

# Sankofa Wetland Park Monitoring Report

*4<sup>th</sup> Quarter of 2024*



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# Sankofa Wetland Park Monitoring Report

## Summary of Activities: October-December 2024

### Monitoring Sampling Design

Environmental monitoring at the Sankofa Wetland Park began in January 2022. The sampling design consists of five monitoring locations (S1 through S5) set approximately equidistant along the mile long length of the linear park. The St. Bernard drainage ditch accessed at the bridge to the Viola Water treatment plant is also being monitored (SB), as well as a site in the Bayou Bienvenue Wetland Triangle (T2). In 2022, only sites S1 and S2 were monitored. Sites S3-S5, as well as SB and T2 were added as the wetland park was expanded in 2023. In June 2024, new sites we added at the leaking septic pipes (P1 & P2), as well as at the culvert (SC) on the eastern border of the wetland park.



Location of sampling sites at the Sankofa Wetland Park (S1-S5), the Bayou Bienvenue Wetland Triangle (site T1), the St. Bernard drainage ditch (SB), Sankofa culvert (SC), and the two leaking pipes (P1 & P2).

Water quality monitoring has been carried out at the sites described above since January 2022. Every month, dissolved oxygen, conductivity, temperature, salinity, pH and total dissolved solids are measured using a handheld probe at each monitoring location. Every three months, water samples are collected for nutrient (NO<sub>2</sub>+NO<sub>3</sub>, NH<sub>3</sub>, TN, PO<sub>4</sub>, TP), BOD<sub>5</sub> and

suspended sediment (TSS), and more recently fecal coliform analysis. Samples are put on ice and transported to Pace Analytical Services in Baton Rouge for analysis. In addition, water level is being recorded hourly using probes at the wetland park and the Bayou Bienvenue Wetland Triangle.

## Monitoring Data & Analysis

**October 8, 2024:** Jason Day traveled to the Sankofa wetland park to carry out monthly monitoring. Dissolved oxygen, conductivity, salinity, temperature, pH, and TDS were measured at all of the monitoring sites using a handheld probe. An avian census was carried out by sight and sound. The staff gauge was at 84.0 cm at 11:45 am.

### *Discrete water quality data from October 8, 2024.*

Site	Date	DO (mg/l)	Cond. (mS)	Salinity (ppt)	Temp. (°C)	pH	TDS (mg/L)
SB	10/8/24	2.3	947.3	0.5	26.3	6.8	0.6
P1	10/8/24	2.0	922.1	0.5	26.0	6.8	0.6
P2	10/8/24	3.9	1039.0	0.5	27.1	6.8	0.7
SC	10/8/24	0.7	810.3	0.4	24.6	7.1	0.5
S1	10/8/24	1.3	787.5	0.4	24.2	7.0	0.5
S2	10/8/24	0.8	781.7	0.4	24.8	7.0	0.5
S3	10/8/24	4.9	664.7	0.3	24.7	7.3	0.4
S4	10/8/24	11.8	559.6	0.3	25.6	7.4	0.4
S5	10/8/24	4.3	715.6	0.4	24.8	7.2	0.5
T2	10/8/24	1.6	887.9	0.5	24.0	7.4	0.6

Dissolved oxygen levels varied across the sites, with 2.3 mg/L at the bridge (SB), 2.0 mg/L at the first leaking septic pipe (P1), 3.9 mg/L at the second leaking pipe (P2), and 0.7 mg/L at the Sankofa culvert (SC). Within the wetland park sites (S1-S5), dissolved oxygen displayed a broader range from 0.8 to 11.8 mg/L, with the peak value likely reflecting enhanced aeration or vegetative activity. Dissolved oxygen at the wetland triangle (T2) was 1.6 mg/L.

Conductivity and salinity levels across the sites reveal a consistent ionic composition, indicating stable water quality in the wetland area. Conductivity was ~950 mS at the bridge (SB), ~920 mS at the first leaking septic pipe (P1), ~1040 mS at the second leaking pipe (P2), and ~810 mS at the Sankofa culvert (SC). These conductivity values align closely with observed salinity levels, which held steady at 0.5 ppt for SB, P1, P2, and T2, while registering slightly lower at 0.4 ppt at SC. Within the wetland park sites (S1-S5), conductivity ranged from 560 mS to 790 mS, corresponding with a salinity range of 0.3 to 0.4 ppt, reflecting the dilution effects typical

of vegetated wetland areas, while the wetland triangle (T2) showed a conductivity of ~888 mS and salinity of 0.5 ppt, reinforcing the correlation between these two parameters.

Water temperature readings hovered around typical values for the season, measuring 26.3°C at SB, 26.0°C at P1, increasing to 27.1°C at P2, and dipping to 24.6°C at SC. Across the wetland park sites, temperatures ranged from 24.2°C to 25.6°C, while T2 recorded 24.0°C, reinforcing the slight cooling trend in the area.

pH remained within a favorable range for wetland activity, with 6.8 at SB, 6.8 at P1, 6.8 at P2, and 7.1 at SC, while at the wetland park sites, pH ranged from 7.0 to 7.4, and was 7.4 at T2.

Total dissolved solids (TDS) remained low across all sites, aligning with typical levels for a stable wetland system. SB and P1 recorded 0.6 mg/L, P2 slightly higher at 0.7 mg/L, and SC at 0.5 mg/L. The wetland park sites ranged from 0.4 to 0.5 mg/L, while T2 had a consistent TDS of 0.6 mg/L, reflecting minimal variability in suspended solids across the area.

**November 11, 2024:** Jason Day carried out monthly monitoring at the wetland park. Dissolved oxygen, conductivity, salinity, temperature, pH, and TDS were measured at all sites using a handheld probe. An avian census was carried out by sight and sound. The staff gauge in the wetland park was broken and will be replaced on the next visit.

***Discrete water quality data from November 11, 2024.***

Site	Date	DO (mg/l)	Cond. (mS)	Salinity (ppt)	Temp. (°C)	pH	TDS (mg/L)
SB	11/11/24	0.6	930.2	0.5	24.2	7.0	0.6
P1	11/11/24	0.9	946.0	0.5	24.2	7.0	0.6
P2	11/11/24	2.9	943.9	0.5	24.4	6.9	0.6
SC	11/11/24	0.6	984.1	0.5	24.1	7.1	0.7
S1	11/11/24	0.8	980.1	0.5	24.2	7.1	0.7
S2	11/11/24	1.0	911.5	0.5	24.2	7.3	0.6
S3	11/11/24	4.1	906.0	0.5	24.5	7.3	0.6
S4	11/11/24	2.1	698.2	0.3	23.8	7.3	0.5
S5	11/11/24	1.2	699.2	0.3	24.0	7.5	0.5
T2	11/11/24	2.7	1181.0	0.6	24.0	7.4	0.7

At the bridge site (SB), dissolved oxygen was observed at 0.6 mg/L, with similar values at the Sankofa culvert (SC) and a slight increase at the first (P1) and second (P2) leaking septic pipes, measuring 0.9 mg/L and 2.9 mg/L, respectively. Dissolved oxygen concentrations across the wetland park sites (S1-S5) varied more widely, from 0.8 mg/L up to 4.1 mg/L, with

the highest readings recorded at site S3. At the wetland triangle (T2), dissolved oxygen reached 2.7 mg/L.

Conductivity readings indicate slightly higher ionic content at SB (~930 mS), P1 (~950 mS), P2 (~940 mS), and SC (~980 mS), with the wetland park sites showing a broader range from ~700 to ~980 mS. The highest conductivity was observed at T2, where it measured ~1180 mS. These conductivity levels suggest a relatively consistent salinity level across most sites, remaining around 0.5 ppt at SB, P1, P2, SC, and across the wetland park, with minor reductions to 0.3 ppt at sites S4 and S5, while site T2 showed a slight increase to 0.6 ppt.

Water temperatures stayed within a close range, averaging around 24°C, with SB, P1, P2, and SC reporting similar values from 24.1°C to 24.4°C. Among the wetland park sites, temperatures slightly fluctuated between 23.8°C at S4 to 24.5°C at S3, with T2 registering 24.0°C. These stable temperature readings reflect seasonal cooling but retain warmth conducive to wetland activity.

The pH levels were relatively neutral to slightly alkaline, with minor site variations, measuring around 7.0 at SB and P1, dipping slightly to 6.9 at P2, and reaching 7.1 at SC. The wetland park sites ranged from 7.1 to 7.5, peaking at S5, and T2 maintained a pH of 7.4, indicative of favorable conditions for microbial processes.

Total dissolved solids (TDS) concentrations were consistently low, with SB, P1, and P2 showing 0.6 mg/L, SC slightly elevated at 0.7 mg/L, and wetland park sites ranging between 0.5 and 0.7 mg/L, while site T2 also recorded a TDS of 0.7 mg/L.

**December 12, 2024:** Rob Lane and Jason Day visited the Sankofa Wetland Park to carry out monthly monitoring. Dissolved oxygen, conductivity, salinity, temperature, pH, and TDS were measured only at the old monitoring sites (SB, S1-S5 and T1) using a handheld probe. Water samples were collected for nutrient ( $\text{NO}_2+\text{NO}_3$ ,  $\text{NH}_3$ , TN,  $\text{PO}_4$ , TP),  $\text{BOD}_5$  suspended sediment (TSS), and fecal coliform analysis at the same sites. Samples were put on ice and transported to Pace Analytical Services in Baton Rouge for analysis. The staff gauge was 77.0 cm at 1:15 pm.

Dissolved oxygen (DO) concentrations were 3.2 mg/L at site SB, ranged from 4.4 to 8.8 mg/L at the wetland park sites (S1-S5) and was 4.0 mg/L at site T1. The higher values observed this month reflect adequate aeration and potential biological activity supporting ecosystem health. Conductivity was ~880 mS at site SB, ranged from ~65 to ~700 mS at the

wetland park sites (S1-S5), and was ~660 mS at T1. Elevated conductivity at SB may be indicative of anthropogenic influences. Lower conductivity values (e.g., 66 mS at S3) suggest less ionized solutes, potentially reflecting natural freshwater conditions. Salinity concentrations were 0.4 ppt at site SB, ranged from 0.4 to 0.5 ppt at the wetland park sites (S1-S5), and was 0.4 ppt at site T1. Water temperature was 11.5°C at site SB, ranged from 12.0 to 14.4°C at the wetland park sites (S1-S5), and was 12.8°C at T1. pH values were 7.7 at site SB, ranged from 7.3 to 7.7 at the wetland park sites (S1-S5), and was 7.6 at site T1. Total dissolved solids (TDS) concentrations were 0.6 mg/L at SB, ranged from 0.5 to 0.6 mg/L at the wetland park sites (S1-S5), and was 0.6 mg/L at site T1.

***Discrete water quality data from December 12, 2024.***

Site	Date	DO (mg/l)	Cond. (mS)	Salinity (ppt)	Temp. (°C)	pH	TDS (mg/L)
SB	12/12/24	3.2	881.6	0.4	11.5	7.7	0.6
S1	12/12/24	4.4	704.7	0.5	12.7	7.7	0.6
S2	12/12/24	8.8	685.8	0.5	12.0	7.7	0.6
S3	12/12/24	7.4	66.3	0.4	13.1	7.6	0.5
S4	12/12/24	8.4	629.8	0.4	13.0	7.5	0.5
S5	12/12/24	4.8	701.7	0.4	14.4	7.3	0.6
T1	12/12/24	4.0	661.3	0.4	12.8	7.6	0.6



*Recording discrete probe measurements at site S1 on December 12, 2024.*

Nitrate+nitrite (NO<sub>x</sub>) concentrations were below detection (<0.050 mg/L) at all sites, suggesting minimal nitrate pollution. Ammonia (NH<sub>3</sub>) concentrations ranged from below detection (<0.10 mg/L) at sites S3 and S5 to 0.76 mg/L at site T1, with elevated levels at sites SB (0.37 mg/L) and T1 possibly reflecting localized inputs from anthropogenic sources. Total nitrogen (TN) concentrations ranged from 0.98 mg/L at site S3 to 4.0 mg/L at site S1, with S1 exhibiting a notably higher TN concentration that could indicate nutrient enrichment. Phosphate (PO<sub>4</sub>) concentrations were generally low, ranging from below detection (<0.050 mg/L) at sites S3 and S4 to 0.44 mg/L at site SB, while total phosphorus (TP) ranged from below detection (<0.10 mg/L) at sites S3, S4, and S5 to 0.65 mg/L at site S1. Elevated phosphorus levels at sites S1 and SB may indicate the continued influence of the septic leak on water quality. Total suspended solids (TSS) concentrations were the below detection limit (<5.0 mg/L) at sites S3, S4, and S5, while sites SB and T1 had concentrations of 11.2 and 6.6 mg/L, respectively. Five-day biological oxygen demand (BOD<sub>5</sub>) concentrations ranged from 2.0 mg/L at site S3 to 19.2 mg/L at site S1. Elevated BOD<sub>5</sub> concentrations at sites S1 and T1 (11.4 mg/L) suggests greater organic matter decomposition. Fecal coliform levels ranged from <5 CFU/100 mL at site T1 to 180 CFU/100 mL at site S4. While most sites showed low to moderate levels, the elevated count at S4 may indicate a point source of bacterial contamination, potentially from wildlife or anthropogenic activities.

***Nutrient, Sediment, BOD<sub>5</sub> and fecal coliform data from December 12, 2024.***

Site	Date	NO <sub>x</sub> (mg/L)	NH <sub>3</sub> (mg/L)	TN (mg/L)	PO <sub>4</sub> (mg/L)	TP (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	Fecal Coli. (CFU/100mL)
SB	12/12/24	<0.050	0.37	2.0	0.44	0.48	11.2	6.3	60
S1	12/12/24	<0.050	0.28	4.0	0.26	0.65	<25.0	19.2	10
S2	12/12/24	<0.050	0.15	1.9	0.23	0.33	17.6	6.9	35
S3	12/12/24	<0.050	<0.10	0.98	<0.050	<0.10	<5.0	2.0	10
S4	12/12/24	<0.050	0.12	1.1	<0.050	<0.10	<5.0	2.1	180
S5	12/12/24	<0.050	<0.10	1.3	0.068	<0.10	<5.0	7.8	20
T1	12/12/24	<0.050	0.76	1.7	0.25	0.24	6.6	11.4	<5

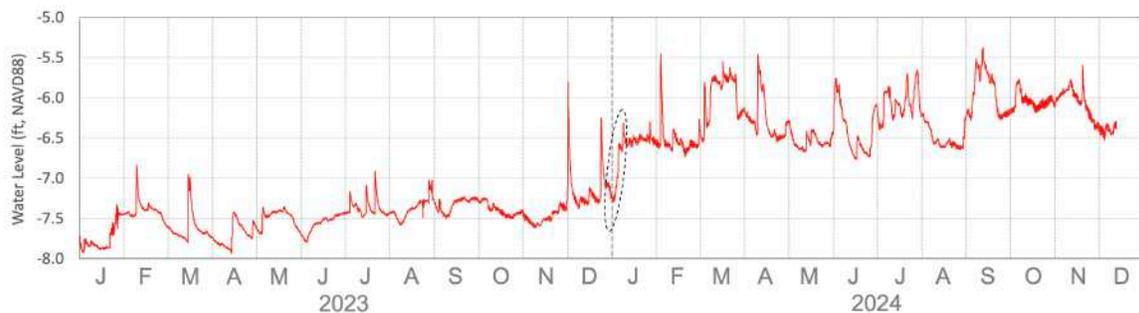
Nutrient concentrations overall suggest a system with low nitrate inputs but localized areas of elevated ammonia and phosphorus, which require monitoring to prevent nutrient-driven algal blooms. The low sediment loads at most sites support the wetland's role in sediment trapping, while higher TSS at sites SB and T1 highlights areas where sediment transport may be more dynamic. Elevated BOD<sub>5</sub> at sites S1 and T1 suggests organic material loading in these areas, potentially linked to upstream inputs or stagnant conditions. Fecal coliform levels, particularly the spike at site S4, indicate potential microbial contamination.



*Collecting water samples at site S4 on December 12, 2024.*

The water level recorder was downloaded at the wetland park (see data below). As can be seen, water levels at the park have recently decreased, presumably due to the replacement of the culvert at the terminus of Florida Avenue. However, water levels are still a full foot higher than 2023. We suspect this is caused by debris clogging the canal on the west side of the culvert. We will attempt to clear the blockage during the next site visit in January 2025.

Sankofa Wetland Park water level 2023-2024



### **Avian Survey**

A total of 36 bird species were observed in October, 41 species in November, and 31 species in December. A total of 56 species were sighted this quarter.

### Bird species observed at the Sankofa Wetland Park during Q4 2024.

Common Name	Scientific Name	10/8/24	11/11/24	12/12/24
American Crow	<i>Corvus brachyrhynchos</i>	X	X	X
American Kestrel	<i>Falco sparverius</i>		X	
Anhinga	<i>Anhinga anhinga</i>	X	X	X
Bald Eagle	<i>Haliaeetus leucocephalus</i>		X	
Barn Swallow	<i>Hirundo rustica</i>	X		
Belted Kingfisher	<i>Megaceryle alcyon</i>	X		
Black Vulture	<i>Coragyps atratus</i>	X	X	X
Black-Bellied Whistling-Duck	<i>Dendrocygna autumnalis</i>	X	X	
Black-Crowned Night Heron	<i>Nycticorax nycticorax</i>		X	
Blue Jay	<i>Cyanocitta cristata</i>	X	X	X
Blue-Grey Gnatcatcher	<i>Poliophtila caerulea</i>			X
Brown Pelican	<i>Pelecanus occidentalis</i>		X	X
Bufflehead	<i>Bucephala albeola</i>			X
Carolina Chickadee	<i>Poecile carolinensis</i>		X	X
Carolina Wren	<i>Thryothorus ludovicianus</i>	X	X	
Cattle Egret	<i>Bubulcus ibis</i>	X	X	X
Chimney Swift	<i>Chaetura pelagica</i>	X		
Common Grackle	<i>Quiscalus quiscula</i>	X		
Common Moorhen	<i>Gallinula chloropus</i>		X	X
Common Tern	<i>Sterna hirundo</i>		X	
Common Yellowthroat	<i>Geothlypis trichas</i>	X	X	
Coopers Hawk	<i>Accipiter cooperii</i>	X		
Double Crested Cormorant	<i>Phalacrocorax auritus</i>		X	
Downy Woodpecker	<i>Dryobates pubescens</i>	X	X	
Eastern Phoebe	<i>Sayornis phoebe</i>	X	X	X
Eurasian Collared Dove	<i>Streptopelia decaocto</i>	X	X	
European Starling	<i>Sturnus Vulgaris</i>	X	X	X
Fish Crow	<i>Corvus ossifragus</i>		X	
Glossy Ibis	<i>Plegadis falcinellus</i>		X	
Great Blue Heron	<i>Ardea herodias</i>	X		X
Great Egret	<i>Ardea alba</i>	X	X	X
Green Heron	<i>Butorides virescens</i>	X	X	
Killdeer	<i>Charadrius vociferus</i>	X		X
Laughing Gull	<i>Larus atricilla</i>	X	X	X
Limpkin	<i>Aramus guarauna</i>	X	X	X
Little Blue Heron	<i>Egretta caerulea</i>		X	X
Mockingbird	<i>Mimus polyglottos</i>	X	X	X
Mourning Dove	<i>Zenaida macroura</i>	X	X	X
Northern Cardinal	<i>Cardinalis cardinalis</i>	X	X	X
Osprey	<i>Pandion Haliaeetus</i>	X	X	X
Pied-billed Grebe	<i>Podilymbus podiceps</i>	X	X	X
Purple Gallinule	<i>Porphyrio martinicus</i>		X	
Red Shouldered Hawk	<i>Buteo lineatus</i>	X		
Red Tailed Hawk	<i>Buteo jamaicensis</i>			X
Red Winged Blackbird	<i>Agelaius phoeniceus</i>	X	X	X
Red-Eyed Vireo	<i>Vireo olivaceus</i>		X	
Ruby-Crowned Kinglet	<i>Corthylio calendula</i>		X	X
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	X		
Snowy Egret	<i>Egretta thula</i>	X	X	X
Song Sparrow	<i>Melospiza melodia</i>		X	X
Swamp Sparrow	<i>Melospiza georgiana</i>	X		
Tricolor Egret	<i>Egretta tricolor</i>	X		
Turkey Vulture	<i>Cathartes aura</i>	X	X	X
White Ibis	<i>Eudocimus albus</i>	X	X	X
Yellow-Crowned Night-Heron	<i>Nyctanassa violacea</i>		X	
Yellow-Rumped Warbler	<i>Setophaga coronata</i>			X

## Miscellaneous Activities

**December 10, 2024:** Rob Lane met Rashida and Alex Miller at the park to give a tour to representatives from engineering firms responding to the RFQ issued by Sankofa in November. The tour lasted just over an hour and was highly productive, offering an opportunity for discussion of key project challenges and objectives. These included the surrounding stormwater drainage systems, the recent septic leak issue and the clogged culvert that had necessitated replacement, the presence of sand deposits in the area and how the limited understanding of their distribution has posed significant obstacles to project planning and execution, and the location and use of the proposed water control structures.



*Members of engineering firms at a site visit on December 10, 2024.*

While at the site, Rob Lane visited the leaking septic pipe locations (P1 & P2). He observed that the leak at site P2 had been repaired, as evidenced by recent earth work and a new manhole cover where the leak had been. No water was observed welling from the ground there or at the other identified septic leak (P1). Water levels at site P1 were notably lower than previous months.



*The repaired septic pipe leak at site P2 on December 10, 2024.*



*Site P1 on December 10, 2024.*

**December 12, 2024:** Rob Lane and Jason Day noticed standing water on the east site of the newly replaced culvert located at the end of Florida Avenue. They spent about 45 minutes digging out high spots in the channel, which released the standing water.



*Rob Lane digging out high spots in the St. Bernard drainage channel.*



*Rob Lane switching out the water level logger at wetland park.*



### ANALYTICAL RESULTS

Project: SANKOFA

Pace Project No.: 20340320

Sample: Bridge	Lab ID: 20340320001	Collected: 12/12/24 12:00	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	11.2	mg/L	10.0	1		12/19/24 14:25		P1
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	6.3	mg/L	1.5	1.5	12/14/24 06:50	12/19/24 07:20		R6
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	60	CFU/100 mL	5.0	5	12/12/24 18:38	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	2.0	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:30	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	0.48	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:19	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	0.37	mg/L	0.10	1		12/26/24 16:09	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	0.44	mg/L	0.050	1		12/13/24 10:41		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:04		

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: SANKOFA

Pace Project No.: 20340320

Sample: One	Lab ID: 20340320002	Collected: 12/12/24 11:00	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	ND	mg/L	25.0	1		12/19/24 14:25		P1,PK,PP
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	19.2	mg/L	4.0	4	12/13/24 12:57	12/18/24 13:47		L1
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	10	CFU/100 mL	10.0	10	12/12/24 18:16	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	4.0	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:30	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	0.65	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:19	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	0.28	mg/L	0.10	1		12/26/24 16:10	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	0.26	mg/L	0.050	1		12/13/24 10:41		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:05		

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### ANALYTICAL RESULTS

Project: SANKOFA

Pace Project No.: 20340320

Sample: Two	Lab ID: 20340320003	Collected: 12/12/24 11:15	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	17.6	mg/L	10.0	1		12/19/24 14:25		P1
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	6.9	mg/L	1.5	1.5	12/13/24 13:32	12/18/24 17:29		R6
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	35	CFU/100 mL	5.0	5	12/12/24 18:30	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	1.9	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:32	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	0.33	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:20	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	0.15	mg/L	0.10	1		12/26/24 16:12	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	0.23	mg/L	0.050	1		12/13/24 10:41		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:06		

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### ANALYTICAL RESULTS

Project: SANKOFA

Pace Project No.: 20340320

Sample: Three	Lab ID: 20340320004	Collected: 12/12/24 10:45	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	ND	mg/L	5.0	1		12/19/24 14:25		P1,PK,PP
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	2.0	mg/L	1.5	1.5	12/13/24 12:47	12/18/24 13:43		L1
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	10	CFU/100 mL	5.0	5	12/12/24 18:16	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	0.98	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:33	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	ND	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:20	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	ND	mg/L	0.10	1		12/26/24 16:16	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	ND	mg/L	0.050	1		12/13/24 10:19		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:07		

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**ANALYTICAL RESULTS**

Project: SANKOFA

Pace Project No.: 20340320

Sample: Four	Lab ID: 20340320005	Collected: 12/12/24 10:30	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	ND	mg/L	5.0	1		12/19/24 14:25		P1,PK,PP
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	2.1	mg/L	1.5	1.5	12/13/24 12:20	12/18/24 13:36		L1
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	180	CFU/100 mL	5.0	5	12/12/24 18:06	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	1.1	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:35	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	ND	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:21	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	0.12	mg/L	0.10	1		12/26/24 16:18	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	ND	mg/L	0.050	1		12/13/24 10:19		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:09		

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**ANALYTICAL RESULTS**

Project: SANKOFA

Pace Project No.: 20340320

<b>Sample: Five</b>		<b>Lab ID: 20340320006</b>		Collected: 12/12/24 10:00	Received: 12/12/24 14:05	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans						
Total Suspended Solids	ND	mg/L	5.0	1		12/19/24 14:25		P1,PK,PP
<b>5210B BOD, 5 day</b>		Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans						
BOD, 5 day	7.8	mg/L	1.5	1.5	12/13/24 12:04	12/18/24 13:25		L1,R6
<b>MBIO 9222D Fecal Coli (Water)</b>		Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans						
Fecal Coliforms	20	CFU/100 mL	5.0	5	12/12/24 17:36	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>		Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans						
Nitrogen, Kjeldahl, Total	1.3	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:35	7727-37-9	
<b>365.4 Total Phosphorus</b>		Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans						
Phosphorus	ND	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:23	7723-14-0	
<b>4500 Ammonia Water</b>		Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans						
Nitrogen, Ammonia	ND	mg/L	0.10	1		12/26/24 16:19	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>		Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans						
Orthophosphate as P	0.068	mg/L	0.050	1		12/13/24 10:41		
<b>4500NO3-F, NO3-NO2</b>		Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans						
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:10		

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### ANALYTICAL RESULTS

Project: SANKOFA

Pace Project No.: 20340320

Sample: Triangle	Lab ID: 20340320007	Collected: 12/12/24 10:40	Received: 12/12/24 14:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540D Total Suspended Solids</b>	Analytical Method: SM 2540D 2011 Pace Analytical Services - New Orleans							
Total Suspended Solids	6.6	mg/L	5.0	1		12/19/24 14:25		P1
<b>5210B BOD, 5 day</b>	Analytical Method: SM 5210B Preparation Method: SM 5210B Pace Analytical Services - New Orleans							
BOD, 5 day	11.4	mg/L	1.5	1.5	12/13/24 12:24	12/18/24 13:41		L1,R6
<b>MBIO 9222D Fecal Coli (Water)</b>	Analytical Method: SM 9222D Preparation Method: SM 9222D Pace Analytical Services - New Orleans							
Fecal Coliforms	<5	CFU/100 mL	5.0	5	12/12/24 18:16	12/13/24 16:45		
<b>351.2 Total Kjeldahl Nitrogen</b>	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - New Orleans							
Nitrogen, Kjeldahl, Total	1.7	mg/L	0.15	1	12/18/24 10:37	12/21/24 13:37	7727-37-9	
<b>365.4 Total Phosphorus</b>	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - New Orleans							
Phosphorus	0.24	mg/L	0.10	1	12/18/24 10:39	12/20/24 12:24	7723-14-0	
<b>4500 Ammonia Water</b>	Analytical Method: SM 4500-NH3 G Pace Analytical Services - New Orleans							
Nitrogen, Ammonia	0.76	mg/L	0.10	1		12/26/24 16:21	7664-41-7	
<b>SM4500P-E, Phosphate, Ortho</b>	Analytical Method: SM 4500-P E Pace Analytical Services - New Orleans							
Orthophosphate as P	0.25	mg/L	0.050	1		12/13/24 10:41		
<b>4500NO3-F, NO3-NO2</b>	Analytical Method: SM 4500-NO3 F Pace Analytical Services - New Orleans							
Nitrogen, NO2 plus NO3	ND	mg/L	0.050	1		12/26/24 14:13		

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