



Delaware Department of Natural Resources and Environmental Control

Division of Water, Groundwater Discharges Section
89 Kings Highway, Dover DE 19901 (302) 739-9948

Annual Report for Reporting Year 2023

Permittee	The Town Of Millsboro		
Facility Name	Town Of Millsboro WWTF	Date	2/28/2025
Mailing Address	322 Wilson Highway Millsboro DE 19966	Permit Number	528516-05

Attached Documentation (Please check)

- | | |
|---|--|
| <input type="checkbox"/> 6.8.2.4.1.3 QA/QC Report | <input type="checkbox"/> 6.9.14.2 Design Nitrogen Balance |
| <input checked="" type="checkbox"/> 6.9.1.9 Biosolids Removed | <input checked="" type="checkbox"/> 6.9.14.3 Soils Chemical Data |
| <input type="checkbox"/> 6.9.1.12 Vegetative Management | <input type="checkbox"/> 6.9.14.4 Map - Ponding, Pooling or Runoff Areas |
| <input checked="" type="checkbox"/> 6.9.1.13 Calibration Certificates | <input type="checkbox"/> 6.9.14.5 NRCS Nutrient Removal by Crop Tool |

Principal Executive Officer

Name	Kimberley kahn	Phone Number	302-934-8171
Title	Mayor		

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete and the analyses has been conducted in accordance with the requirements of Section 6.8 of the Regulations Governing The Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems.

I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See 7 Del. C. Chapter 60 §6013 (b). Penalties under these statutes may include fines up to \$5,000 and or maximum imprisonment of up to 6 months.

Operator Completing Reporting Documentation

Name	Michael Tingle	Phone Number	302-448-5045	
License Number	1251	Expiration Date	3/6/2026	
Signature			Operator Classification	IV
			Date	2/28/2024

Direct Responsible Charge Operator

Name	Richard Buckler	Phone Number	302-249-9831	
License Number	199	Expiration Date	6/26/2026	
Signature			Operator Classification	IV
			Date	2/28/2024

Worksheet 1

Where applicable, data may be transferred from the DMR's.

Parameter	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Annual Daily Average (Total/365)	Annual Monthly Average (Total/12 mos.)	Peak Monthly Flow (gal)	Permit Design Limit	Max Depth Not Including Freeboard.
Influent Flow to Treatment	gal/mo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-
Effluent Flow to all Spray areas combined	gal/mo	23,185,700	20,481,000	22,063,100	20,285,900	20,323,896	16,647,879	18,139,552	13,084,087	13,505,943	16,903,508	17,017,609	19,724,500	221,382,174	606,472	16,446,848			
Total nitrogen in spray effluent	mg/L	20.85	18.567	21.5	14.71	18.05	18.45	12.633	21.95	14	22.8	25.1	23.8			19.4			
Ammonia in spray effluent	mg/L	8	6.876	3.44	0.06	0.18	0.07	4.05	0.1	0.5	0.25	0.075	0.1			1.88			
Total phosphorus in spray effluent	mg/L	1.665	1.91	1.36	0.37	0.83	1.17	1.355	3.3	1.08	2.4	1.955	2.72			1.88			
BOD ₅ ¹	mg/L	48.375	34.033	15.2	6.2	4.05	5.3	13.1	4.9	5.2	6.0667	5.3	4			12.84			
TSS ²	mg/L	28	17.533	9.9333	2.6	3.2	2	2.4	2.75	2	2.2667	2.8	2			6.46			
Monthly Total Precipitation ³	in/ mc-acre	6.0	1.93	8.25	1.70	3.75	1.75	10.00	3.52	0.55	0.00	1.25	3.25	41.95		3.50			
Storage Lagoon 1	feet																		
Monthly Average Total Volume Stored	feet																		
Storage Lagoon 2	feet																		
Monthly Average Total Volume Stored	feet																		
Treatment Lagoon and Storage Surface	acres																		

¹⁾ Facilities that are not required to collect effluent BOD₅ are exempt from 6.9.1.5

²⁾ Facilities that are not required to collect effluent TSS are exempt from 6.9.1.6

³⁾ 6.9.1.10 specifies daily rainfall, temperature, wind speed and direction. Only submit monthly precipitation in the above table. The GWDS will review this information during the Annual Inspection. Continue to maintain this information in the operator's log book, as noted in 6.7.3. For any given month, if samples are not taken for Nitrogen, Ammonia, Phosphorus, BOD or TSS, please leave those cells blank for that month.

This Worksheet satisfies: 6.9.1.1, 6.9.1.2, 6.9.1.5, 6.9.1.6, 6.9.1.7 (in part), 6.9.1.8 (in part), 6.9.1.10 (in part), 6.9.1.14.2 (in part)

Worksheet 2

Zone, pivot or field: **White Farm Pivot rt 20**

Wetted Area (acres): **8.2** Nearest Weather Station: **Georgetown 5 SW**

Default Yield (bu/acre)	Measured Yield If Known (bu/acre)	Actual N Removal If Known (lbs/acre/year)	Actual P Removal If Known (lbs/acre/year)
N/A	245		
55			
N/A			

Crop 1: Soybean
 Crop 2: 55
 Crop 3: N/A

Parameter	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Average	Permit Limit / Design Value
Crop		Cover	Cover	Cover	Cover	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Cover	Cover			
Effluent to Spray	gal/mo	0	0	0	755,471	0	2,156,527	3,104,194	7,461,913	6,945,057	3,210,794	2,729,691	1,094,986	27,458,633	2,288,219	
Effluent to Spray	gal/acre	0	0	0	9,213	0	26,299	37,856	90,999	84,696	39,156	33,289	13,353	334,861	27,905	
Days Sprayed	days/mo															
Total nitrogen in spray effluent	lb/acre-mo	0.0	0.0	0.0	1.1	0.0	4.0	4.0	16.7	9.9	7.5	7.0	2.7	52.8		
Total nitrogen from commercial fertilizer	lb/acre-mo	0.0	0.0	40.0	65.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	125.0		
Total nitrogen from biosolids	lb/acre-mo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-		
Total nitrogen applied	lb/acre-mo	0.0	0.0	30.0	59.9	16.3	19.0	9.0	16.7	9.9	7.5	7.0	2.7	177.8		
Crop nitrogen removal	lb/acre-mo	#N/A	#N/A	#N/A	#N/A	0.0	0.0	168.6	337.1	252.8	84.3	#N/A	#N/A	#N/A		
Total nitrogen removal	lb/acre-mo	#N/A	#N/A	#N/A	#N/A	2.4	2.9	170.0	339.6	254.3	85.4	#N/A	#N/A	#N/A		
Nitrogen Percolate	mg/L	#N/A	#N/A	#N/A	#N/A	139.6	#DIV/0!	0.0	0.0	0.0	#DIV/0!	#N/A	#N/A	#N/A	#N/A	10.0
Total phosphorus in spray effluent	lb/acre-mo	0.0	0.0	0.0	0.0	0.0	0.3	0.4	2.5	0.8	0.8	0.5	0.3	5.6		
Total phosphorus from commercial fertilizer	lb/acre-mo	0	0	0	0	0	0	0	0	0	0	0	0	-		
Total phosphorus from biosolids	lb/acre-mo	0	0	0	0	0	0	0	0	0	0	0	0	-		
Total phosphorus applied	lb/acre-mo	0.0	0.0	0.0	0.0	0.0	0.3	0.4	2.5	0.8	0.8	0.5	0.3	5.6		

Instructions:

- 1) Each zone, pivot, or field should have a separate worksheet. Worksheet 2 may be copied and pasted to accommodate multiple areas.
- 2) Where applicable, data may be transferred from the DMR's.
- 3) Fill out all orange cells that are applicable.
- 4) The order of the crop list (Crop 1, Crop 2, Crop 3) does not matter. If fewer than three crops are planted, the remaining crop listings can either be set to 'Cover' or left blank.
- 5) Total Nitrogen Applied is compared (without adjustment) to your Permitted Nitrogen Loading Limit.

Notes:

- 1) 75% of nitrogen from fertilizer and biosolids is considered available the current month, and 25% available the following month. (With the exception of January.)
- 2) This worksheet uses a standard set of assumptions for monthly uptake based on a typical planting cycle. If crops are planted ahead or behind this schedule, these assumptions may not be valid.
- 3) For cases where non-standard conditions are present, alternate calculations with appropriate justification may be submitted for approval.
- 4) This Worksheet satisfies: 6.9.1.7 (in part), 6.9.1.8 (in part), 6.9.1.14.1, 6.9.1.14.2 (in part), and 6.9.1.14.5

Worksheet 2

Zone, pivot or field: Millsboro Middle School E. State Street

Wetted Area (acres): 8.5 Nearest Weather Station: Georgetown 5 SW

	Default Yield (bu/acre)	Measured Yield If Known (bu/acre)	Actual N Removal If Known (lbs/acre/year)	Actual P Removal If Known (lbs/acre/year)
Crop 1:	N/A			
Crop 2:	N/A			
Crop 3:	N/A			

Parameter	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Average	Permit Limit / Design Value
Crop		Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass	Turf Grass			
Effluent to Spray	gal/mo	0	0	0	300,605	792,204	774,162	328,654	0	0	5,698	0	0	2,201,323	183,444	
Effluent to Spray	gal/acre	0	0	0	35,365	93,200	91,078	38,665	0	0	670	0	0	258,979	21,582	
Days Sprayed	days/mo				5	18	18	8						51	5	
Total nitrogen in spray effluent	lb/acre-mo	0.0	0.0	0.0	4.3	14.0	14.0	4.1	0.0	0.0	0.1	0.0	0.0	36.6		
Total nitrogen from commercial fertilizer	lb/acre-mo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-		
Total nitrogen from biosolids	lb/acre-mo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-		
Total nitrogen applied	lb/acre-mo	0.0	0.0	0.0	4.3	14.0	14.0	4.1	0.0	0.0	0.1	0.0	0.0	36.6		
Crop nitrogen removal	lb/acre-mo	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		
Total nitrogen removal	lb/acre-mo	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		
Nitrogen Percollate	mg/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		10.0
Total phosphorus in spray effluent	lb/acre-mo	0.0	0.0	0.0	0.1	0.6	0.9	0.4	0.0	0.0	0.0	0.0	0.0	2.1		
Total phosphorus from commercial fertilizer	lb/acre-mo	0	0	0	0	0	0	0	0	0	0	0	0	-		
Total phosphorus from biosolids	lb/acre-mo	0	0	0	0	0	0	0	0	0	0	0	0	-		
Total phosphorus applied	lb/acre-mo	0.0	0.0	0.0	0.1	0.6	0.9	0.4	0.0	0.0	0.0	0.0	0.0	2.1		

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- 3) Fill out all orange cells that are applicable.
- 4) The order of the crop list (Crop 1, Crop 2, Crop 3) does not matter. If fewer than three crops are planted, the remaining crop listings can either be set to 'Cover' or left blank.
- 5) Total Nitrogen Applied is compared (without adjustment) to your Permitted Nitrogen Loading Limit.

Notes:

- 1) 75% of nitrogen from fertilizer and biosolids is considered available the current month, and 25% available the following month. (With the exception of January.)
- 2) This worksheet uses a standard set of assumptions for monthly uptake based on a typical planting cycle. If crops are planted ahead or behind this schedule, these assumptions may not be valid.
- 3) For cases where non-standard conditions are present, alternate calculations with appropriate justification may be submitted for approval.
- 4) This Worksheet satisfies: 6.9.1.7 (in part), 6.9.1.8 (in part), 6.9.1.14.1, 6.9.1.14.2 (in part), and 6.9.1.14.5

Worksheet 3

Total number of dwelling units connected to the system ¹	<u>4693</u>
Number of dwelling units connected this calendar year ²	<u>201</u>

Biosolids removed 146,000 Gallons

Date 2/8,2/9,4/10, 4/24,4/26,6/24,7/5,12/6,12/12,12/23

Hauler CDI

Destination DELCORA

Attach map, if applied to any spray irrigation field

Operational and Maintenance Activities.

Please check here if additional attachments are included.

[1] Permittees that do not have a permit restriction related to dwellings/units are exempt from 6.9.1.3.

[2] Permittees that do not have a permit restriction related to dwellings/units are exempt from 6.9.1.4.

This Worksheet satisfies: 6.9.1.3, 6.9.1.4, 6.9.1.9 and 6.9.1.11

Worksheet 3

Total number of dwelling units connected to the system ¹	<u>4693</u>
Number of dwelling units connected this calendar year ²	<u>201</u>

Biosolids removed 797.23 tons

Date 1-1-2024 to 12-31-2024

Hauler Town of Millsboro

Destination Jones crosroads landfill

Attach map, if applied to any spray irrigation field

Operational and Maintenance Activities.

Please check here if additional attachments are included.

[1] Permittees that do not have a permit restriction related to dwellings/units are exempt from 6.9.1.3.

[2] Permittees that do not have a permit restriction related to dwellings/units are exempt from 6.9.1.4.

This Worksheet satisfies: 6.9.1.3, 6.9.1.4, 6.9.1.9 and 6.9.1.11

Design Nitrogen Balance

If available, compare the most recent Design Nitrogen Balance for the facility to the actual operating data summarized in Worksheets 1 & 2. Provide any comments relative to major discrepancies. Attach a copy with the Annual Report. (Check one of the following)

- I do not have a copy of the Design Nitrogen Balance and have exhausted all measures of acquiring one, even contacting the DNREC -
- I have attached a copy of the most recent Design Nitrogen Balance and have compared the design values to this year's operation of the facility.

Comments:

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Alkalinity as CaCO3
SM2320-B

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
2/5/2024	2401036-01/02	HJG3	210	213	3.0000	9.0000	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-01/02	MEM	116	121	5.0000	25.0000	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-01/02	MEM	73.3	77.3	4.0000	16.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-01/02	LAW	74.7	78.7	4.0000	16.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-01/02	ML	145	147	2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-01/02	LAW	155	150	-5.0000	25.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-01/02	LAW	124	121	-3.0000	9.0000	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-01/02	ML	177	176	-1.0000	1.0000	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-01/02	LAW	202	212	10.0000	100.0000	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-01/02	LAW	1.00	1.00	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
11/14/2024	2410733-01/02	JB	109	114	5.0000	25.0000	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-01/02	JB	120	119	-1.0000	1.0000	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 231.0000
Number of Duplicates 12
Standard Deviation +/- 4.58

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
BOD5
SM5210-B

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	MEM	4.7	5.1	0.4000	0.1600	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-01/02	MEM	46.6	48.8	2.2000	4.8400	N/A	N/A	N/A	N/A	N/A
2/5/2024	2401036-01/02	TAS	93.7	94.6	0.9000	0.8100	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-01/02	MEM	4.4	5.3	0.9000	0.8100	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-01/02	MEM	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-01/02	LAW	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-01/02	TM	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-01/02	LAW	5.2	5.0	-0.2000	0.0400	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-01/02	LAW	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-01/02	LAW	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-01/02	LAW	4.8	4.5	-0.3000	0.0900	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-01/02	LAW	5.2	5.7	0.5000	0.2500	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-01/02	LAW	8.2	8.8	0.6000	0.3600	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-01/02	LAW	6.7	7.3	0.6000	0.3600	N/A	N/A	N/A	N/A	N/A
11/14/2024	2410733-01/02	LAW	5.2	4.7	-0.5000	0.2500	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-01/02	LAW	4.0	4.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 7.9700
Number of Duplicates 16
Standard Deviation +/- 0.73

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Cadmium
EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	0.000500	0.000500	0.0000	0.0000	0.100	0.098	97.60%	-0.027	0.0007
4/3/2024	2402930-01/02	JMW	0.000500	0.000500	0.0000	0.0000	0.100	0.104	103.00%	0.027	0.0007

STANDARD DEVIATION DATA

TOTAL of d2 0.0000
Number of Duplicates 2
Standard Deviation +/- 0.0000

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.00
Mean Converted 100.3000
of Data Points 2
SUM of Diff² = 0.00
Standard Deviation +/- 3.82

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Chloride
EPA 300.0 or SM4500-CL-C

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	MEM	85.8	85.5	-0.3000	0.0900	40.0	126.700	103.00%	-0.003	0.0000
4/3/2024	2402930-01/02	MEM	82.0	81.8	-0.2000	0.0400	40.0	126.200	111.00%	0.077	0.0060
7/3/2024	2406073-01/02	MEM	95.5	95.6	0.1000	0.0100	40.0	135.600	100.00%	-0.033	0.0011
10/9/2024	2409530-01/02	MEM	87.6	87.6	0.0000	0.0000	40.0	127.240	99.10%	-0.042	0.0017

STANDARD DEVIATION DATA

TOTAL of d2 0.1400
Number of Duplicates 4
Standard Deviation +/- **0.2160**

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.03
Mean Converted 103.2750
of Data Points 4
SUM of Diff² = **0.01**
Standard Deviation +/- 5.41

Annual Quality Assurance Summary
 January 1, 2024 - December 31, 2024

Town of Millsboro
 322 Wilson Highway
 Millsboro, DE 19966
 Completed by: **SLB**

Wastewater
 School Spray / White Farm RIBS - Duplicate
 Copper
 EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	0.0185	0.0191	0.0006	0.0000	0.200	0.217	99.10%	-0.009	0.0001
4/3/2024	2402930-01/02	JMW	0.0118	0.0119	0.0001	0.0000	0.200	0.214	101.00%	0.010	0.0001

STANDARD DEVIATION DATA

TOTAL of d2 0.0000
 Number of Duplicates 2
 Standard Deviation +/- 0.0006

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.00
 Mean Converted 100.0500
 # of Data Points 2
 SUM of Diff² = 0.00
 Standard Deviation +/- 1.34

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Grab - Duplicate
Fecal Coliform
SM9222-D

Date	Sample Number	Analyst	Analysis (#/100 mls)	Dup Analysis (#/100 mls)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-03/04	RD	1	2	1.0000	1.0000	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-03/04	HM	160	160	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/6/2024	2401036-03/04	RD	8000	8000	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-03/04	TAS	44	50	6.0000	36.0000	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-03/04	RD	8	8	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-03/04	RD	29	31	2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-03/04	RD	6	6	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-03/04	HM	10	10	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-03/04	HM	270	210	-60.0000	3600.0000	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-03/04	HJG3	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-03/04	RD	2	3	1.0000	1.0000	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-03/04	RD	800	800	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-03/04	RD	180	170	-10.0000	100.0000	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 3742.0000
Number of Duplicates 15
Standard Deviation +/- 16.35

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Grab - Duplicate
Fecal Enterococcus
Enterolert

Date	Sample Number	Analyst	Analysis (#/100 mls)	Dup Analysis (#/100 mls)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-03/04	HM	2419.6	2419.6	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/6/2024	2401036-03/04	RD	24196	24196	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-03/04	TAS	30.5	14.8	-15.7000	246.4900	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-03/04	RD	7.4	12	4.6000	21.1600	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-03/04	RD	35.9	37.9	2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-03/04	RD	21.1	30.1	9.0000	81.0000	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-03/04	HM	5.2	5.2	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-03/04	HM	6.3	3.1	-3.2000	10.2400	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-03/04	HJG3	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-03/04	RD	1	1	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-03/04	RD	98.2	101	2.8000	7.8400	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-03/04	RD	109.5	95.9	-13.6000	184.9600	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 555.6900
Number of Duplicates 15
Standard Deviation +/- 6.30

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Potassium
EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	13.8	13.8	0.0000	0.0000	100	104.700	90.90%	-0.006	0.0000
4/3/2024	2402930-01/02	JMW	13.7	14.0	0.3000	0.0900	100	111.200	97.20%	0.057	0.0032
7/3/2024	2406073-01/02	JMW	14.3	14.5	0.2000	0.0400	100	103.500	89.00%	-0.025	0.0006
10/9/2024	2409530-01/02	JMW	13.3	13.3	0.0000	0.0000	100	102.300	89.00%	-0.025	0.0006

STANDARD DEVIATION DATA

TOTAL of d2 0.1300
Number of Duplicates 4
Standard Deviation +/- **0.2082**

SPIKE RECOVERY DATA

Mean % Recovery (X) 0.92
Mean Converted 91.5250
of Data Points 4
SUM of Diff² = **0.00**
Standard Deviation +/- 3.89

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Sodium
EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	145	133	-12.0000	144.0000	100	207.000	74.00%	-0.128	0.0164
4/3/2024	2402930-01/02	JMW	127	125	-2.0000	4.0000	100	205.200	80.20%	-0.066	0.0044
7/3/2024	2406073-01/02	JMW	98.7	101	2.3000	5.2900	100	183.100	82.10%	-0.047	0.0022
10/9/2024	2409530-01/02	JMW	160	160	0.0000	0.0000	100	271.000	111.00%	0.242	0.0584

STANDARD DEVIATION DATA

TOTAL of d2 153.2900
Number of Duplicates 4
Standard Deviation +/- 7.1482

SPIKE RECOVERY DATA

Mean % Recovery (X) 0.87
Mean Converted 86.8250
of Data Points 4
SUM of Diff² = 0.08
Standard Deviation +/- 16.48

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: SLB

Wastewater
School Spray / White Farm RIBS - Duplicate
Ammonia as N
SM4500-NH3-G

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	0.07	0.09	0.0200	0.0004	1.00	1.150	106.00%	0.039	0.0015
1/11/2024	2400394-01/02	CK	7.13	7.09	-0.0400	0.0016	10.0	18.590	115.00%	0.129	0.0165
2/5/2024	2401036-01/02	CK	13.9	14.0	0.1000	0.0100	10.0	24.900	109.00%	0.069	0.0047
2/9/2024	2401239-01/02	CK	0.05	0.05	0.0000	0.0000	1.00	0.962	91.20%	-0.109	0.0120
3/6/2024	2401996-01/02	CK	0.07	0.08	0.0100	0.0001	1.00	1.090	101.00%	-0.011	0.0001
4/3/2024	2402930-01/02	CK	0.06	0.07	0.0100	0.0001	1.00	1.120	105.00%	0.029	0.0008
5/8/2024	2404094-01/02	CK	0.18	0.14	-0.0400	0.0016	1.00	1.170	103.00%	0.009	0.0001
6/5/2024	2405042-01/02	CK	0.07	0.05	-0.0200	0.0004	1.00	1.080	103.00%	0.009	0.0001
7/3/2024	2406073-01/02	CK	0.68	0.66	-0.0200	0.0004	1.00	1.603	94.30%	-0.078	0.0061
8/9/2024	2407442-01/02	CK	0.10	0.08	-0.0200	0.0004	1.00	1.054	97.40%	-0.047	0.0022
9/4/2024	2408256-01/02	CK	0.50	0.52	0.0200	0.0004	1.00	1.479	95.90%	-0.062	0.0039
10/9/2024	2409530-01/02	CK	0.07	0.09	0.0200	0.0004	1.00	1.120	103.00%	0.009	0.0001
10/30/2024	2410153-01/02	CK	0.19	0.43	0.2400	0.0576	1.00	1.399	96.90%	-0.052	0.0027
11/6/2024	2410365-01/02	CK	0.08	0.11	0.0300	0.0009	1.00	1.085	97.50%	-0.046	0.0022
11/14/2024	2410733-01/02	CK	0.07	0.06	-0.0100	0.0001	1.00	1.120	106.00%	0.039	0.0015
12/4/2024	2411288-01/02	CK	0.10	0.12	0.0200	0.0004	1.00	1.220	110.00%	0.079	0.0062

STANDARD DEVIATION DATA

TOTAL of d2 0.0748
Number of Duplicates 16
Standard Deviation +/- 0.0706

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.02
Mean Converted 102.1375
of Data Points 16
SUM of Diff² = 0.06
Standard Deviation +/- 6.36

Annual Quality Assurance Summary
 January 1, 2024 - December 31, 2024

Town of Millsboro
 322 Wilson Highway
 Millsboro, DE 19966
 Completed by: SLB

Wastewater
 School Spray / White Farm RIBS - Duplicate
 Nickel
 EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	0.00100	0.00100	0.0000	0.0000	0.200	0.201	100.00%	0.006	0.0000
4/3/2024	2402930-01/02	JMW	0.00168	0.00131	-0.0004	0.0000	0.200	0.199	98.70%	-0.007	0.0000

STANDARD DEVIATION DATA

TOTAL of d2 0.0000
 Number of Duplicates 2
 Standard Deviation +/- 0.0004

SPIKE RECOVERY DATA

Mean % Recovery (X) 0.99
 Mean Converted 99.3500
 # of Data Points 2
 SUM of Diff² = 0.00
 Standard Deviation +/- 0.92

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Nitrate + Nitrite
EPA 300.0 or SM4500-NO3-H

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	19.0	19.0	0.0000	0.0000	5.00	24.300	106.00%	0.015	0.0002
1/11/2024	2400394-01/02	CK	10.3	10.2	-0.1000	0.0100	5.00	15.500	106.00%	0.015	0.0002
2/5/2024	2401036-01/02	CK	1.47	1.55	0.0800	0.0064	5.00	6.900	107.00%	0.025	0.0006
2/9/2024	2401239-01/02	CK	13.9	13.7	-0.2000	0.0400	5.00	19.650	119.00%	0.145	0.0209
3/6/2024	2401996-01/02	CK	26.2	26.4	0.2000	0.0400	10.0	36.380	99.80%	-0.048	0.0023
4/3/2024	2402930-01/02	CK	23.1	21.1	-2.0000	4.0000	10.0	32.500	114.00%	0.094	0.0089
5/8/2024	2404094-01/02	CK	19.1	18.8	-0.3000	0.0900	5.00	23.550	95.00%	-0.096	0.0091
6/5/2024	2405042-01/02	CK	19.7	19.1	-0.6000	0.3600	10.0	28.720	96.20%	-0.084	0.0070
7/3/2024	2406073-01/02	CK	2.77	2.76	-0.0100	0.0001	1.00	3.780	102.00%	-0.026	0.0007
8/9/2024	2407442-01/02	CK	30.2	30.3	0.1000	0.0100	10.0	41.300	110.00%	0.055	0.0030
9/4/2024	2408256-01/02	CK	2.58	2.56	-0.0200	0.0004	1.00	3.514	95.40%	-0.092	0.0084
10/9/2024	2409530-01/02	CK	18.4	18.2	-0.2000	0.0400	5.00	23.350	103.00%	-0.016	0.0002
10/30/2024	2410153-01/02	CK	23.0	21.8	-1.2000	1.4400	10.0	32.200	104.00%	-0.006	0.0000
11/6/2024	2410365-01/02	CK	21.8	21.3	-0.5000	0.2500	10.0	31.140	98.40%	-0.062	0.0038
11/14/2024	2410733-01/02	CK	27.8	26.7	-1.1000	1.2100	10.0	36.900	102.00%	-0.026	0.0007
12/4/2024	2411288-01/02	CK	27.2	26.6	-0.6000	0.3600	10.0	38.100	115.00%	0.105	0.0109

STANDARD DEVIATION DATA

TOTAL of d2 7.8569
Number of Duplicates 16
Standard Deviation +/- **0.7237**

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.05
Mean Converted 104.5500
of Data Points 16
SUM of Diff² = **0.08**

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Standard Deviation +/- 7.16

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: SLB

Wastewater
School Spray / White Farm RIBS - Duplicate
Organic Nitrogen as N
CALC

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	0.925	0.895	-0.0300	0.0009	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-01/02	CK	5.47	5.14	-0.3300	0.1089	N/A	N/A	N/A	N/A	N/A
2/5/2024	2401036-01/02	CK	2.82	2.82	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-01/02	CK	1.44	1.44	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-01/02	CK	1.11	1.11	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-01/02	CK	1.01	1.02	0.0100	0.0001	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-01/02	CK	0.981	1.00	0.0190	0.0004	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-01/02	CK	1.11	1.11	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-01/02	CK	1.06	0.949	-0.1110	0.0123	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-01/02	CK	1.46	1.47	0.0100	0.0001	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-01/02	CK	1.02	1.03	0.0100	0.0001	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-01/02	CK	1.10	1.09	-0.0100	0.0001	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-01/02	JMW	0.827	0.594	-0.2330	0.0543	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-01/02	CK	1.45	1.40	-0.0500	0.0025	N/A	N/A	N/A	N/A	N/A
11/14/2024	2410733-01/02	CK	0.688	0.743	0.0550	0.0030	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-01/02	CK	1.07	1.06	-0.0100	0.0001	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 0.1828
Number of Duplicates 16
Standard Deviation +/- 0.11

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Lead
EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	0.00208	0.00235	0.0003	0.0000	0.100	0.101	98.90%	0.000	0.0000
4/3/2024	2402930-01/02	JMW	0.00155	0.00153	0.0000	0.0000	0.100	0.101	99.00%	0.000	0.0000

STANDARD DEVIATION DATA

TOTAL of d2 0.0000
Number of Duplicates 2
Standard Deviation +/- 0.0003

SPIKE RECOVERY DATA

Mean % Recovery (X) 0.99
Mean Converted 98.9500
of Data Points 2
SUM of Diff² = 0.00
Standard Deviation +/- 0.07

Annual Quality Assurance Summary
 January 1, 2024 - December 31, 2024

Town of Millsboro
 322 Wilson Highway
 Millsboro, DE 19966
 Completed by: SLB

Wastewater
 School Spray / White Farm RIBS - Grab Duplicate
 Total Dissolved Solids
 SM2540-C

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-03/04	TAS	372	375	3.0000	9.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-03/04	TAS	465	468	3.0000	9.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-03/04	TAS	510	520	10.0000	100.0000	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-03/04	TAS	478	488	10.0000	100.0000	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 218.0000
 Number of Duplicates 4
 Standard Deviation +/- 8.52

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: SLB

Wastewater
School Spray / White Farm RIBS - Duplicate
TKN
SM4500-Norg-C

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	0.996	0.986	-0.0100	0.0001	1.00	1.940	95.40%	-0.060	0.0036
1/11/2024	2400394-01/02	CK	12.6	12.2	-0.4000	0.1600	5.00	17.500	106.00%	0.046	0.0022
2/5/2024	2401036-01/02	CK	16.7	16.8	0.1000	0.0100	5.00	21.630	96.60%	-0.048	0.0023
2/9/2024	2401239-01/02	CK	1.44	1.44	0.0000	0.0000	1.00	2.428	98.80%	-0.026	0.0007
3/6/2024	2401996-01/02	CK	1.18	1.18	0.0000	0.0000	1.00	2.180	100.00%	-0.014	0.0002
4/3/2024	2402930-01/02	CK	1.07	1.10	0.0300	0.0009	1.00	2.240	114.00%	0.126	0.0160
5/8/2024	2404094-01/02	CK	1.16	1.14	-0.0200	0.0004	1.00	2.076	93.60%	-0.078	0.0060
6/5/2024	2405042-01/02	CK	1.19	1.16	-0.0300	0.0009	1.00	2.158	99.80%	-0.016	0.0002
7/3/2024	2406073-01/02	CK	1.73	1.61	-0.1200	0.0144	1.00	2.590	98.00%	-0.034	0.0011
8/9/2024	2407442-01/02	CK	1.56	1.55	-0.0100	0.0001	1.00	2.620	107.00%	0.056	0.0032
9/4/2024	2408256-01/02	CK	1.52	1.55	0.0300	0.0009	1.00	2.670	112.00%	0.106	0.0113
10/9/2024	2409530-01/02	CK	1.17	1.18	0.0100	0.0001	1.00	2.280	110.00%	0.086	0.0075
10/30/2024	2410153-01/02	JMW	1.02	1.02	0.0000	0.0000	1.00	1.982	96.20%	-0.052	0.0027
11/6/2024	2410365-01/02	CK	1.53	1.51	-0.0200	0.0004	1.00	2.444	93.40%	-0.080	0.0063
11/14/2024	2410733-01/02	CK	0.760	0.798	0.0380	0.0014	1.00	1.798	100.00%	-0.014	0.0002
12/4/2024	2411288-01/02	CK	1.18	1.19	0.0100	0.0001	1.00	2.200	101.00%	-0.004	0.0000

STANDARD DEVIATION DATA

TOTAL of d2 0.1897
Number of Duplicates 16
Standard Deviation +/- 0.1125

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.01
Mean Converted 101.3625
of Data Points 16
SUM of Diff² = 0.06
Standard Deviation +/- 6.50

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Total Nitrogen as N
CALC

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	20.0	19.9	-0.1000	0.0100	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-01/02	CK	22.9	22.4	-0.5000	0.2500	N/A	N/A	N/A	N/A	N/A
2/5/2024	2401036-01/02	CK	18.2	18.4	0.2000	0.0400	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-01/02	CK	15.4	15.2	-0.2000	0.0400	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-01/02	CK	27.4	27.6	0.2000	0.0400	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-01/02	CK	24.2	22.2	-2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-01/02	CK	20.2	19.9	-0.3000	0.0900	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-01/02	CK	20.9	20.3	-0.6000	0.3600	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-01/02	CK	4.50	4.37	-0.1300	0.0169	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-01/02	CK	31.8	31.9	0.1000	0.0100	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-01/02	CK	4.10	4.11	0.0100	0.0001	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-01/02	CK	19.5	19.4	-0.1000	0.0100	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-01/02	JMW	24.0	22.8	-1.2000	1.4400	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-01/02	CK	23.3	22.9	-0.4000	0.1600	N/A	N/A	N/A	N/A	N/A
11/14/2024	2410733-01/02	CK	28.5	27.5	-1.0000	1.0000	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-01/02	CK	28.4	27.8	-0.6000	0.3600	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 7.8270
Number of Duplicates 16
Standard Deviation +/- 0.72

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Total Phosphorus as P
SM4500-P-F (dig)

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	CK	0.94	0.94	0.0000	0.0000	2.00	2.894	97.70%	0.010	0.0001
1/11/2024	2400394-01/02	CK	2.31	2.33	0.0200	0.0004	5.00	7.150	96.40%	-0.003	0.0000
2/5/2024	2401036-01/02	CK	1.91	1.91	0.0000	0.0000	5.00	6.450	90.80%	-0.059	0.0035
2/9/2024	2401239-01/02	CK	0.37	0.37	0.0000	0.0000	1.00	1.306	93.60%	-0.031	0.0010
3/6/2024	2401996-01/02	CK	0.95	0.95	0.0000	0.0000	1.00	1.900	95.00%	-0.017	0.0003
4/3/2024	2402930-01/02	CK	0.37	0.37	0.0000	0.0000	1.00	1.294	92.40%	-0.043	0.0019
5/8/2024	2404094-01/02	CK	0.83	0.83	0.0000	0.0000	2.00	2.806	98.80%	0.021	0.0004
6/5/2024	2405042-01/02	CK	1.17	1.16	-0.0100	0.0001	2.00	3.084	96.20%	-0.005	0.0000
7/3/2024	2406073-01/02	CK	0.29	0.30	0.0100	0.0001	2.00	2.340	102.00%	0.053	0.0028
8/9/2024	2407442-01/02	CK	3.30	3.32	0.0200	0.0004	1.00	4.248	92.80%	-0.039	0.0015
9/4/2024	2408256-01/02	CK	1.08	1.08	0.0000	0.0000	2.00	3.060	99.00%	0.023	0.0005
10/9/2024	2409530-01/02	CK	2.16	2.16	0.0000	0.0000	2.00	4.520	118.00%	0.213	0.0453
10/30/2024	2410153-01/02	JMW	2.63	2.64	0.0100	0.0001	2.00	4.500	93.00%	-0.037	0.0014
11/6/2024	2410365-01/02	CK	2.28	2.28	0.0000	0.0000	2.00	4.148	93.40%	-0.033	0.0011
11/14/2024	2410733-01/02	CK	1.63	1.64	0.0100	0.0001	2.00	3.526	94.30%	-0.024	0.0006
12/4/2024	2411288-01/02	CK	2.72	2.73	0.0100	0.0001	2.00	4.608	93.90%	-0.028	0.0008

STANDARD DEVIATION DATA

TOTAL of d2 0.0013
Number of Duplicates 16
Standard Deviation +/- 0.0093

SPIKE RECOVERY DATA

Mean % Recovery (X) 0.97
Mean Converted 96.7063
of Data Points 16
SUM of Diff² = 0.06
Standard Deviation +/- 6.39

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Total Susp. Solids
SM2540-D

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	HM	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
1/11/2024	2400394-01/02	HM	45.0	47.0	2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
2/5/2024	2401036-01/02	HJG3	47.0	47.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
2/9/2024	2401239-01/02	HJG3	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
3/6/2024	2401996-01/02	HM	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
4/3/2024	2402930-01/02	HJG3	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
5/8/2024	2404094-01/02	HM	4.4	2.4	-2.0000	4.0000	N/A	N/A	N/A	N/A	N/A
6/5/2024	2405042-01/02	LAW	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
7/3/2024	2406073-01/02	HM	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
8/9/2024	2407442-01/02	LAW	3.5	3.5	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
9/4/2024	2408256-01/02	LAW	2.0	2.8	0.8000	0.6400	N/A	N/A	N/A	N/A	N/A
10/9/2024	2409530-01/02	HM	2.8	2.0	-0.8000	0.6400	N/A	N/A	N/A	N/A	N/A
10/30/2024	2410153-01/02	HM	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
11/6/2024	2410365-01/02	LAW	4.4	5.2	0.8000	0.6400	N/A	N/A	N/A	N/A	N/A
11/14/2024	2410733-01/02	LAW	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A
12/4/2024	2411288-01/02	LAW	2.0	2.0	0.0000	0.0000	N/A	N/A	N/A	N/A	N/A

STANDARD DEVIATION DATA

TOTAL of d2 9.9200
Number of Duplicates 16
Standard Deviation +/- 0.81

Annual Quality Assurance Summary
January 1, 2024 - December 31, 2024

Town of Millsboro
322 Wilson Highway
Millsboro, DE 19966
Completed by: **SLB**

Wastewater
School Spray / White Farm RIBS - Duplicate
Zinc
EPA 200.7

Date	Sample Number	Analyst	Analysis (ppm)	Dup Analysis (ppm)	diff (d)	d ²	Spike Amount (ppm)	Spike Sample Result (ppm)	% Recovery	% Recovery Variance From Mean	Diff ²
1/3/2024	2400128-01/02	JMW	0.0568	0.0567	-0.0001	0.0000	0.200	0.251	97.00%	-0.030	0.0009
4/3/2024	2402930-01/02	JMW	0.0533	0.0556	0.0023	0.0000	0.200	0.262	103.00%	0.030	0.0009

STANDARD DEVIATION DATA

TOTAL of d2 0.0000
Number of Duplicates 2
Standard Deviation +/- 0.0023

SPIKE RECOVERY DATA

Mean % Recovery (X) 1.00
Mean Converted 100.0000
of Data Points 2
SUM of Diff² = 0.00
Standard Deviation +/- 4.24