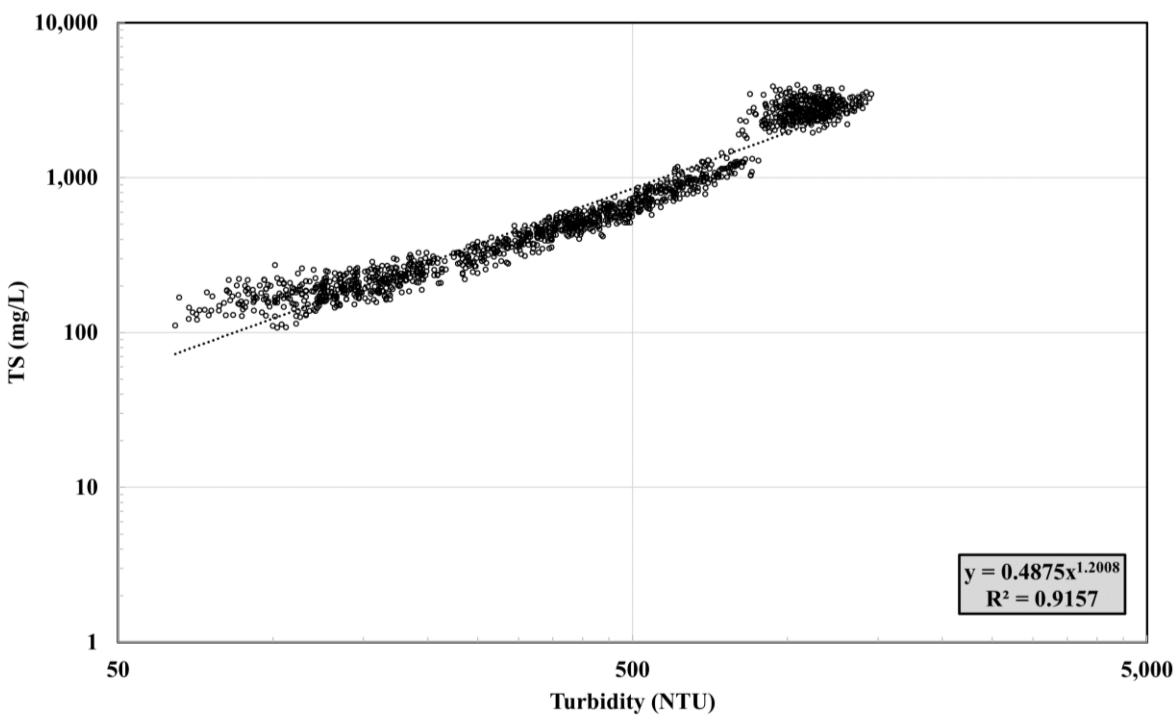


Figure 4.1 Turbidity Versus Solids Concentration.

Turbidity reduction was represented by the percent decrease in water turbidity levels as stormwater passed through the sediment basin, shown in Eq. **4.1**. Turbidity reduction was evaluated by comparing the turbidity levels of representative inflow samples to the turbidity measurements obtained from downstream sampling locations, skimmer, and spillway overflow.

$$TR\ (\%) = \left[\frac{(T_A - T_i)}{T_A}\right] * 100 \qquad \textbf{Eq. } 4.1$$

where,

TR (%) = turbidity reduction (%)

T_A = average inflow turbidity (NTU)

T_i = measured turbidity (NTU)

To determine the average inflow turbidity for each test, the inflow samples were averaged after removing any outliers. Outliers were identified as values that were 1.5 times higher or lower than the interquartile range, Table 4.2. provides an illustration of how the average inflow concentration was determined for the test series A data set. Outliers, represented by the strikethrough text, were excluded from the average calculations.

Table 4.2 Example for Test Series A (ALDOT Configuration)

Time (min.)	A1 (NTU)	A2 (NTU)	A3 (NTU)	Average (NTU)
3	939	1,080	~~187~~	1,010
6	958	938	950	949
9	1,009	971	973	984
12	847	1,022	993	954
15	900	923	845	889
18	1,136	1,004	910	1,017
21	993	1,024	914	977
24	997	1,027	916	980
27	993	1,016	956	988
30	1,047	1,035	1,031	1,038
Avg.	**982**	**1,004**	**943**	**979**

Subsequently, average turbidity values obtained from the skimmer and spillway were divided by the representative inflow value. The resulting quotient was subtracted from 1 to calculate the turbidity reduction for each point in time during the 6-hour testing and dewatering period. Table 4.3 shows an example of the turbidity reduction calculation on the control, test series A.

Table 4.3 Example Turbidity Reduction (%) Calculations for Test Series A (Skimmer)

Time (hh:mm)	**A1** *Avg. Inflow 982 NTU*	**Turbidity Reduction (%)**	**A2** *Avg. Inflow 1,004 NTU*	**Turbidity Reduction (%)**	**A3** *Avg. Inflow 943 NTU*	**Turbidity Reduction (%)**
0:03	462	53%	403	60%	504	47%
0:06	428	56%	462	54%	304	68%
0:09	387	61%	394	61%	300	68%
0:12	371	62%	388	61%	268	72%
0:15	376	62%	379	62%	271	71%
0:18	378	62%	364	64%	337	64%
0:21	389	60%	432	57%	425	55%
0:24	368	63%	442	56%	365	61%
0:27	375	62%	386	62%	343	64%
0:30	376	62%	389	61%	381	60%
0:33	356	64%	375	63%	395	58%
0:36	296	70%	302	70%	350	63%
0:39	263	73%	275	73%	285	70%
0:54	204	79%	188	81%	228	76%
1:09	196	80%	187	81%	184	80%
1:24	177	82%	171	83%	170	82%
1:39	175	82%	159	84%	162	83%
1:54	162	84%	149	85%	155	84%
2:09	155	84%	143	86%	144	85%
2:24	137	86%	137	86%	141	85%
2:39	139	86%	125	88%	132	86%
2:54	133	86%	125	88%	135	86%
3:09	139	86%	121	88%	128	86%
3:24	124	87%	116	88%	127	87%
3:39	122	88%	99.9	90%	120	87%
3:54	116	88%	107	89%	113	88%
4:09	113	88%	98.1	90%	114	88%
4:24	111	89%	99.8	90%	102	89%
4:39	106	89%	92.7	91%	101	89%
4:54	99.6	90%	91.8	91%	96.2	90%
5:09	102	90%	87.3	91%	91.5	90%
5:24	95.4	90%	75.9	92%	88.4	91%
5:39	85.1	91%	71	93%	81.5	91%
5:54	82.1	92%	68.6	93%	74.4	92%
6:09	81.4	92%	89.8	91%	69.9	93%

The statistical significance of the treatments was assessed using a conventional multiple linear regression model. Each treatment: skimmer, one coir baffle, three coir baffles, forebay (i.e., level spreader and impervious check dam), labyrinth flow path, flocculant, in-channel basin, and undersized basin was recorded as separate independent variables with a value of 1 if a part of the configuration or 0 if absent in the configuration. The dependent variable was the sediment discharged through the spillway by weight, ranging from 0% to 100%. The regression model analyzed the individual effect of each treatment on sediment discharged through the spillway by weight (%), regardless of other treatments. The model equation, based on the work of Donald et al. (2014), is presented in Eq. **4.2**.

$$f(x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \quad \textbf{Eq. } 4.2$$

where,

$f(x)$ = dependent variable (e.g., turbidity reduction [%])

β_0 = coefficient intercept

β_i = ordinary least squares coefficient

x_i = independent variables (e.g., skimmer, baffles, forebay)

4.3 ALDOT STANDARD

To assess the performance of different energy dissipation arrangements, a comprehensive evaluation was conducted on a total of nine arrangements in the standard basin, six in the in-channel basin, and three in the undersized basin. Among these arrangements, the triple-baffle configuration in the standard basin was designated as the control condition for the study, aligning with the current standard set by ALDOT. The standard basin was constructed according to ALDOT specifications, featuring a 2L:1W ratio. To simulate real-world conditions, the stormwater runoff volume introduced into the model basin was carefully adjusted to match the basin's capacity of 15.3 ft^3 (0.43 m^3). This adjustment was based on scaling the runoff generated from an arbitrary 1-ac (0.4-ha) contributing drainage area in the central region of Alabama.

4.3.1 Sediment Retention Quantification

Figure 4.2 provides a visual representation of the sediment retention percentages in each location of the standard basin for the triple-baffle configuration. The data obtained from this test series, S1, is used as a control for all seventeen other configurations. Overall, this treatment method arrangement captured 88% of sediment introduced by weight and discharged 5% through the floating surface skimmer and 7% through the spillway overflow.

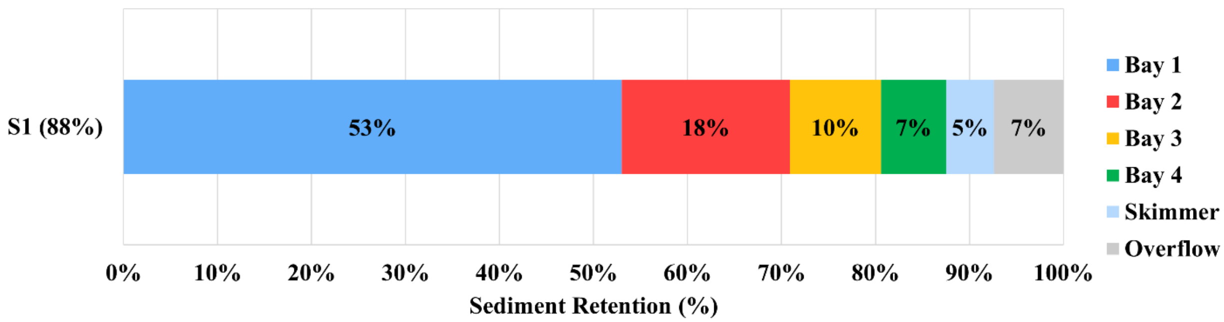


Figure 4.2 Standard Basin Three Coir Baffle Configuration: Sediment Retention Percentages for Each Location.

4.3.2 Water Quality Analysis

Figure 4.3 illustrates the turbidity reduction at different time intervals following the initiation of flow and sediment introduction. An analysis of turbidity reduction for the skimmer configuration demonstrates a slight increase in effectiveness from the initial introduction of sediment-laden flow (0:00) to the completion of sediment-laden flow (0:30), with turbidity reduction values improving from 53% to 61% respectively. This observation highlights the progressive improvement in turbidity reduction achieved by the skimmer over the duration of flow introduction. Additionally, the flow rate discharged from the skimmer remains relatively consistent, ranging between 0.36 to 0.40 gallons per minute (1.2 to 1.5 L/min.). The average turbidity reduction achieved by the skimmer configuration was 78%, indicating consistently high levels of turbidity reduction throughout the dewatering period prior to the initiation of spillway flow.

For the standard basin with a capacity of 115 gallons, the spillway flow started 15 minutes after beginning the experiment and continued until 39 minutes from start. Samples were collected at 3-minute intervals until spillway discharge stopped. The skimmer began discharging within 2 minutes of flow introduction for all standard basin configurations except those with forebay treatments.

The average turbidity reduction from inflow to spillway for the standard basin is 67% with a range of 44% to 96%. Upon evaluating the turbidity reduction associated with the spillway, it becomes evident that the highest reduction in turbidity occurs at the beginning and end (0:15 and 0:39) of the spillway flow duration, 77% and 80%, respectively, Figure 4.3. During the middle of spillway flow duration, there is a comparatively lower reduction in turbidity, with the lowest value being 64%. This can be attributed to the increase in flow velocity during spillway discharge as the duration of flow introduction persists. Notably, the peak spillway flow rate was recorded at 27 minutes, coinciding with the lowest reduction in turbidity, shown in.

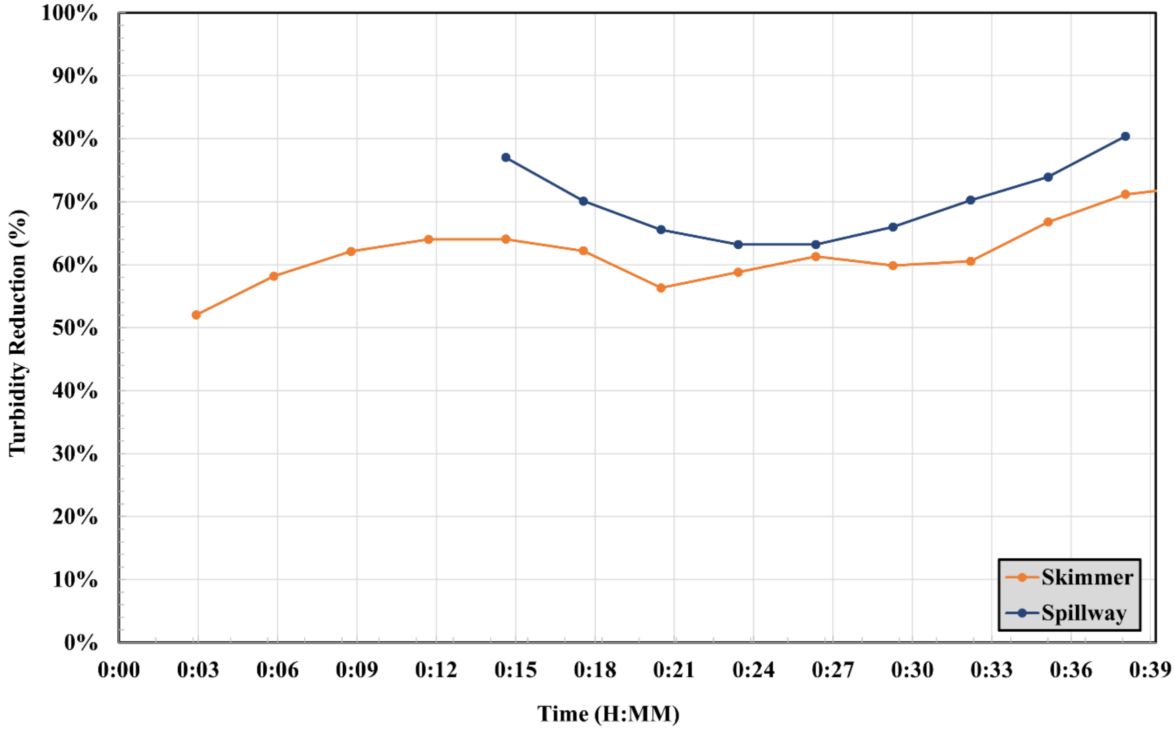
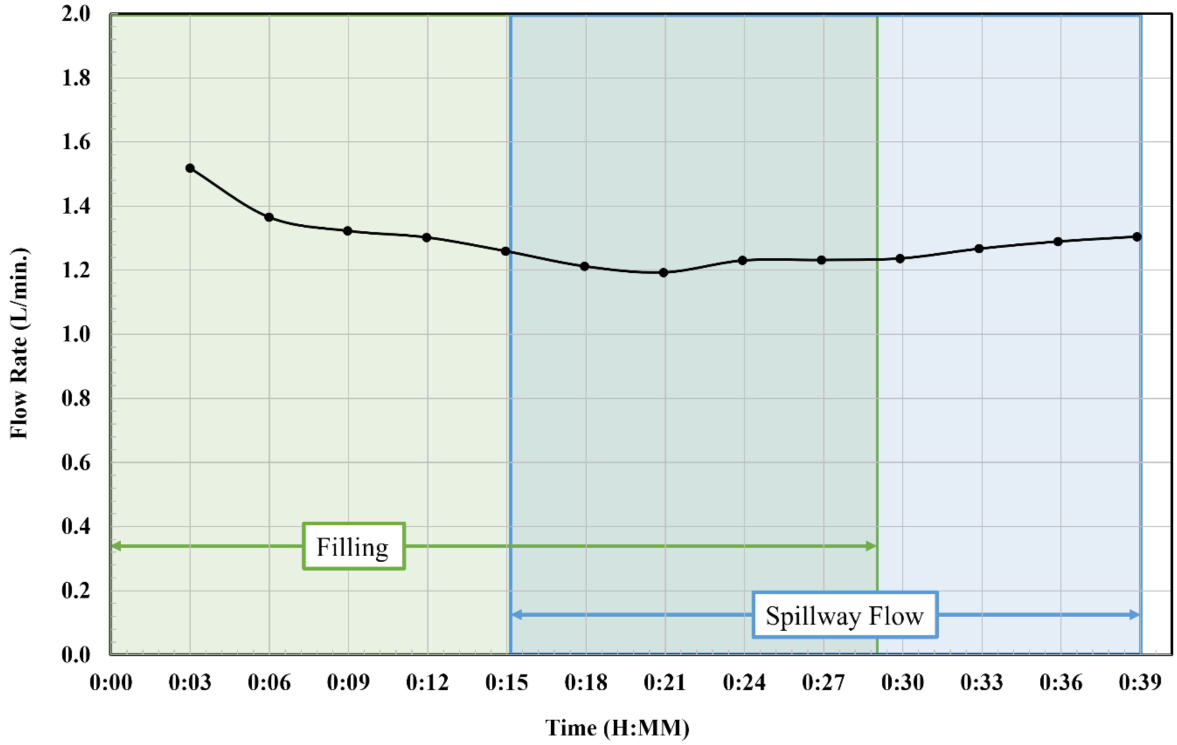
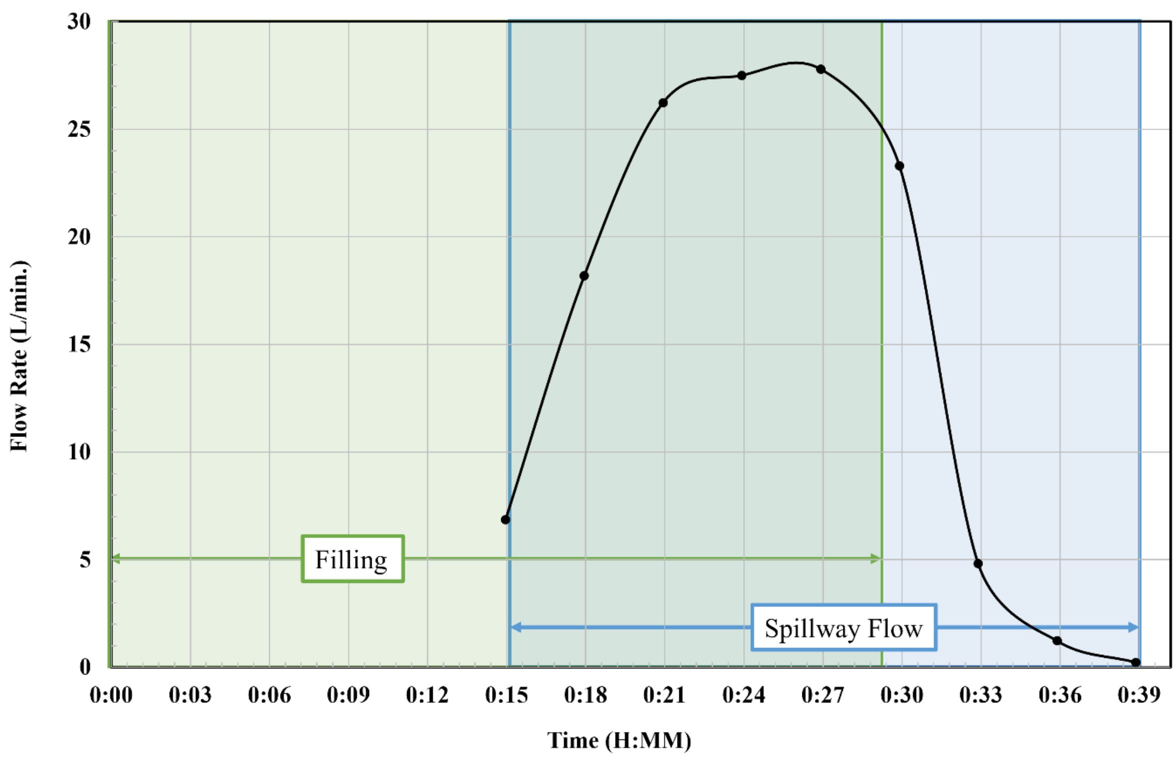


Figure 4.3 ALDOT Standard Turbidity Reduction.



(a) skimmer flow rate versus time



(b) spillway flow rate versus time

Figure 4.4 Discharge Flow Rate.

4.4 MODIFICATIONS TO ALDOT STANDARD

Following an extensive review of existing literature, a range of sediment basin treatments were identified and chosen for assessment based on their potential to enhance water quality and sediment retention. The selected treatments encompassed the implementation of coir baffle(s), floating surface skimmer, flocculant application, level spreader, and an impervious check dam.

Nine treatment methods were tested in the standard basin. This included (1) three coir baffles, S1, (2) an open basin without energy dissipators, S2, (3) increased flow path length using impervious barriers, S3, (4) a single coir baffle, S4, (5) a level spreader forebay, S5, (6) a check dam constructed in the inflow channel with a single coir baffle, S6, (7) a level spreader forebay with a single coir baffle, S7, and (8) no energy dissipators and no skimmer, S8, and (9) flocculant with a single coir baffle, S9.

4.4.1 Sediment Retention Quantification

Table 4.4 provides a description of the nine treatment method combinations that were installed and tested in the standard basin. The table outlines each configuration, indicating the number of baffles used, whether the floating surface skimmer was employed, and if flocculant was included.

Table 4.4 Standard Basin Treatment Method Combinations.

Test Series	Baffles	Skimmer	Flocculant	Configuration
S1	3	Yes	No	Three Coir Baffles
S2	0	Yes	No	No Energy Dissipation
S3	3	Yes	No	Labyrinth Flow Path
S4	1	Yes	No	Single Coir Baffle
S5	0	Yes	No	Level Spreader
S6	1	Yes	No	Impervious Check Dam
S7	1	Yes	No	Level Spreader and Single Coir Baffle
S8	0	No	No	No Energy Dissipation and No Skimmer
S9	1	Yes	Yes	Single Coir Baffle with Flocculant

Figure 4.5 provides a visual representation of the sediment retention observed in various locations of the standard basin for all nine treatment methods evaluated. Notably, the configuration without any energy dissipation (S2) demonstrated the lowest sediment retention, with 84% of sediment captured within the basin, while 6% was discharged through the skimmer and 11% through the spillway overflow. Conversely, the average sediment retention within the standard basin for forebay treatment methods (i.e., level spreader and impervious check dam) was found to be 86%. Furthermore, when evaluating the impact of the number of baffles on sediment retention, it was observed that the use of three baffles resulted in 88% sediment retention, compared to 86% with a single coir baffle, indicating a marginal 2% difference. The labyrinth flow path allowed the particle flow path to be lengthened without changing the basin's geometry. This configuration resulted in 89% total sediment capture. The treatment method employing a single coir baffle and flocculant exhibited the highest sediment retention percentage, retaining 95% of the total sediment weight, with 2% discharged through the skimmer and 3% through the spillway overflow.

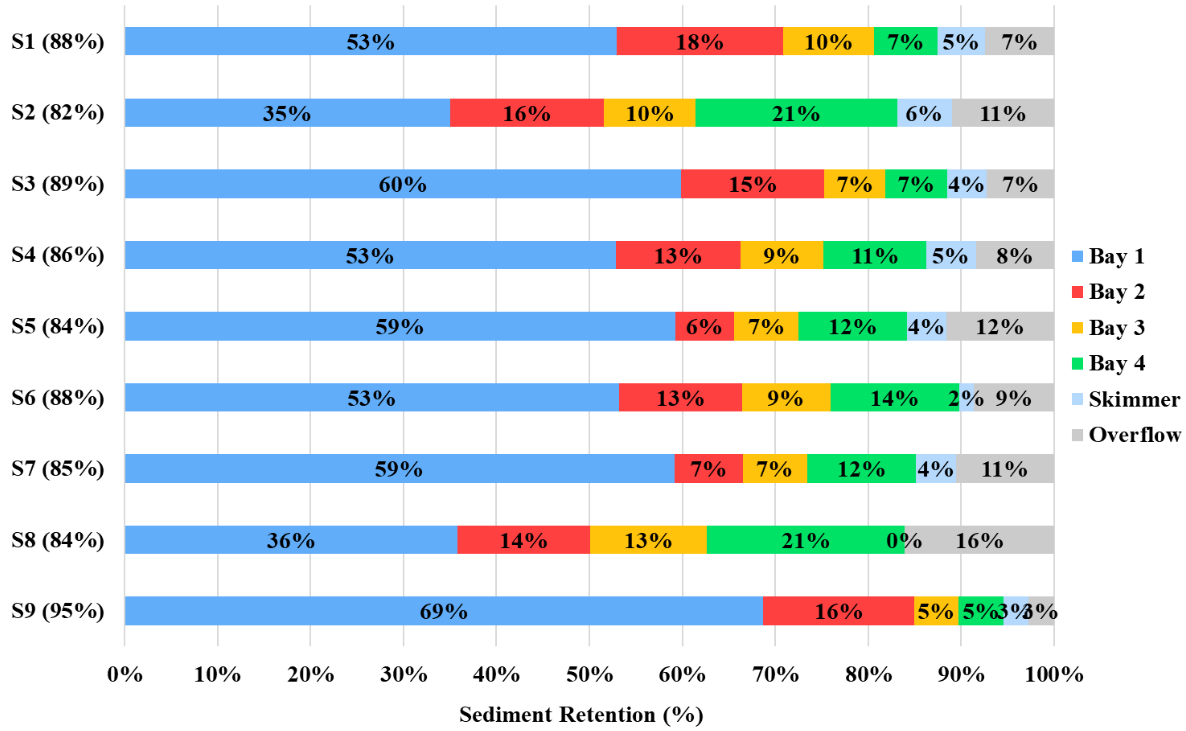


Figure 4.5 All Standard Basin Configurations: Sediment Retention Percentages for Each Location.

4.4.2 Statistical Significance

To assess the statistical effects of different treatment methods implemented in the standard basin, a multiple linear regression model was developed. The analysis included six treatment methods listed as independent variables, Table 4.5. The base condition for the regression model was the standard model basin with no treatment methods (S2). The dependent variable used in the model was sediment discharge through the spillway by weight (%), which ranges from 0% to 100%, with 1.0 representing the optimum ratio. The results, including the statistical significance, are presented in Figure 4.5. The R^2 value for the model was 0.98. Based on the statistical significance determined by the regression model, the following conclusions were drawn:

(1) Each treatment method used in the standard basin exhibited a reduction in sediment discharged through the spillway.

(2) The one coir baffle, three coir baffles, labyrinth flow path, and flocculant coefficients were statistically significant at an 85% confidence level (p<0.15), indicating significant reductions in performance compared to no treatments.

(3) The coefficient for forebay (i.e., level spreader (LS) and impervious check dam (ICD) was not statistically significant (p>0.15), suggesting negligible performance reductions compared to the basin not using treatments.

Table 4.5 Linear Regression Model Comparing Sediment Discharge (%) Through the Spillway Between All Treatments

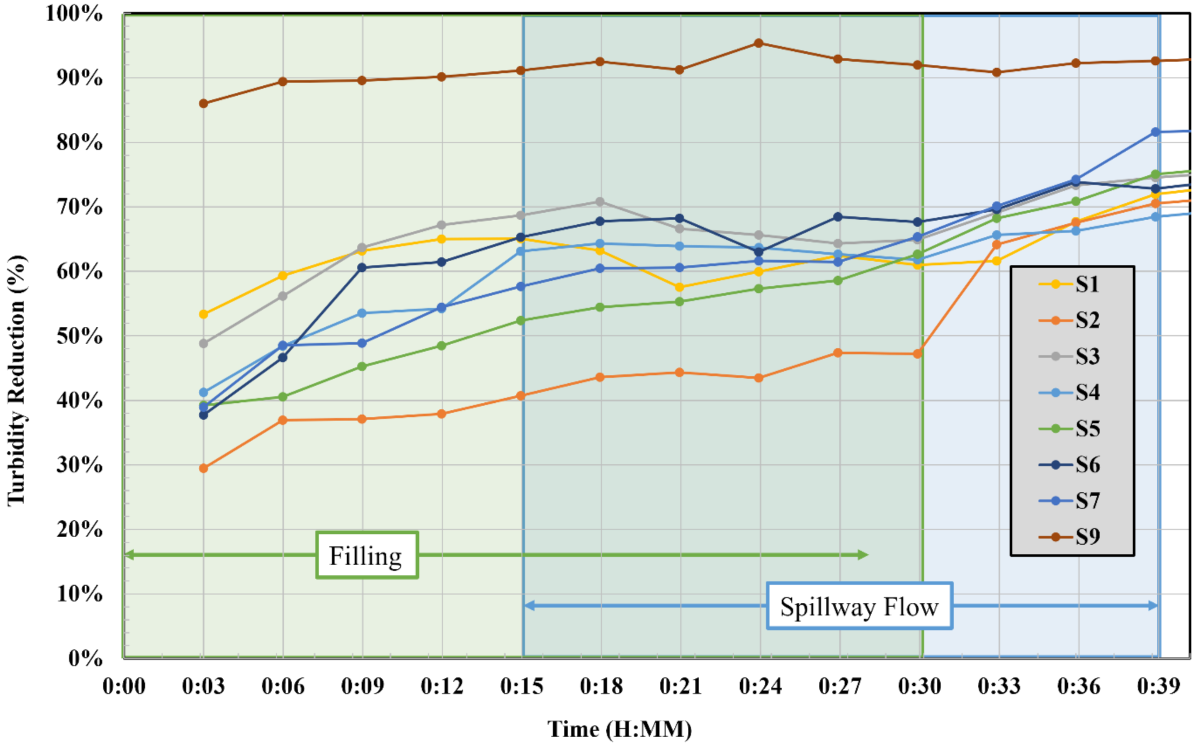
Treatments	Coefficients	P-value
Intercept	0.16	N/A
One Coir Baffle	-0.02	0.142[a]
Three Coir Baffles	-0.03	0.128[a]
Forebay (LS / ICD)	0.01	0.390
Labyrinth Flow Path	-0.03	0.119[a]
Flocculant	-0.06	0.049[a]

Note: [a] indicates statistical significance at 85% confidence.
N/A = not applicable,

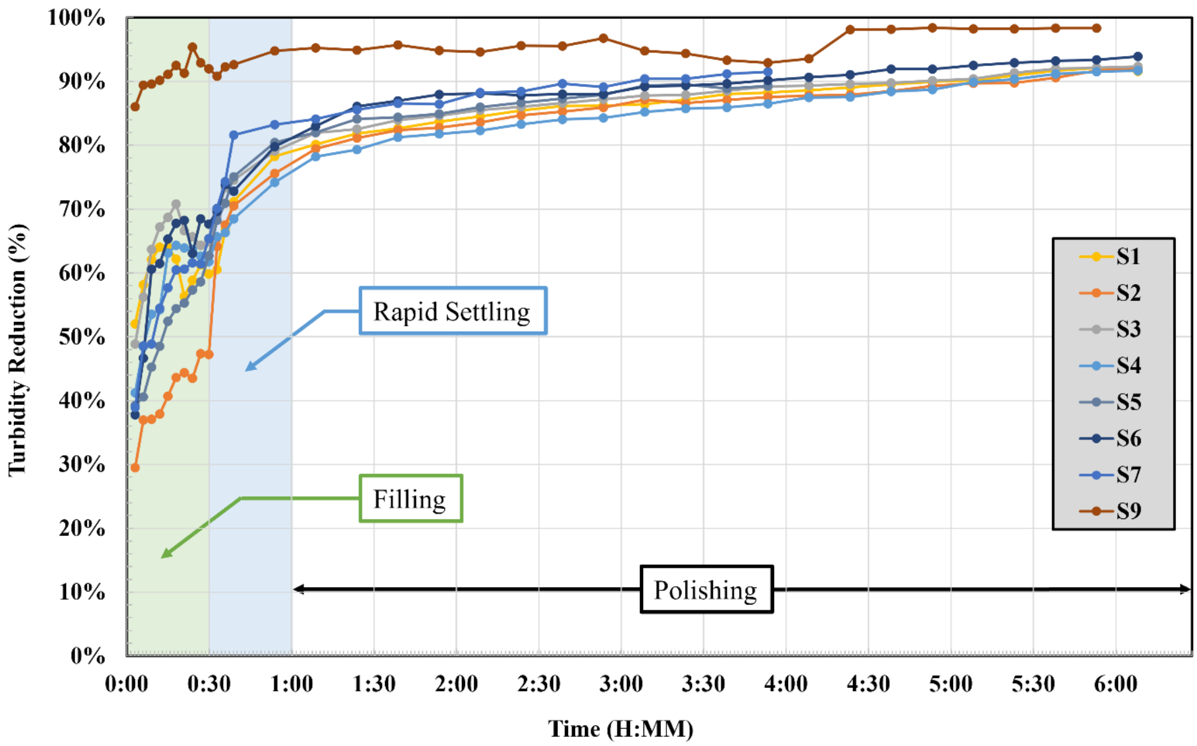
Selection of an 85% confidence level for the multiple linear regression analysis was made to address the limitations of the available data and minimize the margin of error. Considering the complexity and noise present in the variables, this decision aimed to provide a broader acceptance range for coefficients. By opting for a lower confidence level, important relationships that might have been overlooked at a higher confidence level could be identified and considered.

4.4.3 Water Quality Analysis

A higher turbidity reduction indicates an increase in the efficacy of the treatment method installed. In Figure 4.6, the turbidity reduction from inflow to skimmer is presented for all tested configurations in the standard basin. Notably, test series S9, which involved a single coir baffle combined with flocculant application, exhibited the highest turbidity reduction values ranging from 86% to 99% across all time intervals. Conversely, test series S1, which lacked energy dissipation measures, displayed the lowest reduction in turbidity, with percentages ranging from 29% to 92% from inflow to skimmer discharge. Moreover, it is worth noting that all configurations achieved turbidity reduction exceeding 90% after a dewatering period of 5.5 hours. This signifies the considerable efficacy of the floating surface skimmer in achieving turbidity reduction within the basin.



(a) initial 39-min. of testing



(b) full testing duration

Figure 4.6 Standard Basin Configurations: Turbidity Reduction Comparisons (Location: Skimmer).

Figure 4.7 provides an overview of the turbidity reduction observed from inflow to spillway overflow for all evaluated arrangements in the standard basin. The graph exhibits scattered data points representing the turbidity reduction at the beginning of spillway flow for each configuration in five-minute intervals.

An important observation is the consistent pattern exhibited by all graphical lines. The two highest turbidity reduction values for each test series consistently occur at the start and end of the spillway flow. This pattern arises due to the variations in flow velocity through the spillway during the middle of the time duration. Initially, when the spillway begins discharging and when it completes discharging, the flow rate is relatively slow. However, after approximately 12 minutes of spillway flow, the flow introduction velocity equals the spillway outflow velocity, leading to higher turbidity reductio.

For all arrangements, the turbidity reduction values range from 77% to 96%, with the majority of configurations falling within the range of 77% to 85% in sediment reduction from inflow to spillway overflow. The arrangement utilizing flocculant demonstrates the highest turbidity reduction values, ranging from 92% to 96%, surpassing all other configurations in the standard basin. This finding depicts the significance of the flocculant treatment method in achieving increased turbidity reduction outcomes within the model basin.

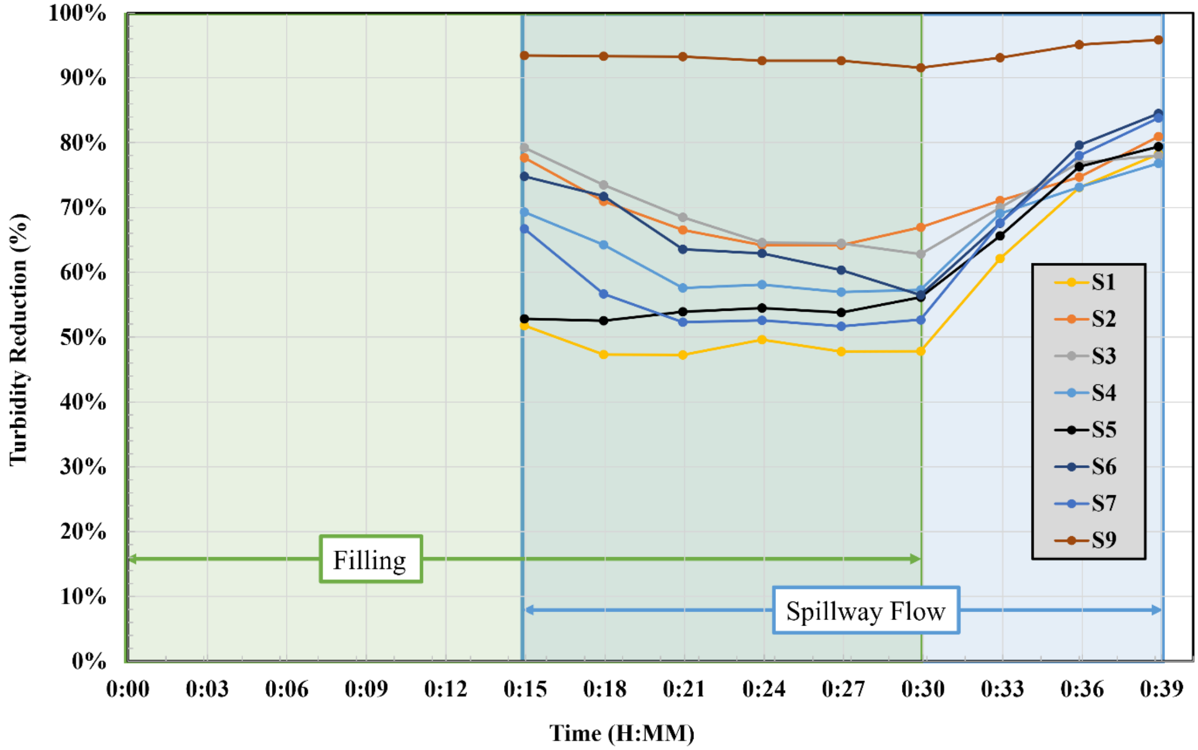


Figure 4.7 Standard Basin Configurations: Turbidity Reduction Comparisons (Location: Spillway).

4.5 IN-CHANNEL BASIN

A second basin was constructed to have similar volumetric characteristics of the standard basin, but with differing geometric attributes. Referred to as the in-channel basin, it was specifically designed and built with a 10L:1W ratio. The purpose of this basin was to investigate whether elongating the basin profile, thus increasing the distance between the inflow and corresponding discharge points, would result in improved sediment capture efficiency. However, an important consideration arises when modifying the basin's geometry without altering its volume capacity. As the width of the elongated basin decreases, the runoff has less space to disperse, leading to an increase in flow velocity at the discharge points. This elevated velocity can induce turbulent flow patterns, leading to the resuspension of sediment. Consequently, the resuspended sediment can elevate the turbidity of the discharged water and lead to additional sedimentation downstream of the basin.

A total of six treatment methods were evaluated in the in-channel basin as part of the study. These methods included: (1) no energy dissipators or skimmer, (S10), (2) a single coir baffle without a skimmer, (S11), (3) three coir baffles, (S12), (4) a single coir baffle, (S13), (5) the application of flocculant along with a single coir baffle and no skimmer, (S14), and (6) the application of flocculant with a single coir baffle, (S15), shown in Table 4.6.

Table 4.6 In-Channel Basin Treatment Method Combinations.

Test Series	Baffles	Skimmer	Flocculant	Configuration
S10	0	No	No	No Energy Dissipation and No Skimmer
S11	1	No	No	Single Coir Baffle and No Skimmer
S12	3	Yes	No	Three Coir Baffles
S13	1	Yes	No	Single Coir Baffle
S14	1	No	Yes	Single Coir Baffle with Flocculant and No Skimmer
S15	1	Yes	Yes	Single Coir Baffle with Flocculant

4.5.1 Sediment Retention Quantification

Figure 4.8 provides a visual representation of the sediment retention percentages in each location of the in-channel basin for all six treatment methods. Notably, the configuration lacking energy dissipation and a skimmer, S10, demonstrated the lowest sediment retention of the six series, capturing 82% of the sediment within the basin, while 18% through the spillway overflow. Conversely, treatment methods incorporating energy dissipation, excluding flocculant, yielded an average sediment retention of 86% within the in-channel basin. Additionally, when examining the influence of the number of baffles on sediment retention, it was observed that employing three baffles resulted in 86% sediment retention, a 2% increase compared to using a single coir baffle, which achieved 84% retention. Notably, the treatment method involving a single coir baffle, flocculant, and skimmer, S15, showcased the highest sediment retention percentage, reaching 94% of the total sediment weight, with 2% discharged through the skimmer and 4% through the spillway overflow.

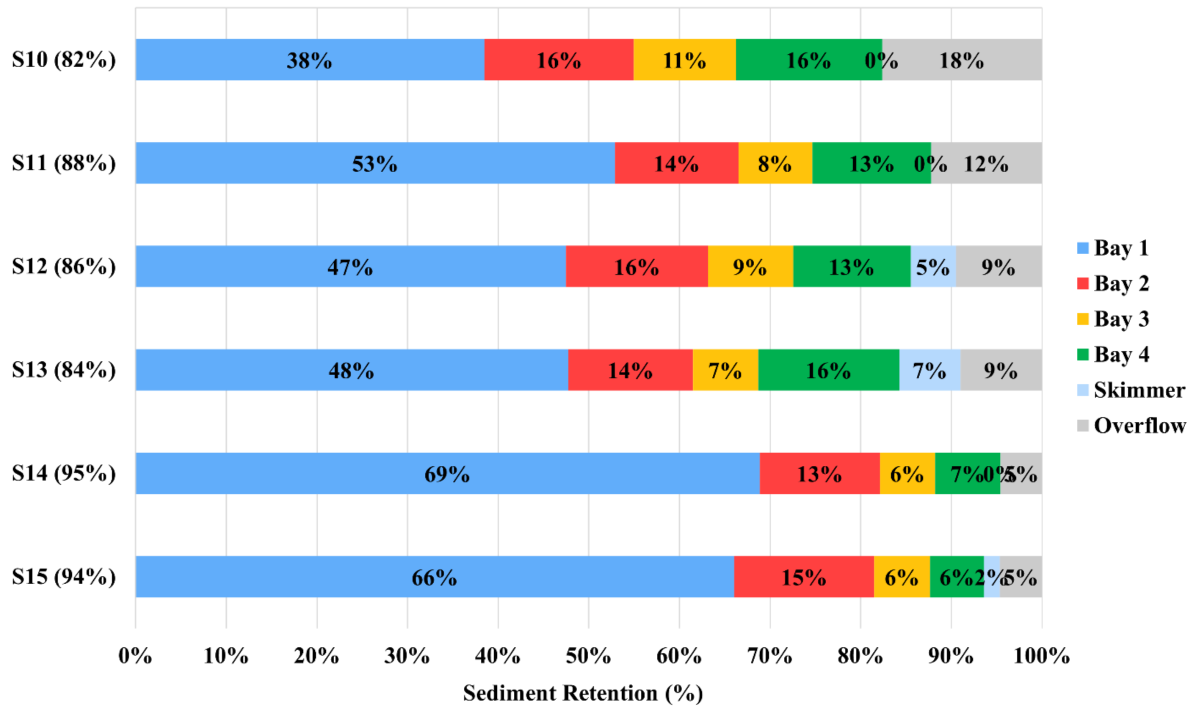
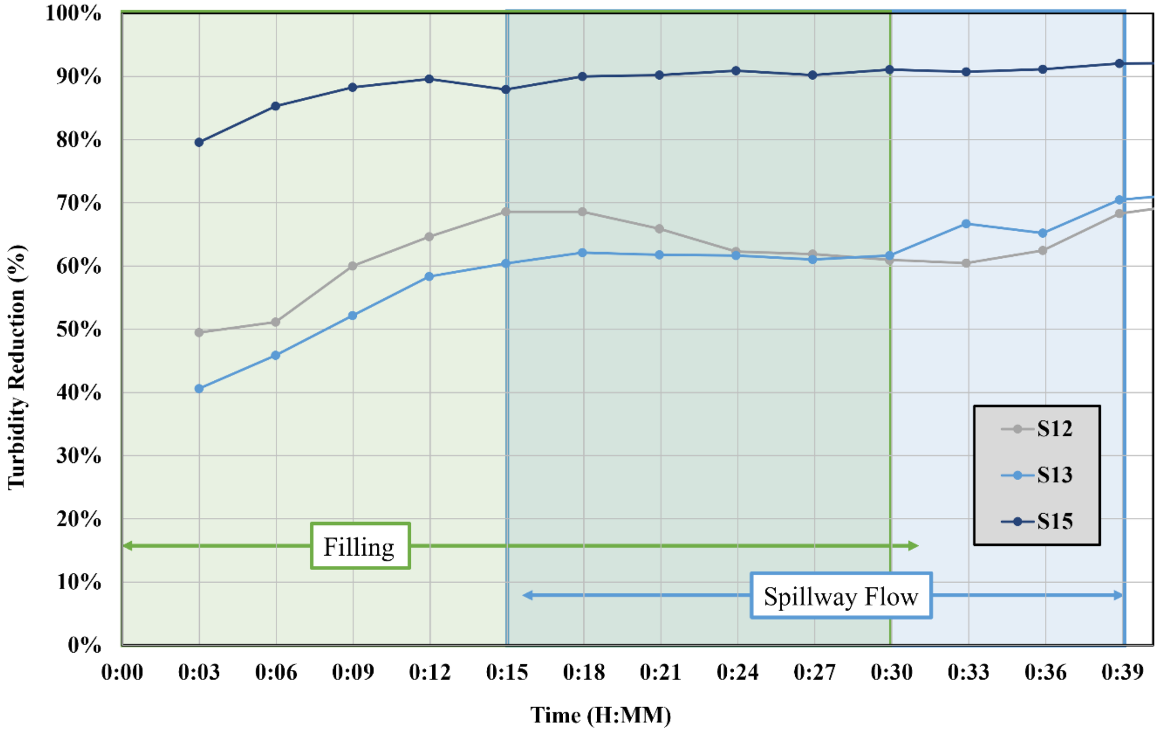


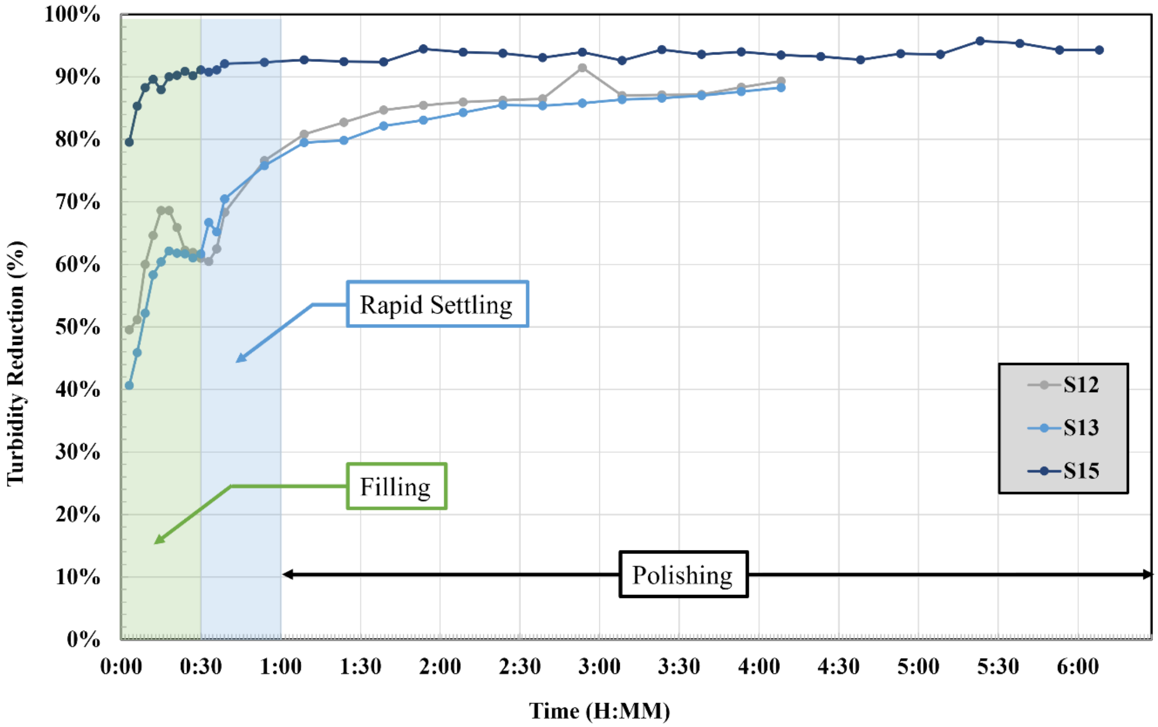
Figure 4.8 All In-Channel Configurations: Sediment Retention Percentages for Each Location.

4.5.2 Water Quality Analysis

Figure 4.9 presents the turbidity reduction from inflow to skimmer for all tested configurations in the in-channel basin using a skimmer. Three test series used a skimmer including these arrangements three coir baffle, S12, single coir baffle, S13, and single coir baffle with flocculant, S15. Notably, test series S15 demonstrated the highest turbidity reduction values, ranging from 80% to 94% across all time intervals. Also, all configurations achieved turbidity reduction close to or exceeding 90% after a dewatering period of 4 hours, proving the effectiveness of the floating surface skimmer in mitigating turbidity within the basin.



(a) initial 40-min. of testing



(b) full testing duration

Figure 4.9 In-Channel Basin Configurations: Turbidity Reduction Comparisons (Location: Skimmer).

Figure 4.10 presents an analysis of the turbidity reduction observed from inflow to spillway overflow for the six evaluated arrangements in the in-channel basin. The graph showcases scattered data points representing the turbidity reduction during spillway flow for each configuration, with measurements taken at five-minute intervals. The same pattern emerges from the graphical lines, as shown for the standard basin configurations. This pattern can be attributed to variations in flow rate through the spillway during the middle of the discharging duration.

Across all arrangements, the turbidity reduction values range from 42% to 92%. Notably, the arrangement incorporating the use of flocculant exhibits the highest turbidity reduction values, ranging from 87% to 94%, surpassing all other configurations in the in-channel basin.

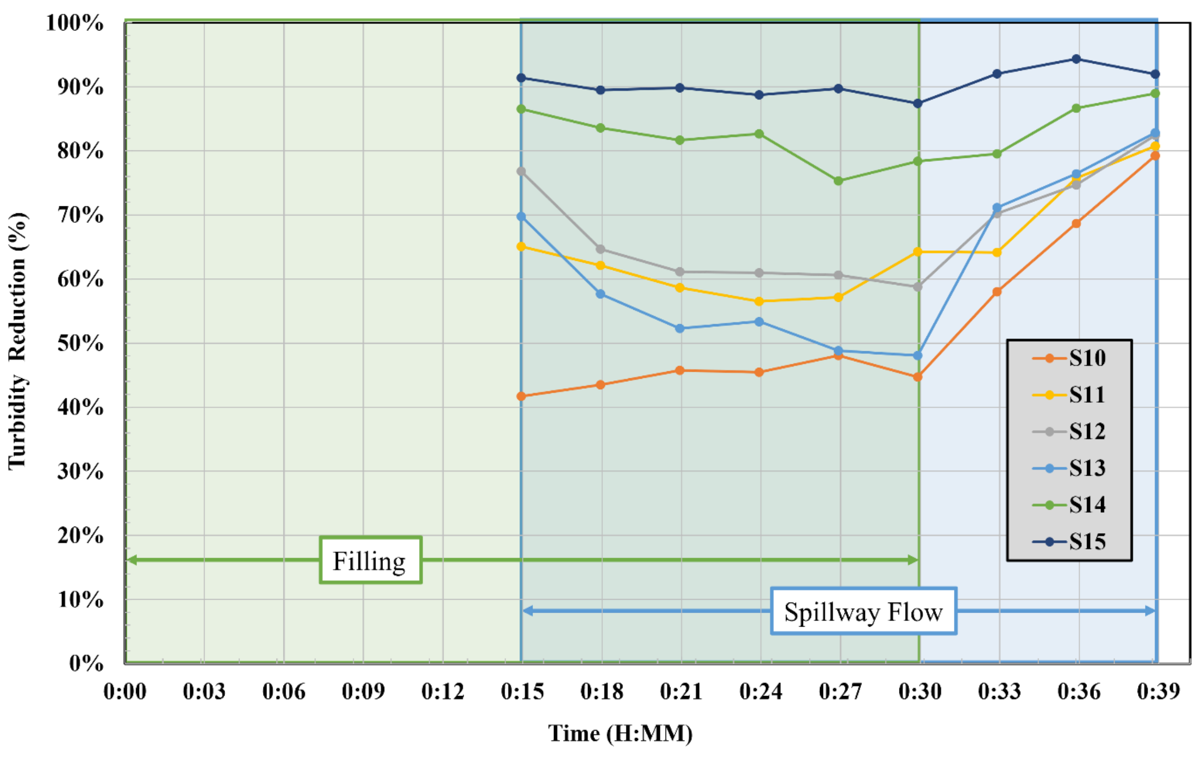


Figure 4.10 In-Channel Basin Configurations: Turbidity Reduction Comparisons (Location: Spillway).

4.6 UNDERSIZED BASIN

The third configuration, known as the undersized basin, maintained the geometric characteristics of the standard basin, 2L:1W ratio, while modifying its volumetric capacity. With a reduced runoff volume compared to the standard and in-channel basins, the undersized basin had a volume of 6.99 ft^3 (0.20 m^3). The decision to design this basin with a lower capacity was based on previous guidelines suggesting that a sediment basin should be capable of treating 1,800 ft^3 (125 m^3) of stormwater runoff per acre (ha) of contributing drainage area. By intentionally minimizing the volume by a factor of two, this configuration aimed to examine the impact and compare it to the other basin designs. Additionally, it aimed to investigate the potential of using flocculant to aid in settling suspended sediment within a smaller ponded water volume. Since the undersized basin had spatial constraints, a skimmer was not used within the basin.

Three treatment methods were examined within the in-channel basin during the experimental study. These included three configurations: (1) the absence of energy dissipators and skimmer, S16, (2) a single coir baffle without a skimmer, S17, and (3) the application of flocculant in conjunction with a single coir baffle, S18.

4.6.1 Sediment Retention Quantification

Figure 4.11 provides a graphical representation of the sediment retention percentages observed in different locations within the undersized basin for the three treatment methods investigated. Notably, the treatment series identified as S16, which lacked energy dissipation measures, exhibited the lowest sediment retention performance among the three configurations. This arrangement captured 63% of the sediment within the basin, with the remaining 37% being discharged through the spillway overflow. On the other hand, the utilization of a single coir baffle resulted in 73% sediment retention within the basin, indicating a 10% improvement compared to the configuration without energy dissipation. Furthermore, the treatment series S18, combining a single coir baffle and the application of flocculant, showcased the highest sediment retention percentage, effectively capturing 91% of the total sediment weight. Out of this, 9% of the sediment was discharged through the spillway overflow. Notably, incorporating flocculant in the undersized basin contributed to an 18% increase in sediment retention, aligning the performance of this configuration with that of the standard and in-channel basins.

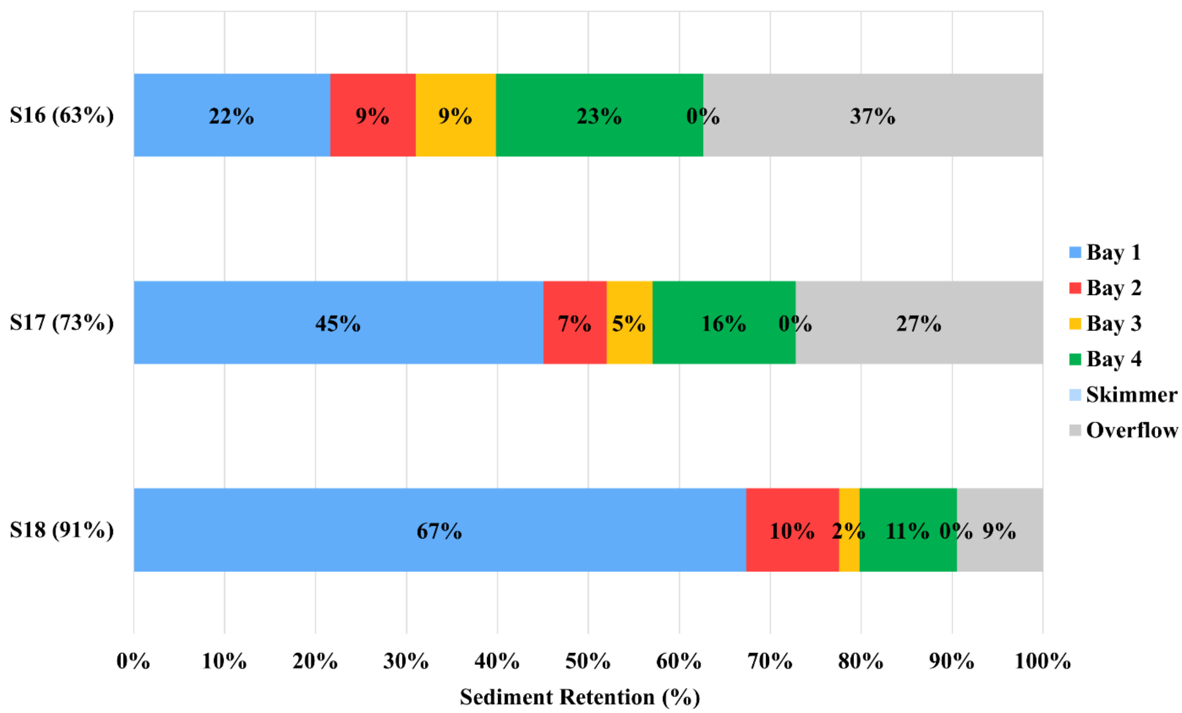


Figure 4.11 All Undersized Basin Configurations: Sediment Retention Percentages for Each Location.

4.6.2 Water Quality Analysis

Figure 4.12 provides an analysis of the turbidity reduction observed from inflow to spillway overflow for the three evaluated arrangements within the undersized basin. The graph visually presents scattered data points representing the turbidity reduction at different time intervals during spillway flow for each configuration. A consistent pattern emerges among the graphical lines, similar to the observations made for the standard and in-channel basins. For S16, S17, and S18 the turbidity reduction values range from 27% to 74%, 42% to 85%, and 78% to 93%, respectively. The configuration that incorporates the use of flocculant exhibits the highest turbidity reduction values, similar to the performance in standard and in-channel basins.

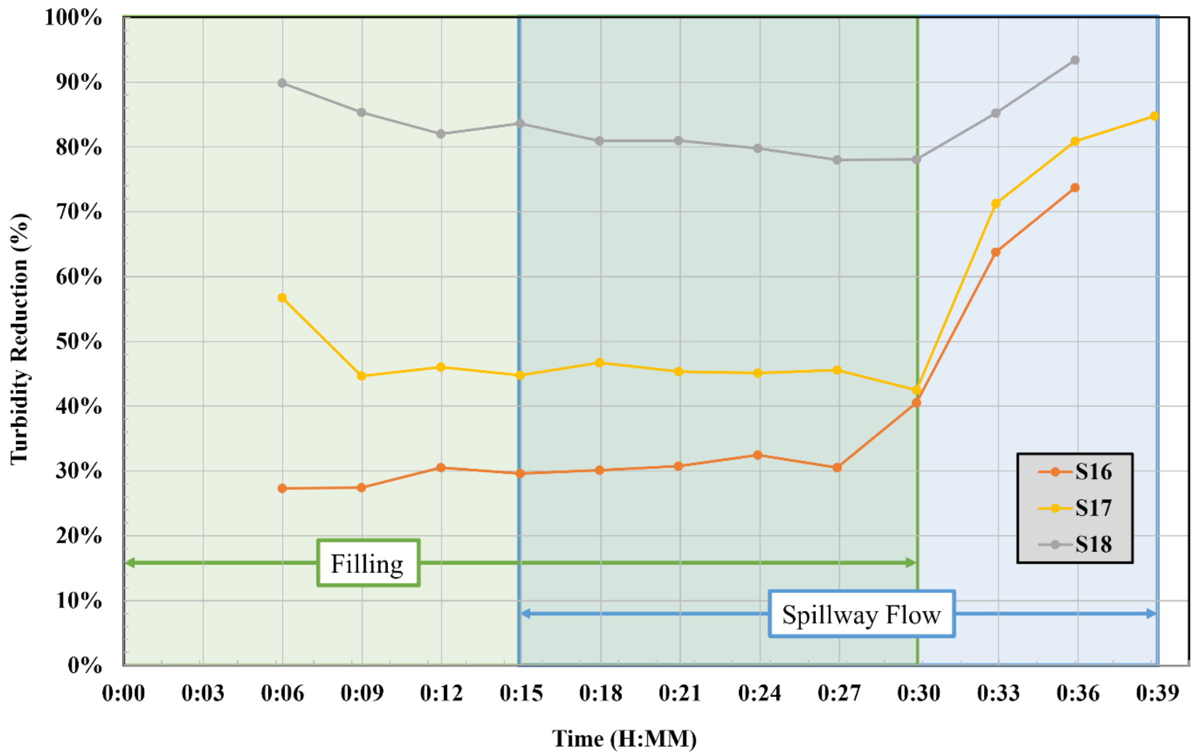


Figure 4.12 Undersized Basin Configurations: Turbidity Reduction Comparisons (Location: Spillway).

4.7 OVERALL ANALYSIS

The sediment retention percentages observed across different configurations are depicted in Figure 4.13. Notably, the in-channel basin, exhibited significantly higher sediment retention in bay 1 compared to other configurations. Conversely, configurations that lacked any treatment methods, such as the absence of energy dissipation and skimmer (S2, S10, S16), demonstrated the lowest sediment retention in Bay 1. Additionally, these configurations experienced the highest sediment discharge through the spillway in all three types of basins: standard, in-channel, and undersized, with percentages of 12%, 18%, and 37%, respectively. On the other hand, configurations that incorporated the introduction of a flocculant (S9, S15, S18) displayed the highest sediment retention percentages for Bay 1.

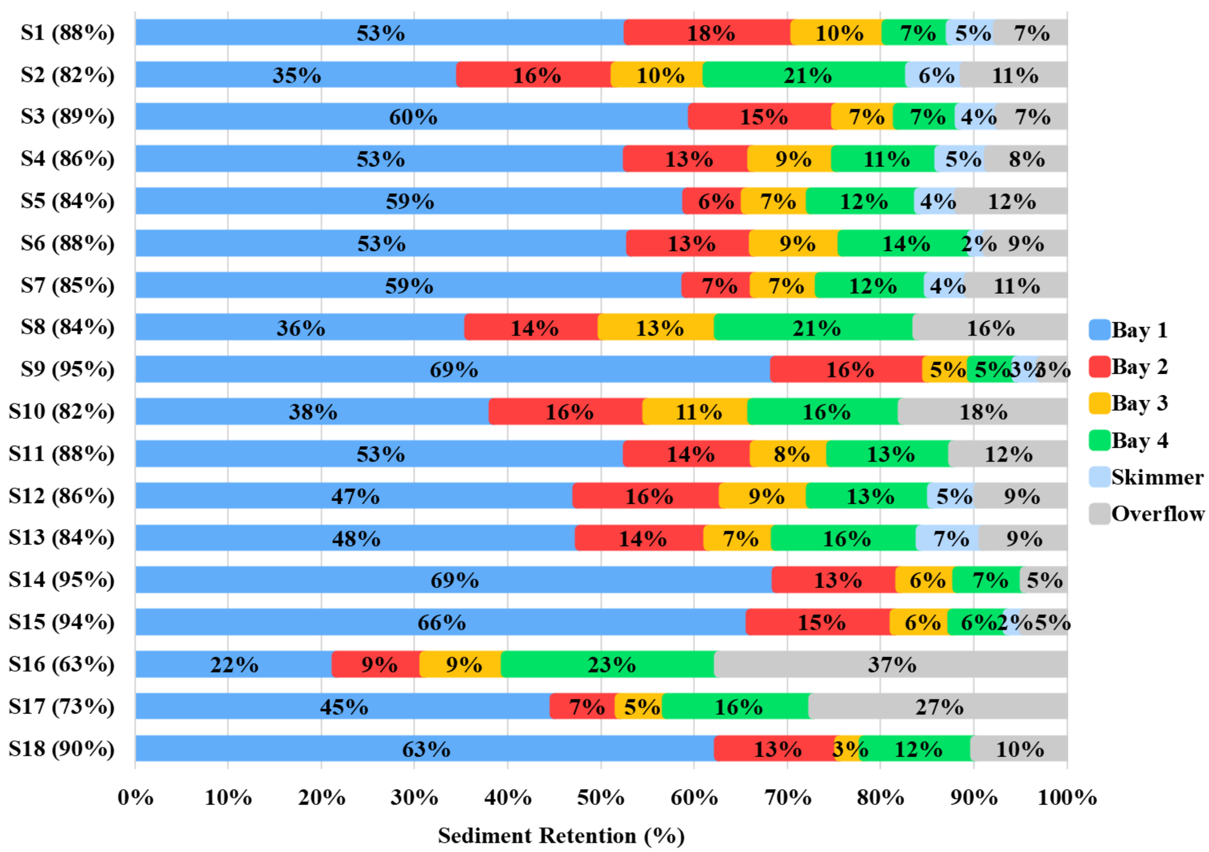
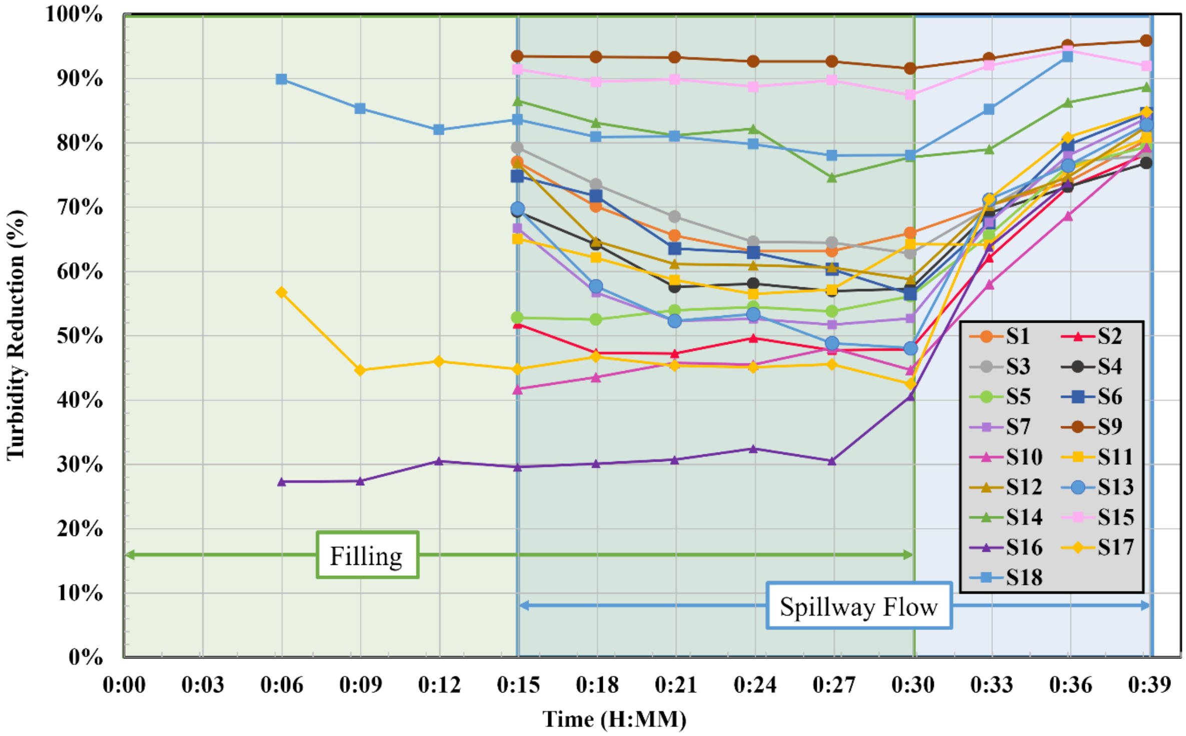


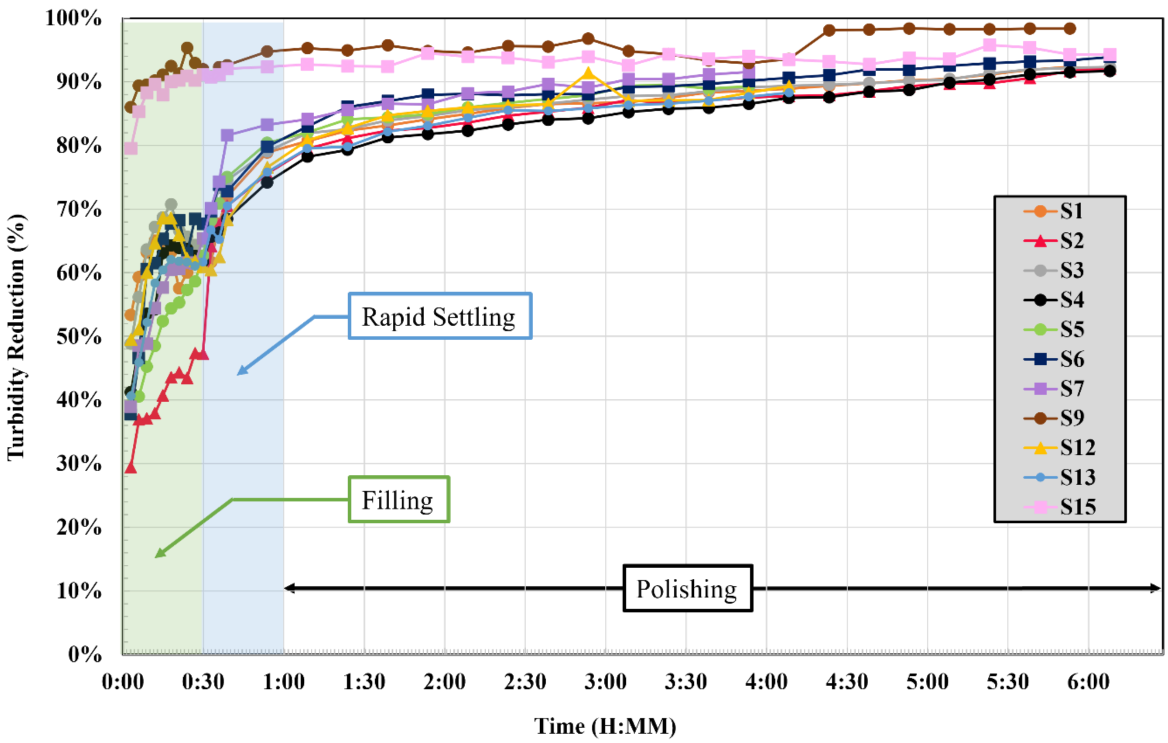
Figure 4.13 Sediment Retention by Location for All Configurations.

Figure 4.14a presents the turbidity reduction values obtained from the inflow to the skimmer for all tested configurations. It is important to note that not all configurations utilized a skimmer as a treatment method. In terms of turbidity reduction, configurations incorporating a flocculant (S9, S15) demonstrated the highest values, ranging from 86% to 98% and 84% to 96%, respectively. Conversely, the configuration employing a skimmer without energy dissipation (S2) exhibited the lowest turbidity reduction values, ranging from 29% to 92%. After a dewatering period of 5.5 hours, all configurations achieved turbidity reduction values exceeding 90%.

Figure 4.14b displays the turbidity reduction values from the inflow to the spillway for all configurations examined. Similar to the skimmer data, configurations employing a flocculant as a treatment method in the standard, in-channel, and undersized basins yielded the highest turbidity reduction values, ranging from 92% to 96%, 89% to 94%, and 78% to 93%, respectively. Furthermore, configurations tested in the undersized basin, excluding the flocculant configuration (S17 and S18), as well as configurations without energy dissipation (S2 in the standard basin and S10 in the in-channel basin), displayed the lowest turbidity reduction values, ranging from 27% to 75%, 45% to 85%, 47% to 78%, and 42% to 79%, respectively. At the end of the spillway flow (0:39), all configurations demonstrated a turbidity reduction value of 75% or higher.



(a) inflow to skimmer



(b) full testing duration

Figure 4.14 Turbidity Reduction Versus Time for All Configurations.

A second linear regression analysis was performed to assess the statistical effects of different treatment methods, geometric designs, and volumetric designs. The analysis included eight independent variables, consisting of six treatment methods and two basin designs. The base condition for the regression model was the standard basin configuration without any treatment methods (S8). The dependent variable in the model was the percentage of sediment discharged through the spillway by weight, ranging from 0% to 100%, with 1 representing the optimum ratio. Results, including statistical significance, are presented in Table 4.7. The R^2 value for the model was 0.92. Based on the statistical significance determined by the regression model, the following conclusions were drawn:

(1) Each treatment method implemented, excluding the addition of a forebay, exhibited a reduction in sediment discharged through the spillway.

(2) The coefficient for one coir baffle, three coir baffles, and flocculant treatment methods and the undersized basin capacity were statistically significant at an 85% confidence level ($p<0.15$), indicating significant improvement in performance compared to no treatments.

(3) The coefficients for the skimmer, forebay, and labyrinth flow path, and in-channel basin were not statistically significant ($p>0.15$), suggesting negligible performance reductions compared to the basin without any treatments.

Table 4.7 Linear Regression Model Comparing Sediment Discharge (%) Through the Spillway Between All Treatments

Treatments	Coefficients	P-value
Intercept	0.15	N/A
Skimmer	-0.03	0.578
One Coir Baffle	-0.06	0.059[a]
Three Coir Baffles	-0.06	0.096[a]
Forebay (LS / RCD)	0.02	0.918
Labyrinth Flow Path	-0.05	0.162
Flocculant	-0.10	0.006[a]
In-Channel Basin	0.05	0.370
Undersized Basin	0.18	0.002[a]

Note: N/A = not applicable
[a] indicates positive statistical significance at 85% confidence.

Furthermore, another multiple linear regression analysis was conducted to evaluate the significance of the treatment methods, and volumetric and geometric parameters, Table 4.8. This analysis was based on the average turbidity reduction value calculated from inflow to spillway. The R^2 value for the model was 0.81. Results revealed the coefficients for one coir baffle, flocculant, and undersized basin were statistically significant at an 85% confidence level ($p<0.15$), indicating significant improvements in performance compared to no treatments.

Table 4.8 Linear Regression Model Comparing Spillway Turbidity Reduction (%) Between All Treatments

Treatments	Coefficients	P-value
Intercept	0.56	N/A
Skimmer	0.05	0.482
One Coir Baffle	0.14	0.029[a]
Three Coir Baffles	0.12	0.185
Forebay (LS / RCD)	-0.06	0.410
Labyrinth Flow Path	0.10	0.334
Flocculant	0.24	0.005[a]
In-Channel Basin	-0.07	0.264
Undersized Basin	-0.14	0.113[a]

Note: N/A = not applicable
[a] indicates positive statistical significance at 85% confidence.

4.8 DISCUSSION OF RESULTS

The study evaluated the performance of different sediment basin designs and treatment methods in increasing sediment retention within the basin, thus reducing sediment discharge through the spillway. Treatment methods implemented in the basins consistently demonstrated a reduction in sediment discharge compared to configurations without treatments. The single coir baffle was determined as the MFE-I from phase one before testing with flocculants. Notably, when the treatment method incorporated a single coir baffle and flocculant exhibited the highest sediment retention percentage, capturing 95% of the total sediment weight, this was replicated in the in-channel and undersized basins.

The statistical analysis revealed that the flocculant treatment method had a significant impact on reducing sediment discharge compared to no treatments. Further, the coefficients for other treatment methods, such as one coir baffle, three coir baffles, forebay, and labyrinth flow path, were not statistically significant, suggesting negligible performance improvement reductions compared to the basins without any treatments. The results emphasize the importance of incorporating treatment methods, such as flocculants, to enhance sediment retention in sediment basins and reduce sediment discharge through the spillway. Furthermore, the findings suggest that the utilization of flocculants in sediment basins with reduced volume capacity can yield comparable sediment capture efficacy to that of larger basins.

CHAPTER FIVE:
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This thesis described a project aimed at providing the ESC industry with essential knowledge and advanced guidance on sediment basins. The scientific data collected throughout the project has the potential to enhance guidance and offer more cost-effective options for designing and constructing sediment basins. By optimizing the land area and materials required for basin construction, both initial and maintenance costs of projects can be significantly reduced.

With ongoing changing climatic conditions, the preservation of water resources faces new obstacles, particularly in dealing with the surge of polluted runoff due to intensified and more frequent storm events. As a result, the incorporation of effective stormwater management strategies has become a mandatory and critical element in construction and post-construction site plans. Simultaneously, regulatory frameworks governing stormwater have become stricter, specifying precise benchmarks for water quality and quantity on construction sites.

5.2 REASERCH APPOACH

The objective of this research was to assess various geometric and volumetric sediment basin configurations and treatments to evaluate their efficiency in retaining sediment. The effectiveness of a sediment basin is primarily determined by the percentage of sediment retained, making the configuration that minimizes sediment discharge through the skimmer and spillway the most efficient. By investigating and comparing varying configurations, this study provided valuable insights for designing sediment basins that optimize sediment retention and minimize sediment discharge, ultimately contributing to more effective erosion control measures.

This study successfully achieved three specific objectives. Firstly, the standard basin design was assessed to determine its performance and evaluate the effectiveness of treatment methods within this design. Secondly, various geometric and volumetric basin layouts were designed and evaluated to determine their performance. Lastly, the MFE-I was determined. By fulfilling these objectives, this study contributes valuable insights for sediment basin design and selection of appropriate treatment methods, enabling more effective sediment control measures in practice.

To achieve these objectives, several tasks were completed. Firstly, a literature review was conducted to gather information on sediment basin standards, prior research, and relevant design considerations. The second task involved developing an testing regime, scaling flow and sediment gradation to replicate central Alabama conditions. Construction of three small-scale basins (standard, in-channel, and undersized) and a testing apparatus comprised the third task. The fourth task focused on conducting small-scale experiments to assess the performance metrics of existing standard sediment basin geometry and configurations. Subsequently, the fifth task involved conducting tests specifically in the in-channel and undersized basins. The sixth task encompassed evaluating the performance of each basin with the addition of flocculant. Finally, the seventh objective involved analyzing experimental data to evaluate sediment basin performance and design.

By accomplishing these tasks and objectives, this study provides valuable insights into sediment basin design and treatment methods, enabling more effective sediment control measures in practical applications.

5.3 KEY FINDINGS

Optimizing the design of sediment basins requires a comprehensive evaluation of several key factors, such as size, geometry, volume, and maintenance practices. These considerations are crucial for maximizing the trapping efficiency of sediment basins and limiting downstream sedimentation. Moreover, it is essential to consider the local hydrologic conditions and soil characteristics to tailor the basin design to the specific site requirements. In previous research, coir baffles and floating surface skimmers have demonstrated their efficacy in enhancing sediment basin performance. Baffles play a vital role by promoting laminar flow conditions, which facilitate the settling of suspended sediments, particularly when combined with extended detention time. Concurrently, surface skimmers play a significant role in dewatering the basin and reducing turbidity levels.

5.3.1 Comparisons to Standard Basin

The in-channel basin, was built with volumetric characteristics similar to the standard basin, but with distinct geometric attributes, 10L:1W ratio, aimed to assess sediment capture improvement through elongation. However, the change in geometry, without altering volume, resulted in increased flow velocity, leading to sediment resuspension and higher turbidity in the discharged water, causing additional downstream sedimentation.

Among the six treatment methods tested in the in-channel basin, lacking energy dissipation and a skimmer, exhibited the lowest sediment retention at 82%, with 18% overflowing through the spillway. This is a 2% reduction in sediment retention and 2% increase in sediment discharge through the spillway when compared to the standard basin. While, treatments with energy dissipation (excluding flocculant) showed an average sediment retention of 86%. Employing three baffles led to 86% sediment retention, a 2% increase compared to a single coir baffle (84% retention). Notably, the treatment involving a single coir baffle, flocculant, and skimmer demonstrated the highest sediment retention at 94%, with 2% discharged through the skimmer and 4% through the spillway. When compared to the standard basin, the three coir baffle and single baffle configurations showed a 2% reduction in sediment retention and also a 2% increase in sediment discharged through the spillway.

Turbidity reduction values across all in-channel basin arrangements ranged from 42% to 92%. Remarkably, the configuration using flocculant demonstrated the highest turbidity reduction, ranging from 87% to 94%, outperforming other setups in the in-channel basin. Turbidity reduction data for the in-channel basin revealed that with a single coir baffle and flocculant, achieved impressive values ranging from 80% to 94% across all time intervals. Additionally, all configurations reached turbidity reduction levels close to or exceeding 90% after a 4-hour dewatering period, confirming the skimmer's efficacy in mitigating turbidity within the basin. When compared to the single coir baffle and flocculant configuration evaluated in the standard basin, values range from 86% to 98%, there is a slight decrease in turbidity reduction for the in-channel basin.

Further, the third configuration, referred to as the undersized basin, maintained the geometric characteristics of the standard basin (2L:1W ratio) but with a reduced volumetric capacity of 6.99 ft^3 (0.20 m^3). This intentional reduction aimed to study its impact and compare it to other basin designs, while exploring the potential of using flocculant to aid in settling suspended sediment within a smaller ponded water volume.

Notably, the configuration without energy dissipation exhibited the lowest sediment retention performance, capturing 63% of the sediment within the basin, with the rest discharged through the spillway overflow. This is a 19% reduction in sediment retention and 26% increase in sediment discharge through the spillway when compared to the standard basin. Using a single coir baffle resulted in 73% sediment retention, a 10% improvement compared to the undersized configuration without energy dissipation. Furthermore, combining a single coir baffle and flocculant application, demonstrated the highest sediment retention at 91%, with 9% of the sediment discharged through the spillway overflow. Remarkably, incorporating flocculant in the undersized basin led to an 18% increase in sediment retention, aligning its performance with that of the standard and in-channel basins. When compared to the standard basin, the single coir baffle and flocculant application showed a 7% increase in sediment discharged through the spillway and a 5% increase compared to the in-channel basin.

Un-treated configurations experienced the highest sediment discharge through the spillway in all three basin types: standard, in-channel, and undersized, with percentages of 12%, 18%, and 37%, respectively. Configurations tested in the undersized basin, excluding the flocculant configuration, as well as configurations without energy dissipation, displayed the lowest turbidity reduction values, ranging from 27% to 75%, 45% to 85%, 47% to 78%, and 42% to 79%, respectively. At the end of the spillway flow, all configurations demonstrated a turbidity reduction value of 75% or higher.

On the other hand, configurations in the standard, in-channel, undersized that incorporated flocculant displayed the lowest sediment discharge through the spillway in all three basins with 3%, 4% and 9%, respectively. Also, configurations incorporating a flocculant demonstrated the highest turbidity reduction values, ranging from 86% to 98% and 84% to 96%, respectively. All configurations achieved turbidity reduction values exceeding 90% after a 5.5-hour dewatering period. Similarly, configurations employing a flocculant as a treatment method in the standard, in-channel, and undersized basins yielded the highest turbidity reduction values, ranging from 92% to 96%, 89% to 94%, and 78% to 93%, respectively.

Further, a linear regression analysis was performed to assess the effects of different treatment methods, geometric designs, and volumetric designs. Results showed that each treatment method, except the addition of a forebay, led to a reduction in sediment discharge through the spillway. Results of the study demonstrate that the use of treatment methods including energy dissipaters, floating surface skimmer, and flocculants can reduce sediment discharge through the spillway.

5.4 LIMITATIONS

During the study, several limitations were identified. One of the key factors affecting basin performance is the influence of side slopes on the top L:W ratios of the model basins. Aforementioned, the 2L:1W and 10L:1W ratios were designed for the bottom basin dimensions. This variation in L:W ratios, where the inflow to spillway distance deviates from the ideal 2:1 or 10:1 ratios, can introduce discrepancies in sediment capture efficiency. Specifically, the standard, in-channel, and undersized basins exhibited L:W ratios of 1.36:1, 1.15:1, and 2.31:1, respectively, indicating deviations from the standard design ratios.

Another limitation pertains to the amount of overflow, which can impact basin efficiency. Longer overflow durations were found to decrease the basin's effectiveness in capturing sediment, indicating that proper consideration should be given to future research to design methodology to include a longer overflow duration. Additionally, it is essential to recognize that the 60-minute peak flow from the storm, used in the study, represents a worst-case scenario and may not accurately reflect field conditions. In real-world situations, flow rates would vary, affecting the sediment capture dynamics in a more complex manner. These limitations should be taken into account while interpreting the study results and considering the application of the findings to field conditions.

5.5 COST ANALYSIS

A comprehensive cost analysis was performed to establish comparisons between basin efficiency and cost. The prices utilized for this cost analysis were obtained from the ALDOT bid sheet listings for the year 2022. By incorporating actual market prices, the study aimed to provide accurate and up-to-date cost estimations for different basin configurations, facilitating informed decision-making in the context of comparing sediment basin efficiency to basin installation costs. Table 5.1 shows average prices for bid items used for the construction of sediment basins.

Table 5.1 Average Bid Prices from ALDOT.

Item	Average Price	Unit
Unclassified Excavation	\$37.11 (\$28.37)	yd^3 (m^3)
Flocculant	\$245.61	each
Flow Baffle	\$9.38 (\$2.86)	linear foot (m)
Basin Dewatering Device	\$5,225.07	each
Erosion Control Product, Type S3	\$1.76 (\$1.47)	yd^2
Filter Blanket, Geotextile	\$8.76 (\$7.32)	yd^2
Seeding	\$1,106.63 (\$447.84)	acre
Loose Riprap, Class 1	\$159.71 (\$144.88)	ton (tonnes)
Loose Riprap, Class 2, 24” Thick	\$68.75	yd^2
Temporary Riprap, Class 2	\$88.53 (\$80.31)	ton (tonne)

The cost evaluation for each basin configuration is based on the assumption of a 1-ac contributory drainage area and an approximate surrounding square footage of 9,000 ft^2 (7,525 yd^2) for each basin. This results in an area of 0.25 ac (0.10 ha) for the standard and in-channel basins, and 0.23 ac (0.09 ha) for the undersized basin. These calculations are based on using 3,600 ft^3/ac (252 m^3/ha) for the standard and in-channel basins and 1,800 ft^3/ac (125 m^3/ha) for the undersized basin. Additionally, the cost analysis accounts for the inclusion of a skimmer in compliance with state regulations. Moreover, a land cost assumption of $10,000 per ac ($4,046.86 per ha) was considered. Table 5.2 provides an estimate of the costs associated with each basin configuration, using the unit prices listed above.

Table 5.2 Cost Analysis.

	Standard	In-Channel	Undersized
No Energy Dissipation	$24,874	$24,874	$18,499
Single Coir Baffle	$25,562	$25,562	$19,082
Three Coir Baffles	$26,938	$26,938	$20,248
Flocculant & Single Coir Baffle	$27,183	$27,183	$20,493

5.6 RECOMMENDATIONS

By implementing flocculants in sediment basins, the sediment trapping efficiency can be significantly enhanced, leading to reduced sediment transport. Furthermore, based on the study findings, it is recommended to consider the use of flocculants in sediment basins. Also, basins with a smaller stormwater capacity compared to the 3,600 ft^3/ac (252 m^3/ha) may be able to be used with flocculant to provide similar results. This suggests that even in constrained settings where the sediment basin has a smaller capacity, the addition of flocculants can effectively enhance sediment retention and improve overall basin performance. Therefore, incorporating flocculants in sediment basins with limited volume capacity can be a practical and viable solution for achieving optimal sediment capture and reducing sediment discharge, thereby contributing to improved water quality and environmental protection.

5.7 FUTURE TESTING

The study provides valuable insights into sediment basin performance and treatment methods, but there are additional considerations for further research and evaluation. To advance the understanding and application of sediment basins with smaller volume capacities, future testing should prioritize large-scale experiments specifically targeting undersized basins and their response to the addition of flocculant. This testing should encompass a wide range of soil types commonly encountered in various construction sites, as the effectiveness of flocculants is highly dependent on soil characteristics. By exploring different combinations of soil and flocculant types, a more comprehensive understanding of their interactions and effectiveness can be achieved, leading to more precise recommendations for future sediment basin designs and treatment methods.

Additionally, it would be beneficial to investigate other small-scale tests that were not included in this study, such as evaluating different L:W ratios or exploring basins with a 1L:2W configuration. These variations can provide valuable data on the performance and efficiency of varying basin designs. Also, it is advisable to incorporate sediment within the basin prior to conducting experiments to simulate real-world conditions accurately. This approach acknowledges the fact that basins are not dredged out after each storm event. An effective methodology to achieve this simulation is to conduct back-to-back tests without cleaning out the basin in between. An additional testing proposition involves assessing sediment capture within a basin equipped with a skimmer orifice designed to close during the flow introduction and settling phases and open after allowing sufficient time for sedimentation to occur.

Furthermore, considering the importance of field applicability, conducting field monitoring of sediment basins on-site can provide real-world data. Monitoring the performance of sediment basins in actual field conditions would contribute to a better understanding of their long-term effectiveness and inform practical design decisions.

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APPENDICES

APPENDIX A

Test Series A

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	8:48:00	0:03	0.05	106.7190	17.1342	6.5452	6.8898	0.3446	89.2	3,861	939
	A102	8:51:00	0:06	0.10	96.4962	17.2588	6.5298	6.7916	0.2618	79.0	3,315	958
	A103	8:54:00	0:09	0.15	97.7947	17.2589	6.4603	6.7610	0.3007	80.2	3,748	1,009
	A104	8:57:00	0:12	0.20	104.5326	16.6754	6.4626	6.7624	0.2998	87.6	3,424	847
	A105	9:00:00	0:15	0.25	123.7250	17.3585	6.5575	6.9196	0.3621	106.0	3,416	900
	A106	9:03:00	0:18	0.30	90.3956	17.3190	6.4863	6.7639	0.2776	72.8	3,813	1,136
	A107	9:06:00	0:21	0.35	95.3806	17.0902	6.5102	6.8340	0.3238	78.0	4,153	993
	A108	9:09:00	0:24	0.40	116.9879	17.1658	6.4796	6.8279	0.3483	99.5	3,501	997
	A109	9:12:00	0:27	0.45	103.9030	17.2937	6.4551	6.7592	0.3041	86.3	3,524	993
	A110	9:15:00	0:30	0.50	79.9162	17.3200	6.3375	6.5849	0.2474	62.3	3,968	1,047
Skimmer	A201	8:48:00	0:03	0.05	104.6699	17.3227	6.5351	6.6085	0.0734	87.3	841	462
	A202	8:51:00	0:06	0.10	94.2443	16.6853	6.5435	6.5988	0.0553	77.5	714	428
	A203	8:54:00	0:09	0.15	89.2419	16.7252	6.5216	6.5694	0.0478	72.5	660	387
	A204	8:57:00	0:12	0.20	98.0029	17.0187	6.3807	6.4287	0.0480	80.9	593	371
	A205	9:00:00	0:15	0.25	107.6812	17.0005	6.5145	6.5634	0.0489	90.6	540	376
	A206	9:03:00	0:18	0.30	82.6394	16.6598	6.5569	6.6019	0.0450	65.9	682	378
	A207	9:06:00	0:21	0.35	96.0766	17.4518	6.4575	6.5066	0.0491	78.6	625	389
	A208	9:09:00	0:24	0.40	100.0335	17.0714	6.5127	6.5592	0.0465	82.9	561	368
	A209	9:12:00	0:27	0.45	82.8108	16.7022	6.4371	6.4792	0.0421	66.1	637	375
	A210	9:15:00	0:30	0.50	125.7810	17.1268	6.5108	6.5725	0.0617	108.6	568	376
	A211	9:18:00	0:33	0.55	102.0737	17.4458	6.4956	6.5440	0.0484	84.6	572	356
	A212	9:21:00	0:36	0.60	118.7213	17.0833	6.4717	6.5172	0.0455	101.6	448	296
	A213	9:24:00	0:39	0.65	118.1059	17.4616	6.4830	6.5180	0.0350	100.6	348	263
	A214	9:39:00	0:54	0.90	106.5123	17.2610	6.4578	6.4828	0.0250	89.2	280	204
	A215	9:54:00	1:09	1.15	112.4271	16.9183	6.5144	6.5372	0.0228	95.5	239	196
	A216	10:09:00	1:24	1.40	112.9505	16.9356	6.4768	6.4974	0.0206	96.0	215	177
	A217	10:24:00	1:39	1.65	113.5039	17.2844	6.4660	6.4854	0.0194	96.2	202	175
	A218	10:39:00	1:54	1.90	95.0281	17.3176	6.3751	6.3917	0.0166	77.7	214	162
	A219	10:54:00	2:09	2.15	118.3178	17.2485	6.5138	6.5317	0.0179	101.1	177	155
	A220	11:09:00	2:24	2.40	128.6216	17.4662	6.4761	6.4907	0.0146	111.1	131	137
	A221	11:24:00	2:39	2.65	95.9928	17.1830	6.4996	6.5125	0.0129	78.8	164	139
	A222	11:39:00	2:54	2.90	109.8539	16.9620	6.4795	6.4955	0.0160	92.9	172	133
	A223	11:54:00	3:09	3.15	127.4472	17.4056	6.4918	6.5099	0.0181	110.0	165	139
	A224	12:09:00	3:24	3.40	102.2469	16.7154	6.4260	6.4396	0.0136	85.5	159	124
	A225	12:24:00	3:39	3.65	118.7065	16.8703	6.4878	6.5037	0.0159	101.8	156	122
	A226	12:39:00	3:54	3.90	120.6125	17.3351	6.5095	6.5228	0.0133	103.3	129	116
	A227	12:54:00	4:09	4.15	128.2917	16.9218	6.4569	6.4708	0.0139	111.4	125	113
	A228	13:09:00	4:24	4.40	117.3956	17.3522	6.4771	6.4885	0.0114	100.0	114	111
	A229	13:24:00	4:39	4.65	113.9517	17.5245	6.4684	6.4788	0.0104	96.4	108	106
	A230	13:39:00	4:54	4.90	114.7570	16.9006	6.4867	6.4978	0.0111	97.8	113	100
	A231	13:54:00	5:09	5.15	112.1839	16.9563	6.4971	6.5073	0.0102	95.2	107	102
	A232	14:09:00	5:24	5.40	94.9920	17.4017	6.4811	6.4891	0.0080	77.6	103	95
	A233	14:24:00	5:39	5.65	47.1041	17.0523	6.5445	6.5505	0.0060	30.0	200	85
	A234	14:39:00	5:54	5.90	30.5880	17.1079	6.5827	6.5856	0.0029	13.5	215	82
	A235	14:54:00	6:09	6.15	31.1652	17.3114	6.4984	6.5010	0.0026	13.9	188	81
Spillway	A301	9:00:57	0:15	0.27	81.7200	16.9120	6.4262	6.4425	0.0163	64.8	252	183
	A302	9:03:00	0:18	0.30	72.7767	17.1435	6.6039	6.6309	0.0270	55.6	486	295
	A303	9:06:00	0:21	0.35	86.3591	16.7351	6.5373	6.5695	0.0322	69.6	463	329
	A304	9:09:00	0:24	0.40	72.2714	16.6904	6.3997	6.4321	0.0324	55.5	583	362
	A305	9:12:00	0:27	0.45	76.1951	16.7356	6.5136	6.5446	0.0310	59.4	522	338
	A306	9:15:00	0:30	0.50	79.5899	17.1328	6.5388	6.5730	0.0342	62.4	548	356
	A307	9:18:00	0:33	0.55	110.8885	16.6718	6.4477	6.5133	0.0656	94.2	697	278
	A308	9:21:00	0:36	0.60	110.3887	17.0073	6.5230	6.5503	0.0273	93.4	292	257
	A309	9:24:00	0:39	0.65	111.5208	17.0439	6.5398	6.5616	0.0218	94.5	231	179

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Plastic 1	364.10	1,821.00	1,456.90				
	Jar 1	17.25	18.40	1.15				
Bay 2	Plastic 2	371.00	712.60	341.60				
	Baffle 1	1,519.53	1,610.25	90.72				
	Jar 2	17.25	30.61	13.36				
Bay 3	Plastic 3	361.10	548.40	187.30				
	Baffle 2	1,496.85	1,564.89	68.04				
	Jar 3	17.25	24.35	7.09				
Bay 4	Plastic 4	384.40	527.60	143.20				
	Baffle 3	1,406.14	1,428.82	22.68				
	Jar 4	17.25	20.10	2.84				
Skimmer	Skimmer During (pan)	2,336.00	2,341.70	5.70				
	Skimmer During (jar)	61.27	94.42	33.15	12	44	0.10	7.31
	Skimmer After (pan)	3,787.50	3,800.60	13.10				
	Skimmer After (jar)	61.06	78.38	17.32	113	426	0.90	65.63
Spillway	Spillway During (pan)	4,331.81	4,341.30	9.49				
	Spillway During (jar)	61.19	169.61	108.42	88	333	0.80	49.75
	Spillway After (pan)	2,313.32	2,316.70	3.38				
	Spillway After (jar)	60.13	74.14	14.01	12	46	0.10	6.40
	Total			**2,539.46**	**224**	**849**	**1.90**	**129.09**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,458.1	3.21	54.68%
Bay 2	445.7	0.98	16.71%
Bay 3	262.4	0.58	9.84%
Bay 4	168.7	0.37	6.33%
Skimmer	141.2	0.31	5.30%
Spillway	190.6	0.42	7.15%
Actual	2,666.7		
Expected	2,515.23		
Percent Error	**6.02%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	8:34:00	0:03	0.05	151.8182	16.9679	6.5452	6.9878	0.4426	134.4	3,293	1,080
	A102	8:37:00	0:06	0.10	90.8982	17.3461	6.5298	6.7331	0.2033	73.3	2,772	938
	A103	8:40:00	0:09	0.15	131.6406	16.6862	6.4603	6.7563	0.2960	114.7	2,582	971
	A104	8:43:00	0:12	0.20	118.5935	16.7213	6.4626	6.7824	0.3198	101.6	3,149	1,022
	A105	8:46:00	0:15	0.25	137.9404	16.7559	6.5575	6.8735	0.3160	120.9	2,614	923
	A106	8:49:00	0:18	0.30	108.6516	16.7319	6.4863	6.7508	0.2645	91.7	2,886	1,004
	A107	8:52:00	0:21	0.35	121.7439	16.7041	6.5102	6.8136	0.3034	104.7	2,897	1,024
	A108	8:55:00	0:24	0.40	136.6181	16.6597	6.4796	6.8182	0.3386	119.6	2,831	1,027
	A109	8:58:00	0:27	0.45	142.8438	16.7091	6.4551	6.8244	0.3693	125.8	2,936	1,016
	A110	9:01:00	0:30	0.50	138.9811	16.8268	6.3375	6.6840	0.3465	121.8	2,845	1,035
Skimmer	A201	8:34:00	0:03	0.05	91.4127	16.8818	6.5351	6.5802	0.0451	74.5	605	403
	A202	8:37:00	0:06	0.10	104.5800	17.2346	6.5435	6.6087	0.0652	87.3	747	462
	A203	8:40:00	0:09	0.15	108.7171	17.2667	6.5216	6.5768	0.0552	91.4	604	394
	A204	8:43:00	0:12	0.20	103.8200	16.8780	6.3807	6.4361	0.0554	86.9	638	388
	A205	8:46:00	0:15	0.25	102.2673	16.7289	6.5145	6.5883	0.0738	85.5	864	379
	A206	8:49:00	0:18	0.30	89.3386	17.1194	6.5569	6.6083	0.0514	72.2	712	364
	A207	8:52:00	0:21	0.35	100.1695	17.3046	6.4575	6.5144	0.0569	82.8	687	432
	A208	8:55:00	0:24	0.40	116.8515	17.2448	6.5127	6.5801	0.0674	99.5	677	442
	A209	8:58:00	0:27	0.45	111.9171	17.2102	6.4371	6.4925	0.0554	94.7	585	386
	A210	9:01:00	0:30	0.50	115.2559	17.3944	6.5108	6.5698	0.0590	97.8	603	389
	A211	9:04:00	0:33	0.55	111.3640	17.3189	6.4956	6.5445	0.0489	94.0	520	375
	A212	9:07:00	0:36	0.60	119.3528	17.3164	6.4717	6.5161	0.0444	102.0	435	302
	A213	9:10:00	0:39	0.65	91.5219	16.9991	6.4830	6.5163	0.0333	74.5	447	275
	A214	9:25:00	0:54	0.90	111.9404	17.0255	6.4578	6.4853	0.0275	94.9	290	188
	A215	9:40:00	1:09	1.15	130.4325	17.4442	6.5144	6.5435	0.0291	113.0	258	187
	A216	9:55:00	1:24	1.40	102.7971	17.2305	6.4768	6.4961	0.0193	85.5	226	171
	A217	10:10:00	1:39	1.65	126.4663	16.9680	6.4660	6.4914	0.0254	109.5	232	159
	A218	10:25:00	1:54	1.90	133.3184	17.3816	6.3751	6.3961	0.0210	115.9	181	149
	A219	10:40:00	2:09	2.15	116.4298	17.4876	6.5138	6.5355	0.0217	98.9	219	143
	A220	10:55:00	2:24	2.40	105.3178	16.8226	6.4761	6.4926	0.0165	88.5	186	137
	A221	11:10:00	2:39	2.65	107.6501	17.2575	6.4996	6.5185	0.0189	90.4	209	125
	A222	11:25:00	2:54	2.90	117.6107	17.1569	6.4795	6.4990	0.0195	100.4	194	125
	A223	11:40:00	3:09	3.15	103.9295	17.2718	6.4918	6.5087	0.0169	86.6	195	121
	A224	11:55:00	3:24	3.40	125.0318	17.1404	6.4260	6.4458	0.0198	107.9	184	116
	A225	12:10:00	3:39	3.65	92.0504	17.3346	6.4878	6.5013	0.0135	74.7	181	100
	A226	12:25:00	3:54	3.90	99.3094	16.9313	6.5095	6.5239	0.0144	82.4	175	107
	A227	12:40:00	4:09	4.15	108.2545	17.3969	6.4569	6.4713	0.0144	90.8	159	98
	A228	12:55:00	4:24	4.40	144.9803	17.4747	6.4771	6.4991	0.0220	127.5	173	100
	A229	13:10:00	4:39	4.65	115.8407	17.3208	6.4684	6.4851	0.0167	98.5	170	93
	A230	13:25:00	4:54	4.90	115.5608	17.1128	6.4867	6.5021	0.0154	98.4	156	92
	A231	13:40:00	5:09	5.15	107.4468	17.3051	6.4971	6.5108	0.0137	90.1	152	87
	A232	13:55:00	5:24	5.40	76.6646	16.6663	6.4811	6.4893	0.0082	60.0	137	76
	A233	14:10:00	5:39	5.65	63.8785	17.1108	6.5445	6.5506	0.0061	46.8	130	71
	A234	14:25:00	5:54	5.90	58.2978	17.4074	6.5827	6.5877	0.0050	40.9	122	69
	A235	14:40:00	6:09	6.15	46.1283	17.2516	6.4984	6.5012	0.0028	28.9	97	90
Spillway	A301	8:46:58	0:15	0.27	132.6080	17.3175	6.4262	6.4757	0.0495	115.2	430	301
	A302	8:49:00	0:18	0.30	114.8423	17.3155	6.6039	6.6471	0.0432	97.5	443	308
	A303	8:52:00	0:21	0.35	116.8176	17.4706	6.5373	6.5850	0.0477	99.3	480	326
	A304	8:55:00	0:24	0.40	133.5941	17.3010	6.3997	6.4629	0.0632	116.2	544	345
	A305	8:58:00	0:27	0.45	89.0542	17.3857	6.5136	6.5498	0.0362	71.6	505	358
	A306	9:01:00	0:30	0.50	108.5672	16.9617	6.5388	6.5755	0.0367	91.6	401	283
	A307	9:04:00	0:33	0.55	118.7327	17.2147	6.4477	6.5134	0.0657	101.5	648	259
	A308	9:07:00	0:36	0.60	112.1608	16.8745	6.5230	6.5545	0.0315	95.3	331	247
	A309	9:10:00	0:39	0.65	107.7465	16.9737	6.5398	6.5663	0.0265	90.7	292	194

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	364.10	1,712.00	1,347.90				
Bay 2	Bay 2	371.00	755.80	384.80				
	Baffle 1	1,587.57	1,678.29	90.72				
Bay 3	Bay 3	361.10	549.60	188.50				
	Baffle 2	1,678.29	1,746.33	68.04				
Bay 4	Bay 4	384.40	548.50	164.10				
	Baffle 3	1,700.97	1,746.33	45.36				
Skimmer	Skimmer During	2,333.92	2,355.70	21.78	11	42	0.10	7.4
	Skimmer After	2,669.90	2,698.70	28.80	111	421	0.90	77.1
Spillway	Spillway During	2,646.60	2,768.80	122.20	87	329	0.80	65.2
	Spillway After	2,361.70	2,373.80	12.10	12	46	0.10	9.1
	Total			**2,474.30**	**221**	**838**	**2**	**158.8**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,347.9	2.97	51.23%
Bay 2	475.5	1.05	18.07%
Bay 3	256.5	0.57	9.75%
Bay 4	209.5	0.46	7.96%
Skimmer	134.1	0.30	5.10%
Spillway	207.7	0.46	7.89%
Actual	2,631.22		
Expected	2,544.8		
Percent Error	**3.39%**		

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Table 2: Solids Concentration and Turbidity												
Inflow	A101	9:38:00	0:03	0.05	n/a	17.4771	6.5452	6.6278	0.0826	#VALUE!	#VALUE!	187
	A102	9:41:00	0:06	0.10	n/a	17.3508	6.5298	6.8263	0.2965	#VALUE!	#VALUE!	950
	A103	9:44:00	0:09	0.15	n/a	17.4283	6.4603	6.8317	0.3714	#VALUE!	#VALUE!	973
	A104	9:47:00	0:12	0.20	n/a	17.2732	6.4626	6.7839	0.3213	#VALUE!	#VALUE!	993
	A105	9:50:00	0:15	0.25	n/a	17.3883	6.5575	6.7277	0.1702	#VALUE!	#VALUE!	845
	A106	9:53:00	0:18	0.30	n/a	17.2711	6.4863	6.6935	0.2072	#VALUE!	#VALUE!	910
	A107	9:56:00	0:21	0.35	n/a	17.2741	6.5102	6.8065	0.2963	#VALUE!	#VALUE!	914
	A108	9:59:00	0:24	0.40	n/a	17.2237	6.4796	6.7274	0.2478	#VALUE!	#VALUE!	916
	A109	10:02:00	0:27	0.45	n/a	16.7643	6.4551	6.6939	0.2388	#VALUE!	#VALUE!	956
	A110	10:05:00	0:30	0.50	n/a	16.7725	6.3375	6.7678	0.4303	#VALUE!	#VALUE!	1,031
Skimmer	A201	9:38:00	0:03	0.05	n/a	16.7838	6.5351	6.6309	0.0958	#VALUE!	#VALUE!	504
	A202	9:41:00	0:06	0.10	n/a	16.8922	6.5435	6.5961	0.0526	#VALUE!	#VALUE!	304
	A203	9:44:00	0:09	0.15	n/a	17.3084	6.5216	6.5775	0.0559	#VALUE!	#VALUE!	300
	A204	9:47:00	0:12	0.20	n/a	16.7536	6.3807	6.4328	0.0521	#VALUE!	#VALUE!	268
	A205	9:50:00	0:15	0.25	n/a	17.3823	6.5145	6.5594	0.0449	#VALUE!	#VALUE!	271
	A206	9:53:00	0:18	0.30	n/a	16.9052	6.5569	6.6093	0.0524	#VALUE!	#VALUE!	337
	A207	9:56:00	0:21	0.35	n/a	16.7312	6.4575	6.5222	0.0647	#VALUE!	#VALUE!	425
	A208	9:59:00	0:24	0.40	n/a	16.9096	6.5127	6.5807	0.0680	#VALUE!	#VALUE!	365
	A209	10:02:00	0:27	0.45	n/a	17.3828	6.4371	6.4942	0.0571	#VALUE!	#VALUE!	343
	A210	10:05:00	0:30	0.50	n/a	17.0891	6.5108	6.5693	0.0585	#VALUE!	#VALUE!	381
	A211	10:08:00	0:33	0.55	n/a	16.9422	6.4956	6.5610	0.0654	#VALUE!	#VALUE!	395
	A212	10:11:00	0:36	0.60	n/a	17.0904	6.4717	6.5253	0.0536	#VALUE!	#VALUE!	350
	A213	10:14:00	0:39	0.65	138.4178	17.2582	6.4830	6.5317	0.0487	121.1	402	285
	A214	10:29:00	0:54	0.90	114.7061	17.2964	6.4578	6.4896	0.0318	97.4	327	228
	A215	10:44:00	1:09	1.15	98.3703	17.2196	6.5144	6.5390	0.0246	81.1	303	184
	A216	10:59:00	1:24	1.40	118.9001	17.2489	6.4768	6.5032	0.0264	101.6	260	170
	A217	11:14:00	1:39	1.65	123.5144	16.7385	6.4660	6.4929	0.0269	106.7	252	162
	A218	11:29:00	1:54	1.90	112.9594	16.6297	6.3751	6.3996	0.0245	96.3	254	155
	A219	11:44:00	2:09	2.15	122.7738	17.1135	6.5138	6.5386	0.0248	105.6	235	144
	A220	11:59:00	2:24	2.40	114.8525	16.8310	6.4761	6.4972	0.0211	98.0	215	141
	A221	12:14:00	2:39	2.65	113.4850	17.0421	6.4996	6.5228	0.0232	96.4	241	132
	A222	12:29:00	2:54	2.90	120.3785	17.2550	6.4795	6.5040	0.0245	103.1	238	135
	A223	12:44:00	3:09	3.15	100.6732	16.7087	6.4918	6.5124	0.0206	83.9	245	128
	A224	12:59:00	3:24	3.40	104.9617	17.2039	6.4260	6.4478	0.0218	87.7	248	127
	A225	13:14:00	3:39	3.65	144.7094	16.8758	6.4878	6.5201	0.0323	127.8	253	120
	A226	13:29:00	3:54	3.90	143.7635	17.2702	6.5095	6.5346	0.0251	126.5	198	113
	A227	13:44:00	4:09	4.15	128.2577	17.2358	6.4569	6.4796	0.0227	111.0	205	114
	A228	13:59:00	4:24	4.40	119.3879	17.1739	6.4771	6.4999	0.0228	102.2	223	102
	A229	14:14:00	4:39	4.65	125.5550	16.8404	6.4684	6.4979	0.0295	108.7	271	101
	A230	14:29:00	4:54	4.90	106.5237	17.2679	6.4867	6.5062	0.0195	89.2	219	96
	A231	14:44:00	5:09	5.15	140.6451	17.2776	6.4971	6.5203	0.0232	123.3	188	92
	A232	14:59:00	5:24	5.40	135.7542	17.0774	6.4811	6.5048	0.0237	118.7	200	88
	A233	15:14:00	5:39	5.65	128.7980	17.2245	6.5445	6.5651	0.0206	111.6	185	82
	A234	15:29:00	5:54	5.90	107.2942	17.2851	6.5827	6.5990	0.0163	90.0	181	74
	A235	15:44:00	6:09	6.15	91.5335	17.3288	6.4984	6.5084	0.0100	74.2	135	70
Spillway	A301	9:51:03	0:16	0.27	115.9688	17.2685	6.4262	6.4558	0.0296	98.7	300	172
	A302	9:53:00	0:19	0.30	128.5736	17.2951	6.6039	6.6466	0.0427	111.2	384	250
	A303	9:56:00	0:22	0.35	138.5716	16.9288	6.5373	6.5944	0.0571	121.6	470	328
	A304	9:59:00	0:25	0.40	117.1498	17.2103	6.3997	6.4551	0.0554	99.9	555	344
	A305	10:02:00	0:28	0.45	142.6969	16.9791	6.5136	6.5807	0.0671	125.7	534	355
	A306	10:05:00	0:31	0.50	140.9511	17.5044	6.5388	6.5987	0.0599	123.4	485	332
	A307	10:08:00	0:34	0.55	106.5361	17.3493	6.4477	6.5184	0.0707	89.1	794	312
	A308	10:11:00	0:37	0.60	119.1133	17.1157	6.5230	6.5595	0.0365	102.0	358	240
	A309	10:14:00	0:40	0.65	89.6800	17.0432	6.5398	6.5618	0.0220	72.6	303	186

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	366.70	1,778.80	1,412.10				
Bay 2	Bay 2	373.50	762.10	388.60				
	Baffle 1	1,564.89	1,678.28	113.39				
Bay 3	Bay 3	363.60	550.50	186.90				
	Baffle 2	1,655.61	1,723.65	68.04				
Bay 4	Bay 4	387.00	536.00	149.00				
	Baffle 3	1,678.28	1,700.97	22.69				
Skimmer	Skimmer During	617.50	634.40	16.90	11	42	0.12	6.2
	Skimmer After	2,503.20	2,535.50	32.30	112	423	0.90	75.7
Spillway	Spillway During	2,666.80	2,782.20	115.40	88	333	0.93	54.1
	Spillway After	619.30	633.77	14.47	12	44	0.11	8.0
	Total			**2,519.79**	**222**	**842**	**2**	**144.1**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,412.1	3.11	53.05%
Bay 2	502.0	1.11	18.86%
Bay 3	254.9	0.56	9.58%
Bay 4	171.7	0.38	6.45%
Skimmer	130.1	0.29	4.89%
Spillway	191.0	0.42	7.17%
Actual	2,661.81		
Expected	2,526.2		
Percent Error	**5.37%**		

Test Series B

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:31:00	0:03	0.05	140.9088	17.1342	6.5478	6.9673	0.4195	123.4	3,401	1,059
	A102	10:34:00	0:06	0.10	142.3263	17.2588	6.4636	6.9105	0.4469	124.6	3,586	1,012
	A103	10:37:00	0:09	0.15	151.3444	17.2589	6.5346	6.9691	0.4345	133.7	3,251	996
	A104	10:40:00	0:12	0.20	139.6206	16.6754	6.4655	6.8101	0.3446	122.6	2,811	861
	A105	10:43:00	0:15	0.25	138.6695	17.3585	6.5608	6.9018	0.3410	121.0	2,819	983
	A106	10:46:00	0:18	0.30	121.0892	17.3190	6.4927	6.7685	0.2758	103.5	2,665	990
	A107	10:49:00	0:21	0.35	138.9957	17.0902	6.5145	6.9172	0.4027	121.5	3,314	1,091
	108	10:52:00	0:24	0.40	142.4092	17.1658	6.4841	6.8781	0.3940	124.8	3,156	1,023
	A109	10:55:00	0:27	0.45	155.1315	17.2937	6.4591	6.8498	0.3907	137.4	2,843	964
	A110	10:58:00	0:30	0.50	98.7951	17.3200	6.3370	6.5768	0.2398	81.2	2,952	1,097
Skimmer	A201	10:31:00	0:03	0.05	141.8336	17.3227	6.5400	6.6903	0.1503	124.4	1,209	712
	A202	10:34:00	0:06	0.10	141.9064	16.6853	6.5488	6.7098	0.1610	125.1	1,287	702
	A203	10:37:00	0:09	0.15	143.0270	16.7252	6.5268	6.6743	0.1475	126.2	1,169	612
	A204	10:40:00	0:12	0.20	150.4302	17.0187	6.3875	6.5649	0.1774	133.2	1,331	763
	A205	10:43:00	0:15	0.25	148.2945	17.0005	6.5184	6.6773	0.1589	131.1	1,212	694
	A206	10:46:00	0:18	0.30	137.5827	16.6598	6.5634	6.7022	0.1388	120.8	1,149	668
	A207	10:49:00	0:21	0.35	143.3501	17.4518	6.4604	6.6190	0.1586	125.7	1,261	683
	A208	10:52:00	0:24	0.40	147.1220	17.0714	6.5201	6.6664	0.1463	129.9	1,126	676
	A209	10:55:00	0:27	0.45	147.8725	16.7022	6.4424	6.5864	0.1440	131.0	1,099	604
	A210	10:58:00	0:30	0.50	154.1150	17.1268	6.5171	6.6733	0.1562	136.8	1,142	606
	A211	11:01:00	0:33	0.55	139.7842	17.4458	6.4996	6.5639	0.0643	122.3	526	372
	A212	11:04:00	0:36	0.60	143.5013	17.0833	6.4769	6.5442	0.0673	126.4	533	356
	A213	11:07:00	0:39	0.65	149.3970	17.4616	6.4885	6.5455	0.0570	131.9	432	301
	A214	11:22:00	0:54	0.90	112.0104	17.2610	6.4608	6.4911	0.0303	94.7	320	238
	A215	11:37:00	1:09	1.15	143.0811	16.9183	6.5207	6.5585	0.0378	126.1	300	209
	A216	11:52:00	1:24	1.40	141.1152	16.9356	6.4826	6.5200	0.0374	124.1	301	198
	A217	12:07:00	1:39	1.65	139.1543	17.2844	6.4724	6.5045	0.0321	121.8	263	173
	A218	12:22:00	1:54	1.90	139.1155	17.3176	6.3819	6.4146	0.0327	121.8	269	167
	A219	12:37:00	2:09	2.15	134.7058	17.2485	6.5192	6.5469	0.0277	117.4	236	165
	A220	12:52:00	2:24	2.40	138.3477	17.4662	6.4797	6.5068	0.0271	120.9	224	156
	A221	13:07:00	2:39	2.65	135.8491	17.1830	6.5045	6.5338	0.0293	118.6	247	151
	A222	13:22:00	2:54	2.90	140.3730	16.9620	6.4873	6.5136	0.0263	123.4	213	140
	A223	13:37:00	3:09	3.15	150.9229	17.4056	6.4484	6.5269	0.0785	133.4	588	141
	A224	13:52:00	3:24	3.40	149.4378	16.7154	6.4343	6.4598	0.0255	132.7	192	138
	A225	14:07:00	3:39	3.65	115.3896	16.8703	6.4972	6.5189	0.0217	98.5	220	132
	A226	14:22:00	3:54	3.90	140.3333	17.3351	6.5160	6.5398	0.0238	123.0	194	126
	A227	14:37:00	4:09	4.15	131.0816	16.9218	6.4652	6.4879	0.0227	114.1	199	125
	A228	14:52:00	4:24	4.40	133.4258	17.3522	6.4881	6.5100	0.0219	116.1	189	125
	A229	15:07:00	4:39	4.65	132.9243	17.5245	6.4893	6.5099	0.0206	115.4	179	114
	A230	15:22:00	4:54	4.90	112.7228	16.9006	6.4456	6.5120	0.0664	95.8	693	115
	A231	15:37:00	5:09	5.15	141.2576	16.9563	6.5010	6.5216	0.0206	124.3	166	105
	A232	15:52:00	5:24	5.40	129.6162	17.4017	6.4854	6.5049	0.0195	112.2	174	106
	A233	16:07:00	5:39	5.65	136.7756	17.0523	6.5464	6.5774	0.0310	119.7	259	114
	A234	16:22:00	5:54	5.90	87.4983	17.1079	6.5866	6.5969	0.0103	70.4	146	99
	A235	16:37:00	6:09	6.15	86.7003	17.3114	6.4981	6.5096	0.0115	69.4	166	92
Spillway	A301	10:45:15	0:17	0.29	114.9193	16.9120	6.4242	6.4948	0.0706	97.9	721	423
	A302	10:46:00	0:20	0.30	150.0867	17.1435	6.6057	6.7197	0.1140	132.8	858	512
	A303	10:49:00	0:23	0.35	131.8834	16.7351	6.5398	6.6301	0.0903	115.1	785	509
	A304	10:52:00	0:26	0.40	122.4446	16.6904	6.4014	6.4885	0.0871	105.7	824	498
	A305	10:55:00	0:29	0.45	148.5920	16.7356	6.5162	6.6600	0.1438	131.7	1,092	547
	A306	10:58:00	0:32	0.50	105.4167	17.1328	6.5397	6.6369	0.0972	88.2	1,102	537
	A307	11:01:00	0:35	0.55	105.9245	16.6718	6.4775	6.5274	0.0499	89.2	559	386
	A308	11:04:00	0:38	0.60	120.2318	17.0073	6.5245	6.5620	0.0375	103.2	363	269
	A309	11:07:00	0:41	0.65	103.8244	17.0439	6.5413	6.5696	0.0283	86.8	326	199

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Basin	Total Basin	755.40	2,864.30	2,108.90	n/a			
Skimmer	Skimmer During	617.30	643.70	26.40	9	35	0.82	4.8
	Skimmer After	2,501.30	2,534.70	33.40	112	425	0.12	58.3
Spillway	Spillway During	2,667.50	2,903.10	235.60	85	322	0.14	42.8
	Spillway After	619.20	632.20	13.00	10	36	0.16	5.0
	Total			**2,417.30**	**216**	**818**	**1**	**111.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Total Basin	2,108.9	4.65	83.45%
Skimmer	122.0	0.27	4.83%
Spillway	296.1	0.65	11.72%
Actual	2,527.02		
Expected	2,452.5		
Percent Error	**3.04%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:43:00	0:03	0.05	138.6970	16.9679	6.5530	6.8979	0.3449	121.4	2,841	996
	A102	9:46:00	0:06	0.10	152.8566	17.3461	6.5915	6.9511	0.3596	135.2	2,661	1,099
	A103	9:49:00	0:09	0.15	153.5187	16.6862	6.5430	6.9067	0.3637	136.5	2,665	1,128
	A104	9:52:00	0:12	0.20	154.1397	16.7213	6.4692	6.8597	0.3905	137.0	2,850	1,053
	A105	9:55:00	0:15	0.25	150.5401	16.7559	6.5666	6.9672	0.4006	133.4	3,003	989
	A106	9:58:00	0:18	0.30	138.5925	16.7319	6.4943	6.8437	0.3494	121.5	2,875	1,001
	A107	10:01:00	0:21	0.35	121.6276	16.7041	6.5138	6.7877	0.2739	104.6	2,617	996
	A108	10:04:00	0:24	0.40	124.3314	16.6597	6.4859	6.7894	0.3035	107.4	2,827	970
	A109	10:07:00	0:27	0.45	134.2545	16.7091	6.4603	6.8270	0.3667	117.2	3,129	1,085
	A110	10:10:00	0:30	0.50	112.4842	16.8268	6.3385	6.5964	0.2579	95.4	2,703	1,048
Skimmer	A201	9:43:00	0:03	0.05	147.7173	16.8818	6.5442	6.7371	0.1929	130.6	1,477	778
	A202	9:46:00	0:06	0.10	147.2799	17.2346	6.5514	6.6768	0.1254	129.9	965	584
	A203	9:49:00	0:09	0.15	153.1623	17.2667	6.5320	6.6662	0.1342	135.8	988	638
	A204	9:52:00	0:12	0.20	140.2909	16.8780	6.3924	6.5221	0.1297	123.3	1,052	625
	A205	9:55:00	0:15	0.25	139.8320	16.7289	6.5210	6.6548	0.1338	123.0	1,088	623
	A206	9:58:00	0:18	0.30	151.7155	17.1194	6.5699	6.6769	0.1070	134.5	796	555
	A207	10:01:00	0:21	0.35	145.1930	17.3046	6.4650	6.5774	0.1124	127.8	880	573
	A208	10:04:00	0:24	0.40	151.8207	17.2448	6.5226	6.6569	0.1343	134.4	999	584
	A209	10:07:00	0:27	0.45	162.5491	17.2102	6.4469	6.5664	0.1195	145.2	823	510
	A210	10:10:00	0:30	0.50	145.1878	17.3944	6.5220	6.6351	0.1131	127.7	886	526
	A211	10:13:00	0:33	0.55	135.6902	17.3189	6.5009	6.5701	0.0692	118.3	585	377
	A212	10:16:00	0:36	0.60	137.6798	17.3164	6.4783	6.5275	0.0492	120.3	409	266
	A213	10:19:00	0:39	0.65	141.9409	16.9991	6.5112	6.5430	0.0318	124.9	255	292
	A214	10:34:00	0:54	0.90	129.9294	17.0255	6.4669	6.5086	0.0417	112.9	369	259
	A215	10:49:00	1:09	1.15	134.3418	17.4442	6.5246	6.5575	0.0329	116.9	282	202
	A216	11:04:00	1:24	1.40	140.1632	17.2305	6.4880	6.5268	0.0388	122.9	316	185
	A217	11:19:00	1:39	1.65	134.0063	16.9680	6.4742	6.5087	0.0345	117.0	295	174
	A218	11:34:00	1:54	1.90	142.3485	17.3816	6.3830	6.4166	0.0336	124.9	269	163
	A219	11:49:00	2:09	2.15	140.0184	17.4876	6.5223	6.5502	0.0279	122.5	228	157
	A220	12:04:00	2:24	2.40	139.6154	16.8226	6.4852	6.5151	0.0299	122.8	244	143
	A221	12:19:00	2:39	2.65	136.4998	17.2575	6.5078	6.5388	0.0310	119.2	260	146
	A222	12:34:00	2:54	2.90	148.2895	17.1569	6.4901	6.5185	0.0284	131.1	217	144
	A223	12:49:00	3:09	3.15	133.8148	17.2718	6.5022	6.5264	0.0242	116.5	208	103
	A224	13:04:00	3:24	3.40	147.8493	17.1404	6.4385	6.4664	0.0279	130.7	213	129
	A225	13:19:00	3:39	3.65	153.4162	17.3346	6.5008	6.5301	0.0293	136.1	215	127
	A226	13:34:00	3:54	3.90	132.4965	16.9313	6.5184	6.5406	0.0222	115.5	192	121
	A227	13:49:00	4:09	4.15	152.1467	17.3969	6.4850	6.4923	0.0073	134.7	54	120
	A228	14:04:00	4:24	4.40	138.7248	17.4747	6.5032	6.5148	0.0116	121.2	96	119
	A229	14:19:00	4:39	4.65	143.1443	17.3208	6.5045	6.5114	0.0069	125.8	55	113
	A230	14:34:00	4:54	4.90	139.0236	17.1128	6.4949	6.5199	0.0250	121.9	205	105
	A231	14:49:00	5:09	5.15	130.4243	17.3051	6.5224	6.5251	0.0027	113.1	24	99
	A232	15:04:00	5:24	5.40	132.0420	16.6663	6.5083	6.5884	0.0801	115.3	695	91
	A233	15:19:00	5:39	5.65	85.6055	17.1108	6.5531	6.5608	0.0077	68.5	112	93
	A234	15:34:00	5:54	5.90	81.1169	17.4074	6.5895	6.5984	0.0089	63.7	140	74
	A235	15:49:00	6:09	6.15	76.9522	17.2516	6.5022	6.5105	0.0083	59.7	139	72
	B236	16:04:00	6:24	6.40	73.1474		6.5246	6.5336	0.0090	73.1	111	65
Spillway	B301	16:30:00	6:50	6.83	124.5116	17.3175	6.4326	6.5350	0.1024	107.1	823	538
	B302	9:58:00	6:53	0.30	118.1195	17.3155	6.6099	6.7105	0.1006	100.7	852	571
	B303	10:01:00	6:56	0.35	144.7639	17.4706	6.5472	6.6538	0.1066	127.2	737	536
	B304	10:04:00	6:59	0.40	134.6867	17.3010	6.4525	6.5178	0.0653	117.3	485	534
	B305	10:07:00	7:02	0.45	130.3396	17.3857	6.5242	6.6379	0.1137	112.8	873	537
	B306	10:10:00	7:05	0.50	121.8725	16.9617	6.5448	6.6535	0.1087	104.8	893	491
	B307	10:13:00	7:08	0.55	126.8839	17.2147	6.4793	6.5459	0.0666	109.6	525	370
	B308	10:16:00	7:11	0.60	125.0177	16.8745	6.5301	6.5716	0.0415	108.1	332	271
	B309	10:19:00	7:14	0.65	-	16.9737	6.5455	6.5463	0.0008	#VALUE!	#VALUE!	-

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Basin	Total Basin	899.40	3,198.20	2,298.80	n/a			
Skimmer	Skimmer During	617.30	651.90	34.60	12	45	0.15	4.5
	Skimmer After	2,494.20	2,611.80	117.60	112	424	0.99	44.2
Spillway	Spillway During	2,662.20	2,900.80	238.60	85	322	0.83	32.9
	Spillway After	619.20	645.00	25.80	13	48	0.18	5.0
	Total			**2,715.40**	**222**	**839**	**2**	**86.6**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Total Basin	2,298.8	5.07	82.11%
Skimmer	199.7	0.44	7.13%
Spillway	301.3	0.66	10.76%
Actual	2,799.83		
Expected	2,607.2		
or	**7.39%**		

	Table 2: Solids Concentration and Turbidity											Turbidity
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	NTU
Inflow	A101	8:53:00	0:03	0.05	146.6712	17.4771	6.5528	7.0169	0.4641	128.7	3,605	1,064
	A102	8:56:00	0:06	0.10	147.5523	17.3508	6.5409	6.9314	0.3905	129.8	3,008	1,065
	A103	8:59:00	0:09	0.15	143.9282	17.4283	6.4667	6.8520	0.3853	126.1	3,055	1,036
	A104	9:02:00	0:12	0.20	143.8783	17.2732	6.4719	6.8699	0.3980	126.2	3,154	1,210
	A105	9:05:00	0:15	0.25	149.7021	17.3883	6.5694	6.9820	0.4126	131.9	3,128	990
	A106	9:08:00	0:18	0.30	140.5307	17.2711	6.4966	6.9022	0.4056	122.9	3,301	1,131
	A107	9:11:00	0:21	0.35	150.0931	17.2741	6.5169	6.9807	0.4638	132.4	3,504	1,179
	A108	9:14:00	0:24	0.40	142.1198	17.2237	6.4914	6.9496	0.4582	124.4	3,682	1,152
	A109	9:17:00	0:27	0.45	138.2456	16.7643	6.4625	6.8978	0.4353	121.0	3,596	1,063
	A110	9:20:00	0:30	0.50	149.2355	16.7725	6.3430	6.8469	0.5039	132.0	3,819	1,153
Skimmer	A201	8:53:00	0:03	0.05	108.9253	16.7838	6.5496	6.6522	0.1026	92.0	1,115	740
	A202	8:56:00	0:06	0.10	111.2816	16.8922	6.5578	6.6690	0.1112	94.3	1,179	690
	A203	8:59:00	0:09	0.15	126.1838	17.3084	6.5386	6.6953	0.1567	108.7	1,441	746
	A204	9:02:00	0:12	0.20	122.2644	16.7536	6.3973	6.4964	0.0991	105.4	940	605
	A205	9:05:00	0:15	0.25	132.9502	17.3823	6.5266	6.6281	0.1015	115.5	879	557
	A206	9:08:00	0:18	0.30	119.6586	16.9052	6.5753	6.6693	0.0940	102.7	916	567
	A207	9:11:00	0:21	0.35	117.1486	16.7312	6.4704	6.5560	0.0856	100.3	853	531
	A208	9:14:00	0:24	0.40	123.7097	16.9096	6.5291	6.6137	0.0846	106.7	793	530
	A209	9:17:00	0:27	0.45	130.3132	17.3828	6.4542	6.5530	0.0988	112.8	876	537
	A210	9:20:00	0:30	0.50	122.4862	17.0891	6.5265	6.6143	0.0878	105.3	834	535
	A211	9:23:00	0:33	0.55	120.5276	16.9422	6.5058	6.5570	0.0512	103.5	495	322
	A212	9:26:00	0:36	0.60	124.2091	17.0904	6.4844	6.5428	0.0584	107.1	545	392
	A213	9:29:00	0:39	0.65	118.6268	17.2582	6.4968	6.5407	0.0439	101.3	433	310
	A214	9:44:00	0:54	0.90	116.9191	17.2964	6.4696	6.5031	0.0335	99.6	336	274
	A215	9:59:00	1:09	1.15	121.1299	17.2196	6.5301	6.5600	0.0299	103.9	288	216
	A216	10:14:00	1:24	1.40	111.5879	17.2489	6.4988	6.5234	0.0246	94.3	261	194
	A217	10:29:00	1:39	1.65	116.3913	16.7385	6.4806	6.5043	0.0237	99.6	238	181
	A218	10:44:00	1:54	1.90	105.9948	16.6297	6.3902	6.4098	0.0196	89.3	219	182
	A219	10:59:00	2:09	2.15	106.3610	17.1135	6.5272	6.5466	0.0194	89.2	217	165
	A220	11:14:00	2:24	2.40	112.7847	16.8310	6.4898	6.5102	0.0204	95.9	213	154
	A221	11:29:00	2:39	2.65	110.8636	17.0421	6.5175	6.5361	0.0186	93.8	198	146
	A222	11:44:00	2:54	2.90	125.2897	17.2550	6.4964	6.5169	0.0205	108.0	190	137
	A223	11:59:00	3:09	3.15	131.1707	16.7087	6.5072	6.5297	0.0225	114.4	197	137
	A224	12:14:00	3:24	3.40	108.2855	17.2039	6.4441	6.4597	0.0156	91.1	171	132
	A225	12:29:00	3:39	3.65	102.6211	16.8758	6.5098	6.5255	0.0157	85.7	183	130
	A226	12:44:00	3:54	3.90	125.3309	17.2702	6.5230	6.5411	0.0181	108.0	168	129
	A227	12:59:00	4:09	4.15	110.7378	17.2358	6.4737	6.4892	0.0155	93.5	166	123
	A228	13:14:00	4:24	4.40	103.2648	17.1739	6.5026	6.5176	0.0150	86.1	174	125
	A229	13:29:00	4:39	4.65	93.6720	16.8404	6.4953	6.5080	0.0127	76.8	165	122
	A230	13:44:00	4:54	4.90	113.2103	17.2679	6.5045	6.5194	0.0149	95.9	155	102
	A231	13:59:00	5:09	5.15	113.8594	17.2776	6.5126	6.5275	0.0149	96.6	154	109
	A232	14:14:00	5:24	5.40	64.3889	17.0774	6.4945	6.5026	0.0081	47.3	171	123
	A233	14:29:00	5:39	5.65	63.4695	17.2245	6.5535	6.5600	0.0065	46.2	141	88
	A234	14:44:00	5:54	5.90	n/a	17.2851	6.5947	6.5929	-0.0018	#VALUE!	#VALUE!	n/a
	A235	14:59:00	6:09	6.15	n/a	17.3288	6.5044	6.5033	-0.0011	#VALUE!	#VALUE!	n/a
Spillway	A301	9:07:30	0:17	0.29	127.4214	17.2685	6.4380	6.5212	0.0832	110.1	756	512
	A302	9:08:00	0:20	0.30	145.8549	17.2951	6.6147	6.7177	0.1030	128.5	802	580
	A303	9:11:00	0:23	0.35	147.2729	16.9288	6.5468	6.6673	0.1205	130.2	925	597
	A304	9:14:00	0:26	0.40	142.9332	17.2103	6.4126	6.5217	0.1091	125.6	869	543
	A305	9:17:00	0:29	0.45	123.5614	16.9791	6.5321	6.6223	0.0902	106.5	847	545
	A306	9:20:00	0:32	0.50	107.7818	17.5044	6.5536	6.6277	0.0741	90.2	821	583
	A307	9:23:00	0:35	0.55	121.7263	17.3493	6.4877	6.5542	0.0665	104.3	638	405
	A308	9:26:00	0:38	0.60	111.6740	17.1157	6.5341	6.5668	0.0327	94.5	346	261
	A309	9:29:00	0:41	0.65	82.1185	17.0432	n/a	n/a	#VALUE!	#VALUE!	#VALUE!	206

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Basin	Total Basin	899.40	3,198.20	2,298.80		**n/a**		
Skimmer	Skimmer During	617.20	654.00	36.80	112	423	0.82	60.3
	Skimmer After	2,500.10	2,547.10	47.00	12	47	0.12	6.9
Spillway	Spillway During	2,665.10	2,882.50	217.40	75	284	0.14	40.2
	Spillway After	619.00	630.90	11.90	7	27	0.16	3.7
	Total			**2,611.90**	**206**	**781**	**1**	**111.1**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Total Basin	2,298.8	5.07	84.46%
Skimmer	150.1	0.33	5.52%
Spillway	272.9	0.60	10.03%
Actual	2,721.78		
Expected	2,637.4		
rror	**3.20%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:33:00	0:03	0.05	149.5951	17.4633	6.5718	6.9311	0.3593	131.8	2,727	943
	A102	10:36:00	0:06	0.10	137.3155	17.1242	6.5709	6.8174	0.2465	119.9	2,055	867
	A103	10:39:00	0:09	0.15	146.9902	17.3230	6.5087	6.8278	0.3191	129.3	2,467	938
	A104	10:42:00	0:12	0.20	141.9844	17.1988	6.4962	6.8224	0.3262	124.5	2,621	1,097
	A105	10:45:00	0:15	0.25	144.6622	17.3102	6.6065	6.9229	0.3164	127.0	2,491	1,040
	A106	10:48:00	0:18	0.30	130.6167	17.1799	6.5226	6.8695	0.3469	113.1	3,067	956
	A107	10:51:00	0:21	0.35	121.0330	17.4434	6.5347	6.7922	0.2575	103.3	2,492	1,013
	A108	10:54:00	0:24	0.40	119.6049	17.1810	6.5116	6.7912	0.2796	102.1	2,737	1,082
	A109	10:57:00	0:27	0.45	124.7769	16.9352	6.4802	6.7835	0.3033	107.5	2,820	1,029
	A110	11:00:00	0:30	0.50	118.2968	16.8946	6.3712	6.6266	0.2554	101.1	2,525	1,041
Skimmer	A201	10:33:00	0:03	0.05	116.3229	16.9470	6.5616	6.6615	0.0999	99.3	1,006	696
	A202	10:36:00	0:06	0.10	120.5667	16.9000	6.5723	6.6890	0.1167	103.6	1,127	641
	A203	10:39:00	0:09	0.15	117.5175	17.1705	6.5660	6.6353	0.0693	100.3	691	614
	A204	10:42:00	0:12	0.20	109.8793	16.8997	6.4157	6.4852	0.0695	92.9	748	583
	A205	10:45:00	0:15	0.25	116.7594	17.1606	6.5443	6.6168	0.0725	99.5	728	586
	A206	10:48:00	0:18	0.30	118.5901	16.6894	6.5917	6.6687	0.0770	101.8	756	550
	A207	10:51:00	0:21	0.35	127.1577	16.6614	6.4858	6.5672	0.0814	110.4	737	522
	A208	10:54:00	0:24	0.40	128.4305	16.7318	6.5419	6.6252	0.0833	111.6	746	555
	A209	10:57:00	0:27	0.45	112.3876	17.2093	6.4700	6.5387	0.0687	95.1	722	533
	A210	11:00:00	0:30	0.50	117.0491	17.2913	6.5405	6.6129	0.0724	99.7	726	523
	A211	11:03:00	0:33	0.55	114.0363	16.9290	6.5202	6.5709	0.0507	97.1	522	416
	A212	11:06:00	0:36	0.60	110.4823	17.2837	6.4946	6.5302	0.0356	93.2	382	333
	A213	11:09:00	0:39	0.65	116.7917	17.2439	6.5043	6.5416	0.0373	99.5	375	321
	A214	11:24:00	0:54	0.90	115.8609	17.2277	6.4870	6.5056	0.0186	98.6	189	243
	A215	11:39:00	1:09	1.15	114.4939	17.3635	6.5404	6.5668	0.0264	97.1	272	226
	A216	11:54:00	1:24	1.40	118.7043	17.4008	6.5093	6.5349	0.0256	101.3	253	207
	A217	12:09:00	1:39	1.65	121.8950	16.9354	6.4951	6.5192	0.0241	104.9	230	205
	A218	12:24:00	1:54	1.90	111.0409	16.6921	6.4036	6.4241	0.0205	94.3	217	204
	A219	12:39:00	2:09	2.15	126.2077	17.2819	6.5389	6.5668	0.0279	108.9	256	195
	A220	12:54:00	2:24	2.40	134.0033	16.8184	6.4987	6.5245	0.0258	117.2	220	182
	A221	13:09:00	2:39	2.65	139.9765	16.8831	6.5289	6.5520	0.0231	123.1	188	168
	A222	13:24:00	2:54	2.90	131.4851	17.2417	6.5065	6.5289	0.0224	114.2	196	163
	A223	13:39:00	3:09	3.15	130.4824	16.7033	6.5197	6.5395	0.0198	113.8	174	152
	A224	13:54:00	3:24	3.40	136.0598	16.9884	6.4619	6.4817	0.0198	119.1	166	157
	A225	14:09:00	3:39	3.65	131.5078	16.7417	6.5220	6.5423	0.0203	114.7	177	148
	A226	14:24:00	3:54	3.90	131.6919	17.2079	6.5401	6.5587	0.0186	114.5	162	142
	A227	14:39:00	4:09	4.15	117.7499	17.0277	6.4855	6.5006	0.0151	100.7	150	140
	A228	14:54:00	4:24	4.40	132.1629	17.3714	6.5122	6.5294	0.0172	114.8	150	134
	A229	15:09:00	4:39	4.65	125.6742	16.6779	6.5092	6.5248	0.0156	109.0	143	129
	A230	15:24:00	4:54	4.90	121.8805	17.4557	6.5177	6.5314	0.0137	104.4	131	122
	A231	15:39:00	5:09	5.15	133.6946	17.0963	6.5198	6.5352	0.0154	116.6	132	114
	A232	15:54:00	5:24	5.40	127.0430	17.3055	6.5042	6.5177	0.0135	109.7	123	104
	A233	16:09:00	5:39	5.65	119.1004	17.1846	6.5618	6.5747	0.0129	101.9	127	96
	A234	16:24:00	5:54	5.90	112.5521	17.2547	6.5966	6.6087	0.0121	95.3	127	87
	A235	16:39:00	6:09	6.15		17.0338	6.5055	6.5052	-0.0003	-17.0	18	
Spillway	A301	10:46:30	0:16	0.28	121.6052	17.2368	6.4746	6.5188	0.0442	104.3	424	526
	A302	10:48:00	0:19	0.30	158.0806	17.1373	6.6251	6.7319	0.1068	140.8	758	522
	A303	10:51:00	0:22	0.35	123.5064	16.9145	6.5784	6.6403	0.0619	106.5	581	547
	A304	10:54:00	0:25	0.40	119.4378	17.3843	6.4263	6.5000	0.0737	102.0	723	515
	A305	10:57:00	0:28	0.45	136.3537	16.7178	6.5721	6.6304	0.0583	119.6	488	538
	A306	11:00:00	0:31	0.50	153.9655	17.2777	6.5655	6.6636	0.0981	136.6	718	553
	A307	11:03:00	0:34	0.55	133.0565	17.4352	6.5385	6.5576	0.0191	115.6	165	410
	A308	11:06:00	0:37	0.60	109.3791	17.1019	6.5505	6.5816	0.0311	92.2	337	317
	A309	11:09:00	0:40	0.65	52.6739	17.1931	6.5506	6.5608	0.0102	35.5	288	272

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.50	1,179.30	811.80				
Bay 2	Bay 2	373.80	757.00	383.20				
	Baffle 1			-				
Bay 3	Bay 3	364.00	594.00	230.00				
	Baffle 2			-				
Bay 4	Bay 4	428.30	930.50	502.20				
	Baffle 3			-				
Skimmer	Skimmer During	616.60	647.60	31.00	11.14	42	0.10	5.4
	Skimmer After	2,501.20	2,548.10	46.90	119.33	452	0.90	56.2
Spillway	Spillway During	2,662.90	2,870.70	207.80	85.00	322	0.80	48.6
	Spillway After	619.00	642.80	23.80	12.10	46	0.10	4.8
	Total			**2,236.70**	**227.6**	**861**	**2**	**115.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	811.8	1.79	34.55%
Bay 2	383.2	0.84	16.31%
Bay 3	230.0	0.51	9.79%
Bay 4	502.2	1.11	21.37%
Skimmer	138.6	0.31	5.90%
Spillway	284.2	0.63	12.09%
Actual	2,349.96		
Expected	2,272.2		
Percent Error	**3.42%**		

Test Series C

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:18:00	0:03	0.05	115.2044	17.1070	6.5554	6.8841	0.3287	97.8	3,362	1,083
	A102	9:21:00	0:06	0.10	138.9971	17.3043	6.5452	6.9947	0.4495	121.2	3,707	1,081
	A103	9:24:00	0:09	0.15	143.1674	17.2540	6.4737	6.8403	0.3666	125.5	2,920	908
	A104	9:27:00	0:12	0.20	134.7008	16.6741	6.4734	6.8644	0.3910	117.6	3,324	1,023
	A105	9:30:00	0:15	0.25	127.9794	17.3766	6.5756	6.8967	0.3211	110.3	2,912	971
	A106	9:33:00	0:18	0.30	136.2896	17.3191	6.5031	6.8817	0.3786	118.6	3,192	1,068
	A107	9:36:00	0:21	0.35	125.8507	17.0988	6.5189	6.8700	0.3511	108.4	3,239	1,026
	A108	9:39:00	0:24	0.40	137.2548	17.1841	6.4926	6.8680	0.3754	119.7	3,136	1,090
	A109	9:42:00	0:27	0.45	122.1219	17.2961	6.4667	6.7700	0.3033	104.5	2,902	992
	A110	9:45:00	0:30	0.50	138.3418	17.3235	6.3458	6.7155	0.3697	120.6	3,064	1,040
Skimmer	A201	9:18:00	0:03	0.05	114.6362	17.3257	6.5517	6.6270	0.0753	97.2	774	516
	A202	9:21:00	0:06	0.10	127.8895	16.6830	6.5623	6.6303	0.0680	111.1	612	468
	A203	9:24:00	0:09	0.15	128.5537	16.7323	6.5422	6.5987	0.0565	111.8	506	381
	A204	9:27:00	0:12	0.20	122.3872	17.0139	6.4000	6.4475	0.0475	105.3	451	328
	A205	9:30:00	0:15	0.25	124.6031	16.9906	6.5310	6.5781	0.0471	107.6	438	315
	A206	9:33:00	0:18	0.30	113.6739	17.4574	6.5826	6.6202	0.0376	96.2	391	304
	A207	9:36:00	0:21	0.35	105.7449	17.4706	6.4779	6.5189	0.0410	88.2	465	355
	A208	9:39:00	0:24	0.40	141.5159	17.0785	6.5329	6.5975	0.0646	124.4	519	377
	A209	9:42:00	0:27	0.45	122.3059	16.6951	6.4582	6.5110	0.0528	105.6	500	351
	A210	9:45:00	0:30	0.50	123.3783	17.1261	6.5315	6.5792	0.0477	106.2	449	328
	A211	9:48:00	0:33	0.55	124.8382	17.4433	6.5090	6.5514	0.0424	107.4	395	287
	A212	9:51:00	0:36	0.60	124.2774	17.0756	6.4849	6.5222	0.0373	107.2	348	269
	A213	9:54:00	0:39	0.65	115.6467	17.4563	6.4967	6.5300	0.0333	98.2	339	257
	A214	10:09:00	0:54	0.90	117.3909	17.2681	6.4695	6.4966	0.0271	100.1	271	195
	A215	10:24:00	1:09	1.15	101.6086	16.9187	6.5300	6.5506	0.0206	84.7	243	173
	A216	10:39:00	1:24	1.40	116.5021	16.9219	6.4996	6.5233	0.0237	99.6	238	175
	A217	10:54:00	1:39	1.65	118.0106	17.3014	6.4825	6.5053	0.0228	100.7	226	169
	A218	11:09:00	1:54	1.90	119.7482	17.3157	6.3906	6.4133	0.0227	102.4	222	163
	A219	11:24:00	2:09	2.15	121.4719	17.2816	6.5274	6.5512	0.0238	104.2	228	154
	A220	11:39:00	2:24	2.40	124.3293	17.4592	6.4915	6.5136	0.0221	106.8	207	145
	A221	11:54:00	2:39	2.65	97.4787	17.1755	6.5197	6.5377	0.0180	80.3	224	136
	A222	12:09:00	2:54	2.90	118.2113	16.9607	6.4979	6.5185	0.0206	101.2	203	125
	A223	12:24:00	3:09	3.15	123.5318	17.3397	6.5089	6.5305	0.0216	106.2	203	122
	A224	12:39:00	3:24	3.40	105.4606	16.7061	6.4466	6.4655	0.0189	88.7	213	126
	A225	12:54:00	3:39	3.65	125.3012	16.8636	6.5115	6.5314	0.0199	108.4	184	120
	A226	13:09:00	3:54	3.90	114.1362	17.3255	6.5257	6.5439	0.0182	96.8	188	112
	A227	13:24:00	4:09	4.15	129.5469	16.9249	6.4745	6.4956	0.0211	112.6	187	111
	A228	13:39:00	4:24	4.40	128.0302	17.3519	6.4996	6.5195	0.0199	110.7	180	109
	A229	13:54:00	4:39	4.65	114.3335	17.5279	6.4947	6.5114	0.0167	96.8	173	104
	A230	14:09:00	4:54	4.90	109.1348	16.9589	6.5059	6.5223	0.0164	92.2	178	103
	A231	14:24:00	5:09	5.15	119.5693	16.8967	6.5118	6.5301	0.0183	102.7	178	100
	A232	14:39:00	5:24	5.40	105.0926	17.4469	6.4952	6.5117	0.0165	87.6	188	99
	A233	14:54:00	5:39	5.65	102.2017	17.3665	6.5538	6.5695	0.0157	84.8	185	89
	A234	15:09:00	5:54	5.90	77.4949	17.1023	6.5914	6.6030	0.0116	60.4	192	89
	A235	15:24:00	6:09	6.15	87.2153	17.1979	6.5040	6.5167	0.0127	70.0	181	82
Spillway	A301	9:32:10	0:17	0.29	133.7083	16.9092	6.4385	6.4696	0.0311	116.8	266	188
	A302	9:33:00	0:20	0.30	130.8280	17.1449	6.6146	6.6510	0.0364	113.6	320	232
	A303	9:36:00	0:23	0.35	151.8362	16.6813	6.5457	6.5991	0.0534	135.1	395	312
	A304	9:39:00	0:26	0.40	146.3361	16.6732	6.4134	6.4730	0.0596	129.6	460	353
	A305	9:42:00	0:29	0.45	147.4291	16.7472	6.5354	6.5906	0.0552	130.6	423	351
	A306	9:45:00	0:32	0.50	144.7915	17.1508	6.5565	6.6203	0.0638	127.6	500	379
	A307	9:48:00	0:35	0.55	127.2512	16.7059	6.4884	6.5347	0.0463	110.5	419	335
	A308	9:51:00	0:38	0.60	108.6607	17.0019	6.5356	6.5639	0.0283	91.6	309	239
	A309	9:54:00	0:41	0.65	106.8067	16.9421	6.5474	6.5741	0.0267	89.8	297	206

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.50	1,995.80	1,628.30				
Bay 2	Bay 2	374.10	662.80	288.70				
	Baffle 1	1,612.70	1,632.30	19.60				
Bay 3	Bay 3	364.30	479.50	115.20				
	Baffle 2	1,686.00	1,716.40	30.40				
Bay 4	Bay 4	387.50	502.80	115.30				
	Baffle 3	1,712.80	1,775.10	62.30				
Skimmer	Skimmer During	613.20	629.30	16.10	9	35	0.14	3.2
	Skimmer After	2,500.80	2,531.10	30.30	112	423	1.09	51.2
Spillway	Spillway During	2,665.80	2,752.70	86.90	72	273	0.88	32.1
	Spillway After	616.90	633.60	16.70	14	54	0.16	7.2
	Total			**2,409.80**	**207**	**785**	**2**	**93.6**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,628.3	3.59	65.10%
Bay 2	308.3	0.68	12.33%
Bay 3	145.6	0.32	5.82%
Bay 4	177.6	0.39	7.10%
Skimmer	99.5	0.22	3.98%
Spillway	141.8	0.31	5.67%
Actual	2,501.12		
Expected	2,539.9		
Percent Error	**1.53%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:28:00	0:03	0.05	137.6748	16.7693	6.5589	7.0022	0.4433	120.5	3,680	967
	A102	9:31:00	0:06	0.10	143.0530	17.3245	6.5511	6.9150	0.3639	125.4	2,903	1,011
	A103	9:34:00	0:09	0.15	131.4252	16.7586	6.4796	6.8573	0.3777	114.3	3,305	1,226
	A104	9:37:00	0:12	0.20	142.1720	16.8458	6.4781	6.8429	0.3648	125.0	2,919	1,159
	A105	9:40:00	0:15	0.25	132.5906	16.6929	6.5800	6.8815	0.3015	115.6	2,608	1,041
	A106	9:43:00	0:18	0.30	134.6923	16.6885	6.5066	6.9092	0.4026	117.6	3,423	1,082
	A107	9:46:00	0:21	0.35	147.5432	16.6668	6.5208	6.9124	0.3916	130.5	3,001	1,029
	A108	9:49:00	0:24	0.40	103.3973	16.6032	6.4959	6.7316	0.2357	86.6	2,723	1,059
	A109	9:52:00	0:27	0.45	122.5277	16.6767	6.4664	6.7747	0.3083	105.5	2,921	1,005
	A110	9:55:00	0:30	0.50	128.2034	16.7852	6.3493	6.4750	0.1257	111.3	1,129	354
Skimmer	A201	9:28:00	0:03	0.05	128.1175	16.8280	6.5524	6.6431	0.0907	111.2	816	534
	A202	9:31:00	0:06	0.10	119.3714	17.1810	6.5632	6.6335	0.0703	102.1	688	473
	A203	9:34:00	0:09	0.15	134.0018	17.3383	6.5438	6.6115	0.0677	116.6	581	396
	A204	9:37:00	0:12	0.20	121.3809	16.6546	6.4013	6.4560	0.0547	104.7	523	365
	A205	9:40:00	0:15	0.25	129.2486	16.6970	6.5327	6.5841	0.0514	112.5	457	333
	A206	9:43:00	0:18	0.30	121.1302	17.0963	6.5838	6.6283	0.0445	104.0	428	312
	A207	9:46:00	0:21	0.35	118.9560	17.2775	6.4858	6.5428	0.0570	101.6	561	385
	A208	9:49:00	0:24	0.40	126.0739	17.2222	6.5347	6.5897	0.0550	108.8	506	355
	A209	9:52:00	0:27	0.45	118.3862	17.1770	6.4582	6.5131	0.0549	101.2	543	368
	A210	9:55:00	0:30	0.50	124.4695	17.3698	6.5317	6.5911	0.0594	107.0	555	389
	A211	9:58:00	0:33	0.55	122.6222	17.2424	6.5092	6.5618	0.0526	105.3	499	346
	A212	10:01:00	0:36	0.60	121.1304	17.1049	6.4864	6.5267	0.0403	104.0	388	281
	A213	10:04:00	0:39	0.65	126.4137	16.9712	6.4968	6.5360	0.0392	109.4	358	247
	A214	10:19:00	0:54	0.90	119.8219	16.9945	6.4699	6.5017	0.0318	102.8	309	205
	A215	10:34:00	1:09	1.15	122.9338	17.3744	6.5287	6.5584	0.0297	105.5	281	186
	A216	10:49:00	1:24	1.40	122.6735	17.1968	6.5011	6.5256	0.0245	105.5	232	176
	A217	11:04:00	1:39	1.65	118.5787	16.8995	6.4831	6.5077	0.0246	101.7	242	160
	A218	11:19:00	1:54	1.90	125.7644	17.3536	6.3914	6.4224	0.0310	108.4	286	156
	A219	11:34:00	2:09	2.15	122.5745	17.4534	6.5282	6.5553	0.0271	105.1	258	141
	A220	11:49:00	2:24	2.40	121.4519	16.7882	6.4924	6.5156	0.0232	104.6	222	135
	A221	12:04:00	2:39	2.65	98.0349	17.2209	6.5190	6.5356	0.0166	80.8	205	138
	A222	12:19:00	2:54	2.90	116.6554	17.1134	6.4981	6.5172	0.0191	99.5	192	130
	A223	12:34:00	3:09	3.15	105.4267	17.2291	6.5097	6.5270	0.0173	88.2	196	122
	A224	12:49:00	3:24	3.40	116.7846	17.0843	6.4486	6.4676	0.0190	99.7	191	121
	[illegible]	13:04:00	3:39	3.65	124.4787	17.1706	6.5108	6.5317	0.0209	107.3	195	109
	A226	13:19:00	3:54	3.90	124.2223	16.8696	6.5265	6.5467	0.0202	107.3	188	106
	A227	13:34:00	4:09	4.15	101.2586	17.3010	6.4744	6.4927	0.0183	83.9	218	104
	A228	13:49:00	4:24	4.40	131.2963	17.4008	6.5015	6.5233	0.0218	113.9	191	97
	A229	14:04:00	4:39	4.65	125.0497	17.2243	6.4951	6.5156	0.0205	107.8	190	97
	A230	14:19:00	4:54	4.90	132.7305	17.0814	6.5061	6.5268	0.0207	115.6	179	95
	A231	14:34:00	5:09	5.15	123.2917	17.2819	6.5121	6.5308	0.0187	106.0	176	92
	A232	14:49:00	5:24	5.40	133.5731	16.6195	6.4946	6.5146	0.0200	116.9	171	84
	A233	15:04:00	5:39	5.65	132.1469	17.0883	6.5543	6.5739	0.0196	115.0	170	76
	A234	15:19:00	5:54	5.90	128.3405	17.2450	6.5922	6.6109	0.0187	111.1	168	66
	A235	15:34:00	6:09	6.15		17.1931	6.5037	6.5050	0.0013	-17.2	(76)	
Spillway	A301	9:42:14	0:17	0.29	142.4164	17.2790	6.4472	6.4882	0.0410	125.1	328	230
	A302	9:43:00	0:20	0.30	132.1360	17.2332	6.6226	6.6663	0.0437	114.9	380	300
	A303	9:46:00	0:23	0.35	119.6280	17.4486	6.5541	6.6030	0.0489	102.1	479	344
	A304	9:49:00	0:26	0.40	117.5667	17.2758	6.4226	6.4762	0.0536	100.2	535	402
	A305	9:52:00	0:29	0.45	112.1989	17.3657	6.5450	6.5945	0.0495	94.8	522	404
	A306	9:55:00	0:32	0.50	136.2372	16.9361	6.5635	6.6293	0.0658	119.2	552	414
	A307	9:58:00	0:35	0.55	115.3328	17.1474	6.4969	6.5389	0.0420	98.1	428	313
	A308	10:01:00	0:38	0.60	115.5869	16.8593	6.5419	6.5744	0.0325	98.7	329	247
	A309	10:04:00	0:41	0.65		16.9295	6.5525	6.5542	0.0017	-16.9	(100)	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.60	1,763.70	1,396.10				
Bay 2	Bay 2	374.00	673.70	299.70				
	Baffle 1	1,672.40	1,800.50	128.10				
Bay 3	Bay 3	364.20	499.40	135.20				
	Baffle 2	1,767.50	1,837.30	69.80				
Bay 4	Bay 4	387.70	492.50	104.80				
	Baffle 3	1,774.50	1,822.80	48.30				
Skimmer	Skimmer During	617.50	635.30	17.80	11	42	0.17	4.9
	Skimmer After	2,496.80	2,537.80	41.00	115	435	0.90	53.6
Spillway	Spillway During	2,667.10	2,776.70	109.60	77	291	0.84	39.8
	Spillway After	618.60	635.00	16.40	11	42	0.19	5.9
	Total			**2,366.80**	**214**	**811**	**2**	**104.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,396.1	3.08	56.55%
Bay 2	427.8	0.94	17.33%
Bay 3	205.0	0.45	8.30%
Bay 4	153.1	0.34	6.20%
Skimmer	116.3	0.26	4.71%
Spillway	170.6	0.38	6.91%
Actual	2,468.86		
Expected	2,337.3		
Percent Error	**5.63%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:48:00	0:03	0.05	143.0769	17.4990	6.5727	6.9545	0.3818	125.2	3,050	949
	A102	10:51:00	0:06	0.10	146.9074	17.3722	6.5564	6.8923	0.3359	129.2	2,600	1,057
	A103	10:54:00	0:09	0.15	135.8991	17.4988	6.4951	6.8704	0.3753	118.0	3,180	1,130
	A104	10:57:00	0:12	0.20	137.1492	17.3551	6.4882	6.9106	0.4224	119.4	3,539	1,205
	A105	11:00:00	0:15	0.25	140.5202	17.4095	6.5927	7.0021	0.4094	122.7	3,337	1,150
	A106	11:03:00	0:18	0.30	129.8409	17.2778	6.5190	6.8618	0.3428	112.2	3,055	935
	A107	11:06:00	0:21	0.35	133.8739	17.2891	6.5353	6.8624	0.3271	116.3	2,814	1,086
	A108	11:09:00	0:24	0.40	138.3173	17.2362	6.5068	6.9079	0.4011	120.7	3,324	1,052
	A109	11:12:00	0:27	0.45	123.7014	16.7798	6.4900	6.8302	0.3402	106.6	3,192	1,092
	A110	11:15:00	0:30	0.50	133.0330	16.8820	6.3645	6.7637	0.3992	115.8	3,449	1,146
Skimmer	A201	10:48:00	0:03	0.05	127.7290	16.8350	6.5584	6.6572	0.0988	110.8	892	612
	A202	10:51:00	0:06	0.10	120.3801	16.9003	6.5683	6.6363	0.0680	103.4	658	456
	A203	10:54:00	0:09	0.15	121.8782	17.3098	6.5470	6.6047	0.0577	104.5	552	414
	A204	10:57:00	0:12	0.20	132.2944	16.7569	6.4079	6.4577	0.0498	115.5	431	329
	A205	11:00:00	0:15	0.25	118.6973	17.3848	6.5347	6.5777	0.0430	101.3	425	332
	A206	11:03:00	0:18	0.30	121.9153	16.9114	6.5884	6.6306	0.0422	105.0	402	308
	A207	11:06:00	0:21	0.35	123.3050	16.7351	6.4802	6.5356	0.0554	106.5	520	360
	A208	11:09:00	0:24	0.40	123.8843	16.9397	6.5369	6.5914	0.0545	106.9	510	370
	A209	11:12:00	0:27	0.45	128.0932	17.3874	6.4629	6.5199	0.0570	110.6	515	420
	A210	11:15:00	0:30	0.50	125.7704	17.0985	6.5358	6.5944	0.0586	108.6	540	376
	A211	11:18:00	0:33	0.55	108.6713	16.9487	6.5140	6.5523	0.0383	91.7	418	327
	A212	11:21:00	0:36	0.60	111.8570	17.0947	6.4894	6.5249	0.0355	94.7	375	292
	A213	11:24:00	0:39	0.65	107.1330	17.2618	6.5017	6.5340	0.0323	89.8	360	281
	A214	11:39:00	0:54	0.90	114.2430	17.2903	6.4741	6.5047	0.0306	96.9	316	232
	A215	11:54:00	1:09	1.15	112.6124	17.2250	6.5361	6.5607	0.0246	95.4	258	193
	A216	12:09:00	1:24	1.40	112.3827	17.2915	6.5051	6.5281	0.0230	95.1	242	191
	A217	12:24:00	1:39	1.65	109.5203	16.7453	6.4881	6.5108	0.0227	92.8	245	169
	A218	12:39:00	1:54	1.90	117.2578	16.6399	6.3961	6.4190	0.0229	100.6	228	154
	A219	12:54:00	2:09	2.15	119.9043	17.1210	6.5313	6.5541	0.0228	102.8	222	152
	A220	13:09:00	2:24	2.40	114.8338	16.8405	6.4950	6.5152	0.0202	98.0	206	146
	A221	13:24:00	2:39	2.65	117.6480	16.8737	6.5238	6.5433	0.0195	100.8	194	136
	A222	13:39:00	2:54	2.90	118.3763	17.3015	6.5023	6.5214	0.0191	101.1	189	137
	A223	13:54:00	3:09	3.15	127.7037	16.7806	6.5133	6.5318	0.0185	110.9	167	127
	A224	14:09:00	3:24	3.40	132.4686	17.2304	6.4517	6.4714	0.0197	115.2	171	123
	A225	14:24:00	3:39	3.65	117.8039	17.0266	6.5162	6.5345	0.0183	100.8	182	124
	A226	14:39:00	3:54	3.90	145.0145	17.4409	6.5301	6.5532	0.0231	127.6	181	111
	A227	14:54:00	4:09	4.15	125.0627	17.3025	6.4792	6.4969	0.0177	107.7	164	108
	A228	15:09:00	4:24	4.40	135.4680	17.2847	6.5062	6.5259	0.0197	118.2	167	107
	A229	15:24:00	4:39	4.65	111.5522	16.8583	6.5009	6.5164	0.0155	94.7	164	102
	A230	15:39:00	4:54	4.90	145.8701	17.3194	6.5112	6.5320	0.0208	128.5	162	101
	A231	15:54:00	5:09	5.15	124.6077	17.2822	6.5146	6.5302	0.0156	107.3	145	88
	A232	16:09:00	5:24	5.40	127.2670	17.0787	6.5004	6.5175	0.0171	110.2	155	80
	A233	16:24:00	5:39	5.65	85.2625	17.2821	6.5595	6.5677	0.0082	68.0	121	71
	A234	16:39:00	5:54	5.90		17.2879	6.5978	6.5942	-0.0036	-17.3	208	
	A235	16:54:00	6:09	6.15		17.1491	6.5057	6.5045	-0.0012	-17.1	70	
Spillway	A301	11:02:40	0:17	0.29	128.0306	17.3231	6.4463	6.4802	0.0339	110.7	306	240
	A302	11:03:00	0:20	0.30	151.6318	17.2993	6.6222	6.6779	0.0557	134.3	415	326
	A303	11:06:00	0:23	0.35	126.4460	16.9460	6.5560	6.6056	0.0496	109.5	453	353
	A304	11:09:00	0:26	0.40	135.3681	17.2175	6.4253	6.4852	0.0599	118.1	507	385
	A305	11:12:00	0:29	0.45	141.0016	16.9884	6.5450	6.6080	0.0630	124.0	508	382
	A306	11:15:00	0:32	0.50	136.2971	17.5070	6.5638	6.6227	0.0589	118.7	496	386
	A307	11:18:00	0:35	0.55	97.3884	17.3535	6.4972	6.5262	0.0290	80.0	362	298
	A308	11:21:00	0:38	0.60	122.8008	17.1181	6.5454	6.5759	0.0305	105.7	289	237
	A309	11:24:00	0:41	0.65		17.0633	6.5501	6.5494	-0.0007	-17.1	41	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.40	1,843.80	1,476.40				
Bay 2	Bay 2	374.00	673.70	299.70				
	Baffle 1	1,672.40	1,807.80	135.40				
Bay 3	Bay 3	364.10	484.10	120.00				
	Baffle 2	1,767.50	1,849.60	82.10				
Bay 4	Bay 4	387.40	510.00	122.60				
	Baffle 3	1,774.50	1,824.40	49.90				
Skimmer	Skimmer During	616.70	637.30	20.60	12	44	0.10	6.2
	Skimmer After	2,499.70	2,529.30	29.60	114	432	0.90	60.7
Spillway	Spillway During	2,664.40	2,761.20	96.80	73	276	0.90	43.7
	Spillway After	618.90	633.30	14.40	11	40	0.10	4.6
	Total			**2,447.50**	**209**	**792**	**2**	**115.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,476.4	3.25	57.66%
Bay 2	435.1	0.96	16.99%
Bay 3	202.1	0.45	7.89%
Bay 4	172.5	0.38	6.74%
Skimmer	116.1	0.26	4.53%
Spillway	158.5	0.35	6.19%
Actual	2,560.72		
Expected	2,440.1		
Percent Error	**4.94%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	11:57:00	0:03	0.05	141.8989	17.0682	6.5799	7.0327	0.4528	124.4	3,641	951
	A102	12:00:00	0:06	0.10	126.3908	17.2797	6.5707	6.8867	0.3160	108.8	2,905	1,043
	A103	12:03:00	0:09	0.15	125.9275	17.2305	6.5005	6.8416	0.3411	108.4	3,148	1,166
	A104	12:06:00	0:12	0.20	142.3474	16.6531	6.5022	6.9087	0.4065	125.3	3,245	1,120
	A105	12:09:00	0:15	0.25	139.7645	17.3322	6.6001	7.0140	0.4139	122.0	3,392	973
	A106	12:12:00	0:18	0.30	119.9504	17.2969	6.5197	6.8269	0.3072	102.3	3,002	1,021
	A107	12:15:00	0:21	0.35	121.9051	17.0647	6.5375	6.9219	0.3844	104.5	3,680	1,203
	A108	12:18:00	0:24	0.40	141.6001	17.1413	6.5170	6.9033	0.3863	124.1	3,114	1,104
	A109	12:21:00	0:27	0.45	131.9983	17.2714	6.4860	6.8797	0.3937	114.3	3,443	1,229
	A110	12:24:00	0:30	0.50	106.3022	17.2975	6.3695	6.6510	0.2815	88.7	3,173	1,123
Skimmer	A201	11:57:00	0:03	0.05	140.2195	17.2887	6.5586	6.6439	0.0853	122.8	694	484
	A202	12:00:00	0:06	0.10	114.6129	16.6544	6.5706	6.6318	0.0612	97.9	625	441
	A203	12:03:00	0:09	0.15	117.6657	16.6969	6.5527	6.5995	0.0468	100.9	464	333
	A204	12:06:00	0:12	0.20	148.2192	16.9911	6.4094	6.4699	0.0605	131.2	461	355
	A205	12:09:00	0:15	0.25	148.3880	16.9704	6.5409	6.5985	0.0576	131.4	438	334
	A206	12:12:00	0:18	0.30	145.3971	16.6337	6.5888	6.6364	0.0476	128.7	370	302
	A207	12:15:00	0:21	0.35	152.1834	17.4252	6.4831	6.5400	0.0569	134.7	422	301
	A208	12:18:00	0:24	0.40	134.9755	17.0484	6.5408	6.5981	0.0573	117.9	486	339
	A209	12:21:00	0:27	0.45	137.3240	16.6741	6.4688	6.5308	0.0620	120.6	514	358
	A210	12:24:00	0:30	0.50	136.5638	17.0966	6.5471	6.6133	0.0662	119.4	554	379
	A211	12:27:00	0:33	0.55	131.6806	17.4207	6.5155	6.5657	0.0502	114.2	440	338
	A212	12:30:00	0:36	0.60	139.0526	17.0590	6.4940	6.5399	0.0459	121.9	376	276
	A213	12:33:00	0:39	0.65	140.4235	17.4343	6.5035	6.5501	0.0466	122.9	379	283
	A214	12:48:00	0:54	0.90	133.2064	17.2418	6.4752	6.5085	0.0333	115.9	287	246
	A215	13:03:00	1:09	1.15	131.2079	16.9001	6.5372	6.5639	0.0267	114.3	234	206
	A216	13:18:00	1:24	1.40	109.0503	16.9076	6.5073	6.5267	0.0194	92.1	211	190
	A217	13:33:00	1:39	1.65	131.3676	17.2651	6.4899	6.5150	0.0251	114.1	220	177
	A218	13:48:00	1:54	1.90	131.8792	17.2974	6.3995	6.4248	0.0253	114.6	221	172
	A219	14:03:00	2:09	2.15	132.3079	17.2295	6.5330	6.5571	0.0241	115.1	209	161
	A220	14:18:00	2:24	2.40	138.4604	17.4454	6.4977	6.5203	0.0226	121.0	187	160
	A221	14:33:00	2:39	2.65	122.6381	17.1648	6.5242	6.5449	0.0207	105.5	196	153
	A222	14:48:00	2:54	2.90	104.1377	16.9440	6.5050	6.5211	0.0161	87.2	185	145
	A223	15:03:00	3:09	3.15	107.2462	17.3260	6.5178	6.5349	0.0171	89.9	190	142
	A224	15:18:00	3:24	3.40	133.1492	16.6888	6.4565	6.4772	0.0207	116.4	178	139
	A225	15:33:00	3:39	3.65	126.9414	16.8524	6.5186	6.5371	0.0185	110.1	168	129
	A226	15:48:00	3:54	3.90	127.4336	17.2932	6.5343	6.5545	0.0202	110.1	183	126
	A227	16:03:00	4:09	4.15	137.6314	16.8969	6.4820	6.5014	0.0194	120.7	161	124
	A228	16:18:00	4:24	4.40	130.2032	17.3328	6.5108	6.5292	0.0184	112.9	163	125
	A229	16:33:00	4:39	4.65	129.9066	17.5045	6.5049	6.5227	0.0178	112.4	158	126
	A230	16:48:00	4:54	4.90	123.4163	16.919	6.5142	6.5312	0.0170	106.5	160	115
	A231	17:03:00	5:09	5.15	94.9955	16.8700	6.5187	6.5308	0.0121	78.1	155	123
	A232	17:18:00	5:24	5.40	114.0126	17.4056	6.5016	6.5166	0.0150	96.6	155	101
	A233	17:33:00	5:39	5.65	121.4082	17.2412	6.5599	6.5764	0.0165	104.2	158	101
	A234	17:48:00	5:54	5.90	120.6768	17.0832	6.5928	6.6095	0.0167	103.6	161	92
	A235	18:03:00	6:09	6.15	123.1522	17.1858	6.5036	6.5193	0.0157	106.0	148	79
Spillway	A301	12:11:40	0:17	0.29	82.0548	16.8848	6.4493	6.4661	0.0168	65.2	258	213
	A302	12:12:00	0:20	0.30	122.4401	17.1141	6.6273	6.6591	0.0318	105.3	302	254
	A303	12:15:00	0:23	0.35	130.4859	16.6545	6.5602	6.6046	0.0444	113.8	390	313
	A304	12:18:00	0:26	0.40	133.6149	16.6478	6.4278	6.4798	0.0520	116.9	445	345
	A305	12:21:00	0:29	0.45	113.7833	16.7146	6.5483	6.5937	0.0454	97.0	468	353
	A306	12:24:00	0:32	0.50	139.4013	17.1067	6.5667	6.6274	0.0607	122.2	497	380
	A307	12:27:00	0:35	0.55	118.7323	16.6520	6.4981	6.5402	0.0421	102.0	413	314
	A308	12:30:00	0:38	0.60	102.6711	16.9810	6.5484	6.5724	0.0240	85.7	280	245
	A309	12:33:00	0:41	0.65	114.1239	16.9105	6.5510	6.5790	0.0280	97.2	288	255

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.30	1,939.40	1,572.10				
Bay 2	Bay 2	374.00	692.80	318.80				
	Baffle 1	1,687.40	1,814.30	126.90				
Bay 3	Bay 3	364.30	489.90	125.60				
	Baffle 2	1,792.90	1,820.90	28.00				
Bay 4	Bay 4	387.50	504.60	117.10				
	Baffle 3	1,793.90	1,856.10	62.20				
Skimmer	Skimmer During	616.40	630.10	13.70	8	32	0.10	4.5
	Skimmer After	2,498.80	2,533.60	34.80	116	437	1.02	59.6
Spillway	Spillway During	2,662.00	2,756.80	94.80	73	276	0.80	131.6
	Spillway After	618.80	635.50	16.70	13	49	0.10	6.0
	Total			**2,510.70**	**210**	**795**	**2**	**201.7**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,572.1	3.47	58.00%
Bay 2	445.7	0.98	16.44%
Bay 3	153.6	0.34	5.67%
Bay 4	179.3	0.40	6.62%
Skimmer	111.5	0.25	4.11%
Spillway	248.2	0.55	9.16%
Actual	2,710.34	174.84	
Expected	2,535.5		
Percent Error	**6.90%**		

Test Series D

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:48:00	0:03	0.05	141.4935	17.0832	6.5683	6.9786	0.4103	124.0	3,309	1,167
	A102	9:51:00	0:06	0.10	131.4508	17.2612	6.5548	6.9741	0.4193	113.8	3,685	1,220
	A103	9:54:00	0:09	0.15	152.7273	16.7914	6.4850	6.9397	0.4547	135.5	3,356	1,231
	A104	9:57:00	0:12	0.20	127.2006	17.2574	6.4792	6.8378	0.3586	109.6	3,272	1,143
	A105	10:00:00	0:15	0.25	130.0267	17.3687	6.5886	6.9466	0.3580	112.3	3,188	1,212
	A106	10:03:00	0:18	0.30	126.7830	17.3784	6.5108	6.8585	0.3477	109.1	3,188	1,028
	A107	10:06:00	0:21	0.35	105.9801	17.1101	6.5273	6.8048	0.2775	88.6	3,132	1,068
	A108	10:09:00	0:24	0.40	120.5303	17.1074	6.5082	6.8149	0.3067	103.1	2,974	1,148
	A109	10:12:00	0:27	0.45	123.7507	17.0922	6.4770	6.8456	0.3686	106.3	3,468	1,031
	A110	10:15:00	0:30	0.50	117.7792	17.3071	6.3586	6.7008	0.3422	100.1	3,418	1,108
Skimmer	A201	9:48:00	0:03	0.05	135.0922	17.1020	6.5553	6.6822	0.1269	117.9	1,077	723
	A202	9:51:00	0:06	0.10	129.8218	16.6309	6.5686	6.6675	0.0989	113.1	875	626
	A203	9:54:00	0:09	0.15	136.1999	16.9113	6.5484	6.6312	0.0828	119.2	695	529
	A204	9:57:00	0:12	0.20	134.5493	17.2998	6.4078	6.4757	0.0679	117.2	579	429
	A205	10:00:00	0:15	0.25	128.3726	17.0531	6.5379	6.5957	0.0578	111.3	519	413
	A206	10:03:00	0:18	0.30	128.0916	16.6650	6.5883	6.6449	0.0566	111.4	508	392
	A207	10:06:00	0:21	0.35	134.2170	17.2280	6.4807	6.5340	0.0533	116.9	456	341
	A208	10:09:00	0:24	0.40	140.9874	17.0734	6.5361	6.5938	0.0577	123.9	466	372
	A209	10:12:00	0:27	0.45	132.5541	16.7701	6.4636	6.5212	0.0576	115.7	498	394
	A210	10:15:00	0:30	0.50	134.5543	17.3724	6.5389	6.6003	0.0614	117.1	524	392
	A211	10:18:00	0:33	0.55	140.0416	17.2310	6.5127	6.5639	0.0512	122.8	417	335
	A212	10:21:00	0:36	0.60	147.9629	17.2369	6.4900	6.5537	0.0637	130.7	488	373
	A213	10:24:00	0:39	0.65	133.9970	17.2510	6.4986	6.5500	0.0514	116.7	440	327
	A214	10:39:00	0:54	0.90	109.6915	16.9889	6.4735	6.5058	0.0323	92.7	349	262
	A215	10:54:00	1:09	1.15	133.1268	16.9854	6.5333	6.5706	0.0373	116.1	321	233
	A216	11:09:00	1:24	1.40	128.8121	16.8612	6.5036	6.5370	0.0334	111.9	298	234
	A217	11:24:00	1:39	1.65	134.1074	17.3139	6.4865	6.5196	0.0331	116.8	283	201
	A218	11:39:00	1:54	1.90	128.4972	17.4691	6.3963	6.4273	0.0310	111.0	279	194
	A219	11:54:00	2:09	2.15	125.6138	17.4461	6.5309	6.5693	0.0384	108.1	355	182
	A220	12:09:00	2:24	2.40	131.6560	17.5314	6.4946	6.5223	0.0277	114.1	243	172
	A221	12:24:00	2:39	2.65	132.5673	17.1492	6.5242	6.5547	0.0305	115.4	264	157
	A222	12:39:00	2:54	2.90	116.5117	16.8957	6.5027	6.5279	0.0252	99.6	253	158
	A223	12:54:00	3:09	3.15	110.8796	17.1596	6.5134	6.5364	0.0230	93.7	245	146
	A224	13:09:00	3:24	3.40	138.3642	17.0047	6.4542	6.4838	0.0296	121.3	244	143
	A225	13:24:00	3:39	3.65	103.0982	16.7063	6.5175	6.5378	0.0203	86.4	235	135
	A226	13:39:00	3:54	3.90	132.0378	17.2465	6.5328	6.5596	0.0268	114.8	234	138
	A227	13:54:00	4:09	4.15	132.0789	16.9390	6.4773	6.5033	0.0260	115.1	226	127
	A228	14:09:00	4:24	4.40	132.7217	17.2995	6.5053	6.5310	0.0257	115.4	223	126
	A229	14:24:00	4:39	4.65	146.2584	17.4798	6.5008	6.5282	0.0274	128.8	213	118
	A230	14:39:00	4:54	4.90	122.7550	16.8607	6.5107	6.5334	0.0227	105.9	214	116
	A231	14:54:00	5:09	5.15	121.7362	16.9185	6.5157	6.5375	0.0218	104.8	208	105
	A232	15:09:00	5:24	5.40	128.9263	17.2769	6.5003	6.5226	0.0223	111.6	200	99
	A233	15:24:00	5:39	5.65	116.9358	17.3639	6.5566	6.5768	0.0202	99.6	203	98
	A234	15:39:00	5:54	5.90	102.6495	17.1545	6.5924	6.6110	0.0186	85.5	218	96
	A235	15:54:00	6:09	6.15	96.5851	17.4912	6.5033	6.5208	0.0175	79.1	221	86
Spillway	A301	10:02:40	0:17	0.29	98.3946	16.7267	6.4432	6.4869	0.0437	81.6	535	408
	A302	10:03:00	0:20	0.30	126.6883	17.0573	6.6233	6.6926	0.0693	109.6	633	433
	A303	10:06:00	0:23	0.35	147.3046	16.8735	6.5555	6.6434	0.0879	130.3	674	456
	A304	10:09:00	0:26	0.40	139.6892	16.6674	6.4216	6.5004	0.0788	122.9	641	472
	A305	10:12:00	0:29	0.45	105.4929	16.6944	6.5418	6.6061	0.0643	88.7	725	494
	A306	10:15:00	0:32	0.50	109.3151	17.0873	6.5632	6.6250	0.0618	92.2	671	473
	A307	10:18:00	0:35	0.55	134.4024	16.8192	6.4969	6.5534	0.0565	117.5	481	354
	A308	10:21:00	0:38	0.60	117.8153	17.1609	6.5443	6.5860	0.0417	100.6	414	317
	A309	10:24:00	0:41	0.65					0.0000	0.0	#DIV/0!	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.50	1,888.80	1,521.30				
Bay 2	Bay 2	374.10	683.20	309.10				
	Baffle 1	1,666.30	1,751.20	84.90				
Bay 3	Bay 3	364.30	561.30	197.00				
	Baffle 2			-				
Bay 4	Bay 4	387.50	698.50	311.00				
	Baffle 3			-				
Skimmer	Skimmer During	616.60	638.00	21.40	13	48	0.20	4.9
	Skimmer After	2,500.90	2,537.10	36.20	118	446	1.00	64.8
Spillway	Spillway During	2,663.90	2,801.80	137.90	73	276	1.00	30.3
	Spillway After	618.90	635.30	16.40	13	50	0.20	7.9
	Total			**2,635.20**	**217**	**821**	**2**	**107.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,521.3	3.35	55.51%
Bay 2	394.0	0.87	14.38%
Bay 3	197.0	0.43	7.19%
Bay 4	311.0	0.69	11.35%
Skimmer	126.1	0.28	4.60%
Spillway	191.3	0.42	6.98%
Actual	2,740.75		
Expected	2,692.7		
Percent Error	**1.78%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:13:00	0:03	0.05	123.1361	16.8447	6.5715	6.8224	0.2509	106.0	2,366	902
	A102	10:16:00	0:06	0.10	144.2982	17.2060	6.5778	6.9070	0.3292	126.8	2,597	1,003
	A103	10:19:00	0:09	0.15	115.6912	16.6604	6.5017	6.7319	0.2302	98.8	2,330	901
	A104	10:22:00	0:12	0.20	134.7741	16.7098	6.4877	6.7815	0.2938	117.8	2,495	1,053
	A105	10:25:00	0:15	0.25	137.2584	16.6857	6.5982	6.8994	0.3012	120.3	2,504	1,000
	A106	10:28:00	0:18	0.30	141.4340	16.5409	6.5176	6.8880	0.3704	124.5	2,975	950
	A107	10:31:00	0:21	0.35	125.8159	16.7355	6.5436	6.8566	0.3130	108.8	2,878	1,102
	A108	10:34:00	0:24	0.40	139.9338	16.7502	6.5030	6.8054	0.3024	122.9	2,461	1,023
	A109	10:37:00	0:27	0.45	129.2691	16.7648	6.4719	6.7940	0.3221	112.2	2,871	1,121
	A110	10:40:00	0:30	0.50	126.0894	16.7960	6.3622	6.7265	0.3643	108.9	3,344	1,041
Skimmer	A201	10:13:00	0:03	0.05	100.7290	16.7172	6.5603	6.6195	0.0592	84.0	705	521
	A202	10:16:00	0:06	0.10	115.9281	17.3683	6.5721	6.6367	0.0646	98.5	656	452
	A203	10:19:00	0:09	0.15	122.1633	17.2988	6.5536	6.6102	0.0566	104.8	540	407
	A204	10:22:00	0:12	0.20	127.3038	16.6350	6.4145	6.4699	0.0554	110.6	501	400
	A205	10:25:00	0:15	0.25	108.7979	16.6893	6.5444	6.5864	0.0420	92.1	456	371
	A206	10:28:00	0:18	0.30	113.4891	17.1595	6.5943	6.6354	0.0411	96.3	427	339
	A207	10:31:00	0:21	0.35	127.3026	17.3584	6.4884	6.5408	0.0524	109.9	477	383
	A208	10:34:00	0:24	0.40	131.5565	17.0410	6.5455	6.5940	0.0485	114.5	424	346
	A209	10:37:00	0:27	0.45	126.3995	17.1996	6.4714	6.5146	0.0432	109.2	396	349
	A210	10:40:00	0:30	0.50	131.9200	17.2526	6.5445	6.5980	0.0535	114.6	467	381
	A211	10:43:00	0:33	0.55	107.6522	17.0871	6.5218	6.5604	0.0386	90.5	426	355
	A212	10:46:00	0:36	0.60	117.4748	17.1383	6.4983	6.5389	0.0406	100.3	405	327
	A213	10:49:00	0:39	0.65	126.7628	17.1146	6.5068	6.5501	0.0433	109.6	395	348
	A214	11:04:00	0:54	0.90	114.6265	16.9938	6.4791	6.5091	0.0300	97.6	307	258
	A215	11:19:00	1:09	1.15	115.7615	17.3720	6.5422	6.5678	0.0256	98.4	260	237
	A216	11:34:00	1:24	1.40	115.8943	17.1957	6.5114	6.5356	0.0242	98.7	245	213
	A217	11:49:00	1:39	1.65	115.1490	16.8967	6.4980	6.5195	0.0215	98.2	219	196
	A218	12:04:00	1:54	1.90	126.2817	17.2104	6.4041	6.4279	0.0238	109.0	218	177
	A219	12:19:00	2:09	2.15	117.0792	17.4513	6.5382	6.5597	0.0215	99.6	216	172
	A220	12:34:00	2:24	2.40	139.1488	16.7859	6.5053	6.5279	0.0226	122.3	185	163
	A221	12:49:00	2:39	2.65	130.7899	17.2183	6.5270	6.5455	0.0185	113.6	163	157
	A222	13:04:00	2:54	2.90	135.4782	17.1114	6.5091	6.5288	0.0197	118.3	166	151
	A223	13:19:00	3:09	3.15	144.3252	17.2275	6.5165	6.5379	0.0214	127.1	168	147
	A224	13:34:00	3:24	3.40	127.5539	17.0832	6.4638	6.4803	0.0165	110.5	149	135
	A225	13:49:00	3:39	3.65	125.9076	17.1709	6.5233	6.5424	0.0191	108.7	176	144
	A226	14:04:00	3:54	3.90	109.7254	16.8669	6.5423	6.5566	0.0143	92.8	154	134
	A227	14:19:00	4:09	4.15	136.8838	17.2998	6.4866	6.5033	0.0167	119.6	140	120
	A228	14:34:00	4:24	4.40	135.0878	17.3995	6.5150	6.5319	0.0169	117.7	144	122
	A229	14:49:00	4:39	4.65	136.6028	17.2115	6.5109	6.5290	0.0181	119.4	152	117
	A230	15:04:00	4:54	4.90	131.4142	17.0796	6.5176	6.5350	0.0174	114.3	152	110
	A231	15:19:00	5:09	5.15	135.6742	17.2806	6.5206	6.5327	0.0121	118.4	102	96
	A232	15:34:00	5:24	5.40	134.5410	16.6175	6.5045	6.5175	0.0130	117.9	110	100
	A233	15:49:00	5:39	5.65	132.3263	17.2281	6.5632	6.5732	0.0100	115.1	87	91
	A234	16:04:00	5:54	5.90	75.0408	17.2360	6.5978	6.6104	0.0126	57.8	218	89
	A235	16:19:00	6:09	6.15		17.1872	6.5060	6.5074	0.0014	-17.2	(81)	
Spillway	A301	10:26:25	0:16	0.27	99.6172	17.0687	6.4493	6.4759	0.0266	82.5	322	276
	A302	10:28:00	0:19	0.30	133.1142	17.4941	6.6301	6.6877	0.0576	115.6	498	340
	A303	10:31:00	0:22	0.35	138.6898	17.3293	6.5633	6.6296	0.0663	121.3	547	431
	A304	10:34:00	0:25	0.40	141.3705	17.5168	6.4274	6.4973	0.0699	123.8	565	416
	A305	10:37:00	0:28	0.45	123.9628	17.3475	6.5458	6.6043	0.0585	106.6	549	410
	A306	10:40:00	0:31	0.50	136.8559	16.8810	6.5668	6.6349	0.0681	119.9	568	399
	A307	10:43:00	0:34	0.55	132.1669	17.3085	6.5007	6.5435	0.0428	114.8	373	322
	A308	10:46:00	0:37	0.60	128.5206	16.6491	6.5513	6.5867	0.0354	111.8	317	255
	A309	10:49:00	0:40	0.65	78.3377	16.8516	6.5492	6.5672	0.0180	61.5	293	240

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.20	1,736.90	1,369.70				
Bay 2	Bay 2	373.80	688.30	314.50				
	Baffle 1	1,657.00	1,742.20	85.20				
Bay 3	Bay 3	364.00	563.10	199.10				
	Baffle 2			-				
Bay 4	Bay 4	387.10	663.90	276.80				
	Baffle 3			-				
Skimmer	Skimmer During	616.40	639.10	22.70	12.58	48	0.1099	5.5
	Skimmer After	2,500.20	2,540.50	40.30	116.80	442	1.0640	65.9
Spillway	Spillway During	2,663.00	2,809.00	146.00	87.00	329	0.8143	62.1
	Spillway After	619.00	635.20	16.20	11.62	44	0.1345	5.6
	Total			**2,470.50**	**228**	**863**	**2.1227**	**139.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,369.7	3.02	52.53%
Bay 2	399.7	0.88	15.33%
Bay 3	199.1	0.44	7.64%
Bay 4	276.8	0.61	10.62%
Skimmer	133.2	0.29	5.11%
Spillway	229.0	0.50	8.78%
Actual	2,607.54		
Expected	2,504.1		
Percent Error	**4.13%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:33:00	0:03	0.05	151.5959	17.4379	6.5847	6.9399	0.3552	133.8	2,655	844
	A102	10:36:00	0:06	0.10	154.1199	17.1773	6.5758	6.9637	0.3879	136.6	2,841	911
	A103	10:39:00	0:09	0.15	139.4841	17.4124	6.5123	6.8245	0.3122	121.8	2,564	1,011
	A104	10:42:00	0:12	0.20	141.2190	17.2666	6.4999	6.7567	0.2568	123.7	2,076	905
	A105	10:45:00	0:15	0.25	155.1692	17.3854	6.6137	6.9075	0.2938	137.5	2,137	985
	A106	10:48:00	0:18	0.30	145.9007	17.1479	6.5221	6.8438	0.3217	128.4	2,505	988
	A107	10:51:00	0:21	0.35	140.6625	17.4515	6.5385	6.8279	0.2894	122.9	2,354	985
	A108	10:54:00	0:24	0.40	141.0024	17.3391	6.5160	6.8767	0.3607	123.3	2,925	1,034
	A109	10:57:00	0:27	0.45	137.9507	16.7252	6.4853	6.7535	0.2682	121.0	2,217	925
	A110	11:00:00	0:30	0.50	147.8276	16.8011	6.3780	6.7697	0.3917	130.6	2,998	1,007
Skimmer	A201	10:33:00	0:03	0.05	113.6033	16.8151	6.5571	6.6363	0.0792	96.7	819	581
	A202	10:36:00	0:06	0.10	123.1607	16.7245	6.5676	6.6465	0.0789	106.4	742	523
	A203	10:39:00	0:09	0.15	110.1093	17.3337	6.5506	6.6131	0.0625	92.7	674	507
	A204	10:42:00	0:12	0.20	119.4037	16.9236	6.4116	6.4740	0.0624	102.4	609	592
	A205	10:45:00	0:15	0.25	119.5303	17.2194	6.5385	6.5854	0.0469	102.3	459	362
	A206	10:48:00	0:18	0.30	112.1281	16.9040	6.5934	6.6355	0.0421	95.2	442	377
	A207	10:51:00	0:21	0.35	124.2109	16.8869	6.4849	6.5367	0.0518	107.3	483	397
	A208	10:54:00	0:24	0.40	117.3969	16.9564	6.5431	6.5935	0.0504	100.4	502	409
	A209	10:57:00	0:27	0.45	114.2279	17.3393	6.4689	6.5179	0.0490	96.8	506	417
	A210	11:00:00	0:30	0.50	108.9262	17.0847	6.5437	6.5916	0.0479	91.8	522	414
	A211	11:03:00	0:33	0.55	118.7183	17.0308	6.5194	6.5666	0.0472	101.6	464	377
	A212	11:06:00	0:36	0.60	129.7787	17.1701	6.5009	6.5481	0.0472	112.6	419	347
	A213	11:09:00	0:39	0.65	106.3740	17.2981	6.5060	6.5390	0.0330	89.0	371	304
	A214	11:24:00	0:54	0.90	108.3786	17.0411	6.4829	6.5122	0.0293	91.3	321	281
	A215	11:39:00	1:09	1.15	106.6015	17.4169	6.5407	6.5633	0.0226	89.2	253	206
	A216	11:54:00	1:24	1.40	125.3051	17.2347	6.5193	6.5396	0.0203	108.1	188	195
	A217	12:09:00	1:39	1.65	117.7463	16.8989	6.4968	6.5195	0.0227	100.8	225	185
	A218	12:24:00	1:54	1.90	120.4329	16.8689	6.4076	6.4322	0.0246	103.5	238	195
	A219	12:39:00	2:09	2.15	106.4709	17.1170	6.5406	6.5619	0.0213	89.3	238	195
	A220	12:54:00	2:24	2.40	122.1711	17.0618	6.5007	6.5259	0.0252	105.1	240	184
	A221	13:09:00	2:39	2.65	110.3274	16.8619	6.5292	6.5496	0.0204	93.4	218	182
	A222	13:24:00	2:54	2.90	109.9267	17.0678	6.5070	6.5283	0.0213	92.8	229	180
	A223	13:39:00	3:09	3.15	115.3732	16.8698	6.5198	6.5414	0.0216	98.5	219	166
	A224	13:54:00	3:24	3.40	117.4935	17.1501	6.4630	6.4801	0.0171	100.3	170	165
	A225	14:09:00	3:39	3.65	112.6645	16.7529	6.5271	6.5460	0.0189	95.9	197	158
	A226	14:24:00	3:54	3.90	114.8798	17.2657	6.5453	6.5646	0.0193	97.6	198	147
	A227	14:39:00	4:09	4.15	131.8803	17.0316	6.4889	6.5112	0.0223	114.8	194	142
	A228	14:54:00	4:24	4.40	131.9852	17.3758	6.5176	6.5388	0.0212	114.6	185	138
	A229	15:09:00	4:39	4.65	130.1902	16.8345	6.5109	6.5311	0.0202	113.3	178	124
	A230	15:24:00	4:54	4.90	122.0097	17.2744	6.5222	6.5399	0.0177	104.7	169	125
	A231	15:39:00	5:09	5.15	132.7041	17.0562	6.5238	6.5456	0.0218	115.6	189	113
	A232	15:54:00	5:24	5.40	131.6067	17.1014	6.5093	6.5285	0.0192	114.5	168	101
	A233	16:09:00	5:39	5.65	112.4618	17.3894	6.5638	6.5782	0.0144	95.1	151	86
	A234	16:24:00	5:54	5.90	67.7731	17.0533	6.6010	6.6080	0.0070	50.7	138	79
	A235	16:39:00	6:09	6.15		17.3186	6.5043	6.5040	-0.0003	-17.3	17	
Spillway	A301	16:55:00	6:25	6.42	151.9747	17.5073	6.4480	6.4893	0.0413	134.4	307	269
	A302	10:48:00	6:28	0.30	153.6615	17.1199	6.6261	6.6794	0.0533	136.5	391	338
	A303	10:51:00	6:31	0.35	152.0125	16.9427	6.5604	6.6360	0.0756	135.0	560	430
	A304	10:54:00	6:34	0.40	146.4956	17.1292	6.4248	6.4920	0.0672	129.3	520	413
	A305	10:57:00	6:37	0.45	151.8232	16.7355	6.5443	6.6253	0.0810	135.0	600	432
	A306	11:00:00	6:40	0.50	156.6091	17.3179	6.5635	6.6501	0.0866	139.2	622	454
	A307	11:03:00	6:43	0.55	146.1860	17.4615	6.4990	6.5466	0.0476	128.7	370	285
	A308	11:06:00	6:46	0.60	115.7130	17.1174	6.5488	6.5799	0.0311	98.6	316	262
	A309	11:09:00	6:49	0.65		17.2240	6.5484		-6.5484	-10.7	613,399	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.40	1,484.80	1,117.40				
Bay 2	Bay 2	373.80	600.30	226.50				
	Baffle 1			-				
Bay 3	Bay 3	364.30	559.80	195.50				
	Baffle 2	1,749.00	1,819.70	70.70				
Bay 4	Bay 4	428.70	676.50	247.80				
	Baffle 3			-				
Skimmer	Skimmer During	616.00	637.00	21.00	11	40	0.10	4.5
	Skimmer After	2,500.50	2,553.60	53.10	117	441	0.90	61.8
Spillway	Spillway During	2,655.70	2,802.70	147.00	85	322	0.80	42.3
	Spillway After	619.00	633.60	14.60	11	40	0.10	5.1
	Total			**2,093.60**	**223**	**844**	**2**	**113.6**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,117.4	2.46	50.67%
Bay 2	226.5	0.50	10.27%
Bay 3	266.2	0.59	12.07%
Bay 4	247.8	0.55	11.24%
Skimmer	139.4	0.31	6.32%
Spillway	208.0	0.46	9.43%
Actual	2,205.34		
Expected	2,103.8		
Percent Error	**4.83%**		

Test Series E

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:35:00	0:03	0.05	158.1445	17.0565	6.5899	6.8985	0.3086	140.8	2,192	1,013
	A102	9:38:00	0:06	0.10	143.7513	17.2321	6.5825	6.9450	0.3625	126.2	2,873	1,163
	A103	9:41:00	0:09	0.15	145.4456	17.2183	6.5234	6.8627	0.3393	127.9	2,653	1,145
	A104	9:44:00	0:12	0.20	146.7073	16.7722	6.5080	6.8623	0.3543	129.6	2,734	1,061
	A105	9:47:00	0:15	0.25	146.7740	17.3497	6.6238	6.9561	0.3323	129.1	2,574	1,050
	A106	9:50:00	0:18	0.30	145.9056	17.3569	6.5373	6.9696	0.4323	128.1	3,374	1,121
	A107	9:53:00	0:21	0.35	146.4450	17.0886	6.5436	6.9109	0.3673	129.0	2,848	1,170
	A108	9:56:00	0:24	0.40	142.7198	17.0877	6.5274	6.9180	0.3906	125.2	3,119	1,177
	A109	9:59:00	0:27	0.45	144.3174	17.0704	6.4964	6.8581	0.3617	126.9	2,851	1,164
	A110	10:02:00	0:30	0.50	137.7543	17.2870	6.3877	6.7763	0.3886	120.1	3,236	1,221
Skimmer	A201	9:35:00	0:03	0.05					0.0000	0.0	#DIV/0!	
	A202	9:38:00	0:06	0.10	101.2395	17.0663	6.5649	6.6489	0.0840	84.1	999	647
	A203	9:41:00	0:09	0.15	107.8668	16.5848	6.5714	6.6598	0.0884	91.2	969	679
	A204	9:44:00	0:12	0.20	110.0789	16.8369	6.5558	6.6328	0.0770	93.2	826	648
	A205	9:47:00	0:15	0.25	120.4106	17.2689	6.4118	6.4959	0.0841	103.1	816	599
	A206	9:50:00	0:18	0.30	105.9845	16.9886	6.5425	6.6044	0.0619	88.9	696	560
	A207	9:53:00	0:21	0.35	122.6778	16.6365	6.5967	6.6737	0.0770	106.0	727	577
	A208	9:56:00	0:24	0.40	120.8552	17.1817	6.4891	6.5646	0.0755	103.6	729	541
	A209	9:59:00	0:27	0.45	121.1475	17.0370	6.5435	6.6100	0.0665	104.0	639	493
	A210	10:02:00	0:30	0.50	119.8830	16.7242	6.4701	6.5316	0.0615	103.1	597	469
	A211	10:05:00	0:33	0.55	116.4905	17.3397	6.5449	6.6994	0.1545	99.0	1,561	461
	A212	10:08:00	0:36	0.60	119.6628	17.1886	6.5226	6.5705	0.0479	102.4	468	385
	A213	10:11:00	0:39	0.65	115.0805	17.1727	6.5000	6.5366	0.0366	97.9	374	320
	A214	10:26:00	0:54	0.90	110.8276	17.2046	6.5084	6.5428	0.0344	93.6	368	314
	A215	10:41:00	1:09	1.15	116.6439	16.9635	6.4822	6.5110	0.0288	99.7	289	237
	A216	10:56:00	1:24	1.40	120.7739	16.9628	6.5460	6.5703	0.0243	103.8	234	209
	A217	11:11:00	1:39	1.65	111.5149	16.8387	6.5138	6.5359	0.0221	94.7	233	198
	A218	11:26:00	1:54	1.90	102.7110	17.2892			0.0000	85.4	-	190
	A219	11:41:00	2:09	2.15	119.9311	17.4482	6.4084	6.4304	0.0220	102.5	215	187
	A220	11:56:00	2:24	2.40	104.1239	17.4206	6.5450	6.5648	0.0198	86.7	228	178
	A221	12:11:00	2:39	2.65	108.2908	17.5080	6.5050	6.5242	0.0192	90.8	212	174
	A222	12:26:00	2:54	2.90	123.0817	17.1192	6.5344	6.5561	0.0217	105.9	205	162
	A223	12:41:00	3:09	3.15	101.0119	16.8578	6.5128	6.5279	0.0151	84.1	179	161
	A224	12:56:00	3:24	3.40	112.8855	17.1377	6.5247	6.5425	0.0178	95.7	186	116
	A225	13:11:00	3:39	3.65	118.2042	16.6586	6.4669	6.4872	0.0203	101.5	200	142
	A226	13:26:00	3:54	3.90	121.5028	16.9090	6.5301	6.5501	0.0200	104.6	191	136
	A227	13:41:00	4:09	4.15	120.6652	17.2246	6.5477	6.5657	0.0180	103.4	174	127
	A228	13:56:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	14:11:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	14:26:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	14:41:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	14:56:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	15:11:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	15:26:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	15:41:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	16:20:00	6:48	6.80	131.2591	16.7000	6.4508	6.5309	0.0801	114.5	700	570
	A302	9:50:00	6:51	0.30	147.3490	17.0134	6.6271	6.7173	0.0902	130.2	693	542
	A303	9:53:00	6:54	0.35	133.5402	16.8463	6.5640	6.6469	0.0829	116.6	711	525
	A304	9:56:00	6:57	0.40	149.0145	16.6445	6.4310	6.5237	0.0927	132.3	701	505
	A305	9:59:00	7:00	0.45	146.6153	16.6678	6.5495	6.6405	0.0910	129.9	701	538
	A306	10:02:00	7:03	0.50	150.3913	17.0621	6.5681	6.6500	0.0819	133.2	615	519
	A307	10:05:00	7:06	0.55	129.6361	16.6727	6.5018	6.5560	0.0542	112.9	480	384
	A308	10:08:00	7:09	0.60	133.3267	17.1318	6.5521	6.5954	0.0433	116.2	373	285
	A309	10:11:00	7:12	0.65					0.0000	0.0	#DIV/0!	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.40	1,681.40	1,314.00				
Bay 2	Bay 2	373.80	522.70	148.90				
	Baffle 1			-				
Bay 3	Bay 3	429.10	592.00	162.90				
	Baffle 2			-				
Bay 4	Bay 4	445.60	701.70	256.10				
	Baffle 3			-				
Skimmer	Skimmer During	616.60	636.40	19.80	8	32	0.10	3.1
	Skimmer After	2,498.50	2,535.00	36.50	73	276	0.80	28.6
Spillway	Spillway During	2,657.70	2,854.10	196.40	87	329	0.80	46.7
	Spillway After	619.10	641.00	21.90	13	48	0.10	9.9
Bay 1	Bay 1 Tubs	2,525.70	2,595.90	70.20	39	148	0.20	15.1
	Total			**2,226.70**	**220**	**685**	**2**	**103.3**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,399.1	3.08	60.10%
Bay 2	148.9	0.33	6.40%
Bay 3	162.9	0.36	7.00%
Bay 4	256.1	0.56	11.00%
Skimmer	87.09	0.19	3.74%
Spillway	274.0	0.60	11.77%
Actual	2,328.04		
Expected	2,264.0		
Percent Error	**2.83%**		

	Table 2: Solids Concentration and Turbidity												Turbidity
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	NTU
Inflow	A101	9:48:00	0:03	0.05	142.639	16.8376	6.5749	6.8937	0.3188	125.5	2,541	1,009
	A102	9:51:00	0:06	0.10	131.3549	17.296	6.5738	6.843	0.2692	113.8	2,366	1,105
	A103	9:54:00	0:09	0.15	128.5765	16.6912	6.5052	6.7894	0.2842	111.6	2,547	1,091
	A104	9:57:00	0:12	0.20	141.1726	16.7074	6.5516	6.7949	0.2433	124.2	1,959	1,004
	A105	10:00:00	0:15	0.25	133.5624	16.8024	6.7041	6.9306	0.2265	116.5	1,944	1,120
	A106	10:03:00	0:18	0.30	119.8034	16.7088	6.5188	6.7844	0.2656	102.8	2,583	1,004
	A107	10:06:00	0:21	0.35	142.161	16.5394	6.5306	6.9086	0.3780	125.2	3,018	1,021
	A108	10:09:00	0:24	0.40	143.8621	16.7042	6.5106	6.9037	0.3931	126.8	3,101	1,215
	A109	10:12:00	0:27	0.45	144.4748	16.6623	6.5611	6.8834	0.3223	127.5	2,528	1,204
	A110	10:15:00	0:30	0.50	143.0676	16.8037	6.3994	6.7288	0.3294	125.9	2,616	1,146
Skimmer	A201	9:48:00	0:03	0.05	n/a	n/a	n/a	n/a	#VALUE!	#VALUE!	#VALUE!	n/a
	A202	9:51:00	0:06	0.10	113.0877	16.8672	6.5392	6.6596	0.1204	96.1	1,253	687
	A203	9:54:00	0:09	0.15	139.3554	17.2092	6.5492	6.6865	0.1373	122.0	1,125	652
	A204	9:57:00	0:12	0.20	132.0983	17.2953	6.5435	6.6572	0.1137	114.7	991	606
	A205	10:00:00	0:15	0.25	132.0895	16.6325	6.4007	6.5076	0.1069	115.4	927	584
	A206	10:03:00	0:18	0.30	143.7992	16.699	6.5295	6.6366	0.1071	127.0	843	571
	A207	10:06:00	0:21	0.35	129.902	17.0657	6.5825	6.6687	0.0862	112.8	765	531
	A208	10:09:00	0:24	0.40	143.7382	17.4001	6.4679	6.5703	0.1024	126.2	811	533
	A209	10:12:00	0:27	0.45	141.2037	17.2163	6.525	6.6076	0.0826	123.9	667	520
	A210	10:15:00	0:30	0.50	127.765	17.2712	6.45	6.5467	0.0967	110.4	876	512
	A211	10:18:00	0:33	0.55	142.5172	17.1104	6.5243	6.6165	0.0922	125.3	736	457
	A212	10:21:00	0:36	0.60	136.4173	17.2941	6.5061	6.5834	0.0773	119.0	649	368
	A213	10:24:00	0:39	0.65	145.6499	17.1907	6.4808	6.5618	0.0810	128.4	631	357
	A214	10:39:00	0:54	0.90	145.25	17.0725	6.4909	6.5653	0.0744	128.1	581	297
	A215	10:54:00	1:09	1.15	124.9075	17.0368	6.4794	6.5254	0.0460	107.8	427	251
	A216	11:09:00	1:24	1.40	124.1994	17.3751	6.5415	6.5906	0.0491	106.8	460	226
	A217	11:24:00	1:39	1.65	131.4871	17.1489	6.5078	6.5542	0.0464	114.3	406	200
	A218	11:39:00	1:54	1.90	136.3257	16.8288	6.499	6.538	0.0390	119.5	326	192
	A219	11:54:00	2:09	2.15	129.7643	17.4142	6.3994	6.4437	0.0443	112.3	394	188
	A220	12:09:00	2:24	2.40	114.2301	17.2274	6.5314	6.5722	0.0408	97.0	421	172
	A221	12:24:00	2:39	2.65	155.9251	16.8619	6.4919	6.542	0.0501	139.0	360	170
	A222	12:39:00	2:54	2.90	129.117	17.1225	6.5215	6.565	0.0435	112.0	389	160
	A223	12:54:00	3:09	3.15	131.3519	17.2101			0.0000	114.1	-	153
	A224	13:09:00	3:24	3.40	119.7795	17.1397	6.5177	6.5518	0.0341	102.6	332	139
	A225	13:24:00	3:39	3.65	130.5097	16.9614	6.4513	6.498	0.0467	113.5	411	126
	A226	13:39:00	3:54	3.90					0.0000	0.0	#DIV/0!	
	A227	13:54:00	4:09	4.15					0.0000	0.0	#DIV/0!	
	A228	14:09:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	14:24:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	14:39:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	14:54:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	15:09:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	15:24:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	15:39:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	15:54:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	10:01:26	0:16	0.27	158.8374	17.2641	6.4486	6.5474	0.0988	141.5	698	559
	A302	10:03:00	0:19	0.30	145.8703	17.3278	6.6409	6.7332	0.0923	128.5	719	573
	A303	10:06:00	0:22	0.35	149.909	17.306	6.6375	6.6528	0.0153	132.6	115	531
	A304	10:09:00	0:25	0.40	132.6357	17.4341			0.0000	115.2	-	532
	A305	10:12:00	0:28	0.45	134.7432	17.0921	6.6114	6.6249	0.0135	117.6	115	514
	A306	10:15:00	0:31	0.50	148.7043	16.8513	6.5382	6.6578	0.1196	131.7	908	504
	A307	10:18:00	0:34	0.55	145.3661	17.3125	6.477	6.5781	0.1011	128.0	790	459
	A308	10:21:00	0:37	0.60	127.1496	16.6554	6.5724	6.6035	0.0311	110.5	282	285
	A309	10:24:00	0:40	0.65	119.2885	16.8351	6.5569	6.5948	0.0379	102.4	370	245

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.50	1,626.80	1,259.30				
Bay 2	Bay 2	374.00	515.00	141.00				
	Baffle 1			-				
Bay 3	Bay 3	429.10	587.00	157.90				
	Baffle 2			-				
Bay 4	Bay 4	445.80	694.00	248.20				
	Baffle 3			-				
Skimmer	Skimmer During	616.80	639.90	23.10	10	37	0.10	4.5
	Skimmer After	2,501.20	2,537.60	36.40	77	291	0.80	33.7
Spillway	Spillway During	2,661.70	2,837.80	176.10	87	329	0.80	37.6
	Spillway After	619.20	638.40	19.20	13	48	0.10	4.8
Bay 1	Bay 1 Tubs	2,525.70	2,619.20	93.50	30	114	0.20	13.9
	Total			**2,154.70**	**216**	**705**	**2**	**94.5**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,366.5	3.01	60.81%
Bay 2	141.0	0.31	6.27%
Bay 3	157.9	0.35	7.03%
Bay 4	248.2	0.55	11.04%
Skimmer	96.79	0.21	4.31%
Spillway	236.8	0.52	10.54%
Actual	2,247.20		
Expected	2,218.3		
Percent Error	**1.30%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:33:00	0:03	0.05	149.6104	17.25	6.589	6.9812	0.3922	132.0	2,972	1,299
	A102	10:36:00	0:06	0.10	141.0396	17.1714	6.5823	6.9195	0.3372	123.5	2,730	1,218
	A103	10:39:00	0:09	0.15	142.8567	17.3366	6.5154	6.8742	0.3588	125.2	2,867	1,247
	A104	10:42:00	0:12	0.20	144.2408	17.1997	6.5025	6.8666	0.3641	126.7	2,874	1,317
	A105	10:45:00	0:15	0.25	144.621	17.1549	6.6235	7.0435	0.4200	127.0	3,306	1,374
	A106	10:48:00	0:18	0.30	144.1751	17.3313	6.5195	6.9564	0.4369	126.4	3,456	1,458
	A107	10:51:00	0:21	0.35	134.4856	17.288	6.5346	6.8787	0.3441	116.9	2,945	1,336
	A108	10:54:00	0:24	0.40	143.2839	17.167	6.5201	6.9066	0.3865	125.7	3,074	1,418
	A109	10:57:00	0:27	0.45	134.8233	16.7662	6.4952	6.8759	0.3807	117.7	3,235	1,380
	A110	11:00:00	0:30	0.50	133.2425	16.9859	6.3802	6.7788	0.3986	115.9	3,440	1,401
Skimmer	A201	10:33:00	0:03	0.05	n/a	n/a	n/a	n/a	#VALUE!	#VALUE!	#VALUE!	n/a
	A202	10:36:00	0:06	0.10	130.129	16.733	6.563	6.6809	0.1179	113.3	1,041	849
	A203	10:39:00	0:09	0.15	136.1939	16.8641	6.5717	6.6876	0.1159	119.2	972	808
	A204	10:42:00	0:12	0.20	133.613	17.1579	6.555	6.6603	0.1053	116.3	905	723
	A205	10:45:00	0:15	0.25	127.7917	16.6854	6.4148	6.5053	0.0905	111.0	815	671
	A206	10:48:00	0:18	0.30	142.8078	17.2799	6.5451	6.6335	0.0884	125.4	705	601
	A207	10:51:00	0:21	0.35	142.5853	16.876	6.5928	6.6719	0.0791	125.6	630	537
	A208	10:54:00	0:24	0.40	136.6276	16.7433	6.4936	6.5624	0.0688	119.8	574	545
	A209	10:57:00	0:27	0.45	147.0258	16.751	6.5491	6.617	0.0679	130.2	521	516
	A210	11:00:00	0:30	0.50	148.7367	17.1223	6.474	6.5412	0.0672	131.5	511	489
	A211	11:03:00	0:33	0.55	138.9629	17.1436	6.5507	6.6046	0.0539	121.8	443	461
	A212	11:06:00	0:36	0.60	144.7797	16.7506	6.5274	6.5804	0.0530	128.0	414	419
	A213	11:09:00	0:39	0.65	143.1493	17.2732	6.502	6.5526	0.0506	125.8	402	394
	A214	11:24:00	0:54	0.90	156.5704	17.2308	6.5125	6.5599	0.0474	139.3	340	302
	A215	11:39:00	1:09	1.15	142.2198	17.068	6.4858	6.5214	0.0356	125.1	285	242
	A216	11:54:00	1:24	1.40	140.806	17.5182	6.5507	6.5779	0.0272	123.3	221	236
	A217	12:09:00	1:39	1.65	137.5416	17.2619	6.5229	6.5527	0.0298	120.2	248	199
	A218	12:24:00	1:54	1.90	150.3548	16.9333	6.5069	6.55	0.0431	133.4	323	200
	A219	12:39:00	2:09	2.15	137.58	16.8944	6.4156	6.4439	0.0283	120.7	235	189
	A220	12:54:00	2:24	2.40	140.5532	17.1433	6.5507	6.5836	0.0329	123.4	267	180
	A221	13:09:00	2:39	2.65	124.6488	17.0809	6.5131	6.536	0.0229	107.5	213	161
	A222	13:24:00	2:54	2.90	131.5387	16.8975	6.5401	6.5624	0.0223	114.6	195	162
	A223	13:39:00	3:09	3.15	133.691	17.1008	6.5185	6.541	0.0225	116.6	193	142
	A224	13:54:00	3:24	3.40	122.6509	16.8963	6.5322	6.5522	0.0200	105.7	189	144
	A225	14:09:00	3:39	3.65	129.1144	17.189	6.4803	6.499	0.0187	111.9	167	133
	A226	14:24:00	3:54	3.90	111.9463	16.7873	6.5336	6.551	0.0174	95.1	183	128
	A227	14:39:00	4:09	4.15					0.0000	0.0	#DIV/0!	
	A228	14:54:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	15:09:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	15:24:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	15:39:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	15:54:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	16:09:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	16:24:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	16:39:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	10:47:08	0:17	0.29	136.37	17.5508	6.4501	6.5387	0.0886	118.7	746	601
	A302	10:48:00	0:20	0.30	155.3228	17.2208	6.6274	6.735	0.1076	138.0	780	693
	A303	10:51:00	0:23	0.35	133.1115	16.7717	6.5646	6.6498	0.0852	116.3	733	618
	A304	10:54:00	0:26	0.40	145.3658	17.2434	6.43	6.5187	0.0887	128.0	693	559
	A305	10:57:00	0:29	0.45	148.3815	16.927	6.551	6.6541	0.1031	131.4	785	608
	A306	11:00:00	0:32	0.50	148.2465	17.2376	6.5677	6.6477	0.0800	130.9	611	516
	A307	11:03:00	0:35	0.55	148.981	17.1703	6.5044	6.5669	0.0625	131.7	474	417
	A308	11:06:00	0:38	0.60	117.757	17.2046	6.5551	6.5955	0.0404	100.5	402	332
	A309	11:09:00	0:41	0.65					0.0000	0.0	#DIV/0!	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.70	1,572.40	1,204.70				
Bay 2	Bay 2	374.10	471.20	187.25				
	Baffle 1			-				
Bay 3	Bay 3	429.00	492.90	154.05				
	Baffle 2			-				
Bay 4	Bay 4	158.90	403.30	244.40				
	Baffle 3			-				
Skimmer	Skimmer During	616.10	640.30	24.20	9	35	0.10	3.9
	Skimmer After	2,494.30	2,537.80	43.50	76	288	0.80	36.6
Spillway	Spillway During	2,659.20	2,830.90	171.70	75	284	0.80	25.2
	Spillway After	618.90	638.90	20.00	10	39	0.10	4.2
Bay 1	Bay 1 Tubs	2,530.80	2,766.30	235.50	36	135	0.20	17.3
	Total			**2,285.30**	**206**	**645**	**2**	**87.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,457.3	3.21	61.48%
Bay 2	187.3	0.41	7.90%
Bay 3	154.1	0.34	6.50%
Bay 4	244.4	0.54	10.31%
Skimmer	107.29	0.24	4.53%
Spillway	220.2	0.49	9.29%
Actual	2,370.51		
Expected	2,364.5		
Percent Error	**0.25%**		

	Table 2: Solids Concentration and Turbidity (E4-1)											Turbidity
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	NTU
Inflow	A101	11:06:00	0:03	0.05	150.7099	17.0464	6.6102	6.9227	0.3125	133.4	2,343	1,062
	A102	11:09:00	0:06	0.10	146.3186	17.2799	6.5970	6.9839	0.3869	128.7	3,007	1,178
	A103	11:12:00	0:09	0.15	139.3174	17.1642	6.5327	6.9182	0.3855	121.8	3,166	1,284
	A104	11:15:00	0:12	0.20	138.1035	16.8855	6.5171	6.8928	0.3757	120.8	3,109	1,111
	A105	11:18:00	0:15	0.25	139.2040	17.1535	6.6431	7.0106	0.3675	121.7	3,020	1,178
	A106	11:21:00	0:18	0.30	150.2997	17.2300	6.5316	6.9781	0.4465	132.6	3,367	1,258
	A107	11:24:00	0:21	0.35	144.1294	17.0665	6.5374	6.9381	0.4007	126.7	3,164	1,131
	A108	11:27:00	0:24	0.40	140.8967	17.3155	6.5171	6.8438	0.3267	123.3	2,651	1,249
	A109	11:30:00	0:27	0.45	150.8382	16.9461	6.4899	6.8826	0.3927	133.5	2,942	1,243
	A110	11:33:00	0:30	0.50	136.1276	17.1881	6.3803	6.6867	0.3064	118.6	2,583	1,190
Skimmer	A201	11:06:00	0:03	0.05	n/a	n/a	n/a	n/a	#VALUE!	#VALUE!	#VALUE!	
	A202	11:09:00	0:06	0.10	120.9013	17.2596	6.5587	6.6765	0.1178	103.5	1,138	706
	A203	11:12:00	0:09	0.15	119.2653	16.8915	6.5705	6.6680	0.0975	102.3	953	687
	A204	11:15:00	0:12	0.20	114.9327	16.8719	6.5540	6.6383	0.0843	98.0	860	626
	A205	11:18:00	0:15	0.25	112.5787	17.2597	6.4114	6.4896	0.0782	95.2	821	595
	A206	11:21:00	0:18	0.30	126.8078	16.9796	6.5443	6.6171	0.0728	109.8	663	531
	A207	11:24:00	0:21	0.35	115.0973	16.6281	6.6004	6.6655	0.0651	98.4	662	522
	A208	11:27:00	0:24	0.40	107.2732	17.4419	6.4904	6.5566	0.0662	89.8	737	506
	A209	11:30:00	0:27	0.45	130.1602	17.2624	6.5498	6.6327	0.0829	112.8	735	501
	A210	11:33:00	0:30	0.50	115.4883	16.7114	6.4734	6.5408	0.0674	98.7	683	498
	A211	11:36:00	0:33	0.55	105.1841	17.3566	6.5458	6.5944	0.0486	87.8	554	396
	A212	11:39:00	0:36	0.60	106.8409	17.4274	6.5238	6.5644	0.0406	89.4	454	338
	A213	11:42:00	0:39	0.65	104.9374	17.1377	6.5041	6.5425	0.0384	87.8	438	313
	A214	11:57:00	0:54	0.90	121.9843	17.4203	6.5145	6.5550	0.0405	104.5	387	274
	A215	12:12:00	1:09	1.15	127.9276	17.1386	6.4889	6.5207	0.0318	110.8	287	202
	A216	12:27:00	1:24	1.40	128.6791	16.9755	6.5498	6.5806	0.0308	111.7	276	184
	A217	12:42:00	1:39	1.65	130.6723	16.8480	6.5226	6.5515	0.0289	113.8	254	158
	A218	12:57:00	1:54	1.90	130.8458	17.0834	6.5072	6.5357	0.0285	113.7	251	159
	A219	13:12:00	2:09	2.15	130.8539	17.4989	6.4209	6.4492	0.0283	113.3	250	153
	A220	13:27:00	2:24	2.40	140.5220	17.4293	6.5526	6.5812	0.0286	123.1	232	137
	A221	13:42:00	2:39	2.65	137.2251	17.3350	6.5115	6.5352	0.0237	119.9	198	128
	A222	13:57:00	2:54	2.90	121.3323	17.1545	6.5381	6.5573	0.0192	104.2	184	119
	A223	14:12:00	3:09	3.15	129.5755	16.8861	6.5187	6.5439	0.0252	112.7	224	121
	A224	14:27:00	3:24	3.40	126.4903	17.0983	6.5333	6.5561	0.0228	109.4	208	108
	A225	14:42:00	3:39	3.65	130.4778	16.7913	6.4785	6.5132	0.0347	113.7	305	96
	A226	14:57:00	3:54	3.90					0.0000	0.0	#DIV/0!	
	A227	15:12:00	4:09	4.15					0.0000	0.0	#DIV/0!	
	A228	15:27:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	15:42:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	15:57:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	16:12:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	16:27:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	16:42:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	16:57:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	17:12:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	11:18:24	0:15	0.26	139.1632	16.9127	6.4513	6.5378	0.0865	122.2	708	513
	A302	11:21:00	0:18	0.30	157.6527	17.1455	6.6287	6.7142	0.0855	140.4	609	448
	A303	11:24:00	0:21	0.35	150.7551	16.6515	6.5645	6.6600	0.0955	134.0	713	516
	A304	11:27:00	0:24	0.40	146.5343	16.7805	6.4284	6.5313	0.1029	129.7	794	568
	A305	11:30:00	0:27	0.45	145.2460	16.8607	6.5517	6.6439	0.0922	128.3	719	537
	A306	11:33:00	0:30	0.50	138.5444	17.0303	6.5671	6.6550	0.0879	121.4	724	545
	A307	11:36:00	0:33	0.55	151.4905	16.7935	6.5041	6.5712	0.0671	134.6	498	374
	A308	11:39:00	0:36	0.60	132.4570	16.9551	6.5550	6.5926	0.0376	115.5	326	225
	A309	11:42:00	0:39	0.65					0.0000	0.0	#DIV/0!	

	Table 2: Solids Concentration and Turbidity (E4-2)											Turbidity
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	NTU
Inflow	A101	0:03:00	0:03	0.05	140.9501	16.6714	6.5947	6.9617	0.3670	123.9	2,962	1,143
	A102	0:06:00	0:06	0.10	143.0394	17.2212	6.5892	6.9957	0.4065	125.4	3,241	1,311
	A103	0:09:00	0:09	0.15	142.4589	16.7843	6.5287	6.8325	0.3038	125.4	2,423	1,213
	A104	0:12:00	0:12	0.20	141.3489	16.8415	6.5111	6.8427	0.3316	124.2	2,670	1,136
	A105	0:15:00	0:15	0.25	147.6601	16.5085	6.6392	7.0210	0.3818	130.8	2,920	1,233
	A106	0:18:00	0:18	0.30	139.3882	16.6751	6.5265	6.9274	0.4009	122.3	3,278	1,223
	A107	0:21:00	0:21	0.35	131.3342	16.7122	6.5361	6.9103	0.3742	114.2	3,275	1,292
	A108	0:24:00	0:24	0.40	130.5412	16.8049	6.5179	6.8810	0.3631	113.4	3,203	1,369
	A109	0:27:00	0:27	0.45	126.2742	16.6673	6.4897	6.7995	0.3098	109.3	2,834	1,188
	A110	0:30:00	0:30	0.50	139.7305	16.8847	6.3788	6.7559	0.3771	122.5	3,079	1,421
Skimmer	A201	11:06:00	0:03	0.05	126.7751	16.8706	6.5559	6.6942	0.1383	109.8	1,260	747
	A202	11:09:00	0:06	0.10	126.0784	17.1826	6.5693	6.6808	0.1115	108.8	1,025	598
	A203	11:12:00	0:09	0.15	132.8968	17.1056	6.5499	6.6403	0.0904	115.7	781	562
	A204	11:15:00	0:12	0.20	125.5030	16.8651	6.4113	6.5027	0.0914	108.5	842	519
	A205	11:18:00	0:15	0.25	94.6119	16.8492	6.5380	6.6041	0.0661	77.7	851	500
	A206	11:21:00	0:18	0.30	126.0105	17.2339	6.5938	6.6665	0.0727	108.7	669	452
	A207	11:24:00	0:21	0.35	131.8798	17.1607	6.4902	6.5231	0.0329	114.7	287	513
	A208	11:27:00	0:24	0.40	129.5491	17.0156	6.5428	6.5807	0.0379	112.5	337	470
	A209	11:30:00	0:27	0.45	125.2367	17.1353	6.4739	6.5514	0.0775	108.0	717	477
	A210	11:33:00	0:30	0.50	137.5364	17.3838	6.5476	6.6286	0.0810	120.1	675	489
	A211	11:36:00	0:33	0.55	132.7265	17.2878	6.5416	6.6042	0.0626	115.4	543	425
	A212	11:39:00	0:36	0.60	115.7048	17.2071	6.5149	6.5691	0.0542	98.4	551	354
	A213	11:42:00	0:39	0.65	126.8919	17.1411	6.5268	6.5723	0.0455	109.7	415	301
	A214	11:57:00	0:54	0.90	142.2070	17.0893	6.4936	6.5389	0.0453	125.1	362	249
	A215	12:12:00	1:09	1.15	133.2015	17.1897	6.5662	6.5965	0.0303	116.0	261	233
	A216	12:27:00	1:24	1.40	140.7833	17.3782	6.5245	6.5539	0.0294	123.4	238	175
	A217	12:42:00	1:39	1.65	121.6621	16.6478	6.5232	6.5319	0.0087	105.0	83	162
	A218	12:57:00	1:54	1.90	128.8269	17.2631	6.4284	6.4383	0.0099	111.6	89	160
	A219	13:12:00	2:09	2.15	122.3081	17.1994	6.5560	6.5787	0.0227	105.1	216	
	A220	13:27:00	2:24	2.40	138.5345	16.8522	6.5159	6.5446	0.0287	121.7	236	142
	A221	13:42:00	2:39	2.65	126.2896	17.0896	6.5413	6.5684	0.0271	109.2	248	138
	A222	13:57:00	2:54	2.90	130.0542	17.0814	6.5252	6.5547	0.0295	112.9	261	130
	A223	14:12:00	3:09	3.15	124.3454	17.2343	6.5338	6.5572	0.0234	107.1	219	117
	A224	14:27:00	3:24	3.40	119.8786	17.1494	6.4771	6.5013	0.0242	102.7	236	111
	A225	14:42:00	3:39	3.65	122.3931	17.3017	6.5366	6.5545	0.0179	105.1	170	98
	A226	14:57:00	3:54	3.90					0.0000	0.0	#DIV/0!	
	A227	15:12:00	4:09	4.15					0.0000	0.0	#DIV/0!	
	A228	15:27:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	15:42:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	15:57:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	16:12:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	16:27:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	16:42:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	16:57:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	17:12:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	0:00:00	0:00	0.00	142.8583	17.2591	6.4535	6.5520	0.0985	125.5	785	514
	A302	11:21:00	0:03	0.30	154.7666	17.2821	6.6310	6.7346	0.1036	137.4	754	499
	A303	11:24:00	0:06	0.35	145.3678	17.2927	6.5719	6.6708	0.0989	128.0	773	489
	A304	11:27:00	0:09	0.40	138.4546	17.3285	6.5274	6.7086	0.1812	120.9	1,498	523
	A305	11:30:00	0:12	0.45	141.3984	17.2939	6.5565	6.6566	0.1001	124.0	807	542
	A306	11:33:00	0:15	0.50	134.9117	16.8458	6.5751	6.6652	0.0901	118.0	764	504
	A307	11:36:00	0:18	0.55	152.1717	17.3061	6.5148	6.6081	0.0933	134.8	692	474
	A308	11:39:00	0:21	0.60	115.2214	16.5985	6.6008	6.6313	0.0305	98.6	309	401
	A309	11:42:00	0:24	0.65	145.8612	16.8305	6.4287	6.4613	0.0326	129.0	253	392

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	169.00	2,800.40	2,631.40				
Bay 2	Bay 2	373.80	671.70	297.90				
	Baffle 1			-				
Bay 3	Bay 3	364.30	699.00	334.70				
	Baffle 2			-				
Bay 4	Bay 4	154.00	769.30	615.30				
	Baffle 3			-				
Skimmer	Skimmer During	368.30	407.30	39.00	23	86	0.10	11.2
	Skimmer After	720.30	739.40	19.10	65	246	0.80	29.6
Spillway	Spillway During	2,534.40	2,788.20	253.80	102	385	0.80	35.4
	Spillway After	619.40	640.60	21.20	12	44	0.10	4.8
Bay 1	Bay 1 Tubs	480.20	566.50	86.30	35	131	0.20	16.0
	Total			**4,298.70**	**236**	**761**	**2**	**96.9**

Bay 1	2,733.5	6.03	56.85%
Bay 2	297.9	0.66	6.20%
Bay 3	334.7	0.74	6.96%
Bay 4	615.3	1.36	12.80%
Skimmer	225.65	0.50	4.69%
Spillway	601.2	1.33	12.50%
Overall Actual	4,808.21		
Overall Expected	4,705.80		
Percent Error	**2.18%**		

Test Series F

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:33:00	0:03	0.05	145.1083	17.0645	6.6147	6.9290	0.3143	127.7	2,461	1,214
	A102	9:36:00	0:06	0.10	156.3128	17.2967	6.6045	6.9501	0.3456	138.7	2,492	1,199
	A103	9:39:00	0:09	0.15	152.2669	17.2867	6.5454	6.8597	0.3143	134.7	2,334	1,257
	A104	9:42:00	0:12	0.20	147.4006	16.8647	6.5296	6.9545	0.4249	130.1	3,266	1,190
	A105	9:45:00	0:15	0.25	146.5099	17.1346	6.6572	7.0469	0.3897	129.0	3,021	1,292
	A106	9:48:00	0:18	0.30	150.5183	17.1701	6.5332	6.9402	0.4070	132.9	3,062	1,141
	A107	9:51:00	0:21	0.35	145.8347	17.0196	6.5549	6.9701	0.4152	128.4	3,234	1,238
	A108	9:54:00	0:24	0.40	139.6713	17.1442	6.5368	7.1582	0.6214	121.9		1,251
	A109	9:57:00	0:27	0.45	146.8613	16.9457	6.5054	6.8889	0.3835	129.5	2,961	1,212
	A110	10:00:00	0:30	0.50	148.7525	17.2619	6.3988	6.7767	0.3779	131.1	2,882	1,280
Skimmer	A201	9:33:00	0:03	0.05	107.5085	17.3064	6.5684	6.6589	0.0905	90.1	1,004	764
	A202	9:36:00	0:06	0.10	114.1736	16.9218	6.5977	6.6796	0.0819	97.2	843	655
	A203	9:39:00	0:09	0.15	119.7540	16.8910	6.5693	6.6241	0.0548	102.8	533	484
	A204	9:42:00	0:12	0.20	114.5718	17.2933	6.4366	6.4901	0.0535	97.2	550	473
	A205	9:45:00	0:15	0.25	106.5115	17.1595	6.5480	6.5882	0.0402	89.3	450	426
	A206	9:48:00	0:18	0.30	112.8775	16.8730	6.6161	6.6570	0.0409	96.0	426	396
	A207	9:51:00	0:21	0.35	108.0953	17.3921	6.4921	6.5307	0.0386	90.7	426	390
	A208	9:54:00	0:24	0.40	112.4161	17.2645	6.5510	6.6020	0.0510	95.1	536	454
	A209	9:57:00	0:27	0.45	114.5185	16.6739	6.4798	6.5259	0.0461	97.8	471	387
	A210	10:00:00	0:30	0.50	105.5842	17.3643	6.5522	6.5934	0.0412	88.2	467	397
	A211	10:03:00	0:33	0.55	113.8539	17.2309	6.5467	6.5879	0.0412	96.6	427	373
	A212	10:06:00	0:36	0.60	116.3064	17.0333	6.5299	6.5643	0.0344	99.2	347	321
	A213	10:09:00	0:39	0.65	122.1559	17.2350	6.5262	6.5626	0.0364	104.9	347	334
	A214	10:24:00	0:54	0.90	114.4124	17.1222	6.4992	6.5252	0.0260	97.3	267	248
	A215	10:39:00	1:09	1.15	110.4473	16.9806	6.5624	6.5845	0.0221	93.4	237	209
	A216	10:54:00	1:24	1.40	118.6698	16.8669	6.5332	6.5526	0.0194	101.8	191	171
	A217	11:09:00	1:39	1.65	120.1803	17.2679	6.5140	6.5326	0.0186	102.9	181	160
	A218	11:24:00	1:54	1.90	118.4774	17.2741	6.4281	6.4465	0.0184	101.2	182	148
	A219	11:39:00	2:09	2.15	142.7977	17.4203	6.5639	6.5863	0.0224	125.4	179	146
	A220	11:54:00	2:24	2.40	119.6920	17.4484	6.5263	6.5447	0.0184	102.2	180	149
	A221	12:09:00	2:39	2.65	128.1754	17.2648	6.5468	6.5671	0.0203	110.9	183	147
	A222	12:24:00	2:54	2.90	118.7091	16.6876	6.5335	6.5504	0.0169	102.0	166	147
	A223	12:39:00	3:09	3.15	141.8103	17.1653	6.5439	6.5651	0.0212	124.6	170	133
	A224	12:54:00	3:24	3.40	120.6475	16.7097	6.4869	6.5029	0.0160	103.9	154	131
	A225	13:09:00	3:39	3.65	139.3493	16.6571	6.5573	6.5769	0.0196	122.7	160	127
	A226	13:24:00	3:54	3.90	136.8148	17.0985	6.5653	6.5835	0.0182	119.7	152	121
	A227	13:39:00	4:09	4.15	136.3127	16.9198	6.5172	6.5342	0.0170	119.4	142	115
	A228	13:54:00	4:24	4.40	126.0615	17.3142	6.5460	6.5614	0.0154	108.7	142	110
	A229	14:09:00	4:39	4.65	106.7690	17.2887	6.5335	6.5455	0.0120	89.5	134	99
	A230	14:24:00	4:54	4.90	124.9391	16.9154	6.5577	6.5722	0.0145	108.0	134	99
	A231	14:39:00	5:09	5.15	124.0401	16.7714	6.5501	6.5649	0.0148	107.3	138	92
	A232	14:54:00	5:24	5.40	132.0242	17.3725	6.5295	6.5441	0.0146	114.6	127	87
	A233	15:09:00	5:39	5.65	117.4894	17.2379	6.5879	6.6009	0.0130	100.2	130	84
	A234	15:24:00	5:54	5.90	135.1363	17.3120	6.6238	6.6390	0.0152	117.8	129	81
	A235	15:39:00	6:09	6.15	134.4502	17.5049	6.5219	6.5370	0.0151	116.9	129	75
Spillway	A301	9:47:00	0:17	0.28	156.0273	16.7296	6.4564	6.4960	0.0396	139.3	284	309
	A302	9:48:00	0:20	0.30	158.3026	17.1638	6.6391	6.6962	0.0571	141.1	405	347
	A303	9:51:00	0:23	0.35	152.6381	16.8880	6.5806	6.6547	0.0741	135.7	546	447
	A304	9:54:00	0:26	0.40	148.0084	16.7341	6.4334	6.5074	0.0740	131.2	564	455
	A305	9:57:00	0:29	0.45	150.0631	16.8965	6.5700	6.6516	0.0816	133.1	613	487
	A306	10:00:00	0:32	0.50	149.9415	17.1349	6.5807	6.6654	0.0847	132.7	638	534
	A307	10:03:00	0:35	0.55	130.8350	16.8586	6.5133	6.5638	0.0505	113.9	443	398
	A308	10:06:00	0:38	0.60	118.5824	17.1853	6.5678	6.6033	0.0355	101.4	350	250
	A309	10:09:00	0:41	0.65	123.7596	16.7709	6.5696	6.5955	0.0259	107.0	242	190
	A001				132.0939	17.2802	6.5621	6.815	0.2529	114.6	2,208	1,233
	A002				122.6589	17.1931	6.5956	6.9132	0.3176	105.1	3,020	1,381

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.90	1,674.40	1,244.50				
Bay 2	Bay 2	374.10	624.40	250.30				
	Baffle 1	1,665.40	1,723.90	58.50				
Bay 3	Bay 3	364.30	586.30	222.00				
	Baffle 2			-				
Bay 4	Bay 4	446.60	770.10	323.50				
	Baffle 3			-				
Skimmer	Skimmer During	616.40	631.50	15.10	7	26	0.10	0.7
	Skimmer After	2,501.60	2,522.30	20.70	116	439	0.90	2.6
Spillway	Spillway During	2,661.30	2,815.20	153.90	82	310	0.80	25.8
	Spillway After	618.60	637.40	18.80	13	48	0.10	3.5
	Total			**2,307.30**	**217**	**823**	**2**	**32.6**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,244.5	2.74	53.23%
Bay 2	308.8	0.68	13.21%
Bay 3	222.0	0.49	9.50%
Bay 4	323.5	0.71	13.84%
Skimmer	38.07	0.08	1.63%
Spillway	201.1	0.44	8.60%
Actual	2,337.99		
Expected	2,473.9		
Percent Error	**5.49%**		

Test Series G

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:46:00	0:03	0.05	145.9067	16.7405	6.5990	6.8778	0.2788	128.9	2,163	896
	A102	10:49:00	0:06	0.10	135.3331	17.2991	6.5965	6.8650	0.2685	117.8	2,280	944
	A103	10:52:00	0:09	0.15	148.5014	16.8289	6.5331	6.8120	0.2789	131.4	2,123	917
	A104	10:55:00	0:12	0.20	142.8191	16.6892	6.5163	6.8248	0.3085	125.8	2,452	1,003
	A105	10:58:00	0:15	0.25	133.2163	16.7172	6.6496	6.9092	0.2596	116.2	2,233	911
	A106	11:01:00	0:18	0.30	133.5406	16.6811	6.5283	6.7896	0.2613	116.6	2,241	904
	A107	11:04:00	0:21	0.35	129.9447	16.7389	6.5518	6.7981	0.2463	113.0	2,180	911
	A108	11:07:00	0:24	0.40	136.7793	16.8842	6.5235	6.7589	0.2354	119.7	1,967	923
	A109	11:10:00	0:27	0.45	133.5915	16.5237	6.4933	6.7726	0.2793	116.8	2,392	970
	A110	11:13:00	0:30	0.50	142.9900	16.7915	6.3886	6.6643	0.2757	125.9	2,189	984
Skimmer	A201	10:46:00	0:03	0.05	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A202	10:49:00	0:06	0.10	113.7243	17.3766	6.6026	6.6809	0.0783	96.3	813	549
	A203	10:52:00	0:09	0.15	101.5835	17.1783	6.5600	6.6281	0.0681	84.3	807	531
	A204	10:55:00	0:12	0.20	119.4870	16.8513	6.4338	6.5142	0.0804	102.6	784	539
	A205	10:58:00	0:15	0.25	118.6171	16.6425	6.5453	6.6075	0.0622	101.9	610	433
	A206	11:01:00	0:18	0.30	124.3619	17.2434	6.6045	6.6588	0.0543	107.1	507	402
	A207	11:04:00	0:21	0.35	113.5062	17.3901	6.5041	6.5578	0.0537	96.1	559	388
	A208	11:07:00	0:24	0.40	121.8654	17.0958	6.5505	6.6038	0.0533	104.7	509	389
	A209	11:10:00	0:27	0.45	123.5834	17.2912	6.4895	6.5454	0.0559	106.2	526	393
	A210	11:13:00	0:30	0.50	127.6008	17.2996	6.5517	6.6082	0.0565	110.2	512	404
	A211	11:16:00	0:33	0.55	118.4172	17.0396	6.5430	6.5919	0.0489	101.3	483	386
	A212	11:19:00	0:36	0.60	105.9770	17.1975	6.5254	6.5582	0.0328	88.7	370	307
	A213	11:22:00	0:39	0.65	112.9289	16.9778	6.5265	6.5583	0.0318	95.9	332	273
	A214	11:37:00	0:54	0.90	128.7838	17.2108	6.5006	6.5246	0.0240	111.5	215	181
	A215	11:52:00	1:09	1.15	110.0542	17.1633	6.5628	6.5841	0.0213	92.9	229	191
	A216	12:07:00	1:24	1.40	119.8467	17.1925	6.5649	6.5879	0.0230	102.6	224	165
	A217	12:22:00	1:39	1.65	122.2491	16.6682	6.5189	6.5392	0.0203	105.6	192	151
	A218	12:37:00	1:54	1.90	136.2268	17.2113	6.4296	6.4509	0.0213	119.0	179	138
	A219	12:52:00	2:09	2.15	117.4848	17.2365	6.5772	6.5959	0.0187	100.2	187	137
	A220	13:07:00	2:24	2.40	121.8712	16.9256	6.5223	6.5392	0.0169	104.9	161	126
	A221	13:22:00	2:39	2.65	109.0724	17.0726	6.5649	6.5797	0.0148	92.0	161	123
	A222	13:37:00	2:54	2.90	127.2780	17.1400	6.3311	6.5483	0.2172	109.9	1,976	115
	A223	13:52:00	3:09	3.15	130.0105	17.2008	6.5461	6.5653	0.0192	112.8	170	116
	A224	14:07:00	3:24	3.40	125.6651	17.0466	6.4907	6.5087	0.0180	108.6	166	93
	A225	14:22:00	3:39	3.65	107.5377	17.0846	6.5625	6.5773	0.0148	90.4	164	96
	A226	14:37:00	3:54	3.90	84.5624	16.8219	6.5710	6.5828	0.0118	67.7	174	86
	A227	14:52:00	4:09	4.15	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A228	15:07:00	4:24	4.40	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A229	15:22:00	4:39	4.65	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A230	15:37:00	4:54	4.90	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A231	15:52:00	5:09	5.15	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A232	16:07:00	5:24	5.40	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A233	16:22:00	5:39	5.65	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A234	16:37:00	5:54	5.90	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
	A235	16:52:00	6:09	6.15	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A
Spillway	A301	10:58:48	0:15	0.26	110.8212	17.2734	6.4566	6.4916	0.0350	93.5	374	257
	A302	11:01:00	0:18	0.30	131.0415	17.4605	6.6450	6.7055	0.0605	113.5	533	369
	A303	11:04:00	0:21	0.35	140.2987	17.3267	6.5807	6.6566	0.0759	122.9	618	419
	A304	11:07:00	0:24	0.40	121.2836	17.4506	6.4347	6.4976	0.0629	103.8	606	414
	A305	11:10:00	0:27	0.45	140.3261	17.1910	6.5648	6.6480	0.0832	123.1	676	455
	A306	11:13:00	0:30	0.50	140.1617	16.7067	6.5701	6.6469	0.0768	123.4	622	450
	A307	11:16:00	0:33	0.55	151.3700	17.2741	6.5353	6.5876	0.0523	134.0	390	296
	A308	11:19:00	0:36	0.60	122.3110	16.8342	6.5673	6.5952	0.0279	105.4	265	199
	A309	11:22:00	0:39	0.65	N/A	N/A	N/A	N/A	#VALUE!	#VALUE!	#VALUE!	N/A

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	158.70	1,337.90	1,179.20				
Bay 2	Bay 2	74.20	201.30	127.10				
	Baffle 1			-				
Bay 3	Bay 3	31.80	187.70	155.90				
	Baffle 2			-				
Bay 4	Bay 4	158.70	392.30	233.60				
	Baffle 3			-				
Skimmer	Skimmer During	429.90	446.20	16.30	9	35	0.10	6.2
	Skimmer After	720.50	746.90	26.40	75	284	0.80	46.8
Spillway	Spillway During	2,532.40	2,675.90	143.50	92	348	0.80	60.7
	Spillway After	446.60	461.50	14.90	13	48	0.10	13.3
Bay 1	Bay 1 Tubs	480.00	498.10	18.10	37	139	0.20	27.0
	Total			**1,915.00**	**226**	**715**	**2**	**153.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,224.1	2.70	59.22%
Bay 2	127.1	0.28	6.15%
Bay 3	155.9	0.34	7.54%
Bay 4	233.6	0.51	11.30%
Skimmer	94.81	0.21	4.59%
Spillway	231.4	0.51	11.20%
Actual	2,066.91		
Expected	2,050.2		
Percent Error	**0.81%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	1145.2952	17.3191	6.5942	6.8786	0.2844	1127.7	252	1,001
	A102	0:06:00	0:06	0.10	143.5010	17.1774	6.5912	6.9172	0.3260	126.0	2,587	1,040
	A103	0:09:00	0:09	0.15	132.9497	17.2706	6.5320	6.8091	0.2771	115.4	2,401	1,024
	A104	0:12:00	0:12	0.20	135.3014	17.4138	6.5152	6.8218	0.3066	117.6	2,608	1,137
	A105	0:15:00	0:15	0.25	137.7904	17.2870	6.6515	6.9516	0.3001	120.2	2,497	1,104
	A106	0:18:00	0:18	0.30	142.3638	17.4448	6.5263	6.8858	0.3595	124.6	2,886	1,120
	A107	0:21:00	0:21	0.35	141.9887	17.2917	6.5528	6.8820	0.3292	124.4	2,647	1,174
	A108	0:24:00	0:24	0.40	141.1599	17.2214	6.5219	6.8368	0.3149	123.6	2,547	1,142
	A109	0:27:00	0:27	0.45	140.7276	16.8778	6.4956	6.8301	0.3345	123.5	2,708	1,107
	A110	0:30:00	0:30	0.50	144.5703	16.7715	6.3923	6.6950	0.3027	127.5	2,374	1,179
Skimmer	A201	0:03:00	0:03	0.05					0.0000	0.0	#DIV/0!	
	A202	0:06:00	0:06	0.10	130.1945	16.8836	6.6069	6.7036	0.0967	113.2	854	694
	A203	0:09:00	0:09	0.15	121.3366	17.3595	6.5608	6.6382	0.0774	103.9	745	593
	A204	0:12:00	0:12	0.20	112.7755	16.8497	6.4344	6.5083	0.0739	95.9	771	509
	A205	0:15:00	0:15	0.25	130.0452	17.2100	6.5466	6.6025	0.0559	112.8	496	449
	A206	0:18:00	0:18	0.30	124.1755	16.7890	6.6023	6.6692	0.0669	107.3	623	464
	A207	0:21:00	0:21	0.35	127.6367	16.7964	6.5125	6.5674	0.0549	110.8	496	423
	A208	0:24:00	0:24	0.40	126.5001	16.7499	6.5525	6.5991	0.0466	109.7	425	435
	A209	0:27:00	0:27	0.45	104.0453	17.2114	6.4901	6.5422	0.0521	86.8	600	414
	A210	0:30:00	0:30	0.50	119.7190	17.1084	6.5520	6.6002	0.0482	102.6	470	413
	A211	0:33:00	0:33	0.55	121.7952	16.8560	6.5424	6.5769	0.0345	104.9	329	329
	A212	0:36:00	0:36	0.60	109.1972	17.2879	6.5321	6.5648	0.0327	91.9	356	291
	A213	0:39:00	0:39	0.65	116.4737	17.2275	6.5312	6.5588	0.0276	99.2	278	229
	A214	0:54:00	0:54	0.90	125.8289	17.1050	6.5094	6.5237	0.0143	108.7	132	164
	A215	1:09:00	1:09	1.15	109.8601	17.2023	6.5615	6.5809	0.0194	92.6	209	165
	A216	1:24:00	1:24	1.40	126.6103	17.1714	6.5558	6.5761	0.0203	109.4	186	155
	A217	1:39:00	1:39	1.65	133.3451	16.9610	6.5295	6.5463	0.0168	116.4	144	132
	A218	1:54:00	1:54	1.90	118.8028	16.8895	6.4332	6.4508	0.0176	101.9	173	129
	A219	2:09:00	2:09	2.15	135.0542	17.1036	6.5791	6.5991	0.0200	117.9	170	145
	A220	2:24:00	2:24	2.40	134.4278	17.0497	6.5335	6.5496	0.0161	117.4	137	121
	A221	2:39:00	2:39	2.65	124.6171	16.8696	6.5625	6.5762	0.0137	107.7	127	111
	A222	2:54:00	2:54	2.90	121.6052	17.0320	6.5399	6.5561	0.0162	104.6	155	98
	A223	3:09:00	3:09	3.15	132.4682	16.7302	6.5477	6.5646	0.0169	115.7	146	105
	A224	3:24:00	3:24	3.40	133.2105	17.1714	6.5065	6.5212	0.0147	116.0	127	101
	A225	3:39:00	3:39	3.65	123.5749	16.7582	6.5758	6.5902	0.0144	106.8	135	95
	A226	3:54:00	3:54	3.90					0.0000	0.0	#DIV/0!	
	A227	4:09:00	4:09	4.15					0.0000	0.0	#DIV/0!	
	A228	4:24:00	4:24	4.40					0.0000	0.0	#DIV/0!	
	A229	4:39:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	4:54:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	5:09:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	5:24:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	5:39:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	5:54:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	6:09:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	0:00:00	0:00	0.00	161.7622	17.3108	6.4656	6.5450	0.0794	144.4	550	463
	A302	0:18:00	0:03	0.30	155.8211	17.2382	6.6470	6.7307	0.0837	138.5	604	478
	A303	0:21:00	0:06	0.35	140.6858	16.8713	6.5834	6.6519	0.0685	123.7	554	492
	A304	0:24:00	0:09	0.40	141.1350	17.1356	6.4410	6.5149	0.0739	123.9	596	509
	A305	0:27:00	0:12	0.45	131.5248	16.7069	6.5716	6.6456	0.0740	114.7	645	498
	A306	0:30:00	0:15	0.50	146.5539	17.5174	6.5850	6.6594	0.0744	129.0	577	482
	A307	0:33:00	0:18	0.55	114.9831	17.3038	6.5408	6.5790	0.0382	97.6	391	343
	A308	0:36:00	0:21	0.60	140.2807	17.3115	6.5988	6.6280	0.0292	122.9	238	234
	A309	0:39:00	0:24	0.65	50.1395	17.2602	6.5912	6.5792	-0.0120	32.9	(365)	181

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	374.20	1,628.30	1,254.10				
Bay 2	Bay 2	446.10	624.90	178.80				
	Baffle 1	1,769.50	1,794.90	25.40				
Bay 3	Bay 3	429.80	580.60	150.80				
	Baffle 2			-				
Bay 4	Bay 4	368.30	657.00	288.70				
	Baffle 3			-				
Skimmer	Skimmer During	616.40	636.10	19.70	8	32	0.10	4.2
	Skimmer After	2,501.80	2,525.80	24.00	77	291	0.80	46.1
Spillway	Spillway During	2,662.10	2,843.00	180.90	100	379	0.80	42.6
	Spillway After	719.40	730.70	11.30	8	30	0.10	3.5
Bay 1	Bay 1 Tubs	2,530.70	2,662.60	131.90	35	131	0.20	19.6
	Total			**2,265.60**	**228**	**731**	**2**	**115.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,405.4	3.10	59.06%
Bay 2	204.2	0.45	8.58%
Bay 3	150.8	0.33	6.34%
Bay 4	288.7	0.64	12.13%
Skimmer	93.08	0.21	3.91%
Spillway	237.3	0.52	9.97%
Actual	2,379.49		
Expected	2,357.6		
Percent Error	**0.93%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	11:45:00	0:03	0.05	139.8521	17.1759	6.6017	6.8219	0.2202	122.5	1,798	835
	A102	11:48:00	0:06	0.10	132.6040	17.2725	6.5940	6.8123	0.2183	115.1	1,896	805
	A103	11:51:00	0:09	0.15	141.2892	17.1864	6.5355	6.8201	0.2846	123.8	2,299	832
	A104	11:54:00	0:12	0.20	139.4020	16.7194	6.5195	6.8228	0.3033	122.4	2,478	1,160
	A105	11:57:00	0:15	0.25	138.5743	17.1282	6.6519	6.9446	0.2927	121.2	2,416	797
	A106	12:00:00	0:18	0.30	128.9103	17.1967	6.5297	6.7540	0.2243	111.5	2,012	818
	A107	12:03:00	0:21	0.35	135.0852	17.0261	6.5541	6.8584	0.3043	117.8	2,584	866
	A108	12:06:00	0:24	0.40	143.5476	17.3313	6.5253	6.7929	0.2676	125.9	2,125	938
	A109	12:09:00	0:27	0.45	127.2522	17.1520	6.4979	6.7667	0.2688	109.8	2,447	917
	A110	12:12:00	0:30	0.50	144.9147	16.9596	6.3943	6.6327	0.2384	127.7	1,867	827
Skimmer	A201	11:45:00	0:03	0.05					0.0000	0.0	#DIV/0!	
	A202	11:48:00	0:06	0.10	142.8960	16.9012	6.5960	6.7053	0.1093	125.9	868	539
	A203	11:51:00	0:09	0.15	151.4050	16.9047	6.5621	6.6571	0.0950	134.4	707	378
	A204	11:54:00	0:12	0.20	143.3901	17.2852	6.4296	6.5106	0.0810	126.0	643	445
	A205	11:57:00	0:15	0.25	140.1910	17.1652	6.5463	6.6268	0.0805	122.9	655	448
	A206	12:00:00	0:18	0.30	134.1225	16.8250	6.6046	6.6699	0.0653	117.2	557	370
	A207	12:03:00	0:21	0.35	129.3107	17.4554	6.5096	6.5625	0.0529	111.8	473	343
	A208	12:06:00	0:24	0.40	149.0188	17.1582	6.5530	6.6103	0.0573	131.8	435	326
	A209	12:09:00	0:27	0.45	142.0106	16.8520	6.4837	6.5407	0.0570	125.1	456	314
	A210	12:12:00	0:30	0.50	131.3903	17.3605	6.5494	6.6049	0.0555	114.0	487	309
	A211	12:15:00	0:33	0.55	139.3186	17.2225	6.5389	6.5914	0.0525	122.0	430	296
	A212	12:18:00	0:36	0.60	154.5768	17.0002	6.5198	6.5720	0.0522	137.5	380	274
	A213	12:21:00	0:39	0.65	145.1763	17.2788	6.5308	6.5767	0.0459	127.9	359	249
	A214	12:36:00	0:54	0.90	124.4704	17.1065	6.4998	6.5294	0.0296	107.3	276	192
	A215	12:51:00	1:09	1.15	129.1983	16.8265	6.5623	6.5849	0.0226	112.3	201	133
	A216	13:06:00	1:24	1.40	138.7524	16.9134	6.5463	6.5725	0.0262	121.8	215	144
	A217	13:21:00	1:39	1.65	132.9857	17.1139	6.5265	6.5497	0.0232	115.8	200	138
	A218	13:36:00	1:54	1.90	138.3797	17.4978	6.4367	6.4584	0.0217	120.9	180	126
	A219	13:51:00	2:09	2.15	128.3480	17.2264	6.5753	6.5948	0.0195	111.1	176	114
	A220	14:06:00	2:24	2.40	140.3452	17.2298	6.5265	6.5468	0.0203	123.1	165	97
	A221	14:21:00	2:39	2.65	130.9438	17.3254	6.5649	6.5777	0.0128	113.6	113	104
	A222	14:36:00	2:54	2.90	112.0146	16.6901	6.5416	6.5585	0.0169	95.3	177	90
	A223	14:51:00	3:09	3.15	133.1120	17.2012	6.5575	6.5774	0.0199	115.9	172	97
	A224	15:06:00	3:24	3.40	126.3606	16.7193	6.5107	6.5275	0.0168	109.6	153	86
	A225	15:21:00	3:39	3.65	123.6986	16.9283	6.5833	6.6000	0.0167	106.8	156	89
	A226	15:36:00	3:54	3.90	123.5594	17.2269	6.5917	6.6085	0.0168	106.3	158	87
	A227	15:51:00	4:09	4.15	97.7542	16.9023	6.5220	6.5350	0.0130	80.8	161	83
	A228	16:06:00	4:24	4.40	87.9069	17.3287	6.5685	6.5787	0.0102	70.6	145	69
	A229	16:21:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	16:36:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	16:51:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	17:06:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	17:21:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	17:36:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	17:51:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	11:57:30	0:15	0.26	138.0374	16.6911	6.4618	6.5027	0.0409	121.3	337	251
	A302	12:00:00	0:18	0.30	150.8417	17.1442	6.6453	6.7239	0.0786	133.6	588	417
	A303	12:03:00	0:21	0.35	149.1699	16.8437	6.5819	6.6706	0.0887	132.2	671	481
	A304	12:06:00	0:24	0.40	138.1376	16.8099	6.4405	6.5199	0.0794	121.2	655	460
	A305	12:09:00	0:27	0.45	124.9810	16.8195	6.5695	6.6400	0.0705	108.1	652	457
	A306	12:12:00	0:30	0.50	142.8237	17.0258	6.5847	6.6706	0.0859	125.7	683	449
	A307	12:15:00	0:33	0.55	156.1927	16.7419	6.5421	6.5978	0.0557	139.4	400	306
	A308	12:18:00	0:36	0.60	116.6717	17.1028	6.5766	6.6045	0.0279	99.5	280	209
	A309	12:21:00	0:39	0.65	117.4178	16.6989	6.5714	6.5905	0.0191	100.7	190	134

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	430.00	1,512.30	1,082.30				
Bay 2	Bay 2	374.90	509.40	134.50				
	Baffle 1	1,667.00	1,702.30	35.30				
Bay 3	Bay 3	365.70	460.60	94.90				
	Baffle 2			-				
Bay 4	Bay 4	446.30	684.60	238.30				
	Baffle 3			-				
Skimmer	Skimmer During	616.50	630.00	13.50	12	46	0.10	9.0
	Skimmer After	2,502.10	2,526.00	23.90	100	379	0.90	32.4
Spillway	Spillway During	2,659.70	2,820.00	160.30	75	284	0.80	22.0
	Spillway After	618.50	725.00	106.50	7	26	0.10	2.7
Bay 1	Bay 1 Tubs	2,530.00	2,663.00	133.00	35	131	0.20	16.1
	Total			**2,022.50**	**229**	**735**	**2**	**82.1**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,231.2	2.71	58.56%
Bay 2	169.8	0.37	8.08%
Bay 3	94.9	0.21	4.51%
Bay 4	238.3	0.53	11.33%
Skimmer	77.84	0.17	3.70%
Spillway	290.5	0.64	13.82%
Actual	2,102.51		
Expected	1,924.1		
Percent Error	**9.27%**		

Test Series H

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	127.0782	16.7228	6.6021	6.8711	0.2690	110.1	2,444	1,121
	A102	0:06:00	0:06	0.10	148.4136	17.0567	6.5927	6.9607	0.3680	131.0	2,809	1,168
	A103	0:09:00	0:09	0.15	143.2500	16.7816	6.5347	6.8408	0.3061	126.2	2,426	1,123
	A104	0:12:00	0:12	0.20	130.9395	16.7299	6.5172	6.8069	0.2897	113.9	2,543	1,185
	A105	0:15:00	0:15	0.25	142.8209	16.6534	6.6523	6.9530	0.3007	125.9	2,389	1,167
	A106	0:18:00	0:18	0.30	137.8693	16.7091	6.5293	6.8785	0.3492	120.8	2,890	1,201
	A107	0:21:00	0:21	0.35	131.5982	16.8286	6.5495	6.8548	0.3053	114.5	2,667	1,261
	A108	0:24:00	0:24	0.40	127.2855	16.7040	6.5245	6.8345	0.3100	110.3	2,811	1,206
	A109	0:27:00	0:27	0.45	132.4780	16.8036	6.4964	6.8228	0.3264	115.3	2,830	1,222
	A110	0:30:00	0:30	0.50	129.5695	16.7454	6.3904	6.6916	0.3012	112.5	2,677	1,162
Spillway	A301	0:00:00	0:00	0.00	134.1699	17.2372	6.4707	6.5741	0.1034	116.8	885	620
	A302	0:18:00	0:03	0.30	137.0947	17.4273	6.6529	6.7621	0.1092	119.6	913	630
	A303	0:21:00	0:06	0.35	142.2373	17.3079	6.5924	6.7174	0.1250	124.8	1,002	642
	A304	0:24:00	0:09	0.40	144.6101	17.4249	6.4437	6.5701	0.1264	127.1	995	699
	A305	0:27:00	0:12	0.45	157.6075	17.2015	6.5761	6.7121	0.1360	140.3	970	655
	A306	0:30:00	0:15	0.50	144.9111	16.7333	6.5970	6.7250	0.1280	128.0	1,000	682
	A307	0:33:00	0:18	0.55	136.2252	17.3148	6.5453	6.6205	0.0752	118.8	633	483
	A308	0:36:00	0:21	0.60	119.4546	16.6847	6.5823	6.6281	0.0458	102.7	446	334
	A309	0:39:00	0:24	0.65	141.0248	16.8474	6.5765	6.6163	0.0398	124.1	321	257

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.70	1,303.70	874.00				
Bay 2	Bay 2	375.00	750.20	375.20				
	Baffle 1			-				
Bay 3	Bay 3	365.40	679.20	313.80				
	Baffle 2			-				
Bay 4	Bay 4	446.10	922.80	476.70				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		#DIV/0!
	Skimmer After			-		-		#DIV/0!
Spillway	Spillway During	2,659.50	2,928.70	269.20	83	314	0.80	33.7
	Spillway After	618.40	659.60	41.20	25	94	0.10	10.1
BASIN	BASIN tubs	615.70	628.00	12.30	106	399	0.90	36.2
	Total			**2,362.40**	**213**	**408**	**2**	**#DIV/0!**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	874.0	1.93	35.81%
Bay 2	375.2	0.83	15.37%
Bay 3	313.8	0.69	12.86%
Bay 4	524.3	1.16	21.48%
Skimmer	N/A		
Spillway	353.4	0.78	14.48%
Actual	2,440.68		
Expected	2,360.2		
Percent Error	**3.41%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	134.5459	17.6048	6.6137	6.8777	0.2640	116.7	2,263	991
	A102	0:06:00	0:06	0.10	139.3640	17.2503	6.5972	6.8433	0.2461	121.9	2,019	946
	A103	0:09:00	0:09	0.15	129.8772	17.3454	6.5438	6.7836	0.2398	112.3	2,136	1,041
	A104	0:12:00	0:12	0.20	137.5229	17.4872	6.5237	6.7980	0.2743	119.8	2,290	1,027
	A105	0:15:00	0:15	0.25	129.4149	17.3005	6.6689	6.9593	0.2904	111.8	2,597	1,108
	A106	0:18:00	0:18	0.30	137.9506	17.2417	6.5359	6.8375	0.3016	120.4	2,505	1,038
	A107	0:21:00	0:21	0.35	128.4085	17.3658	6.5580	6.8348	0.2768	110.8	2,499	974
	A108	0:24:00	0:24	0.40	130.0299	17.2276	6.5360	6.7960	0.2600	112.5	2,310	968
	A109	0:27:00	0:27	0.45	126.6877	16.7908	6.5088	6.7865	0.2777	109.6	2,533	1,017
	A110	0:30:00	0:30	0.50	126.8376	16.8763	6.4083	6.7114	0.3031	109.7	2,764	1,042
Spillway	A301	0:00:00	0:00	0.00	130.6905	17.5720	6.5040	6.6206	0.1166	113.0	1,032	615
	A302	0:18:00	0:03	0.30	151.2611	17.4924	6.6814	6.7945	0.1131	133.7	846	529
	A303	0:21:00	0:06	0.35	143.4303	16.9992	6.6184	6.7353	0.1169	126.3	925	624
	A304	0:24:00	0:09	0.40	120.0808	17.2943	6.4629	6.5619	0.0990	102.7	964	643
	A305	0:27:00	0:12	0.45	136.8725	16.9125	6.5790	6.6921	0.1131	119.8	944	615
	A306	0:30:00	0:15	0.50	117.8572	17.5491	6.5882	6.6821	0.0939	100.2	937	620
	A307	0:33:00	0:18	0.55	136.6027	17.2260	6.5337	6.6130	0.0793	119.3	665	441
	A308	0:36:00	0:21	0.60	104.7805	17.1432	6.5828	6.6282	0.0454	87.6	518	409
	A309	0:39:00	0:24	0.65	111.8307	17.3790	6.5751	6.6095	0.0344	94.4	364	276

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.80	1,154.70	724.90				
Bay 2	Bay 2	375.30	759.90	384.60				
	Baffle 1			-				
Bay 3	Bay 3	365.70	671.70	306.00				
	Baffle 2			-				
Bay 4	Bay 4	446.40	926.20	479.80				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		#DIV/0!
	Skimmer After			-		-		#DIV/0!
Spillway	Spillway During	2,660.80	2,941.70	280.90	93	352	0.80	71.3
	Spillway After	618.70	654.90	36.20	23	88	0.10	27.6
Basin	Basin tubs	616.30	634.60	18.30	107	404	0.90	45.4
	Total			**2,230.70**	**223**	**440**	**2**	**#DIV/0!**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	724.9	1.60	30.54%
Bay 2	384.6	0.85	16.21%
Bay 3	306.0	0.67	12.89%
Bay 4	542.6	1.20	22.86%
Skimmer			
Spillway	415.1	0.92	17.49%
Actual	2,373.22		
Expected	2,255.6		
Percent Error	**5.21%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	1:38:00	0:03	0.05	145.3960	17.0879	6.6121	6.9835	0.3714	127.9	2,903	1,269
	A102	1:41:00	0:06	0.10	140.8608	17.2881	6.6074	6.9484	0.3410	123.2	2,767	1,047
	A103	1:44:00	0:09	0.15	148.2878	17.2283	6.5473	6.8521	0.3048	130.8	2,331	1,031
	A104	1:47:00	0:12	0.20	127.0791	16.7381	6.5264	6.7830	0.2566	110.1	2,331	1,072
	A105	1:50:00	0:15	0.25	137.4148	17.4042	6.6648	7.0641	0.3993	119.6	3,338	1,259
	A106	1:53:00	0:18	0.30	134.7304	17.4759	6.5423	6.8521	0.3098	116.9	2,649	1,113
	A107	1:56:00	0:21	0.35	127.3613	17.1817	6.5563	6.9118	0.3555	109.8	3,237	1,264
	A108	1:59:00	0:24	0.40	135.4054	17.1526	6.5332	6.8298	0.2966	118.0	2,514	1,062
	A109	2:02:00	0:27	0.45	131.0750	16.9870	6.5241	6.8008	0.2767	113.8	2,431	1,121
	A110	2:05:00	0:30	0.50	128.6685	17.1649	6.4031	6.7428	0.3397	111.2	3,056	1,236

Spillway	A301	1:50:30	0:15	0.26	124.9138	16.9008	6.4732	6.5717	0.0985	107.9	913	641
	A302	1:53:00	0:18	0.30	154.0136	17.1910	6.6570	6.7908	0.1338	136.7	979	662
	A303	1:56:00	0:21	0.35	144.0416	16.8980	6.6005	6.7215	0.1210	127.0	953	667
	A304	1:59:00	0:24	0.40	134.7470	16.8087	6.4499	6.5638	0.1139	117.8	967	646
	A305	2:02:00	0:27	0.45	137.7292	16.8365	6.5786	6.6905	0.1119	120.8	926	640
	A306	2:05:00	0:30	0.50	114.7976	17.3412	6.5946	6.6849	0.0903	97.4	927	662
	A307	2:08:00	0:33	0.55	109.4671	17.1327	6.5442	6.6000	0.0558	92.3	605	485
	A308	2:11:00	0:36	0.60	104.7865	17.0270	6.5932	6.6374	0.0442	87.7	504	399
	A309	2:14:00	0:39	0.65	121.7294	16.7896	6.5829	6.6199	0.0370	104.9	353	287

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.80	1,359.50	929.70				
Bay 2	Bay 2	374.90	661.50	286.60				
	Baffle 1			-				
Bay 3	Bay 3	365.20	664.40	299.20				
	Baffle 2			-				
Bay 4	Bay 4	445.90	938.60	492.70				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,655.70	2,967.90	312.20	96	363	0.90	34.7
	Spillway After	618.40	655.00	36.60	20	74	0.20	29.4
Bay 1	Bay 1 Tubs	2,530.00	2,537.30	7.30	106	401	1.00	105.2
	Total			**2,364.30**	**222**	**437**	**2**	**169.3**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,041.2	2.30	41.13%
Bay 2	286.6	0.63	11.32%
Bay 3	299.2	0.66	11.82%
Bay 4	492.7	1.09	19.46%
Skimmer		0.00	0.00%
Spillway	411.8	0.91	16.27%
Actual	2,531.51		
Expected	2,429.3		
Percent Error	**4.21%**		

Test Series I

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	1:43:00	0:03	0.05	147.4686	17.0330	6.9829	7.2801	0.2972	130.1	2,284	1,061
	A102	1:46:00	0:06	0.10	151.1459	17.3349	6.9513	7.2666	0.3153	133.5	2,362	992
	A103	1:49:00	0:09	0.15	146.1788	17.1770	6.8556	7.1829	0.3273	128.7	2,544	1,082
	A104	1:52:00	0:12	0.20	153.6065	16.7689	6.7893	7.0647	0.2754	136.6	2,017	1,152
	A105	1:55:00	0:15	0.25	132.8131	17.3546	7.0539	7.3320	0.2781	115.2	2,414	1,188
	A106	1:58:00	0:18	0.30	132.9758	17.4063	6.8490	7.1297	0.2807	115.3	2,435	1,091
	A107	2:01:00	0:21	0.35	134.0081	17.2804	6.8438	7.1247	0.2809	116.4	2,412	1,169
	A108	2:04:00	0:24	0.40	136.3448	17.3127	6.8326	7.1502	0.3176	118.7	2,675	1,217
	A109	2:07:00	0:27	0.45	131.7393	16.9328	6.8053	7.0506	0.2453	114.6	2,141	980
	A110	2:10:00	0:30	0.50	129.7191	17.1156	6.7410	6.9939	0.2529	112.4	2,251	1,086
Spillway	A301	1:53:50	0:13	0.23	161.9921	16.7731	6.5733	6.6970	0.1237	145.1	853	587
	A302	1:58:00	0:16	0.30	156.2571	17.1021	6.7924	6.9009	0.1085	139.0	780	639
	A303	2:01:00	0:19	0.35	110.2803	16.7953	6.7261	6.8138	0.0877	93.4	939	687
	A304	2:04:00	0:22	0.40	135.6905	16.7587	6.5668	6.6738	0.1070	118.8	900	649
	A305	2:07:00	0:25	0.45	115.1379	16.6917	6.6941	6.7835	0.0894	98.4	909	620
	A306	2:10:00	0:28	0.50	134.0942	17.2123	6.6898	6.7924	0.1026	116.8	879	563
	A307	2:13:00	0:31	0.55	151.0870	16.8555	6.6021	6.7186	0.1165	134.1	869	617
	A308	2:16:00	0:34	0.60	154.6183	16.9221	6.6397	6.7275	0.0878	137.6	638	498
	A309	2:19:00	0:37	0.65	139.4379	16.6799	6.6219	6.6804	0.0585	122.7	477	380
					147.0153	17.0529	6.5801	6.6241	0.0440	129.9	339	269

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.10	1,314.20	861.10				
Bay 2	Bay 2	447.40	828.40	381.00				
	Baffle 1			-				
Bay 3	Bay 3	368.50	634.20	265.70				
	Baffle 2			-				
Bay 4	Bay 4	375.30	718.70	343.40				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,504.60	2,832.70	328.10	109	414	1.00	51.6
	Spillway After	615.00	648.50	33.50	15	58	0.20	5.6
Bay 1	Bay 1 Tubs	2,515.60	2,524.30	8.70	100	379	1.00	39.3
	Total			**2,221.50**	**224**	**471**	**2**	**96.4**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	888.4	1.96	38.37%
Bay 2	381.0	0.84	16.45%
Bay 3	265.7	0.59	11.47%
Bay 4	363.0	0.80	15.68%
Skimmer		0.00	0.00%
Spillway	417.6	0.92	18.03%
Actual	2,315.71		
Expected	2,273.9		
Percent Error	**1.84%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	1:23:00	0:03	0.05	147.8859	17.2550	6.6202	6.9581	0.3379	130.3	2,593	1,109
	A102	1:26:00	0:06	0.10	145.8460	17.1308	6.6220	6.9159	0.2939	128.4	2,289	1,097
	A103	1:29:00	0:09	0.15	144.4681	17.2071	6.5489	6.8271	0.2782	127.0	2,191	1,113
	A104	1:32:00	0:12	0.20	153.3421	17.1748	6.5205	6.8547	0.3342	135.8	2,460	1,265
	A105	1:35:00	0:15	0.25	141.1125	17.2087	6.6727	6.9593	0.2866	123.6	2,318	1,144
	A106	1:38:00	0:18	0.30	132.7126	17.3075	6.5458	6.8399	0.2941	115.1	2,555	1,164
	A107	1:41:00	0:21	0.35	132.8595	17.2054	6.5631	6.8672	0.3041	115.4	2,636	1,142
	A108	1:44:00	0:24	0.40	131.1320	17.1869	6.5411	6.8359	0.2948	113.7	2,594	1,302
	A109	1:47:00	0:27	0.45	132.3382	16.9230	6.5153	6.8028	0.2875	115.1	2,497	1,153
	A110	1:50:00	0:30	0.50	145.1943	16.8106	6.4049	6.7497	0.3448	128.0	2,693	1,213
Spillway	A301	1:33:50	0:13	0.23	118.9903	17.2177	6.4854	6.5808	0.0954	101.7	938	678
	A302	1:38:00	0:16	0.30	138.4164	17.1158	6.6664	6.7710	0.1046	121.2	863	662
	A303	1:41:00	0:19	0.35	141.6192	16.7494	6.6150	6.7198	0.1048	124.8	840	593
	A304	1:44:00	0:22	0.40	143.4116	17.3258	6.4542	6.5560	0.1018	126.0	808	599
	A305	1:47:00	0:25	0.45	141.2709	16.9449	6.5949	6.6982	0.1033	124.2	832	615
	A306	1:50:00	0:28	0.50	124.7596	17.3612	6.6078	6.7112	0.1034	107.3	964	652
	A307	1:53:00	0:31	0.55	142.6806	17.2701	6.5488	6.6692	0.1204	125.3	961	664
	A308	1:56:00	0:34	0.60	142.6630	17.0265	6.5939	6.6695	0.0756	125.6	602	494
	A309	1:59:00	0:37	0.65	137.6782	17.1769	6.5842	6.6385	0.0543	120.4	451	365

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.50	1,330.20	876.70				
Bay 2	Bay 2	447.60	853.20	405.60				
	Baffle 1			-				
Bay 3	Bay 3	368.60	645.30	276.70				
	Baffle 2			-				
Bay 4	Bay 4	375.60	778.50	402.90				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,507.00	2,840.50	333.50	114	430	1.00	62.5
	Spillway After	614.10	645.60	31.50	17	63	0.20	9.2
Bay 1	Bay 1 Tubs	2,495.00	2,510.10	15.10	101	382	1.00	48.7
	Total			**2,342.00**	**231**	**492**	**2**	**120.3**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	939.5	2.07	38.19%
Bay 2	405.6	0.89	16.49%
Bay 3	276.7	0.61	11.25%
Bay 4	402.9	0.89	16.38%
Skimmer		0.00	0.00%
Spillway	435.4	0.96	17.70%
Actual	2,460.11		
Expected	2,388.4		
Percent Error	**3.00%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	3:01:00	0:03	0.05	147.0705	17.0099	6.6211	6.9442	0.3231	129.7	2,490	1,124
	A102	3:04:00	0:06	0.10	148.0209	17.3155	6.6161	6.9111	0.2950	130.4	2,262	1,066
	A103	3:07:00	0:09	0.15	152.9814	17.0432	6.5546	6.8800	0.3254	135.6	2,399	1,037
	A104	3:10:00	0:12	0.20	146.7196	16.6597	6.5361	6.7951	0.2590	129.8	1,995	980
	A105	3:13:00	0:15	0.25	147.9415	17.3353	6.6742	6.9729	0.2987	130.3	2,292	1,041
	A106	3:16:00	0:18	0.30	132.5199	17.2079	6.5477	6.8455	0.2978	115.0	2,589	1,024
	A107	3:19:00	0:21	0.35	147.9415	17.0690	6.5634	6.8723	0.3089	130.6	2,366	1,143
	A108	3:22:00	0:24	0.40	139.8758	17.0944	6.5419	6.8462	0.3043	122.5	2,485	1,110
	A109	3:25:00	0:27	0.45	136.8412	17.0146	6.5168	6.8478	0.3310	119.5	2,770	1,080
	A110	3:28:00	0:30	0.50	137.4169	17.2642	6.4082	6.7259	0.3177	119.8	2,651	1,130
Spillway	A301	3:12:30	0:14	0.24	144.3740	16.6747	6.4787	6.5959	0.1172	127.6	919	649
	A302	3:16:00	0:17	0.30	155.2099	17.1149	6.6640	6.7874	0.1234	138.0	894	609
	A303	3:19:00	0:20	0.35	146.9023	16.5810	6.6082	6.7162	0.1080	130.2	829	566
	A304	3:22:00	0:23	0.40	135.6627	16.6943	6.4527	6.5530	0.1003	118.9	844	589
	A305	3:25:00	0:26	0.45	138.3443	16.7967	6.5901	6.6812	0.0911	121.5	750	522
	A306	3:28:00	0:29	0.50	122.6842	17.2365	6.6037	6.6912	0.0875	105.4	830	569
	A307	3:31:00	0:32	0.55	126.5516	16.6475	6.5463	6.6075	0.0612	109.8	557	413
	A308	3:34:00	0:35	0.60	138.8654	16.9263	6.5952	6.6412	0.0460	121.9	377	304
	A309	3:37:00	0:38	0.65	138.2488	16.8017	6.5914	6.6206	0.0292	121.4	240	177

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.20	1,381.00	927.80				
Bay 2	Bay 2	447.50	874.10	426.60				
	Baffle 1			-				
Bay 3	Bay 3	368.60	653.40	284.80				
	Baffle 2			-				
Bay 4	Bay 4	375.40	798.20	422.80				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,505.00	2,861.00	356.00	117	441	1.00	54.9
	Spillway After	614.20	643.40	29.20	14	51	0.20	6.1
Bay 1	Bay 1 Tubs	2,495.60	2,505.40	9.80	100	379	1.00	68.8
	Total			**2,457.00**	**230**	**493**	**2**	**129.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,005.4	2.22	38.90%
Bay 2	426.6	0.94	16.50%
Bay 3	284.8	0.63	11.02%
Bay 4	422.8	0.93	16.36%
Skimmer		0.00	0.00%
Spillway	445.1	0.98	17.22%
Actual	2,584.68		
Expected	2,466.0		
Percent Error	**4.81%**		

Test Series J

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	3:03:00	0:03	0.05	162.3547	16.8306	6.6896	7.1228	0.4332	145.1	2,986	907
	A102	3:06:00	0:06	0.10	138.9006	17.3265	6.6267	6.9544	0.3277	121.2	2,703	1,135
	A103	3:09:00	0:09	0.15	143.9615	16.6966	6.5787	6.8813	0.3026	127.0	2,383	1,147
	A104	3:12:00	0:12	0.20	146.6948	16.7666	6.4602	6.8399	0.3797	129.5	2,931	1,172
	A105	3:15:00	0:15	0.25	152.2863	16.6739	6.5605	6.9185	0.3580	135.3	2,647	1,078
	A106	3:18:00	0:18	0.30	141.8540	16.7108	6.6116	7.0029	0.3913	124.8	3,137	1,139
	A107	3:21:00	0:21	0.35	137.2736	16.5264	6.5099	6.7951	0.2852	120.5	2,368	989
	A108	3:24:00	0:24	0.40	150.3882	16.6907	6.5846	6.8661	0.2815	133.4	2,110	1,180
	A109	3:27:00	0:27	0.45	156.8519	16.6490	6.5131	6.8832	0.3701	139.8	2,647	1,040
	A110	3:30:00	0:30	0.50	152.3902	16.7294	6.5740	6.9439	0.3699	135.3	2,734	1,109
Spillway	A301	3:06:00	0:06	0.10	145.7974	17.1589	6.5656	6.7229	0.1573	128.5	1,224	797
	A302	3:18:00	0:09	0.30	122.0319	17.4048	6.5533	6.6784	0.1251	104.5	1,197	797
	A303	3:21:00	0:12	0.35	122.6739	17.2856	6.5349	6.6626	0.1277	105.3	1,213	776
	A304	3:24:00	0:15	0.40	122.1972	17.3882	6.5340	6.6599	0.1259	104.7	1,203	787
	A305	3:27:00	0:18	0.45	126.0867	17.0811	6.5953	6.7230	0.1277	108.9	1,173	816
	A306	3:30:00	0:21	0.50	139.9334	16.9197	6.5575	6.6990	0.1415	122.9	1,152	768
	A307	3:33:00	0:24	0.55	159.8485	17.2512	6.5474	6.7099	0.1625	142.4	1,141	757
	A308	3:36:00	0:27	0.60	137.9838	16.6531	6.4760	6.5864	0.1104	121.2	911	765
	A309	3:39:00	0:30	0.65	122.2310	16.8344	6.5821	6.7022	0.1201	105.3	1,141	745
					129.0706	16.6441	6.5385	6.6004	0.0619	112.4	551	459
					136.2757	17.3155	6.5676	6.6240	0.0564	118.9	474	373

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.70	900.40	534.70				
Bay 2	Bay 2	281.50	509.50	228.00				
	Baffle 1			-				
Bay 3	Bay 3	240.50	449.60	209.10				
	Baffle 2			-				
Bay 4	Bay 4	387.30	903.20	515.90				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	5,190.50	5,922.40	731.90	180	681	2.00	105.2
	Spillway After	618.90	646.30	27.40	9	33	0.20	3.6
Bay 1	Bay 1 Tubs	502.30	504.80	2.50	41	156	0.20	14.0
	Total			**2,249.50**	**230**	**715**	**2**	**122.7**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	551.0	1.21	23.25%
Bay 2	228.0	0.50	9.62%
Bay 3	209.1	0.46	8.82%
Bay 4	515.9	1.14	21.77%
Skimmer		0.00	0.00%
Spillway	865.8	1.91	36.54%
Actual	2,369.81		
Expected	2,296.6		
Percent Error	**3.19%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	2:43:00	0:03	0.05	155.9071	16.7493	6.5941	6.9725	0.3784	138.8	2,727	1,026
	A102	2:46:00	0:06	0.10	122.6273	16.6505	6.6228	6.8757	0.2529	105.7	2,392	1,093
	A103	2:49:00	0:09	0.15	138.9138	17.1633	6.5756	6.9109	0.3353	121.4	2,762	1,073
	A104	2:52:00	0:12	0.20	118.3973	16.6638	6.4624	6.6908	0.2284	101.5	2,250	1,110
	A105	2:55:00	0:15	0.25	162.2852	17.2015	6.5604	6.9826	0.4222	144.7	2,919	1,127
	A106	2:58:00	0:18	0.30	145.5722	16.7105	6.6185	6.9418	0.3233	128.5	2,515	1,101
	A107	3:01:00	0:21	0.35	160.5505	16.7220	6.5179	6.8958	0.3779	143.5	2,634	1,096
	A108	3:04:00	0:24	0.40	157.7786	16.8438	6.5857	6.8948	0.3091	140.6	2,198	1,026
	A109	3:07:00	0:27	0.45	147.5291	17.2937	6.5057	6.8236	0.3179	129.9	2,447	1,069
	A110	3:10:00	0:30	0.50	122.1239	17.2562	6.5798	6.8516	0.2718	104.6	2,599	1,078
Spillway	A301	2:46:10	0:06	0.10	146.9914	16.8589	6.5581	6.7296	0.1715	130.0	1,320	855
	A302	2:58:00	0:09	0.30	136.4008	17.0730	6.5411	6.6865	0.1454	119.2	1,220	801
	A303	3:01:00	0:12	0.35	125.9188	17.3940	6.5371	6.6671	0.1300	108.4	1,199	775
	A304	3:04:00	0:15	0.40	122.9468	17.2114	6.5278	6.6497	0.1219	105.6	1,154	767
	A305	3:07:00	0:18	0.45	135.6014	17.1955	6.5862	6.7239	0.1377	118.3	1,164	777
	A306	3:10:00	0:21	0.50	156.3530	17.2113	6.5554	6.7071	0.1517	139.0	1,091	772
	A307	3:13:00	0:24	0.55	129.1992	16.7624	6.5425	6.6699	0.1274	112.3	1,134	749
	A308	3:16:00	0:27	0.60	151.1128	16.8898	6.4424	6.6015	0.1591	134.1	1,187	790
	A309	3:19:00	0:30	0.65	122.7456	17.0296	6.5847	6.7090	0.1243	105.6	1,177	791

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.90	811.40	445.50				
Bay 2	Bay 2	281.60	501.80	220.20				
	Baffle 1			-				
Bay 3	Bay 3	240.60	439.10	198.50				
	Baffle 2			-				
Bay 4	Bay 4	387.50	981.50	594.00				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	5,184.20	5,922.20	738.00	180	681	2.00	101.8
	Spillway After	618.30	640.20	21.90	8	32	0.20	4.9
Bay 1	Bay 1 Tubs	995.20	1,010.00	14.80	41	156	0.90	20.5
	Total			**2,232.90**	**230**	**713**	**3**	**127.1**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	479.9	1.06	20.36%
Bay 2	220.2	0.49	9.34%
Bay 3	198.5	0.44	8.42%
Bay 4	594.0	1.31	25.20%
Skimmer		0.00	0.00%
Spillway	864.3	1.91	36.67%
Actual	2,356.95		
Expected	2,282.5		
Percent Error	**3.26%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	3:51:00	0:03	0.05	150.0954	16.8176	6.5982	7.0512	0.4530	132.8	3,411	1,230
	A102	3:54:00	0:06	0.10	125.6387	17.1430	6.6194	6.9299	0.3105	108.2	2,870	1,182
	A103	3:57:00	0:09	0.15	119.7356	16.8043	6.5764	6.8432	0.2668	102.7	2,599	1,148
	A104	4:00:00	0:12	0.20	139.4110	16.5239	6.4606	6.8036	0.3430	122.5	2,799	1,350
	A105	4:03:00	0:15	0.25	122.4969	16.6796	6.5618	6.8423	0.2805	105.5	2,658	1,216
	A106	4:06:00	0:18	0.30	132.5325	16.6660	6.6214	6.9449	0.3235	115.5	2,800	1,281
	A107	4:09:00	0:21	0.35	128.8614	16.6608	6.5159	6.8787	0.3628	111.8	3,244	1,228
	A108	4:12:00	0:24	0.40	112.6431	16.8114	6.5785	6.8697	0.2912	95.5	3,048	1,208
	A109	4:15:00	0:27	0.45	141.4502	16.6752	6.5246	6.9024	0.3778	124.4	3,037	1,262
	A110	4:18:00	0:30	0.50	141.2430	16.7377	6.5745	6.9814	0.4069	124.1	3,279	1,325
Spillway	A301	3:54:00	0:06	0.10	130.6336	17.0926	6.5626	6.7114	0.1488	113.4	1,312	829
	A302	4:06:00	0:09	0.30	146.3700	17.3787	6.6132	6.7789	0.1657	128.8	1,286	879
	A303	4:09:00	0:12	0.35	146.7602	17.4317	6.5894	6.7509	0.1615	129.2	1,250	820
	A304	4:12:00	0:15	0.40	151.3572	17.4119	6.6174	6.7549	0.1375	133.8	1,028	849
	A305	4:15:00	0:18	0.45	131.0522	17.1401	6.5939	6.7365	0.1426	113.8	1,253	792
	A306	4:18:00	0:21	0.50	124.4031	16.8592	6.5646	6.6988	0.1342	107.4	1,249	824
	A307	4:21:00	0:24	0.55	140.9470	17.0432	6.5529	6.7094	0.1565	123.7	1,265	799
	A308	4:24:00	0:27	0.60	135.1606	16.6026	6.4513	6.6008	0.1495	118.4	1,263	815
	A309	4:27:00	0:30	0.65	116.9054	16.7291	6.5906	6.6570	0.0664	100.1	663	493
					125.6715	16.8751	6.5451	6.5953	0.0502	108.7	462	365
					109.9608	17.3094	6.5799	6.6082	0.0283	92.6	306	225

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.80	910.40	544.60				
Bay 2	Bay 2	281.40	530.40	249.00				
	Baffle 1			-				
Bay 3	Bay 3	240.70	480.30	239.60				
	Baffle 2			-				
Bay 4	Bay 4	387.60	961.80	574.20				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,529.90	3,329.70	799.80	180	681	2.00	87.6
	Spillway After	493.40	642.50	149.10	8	30	0.20	4.4
Bay 1	Bay 1 Tubs	1,426.20	1,435.60	9.40	38	143	0.80	24.3
	Total			**2,565.70**	**226**	**711**	**3**	**116.3**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	568.1	1.25	21.21%
Bay 2	249.0	0.55	9.29%
Bay 3	244.3	0.54	9.12%
Bay 4	578.9	1.28	21.61%
Skimmer		0.00	0.00%
Spillway	1,038.7	2.29	38.77%
Actual	2,678.98		
Expected	2,476.4		
Percent Error	**8.18%**		

Test Series K

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	117.6342	17.3296	6.5998	6.8338	0.2340	100.1	2,338	1,024
Inflow	A102	0:06:00	0:06	0.10	144.0916	17.4731	6.5909	6.8887	0.2978	126.3	2,357	1,149
Inflow	A103	0:09:00	0:09	0.15	122.3941	17.2252	6.5294	6.7573	0.2279	104.9	2,172	1,020
Inflow	A104	0:12:00	0:12	0.20	129.8079	16.8426	6.5112	6.7403	0.2291	112.7	2,032	1,074
Inflow	A105	0:15:00	0:15	0.25	117.2272	17.1898	6.6521	6.8878	0.2357	99.8	2,362	1,083
Inflow	A106	0:18:00	0:18	0.30	102.2324	17.2745	6.5349	6.7298	0.1949	84.8	2,299	1,167
Inflow	A107	0:21:00	0:21	0.35	117.1916	17.0553	6.5438	6.8461	0.3023	99.8	3,028	1,197
Inflow	A108	0:24:00	0:24	0.40	119.7881	17.0365	6.5243	6.7479	0.2236	102.5	2,181	1,192
Inflow	A109	0:27:00	0:27	0.45	133.5333	17.0770	6.4916	6.7476	0.2560	116.2	2,203	1,308
Inflow	A110	0:30:00	0:30	0.50	113.3427	17.1533	6.3871	6.6551	0.2680	95.9	2,794	1,401
Spillway	A301	0:00:00	0:00	0.00	116.4958	16.6896	6.4701	6.5159	0.0458	99.8	459	402
Spillway	A302	0:18:00	0:03	0.30	145.5478	16.9888	6.6468	6.7145	0.0677	128.5	527	430
Spillway	A303	0:21:00	0:06	0.35	127.6648	16.9440	6.5933	6.6584	0.0651	110.7	588	476
Spillway	A304	0:24:00	0:09	0.40	140.2718	16.6657	6.4439	6.5178	0.0739	123.5	598	489
Spillway	A305	0:27:00	0:12	0.45	127.5283	16.8562	6.5767	6.6495	0.0728	110.6	658	547
Spillway	A306	0:30:00	0:15	0.50	139.1854	17.1038	6.5936	6.6751	0.0815	122.0	668	539
Spillway	A307	0:33:00	0:18	0.55	105.9635	16.8315	6.5312	6.5925	0.0613	89.1	688	519
Spillway	A308	0:36:00	0:21	0.60	116.2656	17.0756	6.5865	6.6227	0.0362	99.2	365	326
Spillway	A309	0:39:00	0:24	0.65	141.4718	16.9173	6.5929	6.6362	0.0433	124.5	348	286
					139.0901	17.3746	6.5549	6.5787	0.0238	121.7	196	170

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.20	1,635.40	1,182.20				
Bay 2	Bay 2	447.40	750.50	303.10				
Bay 2	Baffle 1	1,077.60	1,131.90	54.30				
Bay 3	Bay 3	368.70	559.70	191.00				
Bay 3	Baffle 2			-				
Bay 4	Bay 4	375.60	701.30	325.70				
Bay 4	Baffle 3			-				
Skimmer	Skimmer During	-	-	-		-		
Skimmer	Skimmer After	-	-	-		-		
Spillway	Spillway During	2,504.80	2,746.70	241.90	113	428	1.00	46.0
Spillway	Spillway After	613.80	632.90	19.10	15	57	0.20	6.4
Bay 1	Bay 1 Tubs	2,499.10	2,546.30	47.20	97	367	0.90	31.4
	Total			**2,364.50**	**225**	**485**	**2**	**83.7**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,259.9	2.78	51.50%
Bay 2	357.4	0.79	14.61%
Bay 3	191.0	0.42	7.81%
Bay 4	325.7	0.72	13.32%
Skimmer		0.00	0.00%
Spillway	312.1	0.69	12.76%
Actual	2,446.11		
Expected	2,400.8		
Percent Error	**1.89%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	3:00:00	0:03	0.05	144.3574	17.1907	6.5989	6.9215	0.3226	126.8	2,543	991
	A102	3:03:00	0:06	0.10	131.0359	17.2914	6.5871	6.9132	0.3261	113.4	2,875	1,200
	A103	3:06:00	0:09	0.15	150.5500	17.4191	6.5266	6.8391	0.3125	132.8	2,353	1,118
	A104	3:09:00	0:12	0.20	148.7671	16.9046	6.5072	6.8404	0.3332	131.5	2,533	1,163
	A105	3:12:00	0:15	0.25	139.3716	17.2126	6.6471	6.9740	0.3269	121.8	2,683	1,167
	A106	3:15:00	0:18	0.30	124.8077	17.2526	6.5447	6.8458	0.3011	107.3	2,807	1,201
	A107	3:18:00	0:21	0.35	133.0470	17.3303	6.5475	6.8595	0.3120	115.4	2,704	1,117
	A108	3:21:00	0:24	0.40	119.5804	17.4329	6.5396	6.8084	0.2688	101.9	2,638	1,080
	A109	3:24:00	0:27	0.45	128.2105	17.4929	6.4891	6.8163	0.3272	110.4	2,964	1,099
	A110	3:27:00	0:30	0.50	110.6815	17.3052	6.3889	6.6542	0.2653	93.1	2,849	1,168
Spillway	A301	3:10:30	0:13	0.23	134.9705	16.9751	6.4685	6.5270	0.0585	117.9	496	370
	A302	3:15:00	0:16	0.30	148.4382	17.2923	6.6457	6.7048	0.0591	131.1	451	392
	A303	3:18:00	0:19	0.35	142.8808	16.8077	6.5977	6.6735	0.0758	126.0	602	458
	A304	3:21:00	0:22	0.40	131.9480	16.6256	6.4427	6.5163	0.0736	115.2	639	450
	A305	3:24:00	0:25	0.45	123.5798	16.7362	6.5737	6.6375	0.0638	106.8	597	443
	A306	3:27:00	0:28	0.50	112.4862	17.0944	6.5935	6.6531	0.0596	95.3	625	300
	A307	3:30:00	0:31	0.55	130.9248	16.7557	6.5306	6.6058	0.0752	114.1	659	495
	A308	3:33:00	0:34	0.60	122.5203	17.3139	6.5869	6.6209	0.0340	105.2	323	270
	A309	3:36:00	0:37	0.65	139.9154	16.7895	6.5873	6.6206	0.0333	123.1	271	271
					135.8869	17.3223	6.5497	6.5732	0.0235	118.5	198	176

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	452.90	1,818.50	1,365.60				
Bay 2	Bay 2	447.30	715.80	268.50				
	Baffle 1	1,091.10	1,153.20	62.10				
Bay 3	Bay 3	368.50	593.10	224.60				
	Baffle 2			-				
Bay 4	Bay 4	375.40	714.10	338.70				
	Baffle 3			-				
Skimmer	Skimmer During	-	-	-		-		
	Skimmer After	-	-	-		-		
Spillway	Spillway During	2,505.10	2,750.00	244.90	100	379		37.5
	Spillway After	613.70	630.90	17.20	18	68		7.4
Bay 1	Bay 1 Tubs	2,496.70	2,521.90	25.20	100	379		36.0
	Total			**2,546.80**	**218**	**447**	**-**	**80.8**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,426.8	3.15	54.30%
Bay 2	330.6	0.73	12.58%
Bay 3	224.6	0.50	8.55%
Bay 4	338.7	0.75	12.89%
Skimmer		0.00	0.00%
Spillway	307.0	0.68	11.68%
Actual	2,627.62		
Expected	2,544.6		
Percent Error	**3.26%**		

Test Series L

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	155.5991	16.8748	6.5786	7.0033	0.4247	138.3	3,071	1,212
	A102	0:06:00	0:06	0.10	128.5995	17.1871	6.5999	6.9542	0.3543	111.1	3,190	1,250
	A103	0:09:00	0:09	0.15	138.6015	16.7128	6.5630	6.9638	0.4008	121.5	3,299	1,339
	A104	0:12:00	0:12	0.20	134.7209	16.8917	6.4450	6.8875	0.4425	117.4	3,770	1,277
	A105	0:15:00	0:15	0.25	129.9550	16.6478	6.5440	6.8938	0.3498	113.0	3,097	1,265
	A106	0:18:00	0:18	0.30	150.4922	16.8836	6.6047	7.0494	0.4447	133.2	3,339	1,408
	A107	0:21:00	0:21	0.35	137.8804	16.7328	6.5017	6.9845	0.4828	120.7	4,001	1,351
	A108	0:24:00	0:24	0.40	126.6008	17.1075	6.5657	6.9074	0.3417	109.2	3,131	1,364
	A109	0:27:00	0:27	0.45	115.7150	16.8419	6.4951	6.8013	0.3062	98.6	3,107	1,379
	A110	0:30:00	0:30	0.50	137.4495	16.8261	6.5558	6.9835	0.4277	120.2	3,558	1,424
Spillway	A301	0:00:00	0:00	0.00	130.1764	17.1609	6.7499	6.8297	0.0798	112.9	707	544
	A302	0:18:00	0:03	0.30	153.3990	17.3276	6.7043	6.8085	0.1042	136.0	766	774
	A303	0:21:00	0:06	0.35	145.7215	17.3565	6.6873	6.8171	0.1298	128.2	1,012	746
	A304	0:24:00	0:09	0.40	149.7546	17.3026	6.6657	6.8073	0.1416	132.3	1,070	779
	A305	0:27:00	0:12	0.45	153.5993	17.2694	6.7468	6.8770	0.1302	136.2	956	719
	A306	0:30:00	0:15	0.50	143.7343	16.7677	6.5507	6.6841	0.1334	126.8	1,052	731
	A307	0:33:00	0:18	0.55	152.3954	17.2705	6.5529	6.6929	0.1400	135.0	1,037	727
	A308	0:36:00	0:21	0.60	134.9555	16.9150	6.4514	6.5744	0.1230	117.9	1,043	736
	A309	0:39:00	0:24	0.65	126.2572	16.8699	6.5942	6.7101	0.1159	109.3	1,061	790
					142.8190	16.8798	6.6098	6.6538	0.0440	125.9	349	345
					123.1200	17.1917	6.6715	6.6912	0.0197	105.9	186	245
					97.1628	17.3758	6.5495	6.5645	0.0150	79.8	188	202

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.90	1,422.30	1,056.40				
Bay 2	Bay 2	281.50	424.00	142.50				
	Baffle 1			-				
Bay 3	Bay 3	240.50	390.30	149.80				
	Baffle 2			-				
Bay 4	Bay 4	387.50	779.30	391.80				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,658.90	3,250.20	591.30	180	681	2.00	83.7
	Spillway After	618.20	637.50	19.30	8	30	0.10	2.4
Bay 1	Bay 1 Tubs	996.00	1,055.50	59.50	38	144	0.40	27.2
	Total			**2,410.60**	**226**	**712**	**3**	**113.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,142.7	2.52	45.32%
Bay 2	142.5	0.31	5.65%
Bay 3	149.8	0.33	5.94%
Bay 4	391.8	0.86	15.54%
Skimmer		0.00	0.00%
Spillway	694.6	1.53	27.55%
Actual	2,521.34		
Expected	2,530.6		
Percent Error	**0.37%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	125.1878	16.9844	6.5957	6.9321	0.3364	107.9	3,119	1,218
	A102	0:06:00	0:06	0.10	140.3823	17.4167	6.6121	6.9827	0.3706	122.6	3,023	1,168
	A103	0:09:00	0:09	0.15	126.7941	16.8985	6.5765	6.9065	0.3300	109.6	3,012	1,338
	A104	0:12:00	0:12	0.20	107.9976	16.7576	6.4529	6.7089	0.2560	91.0	2,814	1,124
	A105	0:15:00	0:15	0.25	107.0144	16.8473	6.5565	6.8206	0.2641	89.9	2,938	1,251
	A106	0:18:00	0:18	0.30	120.4048	16.8108	6.6274	6.9033	0.2759	103.3	2,670	1,071
	A107	0:21:00	0:21	0.35	111.6497	16.7104	6.5139	6.8187	0.3048	94.6	3,221	1,164
	A108	0:24:00	0:24	0.40	107.5258	16.7042	6.5755	6.8529	0.2774	90.5	3,064	1,180
	A109	0:27:00	0:27	0.45	124.7178	16.7777	6.5101	6.8330	0.3229	107.6	3,000	1,154
	A110	0:30:00	0:30	0.50	133.4275	16.9163	6.5677	6.9194	0.3517	116.2	3,028	1,230
Spillway	A301	0:00:00	0:00	0.00	130.2320	17.1560	6.5662	6.6567	0.0905	113.0	801	604
	A302	0:18:00	0:03	0.30	114.0387	17.4892	6.5401	6.6415	0.1014	96.4	1,051	695
	A303	0:21:00	0:06	0.35	138.9671	17.0504	6.5464	6.6685	0.1221	121.8	1,003	687
	A304	0:24:00	0:09	0.40	130.6075	17.4996	6.5269	6.6438	0.1169	113.0	1,035	686
	A305	0:27:00	0:12	0.45	125.0596	17.2433	6.5910	6.6998	0.1088	107.7	1,010	695
	A306	0:30:00	0:15	0.50	146.0130	16.8292	6.5528	6.6831	0.1303	129.1	1,010	719
	A307	0:33:00	0:18	0.55	128.6482	17.3689	6.5436	6.6552	0.1116	111.2	1,004	730
	A308	0:36:00	0:21	0.60	94.6184	16.6812	6.4409	6.5164	0.0755	77.9	970	709
	A309	0:39:00	0:24	0.65	145.2720	16.7864	6.5851	6.7141	0.1290	128.4	1,005	736
					129.1250	16.7524	6.5481	6.6048	0.0567	112.3	505	418
					126.1960	17.2047	6.5799		-6.5799	115.6	(56,934)	263

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.70	1,468.60	1,102.90				
Bay 2	Bay 2	281.50	434.10	152.60				
	Baffle 1	1,209.20	1,271.80	62.60				
Bay 3	Bay 3	240.40	347.20	106.80				
	Baffle 2			-				
Bay 4	Bay 4	387.20	804.90	417.70				
	Baffle 3			-				
Skimmer	Skimmer During	-	-	-		-		
	Skimmer After	-	-	-		-		
Spillway	Spillway During	2,657.60	3,264.90	607.30	180	681		83.8
	Spillway After	617.60	624.50	6.90	7	25		2.0
Bay 1	Bay 1 Tubs	994.40	1,035.40	41.00	37	138		24.2
	Total			**2,497.80**	**223**	**707**	**-**	**110.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,168.1	2.58	44.79%
Bay 2	215.2	0.47	8.25%
Bay 3	106.8	0.24	4.10%
Bay 4	417.7	0.92	16.02%
Skimmer		0.00	0.00%
Spillway	700.0	1.54	26.84%
Actual	2,607.81		
Expected	2,519.1		
Percent Error	**3.52%**		

Test Series M

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	12:48:00	0:03	0.05	133.1891	17.3065	6.6076	6.9043	0.2967	115.6	2,567	947
	A102	12:51:00	0:06	0.10	122.2257	17.4427	6.5967	6.9125	0.3158	104.5	3,023	1,142
	A103	12:54:00	0:09	0.15	130.4825	17.3201	6.5373	6.7972	0.2599	112.9	2,302	893
	A104	12:57:00	0:12	0.20	139.8048	16.8403	6.5170	6.8440	0.3270	122.6	2,666	1,070
	A105	13:00:00	0:15	0.25	141.5548	17.1538	6.6579	6.9442	0.2863	124.1	2,307	1,048
	A106	13:03:00	0:18	0.30	142.4939	17.4339	6.5449	6.8334	0.2885	124.8	2,312	995
	A107	13:06:00	0:21	0.35	143.3000	17.2440	6.5575	6.8460	0.2885	125.8	2,294	996
	A108	13:09:00	0:24	0.40	139.4522	17.4041	6.5376	6.8354	0.2978	121.8	2,446	968
	A109	13:12:00	0:27	0.45	135.6761	17.2338	6.5072	6.7771	0.2699	118.2	2,284	933
	A110	13:15:00	0:30	0.50	129.8260	17.1795	6.4091	6.6819	0.2728	112.4	2,428	1,131
Skimmer	A201	12:48:00	0:03	0.05	148.0018	17.4029	6.5755	6.7126	0.1371	130.5	1,051	685
	A202	12:51:00	0:06	0.10	138.6443	16.7961	6.5991	6.6976	0.0985	121.7	809	559
	A203	12:54:00	0:09	0.15	152.4718	16.8382	6.5559	6.6402	0.0843	135.5	622	439
	A204	12:57:00	0:12	0.20	132.1607	17.1977	6.4313	6.4904	0.0591	114.9	514	400
	A205	13:00:00	0:15	0.25	148.5429	17.1362	6.5443	6.6049	0.0606	131.3	461	325
	A206	13:03:00	0:18	0.30	140.7183	16.8590	6.6050	6.6620	0.0570	123.8	460	350
	A207	13:06:00	0:21	0.35	145.6059	17.2280	6.4997	6.5672	0.0675	128.3	526	389
	A208	13:09:00	0:24	0.40	145.8517	17.1119	6.5645	6.6423	0.0778	128.7	605	421
	A209	13:12:00	0:27	0.45	133.4570	16.7945	6.4911	6.5563	0.0652	116.6	559	427
	A210	13:15:00	0:30	0.50	148.9530	17.2173	6.5536	6.6371	0.0835	131.7	634	418
	A211	13:18:00	0:33	0.55	157.3459	17.5006	6.5501	6.6190	0.0689	139.8	493	432
	A212	13:21:00	0:36	0.60	153.0424	17.0259	6.5323	6.5853	0.0530	136.0	390	414
	A213	13:24:00	0:39	0.65	152.9012	17.4422	6.5401	6.5869	0.0468	135.4	346	269
	A214	13:39:00	0:54	0.90	146.7462	17.2938	6.5164	6.5596	0.0432	129.4	334	242
	A215	13:54:00	1:09	1.15	159.0817	16.9702	6.5767	6.6082	0.0315	142.1	222	195
	A216	14:09:00	1:24	1.40	149.5593	16.6891	6.5451	6.5730	0.0279	132.8	210	166
	A217	14:24:00	1:39	1.65	107.9819	17.2894	6.5360	6.5595	0.0235	90.7	259	160
	A218	14:39:00	1:54	1.90	147.8649	17.3551	6.4284	6.4587	0.0303	130.5	232	146
	A219	14:54:00	2:09	2.15	151.3845	17.3459	6.5753	6.6076	0.0323	134.0	241	145
	A220	15:09:00	2:24	2.40	144.6942	17.4348	6.5384	6.5665	0.0281	127.2	221	145
	A221	15:24:00	2:39	2.65	144.3698	17.1451	6.5695	6.5962	0.0267	127.2	210	147
	A222	15:39:00	2:54	2.90	142.6576	16.8727	6.5777	6.6013	0.0236	125.8	188	141
	A223	15:54:00	3:09	3.15	151.8245	17.0497	6.5695	6.6194	0.0499	134.7	370	134
	A224	16:09:00	3:24	3.40	138.1567	16.0877	6.5612	6.5869	0.0257	122.0	211	135
	A225	16:24:00	3:39	3.65	149.5616	16.6940	6.6010	6.6230	0.0220	132.8	166	132
	A226	16:39:00	3:54	3.90	154.7473	17.1231	6.6065	6.6396	0.0331	137.6	241	112
	A227	16:54:00	4:09	4.15	134.4068	16.8808	6.5489	6.5667	0.0178	117.5	151	111
	A228	17:09:00	4:24	4.40	100.0641	17.2628	6.6013	6.6119	0.0106	82.8	128	97
	A229	17:24:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	17:39:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	17:54:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	18:09:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	18:24:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	18:39:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	18:54:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	12:59:19	0:14	0.24	145.2012	16.6260	6.4719	6.5170	0.0451	128.5	351	285
	A302	13:03:00	0:17	0.30	131.2580	17.0683	6.6490	6.7136	0.0646	114.1	566	399
	A303	13:06:00	0:20	0.35	136.3309	16.9365	6.5947	6.6617	0.0670	119.3	561	431
	A304	13:09:00	0:23	0.40	137.7410	16.8275	6.4443	6.5146	0.0703	120.8	582	427
	A305	13:12:00	0:26	0.45	140.8041	16.7608	6.5727	6.6464	0.0737	124.0	595	418
	A306	13:15:00	0:29	0.50	139.6950	17.2357	6.5893	6.6612	0.0719	122.4	587	445
	A307	13:18:00	0:32	0.55	125.4967	16.7419	6.5268	6.5739	0.0471	108.7	433	317
	A308	13:21:00	0:35	0.60	139.1439	17.0532	6.5860	6.6308	0.0448	122.0	367	301
	A309	13:24:00	0:38	0.65	56.0172	16.8386	6.5849	6.5901	0.0052	39.2	133	157

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.10	1,589.50	1,136.40				
Bay 2	Bay 2	447.40	781.20	333.80				
	Baffle 1	1,075.90	1,093.20	17.30				
Bay 3	Bay 3	368.50	572.90	204.40				
	Baffle 2	1,221.20	1,228.40	7.20				
Bay 4	Bay 4	375.20	684.90	309.70				
	Baffle 3	1,081.20	1,090.00	8.80				
Skimmer	Skimmer During	2,658.00	2,718.30	60.30	108	410	1.00	61.0
	Skimmer After	-	-	-		-		
Spillway	Spillway During	2,504.70	2,681.40	176.70	104	394	1.00	63.8
	Spillway After	613.90	630.70	16.80	15	55	0.20	9.0
Bay 1	other	617.90	621.60	3.70	10	38	-	
	Total			**2,275.10**	**237**	**859**	**2**	**133.8**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,136.4	2.51	47.22%
Bay 2	351.1	0.77	14.59%
Bay 3	211.6	0.47	8.79%
Bay 4	318.5	0.70	13.23%
Skimmer	120.3	0.27	5.00%
Spillway	265.2	0.58	11.02%
Actual	2406.7087		
Expected	2,454.3		
Percent Error	**1.94%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:18:00	0:03	0.05	132.0755	17.3401	6.5944	6.9077	0.3133	114.4	2,738	1,201
	A102	9:21:00	0:06	0.10	142.9835	17.3616	6.5857	6.9449	0.3592	125.3	2,868	1,297
	A103	9:24:00	0:09	0.15	143.2955	17.2851	6.5197	6.8861	0.3664	125.6	2,916	1,382
	A104	9:27:00	0:12	0.20	144.4678	17.1943	6.5153	6.8491	0.3338	126.9	2,630	1,227
	A105	9:30:00	0:15	0.25	130.3040	17.3900	6.6419	6.9539	0.3120	112.6	2,771	1,150
	A106	9:33:00	0:18	0.30	108.4098	17.4565	6.5415	6.7932	0.2517	90.7	2,775	1,230
	A107	9:36:00	0:21	0.35	127.2946	17.1690	6.5462	6.8944	0.3482	109.8	3,172	1,273
	A108	9:39:00	0:24	0.40	134.9088	17.3869	6.5204	6.8341	0.3137	117.2	2,676	1,349
	A109	9:42:00	0:27	0.45	137.5609	17.2815	6.4930	6.8086	0.3156	120.0	2,631	1,260
	A110	9:45:00	0:30	0.50	125.4022	17.1034	6.3862	6.7376	0.3514	107.9	3,255	1,446
Skimmer	A201	9:18:00	0:03	0.05	138.2878	17.1695	6.5699	6.6884	0.1185	121.0	979	697
	A202	9:21:00	0:06	0.10	133.8591	17.0337	6.6003	6.6889	0.0886	116.7	759	603
	A203	9:24:00	0:09	0.15	153.0986	16.9449	6.5563	6.6476	0.0913	136.1	671	494
	A204	9:27:00	0:12	0.20	156.9702	17.2164	6.4256	6.4837	0.0581	139.7	416	438
	A205	9:30:00	0:15	0.25	155.6670	17.1517	6.5454	6.6035	0.0581	138.5	420	420
	A206	9:33:00	0:18	0.30	156.6320	16.7942	6.6033	6.6602	0.0569	139.8	407	388
	A207	9:36:00	0:21	0.35	157.5346	17.4668	6.4981	6.5517	0.0536	140.0	383	420
	A208	9:39:00	0:24	0.40	156.7920	17.2804	6.5633	6.6452	0.0819	139.4	587	448
	A209	9:42:00	0:27	0.45	156.5905	16.8428	6.4948	6.5779	0.0831	139.7	595	467
	A210	9:45:00	0:30	0.50	157.9342	17.5025	6.5525	6.6243	0.0718	140.4	512	495
	A211	9:48:00	0:33	0.55	148.8644	17.4267	6.5498	6.6272	0.0774	131.4	589	498
	A212	9:51:00	0:36	0.60	154.1717	17.3144	6.5290	6.5989	0.0699	136.8	511	483
	A213	9:54:00	0:39	0.65	157.6818	17.3985	6.5394	6.6045	0.0651	140.2	464	432
	A214	10:09:00	0:54	0.90	145.2346	17.4228	6.5160	6.5516	0.0356	127.8	279	315
	A215	10:24:00	1:09	1.15	155.7533	16.9212	6.5890	6.6308	0.0418	138.8	301	249
	A216	10:39:00	1:24	1.40	152.2254	16.9413	6.5462	6.5835	0.0373	135.2	276	240
	A217	10:54:00	1:39	1.65	163.2970	17.1696	6.5450	6.5793	0.0343	146.1	235	194
	A218	11:09:00	1:54	1.90	158.5038	17.2929	6.4359	6.4707	0.0348	141.2	247	195
	A219	11:24:00	2:09	2.15	159.8487	17.2902	6.5787	6.6177	0.0390	142.5	274	185
	A220	11:39:00	2:24	2.40	149.9624	17.3851	6.5397	6.5699	0.0302	132.5	228	177
	A221	11:54:00	2:39	2.65	117.0034	17.3651	6.5695	6.5954	0.0259	99.6	260	174
	A222	12:09:00	2:54	2.90		16.7940	6.5737	6.5796	0.0059	-16.8	(351)	
	A223	12:24:00	3:09	3.15	133.2678	17.1792	6.5783	6.6082	0.0299	116.1	258	168
	A224	12:39:00	3:24	3.40	148.8366	16.9607	6.5526	6.5781	0.0255	131.9	193	166
	A225	12:54:00	3:39	3.65	152.3138	16.9480	6.6041	6.6357	0.0316	135.3	233	167
	A226	13:09:00	3:54	3.90	159.8295	17.3167	6.6134	6.6394	0.0260	142.5	182	161
	A227	13:24:00	4:09	4.15	149.2185	16.9865	6.5467	6.5743	0.0276	132.2	209	136
	A228	13:39:00	4:24	4.40	141.5312	17.5926	6.5952	6.6201	0.0249	123.9	201	126
	A229	13:54:00	4:39	4.65	124.8644	17.4978	6.5772	6.5969	0.0197	107.3	184	109
	A230	14:09:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	14:24:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	14:39:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	14:54:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	15:09:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	15:24:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	9:30:45	0:15	0.26	127.8698	16.9049	6.4685	6.5091	0.0406	110.9	366	283
	A302	9:33:00	0:18	0.30	107.5859	17.3068	6.6534	6.7025	0.0491	90.2	544	432
	A303	9:36:00	0:21	0.35	138.8943	16.8536	6.5889	6.6659	0.0770	122.0	631	506
	A304	9:39:00	0:24	0.40	131.9471	16.8375	6.4430	6.5192	0.0762	115.0	662	491
	A305	9:42:00	0:27	0.45	145.7841	16.6524	6.5739	6.6552	0.0813	129.1	630	511
	A306	9:45:00	0:30	0.50	130.4810	17.1767	6.5885	6.6670	0.0785	113.2	693	531
	A307	9:48:00	0:33	0.55	102.9718	16.7529	6.5296	6.5707	0.0411	86.2	477	398
	A308	9:51:00	0:36	0.60	130.0753	16.9984	6.5857	6.6307	0.0450	113.0	398	305
	A309	9:54:00	0:39	0.65	133.7666	16.7968	5.5837	6.6179	1.0342	115.9	8,920	234

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.30	1,628.60	1,175.30				
Bay 2	Bay 2	447.60	787.60	340.00				
	Baffle 1	1,035.80	1,121.50	85.70				
Bay 3	Bay 3	368.60	557.00	188.40				
	Baffle 2	1,190.30	1,241.00	50.70				
Bay 4	Bay 4	375.60	688.70	313.10				
	Baffle 3	1,039.40	1,067.30	27.90				
Skimmer	Skimmer During	619.20	640.10	20.90	12	44	0.20	13.0
	Skimmer After	2,661.10	2,697.10	36.00	105	397	0.90	39.8
Spillway	Spillway During	2,506.40	2,644.40	138.00	85	322	0.90	45.9
	Spillway After	614.20	633.00	18.80	13	48	0.20	9.1
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,394.80**	**214**	**811**	**2**	**107.8**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,175.3	2.59	47.00%
Bay 2	425.7	0.94	17.03%
Bay 3	239.1	0.53	9.56%
Bay 4	341.0	0.75	13.64%
Skimmer	108.59	0.24	4.34%
Spillway	210.7	0.46	8.43%
Actual	2,500.41		
Expected	2,454.1		
Percent Error	**1.89%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	10:18:00	0:03	0.05	136.5093	17.2615	6.5972	6.9324	0.3352	118.9	2,819	1,061
	A102	10:21:00	0:06	0.10	95.1299	17.1651	6.5896	6.7592	0.1696	77.8	2,180	894
	A103	10:24:00	0:09	0.15	123.4328	17.2431	6.5209	6.7791	0.2582	105.9	2,437	1,001
	A104	10:27:00	0:12	0.20	128.0696	17.2475	6.5183	6.8000	0.2817	110.5	2,548	869
	A105	10:30:00	0:15	0.25	131.5354	17.1591	6.6515	6.9325	0.2810	114.1	2,463	950
	A106	10:33:00	0:18	0.30	132.3244	17.1807	6.5401	6.8087	0.2686	114.9	2,338	810
	A107	10:36:00	0:21	0.35	133.2788	17.4033	6.5450	6.8702	0.3252	115.6	2,814	954
	A108	10:39:00	0:24	0.40	124.0016	17.3602	6.5246	6.7970	0.2724	106.4	2,561	909
	A109	10:42:00	0:27	0.45	120.2744	16.6779	6.4932	6.7306	0.2374	103.4	2,297	990
	A110	10:45:00	0:30	0.50	110.4030	16.7922	6.3881	6.6112	0.2231	93.4	2,389	1,093
Skimmer	A201	10:18:00	0:03	0.05	124.7398	16.7578	6.5774	6.6732	0.0958	107.9	888	614
	A202	10:21:00	0:06	0.10	125.9131	16.7688	6.5980	6.6747	0.0767	109.1	703	580
	A203	10:24:00	0:09	0.15	129.3363	17.1700	6.5621	6.6236	0.0615	112.1	549	493
	A204	10:27:00	0:12	0.20	134.8650	16.6406	6.4247	6.4852	0.0605	118.2	512	423
	A205	10:30:00	0:15	0.25	138.4882	17.1350	6.5455	6.5961	0.0506	121.3	417	375
	A206	10:33:00	0:18	0.30	144.0708	16.7164	6.6103	6.6645	0.0542	127.3	426	381
	A207	10:36:00	0:21	0.35	130.6596	16.7166	6.5065	6.5601	0.0536	113.9	471	406
	A208	10:39:00	0:24	0.40	144.4170	16.8509	6.5682	6.6394	0.0712	127.5	558	476
	A209	10:42:00	0:27	0.45	136.1775	17.0019	6.4979	6.5533	0.0554	119.1	465	465
	A210	10:45:00	0:30	0.50	146.9464	17.2203	6.5588	6.6325	0.0737	129.7	568	479
	A211	10:48:00	0:33	0.55	138.2071	17.5589	6.5569	6.6265	0.0696	120.6	577	480
	A212	10:51:00	0:36	0.60	145.5891	17.0450	6.5323	6.5967	0.0644	128.5	501	440
	A213	10:54:00	0:39	0.65	144.7094	17.3460	6.5412	6.6023	0.0611	127.3	480	429
	A214	11:09:00	0:54	0.90	110.0636	17.2121	6.5205	6.5473	0.0268	92.8	289	278
	A215	11:24:00	1:09	1.15	124.3982	17.4285	6.5838	6.6126	0.0288	106.9	269	241
	A216	11:39:00	1:24	1.40	121.3096	17.2477	6.5525	6.5741	0.0216	104.0	208	210
	A217	11:54:00	1:39	1.65	137.7622	16.9360	6.5439	6.5764	0.0325	120.8	269	191
	A218	12:09:00	1:54	1.90	144.7327	16.8891	6.4423	6.4655	0.0232	127.8	182	178
	A219	12:24:00	2:09	2.15	138.9369	17.1083	6.5883	6.6121	0.0238	121.8	195	170
	A220	12:39:00	2:24	2.40	147.5739	16.8402	6.5464	6.5736	0.0272	130.7	208	168
	A221	12:54:00	2:39	2.65	138.2249	16.6603	6.5713	6.5985	0.0272	121.5	224	161
	A222	13:09:00	2:54	2.90	120.8308	17.0657	6.5751	6.5942	0.0191	103.7	184	164
	A223	13:24:00	3:09	3.15	144.7327	16.8949	6.5828	6.6068	0.0240	127.8	188	161
	A224	13:39:00	3:24	3.40	142.1496	16.9227	6.5579	6.5775	0.0196	125.2	157	159
	A225	13:54:00	3:39	3.65	142.0628	16.7170	6.6140	6.6321	0.0181	125.3	144	159
	A226	14:09:00	3:54	3.90	138.9576	17.1704	6.6251	6.6436	0.0185	121.8	152	144
	A227	14:24:00	4:09	4.15	150.9786	17.2500	6.5585	6.5788	0.0203	133.7	152	135
	A228	14:39:00	4:24	4.40	139.2549	17.3212	6.6053	6.6234	0.0181	121.9	148	133
	A229	14:54:00	4:39	4.65	140.2471	16.7783	6.5880	6.6042	0.0162	123.5	131	116
	A230	15:09:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	15:24:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	15:39:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	15:54:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	16:09:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	16:24:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	10:30:30	0:15	0.26	114.4877	17.2369	6.4747	6.4994	0.0247	97.2	254	259
	A302	10:33:00	0:18	0.30	142.8213	16.8124	6.6524	6.7136	0.0612	125.9	486	428
	A303	10:36:00	0:21	0.35	122.2149	17.2048	6.5942	6.6485	0.0543	105.0	517	448
	A304	10:39:00	0:24	0.40	139.7705	17.3726	6.4448	6.5017	0.0569	122.3	465	474
	A305	10:42:00	0:27	0.45	139.9807	16.7243	6.5816	6.6521	0.0705	123.2	572	474
	A306	10:45:00	0:30	0.50	142.6171	17.4395	6.5916	6.6635	0.0719	125.1	575	494
	A307	10:48:00	0:33	0.55	121.9793	17.2245	6.5369	6.5786	0.0417	104.7	398	347
	A308	10:51:00	0:36	0.60	129.1458	17.0671	6.5927	6.6303	0.0376	112.0	336	297
	A309	10:54:00	0:39	0.65	109.3916	17.0162	6.5878	6.6101	0.0223	92.4	241	234

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.30	1,576.10	1,122.80				
Bay 2	Bay 2	447.60	744.40	296.80				
	Baffle 1	1,221.50	1,281.90	60.40				
Bay 3	Bay 3	368.70	567.40	198.70				
	Baffle 2	1,384.20	1,414.00	29.80				
Bay 4	Bay 4	375.70	645.10	269.40				
	Baffle 3	1,197.90	1,210.60	12.70				
Skimmer	Skimmer During	618.10	638.40	20.30	11	40	0.20	3.3
	Skimmer After	2,655.80	2,700.70	44.90	104	394	1.00	63.4
Spillway	Spillway During	2,502.90	2,643.10	140.20	90	341	1.00	46.8
	Spillway After	613.60	633.20	19.60	12	46	0.20	4.3
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,215.60**	**217**	**821**	**2**	**117.8**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,122.8	2.48	48.17%
Bay 2	357.2	0.79	15.32%
Bay 3	228.5	0.50	9.80%
Bay 4	282.1	0.62	12.10%
Skimmer	130.72	0.29	5.61%
Spillway	209.7	0.46	9.00%
Actual	2,331.02		
Expected	2,285.6		
Percent Error	**1.99%**		

Test Series N

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	11:33:00	0:03	0.05	132.1123	16.8778	6.6004	6.8524	0.2520	115.0	2,192	975
	A102	11:36:00	0:06	0.10	138.7201	17.4477	6.5884	6.8744	0.2860	121.0	2,364	1,122
	A103	11:39:00	0:09	0.15	139.9255	16.7111	6.5220	6.7862	0.2642	123.0	2,149	955
	A104	11:42:00	0:12	0.20	135.8941	16.8271	6.5132	6.7881	0.2749	118.8	2,314	1,167
	A105	11:45:00	0:15	0.25	128.2984	16.6433	6.6467	6.9069	0.2602	111.4	2,336	1,095
	A106	11:48:00	0:18	0.30	106.2558	16.6682	6.5373	6.7459	0.2086	89.4	2,334	1,208
	A107	11:51:00	0:21	0.35	116.2023	16.8075	6.4780	6.7536	0.2756	99.1	2,780	1,062
	A108	11:54:00	0:24	0.40	124.0154	17.1977	6.5248	6.8468	0.3220	106.5	3,024	1,185
	A109	11:57:00	0:27	0.45	127.4898	16.8588	6.4999	6.7755	0.2756	110.4	2,497	1,172
	A110	12:00:00	0:30	0.50	116.1829	16.9346	6.3888	6.6367	0.2479	99.0	2,504	1,254
Skimmer	A201	11:33:00	0:03	0.05	125.8773	16.6959	6.5843	6.6849	0.1006	109.1	922	702
	A202	11:36:00	0:06	0.10	126.6481	17.2315	6.5001	6.6905	0.1904	109.2	1,743	650
	A203	11:39:00	0:09	0.15	130.7533	17.2537	6.5624	6.6333	0.0709	113.4	625	541
	A204	11:42:00	0:12	0.20	125.9555	16.6059	6.4325	6.4957	0.0632	109.3	578	514
	A205	11:45:00	0:15	0.25	133.9136	16.8602	6.5490	6.6110	0.0620	117.0	530	444
	A206	11:48:00	0:18	0.30	141.3141	17.2774	6.6097	6.6782	0.0685	124.0	553	452
	A207	11:51:00	0:21	0.35	146.2091	17.1173	6.5064	6.5798	0.0734	129.0	569	446
	A208	11:54:00	0:24	0.40	132.7209	17.2213	6.5729	6.6378	0.0649	115.4	562	480
	A209	11:57:00	0:27	0.45	137.7421	17.1168	6.4995	6.5619	0.0624	120.6	518	471
	A210	12:00:00	0:30	0.50	150.3631	17.3297	6.5609	6.6354	0.0745	133.0	560	463
	A211	12:03:00	0:33	0.55	140.3052	17.0473	6.5532	6.6185	0.0653	123.2	530	431
	A212	12:06:00	0:36	0.60	134.0564	16.9843	6.5310	6.5909	0.0599	117.0	512	420
	A213	12:09:00	0:39	0.65	139.7277	17.1076	6.5438	6.5822	0.0384	122.6	313	374
	A214	12:24:00	0:54	0.90	112.4897	17.2729	6.5257	6.5562	0.0305	95.2	320	304
	A215	12:39:00	1:09	1.15	140.5284	17.2367	6.5864	6.6199	0.0335	123.3	272	234
	A216	12:54:00	1:24	1.40	135.9368	17.3840	6.5507	6.5839	0.0332	118.5	280	231
	A217	13:09:00	1:39	1.65	140.1711	16.9374	6.5452	6.5765	0.0313	123.2	254	213
	A218	13:24:00	1:54	1.90	144.4196	17.3866	6.4438	6.4757	0.0319	127.0	251	191
	A219	13:39:00	2:09	2.15	144.2566	17.2489	6.5863	6.6166	0.0303	127.0	239	183
	A220	13:54:00	2:24	2.40	153.2208	16.7953	6.5462	6.5749	0.0287	136.4	210	167
	A221	14:09:00	2:39	2.65	136.0692	17.0157	6.5774	6.6013	0.0239	119.0	201	177
	A222	14:24:00	2:54	2.90	152.2859	17.1049	6.5784	6.6064	0.0280	135.2	207	167
	A223	14:39:00	3:09	3.15	139.5230	17.3157	6.5817	6.6082	0.0265	122.2	217	157
	A224	14:54:00	3:24	3.40	130.2300	17.1606	6.5720	6.5922	0.0202	113.0	179	168
	A225	15:09:00	3:39	3.65	128.3178	17.3460	6.6236	6.6443	0.0207	111.0	187	160
	A226	15:24:00	3:54	3.90	124.3958	16.8854	6.6318	6.6514	0.0196	107.5	182	156
	A227	15:39:00	4:09	4.15	122.6277	17.2352	6.5647	6.5857	0.0210	105.4	199	146
	A228	15:54:00	4:24	4.40	131.9725	17.0984	6.6141	6.6299	0.0158	114.9	138	118
	A229	16:09:00	4:39	4.65	136.0917	17.2633	6.6004	6.6150	0.0146	118.8	123	
	A230	16:24:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	16:39:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	16:54:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	17:09:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	17:24:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	17:39:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	11:45:00	0:15	0.25	102.5346	17.2068	6.4747	6.5050	0.0303	85.3	355	348
	A302	11:48:00	0:18	0.30	143.5870	17.4099	6.6505	6.7259	0.0754	126.1	598	516
	A303	11:51:00	0:21	0.35	133.2628	17.3520	6.5925	6.6827	0.0902	115.8	779	604
	A304	11:54:00	0:24	0.40	134.5748	17.4407	6.4419	6.5088	0.0669	117.1	571	548
	A305	11:57:00	0:27	0.45	142.7526	17.1490	6.5757	6.6795	0.1038	125.5	827	606
	A306	12:00:00	0:30	0.50	113.7707	16.9500	6.5940	6.6705	0.0765	96.7	791	657
	A307	12:03:00	0:33	0.55	118.9266	17.2828	6.5334	6.5808	0.0474	101.6	467	391
	A308	12:06:00	0:36	0.60	127.7937	16.8266	6.5915	6.6311	0.0396	110.9	357	301
	A309	12:09:00	0:39	0.65	141.2577	16.7505	6.5880	6.6171	0.0291	124.5	234	181

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	430.30	1,489.30	1,059.00				
Bay 2	Bay 2	281.60	522.30	240.70				
	Baffle 1	1,228.00	1,291.00	63.00				
Bay 3	Bay 3	240.50	406.60	166.10				
	Baffle 2			-				
Bay 4	Bay 4	446.80	826.90	380.10				
	Baffle 3			-				
Skimmer	Skimmer During	617.30	639.10	21.80	7	26	0.20	3.4
	Skimmer After	2,654.20	2,834.40	180.20	100	379	0.90	54.2
Spillway	Spillway During	2,501.60	2,530.30	28.70	90	341	0.90	53.3
	Spillway After	613.10	634.70	21.60	14	53	0.20	7.3
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,161.20**	**211**	**799**	**2**	**118.3**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,059.0	2.33	46.50%
Bay 2	303.7	0.67	13.34%
Bay 3	166.1	0.37	7.29%
Bay 4	380.1	0.84	16.69%
Skimmer	258.52	0.57	11.35%
Spillway	109.9	0.24	4.82%
Actual	2,277.27		
Expected	2,235.3		
Percent Error	**1.88%**		

	Table 2: Solids Concentration and Turbidity											Turbidity
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	NTU
Inflow	A101	10:06:00	0:03	0.05	120.8265	17.0431	6.6025	6.8747	0.2722	103.5	2,630	1,191
	A102	10:09:00	0:06	0.10	126.5587	17.4566	6.5942	6.8638	0.2696	108.8	2,477	1,203
	A103	10:12:00	0:09	0.15	121.4818	17.1909	6.5279	6.7701	0.2422	104.0	2,328	1,145
	A104	10:15:00	0:12	0.20	133.9956	16.8910	6.5187	6.8110	0.2923	116.8	2,502	1,224
	A105	10:18:00	0:15	0.25	113.0249	17.3645	6.6497	6.9327	0.2830	95.4	2,967	1,296
	A106	10:21:00	0:18	0.30	132.4444	17.3337	6.5443	6.8417	0.2974	114.8	2,590	1,308
	A107	10:24:00	0:21	0.35	130.9821	17.1650	6.5570	6.8647	0.3077	113.5	2,711	1,339
	A108	10:27:00	0:24	0.40	115.1458	17.2556	6.5306	6.8174	0.2868	97.6	2,938	1,244
	A109	10:30:00	0:27	0.45	127.4664	17.1050	6.4979	6.8019	0.3040	110.1	2,762	1,282
	A110	10:33:00	0:30	0.50	105.0878	17.0728	6.3899	6.6453	0.2554	87.8	2,910	1,374
Skimmer	A201	10:06:00	0:03	0.05	110.8488	17.1369	6.5903	6.6919	0.1016	93.6	1,085	854
	A202	10:09:00	0:06	0.10	116.0782	16.8390	6.6089	6.6936	0.0847	99.2	854	671
	A203	10:12:00	0:09	0.15	123.6969	16.8079	6.5687	6.6373	0.0686	106.8	642	568
	A204	10:15:00	0:12	0.20	122.7412	17.0869	6.4388	6.4919	0.0531	105.6	503	466
	A205	10:18:00	0:15	0.25	125.0114	17.0075	6.5612	6.6259	0.0647	107.9	599	514
	A206	10:21:00	0:18	0.30	121.6802	16.9007	6.6215	6.6649	0.0434	104.7	414	411
	A207	10:24:00	0:21	0.35	125.7965	17.1711	6.5156	6.5645	0.0489	108.6	450	419
	A208	10:27:00	0:24	0.40	133.3258	17.1107	6.5782	6.6353	0.0571	116.2	492	404
	A209	10:30:00	0:27	0.45	119.8677	16.8716	6.5074	6.5552	0.0478	102.9	464	414
	A210	10:33:00	0:30	0.50	134.6774	17.1885	6.5688	6.6188	0.0500	117.4	426	413
	A211	10:36:00	0:33	0.55	137.6375	17.2721	6.5640	6.5992	0.0352	120.3	293	341
	A212	10:39:00	0:36	0.60	116.3199	17.2169	6.5439	6.5873	0.0434	99.1	438	382
	A213	10:42:00	0:39	0.65	127.6733	17.2917	6.5527	6.5870	0.0343	110.3	311	309
	A214	10:57:00	0:54	0.90	131.8351	17.3140	6.5319	6.5637	0.0318	114.5	278	287
	A215	11:12:00	1:09	1.15	131.2567	16.7756	6.5982	6.6262	0.0280	114.5	245	245
	A216	11:27:00	1:24	1.40	121.9402	16.7946	6.5637	6.5891	0.0254	105.1	242	250
	A217	11:42:00	1:39	1.65	139.5976	17.0738	6.5628	6.5883	0.0255	122.5	208	212
	A218	11:57:00	1:54	1.90	144.6026	17.5036	6.4603	6.4870	0.0267	127.1	210	192
	A219	12:12:00	2:09	2.15	115.7828	17.4242	6.6047	6.6228	0.0181	98.3	184	184
	A220	12:27:00	2:24	2.40	140.7370	17.4828	6.5593	6.5798	0.0205	123.2	166	166
	A221	12:42:00	2:39	2.65	141.2766	17.1889	6.5920	6.6116	0.0196	124.1	158	153
	A222	12:57:00	2:54	2.90	131.9806	16.6289	6.5898	6.6087	0.0189	115.3	164	169
	A223	13:12:00	3:09	3.15	136.8759	17.2291	6.5953	6.6148	0.0195	119.6	163	166
	A224	13:27:00	3:24	3.40	136.8664	16.8906	6.5762	6.6043	0.0281	119.9	234	144
	A225	13:42:00	3:39	3.65	128.6877	16.6688	6.6267	6.6552	0.0285	112.0	254	145
	A226	13:57:00	3:54	3.90	129.4542	17.1167	6.6314	6.6584	0.0270	112.3	240	139
	A227	14:12:00	4:09	4.15	118.7321	16.9307	6.5736	6.5917	0.0181	101.8	178	132
	A228	14:27:00	4:24	4.40	143.4925	17.4720	6.6167	6.6366	0.0199	126.0	158	125
	A229	14:42:00	4:39	4.65	133.2490	17.5093	6.6026	6.6198	0.0172	115.7	149	123
	A230	14:57:00	4:54	4.90	114.7876	17.2901	6.6222	6.6355	0.0133	97.5	136	112
	A231	15:12:00	5:09	5.15	147.0065	17.0212	6.5956	6.6181	0.0225	130.0	173	169
	A232	15:27:00	5:24	5.40	136.2109	17.4881	6.5998	6.6225	0.0227	118.7	191	110
	A233	15:42:00	5:39	5.65	102.8120	17.2389	6.6329	6.6501	0.0172	85.6	201	94
	A234	15:57:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	16:12:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	10:18:10	0:15	0.25	119.2865	16.9000	6.4858	6.5263	0.0405	102.3	396	371
	A302	10:21:00	0:18	0.30	138.0883	16.9751	6.6635	6.7365	0.0730	121.0	603	489
	A303	10:24:00	0:21	0.35	117.5690	16.7169	6.6037	6.6841	0.0804	100.8	798	602
	A304	10:27:00	0:24	0.40	133.6985	16.6430	6.4472	6.5128	0.0656	117.0	561	499
	A305	10:30:00	0:27	0.45	137.7308	16.9766	6.5863	6.6808	0.0945	120.7	783	628
	A306	10:33:00	0:30	0.50	118.3862	16.9680	6.6042	6.6785	0.0743	101.3	733	607
	A307	10:36:00	0:33	0.55	107.4789	17.7648	6.5429	6.5724	0.0295	89.7	329	320
	A308	10:39:00	0:36	0.60	146.0871	17.0072	6.6003	6.6365	0.0362	129.0	281	260
	A309	10:42:00	0:39	0.65	125.2360	16.7295	6.5969	6.6245	0.0276	108.5	254	217

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	430.20	1,607.60	1,177.40				
Bay 2	Bay 2	281.60	560.10	278.50				
	Baffle 1	1,386.90	1,456.80	69.90				
Bay 3	Bay 3	240.60	432.10	191.50				
	Baffle 2			-				
Bay 4	Bay 4	446.90	881.60	434.70				
	Baffle 3			-				
Skimmer	Skimmer During	617.60	633.90	16.30	7	26	0.20	2.5
	Skimmer After	2,657.20	2,688.10	30.90	100	379	0.90	44.6
Spillway	Spillway During	2,505.30	2,693.20	187.90	90	341	0.90	57.5
	Spillway After	613.90	632.60	18.70	14	53	0.20	10.3
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,405.80**	**211**	**799**	**2**	**114.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,177.4	2.60	46.75%
Bay 2	348.4	0.77	13.83%
Bay 3	191.5	0.42	7.60%
Bay 4	434.7	0.96	17.26%
Skimmer	93.27	0.21	3.70%
Spillway	273.3	0.60	10.85%
Actual	2,518.53		
Expected	2,463.7		
Percent Error	**2.23%**		

	Table 2: Solids Concentration and Turbidity					
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	11:03:00	0:03	0.05	2,636	1,039
Inflow	A102	11:06:00	0:06	0.10	2,867	1,196
Inflow	A103	11:09:00	0:09	0.15	2,717	1,094
Inflow	A104	11:12:00	0:12	0.20	2,773	1,132
Inflow	A105	11:15:00	0:15	0.25	2,799	1,150
Inflow	A106	11:18:00	0:18	0.30	2,753	1,119
Inflow	A107	11:21:00	0:21	0.35	2,884	1,208
Inflow	A108	11:24:00	0:24	0.40	2,853	1,187
Inflow	A109	11:27:00	0:27	0.45	2,781	1,138
Inflow	A110	11:30:00	0:30	0.50	3,021	1,301
Skimmer	A201	11:03:00	0:03	0.05	1,015	710
Skimmer	A202	11:06:00	0:06	0.10	842	593
Skimmer	A203	11:09:00	0:09	0.15	826	582
Skimmer	A204	11:12:00	0:12	0.20	694	493
Skimmer	A205	11:15:00	0:15	0.25	619	442
Skimmer	A206	11:18:00	0:18	0.30	671	477
Skimmer	A207	11:21:00	0:21	0.35	685	487
Skimmer	A208	11:24:00	0:24	0.40	662	471
Skimmer	A209	11:27:00	0:27	0.45	694	493
Skimmer	A210	11:30:00	0:30	0.50	674	479
Skimmer	A211	11:33:00	0:33	0.55	564	405
Skimmer	A212	11:36:00	0:36	0.60	598	428
Skimmer	A213	11:39:00	0:39	0.65	499	361
Skimmer	A214	11:54:00	0:54	0.90	357	265
Skimmer	A215	12:09:00	1:09	1.15	329	246
Skimmer	A216	12:24:00	1:24	1.40	309	232
Skimmer	A217	12:39:00	1:39	1.65	270	206
Skimmer	A218	12:54:00	1:54	1.90	283	215
Skimmer	A219	13:09:00	2:09	2.15	244	188
Skimmer	A220	13:24:00	2:24	2.40	230	179
Skimmer	A221	13:39:00	2:39	2.65	241	186
Skimmer	A222	13:54:00	2:54	2.90	211	166
Skimmer	A223	14:09:00	3:09	3.15	202	160
Skimmer	A224	14:24:00	3:24	3.40	207	163
Skimmer	A225	14:39:00	3:39	3.65	195	155
Skimmer	A226	14:54:00	3:54	3.90	176	142
Skimmer	A227	15:09:00	4:09	4.15	168	137
Skimmer	A228	15:24:00	4:24	4.40	159	131
Skimmer	A229	15:39:00	4:39	4.65	124	107
Skimmer	A230	15:54:00	4:54	4.90		
Skimmer	A231	16:09:00	5:09	5.15		
Skimmer	A232	16:24:00	5:24	5.40		
Skimmer	A233	16:39:00	5:39	5.65		
Skimmer	A234	16:54:00	5:54	5.90		
Skimmer	A235	17:09:00	6:09	6.15		
Spillway	A301	11:15:00	0:15	0.25	482	349
Spillway	A302	11:18:00	0:18	0.30	691	491
Spillway	A303	11:21:00	0:21	0.35	677	481
Spillway	A304	11:24:00	0:24	0.40	855	602
Spillway	A305	11:27:00	0:27	0.45	816	575
Spillway	A306	11:30:00	0:30	0.50	811	572
Spillway	A307	11:33:00	0:33	0.55	421	308
Spillway	A308	11:36:00	0:36	0.60	368	272
Spillway	A309	11:39:00	0:39	0.65	275	209

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.20	1,643.20	1,190.00				
Bay 2	Bay 2	447.40	737.90	290.50				
	Baffle 1	1,409.40	1,454.80	45.40				
Bay 3	Bay 3	429.90	591.80	161.90				
	Baffle 2			-				
Bay 4	Bay 4	446.70	748.60	301.90				
	Baffle 3			-				
Skimmer	Skimmer During	617.70	640.90	23.20	12	44	0.50	7.4
	Skimmer After	2,656.80	2,684.50	27.70	100	379	2.00	70.7
Spillway	Spillway During	2,504.10	2,698.10	194.00	95	360	2.00	50.4
	Spillway After	613.70	631.50	17.80	12	46	0.50	7.7
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,252.40**	**219**	**828**	**5**	**136.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,190.0	2.62	49.92%
Bay 2	335.9	0.74	14.09%
Bay 3	161.9	0.36	6.79%
Bay 4	301.9	0.67	12.67%
Skimmer	126.51	0.28	5.31%
Spillway	267.4	0.59	11.22%
Actual	2,383.60		
Expected	2,323.9		
Percent Error	**2.57%**		

Test Series O

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	11:26:00	0:03	0.05	134.8079	16.8854	6.6015	6.8906	0.2891	117.6	2,458	938
	A102	11:29:00	0:06	0.10	132.2901	17.5391	6.5873	6.9139	0.3266	114.4	2,854	1,188
	A103	11:32:00	0:09	0.15	103.5092	16.7453	6.5269	6.7466	0.2197	86.5	2,539	989
	A104	11:35:00	0:12	0.20	99.3542	16.7490	6.5189	6.7261	0.2072	82.4	2,515	974
	A105	11:38:00	0:15	0.25	114.0008	16.8092	6.6460	6.9124	0.2664	96.9	2,749	1,122
	A106	11:41:00	0:18	0.30	113.8530	16.7797	6.5382	6.8248	0.2866	96.8	2,961	1,256
	A107	11:44:00	0:21	0.35	150.3930	16.8899	6.5470	6.9238	0.3768	133.1	2,830	1,173
	A108	11:47:00	0:24	0.40	146.9453	17.4201	6.5225	6.8622	0.3397	129.2	2,630	1,047
	A109	11:50:00	0:27	0.45	145.5825	16.8436	6.4955	6.8409	0.3454	128.4	2,690	1,085
	A110	11:53:00	0:30	0.50	139.5022	16.7805	6.3853	6.7136	0.3283	122.4	2,682	1,080
Spillway	A301	11:29:20	0:06	0.11	140.3956	17.2989	6.4833	6.5063	0.0230	123.1	187	154
	A302	11:41:00	0:09	0.30	133.6445	17.5251	6.6584	6.6943	0.0359	116.1	309	235
	A303	11:44:00	0:12	0.35	147.3026	17.3271	6.5989	6.6380	0.0391	129.9	301	230
	A304	11:47:00	0:15	0.40	112.7575	17.2761	6.4513	6.4734	0.0221	95.5	232	183
	A305	11:50:00	0:18	0.45	121.1591	17.3364	6.5838	6.6159	0.0321	103.8	309	235
	A306	11:53:00	0:21	0.50	102.8149	16.8079	6.5973	6.6224	0.0251	86.0	292	224
	A307	11:56:00	0:24	0.55	142.8781	17.3370	6.5414	6.5775	0.0361	125.5	288	221
	A308	11:59:00	0:27	0.60	121.5153	16.6810	6.5993	6.6508	0.0515	104.8	491	357
	A309	12:02:00	0:30	0.65	114.3676	16.7294	6.5982	6.6608	0.0626	97.6	642	250
					100.6458	16.9330	6.5906	6.6055	0.0149	83.7	178	148
					139.4296	17.4684	6.6079	6.6223	0.0144	121.9	118	108

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.40	2,037.80	1,584.40				
Bay 2	Bay 2	447.50	507.80	60.30				
	Baffle 1	1,202.50	1,383.10	180.60				
Bay 3	Bay 3	430.20	482.40	52.20				
	Baffle 2			-				
Bay 4	Bay 4	446.90	686.20	239.30				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,504.90	2,692.90	188.00	160	606	2.00	37.5
	Spillway After	-	-	-		-		
Bay 1	Bay 1 Tubs	617.70	624.00	6.30	60	227	0.40	7.1
	Total			**2,311.10**	**220**	**606**	**2**	**44.5**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,584.4	3.49	67.33%
Bay 2	240.9	0.53	10.24%
Bay 3	52.2	0.12	2.22%
Bay 4	252.3	0.56	10.72%
Skimmer	-	0.00	0.00%
Spillway	223.5	0.49	9.50%
Actual	2,353.23		
Expected	2,371.4		
Percent Error	**0.77%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	3:37:00	0:03	0.05	143.3380	17.5121	6.5952	6.9214	0.3262	125.5	2,599	1,027
	A102	3:40:00	0:06	0.10	130.6259	17.6054	6.5831	6.8733	0.2902	112.7	2,574	1,012
	A103	3:43:00	0:09	0.15	102.7877	17.4472	6.5216	6.7264	0.2048	85.1	2,406	905
	A104	3:46:00	0:12	0.20	147.1855	17.9904	6.5114	6.8732	0.3618	128.8	2,808	1,159
	A105	3:49:00	0:15	0.25	131.7632	17.5971	6.6410	6.9443	0.3033	113.9	2,664	1,068
	A106	3:52:00	0:18	0.30	130.2609	17.7000	6.5326	6.8739	0.3413	112.2	3,041	1,307
	A107	3:55:00	0:21	0.35	135.8985	17.4428	6.5427	6.9028	0.3601	118.1	3,049	1,312
	A108	3:58:00	0:24	0.40	134.6505	17.3534	6.5226	6.8604	0.3378	117.0	2,888	1,210
	A109	4:01:00	0:27	0.45	133.8815	17.2005	6.4901	6.8410	0.3509	116.3	3,016	1,291
	A110	4:04:00	0:30	0.50	142.5670	17.3659	6.3833	6.8429	0.4596	124.7	3,684	1,713
Spillway	A301	3:40:00	0:06	0.10	139.0292	16.9634	6.4844	6.5364	0.0520	122.0	426	97
	A302	3:52:00	0:09	0.30	112.3137	17.1261	6.6571	6.6847	0.0276	95.2	290	144
	A303	3:55:00	0:12	0.35	112.0005	16.9300	6.5997	6.6322	0.0325	95.0	342	257
	A304	3:58:00	0:15	0.40	117.4723	16.6988	6.4433	6.4767	0.0334	100.7	332	250
	A305	4:01:00	0:18	0.45	141.9562	16.8790	6.5817	6.6258	0.0441	125.0	353	264
	A306	4:04:00	0:21	0.50	145.6206	17.3089	6.5954	6.6410	0.0456	128.3	356	266
	A307	4:07:00	0:24	0.55	134.4698	17.0358	6.5401	6.5834	0.0433	117.4	369	275
	A308	4:10:00	0:27	0.60	143.3208	17.3309	6.5977	6.6409	0.0432	125.9	343	258
	A309	4:13:00	0:30	0.65	135.4793	16.9289	6.5894	6.6499	0.0605	118.5	511	369
					134.2224	94.5983	6.5873	6.6045	0.0172	39.6	434	319
					94.5983	16.7231	6.5913	6.5973	0.0060	77.9	77	80

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	365.70	1,896.80	1,531.10				
Bay 2	Bay 2	380.50	452.80	72.30				
	Baffle 1	1,204.30	1,380.20	175.90				
Bay 3	Bay 3	240.80	312.40	71.60				
	Baffle 2			-				
Bay 4	Bay 4	387.30	677.70	290.40				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,658.40	2,840.50	182.10	160	606	2.00	80.7
	Spillway After	614.70	622.70	8.00	10	38	2.00	3.5
Bay 1	Bay 1 Tubs	501.40	503.30	1.90	55	208		23.6
	Total			**2,333.30**	**225**	**644**	**4**	**107.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,556.6	3.43	63.87%
Bay 2	248.2	0.55	10.18%
Bay 3	71.6	0.16	2.94%
Bay 4	290.4	0.64	11.92%
Skimmer		0.00	0.00%
Spillway	270.4	0.60	11.09%
Actual	2,437.16		
Expected	2,371.4		
Percent Error	**2.77%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	1:13:00	0:03	0.05	146.5102	17.3138	6.6025	7.0023	0.3998	128.8	3,104	1,346
	A102	1:16:00	0:06	0.10	102.5819	17.0877	6.6234	6.8616	0.2382	85.3	2,794	1,150
	A103	1:19:00	0:09	0.15	104.6545	17.3286	6.5749	6.8472	0.2723	87.1	3,128	1,361
	A104	1:22:00	0:12	0.20	112.6540	17.4251	6.4406	6.6993	0.2587	95.0	2,724	1,106
	A105	1:25:00	0:15	0.25	119.6960	17.2319	6.5674	6.8291	0.2617	102.2	2,561	1,003
	A106	1:28:00	0:18	0.30	125.0303	17.1703	6.6280	6.9350	0.3070	107.6	2,854	1,189
	A107	1:31:00	0:21	0.35	114.0602	17.2031	6.5218	6.8429	0.3211	96.5	3,326	1,487
	A108	1:34:00	0:24	0.40	124.2563	17.2013	6.5839	6.8833	0.2994	106.8	2,805	1,157
	A109	1:37:00	0:27	0.45	131.5915	16.9183	6.5221	6.8703	0.3482	114.3	3,046	1,309
	A110	1:40:00	0:30	0.50	111.1282	16.7607	6.5788	6.8605	0.2817	94.1	2,994	1,277
Spillway	A301	1:16:30	0:06	0.11	116.3342	17.4875	6.5048	6.5278	0.0230	98.8	233	106
	A302	1:28:00	0:09	0.30	134.4933	17.1031	6.6942	6.7319	0.0377	117.4	321	138
	A303	1:31:00	0:12	0.35	131.4887	16.7240	6.6290	6.6748	0.0458	114.7	399	147
	A304	1:34:00	0:15	0.40	130.3192	17.1318	6.4670	6.5143	0.0473	113.1	418	144
	A305	1:37:00	0:18	0.45	127.6259	16.6882	6.6089	6.6585	0.0496	110.9	447	173
	A306	1:40:00	0:21	0.50	117.4760	17.2004	6.6195	6.6697	0.0502	100.2	501	180
	A307	1:43:00	0:24	0.55	143.3561	17.1752	6.5612	6.6291	0.0679	126.1	538	217
	A308	1:46:00	0:27	0.60	142.0206	17.1342	6.6120	6.6729	0.0609	124.8	488	160
	A309	1:49:00	0:30	0.65	129.6039	17.1085	6.6169	6.6731	0.0562	112.4	500	153
					98.8318	16.7445	6.5749	6.5872	0.0123	82.1	150	55.4
					74.2934	16.6526	6.5662	6.5724	0.0062	57.6	108	45

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	721.10	2,340.80	1,619.70				
Bay 2	Bay 2	281.80	353.10	71.30				
	Baffle 1	717.00	1,169.90	452.90				
Bay 3	Bay 3	240.80	323.80	83.00				
	Baffle 2			-				
Bay 4	Bay 4	252.50	635.10	382.60				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,527.90	2,710.40	182.50	170	644		58.7
	Spillway After	614.00	628.80	14.80	10	38		2.6
Bay 1	Bay 1 Tubs			-	55	208		25.0
	Total			**2,806.80**	**235**	**681**	**-**	**86.2**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,644.7	3.63	56.85%
Bay 2	524.2	1.16	18.12%
Bay 3	83.0	0.18	2.87%
Bay 4	382.6	0.84	13.23%
Skimmer	-	0.00	0.00%
Spillway	258.5	0.57	8.94%
Actual	2,893.00		
Expected	2,548.3		
Percent Error	**13.53%**		

Test Series P

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	4:29:00	0:03	0.05	148.9651	17.5203	6.5829	6.9021	0.3192	131.1	2,434	923
	A102	4:32:00	0:06	0.10	124.8161	17.2490	6.6059	6.8672	0.2613	107.3	2,435	924
	A103	4:35:00	0:09	0.15	139.0316	16.6405	6.5619	6.8840	0.3221	122.1	2,639	1,052
	A104	4:38:00	0:12	0.20	143.2480	17.5344	6.4314	6.7731	0.3417	125.4	2,725	1,107
	A105	4:41:00	0:15	0.25	121.9480	17.2871	6.5528	6.8739	0.3211	104.3	3,077	1,329
	A106	4:44:00	0:18	0.30	119.4233	17.4051	6.6156	6.9067	0.2911	101.7	2,862	1,193
	A107	4:47:00	0:21	0.35	126.3445	17.6641	6.5104	6.8175	0.3071	108.4	2,834	1,175
	A108	4:50:00	0:24	0.40	122.6512	17.3457	6.5734	6.8802	0.3068	105.0	2,922	1,231
	A109	4:53:00	0:27	0.45	141.4227	17.0188	6.5082	6.8650	0.3568	124.0	2,876	1,202
	A110	4:56:00	0:30	0.50	132.4583	16.9725	6.5648	6.9510	0.3862	115.1	3,355	1,505
Spillway	A301	4:39:40	0:13	0.23	159.8510	17.3950	6.5600	6.5873	0.0273	142.4	192	157
	A302	4:44:00	0:16	0.30	148.2173	17.4085	6.5390	6.5648	0.0258	130.8	197	160
	A303	4:47:00	0:19	0.35	141.9475	17.1476	6.5487	6.5768	0.0281	124.8	225	179
	A304	4:50:00	0:22	0.40	134.4135	17.2641	6.5271	6.5518	0.0247	117.1	211	170
	A305	4:53:00	0:25	0.45	156.0562	16.8785	6.5856	6.6299	0.0443	139.1	318	241
	A306	4:56:00	0:28	0.50	147.5180	17.4645	6.5626	6.5982	0.0356	130.0	274	212
	A307	4:59:00	0:31	0.55	121.3661	17.5813	6.5576	6.5842	0.0266	103.8	256	200
	A308	5:02:00	0:34	0.60	127.9875	17.1769	6.4526	6.4695	0.0169	110.8	153	131
	A309	5:05:00	0:37	0.65	136.0234	17.3629	6.6000	6.6140	0.0140	118.6	118	108

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.80	2,202.90	1,749.10				
Bay 2	Bay 2	447.50	638.70	191.20				
	Baffle 1	1,233.20	1,388.50	155.30				
Bay 3	Bay 3	368.60	528.10	159.50				
	Baffle 2			-				
Bay 4	Bay 4	375.60	564.20	188.60				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After			-		-		
Spillway	Spillway During	2,504.90	2,566.90	62.00	110	416	2.00	44.0
	Spillway After	618.40	627.30	8.90	22	82	2.00	8.9
Bay 1	Bay 1 Tubs			-	95	360	0.20	52.1
	Total			**2,514.60**	**227**	**498**	**4**	**105.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,801.0	3.97	68.86%
Bay 2	346.5	0.76	13.25%
Bay 3	159.5	0.35	6.10%
Bay 4	188.6	0.42	7.21%
Skimmer	-	0.00	0.00%
Spillway	119.8	0.26	4.58%
Actual	2,615.40		
Expected	2,534.9		
Percent Error	**3.18%**		

Test Series Q

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	4:29:00	0:03	0.05	144.8661	17.1463	6.5924	6.9297	0.3373	127.4	2,648	1,058
	A102	4:32:00	0:06	0.10	106.1145	17.1949	6.5819	6.9095	0.3276	88.6	3,698	1,721
	A103	4:35:00	0:09	0.15	125.1163	17.3835	6.5168	6.8258	0.3090	107.4	2,876	1,202
	A104	4:38:00	0:12	0.20	130.9970	16.8606	6.5096	6.8498	0.3402	113.8	2,990	1,274
	A105	4:41:00	0:15	0.25	144.6477	17.3316	6.6277	6.9667	0.3390	127.0	2,670	1,072
	A106	4:44:00	0:18	0.30	142.9150	17.1336	6.5311	7.0384	0.5073	125.3	4,050	1,943
	A107	4:47:00	0:21	0.35	141.5907	17.1692	6.5420	6.9268	0.3848	124.0	3,102	1,345
	A108	4:50:00	0:24	0.40	136.6627	17.2346	6.5174	6.9895	0.4721	119.0	3,969	1,892
	A109	4:53:00	0:27	0.45	122.3373	17.0316	6.4914	6.7857	0.2943	105.0	2,803	1,156
	A110	4:56:00	0:30	0.50	127.5496	17.0947	6.3737	6.7148	0.3411	110.1	3,098	1,342
Skimmer	A201	4:29:00	0:03	0.05	139.4622	17.0772	6.5803	6.6278	0.0475	122.3	388	288
	A202	4:32:00	0:06	0.10	140.8991	16.7613	6.6032	6.6299	0.0267	124.1	215	172
	A203	4:35:00	0:09	0.15	140.9634	16.6717	6.5560	6.5781	0.0221	124.3	178	148
	A204	4:38:00	0:12	0.20	117.4878	17.2728	6.4268	6.4418	0.0150	100.2	150	129
	A205	4:41:00	0:15	0.25	137.6463	16.9850	6.5506	6.5665	0.0159	120.6	132	117
	A206	4:44:00	0:18	0.30	135.7636	16.8083	6.6071	6.6228	0.0157	118.9	132	117
	A207	4:47:00	0:21	0.35	110.1712	17.2316	6.5071	6.5174	0.0103	92.9	111	103
	A208	4:50:00	0:24	0.40	129.0741	17.1441	6.5690	6.5823	0.0133	111.9	119	108
	A209	4:53:00	0:27	0.45	126.3434	16.5826	6.5045	6.5169	0.0124	109.7	113	104
	A210	4:56:00	0:30	0.50	123.6925	17.2772	6.5624	6.5745	0.0121	106.4	114	105
	A211	4:59:00	0:33	0.55	117.4269	17.4386	6.5605	6.5703	0.0098	100.0	98	94
	A212	5:02:00	0:36	0.60	125.3364	17.0157	6.5479	6.5600	0.0121	108.3	112	103
	A213	5:05:00	0:39	0.65	99.8860	17.0839	6.5490	6.5570	0.0080	82.8	97	93
	A214	5:20:00	0:54	0.90	111.0321	17.0839	6.5265	6.5342	0.0077	93.9	82	84
	A215	5:35:00	1:09	1.15	103.2019	16.9493	6.5939	6.6012	0.0073	86.2	85	85
	A216	5:50:00	1:24	1.40	124.0461	16.7884	6.5622	6.5714	0.0092	107.2	86	86
	A217	6:05:00	1:39	1.65	141.9836	17.1460	6.5608	6.5751	0.0143	124.8	115	105
	A218	6:20:00	1:54	1.90	127.6057	17.2377	6.4525	6.4603	0.0078	110.4	71	76
	A219	6:35:00	2:09	2.15	106.1374	17.4673	6.5969	6.6054	0.0085	88.7	96	93
	A220	6:50:00	2:24	2.40	100.6041	17.2343	6.5544	6.5618	0.0074	83.4	89	88
	A221	7:05:00	2:39	2.65	105.6139	17.1303	6.5820	6.5902	0.0082	88.5	93	91
	A222	7:20:00	2:54	2.90	94.3853	16.6754	6.5817	6.5884	0.0067	77.7	86	86
	A223	7:35:00	3:09	3.15	95.6156	17.1281	6.5979	6.6059	0.0080	78.5	102	97
	A224	7:50:00	3:24	3.40	95.4977	16.9353	6.5819	6.5880	0.0061	78.6	78	81
	A225	8:05:00	3:39	3.65	103.6571	16.8674	6.6320	6.6403	0.0083	86.8	96	93
	A226	8:20:00	3:54	3.90	77.7714	17.0562	6.6345	6.6405	0.0060	60.7	99	95
	A227	8:35:00	4:09	4.15	131.1669	16.9017	6.5898	6.5981	0.0083	114.3	73	77
	A228	8:50:00	4:24	4.40	134.2837	17.4601	6.6285	6.6391	0.0106	116.8	91	89
	A229	9:05:00	4:39	4.65	134.6828	17.4968	6.6077	6.6184	0.0107	117.2	91	90
	A230	9:20:00	4:54	4.90	123.4578	16.727	6.6350	6.6442	0.0092	106.7	86	86
	A231	9:35:00	5:09	5.15	130.4705	16.9599	6.6084	6.6184	0.0100	113.5	88	88
	A232	9:50:00	5:24	5.40					0.0000	0.0		
	A233	10:05:00	5:39	5.65	90.8159	17.4005	6.6468	6.6534	0.0066	73.4	90	89
	A234	10:20:00	5:54	5.90	131.8446	17.2742	6.6930	6.7035	0.0105	114.6	92	90
	A235	10:35:00	6:09	6.15	141.8312	16.8472	6.6117	6.6190	0.0073	125.0	58	68
Spillway	A301	4:39:40	0:13	0.23	146.4037	16.9115	6.4842	6.5054	0.0212	129.5	164	138
	A302	4:44:00	0:16	0.30	140.6146	16.8581	6.6671	6.6922	0.0251	123.7	203	164
	A303	4:47:00	0:19	0.35	144.6224	16.6039	6.5989	6.6251	0.0262	128.0	205	165
	A304	4:50:00	0:22	0.40	125.6958	16.6167	6.4425	6.4636	0.0211	109.1	193	158
	A305	4:53:00	0:25	0.45	139.3859	16.6493	6.5810	6.6059	0.0249	122.7	203	164
	A306	4:56:00	0:28	0.50	117.9205	17.0579	6.5954	6.6165	0.0211	100.8	209	168
	A307	4:59:00	0:31	0.55	136.8932	16.7896	6.5410	6.5572	0.0162	120.1	135	119
	A308	5:02:00	0:34	0.60	125.8137	17.0392	6.5949	6.6073	0.0124	108.8	114	105
	A309	5:05:00	0:37	0.65	84.0591	16.7314	6.6048	6.6151	0.0103	67.3	153	131

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.80	2,202.90	1,749.10				
Bay 2	Bay 2	447.50	638.70	191.20				
	Baffle 1	1,233.20	1,388.50	155.30				
Bay 3	Bay 3	368.60	528.10	159.50				
	Baffle 2			-				
Bay 4	Bay 4	375.60	564.20	188.60				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		
	Skimmer After	500.70	508.70	8.00	95	360	1.00	43.2
Spillway	Spillway During	2,504.90	2,566.90	62.00	110	416	2.00	52.5
	Spillway After	618.40	627.30	8.90	22	82	2.00	9.3
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,522.60**	**227**	**858**	**5**	**104.9**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,749.1	3.86	66.70%
Bay 2	346.5	0.76	13.21%
Bay 3	159.5	0.35	6.08%
Bay 4	188.6	0.42	7.19%
Skimmer	50.16	0.11	1.91%
Spillway	128.6	0.28	4.91%
Actual	2,622.50		
Expected	2,583.9		
Percent Error	**1.49%**		

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
				Table 2: Solids Concentration and Turbidity								
Inflow	A101	0:03:00	0:03	0.05	138.2907	17.3188	6.5961	6.9773	0.3812	120.6	3,161	1,382
	A102	0:06:00	0:06	0.10	121.2024	17.1954	6.5833	6.8476	0.2643	103.7	2,548	995
	A103	0:09:00	0:09	0.15	130.5084	17.3370	6.5209	6.7808	0.2599	112.9	2,302	840
	A104	0:12:00	0:12	0.20	137.0893	17.4589	6.5114	6.8497	0.3383	119.3	2,836	1,177
	A105	0:15:00	0:15	0.25	122.3453	17.1912	6.6318	6.9145	0.2827	104.9	2,696	1,088
	A106	0:18:00	0:18	0.30	131.1950	17.1840	6.5345	6.7945	0.2600	113.8	2,286	829
	A107	0:21:00	0:21	0.35	123.8303	17.2355	6.5430	6.9165	0.3735	106.2	3,516	1,607
	A108	0:24:00	0:24	0.40	123.0338	17.2518	6.5188	6.7780	0.2592	105.5	2,456	937
	A109	0:27:00	0:27	0.45	117.0023	16.8335	6.4947	6.7389	0.2442	99.9	2,444	929
	A110	0:30:00	0:30	0.50	111.0336	17.0170	6.3809	6.6032	0.2223	93.8	2,370	883
Skimmer	A201	0:03:00	0:03	0.05	134.4740	16.7665	6.5920		-6.5920	124.3	388	288
	A202	0:06:00	0:06	0.10	145.5435	16.7199	6.6168		-6.6168	135.4	215	172
	A203	0:09:00	0:09	0.15	140.8699	17.2734	6.5660		-6.5660	130.2	178	148
	A204	0:12:00	0:12	0.20	123.3837	16.9781	6.4398		-6.4398	112.8	150	129
	A205	0:15:00	0:15	0.25	133.6323	17.3691	6.5683		-6.5683	122.8	132	117
	A206	0:18:00	0:18	0.30	132.2162	16.7693	6.6233		-6.6233	122.1	132	117
	A207	0:21:00	0:21	0.35	157.3250	16.7304	6.5185		-6.5185	147.1	111	103
	A208	0:24:00	0:24	0.40	138.2140	16.8180	6.5884		-6.5884	128.0	119	108
	A209	0:27:00	0:27	0.45	131.1795	17.3030	6.5213		-6.5213	120.4	113	104
	A210	0:30:00	0:30	0.50	144.4219	17.0550	6.5968		-6.5968	134.0	114	105
	A211	0:33:00	0:33	0.55	126.3099	16.7818	6.5896		-6.5896	116.1	98	94
	A212	0:36:00	0:36	0.60	120.2539	17.1136	6.5754		-6.5754	109.7	112	103
	A213	0:39:00	0:39	0.65	94.3889	17.3377	6.5819		-6.5819	83.6	97	93
	A214	0:54:00	0:54	0.90	125.7778	17.1015	6.5570		-6.5570	115.2	82	84
	A215	1:09:00	1:09	1.15	121.4105	17.2594	6.6226		-6.6226	110.8	85	85
	A216	1:24:00	1:24	1.40	101.3122	17.3955	6.5881		-6.5881	90.5	86	86
	A217	1:39:00	1:39	1.65	130.7080	16.9684	6.5917	6.5878	-0.0039	113.7	115	106
	A218	1:54:00	1:54	1.90	111.7081	16.7850	6.4829	6.4851	0.0022	94.9	23	44
	A219	2:09:00	2:09	2.15	115.6007	17.0671	6.6040	6.6096	0.0056	98.5	57	67
	A220	2:24:00	2:24	2.40	128.3486	16.7944	6.5608	6.5669	0.0061	111.5	55	65
	A221	2:39:00	2:39	2.65	105.0723	16.8185	6.5871	6.5914	0.0043	88.2	49	61
	A222	2:54:00	2:54	2.90	156.3224	17.2473	6.5875	6.5944	0.0069	139.1	50	62
	A223	3:09:00	3:09	3.15	124.5768	16.7025	6.6004	6.6089	0.0085	107.9	79	81
	A224	3:24:00	3:24	3.40	140.0669	17.0839	6.5878	6.5939	0.0061	123.0	50	62
	A225	3:39:00	3:39	3.65	143.3341	16.8010	6.6385	6.6439	0.0054	126.5	43	57
	A226	3:54:00	3:54	3.90	147.1195	17.2726	6.6392	6.6465	0.0073	129.8	56	66
	A227	4:09:00	4:09	4.15	129.3355	17.1806	6.5981	6.6033	0.0052	112.1	46	60
	A228	4:24:00	4:24	4.40	127.1243	17.2996	6.6334	6.6376	0.0042	109.8	38	54
	A229	4:39:00	4:39	4.65	121.4823	16.668	6.6108	6.6184	0.0076	104.8	73	77
	A230	4:54:00	4:54	4.90	138.0088	17.4233	6.6395	6.6485	0.0090	120.6	75	79
	A231	5:09:00	5:09	5.15	124.6102	17.0947	6.6144	6.6214	0.0070	107.5	65	72
	A232	5:24:00	5:24	5.40	135.6093	17.2262	6.6148	6.6222	0.0074	118.4	63	71
	A233	5:39:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	5:54:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	6:09:00	6:09	6.15					0.0000	0.0	#DIV/0!	
Spillway	A301	0:00:00	0:00	0.00		17.2969	6.5282	6.5418	0.0136	-17.3	94	87
	A302	0:18:00	0:03	0.30		17.1074	6.7336	6.7550	0.0214	-17.1	114	100
	A303	0:21:00	0:06	0.35		16.8463	6.6717	6.6872	0.0155	-16.9	101	91
	A304	0:24:00	0:09	0.40		17.1274	6.5170	6.5412	0.0242	-17.2	115	101
	A305	0:27:00	0:12	0.45		16.7449	6.6596	6.6845	0.0249	-16.8	75	74
	A306	0:30:00	0:15	0.50		17.2664	6.6624	6.6871	0.0247	-17.3	116	102
	A307	0:33:00	0:18	0.55		17.4630	6.6291	6.6458	0.0167	-17.5	72	72
	A308	0:36:00	0:21	0.60		17.1221	6.6730	6.6768	0.0038	-17.1	16	34
	A309	0:39:00	0:24	0.65		17.1370	6.6710	6.6659	-0.0051	-17.1		

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.60	2,014.00	1,584.40				
Bay 2	Bay 2	387.30	685.50	298.20				
	Baffle 1	1,257.20	1,389.10	131.90				
Bay 3	Bay 3	368.40	564.70	196.30				
	Baffle 2			-				
Bay 4	Bay 4	446.20	619.00	172.80				
	Baffle 3			-				
Skimmer	Skimmer During			-		-		-
	Skimmer After	2,529.00	2,536.10	7.10	106	403	2.00	31.0
Spillway	Spillway During	2,503.60	2,560.90	57.30	111	419	2.00	85.2
	Spillway After	618.10	623.10	5.00	17	63		4.4
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,453.00**	**234**	**884**	**4**	**120.6**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,584.4	3.49	61.66%
Bay 2	430.1	0.95	16.74%
Bay 3	196.3	0.43	7.64%
Bay 4	172.8	0.38	6.72%
Skimmer	36.13	0.08	1.41%
Spillway	149.8	0.33	5.83%
Actual	2,569.57		
Expected	2,449.3		
Percent Error	**4.91%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	145.6803	17.3390	6.5995	6.9452	0.3457	128.0	2,701	1,092
	A102	0:06:00	0:06	0.10	117.1989	17.4170	6.5869	6.8590	0.2721	99.5	2,734	1,113
	A103	0:09:00	0:09	0.15	129.3644	17.2490	6.5235	6.7986	0.2751	111.8	2,460	939
	A104	0:12:00	0:12	0.20	121.5820	16.7110	6.5227	6.7808	0.2581	104.6	2,467	944
	A105	0:15:00	0:15	0.25	120.8665	17.2290	6.6355	6.9195	0.2840	103.4	2,748	1,121
	A106	0:18:00	0:18	0.30	113.8817	17.3700	6.5382	6.7945	0.2563	96.3	2,663	1,067
	A107	0:21:00	0:21	0.35	135.2205	17.2030	6.5472	6.8634	0.3162	117.7	2,686	1,082
	A108	0:24:00	0:24	0.40	137.5735	17.3030	6.5218	6.8150	0.2932	120.0	2,444	929
	A109	0:27:00	0:27	0.45	132.7502	17.4450	6.4983	6.8299	0.3316	115.0	2,884	1,207
	A110	0:30:00	0:30	0.50	134.9561	17.6280	6.3844	6.7957	0.4113	116.9	3,518	1,608
Skimmer	A201	0:03:00	0:03	0.05	138.3570	17.3380	6.6269	6.6499	0.0230	121.0	190	156
	A202	0:06:00	0:06	0.10	129.6817	16.8050	6.6501	6.6758	0.0257	112.9	228	181
	A203	0:09:00	0:09	0.15	120.7001	16.7630	6.5918	6.6066	0.0148	103.9	142	124
	A204	0:12:00	0:12	0.20	121.3633	17.3770	6.4597	6.4731	0.0134	104.0	129	115
	A205	0:15:00	0:15	0.25	139.9600	17.0010	6.5858	6.6171	0.0313	122.9	255	199
	A206	0:18:00	0:18	0.30	130.3819	16.8520	6.6439	6.6601	0.0162	113.5	143	124
	A207	0:21:00	0:21	0.35	125.2096	17.3750	6.5435	6.5620	0.0185	107.8	172	143
	A208	0:24:00	0:24	0.40	125.5732	17.2260	6.6067	6.6198	0.0131	108.3	121	110
	A209	0:27:00	0:27	0.45	121.7356	16.8660	6.5404	6.5582	0.0178	104.9	170	142
	A210	0:30:00	0:30	0.50	118.5366	17.2470	6.6187	6.6308	0.0121	101.3	119	109
	A211	0:33:00	0:33	0.55	122.1347	17.4750	6.5993	6.6172	0.0179	104.6	171	143
	A212	0:36:00	0:36	0.60	148.3365	17.4380	6.5843	6.6004	0.0161	130.9	123	111
	A213	0:39:00	0:39	0.65	116.6641	17.2740	6.5837	6.5938	0.0101	99.4	102	97
	A214	0:54:00	0:54	0.90	134.4753	17.1060	6.5641	6.5778	0.0137	117.4	117	107
	A215	1:09:00	1:09	1.15	104.8515	16.9890	6.6316	6.6395	0.0079	87.9	90	89
	A216	1:24:00	1:24	1.40	119.8869	16.9350	6.5928	6.6035	0.0107	102.9	104	98
	A217	1:39:00	1:39	1.65	126.5925	17.3710	6.5990	6.6043	0.0053	109.2	49	61
	A218	1:54:00	1:54	1.90	135.3605	17.5340	6.4890	6.4975	0.0085	117.8	72	77
	A219	2:09:00	2:09	2.15	125.2698	17.5340	6.6135	6.6182	0.0047	107.7	44	58
	A220	2:24:00	2:24	2.40	143.8576	17.5050	6.5734	6.5812	0.0078	126.3	62	70
	A221	2:39:00	2:39	2.65	133.7725	17.3430	6.5967	6.6082	0.0115	116.4	99	95
	A222	2:54:00	2:54	2.90	131.5903	16.8250	6.5962	6.6029	0.0067	114.8	58	68
	A223	3:09:00	3:09	3.15	131.5792	17.3530	6.6122	6.6221	0.0099	114.2	87	87
	A224	3:24:00	3:24	3.40	136.7608	16.7050	6.5981	6.6035	0.0054	120.1	45	59
	A225	3:39:00	3:39	3.65	138.2207	16.7700	6.6477	6.6570	0.0093	121.4	77	80
	A226	3:54:00	3:54	3.90	129.2392	17.3180	6.6493	6.6533	0.0040	111.9	36	53
	A227	4:09:00	4:09	4.15	121.5340	17.1150	6.6063	6.6169	0.0106	104.4	102	97
	A228	4:24:00	4:24	4.40	117.8715	17.5120	6.6416	6.6521	0.0105	100.3	105	99
	A229	4:39:00	4:39	4.65	116.3475	17.419	6.6207	6.6301	0.0094	98.9	95	92
	A230	4:54:00	4:54	4.90	138.0996	17.022	6.6505	6.6560	0.0055	121.1	45	59
	A231	5:09:00	5:09	5.15	121.1552	17.0270	6.6244	6.6306	0.0062	104.1	60	69
	A232	5:24:00	5:24	5.40	130.1317	17.4160	6.6245	6.6334	0.0089	112.7	79	82
	A233	5:39:00	5:39	5.65	115.2049	17.3020	6.6607	6.6678	0.0071	97.9	73	77
	A234	5:54:00	5:54	5.90	118.2245	17.1690	6.7088	6.7114	0.0026	101.1	26	46
	A235	6:09:00	6:09	6.15					0.0000	0.0		
Spillway	A301	0:00:00	0:00	0.00	132.1644	17.0530	6.5084	6.5175	0.0091	115.1	79	42
	A302	0:18:00	0:03	0.30	128.3396	17.1680	6.6838	6.6972	0.0134	111.2	121	63
	A303	0:21:00	0:06	0.35	132.1790	16.7700	6.6173	6.6322	0.0149	115.4	129	59
	A304	0:24:00	0:09	0.40	118.0514	16.7070	6.4572	6.4721	0.0149	101.3	147	92
	A305	0:27:00	0:12	0.45	132.2469	16.9710	6.6052	6.6236	0.0184	115.3	160	82
	A306	0:30:00	0:15	0.50	100.6413	16.6630	6.6130	6.6271	0.0141	84.0	168	121
	A307	0:33:00	0:18	0.55	120.7053	16.6070	6.6049	6.6218	0.0169	104.1	162	57
	A308	0:36:00	0:21	0.60	119.9815	17.0640	6.6500	6.6603	0.0103	102.9	100	37
	A309	0:39:00	0:24	0.65	112.5926	16.8270	6.6478	6.6599	0.0121	95.8	126	35

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	429.90	2,212.00	1,782.10				
Bay 2	Bay 2	281.50	569.30	287.80				
	Baffle 1	1,257.20	1,388.50	131.30				
Bay 3	Bay 3	240.60	363.10	122.50				
	Baffle 2			-				
Bay 4	Bay 4	251.90	351.70	99.80				
	Baffle 3			-				
Skimmer	Skimmer During	614.50	617.80	3.30	6	23		2.7
	Skimmer After	2,528.10	2,531.60	3.50	97	367	2.00	42.1
Spillway	Spillway During	2,505.40	2,542.50	37.10	12	44	2.00	4.5
	Spillway After	618.30	622.70	4.40	105	397		38.6
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,471.80**	**220**	**831**	**4**	**88.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,782.1	3.93	69.73%
Bay 2	419.1	0.92	16.40%
Bay 3	122.5	0.27	4.79%
Bay 4	99.8	0.22	3.90%
Skimmer	49.62	0.11	1.94%
Spillway	82.6	0.18	3.23%
Actual	2,555.76		
Expected	2,516.1		
Percent Error	**1.58%**		

Test Series R

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	12:03:00	0:03	0.05	110.4460	16.8500	6.6040	6.7993	0.1953	93.4	2,091	706
	A102	12:06:00	0:06	0.10	116.8699	17.1850	6.5928	6.8279	0.2351	99.4	2,364	879
	A103	12:09:00	0:09	0.15	129.9326	16.8570	6.5283	6.8382	0.3099	112.8	2,748	1,121
	A104	12:12:00	0:12	0.20	131.5986	16.7020	6.5184	6.7399	0.2215	114.7	1,932	606
	A105	12:15:00	0:15	0.25	125.6786	16.6190	6.6384	6.9012	0.2628	108.8	2,416	911
	A106	12:18:00	0:18	0.30	141.2359	16.8160	6.5459	6.8494	0.3035	124.1	2,445	930
	A107	12:21:00	0:21	0.35	139.4978	16.6900	6.5551	6.9073	0.3522	122.5	2,876	1,202
	A108	12:24:00	0:24	0.40					0.0000	0.0		942
	A109	12:27:00	0:27	0.45	129.8380	16.7600	6.5000	6.8070	0.3070	112.8	2,722	1,105
	A110	12:30:00	0:30	0.50	134.7868	16.8990	6.3936	6.6863	0.2927	117.6	2,489	958
Skimmer	A201	12:03:00	0:03	0.05	125.4095	16.8580	6.5971	6.6154	0.0183	108.5	169	141
	A202	12:06:00	0:06	0.10	134.6107	17.3380	6.6291	6.6382	0.0091	117.3	78	81
	A203	12:09:00	0:09	0.15	137.6571	17.1780	6.5919	6.6098	0.0179	120.5	149	128
	A204	12:12:00	0:12	0.20	139.3716	16.6740	6.4566	6.4773	0.0207	122.7	169	141
	A205	12:15:00	0:15	0.25	134.5835	16.8840	6.5724	6.5928	0.0204	117.7	173	145
	A206	12:18:00	0:18	0.30	140.0471	17.2920	6.6334	6.6458	0.0124	122.7	101	96
	A207	12:21:00	0:21	0.35	141.4987	17.4210	6.5626	6.5786	0.0160	124.1	129	115
	A208	12:24:00	0:24	0.40	144.7981	17.2090	6.5991		-6.5991	134.2		29
	A209	12:27:00	0:27	0.45	136.4610	17.2680	6.5531	6.5665	0.0134	119.2	112	104
	A210	12:30:00	0:30	0.50	147.2056	17.2170	6.5909	6.6078	0.0169	130.0	130	116
	A211	12:33:00	0:33	0.55	140.5817	17.0320	6.5978	6.6151	0.0173	123.5	140	122
	A212	12:36:00	0:36	0.60	143.0323	17.0010	6.5817	6.5986	0.0169	126.0	134	118
	A213	12:39:00	0:39	0.65	136.8273	16.9430	6.5790	6.5943	0.0153	119.9	128	114
	A214	12:54:00	0:54	0.90	137.9066	17.1117	6.5742	6.5827	0.0085	120.8	70	76
	A215	13:09:00	1:09	1.15	133.4502	17.1160	6.6315	6.6394	0.0079	116.3	68	74
	A216	13:24:00	1:24	1.40	134.8036	17.3350	6.5941	6.6045	0.0104	117.5	89	88
	A217	13:39:00	1:39	1.65	133.3973	16.6290	6.6068	6.6153	0.0085	116.8	73	77
	A218	13:54:00	1:54	1.90	140.0954	17.2410	6.4874	6.4993	0.0119	122.8	97	94
	A219	14:09:00	2:09	2.15	152.0749	17.3940	6.6212	6.6347	0.0135	134.7	100	96
	A220	14:24:00	2:24	2.40	148.3327	16.7150	6.5817	6.5923	0.0106	131.6	81	83
	A221	14:39:00	2:39	2.65	144.4453	17.2120	6.6057	6.6165	0.0108	127.2	85	86
	A222	14:54:00	2:54	2.90	126.7772	17.0840	6.6232	6.6268	0.0036	109.7	33	51
	A223	15:09:00	3:09	3.15	114.2918	17.3340	6.6288	6.6407	0.0119	96.9	123	111
	A224	15:24:00	3:24	3.40	116.7753	17.1130	6.6125	6.6267	0.0142	99.6	143	124
	A225	15:39:00	3:39	3.65	116.1295	17.3160	6.6543	6.6729	0.0186	98.8	188	154
	A226	15:54:00	3:54	3.90	105.6973	16.8610	6.6589	6.6774	0.0185	88.8	208	168
	A227	16:09:00	4:09	4.15	107.4833	17.2360	6.6186	6.6344	0.0158	90.2	175	146
	A228	16:24:00	4:24	4.40	116.8944	17.2820	6.6563		-6.6563	106.3	(62,637)	
	A229	16:39:00	4:39	4.65					0.0000	0.0	#DIV/0!	
	A230	16:54:00	4:54	4.90					0.0000	0.0	#DIV/0!	
	A231	17:09:00	5:09	5.15					0.0000	0.0	#DIV/0!	
	A232	17:24:00	5:24	5.40					0.0000	0.0	#DIV/0!	
	A233	17:39:00	5:39	5.65					0.0000	0.0	#DIV/0!	
	A234	17:54:00	5:54	5.90					0.0000	0.0	#DIV/0!	
	A235	18:09:00	6:09	6.15					0.0000	0.0	#DIV/0!	

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.80	1,938.90	1,485.10				
Bay 2	Bay 2	386.80	594.00	207.20				
	Baffle 1	1,384.20	1,518.90	134.70				
Bay 3	Bay 3	369.00	511.60	142.60				
	Baffle 2			-				
Bay 4	Bay 4	446.90	606.60	159.70				
	Baffle 3			-				
Skimmer	Skimmer During	613.70	619.90	6.20	11	42	2.00	2.3
	Skimmer After	2,526.10	2,581.50	55.40	117	443		28.5
Spillway	Spillway During	2,503.20	2,536.10	32.90	93	352	2.00	24.5
	Spillway After	617.70	624.00	6.30	10	37		2.7
Bay 1	Bay 1 Tubs			-		-		-
	Total			**2,230.10**	**231**	**873**	**4**	**58.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,485.1	3.27	65.02%
Bay 2	341.9	0.75	14.97%
Bay 3	142.6	0.31	6.24%
Bay 4	159.7	0.35	6.99%
Skimmer	90.42	0.20	3.96%
Spillway	64.4	0.14	2.82%
Actual	2,284.09		
Expected	2,249.5		
Percent Error	**1.54%**		

	Table 2: Solids Concentration and Turbidity											
	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	9:09:00	0:03	0.05	136.2697	17.3150	6.5997	6.8822	0.2825	118.7	2,381	889
	A102	9:12:00	0:06	0.10	139.0226	17.4510	6.5886	6.8796	0.2910	121.3	2,399	901
	A103	9:15:00	0:09	0.15	125.1678	17.2730	6.5275	6.8823	0.3548	107.5	3,299	1,470
	A104	9:18:00	0:12	0.20	122.5048	17.4060	6.5164	6.7971	0.2807	104.8	2,678	1,077
	A105	9:21:00	0:15	0.25	138.6588	17.1890	6.6366	6.9665	0.3299	121.1	2,723	1,106
	A106	9:24:00	0:18	0.30	125.8328	17.2740	6.5387	6.7932	0.2545	108.3	2,350	870
	A107	9:27:00	0:21	0.35	136.5335	17.3400	6.5496	6.8164	0.2668	118.9	2,243	803
	A108	9:30:00	0:24	0.40	126.5915	17.3410	6.5247	6.8193	0.2946	109.0	2,704	1,093
	A109	9:33:00	0:27	0.45	127.9450	16.7740	6.4983	6.7768	0.2785	110.9	2,511	972
	A110	9:36:00	0:30	0.50	132.2412	17.0280	6.3875	6.6685	0.2810	114.9	2,445	930
Skimmer	A201	9:09:00	0:03	0.05	139.2605	16.9130	6.6012	6.6402	0.0390	122.3	319	163
	A202	9:12:00	0:06	0.10	130.8880	16.8120	6.6350	6.6636	0.0286	114.0	251	138
	A203	9:15:00	0:09	0.15	128.5412	17.2850	6.5828	6.6031	0.0203	111.2	182	100
	A204	9:18:00	0:12	0.20	150.1166	16.7390	6.4536	6.4724	0.0188	133.4	141	71
	A205	9:21:00	0:15	0.25	129.2719	17.4130	6.5760	6.5904	0.0144	111.8	129	72
	A206	9:24:00	0:18	0.30	129.5310	16.9400	6.6403	6.6531	0.0128	112.6	114	63
	A207	9:27:00	0:21	0.35	116.2531	16.8270	6.5479	6.5634	0.0155	99.4	156	81
	A208	9:30:00	0:24	0.40	128.6354	16.7640	6.6035	6.6157	0.0122	111.9	109	54
	A209	9:33:00	0:27	0.45	120.9694	17.3880	6.5353	6.5454	0.0101	103.6	98	57
	A210	9:36:00	0:30	0.50	123.2705	17.3190	6.5937	6.6053	0.0116	105.9	109	62
	A211	9:39:00	0:33	0.55	122.1885	16.9610	6.5971	6.6110	0.0139	105.2	132	81
	A212	9:42:00	0:36	0.60	138.6801	17.1440	6.5802	6.5961	0.0159	121.5	131	63
	A213	9:45:00	0:39	0.65	121.9474	17.2890	6.5835	6.5940	0.0105	104.6	100	55
	A214	10:00:00	0:54	0.90	134.7829	17.1750	6.5727	6.5875	0.0148	117.6	126	38
	A215	10:15:00	1:09	1.15	133.7413	17.4140	6.6341	6.6419	0.0078	116.3	67	30
	A216	10:30:00	1:24	1.40	132.5848	17.5230	6.5985	6.6070	0.0085	115.1	74	29
	A217	10:45:00	1:39	1.65	122.0971	16.7840	6.6011	6.6086	0.0075	105.3	71	27
	A218	11:00:00	1:54	1.90	99.3529	16.7020	6.4890	6.4945	0.0055	82.6	67	25
	A219	11:15:00	2:09	2.15	108.3972	17.3250	6.6265	6.6326	0.0061	91.1	67	32
	A220	11:30:00	2:24	2.40	140.6154	17.0380	6.5832	6.5918	0.0086	123.6	70	24
	A221	11:45:00	2:39	2.65	132.0310	16.7270	6.6089	6.6179	0.0090	115.3	78	24
	A222	12:00:00	2:54	2.90	137.2050	17.1260	6.6078	6.6195	0.0117	120.1	97	23
	A223	12:15:00	3:09	3.15	122.0898	16.7720	6.6407	6.6521	0.0114	105.3	108	21
	A224	12:30:00	3:24	3.40	83.2109	17.2770	6.6267	6.6336	0.0069	65.9	105	21
	A225	12:45:00	3:39	3.65	90.3238	17.0030	6.6729	6.6808	0.0079	73.3	108	21
	A226	13:00:00	3:54	3.90	120.0781	17.2250	6.6774	6.6869	0.0095	102.8	92	20
	A227	13:15:00	4:09	4.15	128.9001	16.9330	6.6344	6.6444	0.0100	112.0	89	22
	A228	13:30:00	4:24	4.40	136.6848	17.4790	6.6765	6.6866	0.0101	119.2	85	19
	A229	13:45:00	4:39	4.65	144.1280	16.811	6.6568	6.6667	0.0099	127.3	78	20
	A230	14:00:00	4:54	4.90	145.3990	17.261	6.6814	6.6916	0.0102	128.1	80	17
	A231	14:15:00	5:09	5.15	152.4223	17.2720	6.6385	6.6483	0.0098	135.1	73	18
	A232	14:30:00	5:24	5.40	148.6309	17.2450	6.6396	6.6497	0.0101	131.4	77	18
	A233	14:45:00	5:39	5.65	163.5923	24.9095	6.6711	6.6811	0.0100	138.7	72	17
	A234	15:00:00	5:54	5.90	132.0597	25.0223	6.7167	6.7239	0.0072	107.0	67	16
	A235	15:15:00	6:09	6.15	168.7307	25.1790	6.6285	6.6385	0.0100	143.5	70	15
Spillway	A301	9:22:30	0:16	0.28	119.5115	17.3330	6.5141	6.5252	0.0111	102.2	109	61
	A302	9:24:00	0:19	0.30	133.9324	17.2470	6.6912	6.7077	0.0165	116.7	141	72
	A303	9:27:00	0:22	0.35	134.6978	17.0400	6.6279	6.6459	0.0180	117.6	153	76
	A304	9:30:00	0:25	0.40	116.7101	17.1630	6.4622	6.4791	0.0169	99.5	170	82
	A305	9:33:00	0:28	0.45	113.7241	16.8930	6.6089	6.6242	0.0153	96.8	158	77
	A306	9:36:00	0:31	0.50	119.1667	17.3060	6.6201	6.6374	0.0173	101.8	170	89
	A307	9:39:00	0:34	0.55	152.5904	17.3770	6.5822	6.5987	0.0165	135.2	122	75
	A308	9:42:00	0:37	0.60	79.3503	17.1660	6.6296	6.6355	0.0059	62.2	95	53
	A309	9:45:00	0:40	0.65	115.6674	17.1470	6.6323	6.6429	0.0106	98.5	108	41

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	453.70	2,074.50	1,620.80				
Bay 2	Bay 2	387.60	617.80	230.20				
	Baffle 1	1,722.30	1,865.20	142.90				
Bay 3	Bay 3	368.50	457.50	89.00				
	Baffle 2			-				
Bay 4	Bay 4	446.50	537.10	90.60				
	Baffle 3			-				
Skimmer	Skimmer During	613.70	617.70	4.00	5	19	0.20	1.6
	Skimmer After	2,526.10	2,534.40	8.30	110	416	2.00	30.2
Spillway	Spillway During	2,503.20	2,540.60	37.40	85	322	2.00	22.2
	Spillway After	617.70	624.30	6.60	10	38	0.20	4.4
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,229.80**	**210**	**795**	**4**	**58.5**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,620.8	3.57	70.97%
Bay 2	373.1	0.82	16.34%
Bay 3	89.0	0.20	3.90%
Bay 4	90.6	0.20	3.97%
Skimmer	41.94	0.09	1.84%
Spillway	68.5	0.15	3.00%
Actual	2,283.93		
Expected	2,272.9		
Percent Error	**0.49%**		

Table 2: Solids Concentration and Turbidity

	Sample	Time of Day (hh:mm:ss)	Time Since Start (h:mm)	Time Since Start (hr)	Jar + Water + Sediment (g)	Jar Weight (g)	Dish (g)	Sediment + Dish (g)	Sediment (g)	Water (mL)	Concentration (mg/L)	Turbidity NTU
Inflow	A101	0:03:00	0:03	0.05	116.9948	16.8949	6.5942	6.7985	0.2043	99.9	2,045	677
	A102	0:06:00	0:06	0.10	128.7384	17.3427	6.5839	6.8126	0.2287	111.2	2,057	685
	A103	0:09:00	0:09	0.15	141.9349	17.2609	6.5224	6.7524	0.2300	124.4	1,848	553
	A104	0:12:00	0:12	0.20	121.7576	16.6910	6.5128	6.7463	0.2335	104.8	2,227	793
	A105	0:15:00	0:15	0.25	129.8926	16.7503	6.6314	6.8611	0.2297	112.9	2,034	671
	A106	0:18:00	0:18	0.30	110.0819	16.6563	6.5326	6.7457	0.2131	93.2	2,286	830
	A107	0:21:00	0:21	0.35	131.5020	16.8178	6.5418	6.9480	0.4062	114.3	3,554	1,631
	A108	0:24:00	0:24	0.40	123.6730	17.1499	6.5192	6.8476	0.3284	106.2	3,092	1,339
	A109	0:27:00	0:27	0.45	110.0493	16.6716	6.4932	6.7047	0.2115	93.2	2,270	820
	A110	0:30:00	0:30	0.50	119.8410	16.6961	6.3874	6.7252	0.3378	102.8	3,286	1,461
Skimmer	A201	0:03:00	0:03	0.05	129.4420	16.8717	6.6027	6.6209	0.0182	112.6	162	100
	A202	0:06:00	0:06	0.10	133.4309	17.2127	6.6326	6.6552	0.0226	116.2	194	88
	A203	0:09:00	0:09	0.15	133.8010	17.2609	6.5818	6.5994	0.0176	116.5	151	73
	A204	0:12:00	0:12	0.20	132.0482	16.6274	6.4534	6.4670	0.0136	115.4	118	72
	A205	0:15:00	0:15	0.25	131.6645	16.8783	6.5734	6.5845	0.0111	114.8	97	41
	A206	0:18:00	0:18	0.30	137.8356	17.1085	6.6358	6.6547	0.0189	120.7	157	58
	A207	0:21:00	0:21	0.35	134.8787	17.1544	6.5367	6.5530	0.0163	117.7	138	56
	A208	0:24:00	0:24	0.40	137.1818	17.2185	6.6006	6.6138	0.0132	120.0	110	51
	A209	0:27:00	0:27	0.45	133.6526	17.3020	6.5319	6.5465	0.0146	116.3	125	45
	A210	0:30:00	0:30	0.50	138.7960	17.3372	6.5921	6.6112	0.0191	121.4	157	54
	A211	0:33:00	0:33	0.55	146.2555	17.1163	6.5882	6.6064	0.0182	129.1	141	62
	A212	0:36:00	0:36	0.60	150.5846	16.9741	6.5780	6.5912	0.0132	133.6	99	42
	A213	0:39:00	0:39	0.65	143.2961	17.1899	6.6001	6.6145	0.0144	126.1	114	45
	A214	0:54:00	0:54	0.90	86.9125	17.0035	6.5656	6.5711	0.0055	69.9	79	38
	A215	1:09:00	1:09	1.15	132.1634	17.3942	6.6291	6.6385	0.0094	114.8	82	33
	A216	1:24:00	1:24	1.40	128.0374	17.3342	6.5958	6.6039	0.0081	110.7	73	30
	A217	1:39:00	1:39	1.65	117.5193	16.8328	6.5977	6.6030	0.0053	100.7	53	20
	A218	1:54:00	1:54	1.90	113.4298	17.1124	6.4861	6.4908	0.0047	96.3	49	30
	A219	2:09:00	2:09	2.15	125.2750	17.2649	6.6218	6.6364	0.0146	108.0	135	29
	A220	2:24:00	2:24	2.40	110.1175	16.7141	6.5794	6.5842	0.0048	93.4	51	20
	A221	2:39:00	2:39	2.65	134.6554	17.1052	6.6093	6.6205	0.0112	117.5	95	20
	A222	2:54:00	2:54	2.90	119.3520	17.0153	6.6064	6.6177	0.0113	102.3	110	20
	A223	3:09:00	3:09	3.15	124.1833	17.3815	6.6306	6.6409	0.0103	106.8	96	19
	A224	3:24:00	3:24	3.40	120.2967	16.9249	6.6426	6.6487	0.0061	103.4	59	18
	A225	3:39:00	3:39	3.65	123.1721	17.2846	6.6900	6.6984	0.0084	105.9	79	18
	A226	3:54:00	3:54	3.90	97.5466	16.6340	6.6964	6.7044	0.0080	80.9	99	17
	A227	4:09:00	4:09	4.15	127.6534	17.3592	6.6438	6.6525	0.0087	110.3	79	18
	A228	4:24:00	4:24	4.40	123.5980	17.2318	6.6865	6.6943	0.0078	106.4	73	18
	A229	4:39:00	4:39	4.65	133.9566	17.377	6.6752	6.6754	0.0002	116.6	2	16
	A230	4:54:00	4:54	4.90	139.3785	17.0242	6.7006	6.7052	0.0046	122.3	38	14
	A231	5:09:00	5:09	5.15	129.7080	17.2819	6.6556	6.6624	0.0068	112.4	60	16
	A232	5:24:00	5:24	5.40	126.5310	16.8881	6.6544	6.6584	0.0040	109.6	36	16
	A233	5:39:00	5:39	5.65	134.1666	17.2182	6.6876	6.6958	0.0082	116.9	70	15
	A234	5:54:00	5:54	5.90	128.2695	17.1887	6.7327	6.7379	0.0052	111.1	47	16
	A235	6:09:00	6:09	6.15	128.2021	17.2813	6.6019	6.6034	0.0015	110.9	14	15
Spillway	A301	0:00:00	0:00	0.00	131.9238	17.0936	6.5114	6.5308	0.0194	114.8	169	66
	A302	0:18:00	0:03	0.30	124.7557	17.2942	6.6883	6.7007	0.0124	107.4	115	57
	A303	0:21:00	0:06	0.35	136.1159	17.4578	6.6276	6.6417	0.0141	118.6	119	53
	A304	0:24:00	0:09	0.40	119.7891	17.4325	6.4644	6.4763	0.0119	102.3	116	60
	A305	0:27:00	0:12	0.45	134.8438	17.4225	6.6057	6.6194	0.0137	117.4	117	65
	A306	0:30:00	0:15	0.50	112.1075	17.0847	6.6192	6.6297	0.0105	95.0	111	75
	A307	0:33:00	0:18	0.55	142.1458	17.1420	6.5770	6.5933	0.0163	125.0	130	58
	A308	0:36:00	0:21	0.60	101.1257	16.8134	6.6339	6.6391	0.0052	84.3	62	42
	A309	0:39:00	0:24	0.65	102.7240	16.8978	6.6297	6.6362	0.0065	85.8	76	39

	Sample	Bowl (g)	Bowl + Sed (g)	Sediment Weight (g)	Volume (gal)	Volume (L)	Flocculant (g)	Supernate (g)
Bay 1	Bay 1	367.00	2,051.10	1,684.10				
Bay 2	Bay 2	281.60	526.90	245.30				
	Baffle 1	1,687.30	1,860.00	172.70				
Bay 3	Bay 3	240.90	343.70	102.80				
	Baffle 2			-				
Bay 4	Bay 4	375.50	458.20	82.70				
	Baffle 3			-				
Skimmer	Skimmer During	613.80	617.20	3.40	5	19	0.20	1.8
	Skimmer After	2,527.30	2,533.20	5.90	110	416	2.00	43.3
Spillway	Spillway During	2,504.60	2,534.60	30.00	85	322	2.00	26.2
	Spillway After	617.80	621.80	4.00	10	38	0.20	3.7
Bay 1	Bay 1 Tubs			-		-		
	Total			**2,330.90**	**210**	**795**	**4**	**75.0**

Location	Total Sed Capture (g)	Total Sed Capture (lbs)	Percentage
Bay 1	1,684.1	3.71	70.13%
Bay 2	418.0	0.92	17.41%
Bay 3	102.8	0.23	4.28%
Bay 4	82.7	0.18	3.44%
Skimmer	52.21	0.12	2.17%
Spillway	61.7	0.14	2.57%
Actual	2,401.49		
Expected	2,348.6		
Percent Error	**2.25%**		

APPENDIX B

S1: Series B: No Energy Dissipators							
Test 1							
avg inflow	1007.6			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1059	712		29%		347	
0:06	1012	702		30%		310	
0:09	996	612		39%		384	
0:12	861	763		24%		98	
0:15	983	694	423	31%	58%	289	560
0:18	990	668	512	34%	49%	322	478
0:21	1091	683	509	32%	49%	408	582
0:24	1023	676	498	33%	51%	347	525
0:27	964	604	547	40%	46%	360	417
0:30	1097	606	537	40%	47%	491	560
0:33		372	386	63%	62%		
0:36		356	269	65%	73%		
0:39		301	199	70%	80%		
0:54		238		76%			
1:09		209		79%			
1:24		198		80%			
1:39		173		83%			
1:54		167		83%			
2:09		165		84%			
2:24		156		85%			
2:39		151		85%			
2:54		140		86%			
3:09		141		86%			
3:24		138		86%			
3:39		132		87%			
3:54		126		87%			
4:09		125		88%			
4:24		125		88%			
4:39		114		89%			
4:54		115		89%			
5:09		105		90%			
5:24		106		89%			
5:39		114		89%			

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
5:54		98.5		90%			
6:09		91.8		91%			
Average	1008	311	431	69.16%	57.21%		
Minimum	861	92	199				
Maximum	1097	763	547				
Test 2							
avg inflow	**1036.5**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	996	778		25%		218	
0:06	1099	584		44%		515	
0:09	1128	638		38%		490	
0:12	1053	625		40%		428	
0:15	989	623	538	40%	48%	366	451
0:18	1001	555	571	46%	45%	446	430
0:21	996	573	536	45%	48%	423	460
0:24	970	584	534	44%	48%	386	436
0:27	1085	510	537	51%	48%	575	548
0:30	1048	526	491	49%	53%	522	557
0:33		377	370	64%	64%		
0:36		266	271	74%	74%		
0:39		292		72%			
0:54		259		75%			
1:09		202		81%			
1:24		185		82%			
1:39		174		83%			
1:54		163		84%			
2:09		157		85%			
2:24		143		86%			
2:39		146		86%			
2:54		144		86%			
3:09		103		90%			
3:24		129		88%			
3:39		127		88%			
3:54		121		88%			
4:09		120		88%			
4:24		119		89%			
4:39		113		89%			
4:54		105		90%			

5:09		99.4		90%				
5:24		90.9		91%				
5:39		93		91%				
5:54		73.7		93%				
6:09		72.1		93%				
6:24		64.6		94%				
Average	1037	282	481	72.79%	53.59%			
Minimum	970	72	271					
Maximum	1128	778	571					
Test 3								
avg inflow	**1104.3**							
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**	
0:03	1064	740		33%		324		
0:06	1065	690		38%		375		
0:09	1036	746		32%		290		
0:12	1210	605		45%		605		
0:15	990	557	512	50%	54%	433	478	
0:18	1131	567	580	49%	47%	564	551	
0:21	1179	531	597	52%	46%	648	582	
0:24	1152	530	543	52%	51%	622	609	
0:27	1063	537	545	51%	51%	526	518	
0:30	1153	535	583	52%	47%	618	570	
0:33		322	405	71%	63%			
0:36		392	261	65%	76%			
0:39		310	206	72%	81%			
0:54		274		75%				
1:09		216		80%				
1:24		194		82%				
1:39		181		84%				
1:54		182		84%				
2:09		165		85%				
2:24		154		86%				
2:39		146		87%				
2:54		137		88%				
3:09		137		88%				
3:24		132		88%				
3:39		130		88%				
3:54		129		88%				
4:09		123		89%				

4:24		125		89%			
4:39		122		89%			
4:54		102		91%			
5:09		109		90%			
5:24		123		89%			
5:39		87.5		92%			
Average	1104	304	470	72.48%	57.42%		
Minimum	990	88	206				
Maximum	1210	746	597				

Test 4

avg inflow	1000.6						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	943	696		30%		247	
0:06	867	641		36%		226	
0:09	938	614		39%		324	
0:12	1097	583		42%		514	
0:15	1040	586	526	41%	47%	454	514
0:18	956	550	522	45%	48%	406	434
0:21	1013	522	547	48%	45%	491	466
0:24	1082	555	515	45%	49%	527	567
0:27	1029	533	538	47%	46%	496	491
0:30	1041	523	553	48%	45%	518	488
0:33		416	410	58%	59%		
0:36		333	317	67%	68%		
0:39		321	272	68%	73%		
0:54		243		76%			
1:09		226		77%			
1:24		207		79%			
1:39		205		80%			
1:54		204		80%			
2:09		195		81%			
2:24		182		82%			
2:39		168		83%			
2:54		163		84%			
3:09		152		85%			
3:24		157		84%			

3:39		148		85%			
3:54		142		86%			
4:09		140		86%			
4:24		134		87%			
4:39		129		87%			
4:54		122		88%			
5:09		114		89%			
5:24		104		90%			
5:39		96.4		90%			
5:54		86.7		91%			
6:09							
Average	996	300	467	70.04%	53.36%		
Minimum	867	87	272				
Maximum	1097	696	553				

Average Series B

avg inflow **1037**

Time (HH:MM)	**Avg Inflow**	**Avg Skimmer**	**Avg Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1016	732		29%		284	
0:06	1011	654		37%		357	
0:09	1025	653		37%		372	
0:12	1055	644		38%		411	
0:15	1001	615	500	41%	52%	386	501
0:18	1020	585	546	44%	47%	435	473
0:21	1070	577	547	44%	47%	493	523
0:24	1057	586	523	43%	50%	471	534
0:27	1035	546	542	47%	48%	489	494
0:30	1085	548	541	47%	48%	537	544
0:33		372	393	64%	62%		
0:36		337	280	68%	73%		
0:39		306	226	70%	78%		
0:54		254		76%			
1:09		213		79%			
1:24		196		81%			
1:39		183		82%			
1:54		179		83%			
2:09		171		84%			
2:24		159		85%			
2:39		153		85%			

2:54		146		86%			
3:09		133		87%			
3:24		139		87%			
3:39		134		87%			
3:54		130		88%			
4:09		127		88%			
4:24		126		88%			
4:39		120		88%			
4:54		111		89%			
5:09		107		90%			
5:24		106		90%			
5:39		98		91%			
5:54		86		92%			
6:09		82		92%			
Average	1037	294	455	71.62%	56.12%		
Minimum	1001	82	226	29.48%	47.24%		
Maximum	1085	732	547	92.10%	78.24%		

S2: Series A: Three Coir Baffles							
Test 1							
avg inflow	**981.9**			**TURBIDITY REDUCTION**		**T-TEST**	
Time (HH:MM)	**inflow**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	939	462		53%		477	
0:06	958	428		56%		530	
0:09	1009	387		61%		622	
0:12	847	371		62%		476	
0:15	900	376	183	62%	81%	524	717
0:18	1136	378	295	62%	70%	758	841
0:21	993	389	329	60%	66%	604	664
0:24	997	368	362	63%	63%	629	635
0:27	993	375	338	62%	66%	618	655
0:30	1047	376	356	62%	64%	671	691
0:33		356	278	64%	72%		
0:36		296	257	70%	74%		
0:39		263	179	73%	82%		
0:54		204		79%			

1:09		196		80%			
1:24		177		82%			
1:39		175		82%			
1:54		162		84%			
2:09		155		84%			
2:24		137		86%			
2:39		139		86%			
2:54		133		86%			
3:09		139		86%			
3:24		124		87%			
3:39		122		88%			
3:54		116		88%			
4:09		113		88%			
4:24		111		89%			
4:39		106		89%			
4:54		99.6		90%			
5:09		102		90%			
5:24		95.4		90%			
5:39		85.1		91%			
5:54		82.1		92%			
6:09		81.4		92%			
Average	982	219	286	77.65%	70.84%		
Minimum	847	81	179				
Maximum	1136	462	362				

Test 2

avg inflow **1004**

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1080	403		60%		677	
0:06	938	462		54%		476	
0:09	971	394		61%		577	
0:12	1022	388		61%		634	
0:15	923	379	301	62%	70%	544	622
0:18	1004	364	308	64%	69%	640	696
0:21	1024	432	326	57%	68%	592	698
0:24	1027	442	345	56%	66%	585	682
0:27	1016	386	358	62%	64%	630	658
0:30	1035	389	283	61%	72%	646	752
0:33		375	259	63%	74%		

0:36		302	247	70%	75%		
0:39		275	194	73%	81%		
0:54		188		81%			
1:09		187		81%			
1:24		171		83%			
1:39		159		84%			
1:54		149		85%			
2:09		143		86%			
2:24		137		86%			
2:39		125		88%			
2:54		125		88%			
3:09		121		88%			
3:24		116		88%			
3:39		99.9		90%			
3:54		107		89%			
4:09		98.1		90%			
4:24		99.8		90%			
4:39		92.7		91%			
4:54		91.8		91%			
5:09		87.3		91%			
5:24		75.9		92%			
5:39		71		93%			
5:54		68.6		93%			
6:09		89.8		91%			
Average	1004	217	291	78.39%	70.99%		
Minimum	923	69	194				
Maximum	1080	462	358				

Test 3

avg inflow	**943.1111111**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03		504		47%		-504	
0:06	950	304		68%		646	
0:09	973	300		68%		673	
0:12	993	268		72%		725	
0:15	845	271	172	71%	82%	574	673
0:18	910	337	250	64%	73%	573	660
0:21	914	425	328	55%	65%	489	586
0:24	916	365	344	61%	64%	551	572

0:27	956	343	355	64%	62%	613	601
0:30	1031	381	332	60%	65%	650	699
0:33		395	312	58%	67%		
0:36		350	240	63%	75%		
0:39		285	186	70%	80%		
0:54		228		76%			
1:09		184		80%			
1:24		170		82%			
1:39		162		83%			
1:54		155		84%			
2:09		144		85%			
2:24		141		85%			
2:39		132		86%			
2:54		135		86%			
3:09		128		86%			
3:24		127		87%			
3:39		120		87%			
3:54		113		88%			
4:09		114		88%			
4:24		102		89%			
4:39		101		89%			
4:54		96.2		90%			
5:09		91.5		90%			
5:24		88.4		91%			
5:39		81.5		91%			
5:54		74.4		92%			
6:09		69.9		93%			

Average	943	208	280	77.93%	70.32%
Minimum	845	70	172		
Maximum	1031	504	355		

Average Series A

avg inflow	**979**

Time (HH:MM)	**Avg Inflow**	**Avg Skimmer**	**Avg Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1010	456		53%		553	
0:06	949	398		59%		551	
0:09	984	360		63%		624	
0:12	954	342		65%		612	

0:15	889	342	219	65%	78%	547	671
0:18	1017	360	284	63%	71%	657	732
0:21	977	415	328	58%	67%	562	649
0:24	980	392	350	60%	64%	588	630
0:27	988	368	350	62%	64%	620	638
0:30	1038	382	324	61%	67%	656	714
0:33		375	283	62%	71%		
0:36		316	248	68%	75%		
0:39		274	186	72%	81%		
0:54		207		79%			
1:09		189		81%			
1:24		173		82%			
1:39		165		83%			
1:54		155		84%			
2:09		147		85%			
2:24		138		86%			
2:39		132		87%			
2:54		131		87%			
3:09		129		87%			
3:24		122		87%			
3:39		114		88%			
3:54		112		89%			
4:09		108		89%			
4:24		104		89%			
4:39		100		90%			
4:54		96		90%			
5:09		94		90%			
5:24		87		91%			
5:39		79		92%			
5:54		75		92%			
6:09		80		92%			
Average	979	215	286	78.04%	70.79%		
Minimum	889	75	186	53.37%	64.20%		
Maximum	1038	456	350	92.33%	80.96%		

Series C: LFP			
Test 1			
avg inflow	1028.2	TURBIDITY REDUCTION	T-TEST

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1083	516		50%		567	
0:06	1081	468		54%		613	
0:09	908	381		63%		527	
0:12	1023	328		68%		695	
0:15	971	315	188	69%	82%	656	783
0:18	1068	304	232	70%	77%	764	836
0:21	1026	355	312	65%	70%	671	714
0:24	1090	377	353	63%	66%	713	737
0:27	992	351	351	66%	66%	641	641
0:30	1040	328	379	68%	63%	712	661
0:33		287	335	72%	67%		
0:36		269	239	74%	77%		
0:39		257	206	75%	80%		
0:54		195		81%			
1:09		173		83%			
1:24		175		83%			
1:39		169		84%			
1:54		163		84%			
2:09		154		85%			
2:24		145		86%			
2:39		136		87%			
2:54		125		88%			
3:09		122		88%			
3:24		126		88%			
3:39		120		88%			
3:54		112		89%			
4:09		111		89%			
4:24		109		89%			
4:39		104		90%			
4:54		103		90%			
5:09		99.8		90%			
5:24		99.4		90%			
5:39		88.6		91%			
5:54		89.4		91%			
6:09		82.3		92%			
Average	1028	210	288	79.61%	71.96%		
Minimum	908	82	188				
Maximum	1090	516	379				

Test 2							
avg inflow	**993.3**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	967	534		46%		433	
0:06	1011	473		52%		538	
0:09	1226	396		60%		830	
0:12	1159	365		63%		794	
0:15	1041	333	230	66%	77%	708	811
0:18	1082	312	300	69%	70%	770	782
0:21	1029	385	344	61%	65%	644	685
0:24	1059	355	402	64%	60%	704	657
0:27	1005	368	404	63%	59%	637	601
0:30	354	389	414	61%	58%	-35	-60
0:33		346	313	65%	68%		
0:36		281	247	72%	75%		
0:39		247		75%			
0:54		205		79%			
1:09		186		81%			
1:24		176		82%			
1:39		160		84%			
1:54		156		84%			
2:09		141		86%			
2:24		135		86%			
2:39		138		86%			
2:54		130		87%			
3:09		122		88%			
3:24		121		88%			
3:39		109		89%			
3:54		106		89%			
4:09		104		90%			
4:24		97.2		90%			
4:39		97		90%			
4:54		95		90%			
5:09		91.8		91%			
5:24		83.5		92%			
5:39		76.3		92%			
5:54		65.8		93%			
6:09							

Average	993	217	332	78.15%	66.60%		
Minimum	354	66	230				
Maximum	1226	534	414				
			Test 3				
avg inflow	**1080.2**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	949	612		43%		337	
0:06	1057	456		58%		601	
0:09	1130	414		62%		716	
0:12	1205	329		70%		876	
0:15	1150	332	240	69%	78%	818	910
0:18	935	308	326	71%	70%	627	609
0:21	1086	360	353	67%	67%	726	733
0:24	1052	370	385	66%	64%	682	667
0:27	1092	420	382	61%	65%	672	710
0:30	1146	376	386	65%	64%	770	760
0:33		327	298	70%	72%		
0:36		292	237	73%	78%		
0:39		281		74%			
0:54		232		79%			
1:09		193		82%			
1:24		191		82%			
1:39		169		84%			
1:54		154		86%			
2:09		152		86%			
2:24		146		86%			
2:39		136		87%			
2:54		137		87%			
3:09		127		88%			
3:24		123		89%			
3:39		124		89%			
3:54		111		90%			
4:09		108		90%			
4:24		107		90%			
4:39		102		91%			
4:54		101		91%			
5:09		88.4		92%			
5:24		80.4		93%			
5:39		71.2		93%			

5:54							
6:09							
Average	1080	228	326	78.88%	69.83%		
Minimum	935	71	237				
Maximum	1205	612	386				

Test 4

avg inflow	**1093.3**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	951	484		56%		467	
0:06	1043	441		60%		602	
0:09	1166	333		70%		833	
0:12	1120	355		68%		765	
0:15	973	334	213	69%	81%	639	760
0:18	1021	302	254	72%	77%	719	767
0:21	1203	301	313	72%	71%	902	890
0:24	1104	339	345	69%	68%	765	759
0:27	1229	358	353	67%	68%	871	876
0:30	1123	379	380	65%	65%	744	743
0:33		338	314	69%	71%		
0:36		276	245	75%	78%		
0:39		283	255	74%	77%		
0:54		246		77%			
1:09		206		81%			
1:24		190		83%			
1:39		177		84%			
1:54		172		84%			
2:09		161		85%			
2:24		160		85%			
2:39		153		86%			
2:54		145		87%			
3:09		142		87%			
3:24		139		87%			
3:39		129		88%			
3:54		126		88%			
4:09		124		89%			
4:24		125		89%			
4:39		126		88%			
4:54		115		89%			

5:09		123		89%			
5:24		101		91%			
5:39		101		91%			
5:54		92		92%			
6:09		78.7		93%			
Average	1090	223	297	79.62%	72.84%		
Minimum	951	92	213				
Maximum	1229	484	380				

Average Series C

avg inflow	**1049**						
Time (HH:MM)	**Avg Inflow**	**Avg Skimmer**	**Avg Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	988	537		49%		451	
0:06	1048	460		56%		589	
0:09	1108	381		64%		727	
0:12	1127	344		67%		783	
0:15	1034	329	218	69%	79%	705	816
0:18	1027	307	278	71%	73%	720	749
0:21	1086	350	331	67%	68%	736	756
0:24	1076	360	371	66%	65%	716	705
0:27	1080	374	373	64%	64%	705	707
0:30	916	368	390	65%	63%	548	526
0:33		325	315	69%	70%		
0:36		280	242	73%	77%		
0:39		267	231	75%	78%		
0:54		220		79%			
1:09		190		82%			
1:24		183		83%			
1:39		169		84%			
1:54		161		85%			
2:09		152		86%			
2:24		147		86%			
2:39		141		87%			
2:54		134		87%			
3:09		128		88%			
3:24		127		88%			
3:39		121		89%			
3:54		114		89%			
4:09		112		89%			

4:24		110		90%			
4:39		107		90%			
4:54		104		90%			
5:09		101		90%			
5:24		91		91%			
5:39		84		92%			
5:54		82		92%			
6:09		81		92%			
Average	1049	215	305	79.47%	70.89%		
Minimum	916	81	218	48.84%	62.84%		
Maximum	1127	537	390	92.32%	79.24%		

Series D: One Coir Baffle							
Test 1							
avg inflow	1135.6			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1167	723		36%		444	
0:06	1220	626		45%		594	
0:09	1231	529		53%		702	
0:12	1143	429		62%		714	
0:15	1212	413	408	64%	64%	799	804
0:18	1028	392	433	65%	62%	636	595
0:21	1068	341	456	70%	60%	727	612
0:24	1148	372	472	67%	58%	776	676
0:27	1031	394	494	65%	56%	637	537
0:30	1108	392	473	65%	58%	716	635
0:33		335	354	71%	69%		
0:36		373	317	67%	72%		
0:39		327		71%			
0:54		262		77%			
1:09		233		79%			
1:24		234		79%			
1:39		201		82%			
1:54		194		83%			
2:09		182		84%			
2:24		172		85%			

2:39		157		86%			
2:54		158		86%			
3:09		146		87%			
3:24		143		87%			
3:39		135		88%			
3:54		138		88%			
4:09		127		89%			
4:24		126		89%			
4:39		118		90%			
4:54		116		90%			
5:09		105		91%			
5:24		99		91%			
5:39		98		91%			
5:54		96.4		92%			
6:09		86		92%			
Average	1136	256	426	77.43%	62.50%		
Minimum	1028	86	317				
Maximum	1231	723	494				

Test 2

avg inflow	1009.6

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	902	521		48%		381	
0:06	1003	452		55%		551	
0:09	901	407		60%		494	
0:12	1053	400		60%		653	
0:15	1000	371	276	63%	73%	629	724
0:18	950	339	340	66%	66%	611	610
0:21	1102	383	431	62%	57%	719	671
0:24	1023	346	416	66%	59%	677	607
0:27	1121	349	410	65%	59%	772	711
0:30	1041	381	399	62%	60%	660	642
0:33		355	322	65%	68%		
0:36		327	255	68%	75%		
0:39		348	240	66%	76%		
0:54		258		74%			
1:09		237		77%			
1:24		213		79%			
1:39		196		81%			

1:54		177		82%			
2:09		172		83%			
2:24		163		84%			
2:39		157		84%			
2:54		151		85%			
3:09		147		85%			
3:24		135		87%			
3:39		144		86%			
3:54		134		87%			
4:09		120		88%			
4:24		122		88%			
4:39		117		88%			
4:54		110		89%			
5:09		96.3		90%			
5:24		100		90%			
5:39		90.5		91%			
5:54		89.4		91%			
6:09							
Average	1010	238	343	76.38%	66.00%		
Minimum	901	89	240				
Maximum	1121	521	431				
Test 3							
avg inflow	**959.5**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	844	581		39%		263	
0:06	911	523		45%		388	
0:09	1011	507		47%		504	
0:12	905	592		38%		313	
0:15	985	362	269	62%	72%	623	716
0:18	988	377	338	61%	65%	611	650
0:21	985	397	430	59%	55%	588	555
0:24	1034	409	413	57%	57%	625	621
0:27	925	417	432	57%	55%	508	493
0:30	1007	414	454	57%	53%	593	553
0:33		377	285	61%	70%		
0:36		347	262	64%	73%		
0:39		304		68%			
0:54		281		71%			

1:09		206		79%			
1:24		195		80%			
1:39		185		81%			
1:54		195		80%			
2:09		195		80%			
2:24		184		81%			
2:39		182		81%			
2:54		180		81%			
3:09		166		83%			
3:24		165		83%			
3:39		158		84%			
3:54		147		85%			
4:09		142		85%			
4:24		138		86%			
4:39		124		87%			
4:54		125		87%			
5:09		113		88%			
5:24		101		89%			
5:39		86.2		91%			
5:54		78.6		92%			
6:09							
Average	960	263	360	72.55%	62.44%		
Minimum	844	79	262				
Maximum	1034	592	454				

Average Series D

avg inflow **1035**

Time (HH:MM)	**Avg Inflow**	**Avg Skimmer**	**Avg Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	971	608		41%		362.6667	
0:06	1045	534		48%		511	
0:09	1048	481		54%		566.6667	
0:12	1034	474		54%		560	
0:15	1066	382	318	63%	69%	683.6667	748
0:18	989	369	370	64%	64%	619.3333	618.3333
0:21	1052	374	439	64%	58%	678	612.6667
0:24	1068	376	434	64%	58%	692.6667	634.6667
0:27	1026	387	445	63%	57%	639	580.3333
0:30	1052	396	442	62%	57%	656.3333	610

0:33		356	320	66%	69%		
0:36		349	278	66%	73%		
0:39		326	240	68%	77%		
0:54		267		74%			
1:09		225		78%			
1:24		214		79%			
1:39		194		81%			
1:54		189		82%			
2:09		183		82%			
2:24		173		83%			
2:39		165		84%			
2:54		163		84%			
3:09		153		85%			
3:24		148		86%			
3:39		146		86%			
3:54		140		87%			
4:09		130		87%			
4:24		129		88%			
4:39		120		88%			
4:54		117		89%			
5:09		105		90%			
5:24		100		90%			
5:39		92		91%			
5:54		88		91%			
6:09		86		92%			
Average	1035	250	365	75.88%	64.72%		
Minimum	971	86	240	41.22%	56.97%		
Maximum	1068	608	445	91.69%	76.81%		
Series D: One Coir Baffle							

Series E: Level Spreader							
Test 1							
avg inflow	**1128.5**			**TURBIDITY REDUCTION**		**T-TEST**	
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1013					1013	
0:06	1163	647		43%		516	

0:09	1145	679		40%		466	
0:12	1061	648		43%		413	
0:15	1050	599	570	47%	49%	451	480
0:18	1121	560	542	50%	52%	561	579
0:21	1170	577	525	49%	53%	593	645
0:24	1177	541	505	52%	55%	636	672
0:27	1164	493	538	56%	52%	671	626
0:30	1221	469	519	58%	54%	752	702
0:33		461	384	59%	66%		
0:36		385	285	66%	75%		
0:39		320		72%			
0:54		314		72%			
1:09		237		79%			
1:24		209		81%			
1:39		198		82%			
1:54		190		83%			
2:09		187		83%			
2:24		178		84%			
2:39		174		85%			
2:54		162		86%			
3:09		161		86%			
3:24		116		90%			
3:39		142		87%			
3:54		136		88%			
4:09		127		89%			
Average	1129	343	484	69.63%	57.16%		
Minimum	1013	116	285				
Maximum	1221	679	570				
		Test 2					
avg inflow	**1091.9**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1009					1009	
0:06	1105	687		37%		418	
0:09	1091	652		40%		439	
0:12	1004	606		45%		398	
0:15	1120	584	559	47%	49%	536	561
0:18	1004	571	573	48%	48%	433	431
0:21	1021	531	531	51%	51%	490	490
0:24	1215	533	532	51%	51%	682	683

0:27	1204	520	514	52%	53%	684	690
0:30	1146	512	504	53%	54%	634	642
0:33		457	459	58%	58%		
0:36		368	285	66%	74%		
0:39		357	245	67%	78%		
0:54		297		73%			
1:09		251		77%			
1:24		226		79%			
1:39		200		82%			
1:54		192		82%			
2:09		188		83%			
2:24		172		84%			
2:39		170		84%			
2:54		160		85%			
3:09		153		86%			
3:24		139		87%			
3:39		126		88%			
Average	1092	361	467	66.98%	57.24%		
Minimum	1004	126	245				
Maximum	1215	687	573				
Test 3							
avg inflow	**1344.8**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1299					1299	
0:06	1218	849		37%		369	
0:09	1247	808		40%		439	
0:12	1317	723		46%		594	
0:15	1374	671	601	50%	55%	703	773
0:18	1458	601	693	55%	48%	857	765
0:21	1336	537	618	60%	54%	799	718
0:24	1418	545	559	59%	58%	873	859
0:27	1380	516	608	62%	55%	864	772
0:30	1401	489	516	64%	62%	912	885
0:33		461	417	66%	69%		
0:36		419	332	69%	75%		
0:39		394		71%			
0:54		302		78%			
1:09		242		82%			
1:24		236		82%			

1:39		199		85%			
1:54		200		85%			
2:09		189		86%			
2:24		180		87%			
2:39		161		88%			
2:54		162		88%			
3:09		142		89%			
3:24		144		89%			
3:39		133		90%			
3:54		128		90%			
Average	1345	377	543	71.95%	59.62%		
Minimum	1218	128	332				
Maximum	1458	849	693				
Test 4							
avg inflow	**1188.4**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1062					1062	
0:06	1178	706		41%		472	
0:09	1284	687		42%		597	
0:12	1111	626		47%		485	
0:15	1178	595	513	50%	57%	583	665
0:18	1258	531	448	55%	62%	727	810
0:21	1131	522	516	56%	57%	609	615
0:24	1249	506	568	57%	52%	743	681
0:27	1243	501	537	58%	55%	742	706
0:30	1190	498	545	58%	54%	692	645
0:33		396	374	67%	69%		
0:36		338	225	72%	81%		
0:39		313		74%			
0:54		274		77%			
1:09		202		83%			
1:24		184		85%			
1:39		158		87%			
1:54		159		87%			
2:09		153		87%			
2:24		137		88%			
2:39		128		89%			
2:54		119		90%			
3:09		121		90%			

3:24		108		91%			
3:39		95.9		92%			
Average	1188	336	466	71.75%	60.81%		
Minimum	1062	96	225				
Maximum	1284	706	568				

Average Series E

avg inflow	1188						
Time (HH:MM)	**Avg Inflow**	**Avg Skimmer**	**Avg Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1096					1096	
0:06	1166	722		39%		444	
0:09	1192	707		41%		485	
0:12	1123	651		45%		473	
0:15	1181	612	561	48%	53%	568	620
0:18	1210	566	564	52%	53%	645	646
0:21	1165	542	548	54%	54%	623	617
0:24	1265	531	541	55%	54%	734	724
0:27	1248	508	549	57%	54%	740	699
0:30	1240	492	521	59%	56%	748	719
0:33		444	409	63%	66%		
0:36		378	282	68%	76%		
0:39		346	245	71%	79%		
0:54		297		75%			
1:09		233		80%			
1:24		214		82%			
1:39		189		84%			
1:54		185		84%			
2:09		179		85%			
2:24		167		86%			
2:39		158		87%			
2:54		151		87%			
3:09		144		88%			
3:24		127		89%			
3:39		124		90%			
3:54		132		89%			
4:09		127		89%			
Average	1188	343	469	71.12%	60.56%		
Minimum	1096	124	245	39.23%	52.54%		
Maximum	1265	722	564	89.55%	79.38%		

Series F: RCD							
Test 1							
avg inflow	1227.4			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1214	764		38%		450	
0:06	1199	655		47%		544	
0:09	1257	484		61%		773	
0:12	1190	473		61%		717	
0:15	1292	426	309	65%	75%	866	983
0:18	1141	396	347	68%	72%	745	794
0:21	1238	390	447	68%	64%	848	791
0:24	1251	454	455	63%	63%	797	796
0:27	1212	387	487	68%	60%	825	725
0:30	1280	397	534	68%	56%	883	746
0:33		373	398	70%	68%		
0:36		321	250	74%	80%		
0:39		334	190	73%	85%		
0:54		248		80%			
1:09		209		83%			
1:24		171		86%			
1:39		160		87%			
1:54		148		88%			
2:09		146		88%			
2:24		149		88%			
2:39		147		88%			
2:54		147		88%			
3:09		133		89%			
3:24		131		89%			
3:39		127		90%			
3:54		121		90%			
4:09		115		91%			
4:24		110		91%			
4:39		99.2		92%			
4:54		99.1		92%			
5:09		91.9		93%			
5:24		87.1		93%			
5:39		83.7		93%			

5:54		81.1		93%			
6:09		75.1		94%			
Average	1227	250	380	79.67%	69.07%		
Minimum	1141	75	190				
Maximum	1292	764	534				

Series G: Level Spreader + Baffle							
Test 1							
avg inflow	931			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	896						
0:06	944	549		41%		395	
0:09	917	531		43%		386	
0:12	1003	539		42%		464	
0:15	911	433	257	53%	72%	478	654
0:18	904	402	369	57%	60%	502	535
0:21	911	388	419	58%	55%	523	492
0:24	923	389	414	58%	56%	534	509
0:27	970	393	455	58%	51%	577	515
0:30	984	404	450	57%	52%	580	534
0:33		386	296	59%	68%		
0:36		307	199	67%	79%		
0:39		273		71%			
0:54		181		81%			
1:09		191		79%			
1:24		165		82%			
1:39		151		84%			
1:54		138		85%			
2:09		137		85%			
2:24		126		86%			
2:39		123		87%			
2:54		115		88%			
3:09		116		88%			
3:24		93.1		90%			
3:39		96		90%			
3:54		85.6		91%			

Average	936	268	357	71.16%				
Minimum	896	86	199					
Maximum	1003	549	455					
Test 2								
avg inflow	**1102.8**							
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**		**inflow-skimmer**	**inflow-spillway**
0:03	1001						1001	
0:06	1040	694		37%			346	
0:09	1024	593		46%			431	
0:12	1137	509		54%			628	
0:15	1104	449	463	59%	58%		655	641
0:18	1120	464	478	58%	57%		656	642
0:21	1174	423	492	62%	55%		751	682
0:24	1142	435	509	61%	54%		707	633
0:27	1107	414	498	62%	55%		693	609
0:30	1179	413	482	63%	56%		766	697
0:33		329	343	70%	69%			
0:36		291	234	74%	79%			
0:39		229	181	79%	84%			
0:54		164		85%				
1:09		165		85%				
1:24		155		86%				
1:39		132		88%				
1:54		129		88%				
2:09		145		87%				
2:24		121		89%				
2:39		111		90%				
2:54		97.7		91%				
3:09		105		90%				
3:24		101		91%				
3:39		95.3		91%				
Average	1103	282	409	74.44%				
Minimum	1001	95	181					
Maximum	1179	694	509					
Test 3								
avg inflow	**879.5**							

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	835					835	
0:06	805	539		39%		266	
0:09	832	378		57%		454	
0:12	1160	445		49%		715	
0:15	797	448	251	49%	71%	349	546
0:18	818	370	417	58%	53%	448	401
0:21	866	343	481	61%	45%	523	385
0:24	938	326	460	63%	48%	612	478
0:27	917	314	457	64%	48%	603	460
0:30	827	309	449	65%	49%	518	378
0:33		296	306	66%	65%		
0:36		274	209	69%	76%		
0:39		249	134	72%	85%		
0:54		192		78%			
1:09		133		85%			
1:24		144		84%			
1:39		138		84%			
1:54		126		86%			
2:09		114		87%			
2:24		96.9		89%			
2:39		104		88%			
2:54		89.5		90%			
3:09		97.1		89%			
3:24		85.7		90%			
3:39		88.8		90%			
3:54		86.8		90%			
4:09		82.6		91%			
4:24		68.7		92%			
Average	885	220	352	74.99%			
Minimum	797	69	134				
Maximum	1160	539	481				

Average Series G

avg inflow	973

Time (HH:MM)	Avg Inflow	Avg Skimmer	Avg Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway

0:03	911					911	
0:06	930	594		39%		336	
0:09	924	501		49%		424	
0:12	1100	498		49%		602	
0:15	937	443	324	54%	67%	494	614
0:18	947	412	421	58%	57%	535	526
0:21	984	385	464	60%	52%	599	520
0:24	1001	383	461	61%	53%	618	540
0:27	998	374	470	62%	52%	624	528
0:30	997	375	460	61%	53%	621	536
0:33		337	315	65%	68%		
0:36		291	214	70%	78%		
0:39		250	158	74%	84%		
0:54		179		82%			
1:09		163		83%			
1:24		155		84%			
1:39		140		86%			
1:54		131		87%			
2:09		132		86%			
2:24		115		88%			
2:39		113		88%			
2:54		101		90%			
3:09		106		89%			
3:24		93		90%			
3:39		93		90%			
3:54		86		91%			
4:09		83		92%			
Average	973	251	365	74.18%	62.46%		
Minimum	911	83	158	38.94%	51.69%		
Maximum	1100	594	470	91.51%	83.81%		

Test 1				
avg inflow	**1181.6**		**TURBIDITY REDUCTION**	**T-TEST**
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1121			
0:06	1168			
0:09	1123			
0:12	1185			

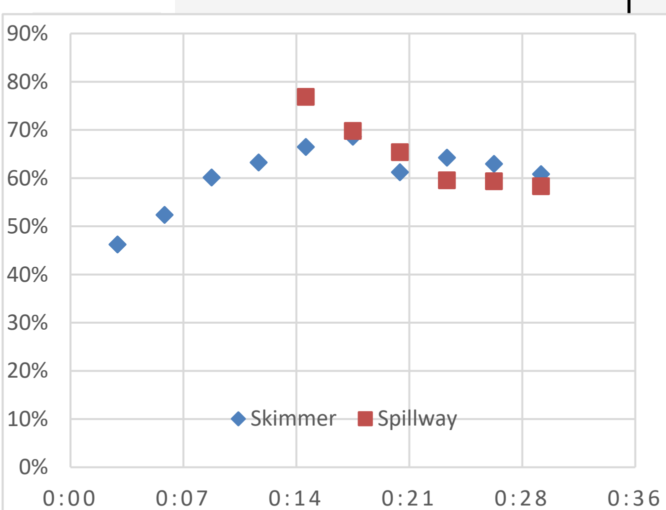
0:15	1167	620	48%	547
0:18	1201	630	47%	571
0:21	1261	642	46%	619
0:24	1206	699	41%	507
0:27	1222	655	45%	567
0:30	1162	682	42%	480
0:33		483	59%	
0:36		334	72%	
0:39		257	78%	
Average	1182	556	52.96%	
Minimum	1121	257		
Maximum	1261	699		
Test 2				
avg inflow	**1015.2**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	991			
0:06	946			
0:09	1041			
0:12	1027			
0:15	1108	615	39%	493
0:18	1038	529	48%	509
0:21	974	624	39%	350
0:24	968	643	37%	325
0:27	1017	615	39%	402
0:30	1042	620	39%	422
0:33		441	57%	
0:36		409	60%	
0:39		276	73%	
Average	1015	530	47.77%	
Minimum	946	276		
Maximum	1108	643		
Test 3				
avg inflow	**1,147**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1,269			

0:06	1,047			
0:09	1,031			
0:12	1,072			
0:15	1,259	641	44%	618
0:18	1,113	662	42%	451
0:21	1,264	667	42%	597
0:24	1,062	646	44%	416
0:27	1,121	640	44%	481
0:30	1,236	662	42%	574
0:33		485	58%	
0:36		399	65%	
0:39		287	75%	
Average	1147	565	50.72%	
Minimum	1031	287		
Maximum	1269	667		
Average Series H				
avg inflow	**1115**			
Time (HH:MM)	**Avg Inflow**	**Avg Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1127			
0:06	1054			
0:09	1065			
0:12	1095			
0:15	1178	625	44%	553
0:18	1117	607	49%	510
0:21	1166	644	46%	522
0:24	1079	663	44%	416
0:27	1120	637	46%	483
0:30	1147	655	45%	492
0:33		470	60%	
0:36		381	68%	
0:39		273	77%	

Average	1115	550	53.29%
Minimum	1054	273	43.90%
Maximum	1178	663	77.00%

Series R: STD / single baffle / floc							
Test 1							
avg inflow	936.1038017			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	706	141		85%		565.0066	
0:06	879	81		91%		798.1465	
0:09	1121	128		86%		993.4358	
0:12	606	141		85%		464.2173	
0:15	911	145		85%		766.8122	911.3475
0:18	930	96		90%		833.8599	930.1522
0:21	1202	115		88%		1087.352	1202.283
0:24	942	29		97%		913.091	942
0:27	1105	104		89%		1001.231	1105.134
0:30	958	116		88%		842.1557	957.7935
0:33		122		87%			
0:36		118		87%			
0:39		114		88%			
0:54		76		92%			
1:09		74		92%			
1:24		88		91%			
1:39		77		92%			
1:54		94		90%			
2:09		96		90%			
2:24		83		91%			
2:39		86		91%			
2:54		51		95%			
3:09		111		88%			
3:24		124		87%			
3:39		154		83%			
3:54		168		82%			
4:09		146		84%			
Average	936	107	#DIV/0!	91.22%	#DIV/0!		
Minimum	606	29	0				

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
Maximum	1202	168	0				
Test 2							
avg inflow	**1011.061579**						
0:03	889	163		84%		726	
0:06	901	138		86%		763	
0:09	1470	100		90%		1370	
0:12	1077	71.2		93%		1006	
0:15	1106	72.2	61	93%	94%	1034	1045
0:18	870	62.8	72	94%	93%	807	798
0:21	803	81.4	76	92%	92%	721	726
0:24	1093	54.3	82	95%	92%	1039	1011
0:27	972	56.6	77	94%	92%	915	895
0:30	930	61.6	89	94%	91%	868	841
0:33		81.4	75	92%	93%		
0:36		63.1	53	94%	95%		
0:39		55.2	41	95%			
0:54		38		96%			
1:09		30.1		97%			
				97%			
				97%			
				98%			
				97%			
				98%			
				98%			
				98%			
				98%			
				98%			
				98%			
				98%			
				98%			
4:24		18.5		98%			
4:39		19.5		98%			
4:54		17		98%			
5:09		17.9		98%			
5:24		18.4		98%			
5:39		16.5		98%			
5:54		16.2		98%			
6:09		15.1					



Average	1011	44	69	95.52%	92.77%		
Minimum	803	15	41				
Maximum	1470	163	89				
Test 3							
avg inflow	**945.8432794**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	677	100		89%		577	
0:06	685	88		91%		597	
0:09	553	73		92%		480	
0:12	793	72		92%		721	
0:15	671	41	66	96%	93%	630	605
0:18	830	58	57	94%	94%	772	773
0:21	1631	56	53	94%	94%	1574	1577
0:24	1339	51	60	95%	94%	1288	1279
0:27	820	45	65	95%	93%	775	754
0:30	1461	54	75	94%	92%	1407	1386
0:33		62	58	93%	94%		
0:36		42	42	96%	96%		
0:39		45	39	95%			
0:54		38		96%			
1:09		33		97%			
1:24		30		97%			
1:39		20		98%			
1:54		30		97%			
2:09		29		97%			
2:24		20		98%			
2:39		20		98%			
2:54		20		98%			
3:09		19		98%			
3:24		18		98%			
3:39		18		98%			
3:54		17		98%			
4:09		18		98%			
4:24		18		98%			
4:39		16		98%			
4:54		14		98%			
5:09		16		98%			
5:24		16		98%			
5:39		15		98%			

5:54		16					
6:09		15					
Average	946	35	57	96.12%	93.71%		
Minimum	553	14	39				
Maximum	1631	100	75				

Average Series R

avg inflow **964**

Time (HH:MM)	Avg Inflow	Avg Skimmer	Avg Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	758	135		86%		623	
0:06	822	102		89%		719	
0:09	1048	100		90%		948	
0:12	825	95		90%		730	
0:15	896	86	63	91%	93%	810	833
0:18	877	72	64	92%	93%	804	812
0:21	1212	84	65	91%	93%	1128	1147
0:24	1125	45	71	95%	93%	1080	1054
0:27	966	68	71	93%	93%	897	894
0:30	1116	77	82	92%	92%	1039	1034
0:33		88	67	91%	93%		
0:36		74	47	92%	95%		
0:39		71	40	93%	96%		
0:54		51		95%			
1:09		46		95%			
1:24		49		95%			
1:39		41		96%			
1:54		50		95%			
2:09		52		95%			
2:24		42		96%			
2:39		43		96%			
2:54		31		97%			
3:09		50		95%			
3:24		54		94%			
3:39		64		93%			
3:54		68		93%			
4:09		62		94%			
4:24		18		98%			
4:39		18		98%			
4:54		16		98%			

5:09		17		98%	
5:24		17		98%	
5:39		16		98%	
5:54		16		98%	
6:09		15		98%	
Average	964	55	63	94.26%	93.43%
Minimum	758	15	40	86.02%	91.52%
Maximum	1212	135	82	98.47%	95.85%

Series I: 10:1 / No baffle				
Test 1				
avg inflow	**1101.8**		**TURBIDITY REDUCTION**	**T-TEST**
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1061			
0:06	992			
0:09	1082			
0:12	1152	587	47%	
0:15	1188	639	42%	549
0:18	1091	687	38%	404
0:21	1169	649	41%	520
0:24	1217	620	44%	597
0:27	980	563	49%	417
0:30	1086	617	44%	469
0:33		498	55%	
0:36		380	66%	
0:39		269	76%	
0:54				
Average	1102	551	50.00%	
Minimum	980	269		
Maximum	1217	687		
Test 2				
avg inflow	**1170.2**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**

0:03	1109			
0:06	1097			
0:09	1113			
0:12	1265	678	42%	
0:15	1144	662	43%	482
0:18	1164	593	49%	571
0:21	1142	599	49%	543
0:24	1302	615	47%	687
0:27	1153	652	44%	501
0:30	1213	664	43%	549
0:33		494	58%	
0:36		365	69%	
0:39		247	79%	
Average	1170	557	52.41%	
Minimum	1097	247		
Maximum	1302	678		
Test 3				
avg inflow	**1073.5**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1124			
0:06	1066			
0:09	1037			
0:12	980			
0:15	1041	649	40%	392
0:18	1024	609	43%	415
0:21	1143	566	47%	577
0:24	1110	589	45%	521
0:27	1080	522	51%	558
0:30	1130	569	47%	561
0:33		413	62%	
0:36		304	72%	
0:39		177	84%	
Average	1074	489	54.48%	
Minimum	980	177		
Maximum	1143	649		
Average Series I				
avg inflow	**1115**			

Time (HH:MM)	Avg Inflow	Avg Spillway	% reduction Spillway	inflow-spillway
0:03	1098			
0:06	1052			
0:09	1077			
0:12	1132			
0:15	1124	650	42%	474
0:18	1093	630	44%	463
0:21	1151	605	46%	547
0:24	1210	608	45%	602
0:27	1071	579	48%	492
0:30	1143	617	45%	526
0:33		468	58%	
0:36		350	69%	
0:39		231	79%	
Average	1115	526	52.80%	
Minimum	1052	231	41.71%	
Maximum	1210	650	79.29%	

Series K:10:1 / One baffle / no sk				
Test 1				
avg inflow	1161.5		TURBIDITY REDUCTION	T-TEST
Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	1024			
0:06	1149			
0:09	1020			
0:12	1074	402		
0:15	1083	430	63%	653
0:18	1167	476	59%	691
0:21	1197	489	58%	708
0:24	1192	547	53%	645
0:27	1308	539	54%	769
0:30	1401	519	55%	882
0:33		326	72%	
0:36		286	75%	

0:39		170	85%	
Average	1162	418	63.82%	
Minimum	1020	170		
Maximum	1401	547		
Test 2				
avg inflow	**1130.4**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	991			
0:06	1200			
0:09	1118			
0:12	1163			
0:15	1167	370	67%	797
0:18	1201	392	65%	809
0:21	1117	458	59%	659
0:24	1080	450	60%	630
0:27	1099	443	61%	656
0:30	1168	300	73%	868
0:33		495	56%	
0:36		270	76%	
0:39		271	76%	
0:54		176		
Average	1130	363	66.10%	
Minimum	991	176		
Maximum	1201	495		
Average Series K				
avg inflow	**1146**			
Time (HH:MM)	**Avg Inflow**	**Avg Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1008			
0:06	1175			
0:09	1069			
0:12	1119			
0:15	1125	400	65%	725
0:18	1184	434	62%	750
0:21	1157	474	59%	684
0:24	1136	499	56%	638

0:27	1204	491	57%	713
0:30	1285	410	64%	875
0:33		411	64%	
0:36		278	76%	
0:39		221	81%	
Average	1146	402	64.94%	
Minimum	1008	221	56.50%	
Maximum	1285	499	80.76%	

Series M: 10:1 / Three Coir Baffles							
Test 1							
avg inflow	1012.3			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	947	685				262	
0:06	1142	559		45%		583	
0:09	893	439		57%		454	
0:12	1070	400		60%		670	
0:15	1048	325	285	68%	72%	723	763
0:18	995	350	399	65%	61%	645	596
0:21	996	389	431	62%	57%	607	565
0:24	968	421	427	58%	58%	547	541
0:27	933	427	418	58%	59%	506	515
0:30	1131	418	445	59%	56%	713	686
0:33		432	317	57%	69%		
0:36		414	301	59%	70%		
0:39		269	157	73%	84%		
0:54		242		76%			
1:09		195		81%			
1:24		166		84%			
1:39		160		84%			
1:54		146		86%			
2:09		145		86%			
2:24		145		86%			
2:39		147		85%			
2:54		141		86%			
3:09		134		87%			
3:24		135		87%			

3:39		132		87%			
3:54		112		89%			
249		111					
264		96.9					
Average	1012	276	353	72.96%	65.10%		
Minimum	893	97	157				
Maximum	1142	685	445				

Test 2

avg inflow **1281.5**

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1201	697				504	
0:06	1297	603		53%		694	
0:09	1382	494		61%		888	
0:12	1227	438		66%		789	
0:15	1150	420	283	67%	78%	730	867
0:18	1230	388	432	70%	66%	842	798
0:21	1273	420	506	67%	61%	853	767
0:24	1349	448	491	65%	62%	901	858
0:27	1260	467	511	64%	60%	793	749
0:30	1446	495	531	61%	59%	951	915
0:33		498	398	61%	69%		
0:36		483	305	62%	76%		
0:39		432	234	66%	82%		
0:54		315		75%			
1:09		249		81%			
1:24		240		81%			
1:39		194		85%			
1:54		195		85%			
2:09		185		86%			
2:24		177		86%			
2:39		174		86%			
2:54		0		100%			
3:09		168		87%			
3:24		166		87%			
3:39		167		87%			
3:54		161		87%			
249		136					
264		126					
279		109					

Average	1282	312	410	75.10%	68.00%			
Minimum	1150	0	234					
Maximum	1446	697	531					
Test 3								
avg inflow	**953.1**							
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**	
0:03	1061	614		36%		447		
0:06	894	580		39%		314		
0:09	1001	493		48%		508		
0:12	869	423		56%		446		
0:15	950	375	259	61%	78%	575	691	
0:18	810	381	428	60%	64%	429	382	
0:21	954	406	448	57%	62%	548	506	
0:24	909	476	474	50%	60%	433	435	
0:27	990	465	474	51%	60%	525	516	
0:30	1093	479	494	50%	58%	614	599	
0:33		480	347	50%	71%			
0:36		440	297	54%	75%			
0:39		429	234	55%	80%			
0:54		278		71%				
1:09		241		75%				
1:24		210		78%				
1:39		191		80%				
1:54		178		81%				
2:09		170		82%				
2:24		168		82%				
2:39		161		83%				
2:54		164		83%				
3:09		161		83%				
3:24		159		83%				
3:39		159		83%				
3:54		144		85%				
		135						
		133						
		116						
Average	953	304	384	66.00%	67.51%			
Minimum	810	116	234					
Maximum	1093	614	494					
Average Series M								

avg inflow	1082						
Time (HH:MM)	Avg Inflow	Avg Skimmer	Avg Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1070	600		50%		470	
0:06	1111	581		51%		530	
0:09	1092	475		60%		617	
0:12	1055	420		65%		635	
0:15	1049	373	276	69%	77%	676	774
0:18	1012	373	420	69%	65%	639	592
0:21	1074	405	462	66%	61%	669	613
0:24	1075	448	464	62%	61%	627	611
0:27	1061	453	468	62%	61%	608	593
0:30	1223	464	490	61%	59%	759	733
0:33		470	354	60%	70%		
0:36		446	301	62%	75%		
0:39		377	208	68%	82%		
0:54		278		77%			
1:09		228		81%			
1:24		205		83%			
1:39		182		85%			
1:54		173		85%			
2:09		167		86%			
2:24		163		86%			
2:39		161		86%			
2:54		102		91%			
3:09		154		87%			
3:24		153		87%			
3:39		153		87%			
3:54		139		88%			
4:09		127		89%			
Average	1082	306	382	74.22%	67.82%		
Minimum	1012	102	208	49.51%	58.77%		
Maximum	1223	600	490	91.45%	82.47%		

Series N: 10:1 / single baffle		
Test 1		
avg inflow 1119.5	TURBIDITY REDUCTION	T-TEST

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	975	702				273	
0:06	1122	650		42%		472	
0:09	955	541		52%		414	
0:12	1167	514		54%		653	
0:15	1095	444	348	60%	69%	651	747
0:18	1208	452	516	60%	54%	756	692
0:21	1062	446	604	60%	46%	616	458
0:24	1185	480	548	57%	51%	705	637
0:27	1172	471	606	58%	46%	701	566
0:30	1254	463	657	59%	41%	791	597
0:33		431	391	62%	65%		
0:36		420	301	62%	73%		
0:39		374	181	67%	84%		
0:54		304		73%			
1:09		234		79%			
1:24		231		79%			
1:39		213		81%			
1:54		191		83%			
2:09		183		84%			
2:24		167		85%			
2:39		177		84%			
2:54		167		85%			
3:09		157		86%			
3:24		168		85%			
3:39		160		86%			
3:54		156		86%			
249		146					
264		118					
Average	1120	327	461	70.72%	58.79%		
Minimum	955	118	181				
Maximum	1254	702	657				
Test 2							
avg inflow	**1260.6**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1191	854				337	
0:06	1203	671		47%		532	

0:09	1145	568		55%		577	
0:12	1224	466		63%		758	
0:15	1296	514	371	59%	71%	782	925
0:18	1308	411	489	67%	61%	897	819
0:21	1339	419	602	67%	52%	920	737
0:24	1244	404	499	68%	60%	840	745
0:27	1282	414	628	67%	50%	868	654
0:30	1374	413	607	67%	52%	961	767
0:33		341	320	73%	75%		
0:36		382	260	70%	79%		
0:39		309	217	75%	83%		
0:54		287		77%			
1:09		245		81%			
1:24		250		80%			
1:39		212		83%			
1:54		192		85%			
2:09		184		85%			
2:24		166		87%			
2:39		153		88%			
2:54		169		87%			
3:09		166		87%			
3:24		144		89%			
3:39		145		88%			
3:54		139		89%			
249		132					
264		125					
279		123					
294		112					
309		169					
324		110					
339		94.3					
354							
369							
Average	1261	287	444	75.36%	64.81%		
Minimum	1145	94	217				
Maximum	1374	854	628				
Test 3							
avg inflow	**1156.4**						

Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1039	710				329	
0:06	1196	593		49%		603	
0:09	1094	582		50%		512	
0:12	1132	493		57%		639	
0:15	1150	442	349	62%	70%	708	801
0:18	1119	477	491	59%	58%	642	628
0:21	1208	487	481	58%	58%	721	727
0:24	1187	471	602	59%	48%	716	585
0:27	1138	493	575	57%	50%	645	563
0:30	1301	479	572	59%	51%	822	729
0:33		405	308	65%	73%		
0:36		428	272	63%	76%		
0:39		361	209	69%	82%		
0:54		265		77%			
1:09		246		79%			
1:24		232		80%			
1:39		206		82%			
1:54		215		81%			
2:09		188		84%			
2:24		179		85%			
2:39		186		84%			
2:54		166		86%			
3:09		160		86%			
3:24		163		86%			
3:39		155		87%			
3:54		142		88%			
		137					
		131					
		107					
Average	1156	321	429	71.59%	62.92%		
Minimum	1039	107	209				
Maximum	1301	710	602				

Average Series N

avg inflow	1179

Time (HH:MM)	Avg Inflow	Avg Skimmer	Avg Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway

0:03	1068	700		41%		368	
0:06	1174	638		46%		536	
0:09	1065	564		52%		501	
0:12	1174	491		58%		683	
0:15	1180	467	356	60%	70%	714	824
0:18	1212	447	499	62%	58%	765	713
0:21	1203	451	562	62%	52%	752	641
0:24	1205	452	550	62%	53%	754	656
0:27	1197	459	603	61%	49%	738	594
0:30	1310	452	612	62%	48%	858	698
0:33		392	340	67%	71%		
0:36		410	278	65%	76%		
0:39		348	202	70%	83%		
0:54		285		76%			
1:09		242		79%			
1:24		238		80%			
1:39		210		82%			
1:54		199		83%			
2:09		185		84%			
2:24		171		86%			
2:39		172		85%			
2:54		167		86%			
3:09		161		86%			
3:24		158		87%			
3:39		153		87%			
3:54		146		88%			
4:09		138		88%			
Average	1179	329	445	72.05%	62.29%		
Minimum	1065	138	202	40.62%	48.08%		
Maximum	1310	700	612	88.27%	82.84%		

Series P: 10:1 single baffle / floc/ no sk				
Test 1				
avg inflow	**1164.292**		**TURBIDITY REDUCTION**	**T-TEST**
Time (HH:MM)	**inflow**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	923			
0:06	924			
0:09	1052			

0:12	1107			
0:15	1329	157	87%	1173
0:18	1193	160	86%	1033
0:21	1175	179	85%	996
0:24	1231	170	85%	1062
0:27	1202	241	79%	961
0:30	1505	212	82%	1293
0:33		200	83%	
0:36		131	89%	
0:39		108	91%	
0:54		71		
Average	1164	163	85.14%	
Minimum	923	71		
Maximum	1505	241		

Series Q: 10:1 single baffle / floc							
Test 1							
avg inflow	1400.662			TURBIDITY REDUCTION		T-TEST	
Time (HH:MM)	Introduction	Skimmer	Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1058	288		71%		770	
0:06	1721	172		83%		1549	
0:09	1202	148		85%		1055	
0:12	1274	129		87%		1145	
0:15	1072	117	138	88%	86%	955	934
0:18	1943	117	164	88%	84%	1826	1779
0:21	1345	103	165	90%	84%	1242	1180
0:24	1892	108	158	89%	84%	1784	1734
0:27	1156	104	164	90%	84%	1052	992
0:30	1342	105	168	90%	83%	1237	1174
0:33		94	119	91%	88%		
0:36		103	105	90%	90%		
0:39		93	131	91%	87%		
0:54		84		92%			
1:09		85		92%			
1:24		86		91%			
1:39		105		90%			
1:54		76		92%			

2:09		93		91%			
2:24		88		91%			
2:39		91		91%			
2:54		86		91%			
3:09		97		90%			
3:24		81		92%			
3:39		93		91%			
3:54		95		91%			
4:09		77		92%			
4:24		89		91%			
4:39		90		91%			
4:54		86		91%			
5:09		88		91%			
5:24		0		100%			
5:39		89		91%			
5:54		90		91%			
6:09		68		93%			
Average	1401	101	146	90.02%	85.52%		
Minimum	1058	0	105				
Maximum	1943	288	168				

Test 2

avg inflow	**1066.672**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1382	288		72%		1094	
0:06	995	172		83%		822	
0:09	840	148		86%		692	
0:12	1177	129		88%		1048	
0:15	1088	117	87	89%	92%	971	1002
0:18	829	117	100	89%	90%	712	729
0:21	1607	103	91	90%	91%	1504	1515
0:24	937	108	101	90%	90%	829	836
0:27	929	104	74	90%	93%	825	855
0:30	883	105	102	90%	90%	778	781
0:33		94	72	91%	93%		
0:36		103	34	90%	97%		
0:39		93		91%			
0:54		84		92%			
1:09		85		92%			

1:24		86		92%			
1:39		106		90%			
1:54		44		96%			
2:09		67		94%			
2:24		65		94%			
2:39		61		94%			
2:54		62		94%			
3:09		81		92%			
3:24		62		94%			
3:39		57		94%			
3:54		66		94%			
4:09		60		94%			
4:24		54		95%			
4:39		77		93%			
4:54		79		92%			
5:09		72		93%			
5:24		71		93%			
5:39		0		100%			
5:54				100%			
6:09				100%			
6:24				100%			
Average	1067	92	83	91.67%	92.03%		
Minimum	829	0	34				
Maximum	1607	288	102				

Test 3

avg inflow	**1110.298**						
Time (HH:MM)	**Introduction**	**Skimmer**	**Spillway**	**% reduction Skimmer**	**% reduction Spillway**	**inflow-skimmer**	**inflow-spillway**
0:03	1092	156		86%		936	
0:06	1113	181		84%		932	
0:09	939	124		89%		815	
0:12	944	115		90%		829	
0:15	1121	199	42	82%	96%	923	1079
0:18	1067	124	63	89%	94%	943	1004
0:21	1082	143	59	87%	95%	939	1024
0:24	929	110	92	90%	92%	820	837
0:27	1207	142	82	87%	93%	1065	1125
0:30	1608	109	121	90%	89%	1499	1487
0:33		143	57	87%	95%		
0:36		111	37	90%	97%		

0:39		97	35	91%	97%		
0:54		107		90%			
1:09		89		92%			
1:24		98		91%			
1:39		61		94%			
1:54		77		93%			
2:09		58		95%			
2:24		70		94%			
2:39		95		91%			
2:54		68		94%			
3:09		87		92%			
3:24		59		95%			
3:39		80		93%			
3:54		53		95%			
4:09		97		91%			
4:24		99		91%			
4:39		92		92%			
4:54		59		95%			
5:09		69		94%			
5:24		82		93%			
5:39		77		93%			
		46					
Average	1110	99	65	90.87%	94.08%		
Minimum	929	46	35				
Maximum	1608	199	121				

Average Series Q

avg inflow	1193

Time (HH:MM)	Avg Inflow	Avg Skimmer	Avg Spillway	% reduction Skimmer	% reduction Spillway	inflow-skimmer	inflow-spillway
0:03	1177	244		80%		934	
0:06	1276	175		85%		1101	
0:09	994	140		88%		854	
0:12	1132	124		90%		1007	
0:15	1094	144	89	88%	91%	950	1005
0:18	1280	119	109	90%	89%	1161	1171
0:21	1345	116	105	90%	90%	1228	1240
0:24	1253	109	117	91%	89%	1144	1136

0:27	1097	117	107	90%	90%	981	991
0:30	1277	106	130	91%	87%	1171	1147
0:33		111	83	91%	92%		
0:36		106	59	91%	94%		
0:39		94	83	92%	92%		
0:54		91		92%			
1:09		87		93%			
1:24		90		92%			
1:39		91		92%			
1:54		66		94%			
2:09		73		94%			
2:24		75		94%			
2:39		82		93%			
2:54		72		94%			
3:09		88		93%			
3:24		67		94%			
3:39		77		94%			
3:54		71		94%			
4:09		78		93%			
4:24		81		93%			
4:39		86		93%			
4:54		75		94%			
5:09		76		94%			
5:24		51		96%			
5:39		55		95%			
5:54		68		94%			
6:09		68		94%			
Average	1193	96	98	91.92%			
Minimum	994	51	59	79.55%			
Maximum	1345	244	130	95.75%			

Series J: Undersized / No baffle+DT2DT2:DX179				
Test 1				
avg inflow	**1089.6**		**TURBIDITY REDUCTION**	**T-TEST**
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	907			

0:06	1135	797	27%	338
0:09	1147	797	27%	350
0:12	1172	776	29%	396
0:15	1078	787	28%	291
0:18	1139	816	25%	323
0:21	989	768	30%	221
0:24	1180	757	31%	423
0:27	1040	765	30%	275
0:30	1109	745	32%	364
0:33		459	58%	
0:36		373	66%	
Average	1090	713	34.59%	
Minimum	907	373		
Maximum	1180	816		
Test 2				
avg inflow	**1079.9**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1026			
0:06	1093	855	21%	238
0:09	1073	801	26%	272
0:12	1110	775	28%	335
0:15	1127	767	29%	360
0:18	1101	777	28%	324
0:21	1096	772	29%	324
0:24	1026	749	31%	277
0:27	1069	790	27%	279
0:30	1078	791	27%	287
Average	1080	786	27.18%	
Minimum	1026	749		
Maximum	1127	855		
Test 3				
avg inflow	**1243**			
Time (HH:MM)	**Introduction**	**Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1230			
0:06	1182	829	33%	353
0:09	1148	879	29%	269
0:12	1350	820	34%	530

0:15	1216	849	32%	367
0:18	1281	792	36%	489
0:21	1228	824	34%	404
0:24	1208	799	36%	409
0:27	1262	815	34%	447
0:30	1325	493	60%	832
0:33		365	71%	
0:36		225	82%	
Average	1243	699	43.76%	
Minimum	1148	225		
Maximum	1350	879		

Average Series J				
avg inflow	**1138**			
Time (HH:MM)	**Avg Inflow**	**Avg Spillway**	**% reduction Spillway**	**inflow-spillway**
0:03	1054			
0:06	1137	827	27%	310
0:09	1123	826	27%	297
0:12	1211	790	31%	420
0:15	1140	801	30%	339
0:18	1174	795	30%	379
0:21	1104	788	31%	316
0:24	1138	768	32%	370
0:27	1124	790	31%	334
0:30	1171	676	41%	494
0:33		412	64%	
0:36		299	74%	
Average	1138	707	37.88%	
Minimum	1054	299	29.58%	
Maximum	1211	826	73.71%	

Series L: Undersized / One baffle			
Test 1			
avg inflow	**1326.9**	**TURBIDITY REDUCTION**	**T-TEST**

Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	1212			
0:06	1250	544	59%	706
0:09	1339	774	42%	565
0:12	1277	746	44%	531
0:15	1265	779	41%	486
0:18	1408	719	46%	689
0:21	1351	731	45%	620
0:24	1364	727	45%	637
0:27	1379	736	45%	643
0:30	1424	790	40%	634
0:33		345	74%	
0:36		245	82%	
0:39		202	85%	
Average	1327	612	53.92%	
Minimum	1212	202		
Maximum	1424	790		
Test 2				
avg inflow	**1326.9**			

Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	1212			
0:06	1250	604	54%	646
0:09	1339	695	48%	644
0:12	1277	687	48%	590
0:15	1265	686	48%	579
0:18	1408	695	48%	713
0:21	1351	719	46%	632
0:24	1364	730	45%	634
0:27	1379	709	47%	670
0:30	1424	736	45%	688
0:33		418	68%	
0:36		263	80%	
Average	1327	631	52.44%	
Minimum	1212	263		
Maximum	1424	736		
Average Series L				

avg inflow	1327			
Time (HH:MM)	Avg Inflow	Avg Spillway	% reduction Spillway	inflow-spillway
0:03	1212			
0:06	1250	574	57%	676
0:09	1339	735	45%	605
0:12	1277	717	46%	561
0:15	1265	733	45%	533
0:18	1408	707	47%	701
0:21	1351	725	45%	626
0:24	1364	729	45%	636
0:27	1379	723	46%	657
0:30	1424	763	42%	661
0:33		382	71%	
0:36		254	81%	
0:39		202	85%	
Average	1327	603	54.52%	
Minimum	1212	202	42.50%	
Maximum	1424	763	84.78%	

Series O: under / Flocculant + Single Baffle				
Test 1				
avg inflow	1085.2		TURBIDITY REDUCTION	T-TEST
Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	938			
0:06	1188	153.5579	86%	1035
0:09	989	235.1855	78%	754
0:12	974	229.6203	79%	744
0:15	1122	183	83%	938
0:18	1256	235	78%	1021
0:21	1173	224	79%	950
0:24	1047	221	80%	826
0:27	1085	357	67%	728
0:30	1080	250	77%	830
0:33		148	86%	

0:36		108	90%	
Average	1085	213	80.37%	
Minimum	938	108		
Maximum	1256	357		

Test 2				
avg inflow	1200.339827			
Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	1027			
0:06	1012	97.3	92%	914
0:09	905	144	88%	761
0:12	1159	257.002	79%	902
0:15	1068	250	79%	818
0:18	1307	264	78%	1,042
0:21	1312	266	78%	1,046
0:24	1210	275	77%	935
0:27	1291	258	79%	1,033
0:30	1713	369	69%	1,343
0:33		319	73%	
0:36		80	93%	
Average	1200	235	80.46%	
Minimum	905	80		
Maximum	1713	369		

Test 3				
avg inflow	1238.544938			
Time (HH:MM)	Introduction	Spillway	% reduction Spillway	inflow-spillway
0:03	1346			
0:06	1150	106	91%	1044
0:09	1361	138	89%	1223

0:12	1106	147	88%	959
0:15	1003	144	88%	859
0:18	1189	173	86%	1016
0:21	1487	180	85%	1307
0:24	1157	217	82%	940
0:27	1309	160	87%	1149
0:30	1277	153	88%	1124
0:33		55.4	96%	
0:36		45	96%	
Average	1239	138	88.85%	
Minimum	1003	45		
Maximum	1487	217		

Average Series O

avg inflow	**1175**			
Time (HH:MM)	**Avg Inflow**	**Avg Spillway**	**% reduction spillway**	**inflow-spillway**
0:03	1104			
0:06	1117	119	90%	998
0:09	1085	172	85%	913
0:12	1080	211	82%	869
0:15	1064	192	84%	872
0:18	1250	224	81%	1026
0:21	1324	223	81%	1101
0:24	1138	238	80%	900
0:27	1228	258	78%	970
0:30	1356	257	78%	1099
0:33		174	85%	
0:36		78	93%	
Average	1175	195	83.38%	
Minimum	1064	78		
Maximum	1356	258		

APPENDIX C

1 Prepare the basin

   a. Line the plywood basin with 4mm-thick sheet plastic, securing the spillway section with tape
   b. Attach the skimmer and mold plumbers putty to secure the connection

2 Preparing sediment

   a. Fill sediment jar with the appropriate amount of sediment per sieve number
   b. Pour six sediment jars into auger
   c. Place auger above flow introduction

3 Prepare for testing

   a. Test the flow rate. Make sure the flow fills a 5-gal. bucket in 43 seconds. The manometer should measure 41-43 psi
   b. Ensure sediment auger is on 995
   c. Assign undergrad to take skimmer samples
   d. If using flocculant, mix 4.1 grams of flocculant into 2.5 gallons of water and mix. Let sit for approximately 1-2 hours to ensure the flocculant has dissolved.
   e. Prepare a timer to begin testing

4 During testing

   a. Release valves to allow flow introduction to commence
   b. Switch auger to “on” to allow sediment introduction to commence
   c. Take samples from inflow and skimmer ever three minutes for the duration of the test
      i. When taking skimmer samples, also measure water depth in the basin, water temperature, and discharge flow rate

ii. For flow rate, use a 600 mL beaker and time how long it takes to fill

d. Around 15 minutes into testing, begin taking spillway samples. Also, take the discharge flow rate

5 After flow and sediment introduction

a. Continue taking skimmer samples until basin is dewatered completely or skimmer flow stops. This usually takes 5-6 hours

b. Run turbidity of all collected samples

c. Weigh all collected samples

d. Weigh small pans to prepare for TS

e. Transfer entire samples into pan and place in oven on 250 degrees Fahrenheit

6 After basin dewatered

a. Add flocculant into 100-gal troughs. Dose at 5 mg/L. Agitate well. Let sit for 24 hours

i. After 24 hours, pump out from the top of the water column and take 5 samples from each trough

ii. Transfer flocculated sediment into large pan and dry in oven on 250 degrees Fahrenheit

iii. Run samples as stated before

b. Attach heat lamps to the side of basin and secure well. Let basin dry for 24-36 hours

i. After 24 hours, split sediment into the four respective bays and weigh