

## 1. Introduction

This report is going to present the results of a field study on December 15, 2021. Aerator developed from Electro-Aeration was used to test the raw wastewater in the Pleasant Ridge Trailer Lagoon. The detail testing site information and testing results for each water parameter is listed below:

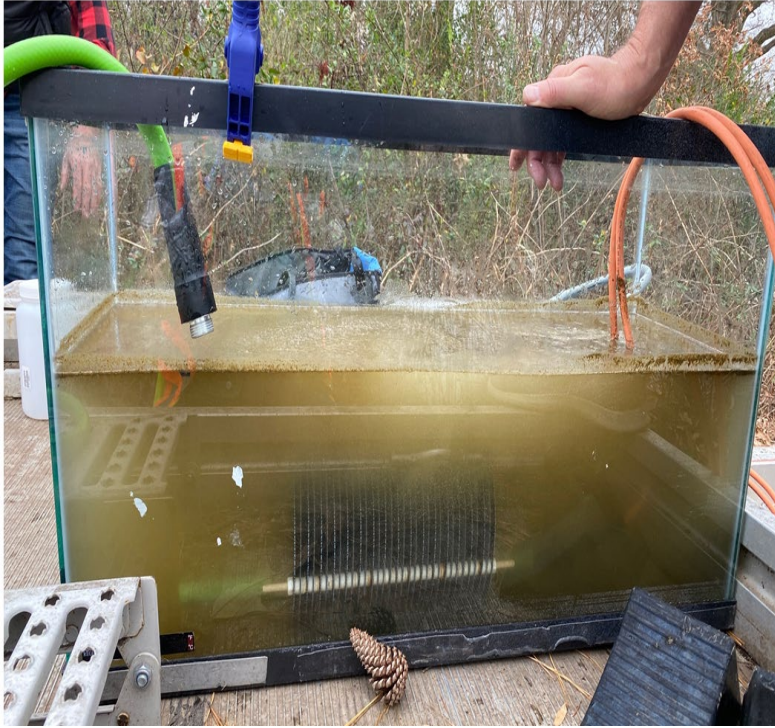
## 2. Location

Pleasant Ridge Trailer Park lagoon is located at 6514 Pleasant Ridge Road, TN 38053. The site is identified and filed the General Permit to US EPA under the permit TN 067482. Figure 1 shows the location of the lagoon.



## 3. Equipment and Apparatus

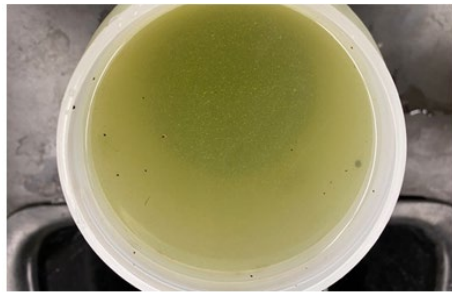
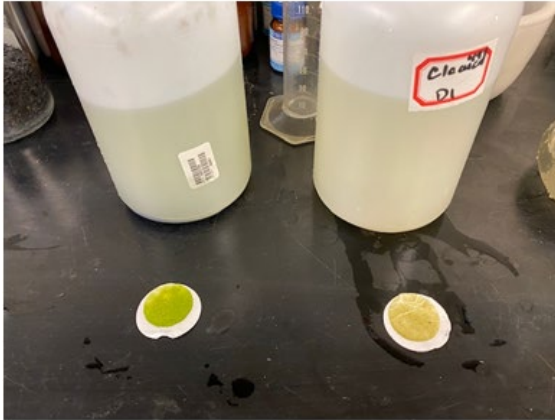
The reactor was made by titanium with cathode and anode plate. Lagoon water pumped into an aquatic tank as shown below and was aerated for 6 minutes.



#### 4. Results

The water samples were brought to the Environmental Engineering Laboratory at Christian Brothers University in 650 E. Parkway South, Memphis. Several water parameters were tested. The results are shown below:

1). Suspended Solid



Before: 175 mg/l of suspended solid

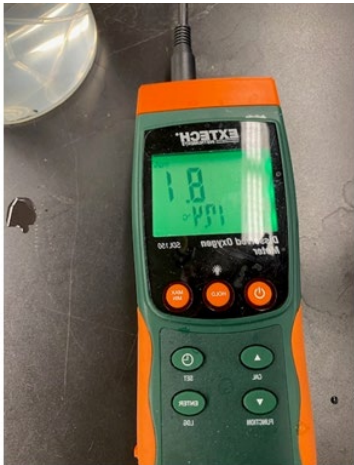


After: 100 mg/l

2). Dissolved Oxygen



Before: 2.5 mg/l



After: 8.1 mg/l

### 3). Biochemical Oxygen Demand



Before (right): 15 mg/l  
After (left): 10 mg/l

### 4). Chemical Oxygen Demand

Before: 249 mg/l  
After: 135 mg/l

### 5). Ammonia



Before (left): 0.6 mg/l  
After (right): 0.3 mg/l

### 6). TKN- Total Kjeldahl Nitrogen

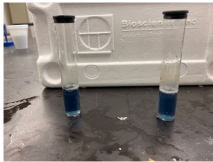
Before: 1.2 mg/l  
After: 0.2 mg/l

7). Nitrite



Before (left): 0.2 mg/l  
After (right): 0.2 mg/l

8). Phosphate



Before (left): 2.5 mg/l  
After (right): 2.5 mg/l

Conclusion:

TSS	175	100	Reduction:	- 43%
DO	2.5	8.1	Increase	+225%
BOD	15	10	Decrease:	- 34%
COD	249	135	Decrease:	- 46%
NH <sub>3</sub>	.06	.03	Decrease:	- 50%
TKN	1.2	.02	Decrease	- 84%
NO <sub>2</sub> <sup>-</sup>	.02	.02	No Change	00%
PO <sub>4</sub> <sup>3-</sup>	2.5	2.5	No change	00%

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