DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102
(615) 532-0625

RECEIVED
FEB 22 2024
By

NOTICE OF INTENT (NOI) for Land Application of Non-Exceptional Quality Biosolids

Generator Name: Dyersburg STP	Current NPDES No: TN0023477	Existing Tracking No: LA23A0001

Owner or Operator: (the person or legal entity which controls the site's operation)

1	Name of Official Contact Person: (individual responsible for a site) John Holden	Title or Position: Mayor		
	Mailing Address: PO Box 1358	City: Dyersburg	State: TN	Zip: 38024
	Phone: ( ) 731-286-7600	E-mail: jholden@dyersburgtn.gov		
2	Name of Local Contact Person: (if appropriate, write "same as #1") Anthony White, II	Title or Position: Superintendent, WWTP		
	Site Address: (this may or may not be the same as street address) 2000 Honeydew Lane	Site City: Dyersburg	State: TN TN	Zip: 38024
	Phone: ( ) 731-286-7626	E-mail: twhite@dyersburgtn.gov		

Write in the box (to the right) or circle the number (above) to indicate where to send correspondence: T. White

All non-exceptional biosolids land application sites that have been approved by the division prior to the effective date of this permit will be covered under this permit upon receipt of the signed certification statement, completed NOI and a copy of site approval letter(s).

A. OPERATIONAL INFORMATION:
Estimated annual amount of biosolids generated (dry weight basis) 250 (tons)
Estimated annual amount of biosolids to be land applied (dry weight basis) 250 (tons)

B. BIOSOLIDS TREATMENT PROCESS: Please provide a description of the biosolids treatment process used prior to biosolids being land applied (use a separate sheet if necessary):

See attached document

C. CHEMICAL ANALYSIS: Indicate which contaminant standard(s) the biosolids meet:
Table 1 Ceiling Contaminant Concentrations: [x] **Table 3 Contaminant Concentrations:** [x]

- Submit analytical results to demonstrate eligibility for and compliance with the quality criteria specified in the General Permit.
- Submit PCB and TCLP analytical results that are less five years old.

See attached laboratory results.

D. PATHOGEN REDUCTION LEVEL ACHIEVED: Indicate alternative used to achieve the pathogen reduction. For Class A, Alternatives 5 and 6; for Class B, Alternatives 2 and 3, list the specific Process to Further Reduce Pathogens (PFRP) or Process to Significantly Reduce Pathogens (PSRP).

Class A: [ ] **Alternative 1** [ ] **Alternative 2** [ ] **Alternative 3**
[ ] **Alternative 4** [ ] **Alternative 5** _____ **(List PFRP)** [ ] **Alternative 6** _____ **(List Eq. PFRP)**

Class B: [■] **Alternative 1** [ ] **Alternative 2** _____ **(List PSRP)** [ ] **Alternative 3** _____ **(List Eq. PSRP)**

Provide a detailed description of the pathogen treatment process. Attach laboratory analytical and/or process monitoring results, as appropriate, that demonstrate pathogen reduction is being achieved:

Aerobic Digestion-See attachment
Pathogen Reduction is achieved utilizing Alternative 1 for Class B Biosolids. See attached sheet of Fecal Coliform samples for the 2023 year; results below Class B requirements of >=2,000,000.

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E. VECTOR ATTRACTION REDUCTION LEVEL ACHIEVED: Indicate the option used to achieve the vector attraction reduction.

☒ **Option 1** ☐ **Option 2** ☐ **Option 3** ☒ **Option 4**
☐ **Option 5** ☐ **Option 6** ☐ **Option 7** ☐ **Option 8**

If one of the vector attraction reduction Options 1 - 5 is selected, do the biosolids meet Class A pathogen reduction requirements prior to or at the same time as meeting the vector attraction reduction requirements?

☐ **Yes** ☒ **No**

Provide a detailed description of the vector attraction reduction treatment process. Attach laboratory analytical and/or process monitoring results, as appropriate, that demonstrate vector attraction reduction is being achieved:

Aerobic Digestion- See attachment.

F. If one of the vector attraction reduction Options 1 - 8 above was not performed, indicate how the vector attraction reduction will be performed on the field as part of the land application process:

☒ **Option 9 (Subsurface Injection)** ☐ **Option 10 (Incorporation)**

G. SAMPLING PLAN: Include a detailed copy of the biosolids sampling plan as specified in the instructions. The sampling plan must address sampling protocols for contaminants, pathogen reduction, and vector attraction reduction quality criteria.

Sampling plan attached.

H. LAND APPLICATION AREA(s): Include a list of land application area(s) that will be used for disposal of biosolids. Attach a detailed map showing appropriate buffers in accordance with section 3.2.1 (add additional pages if necessary)

Area Number	Area (acres)	Application Rate (tons/acre) per section 3.2.2	Latitude (decimal)	Longitude (decimal)
1	115	Agronomic loading rate calculated quarterly and adjusted depending on crop to be grown.	36 01' 30"	89 24' 45"

I. CERTIFICATION: I certify, under penalty of law, that contaminant concentrations in the biosolids, pathogen reduction, vector attraction reduction, and other quality criteria of the biosolids stated in the regulations have been met or, if appropriate, will be met prior to land application of biosolids. I further certify that other information in this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my own knowledge as well as the inquiry of the person(s) who manage the system, or those directly responsible for gathering the information, the information submitted, to the best of my knowledge and belief, is true, accurate and complete. I further acknowledge that the facility or generator of biosolids described above is eligible for coverage under TDEC's General Permit for the Land Application of Biosolids. I am aware that there are significant penalties for submitting false information, including possibility of fines and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Name: John Holden **Title:** Mayor

Signature: John Holden

Telephone: (731) 286 - 7600 **Date Signed:** 2 / 14 / 2024 (2024)

NOTE: In evaluating NOI forms, TDEC may request additional information to complete its review to determine the eligibility for coverage under TDEC's General Permit.

Submit the original completed and signed form to *Water.Permits@tn.gov* or:
Biosolids NOI Processing - Division of Water Resources
William R. Snodgrass - Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102

CN-1441 RDA 2366

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B. Biosolids Treatment Process

The Dyersburg wastewater Treatment Plant is a two-stage activated sludge process. Treatment includes primary, intermediate and final clarifiers. Return activated sludge from the intermediate and final clarifiers is returned to the head of the treatment process so that all sludge is routed to the primary clarifiers.

All sludge wasting is done from the primary clarifiers, producing a sludge that is a combination primary and waste activated sludge.

The wasted sludge or biosolids goes first to aerobic digestion. There are three aerobic digestion basins that operate in parallel which are provided with coarse bubble diffused aeration. The digesters provide a forty day retention time prior to land application.

There is normally a 40 % reduction in volatile solids during aerobic digestion, but this is not the alternative shown for Vector Attraction Reduction. After digestion, biosolids at 3.5% solids are pumped to a trailer specifically designed for land application, which, in this case, is a site immediately adjacent to the WWTP. The biosolids are injected below the ground surface when applied to the designated land area.

Biosolids Sampling Plan

Tennessee Rules and Regulations, 0400-40-15-.02 Table 1

Table 1
Frequency of Monitoring-Land Application

Amount of Biosolids [1] (metric tons per calendar year)	Frequency
Greater than 0 but less than 290	Once per year
Equal to or greater than 290 but less than 1,500	Once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000	Once per 60 days (6 times per year)
Equal to or greater than 15,000	Once per month (12 times per year)

[1] Either the amount of bulk biosolids applied to the land or the amount of biosolids prepared for sale or give-away in a bag or other container for application to the land (dry weight basis).

Note: 290 dry metric tons would be 7.67 MG of sludge at 1% total solids.

Containers: Preferred containers are Teflon, glass or stainless steel, plastic, steel or aluminum may be used, but galvanized coatings are to be avoided because they can release zinc into the sample. Containers are thoroughly cleaned using standard lab glassware cleaning processes.

Nine Metals and Four Nitrogens

Early in the Monitoring Period or prior to a hauling event, a sample will be collected from the digester with aeration operating fully in order to have a well-mixed digester. A clean dipper is used to collect multiple aliquots that are composited in the laboratory provided container. Aliquots are collected over at least 15 minutes while the digester is mixing.

Fecal Coliform Testing

Early in the Monitoring Period or prior to a hauling event, seven samples are collected over a two week period of time. Each sample is collected in the laboratory provided container using sterile technique.

Fecal Coliform Testing, Follow-up

Subsequent hauling events will include a single Fecal Coliform sample prior to hauling.

Specific Oxygen Uptake Rate (SOUR) Testing

Prior to a hauling event duplicate SOUR tests will be conducted on the fully stabilized sludge. From a thoroughly mixing digester a sample of about 1 L is collected in a clean container and analyzed immediately. The duplicate test will be analyzed using a fresh sample.

CITY OF DYERSBURG
HONEYDEW LANE APPLICATION SITE
Vector Attraction & Pathogen Compliance Log

2023

Date	Digestor #	Vector Attraction 3.1.3 (a) 38% VS Reduction 3.1.3 (d) (SOUR) 3.1.3 (i) Injection	Pathogen Reduction Appendix C Class B-Alternative 1 (ii) Fecal Count	38% VS Reduction	SOUR ≤ 1.5 mg/o2/hr/g
01/06/23	3	Injection	900,090		
01/21/23	1	Injection	876,712		
02/06/23	2	Injection	731,620		
04/18/23	3	Injection	575,440		
04/22/23	1	Injection	600,581		
04/29/23	2	Injection	610,540		
08/05/23	3	38% VS Reduction	673,863	66%	
08/15/23	2	38% VS Reduction	1,089,288	66%	
12/02/23	3	Injection	1,047,129		
12/27/23	2	Injection	870,964		

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
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www.waypointanalytical.com

4/14/2023

City of Dyersburg
Mr. Rodney Shelton
P. O. Box 1358
Dyersburg, TN, 38024

Ref: Analytical Testing
Lab Report Number: 23-093-0086
Client Project Description: TCLP/PCB Sludge Testing

Dear Mr. Rodney Shelton:
Waypoint Analytical, LLC. received sample(s) on 4/3/2023 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method. Where the laboratory was not responsible for the sampling stage (refer to the chain of custody) results apply to the sample as received.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2021) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Randall H. Thomas

Randy Thomas
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

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Certification Summary

Laboratory ID: WP MTN: Waypoint Analytical, LLC., Memphis, TN

State	Program	Lab ID	Expiration Date
Alabama	State Program	40750	02/29/2024
Arkansas	State Program	88-0650	02/07/2024
California	State Program	2904	06/30/2023
Florida	State Program - NELAP	E871157	06/30/2023
Georgia	State Program	C044	11/14/2025
Georgia	State Program	04015	06/30/2023
Illinois	State Program - NELAP	200078	10/10/2023
Kentucky	State Program	80215	06/30/2023
Kentucky	State Program	KY90047	12/31/2023
Louisiana	State Program - NELAP	LA037	12/31/2023
Louisiana	State Program - NELAP	04015	06/30/2023
Mississippi	State Program	MS	11/14/2025
North Carolina	State Program	47701	07/31/2023
North Carolina	State Program	415	12/31/2023
Pennsylvania	State Program - NELAP	68-03195	05/31/2024
South Carolina	State Program	84002	06/30/2023
Tennessee	State Program	02027	11/14/2025
Texas	State Program - NELAP	T104704180	09/30/2023
Virginia	State Program	00106	06/30/2023
Virginia	State Program - NELAP	460181	09/14/2023

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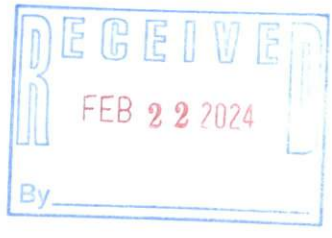
Sample Summary Table

Report Number: **23-093-0086**

Client Project Description: **TCLP/PCB Sludge Testing**

Lab No	Client Sample ID	Matrix	Date Collected	Date Received
91582	Digester Sludge	Solids	04/03/2023 08:00	04/03/2023
91583	Digester Sludge	TCLP	04/03/2023 08:00	04/03/2023



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Client: City of Dyersburg
Project: TCLP/PCB Sludge Testing
Lab Report Number: 23-093-0086
Date: 4/14/2023

CASE NARRATIVE

Separatory Funnel Extraction 8081 Method 3510C
Sample 91583 (Digester Sludge)
QC Batch No: L675547/L675547
The weight/volume extracted was reduced during the extraction procedure due to the nature of the sample. Reporting limits are factored for the sample size reduction.

Separatory Funnel Extraction 8270 Method 3510C
Sample 91583 (Digester Sludge)
QC Batch No: L675406/L675406
The weight/volume extracted was reduced during the extraction procedure due to the nature of the sample. Reporting limits are factored for the sample size reduction.

High Temp/Pressure Extraction for PCB's Method 3546
Sample 91582 (Digester Sludge)
QC Batch No: L675034/L675034
The weight/volume extracted was reduced during the extraction procedure due to the nature of the sample. Reporting limits are factored for the sample size reduction.

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03319
City of Dyersburg
Mr. Rodney Shelton
P. O. Box 1358
Dyersburg , TN 38024

Project TCLP/PCB Sludge Testing

Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91582**
Sample ID : **Digester Sludge**

Matrix: **Solids**
Sampled: **4/3/2023 8:00**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Moisture	**97.6**	%		1	04/11/23 12:40	JLS	SW-DRYWT

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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03319
City of Dyersburg
Mr. Rodney Shelton
P. O. Box 1358
Dyersburg , TN 38024

Project TCLP/PCB Sludge Testing

Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91582**
Sample ID : **Digester Sludge**

Matrix: **Solids**
Sampled: **4/3/2023 8:00**

Analytical Method: 8082A **Prep Batch(es):** **L675034** 04/10/23 07:50
Prep Method: 3546

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Aroclor 1016	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1221	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1232	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1242	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1248	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1254	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Aroclor 1260	<3.13	mg/Kg - dry	3.13	1	04/13/23 07:17	VIC	L675687
Surrogate: Decachlorobiphenyl	60.6		Limits: 25-125%	1	04/13/23 07:17	VIC	8082A
Surrogate: Tetrachloro-m-xylene	60.6		Limits: 25-125%	1	04/13/23 07:17	VIC	8082A

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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P. O. Box 1358
Dyersburg , TN 38024

Project TCLP/PCB Sludge Testing

Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91583**
Sample ID : **Digester Sludge**

Matrix: **TCLP**
Sampled: **4/3/2023 8:00**

Analytical Method: 1311

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Metals Extraction	**Combined**			1	04/10/23 13:00	ALM	L675213
TCLP VOC ZHE Extraction	**Combined**			1	04/10/23 13:00	ALM	L675197
TCLP SVOC Extraction	**Combined**			1	04/10/23 13:00	ALM	L675213
TCLP Pesticide Extraction	**Combined**			1	04/10/23 13:00	ALM	L675213
TCLP Herbicide Extraction	**Combined**			1	04/10/23 13:00	ALM	L675213

Analytical Method: 6010D **Prep Batch(es):** **L675397** 04/11/23 11:00
Prep Method: 3015A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Arsenic	<0.250	mg/L	0.250	1	04/11/23 16:04	JTR	L675662
TCLP Barium	**0.250**	mg/L	0.250	1	04/11/23 16:04	JTR	L675662
TCLP Cadmium	<0.0500	mg/L	0.0500	1	04/11/23 16:04	JTR	L675662
TCLP Chromium	<0.100	mg/L	0.100	1	04/11/23 16:04	JTR	L675662
TCLP Lead	<0.100	mg/L	0.100	1	04/11/23 16:04	JTR	L675662
TCLP Selenium	<0.500	mg/L	0.500	1	04/11/23 16:04	JTR	L675662
TCLP Silver	<0.0500	mg/L	0.0500	1	04/11/23 16:04		L675662

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91583**
Sample ID : **Digester Sludge**

Matrix: **TCLP**
Sampled: **4/3/2023 8:00**

Analytical Method: 7470A **Prep Batch(es):** **L675539** 04/12/23 07:55
Prep Method: 7470A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Mercury	<0.0200	mg/L	0.0200	1	04/12/23 13:19	FDS	L675724

Analytical Method: 8081B **Prep Batch(es):** **L675547** 04/11/23 17:00
Prep Method: 3510C

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Chlordane	<0.04000	mg/L	0.04000	10	04/13/23 07:44	VIC	L675962
TCLP Endrin	<0.008000	mg/L	0.008000	10	04/13/23 07:44	VIC	L675962
TCLP gamma-BHC	<0.008000	mg/L	0.008000	10	04/13/23 07:44	VIC	L675962
TCLP Heptachlor	<0.008000	mg/L	0.008000	10	04/13/23 07:44	VIC	L675962
TCLP Heptachlor Epoxide	<0.008000	mg/L	0.008000	10	04/13/23 07:44	VIC	L675962
TCLP Methoxychlor	<0.008000	mg/L	0.008000	10	04/13/23 07:44	VIC	L675962
TCLP Toxaphene	<0.06000	mg/L	0.06000	10	04/13/23 07:44	VIC	L675962
Surrogate: Decachlorobiphenyl	102.6		Limits: 36-116%	10	04/13/23 07:44	VIC	L675962
Surrogate: Tetrachloro-m-xylene	61.95		Limits: 25-123%	10	04/13/23 07:44	VIC	L675962

Analytical Method: 8151A **Prep Batch(es):** **L675557** 04/11/23 19:00
Prep Method: 8151A

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP 2,4-D	<0.0200	mg/L	0.0200	1	04/13/23 21:48	VIC	L676257
TCLP 2,4,5-TP (Silvex)	<0.0020	mg/L	0.0020	1	04/13/23 21:48	VIC	L676257
Surrogate: DCAA	97.80		Limits: 20-120%	1	04/13/23 21:48	VIC	L676257

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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Project TCLP/PCB Sludge Testing

Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91583**
Sample ID : **Digester Sludge**

Matrix: **TCLP**
Sampled: **4/3/2023 8:00**

Analytical Method: 8260B **Prep Batch(es):** **L675594** 04/11/23 07:49
Prep Method: 5030B

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Benzene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Carbon Tetrachloride	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Chlorobenzene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Chloroform	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP 1,4-Dichlorobenzene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP 1,2-Dichloroethane	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP 1,1-Dichloroethene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Methyl Ethyl Ketone (MEK)	<0.200	mg/L	0.200	1	04/11/23 11:58	ELM	L675595
TCLP Tetrachloroethene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Trichloroethene	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
TCLP Vinyl Chloride	<0.0100	mg/L	0.0100	1	04/11/23 11:58	ELM	L675595
Surrogate: 4-Bromofluorobenzene	100		Limits: 71-137%	1	04/11/23 11:58	ELM	L675595
Surrogate: Dibromofluoromethane	97.6		Limits: 70-128%	1	04/11/23 11:58	ELM	L675595
Surrogate: 1,2-Dichloroethane - d4	121		Limits: 63-136%	1	04/11/23 11:58	ELM	L675595
Surrogate: Toluene-d8	103		Limits: 70-130%	1	04/11/23 11:58	ELM	L675595

Analytical Method: 8270D **Prep Batch(es):** **L675406** 04/11/23 11:00
Prep Method: 3510C

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP 2-Methylphenol	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP 3&4 Methylphenol	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP 2,4-Dinitrotoluene	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

03319
City of Dyersburg
Mr. Rodney Shelton
P. O. Box 1358
Dyersburg , TN 38024

Project TCLP/PCB Sludge Testing

Information :

Report Date : 04/14/2023
Received : 04/03/2023

Report Number : **23-093-0086**

REPORT OF ANALYSIS

Lab No : **91583**
Sample ID : **Digester Sludge**

Matrix: **TCLP**
Sampled: **4/3/2023 8:00**

Analytical Method: 8270D **Prep Batch(es):** **L675406** 04/11/23 11:00
Prep Method: 3510C

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
TCLP Hexachlorobenzene	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP Hexachlorobutadiene	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP Hexachloroethane	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP Nitrobenzene	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP Pentachlorophenol	<0.0500	mg/L	0.0500	1	04/11/23 19:46	VBW	L675553
TCLP Pyridine	<0.0500	mg/L	0.0500	1	04/11/23 19:46	VBW	L675553
TCLP 2,4,5-Trichlorophenol	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
TCLP 2,4,6-Trichlorophenol	<0.0250	mg/L	0.0250	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP 2,4,6-Tribromophenol	62.5		Limits: 42-102%	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP 2-Fluorobiphenyl	60.5		Limits: 24-86%	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP 2-Fluorophenol	29.7		Limits: 13-37%	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP 4-Terphenyl-d14	65.0		Limits: 30-122%	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP Nitrobenzene-d5	63.0		Limits: 25-78%	1	04/11/23 19:46	VBW	L675553
Surrogate: TCLP Phenol-d6	19.2		Limits: 9-27%	1	04/11/23 19:46	VBW	L675553

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

Shipment Receipt Form

Customer Number: **03319**
Customer Name: **City of Dyersburg**
Report Number: **23-093-0086**

Shipping Method

○ Fed Ex	○ US Postal	○ Lab	○ Other :	
○ UPS	◉ Client	○ Courier	Thermometer ID:	T99

Shipping container/cooler uncompromised?	◉ Yes	○ No	
Number of coolers/boxes received	1		
Custody seals intact on shipping container/cooler?	○ Yes	○ No	◉ Not Present
Custody seals intact on sample bottles?	○ Yes	○ No	◉ Not Present
Chain of Custody (COC) present?	◉ Yes	○ No	
COC agrees with sample label(s)?	◉ Yes	○ No	
COC properly completed	◉ Yes	○ No	
Samples in proper containers?	◉ Yes	○ No	
Sample containers intact?	◉ Yes	○ No	
Sufficient sample volume for indicated test(s)?	◉ Yes	○ No	
All samples received within holding time?	◉ Yes	○ No	
Cooler temperature in compliance?	◉ Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	◉ Yes	○ No	
Water - Sample containers properly preserved	○ Yes	○ No	◉ N/A
Water - VOA vials free of headspace	○ Yes	○ No	◉ N/A
Trip Blanks received with VOAs	○ Yes	○ No	◉ N/A
Soil VOA method 5035 – compliance criteria met	○ Yes	○ No	◉ N/A

☐ High concentration container (48 hr) ☐ Low concentration EnCore samplers (48 hr)

☐ High concentration pre-weighed (methanol -14 d) ☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included?	○ Yes	◉ No

Comments:

Signature: Summer Harrison Date & Time: 04/03/2023 11:14:02

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

Kit ID:	**202922**
Initiated By:	**Connie Cook**
Initiated Date:	**2/14/2023**
Project Comment	

CHAIN-OF-CUSTODY

Company Name	Company Number	Client Project Manager/Contact	Purchase Order Number
City of Dyersburg	03319	Mr. ~~Mike Goff~~ Rodney Shelton	
Site Name	**Project Number**	☐ RUSH – Additional charges apply ☐ Special Detection Limits(s) Date Results Needed	**Method of Shipment** ☐ Fed Ex ☐ UPS ☐ USPS ☐ Courier ☑ Client Drop Off Other
Digester Sludge			
LIMS Project ID	**Project Manager Phone #**	**Project Manager Email**	**Site/Facility ID #**
Dyersburg - TCPLP/PCB Testing		rshelton ~~mgoff~~@dyersburgtn.gov	

Date	Time	Sample ID	Matrix	Grab/ Comp	# of Cont	Container Type	Preservation	Analyses
4/3/23	0800	Digester Sludge	Solids	Comp	1	Glass Clear - Quart	NONE	Full TCLP
4/3/23	0800	Digester Sludge	SOL	Comp	1	Glass - 9oz	NONE	PCB/Moisture

For Laboratory Use Only			Sampled by (Name - Print)		Client Remarks/Comments	
Ice	Custody Seals	Lab Comments	Tony White			
Y/N	Y/N		Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
			Tony White	4/3/23 0920	Mark Ting	4-3-23 0920
Blank/Cooler Temp			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
2.1+0.9 SCH			Mark Ting	4-3-23 1074		
			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
					4/3/23	1041

Tennessee Department of Environment and Conservation - Division of Water Polluction Control

Exhibit B - Agronomic Application Rate Calculations Based on Nitrogen (N)

Revision 05/08/14

Q3 Jul thru Sep 2023 North- South & Middle Dig #7 & #8

BACKGROUND INFORMATION/QUESTIONS	FILL IN BELOW
WWTP NAME	City of Dyersburg
WWTP NPDES PERMIT NUMBER	TN0023477
SITE NAME	City of Dyersburg STP
COUNTY	Dyer
E.A.C.	Jackson
SITE TRACKING NUMBER	LA23A0001
LABORATORY NAME	Waypoint Analytical
DATE OF ANALYSIS	

SLUDGE/BIOSOLID ANALYSIS LABORATORY RESULTS

(Attached a copy of the laboratory analysis used for these calculations to this report)

TOTAL KJELDAHL NITROGEN (TKN)	50,500	mg/kg
AMMONIUM NITROGEN (NH_4-N)	18,000	mg/kg
NITRATE + NITRITE NITROGEN (NO_3-N + NO_2-N)	500	mg/kg
NITROGEN FROM SUPPLEMENTAL FERTILIZERS (If Appropriate)		lbs/acre
NITROGEN FROM IRRIGATION WATER (If Appropriate)		lbs/acre
NITROGEN FROM PREVIOUS CROP (Unless 2 is based on soil testing)	10	lbs/acre
OTHER (If Appropriate) Specify _____		lbs/acre

SELECT CROP TYPE

(SELECT ONLY ONE)	YES
1 - CORN (GRAIN) EXPECT YIELD 100 - 125 BUSHELS	☐
2 - CORN (GRAIN) EXPECT YIELD 126 - 150 BUSHELS	☐
3 - CORN (SILAGE) EXPECT YIELD 20 TONS	☐
4 - SOYBEANS EXPECT YIELD 30 BUSHELS	☐
5 - SOYBEANS EXPECT YIELD 40 BUSHELS	☐
6- SOYBEANS EXPECT YIELD 50 BUSHELS	☐
7- WHEAT EXPECT YIELD 40 BUSHELS	☐
8 - SUMMER ANNUAL GRASS EXPECT YIELD 6 TONS (1 CUTTINGS)	☑
9 - HYBRID HAY EXPECT YIELD 8 TONS (4 CUTTINGS)	☐
10 - TALL FESCUE HAY EXPECT YIELD 3 TONS (2 CUTTINGS)	☐
11 - ORCHARD GRASS HAY EXPECT YIELD 4 TONS (2 CUTTINGS)	☐
12 - SORGHUM (GRAIN) EXPECT YIELD 60 BUSHELS	☐
13 - COTTON EXPECT YIELD 1 BALE / ACRE	☐
14 - COTTON EXPECT YIELD 1.5 BALE / ACRE	☐

CROP TYPE (LBS N/ACRE/YEAR)	120

RECEIVED
FEB 22 2024
By _____

VOLATILIZATION FACTORS K_V

(SELECT ONLY ONE)	YES
1 - ARE BIOSOLIDS LIQUID AND SURFACE APPLIED?	☑
2 - ARE BIOSOLIDS LIQUID AND INJECTED INTO SOIL?	☐
3 - ARE BIOSOLID DEWATERED AND APPLIED IN ANY MANNER?	☐

VOLATILIZATION FACTORS K_V = **0.5**

MINERALIZATION RATE F_M

WHAT BIOSOLID PROCESS GENERATE THE FRACTION (F_M) OF ORGANIC NITROGEN? (SELECT ONLY ONE)	SELECT PROCESS
NONE (Unstabilized)	☐
ALKALINE STABILIZATION	☐
AEROBIC DIGESTION	☑
ANAEROBIC DIGESTION	☐
COMPOSTING	☐

SELECTION CHOICE: 1 SELECTED

MINERALIZATION RATE F_M = **0.3**

AGRONOMIC LOADING RATE **2.6** **tons/acre**

Tennessee Department of Environment and Conservation - Division of Water Pollution Control

Exhibit B - Agronomic Application Rate Calculations Based on Nitrogen (N)

Revision 05/08/14

January, 2023 thru March 2023 South Section Only

BACKGROUND INFORMATION/QUESTIONS

	FILL IN BELOW
WWTP NAME	City of Dyersburg
WWTP NPDES PERMIT NUMBER	TN0023477
SITE NAME	City of Dyersburg STP
COUNTY	Dyer
E.A.C.	Jackson
SITE TRACKING NUMBER	LA23A0001
LABORATORY NAME	Waypoint
DATE OF ANALYSIS	2/6/23

SLUDGE/BIOSOLID ANALYSIS LABORATORY RESULTS

(Attached a copy of the laboratory analysis used for these calculations to this report)

TOTAL KJELDAHL NITROGEN (TKN)	19,700	mg/kg
AMMONIUM NITROGEN (NH_4-N)	7,110	mg/kg
NITRATE + NITRITE NITROGEN (NO_3-N + NO_2-N)	1,380	mg/kg
NITROGEN FROM SUPPLEMENTAL FERTILIZERS (If Appropriate)	0	lbs/acre
NITROGEN FROM IRRIGATION WATER (If Appropriate)	0	lbs/acre
NITROGEN FROM PREVIOUS CROP (Unless 2 is based on soil testing)	10	lbs/acre
OTHER (If Appropriate) Specify _____	0	lbs/acre

SELECT CROP TYPE

(SELECT ONLY ONE)	YES
1 - CORN (GRAIN) EXPECT YIELD 100 - 125 BUSHELS	☐
2 - CORN (GRAIN) EXPECT YIELD 126 - 150 BUSHELS	☐
3 - CORN (SILAGE) EXPECT YIELD 20 TONS	☐
4 - SOYBEANS EXPECT YIELD 30 BUSHELS	☐
5 - SOYBEANS EXPECT YIELD 40 BUSHELS	☑
6- SOYBEANS EXPECT YIELD 50 BUSHELS	☐
7- WHEAT EXPECT YIELD 40 BUSHELS	☐
8 - SUMMER ANNUAL GRASS EXPECT YIELD 6 TONS (1 CUTTINGS)	☐
9 - HYBRID HAY EXPECT YIELD 8 TONS (4 CUTTINGS)	☐
10 - TALL FESCUE HAY EXPECT YIELD 3 TONS (2 CUTTINGS)	☐
11 - ORCHARD GRASS HAY EXPECT YIELD 4 TONS (2 CUTTINGS)	☐
12 - SORGHUM (GRAIN) EXPECT YIELD 60 BUSHELS	☐
13 - COTTON EXPECT YIELD 1 BALE / ACRE	☐
14 - COTTON EXPECT YIELD 1.5 BALE / ACRE	☐

CROP TYPE (LBS N/ACRE/YEAR)	150

VOLATILIZATION FACTORS K_V

(SELECT ONLY ONE)	YES
1 - ARE BIOSOLIDS LIQUID AND SURFACE APPLIED?	☐
2 - ARE BIOSOLIDS LIQUID AND INJECTED INTO SOIL?	☑
3 - ARE BIOSOLID DEWATERED AND APPLIED IN ANY MANNER?	☐

VOLATILIZATION FACTORS K_V = **1**

MINERALIZATION RATE F_M

WHAT BIOSOLID PROCESS GENERATE THE FRACTION (F_M) OF ORGANIC NITROGEN? (SELECT ONLY ONE)	SELECT PROCESS
NONE (Unstabilized)	☐
ALKALINE STABILIZATION	☐
AEROBIC DIGESTION	☑
ANAEROBIC DIGESTION	☐
COMPOSING	☐

SELECTION CHOICE: **1 SELECTED**

MINERALIZATION RATE F_M = **0.3**

AGRONOMIC LOADING RATE

5.3 **tons/acre**

Tennessee Department of Environment and Conservation - Division of Water Polluction Control

Exhibit B - Agronomic Application Rate Calculations Based on Nitrogen (N)

Revision 05/08/14

April 2023 thru June 2023 Middle Section Only

BACKGROUND INFORMATION/QUESTIONS	FILL IN BELOW
WWTP NAME	City of Dyersburg
WWTP NPDES PERMIT NUMBER	TN0023477
SITE NAME	City of Dyersburg STP
COUNTY	Dyer
E.A.C.	Jackson
SITE TRACKING NUMBER	LA23A0001
LABORATORY NAME	Waypoint
DATE OF ANALYSIS	4/13/23

SLUDGE/BIOSOLID ANALYSIS LABORATORY RESULTS

(Attached a copy of the laboratory analysis used for these calculations to this report)

TOTAL KJELDAHL NITROGEN (TKN)	46,500	mg/kg
AMMONIUM NITROGEN (NH_4-N)	15,100	mg/kg
NITRATE + NITRITE NITROGEN (NO_3-N + NO_2-N)	435	mg/kg
NITROGEN FROM SUPPLEMENTAL FERTILIZERS (If Appropriate)	0	lbs/acre
NITROGEN FROM IRRIGATION WATER (If Appropriate)	0	lbs/acre
NITROGEN FROM PREVIOUS CROP (Unless 2 is based on soil testing)	10	lbs/acre
OTHER (If Appropriate) Specify _____	0	lbs/acre

SELECT CROP TYPE (SELECT ONLY ONE)	YES
1 - CORN (GRAIN) EXPECT YIELD 100 - 125 BUSHELS	☐
2 - CORN (GRAIN) EXPECT YIELD 126 - 150 BUSHELS	☐
3 - CORN (SILAGE) EXPECT YIELD 20 TONS	☐
4 - SOYBEANS EXPECT YIELD 30 BUSHELS	☐
5 - SOYBEANS EXPECT YIELD 40 BUSHELS	☑
6- SOYBEANS EXPECT YIELD 50 BUSHELS	☐
7- WHEAT EXPECT YIELD 40 BUSHELS	☐
8 - SUMMER ANNUAL GRASS EXPECT YIELD 6 TONS (1 CUTTINGS)	☐
9 - HYBRID HAY EXPECT YIELD 8 TONS (4 CUTTINGS)	☐
10 - TALL FESCUE HAY EXPECT YIELD 3 TONS (2 CUTTINGS)	☐
11 - ORCHARD GRASS HAY EXPECT YIELD 4 TONS (2 CUTTINGS)	☐
12 - SORGHUM (GRAIN) EXPECT YIELD 60 BUSHELS	☐
13 - COTTON EXPECT YIELD 1 BALE / ACRE	☐
14 - COTTON EXPECT YIELD 1.5 BALE / ACRE	☐

CROP TYPE (LBS N/ACRE/YEAR)	150

VOLATILIZATION FACTORS K_V

(SELECT ONLY ONE)	YES
1 - ARE BIOSOLIDS LIQUID AND SURFACE APPLIED?	☐
2 - ARE BIOSOLIDS LIQUID AND INJECTED INTO SOIL?	☑
3 - ARE BIOSOLID DEWATERED AND APPLIED IN ANY MANNER?	☐

VOLATILIZATION FACTORS K_V = **1**

MINERALIZATION RATE F_M

WHAT BIOSOLID PROCESS GENERATE THE FRACTION (F_M) OF ORGANIC NITROGEN? (SELECT ONLY ONE)	SELECT PROCESS
NONE (Unstabilized)	☐
ALKALINE STABILIZATION	☐
AEROBIC DIGESTION	☑
ANAEROBIC DIGESTION	☐
COMPOSING	☐

SELECTION CHOICE: **1 SELECTED**

MINERALIZATION RATE F_M = **0.3**

AGRONOMIC LOADING RATE **2.6** **tons/acre**

Tennessee Department of Environment and Conservation - Division of Water Pollution Control

Exhibit B - Agronomic Application Rate Calculations Based on Nitrogen (N)

Revision 05/08/14

Q4 Oct thru Dec 2023 South- South & Middle Dig. #9 & #10

BACKGROUND INFORMATION/QUESTIONS	FILL IN BELOW
WWTP NAME	City of Dyersburg
WWTP NPDES PERMIT NUMBER	TN0023477
SITE NAME	City of Dyersburg STP
COUNTY	Dyer
E.A.C.	Jackson
SITE TRACKING NUMBER	LA23A0001
LABORATORY NAME	Waypoint
DATE OF ANALYSIS	11/29/23

SLUDGE/BIOSOLID ANALYSIS LABORATORY RESULTS

(Attached a copy of the laboratory analysis used for these calculations to this report)

TOTAL KJELDAHL NITROGEN (TKN)	24,800	mg/kg
AMMONIUM NITROGEN (NH_4-N)	6,950	mg/kg
NITRATE + NITRITE NITROGEN (NO_3-N + NO_2-N)	500	mg/kg
NITROGEN FROM SUPPLEMENTAL FERTILIZERS (If Appropriate)		lbs/acre
NITROGEN FROM IRRIGATION WATER (If Appropriate)		lbs/acre
NITROGEN FROM PREVIOUS CROP (Unless 2 is based on soil testing)	10	lbs/acre
OTHER (If Appropriate) Specify _____		lbs/acre

SELECT CROP TYPE

(SELECT ONLY ONE)	YES
1 - CORN (GRAIN) EXPECT YIELD 100 - 125 BUSHELS	☐
2 - CORN (GRAIN) EXPECT YIELD 126 - 150 BUSHELS	☐
3 - CORN (SILAGE) EXPECT YIELD 20 TONS	☐
4 - SOYBEANS EXPECT YIELD 30 BUSHELS	☐
5 - SOYBEANS EXPECT YIELD 40 BUSHELS	☑
6- SOYBEANS EXPECT YIELD 50 BUSHELS	☐
7- WHEAT EXPECT YIELD 40 BUSHELS	☐
8 - SUMMER ANNUAL GRASS EXPECT YIELD 6 TONS (1 CUTTINGS)	☐
9 - HYBRID HAY EXPECT YIELD 8 TONS (4 CUTTINGS)	☐
10 - TALL FESCUE HAY EXPECT YIELD 3 TONS (2 CUTTINGS)	☐
11 - ORCHARD GRASS HAY EXPECT YIELD 4 TONS (2 CUTTINGS)	☐
12 - SORGHUM (GRAIN) EXPECT YIELD 60 BUSHELS	☐
13 - COTTON EXPECT YIELD 1 BALE / ACRE	☐
14 - COTTON EXPECT YIELD 1.5 BALE / ACRE	☐

CROP TYPE (LBS N/ACRE/YEAR)	150

VOLATILIZATION FACTORS K_V

(SELECT ONLY ONE)	YES
1 - ARE BIOSOLIDS LIQUID AND SURFACE APPLIED?	☐
2 - ARE BIOSOLIDS LIQUID AND INJECTED INTO SOIL?	☑
3 - ARE BIOSOLID DEWATERED AND APPLIED IN ANY MANNER?	☐

VOLATILIZATION FACTORS K_V = **1**

MINERALIZATION RATE F_M

WHAT BIOSOLID PROCESS GENERATE THE FRACTION (F_M) OF ORGANIC NITROGEN? (SELECT ONLY ONE)	SELECT PROCESS
NONE (Unstabilized)	☐
ALKALINE STABILIZATION	☐
AEROBIC DIGESTION	☑
ANAEROBIC DIGESTION	☐
COMPOSING	☐

SELECTION CHOICE: **1 SELECTED**

MINERALIZATION RATE F_M = **0.3**

AGRONOMIC LOADING RATE **5.1** tons/acre