

# **Town of Bristol, RI** water pollution control department

2 PLANT AVENUE BRISTOL, RI 02809-3015 (401) 253-8877 fax: (401) 253-2910 TOWN HALL 10 COURT STREET BRISTOL, RI 02809 (401) 253-7000

Jose' J. Da Silva, Superintendent

June 23, 2021

Jennifer Wood MassDEP Residuals Program MassDEP One Winter Street Boston MA 02108

#### Re: Annual Report: Bristol RI Compost - AOS

Dear Ms. Wood:

In accordance with the requirements of the Approval of Suitability (AOS) for a residual product distributed/ applied for beneficial use within the Commonwealth of Massachusetts, please find attached the annual report for Bristol RI Water Pollution Control Facility. The annual report is prepared in accordance with and pursuant to 310 CMR 32.60(2)(a) and (b).

Sincerely

Jose Da'Silva Superintendent

## BRISTOL COMPOST FACILITY ANNUAL REPORT June 2021 MassDEP - 310 CMR 32.00: LAND APPLICATION OF SLUDGE AND SEPTAGE

- Description of the stabilization method used to comply with 310 CMR 32.12(1), The Bristol Sludge Composting Facility uses in-vessel composting technology. The technology produces a product which is environmentally safe and can be beneficially used as a soil conditioner and meets the EPA criteria for Class A Biosolids.
- 2. Compost Facility Location

The facility is located on the west end of the Town of Bristol's Municipal Solid Waste Landfill property, located on Minturn Road in Bristol.

3. Description of Facility Operation

The site consists of a perimeter roadway, paved yard waste storage and processing areas, a paved finished compost storage area, the compost building itself, the odor control Bio-Filter, and a vehicle parking area. Paved areas around the facility have been designed for yard waste storage and processing, and cured compost storage. Four Quonset Hut style buildings are used to cover the amendment (yard waste) and the finished compost for storage/curing.

The compost facility operation can be divided into four processes:

- Yard waste grinding
- Sludge/amendment mixing
- Compost Processing
- Compost Finishing

Yard waste is used as the primary amendment for the composting process. Amendments are added to the sludge prior to composting to increase the porosity, adjust the moisture content and to add carbon to facilitate aerobic decomposition of the mixture. A tub grinder is used to process the yard waste material to a uniform size.

The yardwaste is then mixed with the sludge inside the compost building. The main compost building consists of four main sections.

- the receiving and mixing area
- the compost processing area
- the finish area
- the office/control building

Sludge and yard waste are loaded into a mixer and then discharged to the floor of the compost building before being loaded into the composting bays.

The facility utilizes the horizontal agitated bin type of in-vessel composting technology and has 4bays available for composting. Each of the four bays is 220 feet long and is capable of processing approximately 14 cubic yards of compost input per day. The sludge and bulking agent mixture is loaded into one end of the reactor. An IPS agitator advances the mixture through the reactor. Air is introduced into the bays through a system of blowers and perforated pipes and exhausted through the crushed stone floor of the reactor. Compost is discharged from the end of the reactor. Aisles located on the outside walls provide access to the finishing end of the building as well as to the aeration blowers which are centered on each of the five aeration zones. The aeration blowers, providing air to the compost bays, are located along the south wall of compost bay number 4.

A plastic curtain wall at the mixing end of the bay area helps contain moisture produced by the composting process within the bay area. The moisture is evacuated from the building through exhaust ductwork which is located between the roof trusses above the compost bays.

Once the compost mixture has been processed through the composting bays, it is discharged into the compost storage building. The Finished Area is unloaded with the Front End Loader, which will either deposit the compost in a curing pile for curing or if fully cured and there is an identified need, the finished product will be loaded into dump trucks for utilization.

 Analyses of all sludge or septage samples The following is a summary and schedule for sampling of the facility's compost operation. In addition to the items listed in the Table, Temperature of the compost is also monitored throughout the process.

Material	Test	Sample	Frequency
Sludge	TCLP	Grab	Annual
	Metals	Grab	Monthly
Amendment	TCLP	Grab	Annual
Compost	Metals	Grab	Every other Month
	Fecal Coliform	Composite	Every other Month
	PFAS(*)	Grab	Quarterly

(\*) PFAS sampling is consistent with the Town's AOS and includes the following compounds:

COMPOUND		CAS#
Perfluorobutanoic Acid	PFBA	375-22-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorodecanesulfonic Acid	PFDS	335-77-3

The results of the Laboratory Analysis for TCLP, and metals Parameters are included as Attachment 1. PFAS results are included as Attachment 2.

- 5. Copies of all information and material submitted to the Department in compliance with 310 CMR 32.13 and 32.14;
  - (a) a listing of industrial discharges to the owner's or operator's facility including, whenever known, a description, by quantity and quality, of the content of all industrial discharges to such facility; Current SIU's (ADF listed in Fac Plan):
    - Galilean Seafood (ADF 20,150 gpd)
    - St. Gobain Performance Plastics (ADF 900 gpd)
    - Roger Williams University (ADF 7,500 gpd)
  - (b) the quantity of septage discharged into the owner's or operator's facility, expressed in gallons of septage per day;
    - 525 Gallons per day
  - (c) the daily wastewater flow through the owner's or operator's facility, expressed in gallons per day;

Influent Parameter	Average Month	Maximum Month
Flow, mgd	3.79	4.25
BOD <sub>5</sub> , Ib/d	5,418	6,273
TSS, lb/d	4,767	5,967

(d) the quantity of sludge generated by the owner's or operator's facility, expressed in dry tons of sludge per day;

	2020 BRISTOL, RI SLUDGE DEWATERING				
		Р	RIMARY SL	UDGE + WAS	S
	PLANT FLOW			DRY	DRY
MONTH	ADF (MGD)	GAL/DAT	% 30LID3	LBS/DAY	TONS/DAY
Jan-20	3.82	13,725	3.0%	3,434	1.72
Feb-20	3.64	12,252	3.2%	3,270	1.63
Mar-20	3.74	14,469	3.1%	3,741	1.87
Apr-20	4.74	12,103	3.3%	3,331	1.67
May-20	3.76	12,525	3.3%	3,447	1.72
Jun-20	2.33	14,729	3.3%	4,054	2.03
Jul-20	2.03	19,121	3.7%	5,900	2.95
Aug-20	1.82	17,551	3.7%	5,416	2.71
Sep-20	1.83	18,152	3.5%	5,299	2.65
Oct-20	2.02	28,855	2.9%	6,979	3.49
Nov-20	2.55	20,469	3.1%	5,292	2.65
Dec-20	4.92	14,782	3.7%	4,561	2.28
Avg Month	3.10	16,561	3.3%	4,560	2.28
Max Month	4.92	28,855	3.7%	6,979	3.49

(e) a description of the stabilization process the owner or operator proposes to utilize to comply with 310 CMR 32.12; and

The Bristol Compost Facility utilizes In-vessel horizontal plug-flow composting technology and meets the criteria of a Process to Further Reduce Pathogens (PFRP). The focus of the process is to raise the compost mixture temperature to a minimum of 55 degrees Celsius for a minimum of three days and that it remains in the active composting phase for a minimum of fourteen days.

The compost material must be processed for a total of thirty days within the active and curing phase of the composting operation.

- 6. Studies and technical data;
  - Class A Biosolids Compost Facility Operation and Maintenance Plan, August 2014, BETA Group, Inc.
  - Preliminary Design Report and Environmental Assessment: Solids Handling Improvements, Bristol Water Pollution Control Facility, May 2021, BETA Group, Inc.
- 7. Address of each place where sludge or septage was stored and for each such place, how long sludge or septage was stored there.

Sludge processed at the Composting Facility is generated at the Bristol Water Pollution Control Facility (WPCF). The sludge is comprised of primary and secondary sludge (from the Rotating Biological Contractors) that is co-settled in the primary clarifiers at the WPCF. The sludge is treated with hydrogen peroxide at the discharge end of the pumps to control odors and an inorganic polymer to aide dewatering. The sludge is dewatered to a consistency of about 24 percent solids utilizing belt filter presses.

Dewatered sludge is maintained in a roll-off container and it is hauled daily to the compost facility and unloaded directly into a mixer where it is combined with yard waste (Amendment) prior to being introduced into the composting bay.

## For Type I product (i.e. unrestricted use):

Before transferring ownership, custody, or possession of Type I sludge, the person selling or distributing such sludge shall enter into its records the following information:

- 1. the amount of Type I sludge distributed or sold in lots equal to or less than five cubic yards;
- 2. the name and addresses of each person to whom Type I sludge in lots greater than five cubic yards was sold or distributed, specifying for each such person the amount sold or distributed.

The Town maintains a log of people that take finished compost from the facility. The Town also uses Aggresource to distribute Compost. Aggresource has completed an annual report for their AOS for distribution of compost from the Bristol facility and issued it to MassDEP and it is included here as Attachment 3.

ATTACHMENT 1 Sludge and Compost Analysis TCLP Metals Fecal Coliform

# **TCLP Results**



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

## **RE:** Compost TCLP Annual Sampling (N/A) ESS Laboratory Work Order Number: 21A0235

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard Laboratory Director

#### **Analytical Summary**

**REVIEWED** By ESS Laboratory at 11:30 am, Jan 19, 2021

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

## SAMPLE RECEIPT

The following samples were received on January 12, 2021 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

Lab Number	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
21A0235-01	Sludge	Soil	1311, 1311/6010C, 1311/7470A, 1311/8081B,
			1311/8151A, 1311/8260B, 1311/8270D
21A0235-02	Yardwaste	Soil	1311, 1311/6010C, 1311/7470A, 1311/8081B,
			1311/8151A, 1311/8260B, 1311/8270D



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **PROJECT NARRATIVE**

#### 1311/8270D Semi Volatile TCLP Compounds

D1A0218-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+). Pyridine (23% @ 20%)

No other observations noted.

End of Project Narrative.

#### DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

**Definitions of Quality Control Parameters** 

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

#### **CURRENT SW-846 METHODOLOGY VERSIONS**

#### **Analytical Methods**

1010A - Flashpoint 6010C - ICP 6020A - ICP MS 7010 - Graphite Furnace 7196A - Hexavalent Chromium 7470A - Aqueous Mercury 7471B - Solid Mercury 8011 - EDB/DBCP/TCP 8015C - GRO/DRO 8081B - Pesticides 8082A - PCB 8100M - TPH 8151A - Herbicides 8260B - VOA 8270D - SVOA 8270D SIM - SVOA Low Level 9014 - Cyanide 9038 - Sulfate 9040C - Aqueous pH 9045D - Solid pH (Corrosivity) 9050A - Specific Conductance 9056A - Anions (IC) 9060A - TOC 9095B - Paint Filter MADEP 04-1.1 - EPH MADEP 18-2.1 - VPH

**Prep Methods** 

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 100 Final Volume: 5 Extraction Method: 3510C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: mg/L Analyst: DMC Prepared: 1/13/21 14:13

## 1311/8081B Pesticide TCLP Compounds

				TCLP				
Analyte	Results (MRL)	MDL	Method	<u>Limit</u>	DF	Analyzed	Sequence	<b>Batch</b>
Chlordane (Total)	ND (0.00500)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
Endrin	ND (0.00050)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
gamma-BHC (Lindane)	ND (0.00050)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
Heptachlor	ND (0.00050)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
Heptachlor Epoxide	ND (0.00050)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
Methoxychlor	ND (0.00050)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
Toxaphene	ND (0.0130)		1311/8081B		1	01/14/21 13:05	D1A0207	DA11305
		%Recovery	Qualifier	Limits				
Surrogate: Decachlorobiphenyl		76 %		30-150				
Surrogate: Decachlorobiphenyl [2C]		71 %		30-150				
Surrogate: Tetrachloro-m-xylene		113 %		30-150				
Surrogate: Tetrachloro-m-xylene [2C]		85 %		30-150				



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: mg/L

## Extraction Method: 3005A TCLP All methods used are in accordance with 40 CFR 136.

## 1311 TCLP Metals

			TCLP						
<u>Results (MRL)</u>	MDL	Method	<u>Limit</u>	DF	<u>Analyst</u>	Analyzed	I/V	F/V	<b>Batch</b>
ND (0.050)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
<b>0.184</b> (0.050)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
ND (0.0100)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
ND (0.020)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
ND (0.050)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
ND (0.00050)		1311/7470A		1	BJV	01/14/21 14:14	20	40	DA11339
ND (0.050)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
ND (0.010)		1311/6010C		1	KJK	01/14/21 22:37	50	50	DA11332
	Results (MRL)           ND (0.050)           0.184 (0.050)           ND (0.0100)           ND (0.020)           ND (0.050)           ND (0.00050)           ND (0.050)           ND (0.050)           ND (0.050)           ND (0.050)           ND (0.050)           ND (0.050)	Results (MRL) ND (0.050)MDL0.184 (0.050)	Results (MRL)MDLMethodND (0.050)1311/6010C0.184 (0.050)1311/6010CND (0.0100)1311/6010CND (0.020)1311/6010CND (0.050)1311/6010CND (0.050)1311/7470AND (0.050)1311/6010CND (0.050)1311/6010CND (0.050)1311/6010CND (0.010)1311/6010C	Results (MRL) ND (0.050)         MDL         Method 1311/6010C         TCLP Limit           0.184 (0.050)         1311/6010C         Limit           ND (0.0100)         1311/6010C         ND (0.020)           ND (0.020)         1311/6010C         Image: Comparison of the second sec	Results (MRL) ND (0.050)         MDL         Method 1311/6010C         Limit         DF           0.184 (0.050)         1311/6010C         1           ND (0.0100)         1311/6010C         1           ND (0.020)         1311/6010C         1           ND (0.020)         1311/6010C         1           ND (0.050)         1311/6010C         1           ND (0.050)         1311/7470A         1           ND (0.050)         1311/6010C         1           ND (0.050)         1311/6010C         1	Results (MRL) ND (0.050)         MDL         Method 1311/6010C         Limit         DF         Analyst KJK           0.184 (0.050)         1311/6010C         1         KJK           ND (0.0100)         1311/6010C         1         KJK           ND (0.020)         1311/6010C         1         KJK           ND (0.050)         1311/6010C         1         KJK           ND (0.050)         1311/6010C         1         KJK           ND (0.050)         1311/6010C         1         BJV           ND (0.050)         1311/6010C         1         KJK           ND (0.050)         1311/6010C         1         KJK           ND (0.050)         1311/6010C         1         KJK           ND (0.010)         1311/6010C         1         KJK	Image: Marking the system         MDL         Method 1311/6010C         Limit         DF         Analyst KJK         Analyzed 01/14/21         Analyzed 22:37           0.184 (0.050)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.0100)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.020)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.020)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.050)         1311/6010C         1         BJV         01/14/21         22:37           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37           ND (0.010)         1311/6010C         1         KJK         01/14/21         22:37	Results (MRL) ND (0.050)         MDL 1311/6010C         Method Limit         DF 1         Analyst KJK         Analyzed 01/14/21         I/V           0.184 (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50           ND (0.0100)         1311/6010C         1         KJK         01/14/21         22:37         50           ND (0.020)         1311/6010C         1         KJK         01/14/21         22:37         50           ND (0.020)         1311/6010C         1         KJK         01/14/21         22:37         50           ND (0.050)         1311/6010C         1         BJV         01/14/21         22:37         50           ND (0.010)         1311/6010C         1         KJK         01/14/21         22:37         50	Results (MRL) ND (0.050)         MDL         Method 1311/6010C         Limit         DF         Analyst KJK         Analyzed 01/14/21         LVV         F/V           0.184 (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50         50           0.184 (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.0100)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.020)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.050)         1311/7470A         1         BJV         01/14/21         21:37         50         50           ND (0.050)         1311/6010C         1         KJK         01/14/21         22:37         50         50           ND (0.010)         1311/6010C         1         KJK         01/14/21



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 35 Final Volume: 4 Extraction Method: 3510C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: mg/L Analyst: DMC Prepared: 1/13/21 21:15

#### 1311/8151A TCLP Herbicide Compounds

				TCLP				
Analyte 2,4,5-TP (Silvex)	<u>Results (MRL)</u> ND (0.002)	<u>MDL</u>	<u>Method</u> 1311/8151A	<u>Limit</u>	<u><b>DF</b></u> 1	<u>Analyzed</u> 01/15/21 15:31	Sequence D1A0224	<u>Batch</u> DA11337
2,4-D	ND (0.009)		1311/8151A		1	01/15/21 15:31	D1A0224	DA11337
		%Recovery	Qualifier	Limits				
Surrogate: DCAA		68 %		30-150				
Surrogate: DCAA [2C]		73 %		30-150				



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 5 Final Volume: 5 Extraction Method: 5030B All methods used are in accordance with 40 CFR 136.

Surrogate: Toluene-d8

#### ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: mg/L Analyst: MD

## 1311/8260B Volatile TCLP Compounds

				TCLP				
Analyte	Results (MRL)	MDL	<b>Method</b>	<u>Limit</u>	DF	Analyzed	<b>Sequence</b>	<b>Batch</b>
1,1-Dichloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
1,2-Dichloroethane	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
1,4-Dichlorobenzene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
2-Butanone	ND (2.50)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Benzene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Carbon Tetrachloride	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Chlorobenzene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Chloroform	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Tetrachloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Trichloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
Vinyl Chloride	ND (0.100)		1311/8260B		1	01/14/21 16:07	D1A0211	DA11416
		%Recovery	Qualifier	Limits				
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130				
Surrogate: 4-Bromofluorobenzene		101 %		70-130				
Surrogate: Dibromofluoromethane		101 %		70-130				

70-130

*99 %* 



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 200 Final Volume: 1 Extraction Method: 3520C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: mg/L Analyst: TJ Prepared: 1/14/21 8:35

# 1311/8270D Semi Volatile TCLP Compounds

				TCLP				
<u>Analyte</u>	<b>Results (MRL)</b>	MDL	Method	<u>Limit</u>	DF	Analyzed	<b>Sequence</b>	<b>Batch</b>
2,4,5-Trichlorophenol	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
2,4,6-Trichlorophenol	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
2,4-Dinitrotoluene	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
2-Methylphenol	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
3+4-Methylphenol	<b>0.26</b> (0.10)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Hexachlorobenzene	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Hexachlorobutadiene	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Hexachloroethane	ND (0.02)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Nitrobenzene	ND (0.05)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Pentachlorophenol	ND (0.25)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402
Pyridine	ND (0.50)		1311/8270D		1	01/15/21 23:02	D1A0220	DA11402

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	73 %		30-130
Surrogate: 2,4,6-Tribromophenol	83 %		15-110
Surrogate: 2-Chlorophenol-d4	82 %		15-110
Surrogate: 2-Fluorobiphenyl	70 %		30-130
Surrogate: 2-Fluorophenol	74 %		15-110
Surrogate: Nitrobenzene-d5	82 %		30-130
Surrogate: Phenol-d6	84 %		15-110
Surrogate: p-Terphenyl-d14	35 %		30-130



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<u>Batch</u> DA11234 DA11234

#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 100 Final Volume: 2000 Extraction Method: 1311

#### All methods used are in accordance with 40 CFR 136.

# 6. TCLP Extraction by 1311

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: °C Analyst: BJV Prepared: 1/12/21 20:30

Temperature (MIIn C)	<b>21.8</b> (N/A)		1311	 1	BJV	01/13/21 13:55
Temperature (Max C)	<b>22.3</b> (N/A)		1311	1	BJV	01/13/21 13:55
Temperature (Range)	Temperature is with	nin 23 +/-2 °C	C. (N/A)			



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Sludge Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 25 Final Volume: 500 Extraction Method: 5030B TCLP All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-01 Sample Matrix: Soil Units: °C Analyst: MD Prepared: 1/13/21 14:55

#### **ZHE Extraction by 1311**

<u>Analyte</u>	<b>Results (MRL)</b>	MDL	<b>Method</b>	<u>Limit</u>	DF	Analyst	Analy	zed	<u>Batch</u>
Temperature (Min C)	<b>23.0</b> (N/A)		1311		1	MD	01/14/21	8:00	DA11506
Temperature (Max C)	<b>25.5</b> (N/A)		1311		1	MD	01/14/21	8:00	DA11506
Temperature (Range)	Temperature is not	within 23 +/-	-2 °C. (N/A)						



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 100 Final Volume: 5 Extraction Method: 3510C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: mg/L Analyst: DMC Prepared: 1/13/21 14:13

# 1311/8081B Pesticide TCLP Compounds

				TCLP				
Analyte	<b>Results (MRL)</b>	MDL	Method	<u>Limit</u>	DF	Analyzed	<u>Sequence</u>	<b>Batch</b>
Chlordane (Total)	ND (0.00500)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
Endrin	ND (0.00050)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
gamma-BHC (Lindane)	ND (0.00050)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
Heptachlor	ND (0.00050)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
Heptachlor Epoxide	ND (0.00050)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
Methoxychlor	ND (0.00050)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
Toxaphene	ND (0.0130)		1311/8081B		1	01/14/21 13:32	D1A0207	DA11305
	ç	%Recovery	Qualifier	Limits				
Surrogate: Decachlorobiphenyl		60 %		30-150				
Surrogate: Decachlorobiphenyl [2C]		56 %		30-150				
Surrogate: Tetrachloro-m-xylene		86 %		30-150				
Surrogate: Tetrachloro-m-xylene [2C]		81 %		30-150				



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: mg/L

## Extraction Method: 3005A TCLP All methods used are in accordance with 40 CFR 136.

## 1311 TCLP Metals

				TCLP						
Analyte	<b>Results (MRL)</b>	MDL	Method	<u>Limit</u>	DF	Analyst	Analyzed	I/V	F/V	<b>Batch</b>
Arsenic	ND (0.050)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Barium	ND (0.050)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Cadmium	ND (0.0100)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Chromium	ND (0.020)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Lead	ND (0.050)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Mercury	ND (0.00050)		1311/7470A		1	BJV	01/14/21 14:16	20	40	DA11339
Selenium	ND (0.050)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332
Silver	ND (0.010)		1311/6010C		1	KJK	01/14/21 22:40	50	50	DA11332



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 35 Final Volume: 4 Extraction Method: 3510C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: mg/L Analyst: DMC Prepared: 1/13/21 21:15

#### 1311/8151A TCLP Herbicide Compounds

	TCLP							
<u>Analyte</u>	<b>Results (MRL)</b>	MDL	<b>Method</b>	<u>Limit</u>	DF	Analyzed	<b>Sequence</b>	Batch
2,4,5-TP (Silvex)	ND (0.002)		1311/8151A		1	01/15/21 16:00	D1A0224	DA11337
2,4-D	ND (0.009)		1311/8151A		1	01/15/21 16:00	D1A0224	DA11337
		%Recovery	Qualifier	Limits				
Surrogate: DCAA		67 %		30-150				
Surrogate: DCAA [2C]		57 %		30-150				



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 5 Final Volume: 5 Extraction Method: 5030B All methods used are in accordance with 40 CFR 136.

Surrogate: Toluene-d8

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: mg/L Analyst: MD

#### 1311/8260B Volatile TCLP Compounds

				TCLP				
Analyte	<b>Results (MRL)</b>	MDL	Method	<u>Limit</u>	DF	Analyzed	<b>Sequence</b>	<b>Batch</b>
1,1-Dichloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
1,2-Dichloroethane	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
1,4-Dichlorobenzene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
2-Butanone	ND (2.50)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Benzene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Carbon Tetrachloride	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Chlorobenzene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Chloroform	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Tetrachloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Trichloroethene	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
Vinyl Chloride	ND (0.100)		1311/8260B		1	01/14/21 16:34	D1A0211	DA11416
		%Recovery	Qualifier	Limits				
Surrogate: 1,2-Dichloroethane-d4		108 %		70-130				
Surrogate: 4-Bromofluorobenzene		<i>96 %</i>		70-130				
Surrogate: Dibromofluoromethane		105 %		70-130				

70-130

*99 %* 



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#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 200 Final Volume: 1 Extraction Method: 3520C

#### All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: mg/L Analyst: TJ Prepared: 1/14/21 8:35

# 1311/8270D Semi Volatile TCLP Compounds

				TCLP				
Analyte	<b>Results (MRL)</b>	MDL	Method	<u>Limit</u>	DF	Analyzed	Sequence	<b>Batch</b>
2,4,5-Trichlorophenol	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
2,4,6-Trichlorophenol	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
2,4-Dinitrotoluene	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
2-Methylphenol	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
3+4-Methylphenol	ND (0.10)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Hexachlorobenzene	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Hexachlorobutadiene	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Hexachloroethane	ND (0.02)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Nitrobenzene	ND (0.05)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Pentachlorophenol	ND (0.25)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402
Pyridine	ND (0.50)		1311/8270D		1	01/15/21 23:31	D1A0220	DA11402

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	80 %		30-130
Surrogate: 2,4,6-Tribromophenol	82 %		15-110
Surrogate: 2-Chlorophenol-d4	85 %		15-110
Surrogate: 2-Fluorobiphenyl	<i>79 %</i>		30-130
Surrogate: 2-Fluorophenol	77 %		15-110
Surrogate: Nitrobenzene-d5	90 %		30-130
Surrogate: Phenol-d6	83 %		15-110
Surrogate: p-Terphenyl-d14	45 %		30-130



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 100 Final Volume: 2000 Extraction Method: 1311 All methods used are in accordance with 40 CFR 136.

#### ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: °C Analyst: BJV Prepared: 1/12/21 20:30

# **TCLP Extraction by 1311**

Analyte	Results (MRL)	MDL	Method	<u>Limit</u>	DF	<u>Analyst</u>	Analyzed	<b>Batch</b>
Temperature (Min C)	<b>21.8</b> (N/A)		1311		1	BJV 0	1/13/21 13:55	DA11234
Temperature (Max C)	22.3 (N/A)		1311		1	BJV 0	1/13/21 13:55	DA11234
Temperature (Range)	Temperature is with	in 23 +/-2 °C	. (N/A)					



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling Client Sample ID: Yardwaste Date Sampled: 01/12/21 08:00 Percent Solids: N/A Initial Volume: 25 Final Volume: 500 Extraction Method: 5030B TCLP All methods used are in accordance with 40 CFR 136.

ESS Laboratory Work Order: 21A0235 ESS Laboratory Sample ID: 21A0235-02 Sample Matrix: Soil Units: °C Analyst: MD Prepared: 1/13/21 14:55

#### **ZHE Extraction by 1311**

<u>Analyte</u>	<b>Results (MRL)</b>	MDL	<b>Method</b>	<u>Limit</u>	DF	Analyst	Analy	zed	<u>Batch</u>
Temperature (Min C)	<b>23.0</b> (N/A)		1311		1	MD	01/14/21	8:00	DA11506
Temperature (Max C)	<b>25.5</b> (N/A)		1311		1	MD	01/14/21	8:00	DA11506
Temperature (Range)	Temperature is not	within 23 +/-	-2 °C. (N/A)						



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

# Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
		1311/8081B	Pesticide T	CLP Comp	oounds					
Batch DA11305 - 3510C										
Blank										
Chlordane (Total)	ND	0.00500	mg/L							
Chlordane (Total) [2C]	ND	0.00500	mg/L							
Endrin	ND	0.00050	mg/L							
Endrin [2C]	ND	0.00050	mg/L							
gamma-BHC (Lindane)	ND	0.00050	mg/L							
gamma-BHC (Lindane) [2C]	ND	0.00050	mg/L							
Heptachlor	ND	0.00050	mg/L							
Heptachlor [2C]	ND	0.00050	mg/L							
Heptachlor Epoxide	ND	0.00050	mg/L							
Heptachlor Epoxide [2C]	ND	0.00050	mg/L							
Methoxychlor	ND	0.00050	mg/L							
Methoxychlor [2C]	ND	0.00050	mg/L							
Surrogate: Decachlorobinhenvl	0.00212		mg/L	0.002500		85	30-150			
Surrogate: Decachlorobinhenvl [2C]	0.00200		mg/L	0.002500		80	30-150			
Surrogate: Tetrachloro-m-vulene	0.00235		mg/L	0.002500		94	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.00230		mg/L	0.002500		92	30-150			
Endrin	0.00024	0.00005	ma/l	0.0002500		96	40-140			
Endrin [2C]	0.00023	0.00005	ma/l	0.0002500		94	40-140			
gamma-BHC (Lindane)	0.00025	0.00005	ma/l	0.0002500		100	40-140			
gamma-BHC (Lindane) [2C]	0.00025	0.00005	ma/l	0.0002500		98	40-140			
Hentachlor	0.00025	0.00005	mg/L	0.0002500		96	40-140			
Heptachlor [2C]	0.00024	0.00005	mg/L	0.0002500		96	40-140			
Heptachlor Epoxide	0.00024	0.00005	mg/L	0.0002500		104	40-140			
Heptachlor Epoxide [20]	0.00026	0.00005	mg/L	0.0002500		104	40-140			
	0.00025	0.00005	mg/L	0.0002500		100	40-140			
Methowship [20]	0.00025	0.00005	mg/L	0.0002500		100	40-140			
	0.00024	0.00005	mg/L	0.0002500		96	40-140			
Surrogate: Decachlorobiphenyl	0.000209		mg/L	0.0002500		84	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.000202		mg/L	0.0002500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.000234		mg/L	0.0002500		94	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.000230		mg/L	0.0002500		92	30-150			
LCS Dup										
Endrin	0.00026	0.00005	mg/L	0.0002500		103	40-140	7	20	
Endrin [2C]	0.00025	0.00005	mg/L	0.0002500		101	40-140	7	20	
gamma-BHC (Lindane)	0.00027	0.00005	mg/L	0.0002500		107	40-140	7	20	
gamma-BHC (Lindane) [2C]	0.00026	0.00005	mg/L	0.0002500		106	40-140	7	20	
Heptachlor	0.00026	0.00005	mg/L	0.0002500		105	40-140	9	20	
Heptachlor [2C]	0.00026	0.00005	mg/L	0.0002500		103	40-140	7	20	
Heptachlor Epoxide	0.00027	0.00005	mg/L	0.0002500		107	40-140	3	20	
Heptachlor Epoxide [2C]	0.00026	0.00005	mg/L	0.0002500		105	40-140	6	20	
Methoxychlor	0.00026	0.00005	mg/L	0.0002500		104	40-140	4	20	
Methoxychlor [2C]	0.00026	0.00005	mg/L	0.0002500		105	40-140	7	20	
			5.	-						

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The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

Analyte	Result	MRI	Units	Spike	Source Result	%RFC	%REC	RPD	RPD Limit	Qualifier
	Acourt	1311/20212	Posticido -		ounde	JUILE	Linito		Latin	Qualifici
		1311/0001D	resuciue		Jourius					
Batch DA11305 - 3510C										
Surrogate: Decachlorobiphenvl	0.000208		mg/L	0.0002500		83	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.000204		mg/L	0.0002500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.000243		mg/L	0.0002500		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.000238		mg/L	0.0002500		<i>95</i>	30-150			
		13	311 TCLP I	Metals						
Batch DA11332 - 3005A TCLP										
Blank										
Arsenic	ND	0.050	ma/L							
Barium	ND	0.050	mg/L							
Cadmium	ND	0.0100	mg/L							
Chromium	ND	0.020	mg/L							
Lead	ND	0.050	mg/L							
Selenium	ND	0.050	mg/L							
Silver	ND	0.010	mg/L							
Blank										
Arsenic	ND	0.050	ma/L							
Barium	ND	0.050	ma/L							
Cadmium	ND	0.0100	mg/L							
Chromium	ND	0.020	mg/L							
Lead	ND	0.050	mg/L							
Selenium	ND	0.050	mg/L							
Silver	ND	0.010	mg/L							
LCS										
Arsenic	0.500	0.050	ma/L	0.5000		100	80-120			
Barium	0.483	0.050	ma/L	0.5000		97	80-120			
Cadmium	0.245	0.0100	mg/L	0.2500		98	80-120			
Chromium	0.482	0.020	mg/L	0.5000		96	80-120			
Lead	0.484	0.050	mg/L	0.5000		97	80-120			
Selenium	1.04	0.050	mg/L	1.000		104	80-120			
Silver	0.253	0.010	mg/L	0.2500		101	80-120			
LCS Dup										
Arsenic	0.490	0.050	mg/L	0.5000		98	80-120	2	20	
Barium	0.474	0.050	mg/L	0.5000		95	80-120	2	20	
Cadmium	0.239	0.0100	mg/L	0.2500		96	80-120	2	20	
Chromium	0.474	0.020	mg/L	0.5000		95	80-120	2	20	
Lead	0.473	0.050	mg/L	0.5000		95	80-120	2	20	
Selenium	1.00	0.050	mg/L	1.000		100	80-120	3	20	
Silver	0.250	0.010	mg/L	0.2500		100	80-120	1	20	
Batch DA11339 - 7470A_TCLP										
Blank										
Mercury	ND	0.00050	mg/L							
105										



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

Analyte	Re	esult	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
L			13	B11 TCLP N	Metals						
Batch DA11339 - 7470	A_TCLP										
Mercury	0.0	0555	0.00050	mg/L	0.006042		92	80-120			
LCS Dup											
Mercury	0.0	0565	0.00050	mg/L	0.006042		93	80-120	2	20	
			1311/8151A <sup>-</sup>	TCLP Herb	icide Com	oounds					
Batch DA11337 - 3510	c										
Blank											
2,4,5-TP (Silvex)		ND	0.002	mg/L							
2,4,5-TP (Silvex) [2C]	I	ND	0.002	mg/L							
2,4-D	I	ND	0.009	mg/L							
2,4-D [2C]	I	ND	0.009	mg/L							
Surrogate: DCAA	0.	0536		mg/L	0.05714		94	30-150			
Surrogate: DCAA [2C]	0.	0510		mg/L	0.05714		89	30-150			
LCS											
2,4,5-TP (Silvex)	0.	005	0.002	mg/L	0.005429		86	40-140			
2,4,5-TP (Silvex) [2C]	0.	005	0.002	mg/L	0.005429		84	40-140			
2,4-D	0.	043	0.009	mg/L	0.05371		81	40-140			
2,4-D [2C]	0.	.044	0.009	mg/L	0.05371		83	40-140			
Surrogate: DCAA	0.	0543		mg/L	0.05714		95	30-150			
Surrogate: DCAA [2C]	0.	0557		mg/L	0.05714		97	30-150			
LCS Dup											
2,4,5-TP (Silvex)	0.	005	0.002	mg/L	0.005429		90	40-140	5	20	
2,4,5-TP (Silvex) [2C]	0.	005	0.002	mg/L	0.005429		88	40-140	5	20	
2,4-D	0.	044	0.009	mg/L	0.05371		82	40-140	2	20	
2,4-D [2C]	0.	.046	0.009	mg/L	0.05371		85	40-140	3	20	
Surrogate: DCAA	0.	0455		mg/L	0.05714		80	30-150			
Surrogate: DCAA [2C]	0.	0466		mg/L	0.05714		82	30-150			
			1311/8260B	Volatile T	CLP Comp	ounds					
Batch DA11416 - 5030	В										
Blank											
1,1-Dichloroethene		ND	0.0050	mg/L							
1,2-Dichloroethane		ND	0.0050	mg/L							
1,4-Dichlorobenzene		ND	0.0050	mg/L							
2-Butanone	I	ND	0.125	mg/L							
Benzene		ND	0.0050	mg/L							
Carbon Tetrachloride	I	ND	0.0050	mg/L							
Chlorobenzene	I	ND	0.0050	mg/L							
Chloroform	I	ND	0.0050	mg/L							
Tetrachloroethene	I	ND	0.0050	mg/L							
Trichloroethene		ND	0.0050	mg/L							
	185 Frances Avenue, Cranston	n, RI 029	10-2211 Te Dependability	el: 401-461-7	'181 Fa: Quality +	x: 401-461- Service	4486 e	http://www	v.ESSLaboi	ratory.com	



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

	<b>D</b> "	145-		Spike	Source	0/550	%REC	000	RPD	0.15
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
1311/8260B Volatile TCLP Compounds										
Batch DA11416 - 5030B										
Vinyl Chloride	ND	0.0050	mg/L							
Surrogate: 1.2-Dichloroethane-d4	0.0249		mg/L	0.02500		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.0252		mg/L	0.02500		101	70-130			
- Surrogate: Dibromofluoromethane	0.0255		mg/L	0.02500		102	70-130			
Surrogate: Toluene-d8	0.0257		mg/L	0.02500		103	70-130			
LCS										
1,1-Dichloroethene	0.0112	0.0010	mg/L	0.01000		112	70-130			
1,2-Dichloroethane	0.0105	0.0010	mg/L	0.01000		105	70-130			
1,4-Dichlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130			
2-Butanone	0.0542	0.0250	mg/L	0.05000		108	70-130			
Benzene	0.0104	0.0010	mg/L	0.01000		104	70-130			
Carbon Tetrachloride	0.0110	0.0010	mg/L	0.01000		110	70-130			
Chlorobenzene	0.0099	0.0010	mg/L	0.01000		99	70-130			
Chloroform	0.0106	0.0010	mg/L	0.01000		106	70-130			
Tetrachloroethene	0.0075	0.0010	mg/L	0.01000		75	70-130			
Trichloroethene	0.0102	0.0010	mg/L	0.01000		102	70-130			
Vinyl Chloride	0.0105	0.0010	mg/L	0.01000		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0264		mg/L	0.02500		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0246		mg/L	0.02500		98	70-130			
- Surrogate: Dibromofluoromethane	0.0264		mg/L	0.02500		106	70-130			
Surrogate: Toluene-d8	0.0245		mg/L	0.02500		98	70-130			
LCS Dup										
1,1-Dichloroethene	0.0111	0.0010	mg/L	0.01000		111	70-130	0.7	25	
1,2-Dichloroethane	0.0102	0.0010	mg/L	0.01000		102	70-130	3	25	
1,4-Dichlorobenzene	0.0099	0.0010	mg/L	0.01000		99	70-130	1	25	
2-Butanone	0.0516	0.0250	mg/L	0.05000		103	70-130	5	25	
Benzene	0.0106	0.0010	mg/L	0.01000		106	70-130	2	25	
Carbon Tetrachloride	0.0105	0.0010	mg/L	0.01000		105	70-130	5	25	
Chlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130	0.9	25	
Chloroform	0.0108	0.0010	mg/L	0.01000		108	70-130	1	25	
Tetrachloroethene	0.0079	0.0010	mg/L	0.01000		79	70-130	5	25	
Trichloroethene	0.0105	0.0010	mg/L	0.01000		105	70-130	3	25	
Vinyl Chloride	0.0101	0.0010	mg/L	0.01000		101	70-130	4	25	
Surrogate: 1,2-Dichloroethane-d4	0.0257		mg/L	0.02500		103	70-130			
- Surrogate: 4-Bromofluorobenzene	0.0244		mg/L	0.02500		98	70-130			
Surrogate: Dibromofluoromethane	0.0257		mg/L	0.02500		103	70-130			
Surrogate: Toluene-d8	0.0243		mg/L	0.02500		97	70-130			
	13	311/8270D Se	emi Volatile	e TCLP Cor	mpounds					

Batch DA11402 - 3520	c				
Blank					
2,4,5-Trichlorophenol	ND	0.05	mg/L		
2,4,6-Trichlorophenol	ND	0.05	mg/L		
2,4-Dinitrotoluene	ND	0.05	mg/L		
2-Methylphenol	ND	0.05	mg/L		
	185 Frances Avenue, Cranston, RI	02910-2211	Tel: 401-461-7181	Fax: 401-461-4486	http://www.ESSLaboratory.com
		Dependab	oility + Quality	<ul> <li>Service</li> </ul>	



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
	13	11/8270D S	emi Volatile	TCLP Co	mpounds					
Batch DA11402 - 3520C										
3+4-Methylphenol	ND	0.10	mg/L							
Hexachlorobenzene	ND	0.05	mg/L							
Hexachlorobutadiene	ND	0.05	mg/L							
Hexachloroethane	ND	0.02	mg/L							
Nitrobenzene	ND	0.05	mg/L							
Pentachlorophenol	ND	0.25	mg/L							
Pyridine	ND	0.50	mg/L							
Surrogate: 1,2-Dichlorobenzene-d4	0.368		mg/L	0.5000		74	30-130			
Surrogate: 2,4,6-Tribromophenol	0.600		mg/L	0.7500		80	15-110			
Surrogate: 2-Chlorophenol-d4	0.595		mg/L	0.7500		79	15-110			
Surrogate: 2-Fluorobiphenyl	0.373		mg/L	0.5000		75	30-130			
Surrogate: 2-Fluorophenol	0.550		mg/L	0.7500		73	15-110			
Surrogate: Nitrobenzene-d5	0.414		mg/L	0.5000		83	30-130			
Surrogate: Phenol-d6	0.586		mg/L	0.7500		78	15-110			
Surrogate: p-Terphenyl-d14	0.468		mg/L	0.5000		94	30-130			
LCS										
2,4,5-Trichlorophenol	0.38	0.05	mg/L	0.5000		76	30-130			
2,4,6-Trichlorophenol	0.36	0.05	mg/L	0.5000		73	30-130			
2,4-Dinitrotoluene	0.39	0.05	mg/L	0.5000		78	40-140			
2-Methylphenol	0.42	0.05	mg/L	0.5000		84	30-130			
3+4-Methylphenol	0.87	0.10	mg/L	1.000		87	30-130			
Hexachlorobenzene	0.37	0.05	mg/L	0.5000		73	40-140			
Hexachlorobutadiene	0.32	0.05	mg/L	0.5000		65	40-140			
Hexachloroethane	0.35	0.02	mg/L	0.5000		70	40-140			
Nitrobenzene	0.40	0.05	mg/L	0.5000		80	40-140			
Pentachlorophenol	0.39	0.25	mg/L	0.5000		79	30-130			
Pyridine	0.37	0.50	mg/L	0.5000		75	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	0.402		mg/L	0.5000		80	30-130			
Surrogate: 2,4,6-Tribromophenol	0.601		mg/L	0.7500		80	15-110			
Surrogate: 2-Chlorophenol-d4	0.653		mg/L	0.7500		87	15-110			
Surrogate: 2-Fluorobiphenvl	0.399		mg/L	0.5000		80	30-130			
Surrogate: 2-Fluorophenol	0.618		mg/L	0.7500		82	15-110			
Surrogate: Nitrobenzene-d5	0.448		mg/L	0.5000		90	30-130			
Surrogate: Phenol-d6	0.688		mg/L	0.7500		92	15-110			
Surrogate: p-Terphenyl-d14	0.432		mg/L	0.5000		86	30-130			
LCS Dup										
2,4,5-Trichlorophenol	0.38	0.05	mg/L	0.5000		75	30-130	0.6	20	
2,4,6-Trichlorophenol	0.36	0.05	mg/L	0.5000		72	30-130	0.7	20	
2,4-Dinitrotoluene	0.40	0.05	mg/L	0.5000		81	40-140	3	20	
2-Methylphenol	0.44	0.05	mg/L	0.5000		88	30-130	5	20	
3+4-Methylphenol	0.92	0.10	mg/L	1.000		92	30-130	6	20	
Hexachlorobenzene	0.37	0.05	mg/L	0.5000		74	40-140	0.6	20	
Hexachlorobutadiene	0.32	0.05	mg/L	0.5000		65	40-140	0.2	20	
Hexachloroethane	0.36	0.02	mg/L	0.5000		72	40-140	2	20	
Nitrobenzene	0.41	0.05	ma/L	0.5000		81	40-140	2	20	
			5,				-		-	

2211 Tel: 401-461-7181 Dependability + Quality Fax: 401-461-4486 ◆ Service http://www.ESSLaboratory.com



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF

Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

# **Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
	13	11/8270D S	emi Volatile	e TCLP Co	mpounds					
Batch DA11402 - 3520C										
Pentachlorophenol	0.41	0.25	mg/L	0.5000		82	30-130	4	20	
Pyridine	0.37	0.50	mg/L	0.5000		73	40-140	2	20	
Surrogate: 1,2-Dichlorobenzene-d4	0.408		mg/L	0.5000		82	30-130			
Surrogate: 2,4,6-Tribromophenol	0.599		mg/L	0.7500		80	15-110			
Surrogate: 2-Chlorophenol-d4	0.670		mg/L	0.7500		89	15-110			
Surrogate: 2-Fluorobiphenyl	0.387		mg/L	0.5000		77	30-130			
Surrogate: 2-Fluorophenol	0.633		mg/L	0.7500		84	15-110			
Surrogate: Nitrobenzene-d5	0.451		mg/L	0.5000		90	30-130			
Surrogate: Phenol-d6	0.703		mg/L	0.7500		94	15-110			
Surrogate: p-Terphenyl-d14	0.427		mg/L	0.5000		85	30-130			



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

#### Notes and Definitions

- Z18 Temperature is not within  $23 \pm 2^{\circ}$ C.
- Z17 Temperature is within 23 + 2 °C.
- U Analyte included in the analysis, but not detected
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost TCLP Annual Sampling

ESS Laboratory Work Order: 21A0235

#### ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

#### ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf

> Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

> > Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

# ESS Laboratory Sample and Cooler Receipt Checklist

Client:		Bristol WP	CF - NETL		E	SS Project ID:		21A	0235		
					[	Date Received:		1/12	2021		
Shipped/De	livered Via:	1	-SS Courier		D:	ays for Project:		51	Day		
1. Air bill ma	anifest prese	nt?		No	6. Does (	COC match bot	tles?			[	Yes
All NO					7. Is CO0	C complete and	I correct?			[	Yes
2. Were cus	stody seals p	resent?	L		8. Were	samples receiv	ed intact?	n ing sagangan		[	Yes
3. Is radiatio	on count <10	0 CPM?	L	Yes	9. Were	iabs informed	about <u>sh</u>	ort holds	& rushes?	,	(Yes) No / NA
4. Is a Cool Temp:	er Present?	Iced with:	[ce	Yes	10. Were	any analyses	received	outside o	hold time?	,	Yes No
5. Was CO	C signed and	l dated by cli	ent?	Yes							
11. Any Sub ESS S	contracting r Sample IDs: Analysis:	needed?	Yes /	NB	12. Were a. Air bu b. Does	e VOAs receive Ibbles in aqueo methanol cove	d? ous VOAs' er soil com	? ipletely?			Yes No Yes / No Yes / No / NA
	TAT										
								• • • • •			
13. Are the	samples pro	perly presen	ved?	(es) / No	Tin	ne:		Bv:			
b. Low Leve	el VOA vials	frozen:		Date:	Tir	ne:	-	Ву:			
Sample Red	ceiving Notes	5:									
· ·	-							de es	·. ·		
								•			
14. Was th a. Was the Who was ce	ere a need to re a need to ontacted?	contact Pro contact the c	oject Manager Slient?	? Date:	Yes No Yes No	ne:	_	Ву:			
				<u> </u>						_	
Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Pre	servative		Record pl	H (Cyanic Pesticide	le and 608 s)
1	125972	Yes	N/A	Yes	8 oz jar		NP	87 <u>-</u>			
1	125973	Yes	N/A	Yes	8 oz jar		NP				
<b>΄</b> 1	125980	Yes	N/A	Yes	2 oz. Jar		NP	· · · ·			
2	125976	Yes	N/A	Yes	8 oz jar		NP				
2	125977 125981	Yes Yes	N/A N/A	Yes Yes	8 oz jar 2 oz. Jar		NP	· ·			
2	123301	103	1071								
2nd Review Were all co Are barcod Are all Flas Are all Hex Are all QC Are VOA st	w ontainers sc e labels on c hpoint sticke Chrome stic stickers attach	anned into orrect contai rs attached/ kers attache ched? red if bubbles	storage/lab? ners? container ID # d? s noted?	t circled?	Initials AC Yes / No Yes / No Yes / No Yes / No Yes / No			·			
Completed By:	() J	mar	Henrie	J	_ Date & Time:1	12/21	<u>17:</u>	52			_
								рана с с с с с с с с с с с с с с с с с с	ener an		Page 27 of 29

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# ESS Project ID: \_\_\_\_\_ Date Received: \_\_\_\_ 21A0235 1/12/2021 Bristol WPCF - NETL Client: DD Reviewed 1805 Date & Time: 112/21 By: , la de la constante de la consta . 1. a. a.t. 11 . .... . . . . , , .

# ESS Laboratory Sample and Cooler Receipt Checklist

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ESS L	aboratory	1		C	ESS Lab# 21A0235																
Division of Thielsch Engineering, Inc. Turn Time					5 Days	Reporti	Reporting														
185 France	as Avenue, Cr	anston RI 0291	0	Rhode island	Limits																
Tel. (401) 461-7181 Fax (401) 461-4486					is this project for any of the following?:				Electonic Data Checker Electonic												
www.essla	boratory.com		<u></u>			Deliverables (Please Specify ->)															
	Cor	mpany Name		Project #	Project Na Compact TCI B App	i <b>me</b> ual Samolina															
L	Col	ntact Person			Address	<u> </u>	a														
	Gl	enn Conway			2 Plant Ave		j Asi	eta				÷									
	City		S		Zip Code	PO#	Ana Ana	N 8		8	8										
	Bristol	mber	FAXI	ki Iumber	Email Add	1	- `	2	8	stei	-pic	ပ္ရ									
· ·	401-253-88	77	401-2	53-2910	gconway@bris	tolri.gov		8	S S	8	£	2									
ESS Lab	Collection Date	Collection Time	Sample Type	Sample Matrix	Sær	aple ID		TCLP	TCLP	TCLP	TCLP	TCLP					_				
1	01-12-21	0800	Grab	Selid	S	ludge		х	x	x	×	x									
2	01-12-21	0800	Grab	Solid	Yar	dwaste		x	x	x	x	x									
					i <u> </u>													-			
	( (												1			-					
	1 1 1							1					-					-			
																	· · · · ·				
	ntainer Type	AC-Air Case	tte AG-Amber Gi	SS B-BOD Bottle	C-Orbitainer I-lar 0-0	her P.Poly S-Str	arile V-Vial		A	G.		AG				-		-			
Contr	liner Volume	1-100 ml	2.2 5 aal 3-250 m	4_300 ml 5_500	mi 6-11 7-VOA 8-2 07	9-4-07 10-8-07	11-Other*		1	0		8									
Proso	rvation Code:	1-Non Preserved	1 2-HCl 3-H2SO4	4-HNO3 5-NaOH 8-M	ethanol 7-Na2S2O3 8-ZnAce, Na	0 11-Other* 1 1					1						-				
					Numb																
	· · · · · · · · · · · · · · · · · · ·	Laborator	y Use Only		Sampled by :																
Coole	r Present:	<u> </u>	O Drop Off		Comments:	Please s	pecify "Othe	ur" pr	250	vatik	e an	d cor	tainen	s type	s in th	lis spa	:e				
Seal	s intact:		O Pickup																		
Cooler T	emperature:	1.	°C			<b>.</b>			_,									-			
Re	elinquished by	: (Signature, Da	ate & Time)	Received By:	(Signature, Date & Time)	Relinquished B	y: (Signature	, Øat	Ø& -	[[me]		0	Rece	elved I	By: (Sig	Inature	, Date	& Tim	ie) /		
/	$\sim$	Y 1-12	21 1120-	A	< 11 16/ cili	<u>ARS</u>	21/1	44	1	1.0	2	Ű	Whe	<u>~ (</u>	Hei	wa	1	7.2	2		
Re	elinquished by	Signature, Da	ate & Time)	Received By:	(Signature, Date & Time)	Relinquished B	y: (Signature	, Dat	e & '	Time)			Rec	eived I	By: (Sig	nature	, Date	& Tim	ie)		
		-																			
# METALS

ESS Laboratory BAL Laboratory

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

#### RE: Compost Sampling ESS Laboratory Work Order Number: 21B0307

Division of Thielsch Engineering, Inc.

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

REVIEWED

By ESS Laboratory at 11:39 am, Mar 10, 2021

Laurel Hold

ESS Laboratory Director

#### Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

#### Sample Receipt

The following sample(s) were received on February 10, 2021 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber 21B0307-01 21B0307-02 **ClientMatrix** Soil Soil SampleName C-1 Compost C-2 Compost



The Mictobiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

### **PROJECT NARRATIVE**

#### **Classical Chemistry**

21B0307-01 Estimated value. Sample hold times were exceeded (H). Color

#### Microbiology

21B0307-01 Estimated value. Sample hold times were exceeded. Salmonella

No other observations noted.

End of Project Narrative.



Division of Thielsch Engineering, Inc.

# **BAL** Laboratory

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

#### **Total Metals**

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59 ESS Laboratory Sample ID: 21B0307-01 Sample Matrix: Soil

<u>Analyte</u> Aluminum	<u>Results</u> 4120	<u>Units</u> mg/kg dry	<u>MRL</u> 8.03		<u>Method</u> 6010C	$\frac{\mathbf{DF}}{1}$	<u>Analyst</u> KJK	Analyzed 02/11/21 21:43	<u>I/V</u> 2.12	<u>F/V</u> 100
Arsenic	ND	mg/kg dry	4.01	7	6010C	1	KJK	02/11/21 21:43	2.12	100
Barium	77.8	mg/kg dry	4.01		6010C	1	KJK	02/11/21 21:43	2.12	100
Boron	ND	mg/kg dry	8.03		6010C	1	KJK	02/11/21 21:43	2.12	100
Cadmium	ND	mg/kg dry	0.80		6010C	1	KJK	02/11/21 21:43	2.12	100
Chromium	12.2	mg/kg dry	1.61		6010C	1	KJK	02/11/21 21:43	2.12	100
Copper	128	mg/kg dry	4.01		6010C	1	КЈК	02/11/21 21:43	2.12	100
Lead	56.8	mg/kg dry	8.03		6010C	1	KJK	02/11/21 21:43	2.12	100
Mercury	0.199	mg/kg dry	0.055		7471B	1	JRB	02/16/21 15:50	0.61	40
Molybdenum	3.41	mg/kg dry	1.61		6010C	1	КЈК	02/11/21 21:43	2,12	100
Nickel	10.7	mg/kg dry	4.01		6010C	1	КЈК	02/11/21 21:43	2.12	100
Selenium	ND	mg/kg dry	8.03		6010C	1	KJK	02/11/21 21:43	2.12	100
Silver	1.02	mg/kg dry	0.80		6010C	1	КЈК	02/11/21 21:43	2.12	100
Ziņc	279	mg/kg dry	4.01		6010C	1	KJK	02/11/21 21:43	2.12	100

### 8082A Polychlorinated Biphenyls (PCB)

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59				-	ESS Laborator Sample Matrix Date Extracted	y Sampl : Soil : 2/11/2	e ID: 21B03 1 9:55	07-01		
<u>Analyte</u> PCB (Total)	<u>Results</u> ND	<u>Units</u> mg/kg dry	<u>MRL</u> 0.743		<u>Extraction</u>	<u>DF</u> 1	<u>Analyst</u> MJV	<u>Analyzed</u> 02/12/21 12:39	<u><b>I/V</b></u> 1	<u><b>F/V</b></u> 1
		%R	ecovery	Qualifier	Limits					
Surrogate: Decachlorobiphenyl		5	7%		30-150					
Surrogate: Decachlorobiphenyl [2C]		7	0%		30-150					
Surrogate: Tetrachloro-m-xylene		6	0%		30-150					
Surrogate: Tetrachloro-m-xylene [2C]		4	6%		30-150					



Sample Matrix: Soil

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

ESS Laboratory Sample ID: 21B0307-01

### **Classical Chemistry**

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59

Analyte	<b>Results</b>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	DF	<u>Analyst</u>	<u>Analyzed</u>
Ammonia as N	0.717	% dry	0.0844	350.2	100	JLK	02/12/21 16:55
Color	H Black	Color Units	N/A	HACH	1	CCP	02/11/10 14:14
Conductivity	WL 10.4	mmhos/cm	0.005	9050A	1	EEM	02/11/21 10:45
Corrosivity (pH)	7.59	S.U.	N/A	9045	1	CCP	02/10/21 19:03
Corrosivity (pH) Sample Temp	Soil pH me	asured in water	at 22.0 °C.				
Nitrate as N	ND	mg/kg dry	0.509	353.2	1	JLK	02/11/21 18:39
Percent Moisture	41	%	1	2540G	1	CCP	02/10/21 15:34
Total Nitrogen	37200	mg/kg dry	5910	4500N	50	EEM	02/16/21 14:56
Total Organic Carbon (Average)	308000	mg/kg dry	99.2	9060	1	CCP	02/16/21 16:05

#### **Subcontracted Analysis**

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59 ESS Laboratory Sample ID: 21B0307-01 Sample Matrix: Soil

ESS Laboratory Sample ID: 21B0307-01

Sample Matrix: Soil

<u>Analyte</u> % Foreign Matter	<u>Results</u> 0.6	Units %	MRL	Method SUB	<u>DF</u>	<u>Analyst</u> SUB	<u>Analyzed</u> 02/19/21 0:00	<u>I/V</u>	<u>F/V</u>
Moisture Content	41.2	%		SUB		SUB	02/19/21 0:00		
Organic Matter	62.8	%		SUB		SUB	02/19/21 0:00		
Particle Size	9.53 mm			SUB		SUB	02/22/21 9:36		

### **Compost Standards**

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59

<u>Analyte</u> Compost Standard	<u>Results</u> These Compost	<u>Units</u> Standards	<u>MRL</u> were provided by cl	<u>Method</u> lient	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Reduction in Organics	>60%								
Reheating - above ambient	<20 Deg C								



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

Microbiology

Client Sample ID: C-1 Compost Date Sampled: 02/08/21 08:00 Percent Solids: 59			ESS Laboratory Sam Sample Matrix: Soil	01	
<u>Analyte</u> Fecal Coliform Salmonella	<u>Results</u> < 3 <, Ha 12.3	Units MPN/g dry MPN/4g dry	Method 9221E EPA625R92	<u>Analyst</u> ARG 02 RJB 02	Analyzed 2/10/21 15:30 2/16/21 15:00
Client Sample ID: C-2 Compost Date Sampled: 02/10/21 08:00 Percent Solids: 65			ESS Laboratory Sam Sample Matrix: Soil	ple ID: 21B0307-	02
<u>Analyte</u> Fecal Coliform	Results < 3	<u>Units</u> MPN/g dry	Method 9221E	Analyst A ARG 02	<u>Analyzed</u> 2/10/21 15:30



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

## **Quality Control Data**

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
			Total Meta	ls		Algeneration and a second second second		******		
Batch DB11127 - 3050B										
Riantz										
Aluminum	ND	5 00	ma/ka wet							
Arcenic	ND	2 50	mg/kg wet							
Barium	ND	2,50	mg/kg wet							
Boron	ND	5.00	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Conper	ND	2 50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Molybdenum	ND	1.00	ma/ka wet							
Nickel	ND	2.50	ma/ka wet							
Selenium	ND	5.00	ma/ka wet							
Silver	ND	0.50	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Aluminum	10100	16.7	mg/kg wet	11450	- Hannidan I. Jawa	88	80-120			
Arsenic	35.1	8.33	mg/kg wet	43.10		81	80-120			
Barium	530	8,33	mg/kg wet	597.0		89	80-120			
Boron	197	16.7	mg/kg wet	230.0		86	80-120			
Cadmium	97.3	1.67	mg/kg wet	118.0		82	80-120			
Chromium	259	3,33	mg/kg wet	299.0		87	80-120			
Copper	289	8.33	mg/kg wet	330,0		88	80-120			
Lead	127	16.7	mg/kg wet	144.0		88	80-120			
Molybdenum	55.6	3.33	mg/kg wet	60.20		92	80-120			
Nickei	151	8.33	mg/kg wet	171.0		88	80-120			
Selenium	128	16.7	mg/kg wet	154.0		83	80-120			
Silver	62.2	1.67	mg/kg wet	73.50		85	80-120			
Zinc	712	8.33	mg/kg wet	874.0		81	80-120			
LCS Dup										
Aluminum	10300	16.7	mg/kg wet	11450		90	80-120	2	20	
Arsenic	35.7	8.33	mg/kg wet	43,10		83	80-120	2	20	
Barium	487	8.33	mg/kg wet	597,0		82	80-120	8	20	
Boron	200	16.7	mg/kg wet	230.0		87	80-120	2	20	
Cadmium	97.7	1.67	mg/kg wet	118.0		83	80-120	0.5	20	
Chromium	258	3.33	mg/kg wet	299.0		86	80-120	0.2	20	
Copper	292	8.33	mg/kg wet	330.0		89	80-120	1	20	
Lead	128	16.7	mg/kg wet	144.0		89	80-120	0.4	20	
Molybdenum	55.6	3.33	mg/kg wet	60.20		92	80-120	0.02	20	
Nickel	150	8.33	mg/kg wet	171.0		88	80-120	0.4	20	
Selenium	129	16.7	mg/kg wet	154.0		83	80-120	0.1	20	
Silver	62.2	1.67	mg/kg wet	73.50		85	80-120	0.1	20	
Zinc	713	8,33	mg/kg wet	874.0		82	80-120	0,2	20	
Batch DB11128 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet					******		······································

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

	an na handa na	99999999999999999999999999999999999999		Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
			Total Meta	Is	ANNO 100 ANNO 200 ANNO 200			*******************************	*******	
Batch DB11128 - 7471A										
LCS										
Mercury	27.4	3.05	mg/kg wet	27,90		98	80-120			
Mercury	26.8	3.14	ma/ka wet	27.90		96	80-120	2	20	
		80824 Doly	chlorinatod F	Rinhonyle				-		
		OUOZA FUIY		пения	(FCD)		i.			
Batch DB11003 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Arodor 1016 [2C]	ND	0.02	mg/kg wet							
Arodor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Arodor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Arodor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Arocior 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0,02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	UN	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Arodor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0192		mg/kg wet	0.02500		77	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0217		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene	0.0194		mg/kg wet	0.02500		78	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0219		mg/kg wet	0.02500		87	30-150			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		104	40-140			
Arodor 1260	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Arodor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		105	40-140			
Surrogate: Decachlorobiphenyl	0.0208		mg/kg wet	0.02500		83	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0236		mg/kg wet	0.02500		94	30-150			
Surrogate: Tetrachloro-m-xylene	0.0202		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0222		mg/kg wet	0.02500		89	30-150			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		96	40-140	0.5	30	
Aroclor 1016 [2C]	0.5	0,02	mg/kg wet	0.5000		103	40-140	0.8	30	
Aroctor 1260	0.5	0.02	mg/kg wet	0.5000		98	40-140	2	30	



Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		8082A Poly	chlorinated	Biphenyls	(PCB)					
Batch DB11003 - 3540C										
Aroctor 1260 [2C]	0,5	0.02	mg/kg wet	0.5000	2000-2000 - FE CONTRACTOR	106	40-140	1	30	
	0 0205		ma/ka wet	0 02500		97	20-150			
Surrogate: Decachlorobiphenyl	0.0205		mg/kg wet	0.02500		02	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0230		mg/kg wet	0.02500		54 79	30-150			
Surrogate: Tetrachloro-m-xylene	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachioro-m-xylene [2C]	0.0210	С	lassical Che	mistry		0.				
Ratch DB11110 - Coneral Proparation										
Blank					<u>_</u>		<u> </u>			
Conductivity	ND	0,005	mmhos/cm							
LCS										
Conductivity	1400		umhos/cm	1413		99	90-110			
Batch DB11139 - General Preparation										
Blank										
Nitrite as N	ND	0.01	mg/kg wet							
LCS	******									
Nitrite as N	0.26		mg/L	0.2497		102	90-110			
Batch DB11141 - General Preparation										
Blank						- /				
Nitrate/Nitrite as N	ND	0.02	mg/kg wet							
Nitrate/Nitrite as N	ND	0.02	mg/kg wet							
LCS										
Nitrate/Nitrite as N	0.52		mg/L	0.5000		105	90-110			
Nitrate/Nitrite as N	0.52		mg/L	0.5000		105	90-110			
Batch DB11144 - NH4 Prep										
Blank										
Ammonia as N	ND	0.00001	% wet							
LCS										
Ammonia as N	0.00010	0.00001	% wet	0.00009994		99	80-120			
Batch DB11149 - General Preparation										
Blank										
Total Organic Carbon (1)	ND	100	mg/kg							
Total Organic Carbon (2)	ND	100	mg/kg							
LCS										
Total Organic Carbon (1)	10400	100	mg/kg	10000		104	80-120			
Total Organic Carbon (2)	10600	100	mg/kg	10000		106	80-120			
LCS Dup										
Total Organic Carbon (1)	11000	100	mg/kg	10000		110	80-120	6	20	
Total Organic Carbon (2)	10700	100	mg/kg	10000		107	80-120	1	20	
Batch DB11212 - TKN Pren										



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		C	Classical Cher	mistry						
Batch DB11212 - TKN Prep										
Blank										
Total Kjeldahl Nitrogen as N	ND	75	mg/kg wet							
LCS										
Total Kieldahl Nitrogen as N	4610	750	mg/kg wet	4375		105	80-120			



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

#### **Notes and Definitions**

Z24	Black
Z23	These Compost Standards were provided by client
Z-10	Soil pH measured in water at 22.0 °C.
Z-03b	9.53 mm
Z-03a	>60%
Z-03	<20 Deg C
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
На	Estimated value. Sample hold times were exceeded.
Н	Estimated value. Sample hold times were exceeded (H).
D	Diluted.
<	Less than the Method Detection Limit.
ND	Analyte NOT DETECTED above the detection limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
I/V	Initial Volume
F/V	Final Volume
Ş	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too Numerous to Count



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0307

#### ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

#### ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ion: athly	21B0307 1 of 1 07 10 21	12://1/20		Laboratory Log and Soil Description		Dark Brown Organic silty sand								02.19.21
ject Informal post Bi Mo Bristol, RI	ect Number:			Permeability cm/sec										viewed:
Pro. Con	ESS Proj try Page:	L Date.		CBR @ 0.2"										Date Re
	Summa	3-126	ility Tests	CBR @ 0.1"										
		: 7421-E	3R / Permeab	Target Test Setup as % of Proctor										
		ort No.:	Proctor / CE	γ <sub>d</sub> <u>MAX</u> (pef) W <sub>opt</sub> (%) (Corr.)	557								1.	
ion: F	Iway Conway	, Repo	T	Yd <u>MAX</u> (pef) W <sub>opt</sub> (%)	D1:								on 02.18.2	2-120
Informat stol WPC ristol, RI	llenn Con 3y: Glenn	HEET		Test Water Content									eted by JM	24
Client Bris B	PM: G signed E	TAS		Dry unit wt. pcf									as comple	3y:
	Ass	DA		ບຶ	D854					 			t test wa	wed F
				Org. %	D2974	62.8							conten	tevier
	1	TEST	s	Fines %		13.6	-						Organic	н
iue 10 3454	98		on Test	Sand %	D6913	75.0								
es Aver RI, 029 1)-467-6	-467-23 <u>ch.com</u>	ATO!	lentificati	Gravel %		11.4								
Franc nston e: (401	(401) thielsc	SOR SOR	Ic	PL PL	318									
195 Cra Phon	Fax:	LAF		1 EL %	Ď			ļ		 				
	۲. ۲.	Ter		As Receivec Water Content	D2216	43.1								
H.				Laboratory No.		21B0307-01								02.12.21
JS L				ample ID		1-Compost								
HIH				8		C.								e Received:
E				Souri		Gral								Dati

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February 19, 2021



ESS Laboratory 185 Frances Avenue Cranston, RI 02910

- Attn: Mr. Glenn Conway P: (401) 253-8877 E: <u>gconway@bristolri.gov</u>
- Re: Inerts & Sharps Testing ESS Project No. 21B0307

Dear Mr. Conway:

TEI received a soil sample from ESS Laboratory on February 12, 2021. The sample was emptied onto an examining pad, separated by component, weighed and visually examined to determine the percent of foreign matter. Tests were performed under the guidance of ASTM D2488, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)".

Listed below are test results summarizing laboratory visual soil identification for percent Foreign Matter performed on ESS Sample No. 21B0307-01.

#### Total Dry Weight: 77.38

Sample No.	% "Soil"	% Glass	% Plastic	% Fibers	% Metal
ESS #20B0346-01	99.4	0.1	0.3	0.2	0.0

Comments: None

If you have any questions, please contact me at (401) 467-6454 ext. 3924.

Sincerely, THIELSCH ENGINEERING, INC.

Steven Accetta Laboratory Coordinatior

Jessica McDaniel Laboratory Technician

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Contraction of the second s	يليه يلكما والمتقادين فالم
Children C. Salarante, and	والمتعاطية ومقدوبه فربسه والمنافع
Children and a second s	والمتعلية ومتعقد والمستعلمات والمستعلمات والمستعلمات والمستعلمات والمستعلمات والمستعلمات والمستعلمات والمستعلم والمستعلم والمستعلمات والمستعلم
State and the second	بالمتكلك بتعشين فيسطل سنط
Children and the second s	بالمعلك ويستعل والقارب والمساور والمستقل
Contraction of the second seco	والمططلية يتشترين فيسبيك مستليب المستك
Contraction of the second	والمعالك بمشتخل فيقيب المسمل فمكانات
Charles and and a second second	والمعطط ومقتعته فيقيده والمستليم والمطاطر ومنبيه
Conduction and the second se	بالمعظظ ليتعشفن فيهيب المستكر مكرا كمستعلقا والمستعمل
	والمعاطيا ويقتفن فيهيده ويستبله يستبل مستليا وستنبغ والمقاطر والمقتفين ويترونهم والمستلك والمستلك والمستلك
Constant and and and a set of the	الشياشان يتشترين فيسيله يستليم والمستليات والمستركين والم
Contraction of the second	الشياباتين فيشتك ويستعليه ويستعلم والمستعلقات والمست
Contraction of the second	الشعليلية يشترين فيستلك ستكريب الاستنباط فسكانا المستنب اللبست فكمست فالمشافر والمشافر والمسترك و والمسترك والمسترك والمست والمسترك والم
Contraction and the second	المغلظه بتعقيف فيستليب المسليم بالاستنباك متناكب فللمعافية
Contraction of the second	اللله فلظل يتعقفن ينفيت المستناح كاللا منتبين للنصبا لاستنبع فترقي
Charles and and any state of the second se	
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### ESS Laboratory Sample and Cooler Receipt Checklist

Cllent:		Bristol WF	PCF - NETL			ESS P	roject ID:	21B0307	
Shinned/D	elivered Via <sup>.</sup>		ESS Courier			Date F Project F	Received:	2/10/2021	
Chippedid	······································	interface types in the	200 0001101	<u></u>		Days fo	r Project:	5 Day	
1. Air bill m Air No.:	anifest prese	nt? NA	[	No		6. Does COC r	natch bottles?		Yes
2. Were cu	stody seals p	resent?	[	No		7. Is COC com	plete and corre	act?	Yes
3. Is radiati	on count <10	0 CPM?	Ľ	Yes		8. Were sampl	es received int	act?	Yes
4. Is a Coo Temp:	ler Present? 5.8	Iced with:	lce	Yes		9. Were labs i 10. Were any	nformed abou analyses recei	t <u>short holds &amp; rushes</u> ? ved outside of hold time?	Yes / No / NA Yes / No
5. Was CO	C signed and	l dated by cl	ient? [	Yes	]				
11. Any Sut ESS	ocontracting r Sample IDs: Analysis: TAT:	reeded? Fecal S	Ges.	1 No Lotiche Si	YC.	12. Were VOA a. Air bubbles b. Does methe	s received? In aqueous VC anol cover soil	DAs? completely?	Yes / No Yes / No Yes / No NA
13. Are the a. If metals b. Low Lev	samples pro preserved up el VOA vials	perly preser pon receipt: frozen:	ved?	Yes No Date: Date:		Time:		By: By:	
Sample Red	celving Notes	:							
14. Was th a. Was the Who was co	ere a need to re a need to ontacted?	o contact Pro	oject Manager client?	? Date:	Yes No Yes No	) _ Time:		Ву:	
Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Contain	er Type	Preservati	ive Record pH ( Per	Cyanide and 608 sticides)
1	134961	Yes	N/A	Yes	Plastic	Baggie	NP		
1	134962	Yes	N/A	Yes	Plastic	Baggie	NP		
1	134963	Yes	N/A	Yes	Plastic	Baggie	NP		
2	134960	Yes	N/A	Yes	Plastic	Baggie	NP		
2nd Review Were all co Are barcode Are all Flash Are all Hex Are all QC s Are VOA sti	ntainers sca a labels on co npoint sticker. Chrome stick ilckers attach ckers attach	inned into s prrect contain s attached/o ers attached ned? ed if bubbles	storage/lab? hers? iontainer ID # J? inoted?	circled?	Initials	Yes / No / NA Yes / No / NA Yes / No / NA Yes / No / NA Yes / No / NA			
Completed By: Reviewed By:	A	Im	un : He	min	Date & Time: Date & Time:	2/10/2/	21 1	239 12:49	

(J20)			Excel		eijnyc eedan	90 90 100 100 100 100 100 100 100 100 10	regen buisich ding (ai ding (ai ding (ai ding ding ding ding ding ding ding din	Na Nain A, Hq A, Hib A, Solid Boh Boh A A A A A A A A A A A A A A A A A A A	POC, Ammo Conductivity, Total Vilroge Total Volume Balmonella ( Mante matt Red. In organics Mante matt Red. In organics Mante Bize Particia Co Fectifical Co	x x x x x x x x x x x x										d containers types in this space			MRederved By: (Signature, Date & Time)	(AR alula and	kecelved By: (Signature, Dale & Tinfe)	
			a Checker						Cojot	×										ative ar			ne)		ne)	
} (	₽								*alateM	×										N988W			tte & Til	1134	tte & Ti	
K ESS Lab #	Reporting	Limits	ng?: Electonic Detworehter		ithly	8(9Å	₩ #	tri,gov	R Fecal Colifon	mpost X	Impost					er P-Poly S-Sterile V-Vial	9-4 cz 10-8 cz 11-Other*	4 9-NH4CI 10-DI H2O 11-Other of Contrainers per Sample:		Please specify "Other" p		, ZII, U4, U1, B2,38,MU, N9, A3	Relinguished By: (Signature, Dat	ME Ulin	Relinquished By: (Signature, Dat	
HAIN OF CUSTOD	5 Days		is project for any of the followi	Project Nem	Compost Bi mor	Adidress 2 Plant Ave	Zip Code 02809	Email Addres gconway@bristol		8	ទ					C-Cubitalmen J-Jar Q-Oth	0mL 6-1L 7-VOA 8-2 ez	dethanoi 7-Na2S2O3 8-Zhace, NaOF	Sampled by :	Commenter		Metais = AI, b, Ca, Pb, Ni, Ag	: (Signature, Date & Time)	דןוקרי סגרי	: (Signature, Date & Time)	
0	Tum Time	<b>Regulatory State</b>	4 4 4 4 4	Protect #				umber 3-2910	Sample Matrix	春ぷ	<b>万</b>					ISS B-BOD Bottle	L 4-300 ml. 5-50	4-HNO3 5-NROH 6-I					Received By	MM	Received By	
		A	g				<i>3</i> , <i>1</i>	FAX N 401-25	Sample Type	4	Grab					tte AG-Amber Gk	2.2.5.gal 3-250 m	1 2-HCI 3-H2SO4	v Itao Only			diministration	ate & Time)	2260 12-0	ate & Tlme)	
	teenimor, Imc.	instan Ri 0291(	: (401) 461-448	mame Name	stal WFCF	<b>tact Person</b> Inn Conway		uber 7	Collection	0000	0800					AC-Air Casse	1-100 ml.	1-Non Preserver	l ahorator			#12	(Signature, Du	7 . 4	: (Signature, D	
aboratorv	Thielsch Enoic	IS AVENUE, CII	461-7181 Fax	boratory.com	5	85	City Backford	elephone Nur 401-253-887	Collection Date	2-8-21	2-10-21					utainer Type:	ainer Volume:	rvation Code			ur Present: In Internt	is merchin: Temperature:	elinguished by		elinquished by	
ESS L	Division of	185 France	Tell (401).	www.essla							à	\$				Ŭ	Cont	Prese				Cooler 1	R.			

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Division of Thielsch Engineering, Inc.

BAL Laboratory The Microbiology Division

of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

RE: Compost Sampling ESS Laboratory Work Order Number: 21D0444

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

REVIEWED

By ESS Laboratory at 4:54 pm, Apr 27, 2021

Land Holled

**ESS Laboratory Director** 

#### **Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

#### Sample Receipt

The following sample(s) were received on April 14, 2021 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber	ClientMatrix	SampleName
21D0444-01	Soil	C1-Compost
21D0444-01	Soil	C1-Compost
21D0444-02	Soil	C2-Compost



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

### **PROJECT NARRATIVE**

**Classical Chemistry** 

21D0444-01 Estimated value. Sample hold times were exceeded (H). Color

No other observations noted.

End of Project Narrative.



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

#### **Total Metals**

Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59

ESS Laboratory	Sample ID:	21D0444-01
Sample Matrix:	Soil	

<u>Analyte</u> Aluminum	<u>Results</u> 2130	<u>Units</u> mg/kg dry	<u>MRL</u> 8,03		<u>Method</u> 6010C	<u>DF</u> 1	<u>Analyst</u> KJK	Analyzed 04/16/21 22:01	<u>I/V</u> 2.11	<u>F/V</u> 100
Arsenic	ND	mg/kg dry	4.02	7	6010C	1	KJK	04/16/21 22:01	2.11	100
Barium	50.5	mg/kg dry	4.02		6010C	1	KJK	04/16/21 22:01	2,11	100
Boron	10.8	mg/kg dry	8,03		6010C	1	KJK	04/16/21 22:01	2,11	100
Cadmium	ND	mg/kg dry	0.80		6010C	1	KJK	04/16/21 22:01	2,11	100
Chromium	6,88	mg/kg dry	1.61		6010C	1	КЈК	04/16/21 22:01	2.11	100
Copper	54,3	mg/kg dry	4.02		6010C	1	КЈК	04/16/21 22:01	2,11	100
Lead	29,4	mg/kg dry	8,03		6010C	1	KJK	04/16/21 22:01	2,11	100
Mercury	0.195	mg/kg dry	0.056		7471B	1	JRB	04/20/21 12:36	0,6	40
Molybdenum	ND	mg/kg dry	1,61		6010C	1	KJK	04/16/21 22:01	2.11	100
Nickel	7,48	mg/kg dry	4.02		6010C	1	KJK	04/16/21 22:01	2.11	100
Selenium	ND	mg/kg dry	8,03		6010C	1	KJK	04/16/21 22:01	2.11	100
Silver	ND	mg/kg dry	0.80		6010C	1	KJK	04/16/21 22:01	2.11	100
Zinc	136	mg/kg dry	4.02		6010C	1	KJK	04/16/21 22:01	2.11	100

### **8082A** Polychlorinated Biphenyls (PCB)

Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59					ESS Laboratory Sample ID: 21D0444-01 Sample Matrix: Soil Date Extracted: 4/14/21 17:50							
<u>Analvte</u> PCB (Total)	<u>Results</u> ND	<u>Units</u> mg/kg dry	<u>MRL</u> 0.755		<b>Extraction</b>	<u>DF</u> 1	<u>Analyst</u> MJV	<u>Analyzed</u> 04/15/21 17:26	<u>I/V</u> 1	<u>F/V</u> 1		
	**************************************	%R	ecovery	Qualifier	Limits							
Surrogate: Decachlorobiphenyl		7	<sup>7</sup> 5 %		30-150							
Surrogate: Decachlorobiphenyl [2C]		7	79 %		30-150							
Surrogata: Tetrachloro-m-xylene		t.	18 %		30-150							
Surregate: Tetrachloro-m-xylene [2C]			4%		30-150							

### **Classical Chemistry**



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

.

ESS Laboratory Work Order: 21D0444

### **Classical Chemistry**

Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59

ESS Laboratory	Sample ID:	21D0444-01
Sample Matrix:	Soil	

<u>Analyte</u> Ammonia as N	<u>Results</u> 0.934	<u>Units</u> % dry	<u>MRL</u> 0.0410	<u>Method</u> 350.2	<u>DF</u> 50	Analyst JLK	<u>Analyzed</u> 04/20/21 17:07
Color	H Black	Color Units	N/A	HACH	1	CCP	04/14/21 20:14
Conductivity	WL 6.99	mmhos/cm	0.005	9050A	1	CCP	04/15/21 14:30
Corrosivity (pH)	8.53	S.U.	N/A	9045	1	EAM	04/14/21 20:03
Corrosivity (pH) Sample Temp	Soil pH me	asured in water	at 20,5 °C,				
Nitrate as N	ND	mg/kg dry	0,509	353,2	1	Л.К	04/15/21 21:50
Percent Moisture	41	9%	1	2540G	1	EAM	04/14/21 22:03
Total Nitrogen	30000	mg/kg dry	2370	4500N	20	ЛК	04/19/21 17:11
Total Organic Carbon (Average)	369000	mg/kg dry	96.6	9060	1	CCP	04/19/21 13:47
Water Insoluble Nitrogen	1.22	%	0.140	4500N	50	JLK	04/20/21 17:07

### **Subcontracted Analysis**

Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59				ESS Laboratory Sample Matrix:	/ Sample Soil	DID; 21D04	44-01		
<u>Analvte</u> % Foreign Matter Moisture Content Organic Matter Particle Size	<u>Results</u> 0.4 41.0 68.2 9.525 mm	<u>Units</u> % %	<u>MRL</u>	Method SUB SUB SUB SUB	<u>DF</u>	Analvst SUB SUB SUB SUB	Analyzed04/22/210:0004/22/210:0004/22/210:0004/22/210:00	<u>I/V</u>	<u>F/V</u>
		Com	post Stand	ards					
Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59				ESS Laboratory Sample Matrix:	/ Sample Soil	21D; 21D04	44-01		
<u>Analvte</u> Compost Standard Reduction in Organics Reheating - above ambient	<u>Results</u> These Compos >60% <20 Deg C	<u>Units</u> t Standard:	<u>MRL</u> s were provided	<u>Method</u> d by client	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>

Microbiology



Division of Thielsch Engineering, Inc,

# **BAL Laboratory**

. The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

		wherot	olology			
Client Sample ID: C1-Compost Date Sampled: 04/12/21 08:00 Percent Solids: 59			ESS Laboratory Sam Sample Matrix: Soil	ple ID: 21D04	44-01	
<u>Analyte</u> Fecal Coliform Salmonella	<u>Results</u> < 3 < 122	<u>Units</u> MPN/g dry MPN/4g dry	Method 9221E EPA625R92	<u>Analyst</u> RJB RJB	<b>Analyzed</b> 04/15/21 15:30 04/15/21 15:30	
	anan manan ara an an ing ang ang ang ang ang ang ang ang ang a	%Recovery	Qualifier Limits			THE PERSON NUMBER
Client Sample ID: C2-Compost Date Sampled: 04/14/21 08:00 Percent Solids: 61			ESS Laboratory Sam Sample Matrix: Soil	ple ID: 21D04	144-02	uter for the second and the second a
<u>Analvte</u> Fecal Coliform	<u>Results</u> < 3	<u>Units</u> MPN/g dry	<u>Method</u> 9221E	<u>Analyst</u> RJB	<u>Analvzed</u> 04/15/21 15:30	
		%Recovery	Qualifier Limits			



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



### CERTIFICATE OF ANALYSIS

#### Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

		•		Spike	Source		%REC		RPD	0
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualitier
			Total Meta	ls						
Batch DD11632 - 3050B										
Blank										
Aluminum	ND	5.00	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Boron	ND	5.00	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Copper	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Molybdenum	ND	1.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
166				******			· · · · · · · · · · · · · · · · · · ·			
Aluminum	5900	16.7	ma/ka wet	11450		52	40-160			
	383	8 33	ma/ka wet	43.10		89	80-170			
Paging Paging	530	8 33	mg/kg net	597.0		90	80-170			
Barigin	999	16.7	mg/kg wet	230 0		89 89	80-120			
B01011	299	1.67	mg/kg met	118.0		88	80-120			
Caurinom	197	2.22	mg/kg wet	200.0		80	80-120			
Chroman	297	<i>3.33</i>	mg/kg wet	277.9		07	80-120			
Copper	301	9.33	mg/kg wet	330-0		21 20	99.120			
Leao	130	19.7	mg/kg wet	60.20		90	80-120			
Molyboenum	39.0	3.33	mg/kg wet	171.0		99 03	99-129 80-120			
Nickel	197	9.33	mg/kg wet	171.9		94	60-120 63-143			
Selenium	129	10.7	mg/kg wet	194.y		97	94-14/			
Silver	68.1	1.67	mg/kg wet	73.50		93	80-120			
	758	8.33	mg/kg wet	874.0			80-120			
LCS Dup										
Aluminum	5930	14.1	mg/kg wet	11450		52	40-160	0.5	20	
Arsenic	35.6	7.04	mg/kg wet	43.10		83	80-120	7	20	
Barium	484	7.04	mg/kg wet	597.0		61	80-120	11	20	
Boron	192	14.1	mg/kg wet	230.0		84	80-120	6	20	
Cadmium	99.5	1.41	mg/kg wet	118.0		84	80-120	5	20	
Chromium	254	2.82	mg/kg wet	299.0		85	80-120	5	20	
Copper	283	7.04	mg/kg wet	330.0		86	80-120	6	20	
Lead	124	14.1	mg/kg wet	144.0		86	80-120	5	20	
Molybdenum	55.6	2.82	mg/kg wet	60.20		<del>9</del> 2	80-120	7	20	
Nickel	149	7.04	mg/kg wet	171.0		87	80-120	6	20	
Selenium	122	14.1	mg/kg wet	154.0		7 <del>9</del>	52-147	6	20	
Silver	64.7	1.41	mg/kg wet	73.50		88	80-120	5	20	
Zinc	723	7.04	mg/kg wet	874.0		83	80-120	5	20	
Reference									·····	
Lead	3730	28.6	mg/kg wet	4490		83	83-113			
			5. 2							
Batch DD11633 - 7471A										



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
			Total Meta	lş						
Batch DD11633 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	28.2	3.30	mg/kg wet	27.90		101	80-120			
LCS Dup										
Мегсигу	29.3	3.19	mg/kg wet	27.90		105	80-120	4	20	
		8082A Poly	chlorinated E	liphenyls	(PCB)					

Batch DD11409 - 3540C									
Blank									
Aroclor 1016	ND	0.02	mg/kg wet						
Aroclor 1016 [2C]	ND	0.02	mg/kg wet						
Aroclor 1221	ND	0.02	mg/kg wet						
Aroclor 1221 [2C]	ND	0.02	mg/kg wet						
Aroclor 1232	ND	0.02	mg/kg wet						
Arodor 1232 [2C]	ND	0.02	mg/kg wet						
Arodor 1242	ND	0.02	mg/kg wet						
Aroclor 1242 [2C]	ND	0.02	mg/kg wet						
Arodor 1248	ND	0.02	mg/kg wet						
Aroclor 1248 [2C]	ND	0.02	mg/kg wet						
Arodor 1254	ND	0.02	mg/kg wet						
Aroclor 1254 [2C]	ND	0.02	mg/kg wet						
Arodor 1260	ND	0.02	mg/kg wet						
Aroclor 1260 [2C]	ND	0.02	mg/kg wet						
Aroclor 1262	ND	0.02	mg/kg wet						
Aroclor 1262 [2C]	ND	0.02	mg/kg wet						
Arodor 1268	ND	0.02	mg/kg wet						
Aroclor 1268 [2C]	ND	0.02	mg/kg wet						
Surrogate: Decachlorobiphenvl	0.0232		mg/kg wet	0.02500	93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0228		mg/kg wet	0.02500	91	30-150			
Surrogate: Tetrachloro-m-xylene	0.0222		mg/kg wet	0,02500	<i>89</i>	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0,0243		mg/kg wet	0,02500	97	30-150			
LCS									
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000	90	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000	93	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000	95	40-140			
Aroclor 1260 (2C)	0.4	0.02	mg/kg wet	0.5000	86	40-140			
Surrogate: Decachlorobiphenyl	0.0228		mg/kg wet	0.02500	91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0225		mg/kg wet	0,02500	90	30-150			
Surrogater Tetrachloro-m-xylene	0.0225		mg/kg wet	0.02500	90	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0236		mg/kg wet	0.02500	94	30-150			
LCS Dup									
Arodor 1016	0.5	0.02	mg/kg wet	0.5000	95	40-140	5	30	



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ESS Laboratory Work Order: 21D0444

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch DD11409 - 3540C										
Arodor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		97	40-140	5	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		100	40-140	4	30	
Arodor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		90	40-140	4	30	
Surrogate: Decachlorobiphenyl	0.0236		mg/kg wet	0,02500		<del>91</del>	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0230		mg/kg wet	0.02500		92	30-150			
Surrogate: Tetrachloro-m-xylene	0.0242		mg/kg wet	0,02500		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0252		mg/kg wet	0.02500		101	30-150			
		C	lassical Chen	nistry						
Batch DD11534 - General Preparation			-							
Blank										
Conductivity	ND	0.005	mmhos/cm							
LCS								1/11/11/11		
Conductivity	1390		umhos/cm	1413		98	90-110			
Batch DD11551 - General Preparation							Star Brock Assessment and Addressment			
Blank										
Nitrite as N	ND	0.01	mg/kg wet							
LCS										
Nitrite as N	0.27		mg/L	0.2497		107	90-110			
Batch DD11553 - General Preparation										
Blank										
Nitrate/Nitrite as N	ND	0.02	mg/kg wet							
Nitrate/Nitrite as N	ND	0.02	mg/kg wet							
Nitrate/Nitrite as N	ND	0.02	mg/kg wet							
LCS										
Nitrate/Nitrite as N	0.50		mg/L	0.5000		100	90-110			
Nitrate/Nitrite as N	0.50		mg/L	0.5000		100	<del>9</del> 0-110			
Nitrate/Nitrite as N	0.50		mg/L	0.5000		100	90-110			
Batch DD11567 - General Preparation										
Blank										
Total Organic Carbon (1)	ND	100	mg/kg							
Total Organic Carbon (2)	ND	100	mg/kg							
LCS										
Total Organic Carbon (1)	9760	100	mg/kg	10000		98	80-120			
Total Organic Carbon (2)	9430	100	mg/kg	10000		94	80-120			
LCS Dup										
Total Organic Carbon (1)	9410	100	mg/kg	10000		94	80-120	4	20	
Total Organic Carbon (2)	9300	100	mg/kg	10000		93	80-120	1	20	
Batch DD11648 - TKN Prep			an a							
Blank									·····	
Total Kjeldahl Nitrogen as N	ND	0.3	mg/kg wet							



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



#### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		Clas	sical Chen	nistry						
Batch DD11648 - TKN Prep			27 - 1	·····						
Total Kjeldahl Nitrogen as N	ND	0.3	mg/kg wet							
LCS										
Total Kjeldahl Nitrogen as N	19	3	mg/kg wet	20.70		93	80-120			
Total Kjeldahl Nitrogen as N	19	3	mg/kg wet	20.70		93	80-120			
Batch DD11949 - NH4 Prep										
Blank										
Ammonia as N	ND	0.1	mg/kg wet							
Ammonia as N	ND	0.00001	% wet							
LCS										
Ammonia as N	0.00010	0.00001	% wet	0.00009994		95	60-120			
Ammonia as N	1.0	0.1	mg/kg wet	0.9994		95	80-120			



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



### CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

**Notes and Definitions** 

Z24	Black
Z23	These Compost Standards were provided by client
Z-10	Soil pH measured in water at 20.5 °C.
Z-03b	9.525 mm
Z-03a	>60%
Z-03	<20 Deg C
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
Ĥ	Estimated value. Sample hold times were exceeded (H),
D	Diluted.
<	Less than the Method Detection Limit.
ND	Analyte NOT DETECTED above the detection limit
drv	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
I/V	Initial Volume
F/V	Final Volume
Ş	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too Numerous to Count



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0444

#### ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

#### **ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water; LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf

> Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

> > Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: R1006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

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ion: ithly 21D0444 1 of 1 04.21.21			Laboratory Log and Soil Description		Dark Brown Organic poorly sand with silt and grav							16 66 PY
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H N N			Laboratory No.	1	21D0444-01							04 15 91
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IHI NGI		-	Source		Grab							Date Receive

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April 22, 2021



ESS Laboratory 185 Frances Avenue Cranston, RI 02910

- Attn: Mr. Glenn Conway P: (401) 253-8877 E: <u>gconway@biristolri.gov</u>
- Re: Inerts & Sharps Testing ESS Project No. 21D0444

Dear Mr. Conway:

TEI received a soil sample from ESS Laboratory on April 15, 2021. The sample was emptied onto an examining pad, separated by component, weighed and visually examined to determine the percent of foreign matter. Tests were performed under the guidance of ASTM D2488, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)".

Listed below are test results summarizing laboratory visual soil identification for percent Foreign Matter performed on ESS Sample No. 21D0444-01.

Total Dry Weight: 75.24g

Sample No.	% "Soil"	% Glass	% Plastic	% Fibers	% Metal
ESS #21D0444-01	99.6	0.0	0.32	0.08	0.0

Comments: None

If you have any questions, please contact me at (401) 467-6454 ext. 3924.

Sincerely, THIELSCH ENGINEERING, INC.

Str No

Steven Accetta Laboratory Coordinatior

244000

Jessica McDaniel Laboratory Technician

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Y Esserbe	Sector 1				÷		5			X	×					a PPON GOATE VIE	Star 10.8 ar 11.00m	H SANHAGA 10-01 H20 11-0000		Plance specify "Other" :	, Zn, Cu, Cr, Ba,Se,Mo, Hg, As	Reilnquished By: (Signature; Da	the the application	Relinquished By: (Signature, Da	
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Is radiation Is a Cooler Temp:		esent?				8. Were samples n	ceived intact?		Yes
ls a Cooler Temp:	i count <100	CPM?	, [	Yes	4 M. 19	9. Were labs infor	med about <u>short</u>	holds & rushes?	(Ye) No / N
E OFFICE STREET	Present? 3.8	Iced with:		Yes	,	10. Were any ana	yses received out	side of hold time?	Yes No
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Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Contair	ner Type	Preservative	Record pH (C Pes	yanide and 608 licides)
- (************************************	153753	Yes	N/A	Yes	Plastic	Baggie	NP		
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1	154085	Yes	N/A	Yes	Plastic	Baggie	NP		
2	153756	Yes	N/A	Yes	Plastic	: Baggie	NP		
nd Review Vere all cor ve barcode ve all Flash ve all Hex C ve all QC st ve VOA stic	ntainers sci labels on co point sticker chrome stick lickers attach kers attach	anned into prrect contal s attached/ cers attache hed? ed if bubble	storage/lab? iners? container ID # d? s noted?	f circled?	Initials	Yes / No Yes / No //NA Yes / No / NA Yes / No / NA Yes / No / NA Yes / No / NA			
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		DD Bothle     Jar     O Chiner     P Poly     Startie     V/Mail       mL     5:500 mL     6:1L     7:-VOA     5:2 cc     5:4 cc     10:0 ft/mar       Mo     6:4L     7:-VOA     5:2 cc     5:4 cc     10:0 ft/mar     11:0 ft/mar       Mo     6:4L     7:-VOA     5:2 cc     5:4 cc     10:0 ft/mar     11:0 ft/mar       Mo     6:4L     7:-VOA     5:2 cc     5:4 cc     10:0 ft/mar     11:0 ft/mar       Mo     6:4L     7:-VOA     5:2 cc     5:4 cc     10:0 ft/mar     11:0 ft/mar       Mo     Mo     10:0 ft/mar     10:0 ft/mar     10:0 ft/mar     11:0 ft/mar       Sampled by:     Sampled by:     Paces specify     Octoral france     Paces specify       Motals = Ai, B, Cu, Po, Ni, Ag, Zn, Cu, Cr, Ba, Se, Mo, Hg, As     Paces reation and contributers types in this specific ft/mar       Motals = Ai, B, Cu, Po, Ni, Ag, Zn, Cu, Cr, Ba, Se, Mo, Hg, M     Paces reation and contributers types in this specific       Motals = Ai, B, Cu, Po, Ni, Ag, Zn, Cu, Cr, Ba, Se, Mo, Hg, M     Paces reation and contributers types in this specific ft/mar       Motals = Ai, B, Cu, Po, Ni, Ag, Zn, Cu, Cr, Ba, Se, Mo, Hg, M     Paces reation and contributers types in this specific ft/mar       Mo     11/11/1     Relinquisted By: (Signature, Date & Time)     Received By: (Signature, Date & Time)       <	DEbrilde     Jam     Octner     P-Poly     Schenife     VMail     P     P     P       DL     Still Trivestor     Jam     Octner     P-Poly     Schenife     VMail     P     P     P       Rill     Still Trivestor     Jam     Octner     P-Poly     Schenife     VMail     P     P     P       Rill     Still Trivestor     Jam     Octner     P-Poly     Schenife     VMail     P     P     P       Rindbared by:     Randbared Considerers per Serrephis:     P     P     P     P     P     P       Sampled by:     Randbared Considerers per Serrephis:     P     P     P     P     P       Sampled by:     Randbared Dy: Citient Tool A: 14.01%     P     P     P     P     P       Sampled by:     Randbared Dy: Citient Point A: 0.01%     A     P     P     P     P       Sampled by:     Randbared Dy: Citient Distriction Dy: Citient A: 0.01%     P     P     P     P     P       Sampled by:     Randbared Dy: Citient Dy: A: 0.01%     P     P     P     P     P       Sampled by:     Randbared Dy: Citient Dy: A: 0.01%     P     P     P     P     P       Sampled Dy: Citienture, Date & Time)								<b> </b>					-				-		and the second second
		DBothe     C.Cubiteliner     Juar     O.Onner     Proby     State     Value       mil.     5500 mil.     6-fil.     7.VOA     8-2 oc     8-4 oc     7.00 mar       mil.     5500 mil.     6-fil.     7.VOA     8-2 oc     8-4 oc     7.00 mar       NoOH     6-Minimal     7.Nuescos     8-2 oc     8-4 oc     7.00 mar     7.00 mar       NoOH     6-Minimal     7.Nuescos     8-2 nos     8-4 oc     7.00 mar     7.00 mar       Number of Containers per Sample:     Number of Containers per Sample:     1.0 million     1.0 million       Number of Containers per Sample:     Number of Containers per Sample:     1.0 million       Sampled by:     Sampled by:     Peace specify     Cutor       Sampled by:     Contracts:     Peace specify     Cutor       Metals = Al, B, Cd, Pb, Ni, Ag, Zh, Cu, Cr, Ba, Se, Mo, Hg, AS     Received By: (Signature, Date & Time)       Stored By:     Signature, Date & Time)     Received By: (Signature, Date & Time)       Meac     1.11 Mill     1.1 Mill     1.1 Mill       Meac     1.11 Mill     1.1 Mill     1.1 Mill	DBottle       C.Oublibiner       J.lar       O.Other       P.Poly       S.Starile       V.Mail       Image: Starile       Image								<u> </u>											
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Debther Jur Octher PPoly SSterile VVial	D Bottle Cublicitier Juliar O Coffrer Profy SSterilie VMail	Noth Eventual 7-NESSEOS       6-Zinvac, NaCH       Swimber of Containers per Sample:       14-Clining         Remains of Containers per Sample:       Remains of Containers per Sample:       14-Clining         Sampled by:       Comments:       Please apecity "Other" preservative and containers types in this apece         Metals = Al, B, Cd, Pb, Ni, Ag, Zh, Cu, Cr, Ba,Se,Mo, Hg, As       Received By: (Signature, Date & Time)       Recisived By: (Signature, Date & Time)         Metals:       7/1/1/1       K, Y/7       7/1/1/1/1       K, Y/7         Metals:       7/1/1/1       K, Y/7       7/1/1/1/1       K-Y/1/1/1         Colived By: (Signature, Date & Time)       Relinquished By: (Signature, Date & Time)       Relinquished By: (Signature, Date & Time)       Relinquished By: (Signature, Date & Time)	Number of Containers per Sample:       Number of Containers per Sample:         Runder of Containers per Sample:       Number of Containers per Sample:         Sampled by:       Sampled by:         Sampled by:       Sampled by:         Metals = Al, B, Cd, Pb, Ni, Ag. Zh, Cu, Cr, Ba, Se, Mo, Hg, As         Wetals = Al, B, Cd, Pb, Ni, Ag. Zh, Cu, Cr, Ba, Se, Mo, Hg, As         Sampled By:       Signature, Date & Time)         Received By:       Received By:         Oped By:       Signature, Date & Time)         Relinquished By:       Relinquished By:         Oped By:       Signature, Date & Time)         Relinquished By:       Relinquished By:         Relinquished By:       Signature, Date & Time)         Relinquished By:       Relinquished By:	Iner Volume: 1-100 ml. 2-25 get 3-250 ml. 4-300	125500 925001 4000	000	あめ一世	1ml 6-11 7-VOA 8-202 9-	4 or 10.8 or 11-0ther		_			-			4			-	4	T
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Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Rick Ferreira Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

RE: Compost Sampling ESS Laboratory Work Order Number: 21D0789

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Land Holled

**REVIEWED** By ESS Laboratory at 5:08 pm, Apr 29, 2021

**ESS Laboratory Director** 

### **Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

#### Sample Receipt

The following sample(s) were received on April 22, 2021 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber	ClientMatrix	SampleName
21D0789-01	Soil	C3-Compost
21D0789-02	Soil	C4-Compost
21D0789-03	Soil	C5-Compost



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0789

## **PROJECT NARRATIVE**

No unusual observations noted.

End of Project Narrative.



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0789

		Microb	iology			
Client Sample ID: C3-Compost Date Sampled: 04/16/21 08:00 Percent Solids: 69			ESS Laboratory Sar Sample Matrix: Soi	nple ID; 21D078 ll	39-01	
<u>Analyte</u> Fecal Coliform	<u>Results</u>	<u>Units</u> MPN/g dry	Method 9221E	<u>Analyst</u> AJP	Analyzed 04/23/21 10:30	
		%Recovery	Qualifier Limits			
Client Sample ID: C4-Compost Date Sampled: 04/20/21 08:00 Percent Solids: 63			ESS Laboratory Sar Sample Matrix: So	nple ID: 21D078 il	39-02	
<u>Analvte</u> Fecal Coliform	<u>Results</u>	<u>Units</u> MPN/g dry	<u>Method</u> 9221E	Analyst AJP	Analyzed 04/23/21 10:30	
		%Recovery	Qualifier Limits	ademia dia 6 milio na mangana menorati 2007/030		
Client Sample ID: C5-Compost Date Sampled: 04/22/21 08:00 Percent Solids: 65			ESS Laboratory Sar Sample Matrix: So	nple ID: 21D07f il	39-03	
<u>Analyte</u> Fecal Coliform	<u>Results</u> < 3	<u>Units</u> MPN/g dry	<u>Method</u> 9221E	<u>Analyst</u> AJP	<u>Analyzed</u> 04/23/21 10:30	
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%Recovery Qualifier



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0789

**Notes and Definitions** 

- < Less than the Method Detection Limit.
- ND Analyte NOT DETECTED above the detection limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too Numerous to Count



Division of Thielsch Engineering, Inc.

**BAL** Laboratory

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21D0789

## ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

### **ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf

> Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

> > Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

<b></b>		Bristal 1800				ESS Dra	iant 113:	2100789	
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## **ESS Laboratory Sample and Cooler Receipt Checklist**

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Page 7 of 7



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Bill Rabideau Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

## RE: Compost Sampling (N/A) ESS Laboratory Work Order Number: 21F0414

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

ramed

By ESS Laboratory at 3:17 pm, Jun 22, 2021

Laurel Stoddard Laboratory Director

### **Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses BAL Laboratory - Cranston, RI

Fecal Coliform



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21F0414

## SAMPLE RECEIPT

The following samples were received on June 11, 2021 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

Lab Number 21F0414-01 21F0414-02 Sample Name C1-Compost C1-Compost **Matrix** Soil Soil Analysis %S, 9221E %S, 9221E



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21F0414

## **PROJECT NARRATIVE**

No unusual observations noted.

End of Project Narrative.

## DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists



The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21F0414

### **CURRENT SW-846 METHODOLOGY VERSIONS**

**Prep Methods** 

#### **Analytical Methods**

1010A - Flashpoint 6010C - ICP 6020A - ICP MS 7010 - Graphite Furnace 7196A - Hexavalent Chromium 7470A - Aqueous Mercury 7471B - Solid Mercury 8011 - EDB/DBCP/TCP 8015C - GRO/DRO 8081B - Pesticides 8082A - PCB 8100M - TPH 8151A - Herbicides 8260B - VOA 8270D - SVOA 8270D SIM - SVOA Low Level 9014 - Cyanide 9038 - Sulfate 9040C - Aqueous pH 9045D - Solid pH (Corrosivity) 9050A - Specific Conductance 9056A - Anions (IC) 9060A - TOC 9095B - Paint Filter MADEP 04-1.1 - EPH MADEP 18-2.1 - VPH

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling Client Sample ID: C1-Compost Date Sampled: 06/09/21 08:00 Percent Solids: 64

ESS Laboratory Work Order: 21F0414 ESS Laboratory Sample ID: 21F0414-01 Sample Matrix: Soil

### All methods used are in accordance with 40 CFR 136.

<u>Analyte</u> Fecal Coliform	<u>Results (MRL)</u> < 3 (N/A)	<u>MDL</u>	<u>Method</u> 9221E	<u>Limit</u>	<u>Analyst</u> ARG	Analyzed 06/14/21 15:30	<u>Units</u> MPN/g dry
Percent Solids	64 (N/A)		%S		ARG	06/14/21 15:00	%



The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling Client Sample ID: C1-Compost Date Sampled: 06/11/21 08:00 Percent Solids: 64

ESS Laboratory Work Order: 21F0414 ESS Laboratory Sample ID: 21F0414-02 Sample Matrix: Soil

## All methods used are in accordance with 40 CFR 136.

<u>Analyte</u> Fecal Coliform	<u>Results (MRL)</u> < 3 (N/A)	MDL	<u>Method</u> 9221E	<u>Limit</u>	<u>Analyst</u> ARG	<u>Analyzed</u> 06/14/21 15:30	<u>Units</u> MPN/g dry
Percent Solids	64 (N/A)		%S		ARG	06/14/21 15:00	%



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21F0414

## Notes and Definitions

	Less than the Mathed Detection Limit
	Less main the internet Detection Linne.
ND	Analyte NOT DETECTED at or above the WILL (LOQ), LOD for DoD Reports, WIDE for 5-magged many est
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
8	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21F0414

### ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

### ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

		Bristol WH	PCF - NETL	•	_ ESS	Project ID:	21F0414	and the second
					Date	Received:	6/11/2021	
Shipped/D	elivered Via: _		ESS Courier		Project Days 1	for Project:	6/18/2021 5 Day	
1. Air bill m	nanifest presei	nt?	[	No	6. Does COC	match bottles?		Yes
AIF NO.:					7. is COC co	mplete and correct?		Үев
2. Were cu	istody seals p	resent?		No	8. Were sam	ples received intact?		Yes
3. is radiat	ion count <10	0 CPM?	[	Yes	9. Were labs	informed about shor	t holds & rushes?	Yes/No/N
4. Is a Coo Temp:	ler Present?	iced with:	[	Yes	] 10. Were any	y analyses received ou	itside of hold time?	Yes Hoo
5. Was CC	OC signed and	dated by c	lient?	Yes				
11. Any Sul ESS	bcontracting n Sample IDs: Analysis: 1 TAT: 1	leeded? 1 fecal std	Č#	/ No	12. Were VO a. Air bubble b. Does met	As received? Is in aqueous VOAs? hanol covér soil comple	etely?	Yes Aə Yes / No Yes / No / N
13. Are the a. If metals b. Low Lev	e samples prop s preserved up vel VOA vials 1	perly preser con receipt: frozen:	ved?	Date:	Time: Time:		Ву: Ву:	
Sample Re	ceiving Notes							
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Re	icd 3	buge	2 Jabel	n n	com no attur	infor Ci	C = CI Cor	post cu
Qe Co	le ofeel	o bugg cola	2 labely and		colu no other	ed when V	nctear how	post many su
<u>2e</u> <u>Coo</u> 14. Was th	le ofeel here a need to	contact Pro	2 labels and oject Manager	201 U C) ( 7	compost collecte	od 6/4. V	nctear how	post
14. Was the	the officer a need to core a need to	contact Pre-	2 Labely and oject Manager client?	20/ U C) ( 17	Coluin no other	the colure	nclear how	post many se
14. Was the Who was c	tere a need to contacted?	contact Pro-	2 labely and oject Manager client?	201 ( <u>C1</u> ( ? Date:	Coluin 100 ctur Vernpost Collecte Versite child Versite child Versite child	ed colu. V	By:	many se
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14. Was the Who was c Sample Number	Container	Contact Processing Proper Container	2 Labels and oject Manager client? Air Bubbles Present	C) ( C) ( 7 Date: Sufficient Volume	Container Type	Preservative	By: Record pH (C Pest	yankle and 608
Co Co 14. Was th Who was c Sample Number 1	Container ID 175839	Contact Processor	2 Labels oject Manager client? Air Bubbles Present N/A	C) ( ? Date: Sufficient Volume Yes	Container Type	Preservative	By: Record pH (C Pest	yankle and 608
14. Was the Who was c Sample Number 1 1	Container ID 175839 176258	Proper Container Yes Yes	2 Labels aund oject Manager client? Air Bubbles Present N/A N/A	C) ( C) ( 7 Date: Sufficient Volume Yes Yes	Container Type	Preservative NP NP	By: Record pH (C Pest	yankle and 608
Sample Number	Container ID 175839 176258 176259	Proper Contact Pro- contact the of Proper Container Yes Yes Yes	2 Labels acrod oject Manager client? Alr Bubbles Present N/A N/A N/A	C) ( ? Date: Sufficient Volume Yes Yes Yes	Container Type	Preservative NP NP NP	By: Record pH (C Pest	yankle and 608
14. Was the Who was c Sample Number 1 1 1 2nd Review Were all cc Are all Flas Are all Hex Are all QC a Are VOA st	Container ID Container ID 175839 176258 176259 Containers sca e labels on co hpoint stickers Chrome stick stickers attach	Proper Contact Pro- contact the of proper Container Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	2 Ichely aund oject Manager client? Air Bubbles Present N/A N/A N/A N/A N/A storage/lab? ners? container ID # d? a noted?	C) ( C) ( ? Date: Sufficient Volume Yes Yes Yes Yes Yes Yes	Container Type Container Type Container Type Container Type Cother Cothe	Preservative	By: Record pH (C Pest	yankle and 608
Sample Number 1 1 2nd Review Were all cc Are barcodd Are all Flas Are all Hex Are all QC a Are VOA st	Container ID Container ID 175839 176258 176259 Containers sca e labels on co hpoint stickers chrome stick stickers attache	Proper Contact Pro- contact the of proper Container Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	2 Ichely acred bject Manager client? Air Bubbles Present N/A N/A N/A N/A storage/lab? ners? container ID # d?	20 C) ( 7 Date: Sufficient Volume Yes Yes Yes Yes Yes	Container Type Container Type Container Type Container Type Cother Cothe	Preservative NP NP NP	By: Record pH (C Pest	yankle and 608
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# ESS Laboratory Sample and Cooler Receipt Checklist

Client;		Bristol WP	CF - NETL		ESSI	Project ID:	21F0414	
	an a				Date	Received:	6/11/2021	
Shipped/D	elivered Via:		ESS Courier		Project Dave f	Due Date:	5 Day	
					Days		<u>d Duy</u>	·
1. Air bill m Air No	anifest prese	nt? NA	E	No	6. Does COC	match bottles?		Yes
2. Were cu	stody seals p	resent?	Г	No	7. Is COC cor	mplete and correc	17	Yes
3. Is radiati	on count <10	D CPM?		Yes	8. Were samp	oles received intac	x?	Yes
			r		9. Were labs	informed about	short holds & rushes?	Ches / No / NA
4. Is a Coo Temp:	1.6	lced with:	lce	165	10. Were any	analyses receive	ed outside of hold time?	Yes /No
5. Was CC	C signed and	dated by cl	lent?	Yes				
11. Any Sul ESS	ocontracting r Sample IDs: Analysis: TAT:	needed? 1–2 Fecal	es /	/ No	12. Were VO a. Air bubble b. Does met	As received? s in aqueous VOA hanol cover soll co	às? ompletely?	Yes / No Yes / No Yes / No / NA
13. Are the a. If metals	samples pro	perly preser pon receipt: frozen:	ved?	Yes / No Date: Date:	Time:		By: By:	
D. LOW LEV	coluing Noter	nozen.		Duto.				<u> </u>
Sample Re	ceiving Notes	•						
Correct	ted same	les						
Correct	ted samp	les			Yes (Gr			
14. Was the a. Was the Who was c	ted samp	o contact Pro contact the o	oject Manage client?	r? Date:	Yes / No Yes / No Time:		Ву:	
Correct 14. Was the Who was constructed Sample Number	ted samp	Proper Container	oject Manager client? Air Bubbles Present	? Date: Sufficient Volume	Yes / We Yes / No Time: Container Type	Preservativ	By: /e Record pH (C Pes	Dyanide and 608 ticides)
Correct 14. Was the Who was constructed Sample Number	ted samp	Proper Container	oject Manager client? Air Bubbles Present	r? Date: Sufficient Volume	Yes / He Yes / No Time: Container Type	Preservativ	By: /e Record pH (C Pes	Cyanide and 608 ticides)
Correct 14. Was the Who was constructed Sample Number	ted samp here a need to ontacted? Container ID 175839 176268	Proper Container Yes	oject Manager client? Air Bubbles Present N/A	r? Date: Sufficient Volume Yes Yes	Yes / No Yes / No Time: Container Type Other Other	Preservativ	By: /e Record pH (C Pes	Cyanide and 608 ticides)
Correct 14. Was the Who was constructed Sample Number	Container ID 175839 176258	Proper Container Yes Yes	oject Manager client? Air Bubbles Present N/A N/A	r? Date: Sufficient Volume Yes Yes Yes	Yes / No Yes / No Time: Container Type Other Other Other	Preservativ	By: /e Record pH (C Pes	Syanide and 608 ficides)
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Correct 14. Was the Who was constructed Sample Number 1 1 1 2 2 2 2	Container ID 175839 176258 176295 176296 176297	Proper Contact the of Proper Container Yes Yes Yes Yes Yes Yes Yes	Air Bubbles Present N/A N/A N/A N/A N/A N/A N/A	P? Date: Sufficient Volume Yes Yes Yes Yes Yes Yes Yes	Yes / We Yes / No Time:	Preservativ NP NP NP NP NP NP NP	By: /e Record pH (C Pes	Cyanide and 608 ticides)
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# ESS Laboratory Sample and Cooler Receipt Checklist

Client	Bristal WPCF - NETL	ESS Project ID:	21F0414
••		Date Received:	6/11/2021
Reviewed			
By:		Date & Time:	

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Containery Manse         Frequent 4         Containers 16         Containe	Company Name         Project           Bristel WFCF         Project           City         Bristel WFCF           City         Bristel WFCF           City         Bristel WFCF           City         Bristel WFCF           City         Bristel           Bristel         Bristel           City         Bristel           Bristel         State           State         Bristel           State         Bristel           State         Bristel           State         Sample Type           Sample Type         Sample Ma           Sample Type         Sample Ma           Sample Type         Sample Bristel           Sample Type         Sample Ma           Sample Type         Sample Type           Sample Type         Sample Ma           Ma         Gradu           Ma         Gradu           Ma	Is this project for a O cr RCP O MA	any of the followin MCP OR	ng?: Ele GP	ctonic erables	Detroit	Checker (Please	peclfy ↓)		Å D	iao i		
Contractivence         Contrac	Contact Person         State           CIN         Rideaut         State           State         State         State           Z021         0800         Grab         Soit           Z0221         0800         Grab         Soit           Z021         0800         Grab         Soit           Z022         CS         Grab         Soit           Z022         CS         Grab         Soit           M         J24         CS         Soit           M         State         Soit         Soit           M         State         Soit         Soit           M         State         Soit         Soit           M         State         State         Soit           M	ect #	Project Name Compost samples	4 v			   	, <del>122</del>					
Other Instruction         State State         ZE_004a Enclosion         POF Enclosion         Enclosion         Enc	City     State     State       Bilstoi     RI     RI       one Number     FAX Number       253-3877     FAX Number       253-3877     FAX Number       253-3877     FAX Number       25021     0800       2021     0800       2021     0800       2021     0800       2021     0800       2021     0800       2021     0800       2021     0800       2021     0800       2021     5ample Fype       2031     5ample	Ad 2 Ph	<b>Idress</b> ant Ave			- <u></u>						<u>0.08 07 1</u>	<u></u>
Multiple         FAX Multiple         East Matchate         East Matchatedate         East Matchatedate         East M	Other Mumber     FAX Number       253-8677     EAX Number       253-8677     EAX Number       2502t1     0800     Grab       2002t1     0800     Grab       2002t2     0800     Grab       2002t3     0800     Grab       2002t3     0900     Grab       2002t3     0900     Grab       2002     Grab     Salit       2002     Grab     Salit       2002     Grab     Salit       2002     Grab     Salit       201     Jacab     Salit       201     Jacab     Salit       201     Jacab     Salit       202     Jacab     Salit       202     Jacab     Salit       203     Jacab     Salit       204     Jacab     Salit       205     Jacab     Salit       201     Jacab     Salit       202     Jacab     Salit       203     Jacab     Salit       2100		Code 2809	M. Q.						<u>د حمد در د</u>			
Optimization         Sample Type	ection collection Sample Type Sample Ma teta Time Sample Type Sample Ma teta Time Sample Type Sample Ma Soli (M) 24 OSOC Grab Soli Soli (M) 24 O		Emali Addres bilirab54@yahoo.	ž. COH	an	*******	. <u>1911 - 1</u>		. <u></u>				12-mila
Rott         Gain         Sait         Ct-Cumpet         X         N         N           M121         CyCyCin         Gain         Sait         Ct-Cumpet         X         N	2021 0800 Grah Soli (人) 2.4 CS CC Grah Soli (人) 2.4 CS CC Grah Soli Grah Soli	t Matrix	Sampl	Q	noillo) leosy	45-4/	1997. 1. al Lid II. L La 1997 La	<u> </u>	<u> </u>	- 2003-01-00-2003-0-300	423		للافات میں نیاد ہوتی ہے۔ بیارہ بات میں کہ سال ہے۔ اور بات
[M] 2]     Cry Cel     Orab     Seil     C1-Competition     X       Image: Seil     State     State     C1-Competition     Ast       Image: State     State     State     C1-Competition     Ast       Image: State     State     State     C1-Competition     Ast       Image: State     State     C1-Competition     Ast     Image: State       Image: State     State     C1-Competition     Ast     Image: State       Image: Fullow     State     C1-Competition     State     Ast       Image: Fullow     State     State     State     Ast       Image: Fullow     C1-Competition     State     Ast     Ast	[M] 2i     Cysiculation     Grath     Sail       Grath     AG     Anther       Follomet     2-5.5 grath     3-3.260 mtl.       Follomet     2-2.5.5 grath     3-3.260 mtl.       Follomet     1-100 mtl.     2-2.5.5 grath       Follomet     1-100 mtl.     2-2.5.5 grath       Grathures     1-100 mtl.     2-2.5.5 grath       Faboratory     Use Only     Grath       Faboratory     Use Only     Receive       Faboratory     Use Only     Faboratory       For Colic     1-100 mtl.     Colic       Faboratory     Use Only     Receive       Faboratory     Use Only     Receive       For Colic     1-100 Mtl       Faboratory </td <td>ţ,</td> <td>Ct-Con</td> <td>npast</td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	ţ,	Ct-Con	npast	×								
Gath	Grab     Grab     Sell       Grab     Sell     Sell       Grab     Grab     Sell       Grab     Grab     Sell       Grab     Sell     Sell       Grab     Sell     Sell       Grab     Sell     Sell       Grap     Sell     Sell       Kolume:     1-100 mlL     2-2.5.gal       Golde:     1-400 mlL     2-2.5.gal       Kolume:     1-400 mlL     2-2.5.gal       Golde:     1-400 mlL     2-2.5.gal       Kolume:     1-400 mlL     2-2.5.gal       Sell     Sell     3-250 mlL       Molume:     1-400 mlL     2-2.5.gal       Sell     Sell     3-250 mlL       Receive     1-4100 mlL     2-2.5.gal       Golde:     1-400 mlL     2-2.5.gal       Sell     Sell     3-2.5.0 mlL       Sell     2-1.0 mlL     Receive       Sell     1-1.0 mlL     Receive       Sell     1-1.0 mlL     Receive	1	C1-Can	npost	×								
Gate     Sale     Calchaneedt     At       Image: Second and the constraint of the second and the second	Grath     Grath     Soil       File     Grath     Soil       File     Soil     Soil       File     AC-Air Cassette     AC-Airbed Blass     B-BODE       Foldume:     t-1000 mt     2-2.5 gal     3-2550 mt     4-306 mt       Kolume:     t-1000 mt     2-2.5 gal     3-2550 mt     4-306 mt       Route:     t-1000 mt     2-4101     3-1250 mt     5-400       Route:     t-1000 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-1000 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-1000 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-1000 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-1000 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-100 mt     2-2.5 gal     3-2550 mt     4-4000 mt       In Coulds:     t-100 mt     2-2.5 gal     3-2550 mt     4-4000 mt       Sent:     V     0     0     0     0       In Coulds:     t-100 mt     0     0     0       In the originature:     Date & Time)     Receive       In edit by:     (Signature: Date & Time)     Receive		CLACE	thet	<b>S</b> \$\$.								
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Image: Standard Standa	ar Type: AC-Air Cassette AG-Amber Glass B-BQDE folume: 1-100 mL 2-2.5 gail 3-250 mL 4-306 mL a Codie: 1-Non Preserved 2-HCI 3-H2CO 4 +HNO3 5-NaOl a Codie: 1-Non Preserved 2-HCI 3-H2CO 4 +HNO3 5-NaOl												
Types: AC-Mr Cassette AG-Amber Glass: B-BOD Bothe: C-Other P-Poly S-Shente V-Mail     Poly       Prives: AC-Mr Cassette AG-Amber Glass: B-BOD Bothe: C-Other P-Poly S-Shente V-Mail     Poly       Polumer: 1-100 mil. 2-S26 pril. 2-S16 pril.	Image: Type: AC-Air Cassette							41091-1-1-1-1					
r Type::       C-Christeners       E-ROD Badits       C-Cubitaliner       J-lar       O-Chiner       P-ON       Statelia       V/Alal       P	Image: Figure 1     Ac-Amber Glass     B-BODE       Image: Figure 1     Ac-Amber Glass     A-Amber Glass       Image: Figure 1     Ac-Amber Glass     Ac-Amber Glass <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>محديدة. محديدة</td> <td></td> <td></td>										محديدة. محديدة		
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Codie:       1-100 mil.       2-55 gail       3-550 mil.       6-710 mil.       2-60 mil.       6-711       2-100 mil.       2-55 gail       3-550 mil.       6-300 mil.       6-10 mil.       1-00 mil.	Coulor:       1-100 mL       2-2.5.gai       3-250 mL       4-300 mL         a Code:       1-Non Preserved       2-HCI       3-H2SO4       4-HNO3       5-NaO1         ent:       Laboratory Use       Only       4-HNO3       5-NaO1         ent: $\sqrt{eC}$ O brouge Off       6-1       7-0         ent: $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ Receive         et: $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ Receive         et: $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ Receive         et: $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ $\sqrt{eC}$ et: $\sqrt{eC}$	1D Bottle C-Cubitainer	J-Jar O-Other	r P-Poly S-Starile V	Vial								 11 <sup></sup>
Codds: 1-Mon Preserved 2-HCI 3-H2SO4 4-HNO3 ENAICH 6-Metanor 7.Mac25O3 6-ZAAsa, NoOH 6-H44CI 10-D1H20 11-Other       Number of Contrainers par Sample:         Laboratory Use Only       Sampled by: Bill Rabideau         ent:       Ver 0       Drog OF       Sampled by: Bill Rabideau         ent:       Ver 0       Drog OF       Comments:       Please apeicity "Other" preservative and containers types in this space         ent:       Ver 0       Drog OF       Comments:       Please release Fecal Coliform results as they become available.         exture:       V.O       °C       /C       Amonthic:       Data & Time)       Received By: (Signature, Date & Time)         PM	a Codie: 1-Non Preserved 2-HCI 3-H2SO4 4-HNO3 5-NaO1 ent: <u>Ve</u> O brog off et: <u>Ve</u> O brog off et: <u>Ve</u> O produce rature: <u>V</u> , 6 O Produce rature: <u>V</u> , 6 O Produce rature: <u>V</u> , 6 O Produce field by: (Signature, Date & Time) Receive shed by: (Signature, Date & Time) Receive	nil. 5-500 mil. 6-11.	7-VOA 8-2:02	9-4 oz 10-8 oz 11-01	ler*							·	
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Laboratory: Use Only       Sampled: by:       Bill Rabideau:         Sent: $\sqrt{e5}$ $0$ trop off       Comments:       Please specify "Other" preservative and containers types in this space         et: $0$ proup $0$ proup $0$ mode off       Please release Fecal Coliform results as they become available.         et: $0$ proup $0$ proup $0$ proup $0$ proup         et: $0$ proup $0$ proup $0$ proup $0$ proup         et: $0$ proup $0$ proup $0$ proup $0$ proup         etaiture: $1.6$ $0$ proup $0$ proup $0$ proup         etaiture: $1.6$ $0$ proup $0$ proup $0$ proup $0$ proup         etaiture: $0.6$ $0$ $0$ proup $0$ proup $0$ proup $0$ proved by: (Signature, Date & Time)       Reinquished by: (Signature, Date & Time)       Received By: (Signature, Date & Time)         for druct $0$ $0$ $0$ $0$ $0$ $0$ $0$ $0$ $0$ $0$	Laboratory: Use: Only       ent:     Vef     O brog off       et:     O Progue       for the A Time)     Receive       shed foy: (Signature, Date & Time)     Receive		Number	of Containers per Sampl									 
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Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

RE: Compost Sampling ESS Laboratory Work Order Number: 21B0552

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Lowel Holled

**REVIEWED** By ESS Laboratory at 12:21 pm, Feb 25, 2021

ESS Laboratory Director

#### **Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

### Sample Receipt

The following sample(s) were received on February 18, 2021 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber	ClientMatrix	SampleName
21B0552-01	Soil	C3-Compost
21B0552-02	Soil	C4-Compost
21B0552-03	Soil	C5-Compost



Division of Thielsch Engineering, Inc.

# **BAL Laboratory**

The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0552

# **PROJECT NARRATIVE**

No unusual observations noted.

End of Project Narrative.



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**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling Client Sample ID: C3-Compost Date Sampled: 02/12/21 08:00 Percent Solids: 62

ESS Laboratory Work Order: 21B0552 ESS Laboratory Sample ID: 21B0552-01 Sample Matrix: Soil

<u>Analyte</u> Fecal Coliform	<	<u>Results</u> 3	<u>Units</u> MPN/g dry		<u>Method</u> 9221E	<u>Limit</u>	<u>Analyst</u> AJP	Analyzed 02/18/21 17:45	
			%Recovery	Qualifier	Limits				



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## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling Client Sample ID: C4-Compost Date Sampled: 02/16/21 08:00 Percent Solids: 66

ESS Laboratory Work Order: 21B0552 ESS Laboratory Sample ID: 21B0552-02 Sample Matrix: Soil

<u>Analyte</u> Fecal Coliform	<	<u>Results</u> 3	<u>Units</u> MPN/g dry		<u>Method</u> 9221E	<u>Limit</u>	<u>Analyst</u> AJP	Analvzed 02/18/21 17:45	
	17		%Recovery	Qualifier	Limits	8 CO 2001 3 - 2002 Comercine Million Martin Coll. 2011 2011			



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## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling Client Sample ID: C5-Compost Date Sampled: 02/18/21 08:00 Percent Solids: 52

ESS Laboratory Work Order: 21B0552 ESS Laboratory Sample ID: 21B0552-03 Sample Matrix: Soil

<u>Analyte</u> Fecal Coliform	«	<u>Results</u> 3	<u>Units</u> MPN/g dry		Method 9221E	<u>Limit</u>	<u>Analyst</u> AJP	Analyzed 02/18/21 17:45	
			%Recovery	Qualifier	Limits				



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## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0552

**Notes and Definitions** 

- < Less than the Method Detection Limit.
- ND Analyte NOT DETECTED above the detection limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too Numerous to Count



Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

## Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling ESS Laboratory Work Order: 21B0552 ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

## **ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: A-179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/out\_state.pdf

> Maine Potable and Non Potable Water: RI002 http://www.maine.gov/dep/blwq/topic/vessel/lab\_list.pdf

> Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited)Potable and Non PotableWater, Solid and Hazardous Waste: 242405 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP\_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

## CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01 Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry) http://www.A2LA.org/dirsearchnew/newsearch.cfm

> CPSC ID# 1141 Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

# ESS Laboratory Sample and Cooler Receipt Checklist

Client		Bristol Wi	PCF - NETL	Sec. Tak	<del></del>	ESS	Project ID:	2180552	
Shipped/D	elivered Via:		ESS Courier			Date Projeci	t Due Date:	2/25/2021	
an provinsi and a second	.an rarx a , m.,					Days	for Project:	5 Day	
1. Air bill п Air No.i	nanifest prese	ent? NA	[	No	]	6. Does COC	match bottles?		Yes
2. Were cu	ustody seals p	present?	[	No	]	7. Is COC co	mplete and correct	<b>,</b>	Yes
3 is radiat	ion count <10	OCPM?	ſ	Yes	1	8. Were sam	ples received intact	?	Yes
			r.		7	9. Were labs	informed about <u>s</u>	hort holds & rushes?	(es) No / NA
4. Is a Coo Temp:	ier Present? : <u>2,1</u>	loed with:		Yes	1	10. Were an	y analyses received	I outside of hold time?	Yes (Ng)
5. Was CC	)C signed an	d dated by c	lient?	Yes	]				
11. Any Su ESS	bcontracting Sample IDs: Analysis: TAT:	needed? 13 Fecal colifi	Grm 5 day	/ No		12. Were VC a. Air bubbk b. Does met	As received? is in aqueous VOAs thanol cover soil cor	? npletely?	Yes / No Yes / No Yes / No / NA
13. Are the a. If metak b. Low Lev	e samples pro s preserved u vel VOA vials	operly prese pon receipt: frozen:	ved?	(e) / No Date: Date;		Time; Time;		Ву: Ву:	
Elanne ann clanhannan i an Paghana ann an an Addahit									kan an da da an da an An da an d
14. Was th a. Was the Who was c	ere a need to ore a need to ontacted?	contact Pro	oject Manager client?	? Date:	Yes / No Yes / No	Time:		Ву:	
			4700-1740-000			ter son franke son for best for a f	<b></b>		
Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Contain	er Type	Preservative	Record pH (Cy Pestic	anide and 608 ides)
1	136826	Yes	N/A	Yes	Plastic	Baggie	NP .		
2	136827	Yes	N/A	Yes	Plastic I	Baggie Bassie	NP		
3	130828	tes	NVA	165	PIBSUC	candie	NP		
2nd Review Were all co Are barcode Are all Flas Are all Hex Are all QC ( Are VOA st	w ontainers scr e labels on co hpoint sticker Chrome stick stickers attach ickers attach	anned into a prrect contai is attached/o (ers attached hed? ed if bubbles	storage/lab? ners? container ID # 1? s noted?	circ <del>le</del> d?	Initials	Yes No Yes / No / NA Yes / No / NA Yes / No / NA Yes / No / NA	)		
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By; Reviewed		TY I	M.	_ •	Date & Time:	<del></del>	2/18/24		
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			\$														es in this space		i By: (Signature, Date & Time)	alista isos	d Byr. (Sigrhature, Date & Time)	
ESS Lab # 21,80552	Reporting	Electonic 🗌 Date Checker Deliverables 🗌 Other (Please Specify>)		şiskîr	in A	swo	Fecal Colf		*	· · · · · · · · · · · · · · · · · · ·					IHZO 111-Other*	per Sample:	The state of the second se	s specify "Other" preservative and contraction of results as they become available.	i By: (Signature, Date & Time) Received	() () () () () () () () () () () () () (	d By: (Signature, Date & Time) Received	
HAIN OF GUSTODY	5 Days	project to any of the following?: O MAMCE	Project Name Compost samples 3,4,5	Address 2 Plant Ave	Zip Code PO # 02809	Email Address accomment@hhitsbuff.com	Sample ID	C3-Compost	C4-Compost	C5-Compost	 · · · · · · · · · · · · · · · · · · ·			C-Cubitainer J-Jar O-Uther F-Poly 3-	Vietnano 7-Ne2S203 8-ZhAce, NeOH 9-NH4CI 10-DI	Number of Containers F	Sampled by :	Comments: ***** Please release Fecal Coliform re	con the Date of Times' Relinguished	C (Signature, Date & antre)	A Signature, Date & Juney Relinquished	A Medi
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BA	autoratory Finieisch Engineering, Inc.	ses Avenue, Cranston RI 02910 461-7181 Fax (401) 461-4486	careatony company Name Company Name		City	Eniscol Telephone Number 401-253-8877	b Collection Collection Sample	City City City City City City City City				 	 	Container Type: AC-Air Cassette AG	sutainer Volume: 1-100 ml. 2-2.5 gal		Laboratory Use (	soler Present: U.C. (	er Temperature: 2. / °C	Relinquished by: (Signature, Date & Th	Relindvished by: (Signature, Date & Th	in reliante EXCI

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Page 10 of 10

# ATTACHMENT 2 Compost Analysis PFAS Compounds



Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

## **RE:** Compost Sampling ESS Laboratory Work Order Number: 21B0309

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

ESS Laboratory Director

### **Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in

REVIEWED

By ESS Laboratory at 12:15 pm, Feb 23, 2021

conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

### **Sample Receipt**

The following sample(s) were received on February 10, 2021 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber 21B0309-01

ClientMatrix Soil

SampleName P-1 PFAS Compost



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0309

# **PROJECT NARRATIVE**

No unusual observations noted.

End of Project Narrative.



The Microbiology Division of Thielsch Engineering, Inc.



<u>I/V</u> <u>F/V</u>

CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0309

## **Subcontracted Analysis**

MRL

Client Sample ID: P-1 PFAS Compost Date Sampled: 02/10/21 08:00 ESS Laboratory Sample ID: 21B0309-01 Sample Matrix: Soil

DF

<u>Analyte</u> PFAS <u>Results</u> <u>Units</u> See Attached <u>Method</u>

<u>Analyst</u> <u>Analyzed</u>



The Microbiology Division of Thielsch Engineering, Inc.



## CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0309

## Notes and Definitions

- ND Analyte NOT DETECTED above the detection limit
- dry Sample results reported on a dry weight basis
- **Relative Percent Difference** RPD
- MDL Method Detection Limit
- MRL Method Reporting Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- MF Membrane Filtration
- Most Probably Number MPN
- TNTC Too Numerous to Count



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 21B0309

## ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

## ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 <a href="http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf">http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf</a>

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

> Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx



Your P.O. #: B03062 Your Project #: 21B0309 Your C.O.C. #: na

#### **Attention: Shawn Morrell**

ESS Laboratory 185 Frances Ave Cranston, RI USA 02910

> Report Date: 2021/02/19 Report #: R6525399 Version: 1 - Final

### **CERTIFICATE OF ANALYSIS**

#### BV LABS JOB #: C137830 Received: 2021/02/11, 14:26

Sample Matrix: Soil # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Moisture	1	N/A	2021/02/12	CAM SOP-00445	Carter 2nd ed 51.2 m
PFAS in soil by SPE/LCMS (1)	1	2021/02/18	2021/02/19	CAM SOP-00894	ASTM D7968-17a m

#### **Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.

Page 1 of 11

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com


Your P.O. #: B03062 Your Project #: 21B0309 Your C.O.C. #: na

#### **Attention: Shawn Morrell**

ESS Laboratory 185 Frances Ave Cranston, RI USA 02910

> Report Date: 2021/02/19 Report #: R6525399 Version: 1 - Final

## **CERTIFICATE OF ANALYSIS**

BV LABS JOB #: C137830 Received: 2021/02/11, 14:26

**Encryption Key** 

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Lori Dufour, Project Manager Email: Lori.Dufour@bureauveritas.com Phone# (905) 817-5700

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2 Page 2 of 11 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# **RESULTS OF ANALYSES OF SOIL**

BV Labs ID		OVC670				
Sampling Date		2021/02/10 08:00				
COC Number		na				
	UNITS	21B0309-01	RDL	MDL	QC Batch	
Inorganics						
Moisture	%	35	1.0	0.50	7198072	
RDL = Reportable Detection Limit						
QC Batch = Quality Control Ba	itch					

Page 3 of 11 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		OVC670			
Sampling Date		2021/02/10			
		08:00			
COC Number		na			
	UNITS	21B0309-01	RDL	MDL	QC Batch
Perfluorinated Compounds					
Perfluorobutanoic acid (PFBA)	ug/kg	0.54 J	2.0	0.48	7207168
Perfluoropentanoic acid (PFPeA)	ug/kg	1.7 J	2.0	0.46	7207168
Perfluorohexanoic acid (PFHxA)	ug/kg	6.2	2.0	0.32	7207168
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.35 J	2.0	0.34	7207168
Perfluorooctanoic acid (PFOA)	ug/kg	3.6	2.0	0.40	7207168
Perfluorononanoic acid (PFNA)	ug/kg	0.54 U	2.0	0.54	7207168
Perfluorodecanoic acid (PFDA)	ug/kg	1.9 J	2.0	0.48	7207168
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.50 U	2.0	0.50	7207168
Perfluorododecanoic acid (PFDoA)	ug/kg	0.61 J	2.0	0.38	7207168
Perfluorotridecanoic acid (PFTRDA)	ug/kg	0.44 U	2.0	0.44	7207168
Perfluorobutanesulfonic acid (PFBS)	ug/kg	1.1 J	2.0	0.34	7207168
Perfluoropentanesulfonic acid PFPes	ug/kg	0.52 U	2.0	0.52	7207168
Perfluorohexanesulfonic acid(PFHxS)	ug/kg	0.60 U	2.0	0.60	7207168
Perfluorooctanesulfonic acid (PFOS)	ug/kg	0.54 U	2.0	0.54	7207168
Perfluorononanesulfonic acid (PFNS)	ug/kg	0.48 U	2.0	0.48	7207168
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.54 U	2.0	0.54	7207168
Surrogate Recovery (%)					
13C2-Perfluorodecanoic acid	%	82	N/A	N/A	7207168
13C2-Perfluorododecanoic acid	%	62	N/A	N/A	7207168
13C2-Perfluorohexanoic acid	%	91	N/A	N/A	7207168
13C2-Perfluoroundecanoic acid	%	80	N/A	N/A	7207168
13C3-Perfluorobutanesulfonic acid	%	92	N/A	N/A	7207168
13C4-Perfluorobutanoic acid	%	88	N/A	N/A	7207168
13C4-Perfluoroheptanoic acid	%	100	N/A	N/A	7207168
13C4-Perfluorooctanesulfonic acid	%	92	N/A	N/A	7207168
13C4-Perfluorooctanoic acid	%	95	N/A	N/A	7207168
13C5-Perfluorononanoic acid	%	47 (1)	N/A	N/A	7207168
13C5-Perfluoropentanoic acid	%	85	N/A	N/A	7207168
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
N/A = Not Applicable					
(1) Extracted internal standard analyte	recover	y was below t	he de	fined l	ower
control limit (LCL). Laboratory spiked so	oil result	ed in satisfact	ory r	ecover	y of the

control limit (LCL). Laboratory spiked soil resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low for the associated native analytes (PFNA, PFNS).

Page 4 of 11 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		OVC670			
Sampling Date		2021/02/10 08:00			
COC Number		na			
	UNITS	21B0309-01	RDL	MDL	QC Batch
1802-Perfluorohexanesulfonic acid	%	99	N/A	N/A	7207168
1802-Perfluorohexanesulfonic acid RDL = Reportable Detection Limit	%	99	N/A	N/A	7207168
1802-Perfluorohexanesulfonic acid RDL = Reportable Detection Limit QC Batch = Quality Control Batch	%	99	N/A	N/A	7207168

Page 5 of 11 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **TEST SUMMARY**

BV Labs ID: Sample ID: Matrix:	OVC670 21B0309-01 Soil					Collected: 2021/02/10 Shipped: Received: 2021/02/11
Test Description		Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture		BAL	7198072	N/A	2021/02/12	Kruti Jitesh Patel
PFAS in soil by SPE/LCMS		LCMS	7207168	2021/02/18	2021/02/19	Patrick Yu Peng Li

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# **GENERAL COMMENTS**

Sample OVC670 [21B0309-01] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Results relate only to the items tested.

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#### QUALITY ASSURANCE REPORT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7198072	GYA	RPD - Sample/Sample Dup	Moisture	2021/02/12	2.0		%	20
7207168	YPL	Matrix Spike	13C2-Perfluorodecanoic acid	2021/02/19		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2021/02/19		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2021/02/19		103	%	50 - 150
			13C2-Perfluoroundecanoic acid	2021/02/19		95	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2021/02/19		98	%	50 - 150
			13C4-Perfluorobutanoic acid	2021/02/19		103	%	50 - 150
			13C4-Perfluoroheptanoic acid	2021/02/19		103	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2021/02/19		97	%	50 - 150
			13C4-Perfluorooctanoic acid	2021/02/19		102	%	50 - 150
			13C5-Perfluorononanoic acid	2021/02/19		97	%	50 - 150
			13C5-Perfluoropentanoic acid	2021/02/19		102	%	50 - 150
			1802-Perfluorohexanesulfonic acid	2021/02/19		106	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2021/02/19		96	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2021/02/19		98	%	70 - 130
			Perfluorohexanoic acid (PEHxA)	2021/02/19		99	%	70 - 130
			Perfluorohentanoic acid (PEHnA)	2021/02/19		101	%	70 - 130
			Perfluorooctanoic acid (PEOA)	2021/02/19		98	%	70 - 130
			Perfluorononanoic acid (PENA)	2021/02/19		100	%	70 - 130
			Perfluorodecanoic acid (PEDA)	2021/02/19		100	%	70 - 130
			Perfluoroundecanoic acid (PELInA)	2021/02/15		100	70 0/	70 - 130
			Perfluorododecanoic acid (PEDoA)	2021/02/19		100	70 0/	70 - 130
			Perfluorotridecanoic acid (PETPDA)	2021/02/19		00	20 0/	70 - 130
			Perfluorobutanoculfonic acid (PERS)	2021/02/19		99	70 0/	70 - 130
			Perfluoroportanesulfonia acid (PFBS)	2021/02/19		33 102	/0	70 - 130
			Perfluoropentanesultonic acid PEPes	2021/02/19		103	%	70 - 130
			Perfluoronexanesulfonic acid (PEAC)	2021/02/19		95	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2021/02/19		134 (1)	%	70 - 130
			Perfluorononanesulfonic acid (PFNS)	2021/02/19		96	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2021/02/19		96	%	/0 - 130
/20/168	YPL	Spiked Blank	13C2-Perfluorodecanoic acid	2021/02/19		93	%	50 - 150
			13C2-Perfluorododecanoic acid	2021/02/19		88	%	50 - 150
			13C2-Perfluorohexanoic acid	2021/02/19		101	%	50 - 150
			13C2-Perfluoroundecanoic acid	2021/02/19		93	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2021/02/19		96	%	50 - 150
			13C4-Perfluorobutanoic acid	2021/02/19		100	%	50 - 150
			13C4-Perfluoroheptanoic acid	2021/02/19		105	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2021/02/19		100	%	50 - 150
			13C4-Perfluorooctanoic acid	2021/02/19		102	%	50 - 150
			13C5-Perfluorononanoic acid	2021/02/19		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2021/02/19		101	%	50 - 150
			1802-Perfluorohexanesulfonic acid	2021/02/19		101	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2021/02/19		105	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2021/02/19		104	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2021/02/19		106	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2021/02/19		104	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2021/02/19		103	%	70 - 130
			Perfluorononanoic acid (PFNA)	2021/02/19		105	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2021/02/19		110	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2021/02/19		107	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2021/02/19		106	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2021/02/19		108	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2021/02/19		106	%	70 - 130

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# QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoropentanesulfonic acid PFPes	2021/02/19		109	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2021/02/19		105	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2021/02/19		105	%	70 - 130
			Perfluorononanesulfonic acid (PFNS)	2021/02/19		102	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2021/02/19		100	%	70 - 130
7207168	YPL	Method Blank	13C2-Perfluorodecanoic acid	2021/02/19		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2021/02/19		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2021/02/19		96	%	50 - 150
			13C2-Perfluoroundecanoic acid	2021/02/19		88	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2021/02/19		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2021/02/19		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2021/02/19		96	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2021/02/19		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2021/02/19		94	%	50 - 150
			13C5-Perfluorononanoic acid	2021/02/19		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2021/02/19		91	%	50 - 150
			1802-Perfluorohexanesulfonic acid	2021/02/19		97	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2021/02/19	0.24 U, MDL=0.24		ug/kg	
			Perfluoropentanoic acid (PFPeA)	2021/02/19	0.23 U, MDL=0.23		ug/kg	
			Perfluorohexanoic acid (PFHxA)	2021/02/19	0.16 U, MDI =0.16		ug/kg	
			Perfluoroheptanoic acid (PFHpA)	2021/02/19	0.17 U,		ug/kg	
			Perfluorooctanoic acid (PFOA)	2021/02/19	0.20 U, MDL=0.20		ug/kg	
			Perfluorononanoic acid (PFNA)	2021/02/19	0.27 U, MDL=0.27		ug/kg	
			Perfluorodecanoic acid (PFDA)	2021/02/19	0.24 U, MDL=0.24		ug/kg	
			Perfluoroundecanoic acid (PFUnA)	2021/02/19	0.25 U, MDL=0.25		ug/kg	
			Perfluorododecanoic acid (PFDoA)	2021/02/19	0.19 U, MDL=0.19		ug/kg	
			Perfluorotridecanoic acid (PFTRDA)	2021/02/19	0.22 U, MDL=0.22		ug/kg	
			Perfluorobutanesulfonic acid (PFBS)	2021/02/19	0.17 U, MDL=0.17		ug/kg	
			Perfluoropentanesulfonic acid PFPes	2021/02/19	0.26 U, MDL=0.26		ug/kg	
			Perfluorohexanesulfonic acid(PFHxS)	2021/02/19	0.30 U, MDL=0.30		ug/kg	
			Perfluorooctanesulfonic acid (PFOS)	2021/02/19	0.27 U, MDL=0.27		ug/kg	
			Perfluorononanesulfonic acid (PFNS)	2021/02/19	0.24 U, MDL=0.24		ug/kg	
			Perfluorodecanesulfonic acid (PFDS)	2021/02/19	0.27 U, MDL=0.27		ug/kg	

Page 9 of 11 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# QUALITY ASSURANCE REPORT(CONT'D)

QA/QC												
Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits				
7207168	YPL	RPD - Sample/Sample Dup	Perfluorobutanoic acid (PFBA)	2021/02/19	NC		%	30				
Matrix Spi	ke: A s	ample to which a known amo	unt of the analyte of interest has been ad	ded. Used to evaluate sam	ple matrix inte	erference.						
Spiked Bla	Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.											
Method B	lank: A	blank matrix containing all re	agents used in the analytical procedure.	Used to identify laboratory	contamination	n.						
Surrogate	: A pur	e or isotopically labeled comp	ound whose behavior mirrors the analyte	es of interest. Used to evalu	ate extraction	efficiency.						
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).												
(4) D			statistic second and the the state of the second second									

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

1



# VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

AN.

Adam Robinson, Supervisor, LC/MS/MS

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

# ESS Laboratory Sample and Cooler Receipt Checklist

Client:	Brist	tol WPCF - NETL			ESS P	roject ID:	21	30309	
					Date F	Received:	2/10	)/2021	
Shipped/De	elivered Via:	ESS Courier	<u> </u>		Project D	)ue Date:	2/18	3/2021	
					Days to	r Project:	5	Day	
1. Air bill m Air No.:	anifest present? N	A	No		6. Does COC r	natch bottles?	<b>&gt;</b>		Yes
2. Were cu	stody seals presen	l? [	No		7. Is COC com	plete and con	rect?		Yes
3. Is radiati	ion count <100 CPN	M? [	Yes		8. Were sampl	es received in	itact?		Yes
4. Is a Cool Temp:	ler Present? 5.8 lced	l with: Ice	Yes		9. Were labs in 10. Were any	nformed abor analyses rece	ut <u>short holds</u> eived outside c	s & rushes?	Yes / No NA
5. Was CO	C signed and dated	d by client?	Yes			<b>,</b>			
11. Any Sut ESS :	ocontracting needer Sample IDs: Analysis: TAT:	d? (Yes)	<sup>7</sup> No		12. Were VOA a. Air bubbles b. Does metha	s received? in aqueous V anol cover soil	OAs? I completely?		Yes / No Yes / No Yes / No NA
13. Are the a. If metals b. Low Lev	samples properly preserved upon re Preserved upon re el VOA vials frozen	preserved? ceipt: ::	Yes No Date: Date:		Time: Time:		By: By:		
Sample Rec	ceiving Notes:								
14. Was the a. Was the Who was co	ere a need to contac re a need to contac ontacted?	act Project Manager t the client?	? Date:	Yes No Yes No	Time:		Ву:		
Sample Number	Container Pro ID Cont	per Air Bubbles ainer Present	Sufficient Volume	Contain	er Type	Preserva	tive	Record pH (C Pes	Cyanide and 608 ticides)
1	134968 Ye	es N/A	Yes	Other	Poly Ma	NP			
2nd Review Were all co Are barcode Are all Flash Are all Hex o Are all QC s Are VOA sti	ontainers scanned e labels on correct of hpoint stickers attac Chrome stickers at stickers attached? ickers attached it bu	into storage/lab? containers? ched/container ID # tached? ubbles noted?	circled?	Initials	Yes / No/ NA Yes / No/ NA Yes / No/ NA Yes / No/ NA Yes / No/ NA				
Completed By:			_	Date & Time:	210	21 12	232		
Reviewed By:	_ Wind	lin Bern	ler	Date & Time:	2	10/21 :	12:42		

ESS	Laboratory	1		C	HAIN OF	CUSTO	YC	ESS La	<b>b</b> #	$\overline{\mathcal{A}}$	R	72	79		:		
Division	of Thielsch Engi	ineering, Inc.		Turn Time	5	Days		Reporti	ing					• • • • •			
185 Fran	ices Avenue, Cr	anston RI 0291	0	Regulatory State	<b>.</b>			Limit	5								
Tel. (401	)) 461-7181 Fa	x (401) 461-448	36	is th	is project for any	y of the folio	wing?:	Elector	nic (	Data 🤇	hecken			Exce	di i		
www.es	laboratory.com	_		O CT RC			) RGP	Delivera	bles (	Other	Please Spe	clfy/→)					
	Co	mpany Name ristol WPCF		Project #		Project Na PFAS Com	i <b>me</b> post										
	Co	ntact Person	·····		Addr 2 Plant	968 6 Ave		\$									
	City	enn Gamay	S	Late		ode	PO#										
	Bristol			RI	0280	29	<u> </u>	_  <									
	Telephone Nu 404-253-89	mber 777	FAX 1	lumber 53-2010		Email Add conwey@bris	tess tolri gov										
ESS La	Collection	Collection			<u> </u>	0011110 9020110	toning of	Ľ	2								
Ю	Date	Time	Sample Type	Sample Matrix		Sar	nple ID		đ								
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Coo	er Present:	V			Comments:	PF8A, PFI	PeA, PFHxA, PFHp4	, PFOA, PFNA	, PFD/	L,PFUn#	, PFDoA,	PF TrDA	, PFBS,, PF	PeS, PFI	xs ,PFQ	s, pfns	s, pfds
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		-															

ESS Laboratory



Division of Thielsch Engineering, Inc.

**BAL Laboratory** 

The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Glenn Conway Town of Bristol - WPCF 2 Plant Avenue Bristol, RI 02809

# RE: Compost Sampling ESS Laboratory Work Order Number: 20J0406

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

REVIEWED

By ESS Laboratory at 2:09 pm, Oct 29, 2020

ESS Laboratory Director

#### Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

#### Sample Receipt

The following sample(s) were received on October 14, 2020 for the analyses specified on the enclosed Chain of Custody Record.

LabNumber 20J0406-01 <u>ClientMatrix</u> Soil <u>SampleName</u> P-1 PFAS Compost



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 20J0406

# **PROJECT NARRATIVE**

No unusual observations noted.

End of Project Narrative.



The Microbiology Division of Thielsch Engineering, Inc.



<u>I/V</u> <u>F/V</u>

CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 20J0406

# **Subcontracted Analysis**

MRL

Client Sample ID: P-1 PFAS Compost Date Sampled: 10/14/20 08:00 ESS Laboratory Sample ID: 20J0406-01 Sample Matrix: Soil

DF

<u>Analyte</u> PFAS <u>Results</u> <u>Units</u> See Attached <u>Method</u>

<u>Analyst</u> <u>Analyzed</u>



The Microbiology Division of Thielsch Engineering, Inc.



# CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 20J0406

#### **Notes and Definitions**

Z-08 See Attached

- ND Analyte NOT DETECTED above the detection limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too Numerous to Count



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Town of Bristol - WPCF Client Project ID: Compost Sampling

ESS Laboratory Work Order: 20J0406

# ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

#### ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 <a href="http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf">http://www.ct.gov/dph/lib/dph/environmental\_health/environmental\_laboratories/pdf/OutofStateCommercialLaboratories.pdf</a>

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002 http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

> Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424 http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006 http://datamine2.state.nj.us/DEP\_OPRA/OpraMain/pi\_main?mode=pi\_by\_site&sort\_order=PI\_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752 http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx



Your P.O. #: B03062 Your Project #: 20J0406 Your C.O.C. #: na

#### **Attention: Shawn Morrell**

ESS Laboratory 185 Frances Ave Cranston, RI USA 02910

> Report Date: 2020/10/26 Report #: R6384494 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

#### BV LABS JOB #: COR4004 Received: 2020/10/16, 13:00

Sample Matrix: Solid # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Moisture	1	N/A	2020/10/20	CAM SOP-00445	Carter 2nd ed 51.2 m
PFAS in soil by SPE/LCMS (1)	1	2020/10/22	2020/10/23	CAM SOP-00894	ASTM D7968-17a m

#### Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.

Page 1 of 10

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Your P.O. #: B03062 Your Project #: 20J0406 Your C.O.C. #: na

#### **Attention: Shawn Morrell**

ESS Laboratory 185 Frances Ave Cranston, RI USA 02910

> Report Date: 2020/10/26 Report #: R6384494 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

BV LABS JOB #: COR4004 Received: 2020/10/16, 13:00

**Encryption Key** 

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Lori Dufour, Project Manager Email: Lori.Dufour@bvlabs.com Phone# (905) 817-5700

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2 Page 2 of 10 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# **RESULTS OF ANALYSES OF SOLID**

BV Labs ID		NXR171			
Sampling Date		2020/10/14 08:00			
COC Number		na			
	UNITS	20J0406-01	RDL	MDL	QC Batch
Inorganics					
Moisture	%	33	1.0	0.50	7009965

Page 3 of 10 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# PERFLUOROALKYL SUBSTANCES (SOLID)

BV Labs ID		NXR171			
Sampling Date		2020/10/14			
		08:00			
COC Number		na			
	UNITS	20J0406-01	RDL	MDL	QC Batch
Perfluorinated Compounds					
Perfluorobutanoic acid (PFBA)	ug/kg	0.59 J	2.0	0.48	7015576
Perfluoropentanoic acid (PFPeA)	ug/kg	0.64 J	2.0	0.46	7015576
Perfluorohexanoic acid (PFHxA)	ug/kg	5.0	2.0	0.32	7015576
Perfluoroheptanoic acid (PFHpA)	ug/kg	0.65 J	2.0	0.34	7015576
Perfluorooctanoic acid (PFOA)	ug/kg	2.5	2.0	0.40	7015576
Perfluorononanoic acid (PFNA)	ug/kg	0.54 U	2.0	0.54	7015576
Perfluorodecanoic acid (PFDA)	ug/kg	1.7 J	2.0	0.48	7015576
Perfluoroundecanoic acid (PFUnA)	ug/kg	0.62 J	2.0	0.50	7015576
Perfluorododecanoic acid (PFDoA)	ug/kg	0.90 J	2.0	0.38	7015576
Perfluorotridecanoic acid (PFTRDA)	ug/kg	0.44 U	2.0	0.44	7015576
Perfluorobutanesulfonic acid (PFBS)	ug/kg	0.61 J	2.0	0.34	7015576
Perfluoropentanesulfonic acid PFPes	ug/kg	1.0 J	2.0	0.52	7015576
Perfluorohexanesulfonic acid(PFHxS)	ug/kg	1.3 J	2.0	0.60	7015576
Perfluorooctanesulfonic acid (PFOS)	ug/kg	2.1	2.0	0.54	7015576
Perfluorononanesulfonic acid (PFNS)	ug/kg	0.48 U	2.0	0.48	7015576
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.54 U	2.0	0.54	7015576
Surrogate Recovery (%)					
13C2-Perfluorodecanoic acid	%	59	N/A	N/A	7015576
13C2-Perfluorododecanoic acid	%	52	N/A	N/A	7015576
13C2-Perfluorohexanoic acid	%	77	N/A	N/A	7015576
13C3-Perfluorobutanesulfonic acid	%	75	N/A	N/A	7015576
13C4-Perfluorobutanoic acid	%	45 (1)	N/A	N/A	7015576
13C4-Perfluoroheptanoic acid	%	82	N/A	N/A	7015576
13C4-Perfluorooctanesulfonic acid	%	69	N/A	N/A	7015576
13C4-Perfluorooctanoic acid	%	66	N/A	N/A	7015576
13C5-Perfluorononanoic acid	%	55	N/A	N/A	7015576
13C5-Perfluoropentanoic acid	%	59	N/A	N/A	7015576
18O2-Perfluorohexanesulfonic acid	%	92	N/A	N/A	7015576
RDL = Reportable Detection Limit			-	-	
QC Batch = Quality Control Batch					
N/A = Not Applicable					
<ol><li>Recovery or RPD for this parameter</li></ol>	is outsi	de control lim	its. Tł	ne ove	rall quality

control for this analysis meets acceptability criteria.

Page 4 of 10 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **TEST SUMMARY**

BV Labs ID: NXR171 Sample ID: 20J0406-01 Matrix: Solid				(	Collected: 2020/10/14 Shipped: Received: 2020/10/16
Test Description Ir	nstrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture B	BAL	7009965	N/A	2020/10/20	Prgya Panchal
PFAS in soil by SPE/LCMS Li	.CMS	7015576	2020/10/22	2020/10/23	Patrick Yu Peng Li

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# **GENERAL COMMENTS**

Sample NXR171 [20J0406-01] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Results relate only to the items tested.

Page 6 of 10 Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **QUALITY ASSURANCE REPORT**

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7009965	CPS	RPD - Sample/Sample Dup	Moisture	2020/10/20	0		%	20
7015576	YPL	Matrix Spike	13C2-Perfluorodecanoic acid	2020/10/23		93	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/10/23		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/10/23		91	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/10/23		88	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/10/23		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/10/23		94	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/10/23		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/10/23		94	%	50 - 150
			13C5-Perfluorononanoic acid	2020/10/23		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/10/23		90	%	50 - 150
			1802-Perfluorohexanesulfonic acid	2020/10/23		92	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/10/23		86	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/10/23		89	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2020/10/23		96	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/10/23		96	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/10/23		88	%	70 - 130
			Perfluorononanoic acid (PENA)	2020/10/23		97	%	70 - 130
			Perfluorodecanoic acid (PEDA)	2020/10/23		97	%	70 - 130
			Perfluoroundecanoic acid (PELInA)	2020/10/23		96	%	70 - 130
			Perfluorododecanoic acid (PEDoA)	2020/10/23		97	%	70 - 130
			Perfluorotridecanoic acid (PETRDA)	2020/10/23		100	%	70 - 130
			Perfluorobutanesulfonic acid (PERS)	2020/10/23		99	%	70 - 130
			Perfluoropentanesulfonic acid PEPes	2020/10/23		97	%	70 - 130
			Perfluorobevanesulfonic acid (PEHvS)	2020/10/23		97	70 0/	70 - 130
			Perfueroestanesulfonic acid (PEOS)	2020/10/23		37 21 (1)	70 0/	70 - 130
			Perfluoropopapesulfonic acid (PENS)	2020/10/23		31(1)	20 0/	70 - 130
			Perfluered econosulfonic acid (PENS)	2020/10/23		90	70 0/	70 - 130
7015576	VDI	Spiked Plank	12C2 Derflueredecanois acid	2020/10/23		00	/0 0/	FO 150
/0122/0	TPL	зрікей віалк	13C2-Permuorodedanoic acid	2020/10/23		92	70 0/	50 - 150
			13C2-Periluorododecarloic acid	2020/10/23		80	70 0/	50 - 150
			13C2-Periluorohitanosulfonia acid	2020/10/23		94	/0	50 - 150
			13C3-Perhuorobutanesunonic acid	2020/10/23		00	70 0/	50 - 150
			13C4-Perhuorobutanoic acid	2020/10/23		99	%	50 - 150
			13C4-Perfluoroneptanoic acid	2020/10/23		94	%	50 - 150
			13C4-Perhuorooctanesuironic acid	2020/10/23		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/10/23		93	%	50 - 150
			13C5-Perfluorononanoic acid	2020/10/23		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/10/23		91	%	50 - 150
			1802-Perfluoronexanesultonic acid	2020/10/23		96	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/10/23		95	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/10/23		99	%	/0 - 130
			Perfluorohexanoic acid (PFHxA)	2020/10/23		99	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/10/23		100	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/10/23		96	%	70 - 130
			Pertluorononanoic acid (PFNA)	2020/10/23		100	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2020/10/23		98	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2020/10/23		96	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2020/10/23		100	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2020/10/23		94	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2020/10/23		104	%	70 - 130
			Perfluoropentanesulfonic acid PFPes	2020/10/23		100	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2020/10/23		96	%	70 - 130

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# QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	OC Type	Parameter	Date Analyzed	Value	% Recovery		OC Limits
Daten	mit	de type	Perfluorooctanesulfonic acid (PEOS)	2020/10/23	Value	104	%	70 - 130
			Perfluorononanesulfonic acid (PENS)	2020/10/23		94	%	70 - 130
			Perfluorodecanesulfonic acid (PEDS)	2020/10/23		81	%	70 - 130
7015576	VPI	Method Blank	13C2-Perfluorodecanoic acid	2020/10/23		90	%	50 - 150
/0155/0		Method Blank	13C2-Perfluorododecanoic acid	2020/10/23		86	%	50 - 150
			13C2-Perfluorobexanoic acid	2020/10/23		94	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/10/23		88	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/10/23		99	%	50 - 150
			13C4-Perfluorobentanoic acid	2020/10/23		93	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/10/23		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/10/23		93	%	50 - 150
			13C5-Perfluoroponanoic acid	2020/10/23		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/10/23		91	%	50 - 150
			1802-Berfluorobevanesulfonic acid	2020/10/23		02	70 0/	50 - 150
			Perfluorobutanoic acid (PEBA)	2020/10/23	0 24 11	52	70 110/kg	20 - 120
				2020/10/23	MDL=0.24		ug/ kg	
			Perfluoropentanoic acid (PFPeA)	2020/10/23	0.23 0, MDL=0.23		ug/kg	
			Perfluorohexanoic acid (PFHxA)	2020/10/23	0.16 U, MDL=0.16		ug/kg	
			Perfluoroheptanoic acid (PFHpA)	2020/10/23	0.17 U, MDL=0.17		ug/kg	
			Perfluorooctanoic acid (PFOA)	2020/10/23	0.20 U, MDI =0.20		ug/kg	
			Perfluorononanoic acid (PFNA)	2020/10/23	0.27 U,		ug/kg	
			Perfluorodecanoic acid (PFDA)	2020/10/23	0.24 U,		ug/kg	
			Perfluoroundecanoic acid (PFUnA)	2020/10/23	0.25 U,		ug/kg	
					MDL=0.25			
			Perfluorododecanoic acid (PFDoA)	2020/10/23	0.19 U, MDL=0.19		ug/kg	
			Perfluorotridecanoic acid (PFTRDA)	2020/10/23	0.22 U, MDL=0.22		ug/kg	
			Perfluorobutanesulfonic acid (PFBS)	2020/10/23	0.17 U, MDL=0.17		ug/kg	
			Perfluoropentanesulfonic acid PFPes	2020/10/23	0.26 U,		ug/kg	
			Perfluorohexanesulfonic acid(PFHxS)	2020/10/23	0.30 U, MDI =0.30		ug/kg	
			Perfluorooctanesulfonic acid (PFOS)	2020/10/23	0.27 U,		ug/kg	
			Perfluorononanesulfonic acid (PFNS)	2020/10/23	0.24 U,		ug/kg	
			Perfluorodecanesulfonic acid (PFDS)	2020/10/23	0.27 U,		ug/kg	
					MDL=0.27			
7015576	YPL	RPD - Sample/Sample Dup	Perfluorobutanoic acid (PFBA)	2020/10/23	2.6		%	30
			Perfluoropentanoic acid (PFPeA)	2020/10/23	13		%	30
			Perfluorohexanoic acid (PFHxA)	2020/10/23	4.7		%	30
			Perfluoroheptanoic acid (PFHpA)	2020/10/23	8.1		%	30
			Perfluorooctanoic acid (PFOA)	2020/10/23	12		%	30
			Perfluorononanoic acid (PFNA)	2020/10/23	7.9		%	30
			Perfluorodecanoic acid (PFDA)	2020/10/23	NC		%	30

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#### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic acid (PFUnA)	2020/10/23	NC		%	30
			Perfluorododecanoic acid (PFDoA)	2020/10/23	NC		%	30
			Perfluorotridecanoic acid (PFTRDA)	2020/10/23	NC		%	30
			Perfluorobutanesulfonic acid (PFBS)	2020/10/23	NC		%	30
			Perfluoropentanesulfonic acid PFPes	2020/10/23	NC		%	30
			Perfluorohexanesulfonic acid(PFHxS)	2020/10/23	8.5		%	30
			Perfluorooctanesulfonic acid (PFOS)	2020/10/23	NC		%	30
			Perfluorononanesulfonic acid (PFNS)	2020/10/23	NC		%	30
			Perfluorodecanesulfonic acid (PFDS)	2020/10/23	NC		%	30

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

Colm McNamara, Senior Analyst, Liquid Chromatography

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Address			City , State	I		Zip		PO#	062	Analys	see					
Tel.	ext 3083		Email: Smo	orrell@thiels	ch.com; Hma	asse@thielsch	.com	D03	002		537 - ents					
ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	San	nple ID	Pres Code	# of Containers	Type of Container	Vol of Container	PFAS (					
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Cooler Pres	ent	Yes	No	Internal Us	e Only	Preservation Code	· V-Wastewate	er GW-Groundw HCI, 3-H2SO4,	4-HNO3, 5-1	vaOH 6-MeC	Drinking Wate	Acid	W-Wipes	F-Filter		
Seals Intact	Yes	No_NA:		[] Pickup		Sampled by	:			in or it of the o	1, 1 130101	Aciu,	0-211ACL	9	-	
Cooler Tem	perature: <u>5</u>	· 9/4·2/ 4	•4	[] Technic	ian	Comments:	PFBA	A, PFPeA, PFTrD	PFHxA, A, PFBS	PFHpA, F , PFPeS,	PFOA, PI PFHxS,	FNA PFC	, PFDA DS, PFN	, PFU NS, PI	InA, PI FDS	FDoA,
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collected in accord	ance with MADEP	CAM VIIA	Report N	lethod Bl	ank & Lab	oratory Cor	ntrol S	ample F	Results		Ship To C	: 29 hee	9 Cayu ktowag	ga Ro ga, NY	1 1422	5

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185 Franc	es Avenue, Cr	anston RI 0291	10	<b>Regulatory State</b>	<b>B</b>		·	Limit	ຮັ									
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www.essla	aboratory.com			O CT RC	Р О МА М	ice C	) RGP	Delivera	bles	🗌 0#	ier (Pieæ	se Specify	⊸ર					
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	401-253-88	77	401-2	53-2910	g	conway@brlst	tolri.gov											
ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix		San	n <b>ple ID</b>		PFAS									
1	10-14-20	5800	Grab	Soil		P-1 PFA	S Compost		X									
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Contz	ainer Volume:	1-100 mL 2	2-2.5 gal 3-250 ml	. 4-300 mL 5-500	)mL 6-1L 7-	-VOA 8-2 oz	9-4 oz 10-8 oz	11-Other*										
Prese	rvation Code:	1-Non Preserved	2-HCI 3-H2SO4	4-HNO3 5-NaOH 6-M	ethanot 7-Na2S2O	3 8-ZnAce, Nac	0H 9-NH4CI 10-DI⊁	20 11-Other*										
						Numbe	r of Containers pe	er Sample:									T	
		Laborator	y Use Only		Sampled by	t												
Coole	r Present:		O Drop Off		Community: 4.	PFBA, PFF	eA, PFHxA, PFHpA	, PFOA, PFNA	, PFD	A ,PFU	nA, PF	DoA, PF1	frDA, PF	BS, PFPe	s, PFHxS	s,PFOS	, PFNS	i, PFDS
Seal	s Intact:		- Othickup															
Cooler T	emperature:	5.1%	ئ <sup>ر</sup>															
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ATTACHMENT 3 Aggresource annual Report



February 19, 2021

Jennifër Wood Waste Water Management Program MA DËP One Winter Street Boston MA 02108

RE: 2020 Annual report For Bristol RI Compost

Per the requirements of the AOS issued to Agresource Inc. for the Bristol RI compost facility I am enclosing the report on the distribution of Type I Biosolids Compost in Massachusetts as well as temperature data during the period from January 1, 2020 through December 31, 2020.

Compost is tested quarterly in accordance with the sampling and Analysis plan and copies of the test reports kept on file.

3

If you have any questions please feel free to contact me.

Sincerely,

David Harding

David Harding, President Agresource Inc.

cc: Jose DaSilva, Superintendent, Bristol WPCF

# Bristol, RI Compost distributed January 1, 2020 through December 31, 2020

DROP

I													
LOCATION	267 Huttleston Ave Farihaven, MA	100 Quarry Hill Drive Quincy, MA	35 Muirfield Rd. Plymouth, MA	274 South St. Walpole, MA	325 Huttleston Avenue Fairhaven, MA	11 Ashland St. Holliston, MA	28 Nicolettas Way Mashpee, MA	12 Millenium Dr. Catumet, MA	1660 Main St. Walpole, MA	62 Industrial Way Hanover, MA	15 West St. Medway, MA	100 Pleasant St. Upton, MA	
CUSTOMER	G Bourne Knowles, Fairhaven	Granite Liks GC, Quincy	Greener Horizon, Plymouth	Ian Brown, Walpole	Kenny's Garden Center, Fairhaven	Kevin Norton, Holliston	Maffei, Mashpee	Miller Landscape, Catumet	Nature Works, Walpole	Paragon Landscape, Hanover	Podzka Landscape, Medway	Town of Upton, Upton	
<b>XD/TONS</b>	yards	yards	yards	yards	yards	yards	yards	yards	yards	yards	yards	yards	
QUANTITY	20	20	300	60	340	110	240	20	60	60	120	60	1410

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Tempe	rature Trackir	ng Progra	E						-		Bay Nu	mber:	F					
																	_	
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# BRISTOL SLUDGE COMPOSTING FACILITY MONTHLY SUMMARY

# MONTH: JANUARY-2020

a-bott	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1							
2	7			7.5		2	
3	8.1			8.5			
4						2	
5							
6	8.9			9		2	
7	8			8.6			
8	7.45			8		2	
9	4.6			5		2	
10	10.9			11.5		2	
11	3.5			4		2	
12							
13	6.85			7.5		2	
14	7.1			8			
15	3.3			3.5		2	
16	8			8.6		2	
17	7.4			8.3			
18	3.4			3.5		2	
19							
20	3.8			4			
21	9.6			10.4		2	
22	8.7			9	L	2	
23	4.25			4.5			
24	8.6			9		2	
25						2	
26							
27	7.8			8		2	
28	8.9			9.5			
29	7.6			7.7		2	
30	7.8			8.5		2	
31	7.25			7.5		2	
Totals:	168.8		0	179.6		38	

		216		58	58		57	Bioto and Charles and		19	90			CL	20	00	50		<u> </u>	CLUMM		6	ño -	6	AC .		00	00			10		6					
	Zone E	204		60	58		Red Police		99	69				DQ.		00	00	00	28		10	04	5		C	<b>b</b> 4	U.V.	70		D C	20	60						
		192		62				09	58			to	20	00	19	68	00	70	61	44	ng	68	C. C. C.	68	69	0/1	00	00	00	70			69					
		180					62	82			62	04	L C	20	68	66	00	00	64	00	00	çç	58	99	63		10	2/	00	L.C.	69	19						
		168			00		63			99	65	/0	fe	/9	68	19	10	65	. 68			0/	68	9/9	67	68			CC States	00			68					
	Zone	156		68	<u>1</u> 9				62	20	67	00		69	69	68	67				68	72	07	69	0/			11	20		9/	99	67					
mber:		144		72	1000			12	66	74	70	0.	C T	0/	68		1	70	72		L/	72	72			70		13/2/		63	19	64	68					
Bay Nu		132					74	74	73	72	74	(3		61		65	68	U.	17		0/	69		72	73		B-ANG BARA	60	09	63	66	64						
		120			9/24-368		73	72	73	72	1.173	(4			70	67	99	0.00	12.44		72		73			01.11		68		64								
	Zone	108		70	¥7.898		73	72	71	02	74			67	72	29	69	67	68			02		144 A	75	0211-11		72	6/				67			lolè –	1. 51.01.51.000.000.000.000.000.000	
		96	the second second second	72	73		75	74	20	72		12			70	66	69				68		72	73	. 73	69				24 1 1 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2	67	65	66			ille van de		
		84		71	11		74	13	73		68	72		61	62			67	67			68	70	71	69		ten Piteria, sur Pi⊥aria ang	9. 1		64	68	64			hav	irdav	ndav	ļ
	- B B B B B B B B B B B B B B B B B B B	72		70	69		74	02 .		68	64	69		64		64	68				No. 08	02	67					68	62	60					і. Ц	Sati	Sur	
		60		66	29.000	and the second se	70		. 66	95	09.44				65			65	64		59	67						67	63				69		and and a	low		
		48		67	64			-67	69	. 63	59			20		0Z <sup>a</sup> relati	65	64	69		. 60			65	66	64					99	29	69		9.0	) ×		
		36		62			63	19.0	48	52		53			09	62	58	58	54				58	55	57					99	al ana 60		-		, nope	cdav	1920	
g Progr	Zone A	24		<u></u>	and a straight				Testa Decisión de la						A STATE OF A																100000				.CM		Wedr	
Trackin		12																						Section 201							and the second The							
Jerature		Input				~		10	6	2	8	6	0	1	2	3	4	5	6	7	8	6	0	1	2	3	4	5	9	7	8	<u>6</u>	0	<u>-</u>				
Temp			Month	Dav 1								~	7	1	1.	1	1	ï	1	1	1	1	Ñ	5	5	0	7	0	2	2	2	2	ကိ	က				

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Temper	rature T	racking	Prograi	E								Bay Nu	mber:	ε Γ					
		ZC	ne A			Zone	e B			Zone	с С	_		Zone	D			Zone E	
	nput	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month																			
																1			
Day 1		a state of the second	2897	66	29	67	66	66	68	20			72	67		74	72	02	62
2					67		68	69	72	73	74			02	68		71	68	66
3			A Property of							A LEAST NEVER									
4				68	*13/52/-	66	68	68	70	70	72	74			12	74		70	62
5				53	63	2004	69	02	02	71	73	75	57.1	Novi 1		72	73	9-0-1 	64
9				52	62	67	114229	68	68	68	71	71	02.00000	63	(2)2)		71		
7				52	. 58	65	68		71	14	74	76	74	02	1. 172			72	64
8			Service Service		62	64	67	70		72	74	57	73	68	02	73			63
6				55	. 942	99	69	μ2	70		73	75	73	70	71	72	73		
10					2. Aller					Stee						and the second se			
11					60		66	66	70	68		64	67	· · · 62	69	66	66	64	100
12				99		66	a de la constante de	70	72	72	73		72	68	68	67	69	66	64
13				1. 56	62		68		71	02:10	67	65		65	67	66	. 67	65	65
14				at 50	69		72	-	20	69	69	66	1	66	68	67	68	66	66
15				60	69	62		68		20	12 . 1	02.	69		63	65	61	59	62
16					60	19	65	1000	. 62		69	02	17	73		66	63	19.00	59
17				237.446		and the second				10004									
18				1.000	58	62	60 BO		· · · 66		68		02.1	71	Construction of the second sec	64	64	60	59
19				1200		70	69	29		68		68	66	65	68		68	67	62
20				64			70	69	72		72		68	67	N	12		68	<b>q</b> 9
21				60	64			17	72	72		70		68	72	74	72		61
22				55	63			70	72	72		71		66	70	. (3	73	-	60
23					65	65			68	68	70				72	12	/3	0/	
24																00	01	50	
25			A STATE AND A STATE	68		69	68	ાંદીઓ		72	73	70	(c) -	68		69	<u></u>	68	20
26				63	64		67	02.0			02	68	68		66		64	00	64
27				55	64	64	99.74 	65	67			66	64	64		63		29	20
28			10000	61	62	65	68		68	70	101237 B		02	17	69	- Co	6/		99
29		and the second		60	60	099	67		68	69			69	69	6/		68		99
30			a state of the state		63	60	69	68		67	20			67	68	68		66	
31						a station of the	Charles and		1979-18					tion to the second					
Color	Key	-	Mon	day	Gre	sen.	Fric	lay	BI	(¢)									
			Tues	day	Yell	0W	Satu	rday	Ind	ole									
			Wedne	esday			Sun	day											
			Thurs	sday	Ora	nge									i			ł	
												5	INUAR		3AY-3-11	ACKIN	IG SHEF	_	
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### MONTH: JANUARY-2021

	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1							
2	3.5		3.6			2	
3							
4	7.8		7.7			2	
5	8.4		8.1			2	<u></u>
6	8.3		8.2			2	
7	6.3		6.5			2	<u></u>
8	7		7.3			2	
9	3.1		3.3			2	
10							
11	7.25		7.4			2	
12	8.1		8.4			2	
13	6.75		6.9			2	
14	3.75		3.9				
15	4.3		4.4			2	
16	3.3		3.5			1	
17							
18	3.25		3.4			1	
19	7.5		7.3			2	
20	7.5		7.4			2	
21	7		7.4			2	
22	4		4.1				
23	3.9		4			2	
24							
25	8.2		8.1			2	
26	3.7		3.9			1	
27	8		8.2			2	
28	7.7		7.5			2	
29	3.9	1	3.7				
30	3.5		3.6			2	
31							<u> </u>
Totals:	146		147.8	0		41	

		216			64				65	(0)(0)	20	67			65	62	67	67	65			14(5)	66	65	st. 62			69		69	67	19 H 19							
	Zone F	204		And Service and And			69	67		68	68			63	69	. 65	02					69	50 Holes 63			67			64	66	68		67						
		192			68				68	29.000		02.0		20	02	67					66	68		70	68			71	19 N			20							
		180					68	20	69	· .	74	72		70				73	69	all a state a state	67		72			67		02		72	12		68						
		168			0/		68	71		70	72	02					02	QL .	68			- 67		70	69	70			ــــــــــــــــــــــــــــــــــــــ			69	67						
		156			69	April Construction of the			68	69	72				02	02	72				09		12	02.5	02			69		68	02.5	68	02						
umber:		144		add a glassifier it			67	68	02	70				72	57	02		72	72		STOL STOL	$0^{2}$ and $2^{2}$	02.11			72			72	02	17	02	72						
Bay Ni		132			73		62	72	70			52		27. Sec. 72			57				94	57.13		67	72			71	74	72	73	72							
		120			73		71	72			. 76	E7-20			52	52		£7.	23		64		75			73		72	73	71	02		82 and 1				*******		
		108			72					73	74			72			52	52	72			72		- 73	74	24.00	10.12.14 10.14110	12	73			12	73			UC-CARE	rple		
		96				Good Contraction of Contraction of Contraction	101		72	. 72	•	72			72	73	72				12	0202	52	12	74	72		42		02	72	11	•			8	Πd		
		84		Contraction of the			67	02111	021010		65			69	0 <u>Z</u>	69		68	69		3161	02	68	02	72	68		SPACE OF	0 <u>/</u>	70	0/		02	THE REPORT OF A LOCAL DISTORT		day	ırday	nday	-
		72			12.35		69	68		17 10		68		67	-		65				65	66	68	68	67			02	68			66	68			i- L	Satı	Sur	
		60			AN 102				64		58	60			57	55		69	62	South Street Street	60	58	62			99		66		63	60	58	60	a read of the Action of the Ac		sen	low		nge
		48		And the first mild			47	48		67	52			37			53	09	48		45	47		49	47	51			46	42	46.	<b>0</b> 40	43	ANNA STRATT NAMES - AND		цЮ	Yel		Ora
E		36			45				45	97 39		40			0111	35	41	38	43		40	0100	Sec. 34	37	41			39	38	08.836	36	39				Iday	sday	esday	sday
g Progra		24			00000					. THE REAL PROPERTY IN						ACCULATION OF												The second s	A DESCRIPTION OF THE			As putter to other more of a				Mor	Tue	Wedn	Thur
Tracking	<b> </b>	12								Martin Party and				A share to be the		100000000000000000000000000000000000000					and the second second		4	a state of the second				All and a state of the											
erature		Input																																		r Key			
Temp			Month		Day 1	7	3	4	5	9	2	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	26	30	31	Colo			

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Tempera	ture Tracki	ng Progr	am							-	Bay Nu	mber:	(m)-					
											-							
Inr	uit 12	20ne A	36	48	2016 60	9 B 72	84	96	108 1	120 T	132	144	156	168	180	192	204	216
Month																		
									02	<u> </u>	04	Balling Coll (1997)	U4			023030		R7
Day 1			54		10				2	1.7	<u>c)</u>		21	1.1.1.1		2		10
7 6				98		62	64			69	12	67		. 72	02		02	
° 4		a section de		65		72	72			71	12	72		04	02		67	
2			613		02		12	(69)		5	72	73	66		hΔ	99		63
9			000000	29		- 72		02	02			73	69	1 70		02	67	90
7			Eddodakini	11. B2	64		70		02	70		Riterative States	72	74	72	1	CLZ IN THE	68 31
8			58		67	70		12		72	72			72	72	20		65
6	a state had a state								19925				ADEAL STORE CONTRACTOR		1		1	
10				. 64		1.411	73		70		73	74		a lateration of the second	71	12	11	
11			617 10	100 Contraction Contraction	68		72	72		71		74	70			02	68	66
12			43		66		69	29		02		75	67			70	65	65
13			46	44 62		69		70	68		73		102	- 72			67	67
14			52	63	49		02 declaration		02	72		74		72	74			69
15			50	60	68		70		71	73		71		68	22			64
16																		
17			42	64	66	89 W		73		66	69		74		72	12 1 25		
18				65	65	69	68		02		0/2	72		67		20	68	7.K 5);-
19			56		63	68	65	64		20		02:00	02		12		19	
20		10000	51	001000		68	1-1	<u>7</u> 3	. 72		74		5 <u>7</u> 3	02		70		63
21			53	39 m e 2		20	72	02500	01		73		71	20		72		66
22				62	70 m		70	73	172	102		74		69	17.		67	
23	and the second of						Profession with							Hereiter Tribe we				
24			59		68	71		68	68	JLZ contents	73		74		97	L2	CW-SS	64
25			09	<u>66</u>		70	0.00	100	72	70	72	73		73		01.1	69	00
26		and part with the		60	65		67	67		72	73	02	69	COTTON ST	76		69	89
27	ALC: NO CONTRACTOR	1000	56	68	-67	69		72	71		72	73	02	73		<u>70</u>		99
28			50	<b>63</b>	65	68		68	20	0.000	72	73	70	7.0		71		65
29				61	68	68	70		70	14	1000	72	68	72	73	1991 - 1981 1	68	
30																		
31																		
Color Ke	<u>ک</u> ر	Mo	nday	Gre	aen	Fric	lay	ng Si	(3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1									
		Tue	sday	Yel	low	Satu	rday	Pur	ole									
		Wedi	nesday			Sun	day											
		Thu	rsday	Ora	nge												ł	
												BRUAR	Y-2020-	BAY-3-	RACKI	NG SHE		

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	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	3.4			3.5		2	
2				L		antar - Marcaria	
3	8.5			9		2	
4	8			8.5			
5	4			4		2	
6	8			8.3		2	
7	8.7			9		2	
8	3.75			3.7		2	
9							
10	8			8.1		2	
11	8.1			8.2		2	
12	8.2			8.5			
13	7.3			7.5		2	
14	7.4			7.3		2	
15							
16							
17	3			3		2	
18	7.5			7.5		2	
19	8.1			8		2	
20	8.7			8.9		2	
21	3.8			4			
22						2	
23							
24	8.4			8.2		2	
25	9			8.5		2	
26	9.5			9.5		2	
27	7.3			7.3		1	
28	7.7			8		1	
29						2	
30	1						
31							
Totals:	156.35		0	158.5		40	

### MONTH: FEBRUARY-2020

Input         Zone D         Zone D         Zone D         Zone D         Zone D         Tone D </th <th>Temper</th> <th>ature Trac</th> <th>king Progr</th> <th>am</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Bay Nur</th> <th>nber:</th> <th>(m)-</th> <th></th> <th></th> <th></th> <th></th> <th></th>	Temper	ature Trac	king Progr	am								Bay Nur	nber:	(m)-					
Input         12         2018         80         100         72         144         166         163         160         172         2014         150         2014         150 </th <th>+</th> <th></th> <th></th> <th></th> <th></th> <th>   r</th> <th>(</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th>_</th> <th></th> <th></th> <th></th> <th></th>	+					  r	(						_		_				
Import         Import<	Ť		Zone A		4	Zone	H H H H H H H H H H H H H H H H H H H		-	Zone		007	4 4 4			001			210
Dyrit         Description         Descripion <thdescription< th=""> <thde< th=""><th>il li</th><th>nput 12</th><th>- 24</th><th>36</th><th>48</th><th>60</th><th>1.5</th><th>8</th><th>96</th><th>108</th><th>1.20</th><th>132</th><th>144</th><th>9C1</th><th>108</th><th>180</th><th>192</th><th>204</th><th>9.IZ</th></thde<></thdescription<>	il li	nput 12	- 24	36	48	60	1.5	8	96	108	1.20	132	144	9C1	108	180	192	204	9.IZ
NU         NU<															and the second second				
2         4         6         7         6         7         7         1         7         1	Jay 1					Hearden and							Hilling Contraction						
3         1	2			62		. 66	04	72	68		72	73		02	75	73	68		60
4         1	3			09	64		69	101	02	68		72	72		73	73	02	67	(3)3
6         0	4			10 <u>5</u> 0	58	65		67	<u>67</u>	69	71		72	02		75	2	- 69	63
0         0         0         0         0         1	5			54	69	63	19		72	102	1.72	73		70	72		02	68	65
7         8         8         6         6         6         6         7         8         8         7	9				56	64	<b>866</b>	68	A CONTRACTOR OF	68	124.4	74	73		73	172		70	64
8         8         8         8         8         8         9         7         9         7         9         7         9         7         9         7         9         7         9         7         9         7         9         7         9         7         9         7         9         67         7         9         67         7         9         67         7         9         67         7         9         67         7         9         67         7         9         67         7         9         66         66         66         67         7         7         9         7         9         67         7         9         67         7         9         67         7         9         66         66         67         7         7         9         7         9	7			53		65	68	12	٥ <i>٤</i>		72	73	72	72		74	72	a state of the state	66
9         10         10         10         11         12         13         14         16         73         16         17 </td <td>8</td> <td></td> <td></td> <td></td> <td>1.208</td> <td></td>	8				1.208														
10         10         10         10         10         17         10         17         10         17         10         17         10         17         10         17         10         17         10         17         10         17         10         10         10         11         10         11         10         11         10         11         10         11         10         11         10         11         10         11<	6				65		68	68	68	10		74	57	74	76	a second	74	72	16V:
1         1	10			66		19		69	72	73	72		73	07	64	74		68	67
12         13<	11			1999 B	62		65		65	67	20	73		67	74	75	0/		
13         14         15         16         66         66         67         17         12         17         13         17         14         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         17         15         16         16         16         17         15         17         15         16         16         16         16         16         16         16         17         16         17         16         17         16         17         16         16         16         16         17         16         17         16         16         16         16         16         16         17         16         17         16         16         16         16         16         16         16         16         16         16         17         16         17         17<	12			57	64	68		70		72	14	52	73		73	74	72	68	
14         10         12         74         73         73         75<	13		12.0400 10.0400	56	99	69	(B)	71		68	02	73	73		74	92	73		
15         16<	14			Spin 2	67	69	0½		70		72	74	73	73		75	72	68	67
10         10<	15	Part State													L				
17         10         10         10         70         70         73         73         75         74         74         75         66         66           18         10 </td <td>16</td> <td></td> <td></td> <td>68</td> <td>000034</td> <td>65</td> <td>69</td> <td>B7</td> <td>3 (S)</td> <td>69</td> <td></td> <td>72</td> <td>67</td> <td>67</td> <td>75</td> <td></td> <td>63</td> <td>20</td> <td>63</td>	16			68	000034	65	69	B7	3 (S)	69		72	67	67	75		63	20	63
18         18         17         72         72         72         73         72         74         72         76         76         66           20         10         10         10         10         10         10         12         70         66         66           21         10 <td>17</td> <td></td> <td></td> <td>60</td> <td>68</td> <td></td> <td>71 💽</td> <td>02</td> <td>0/2</td> <td></td> <td>73</td> <td></td> <td>73</td> <td>73</td> <td>75</td> <td>74</td> <td>:</td> <td>69</td> <td>67</td>	17			60	68		71 💽	02	0/2		73		73	73	75	74	:	69	67
10         0         660         670         860         760         760         760	18			99	65	67		70	72	72		75		72	74	74	72		68
20         600         603         668         668         7/1         7/2         7/3         7/0         699         668         7/1         7/3         7/0         699         669         669         669         669         669         669         669         669         669         669         669         669         669         669         669         669         669         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/1         7/2         7/3         7/1         7/2         7/3         7/3         7/1         7/3         7/3         7/1         7/3	19			60	99.00	69	70		68	69	72		74		73	72	70	68	
21         50         60<	20				63	artic+68	69	66		69	12 March 1	73		68		73	02	69	99
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24         58         69         70         72         73         75         72         73         73         76         70         69           25         69         66         70         70         70         71         71         71         73         70         69         66         69         70         69         69         70         69         69         70         74         75         70         73         70         69         63         70         73         70         73         70         73         70         73 </td <td>23</td> <td></td> <td></td> <td></td> <td>68</td> <td></td> <td>69</td> <td>69</td> <td>72</td> <td>72</td> <td></td> <td>74</td> <td>76</td> <td>02</td> <td></td> <td>72</td> <td></td> <td>66</td> <td>00</td>	23				68		69	69	72	72		74	76	02		72		66	00
25         27         68         70         70         71         71         76         68         74         76         68         74         76         68         74         76         68         74         76         68         63         74         76         63         63         70         68         63         63         74         76         73         70         68         63         61         73         70         68         63         61         73         70         73         70         73         70         73         70         70         70         70         73         70         73         70         73         70         70         70         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73         70         73<	24			58		69		70	72	73	73		75	72	73		02		64
26         80         70         71         72         70         73         70         868         63           27         8         67         7	25			69	99		70		70	12	71	76		68	74	92		69	
27         67         70         69         74         76         74         76         74         76         74         73         72         74         73         70         74         73         70         73         70         73         70         70         70         70         70         73         70<	26		and the second se	63	69	02		71		72	20	74	75		72	73	70		63
28         70         70         70         73         70         73         70         73         70         70         73         70         70         70         73         70         73         70         70         73         70         70         70         73         70         70         70         70         71         70         71         70         71         70         71<	27				67	70	69		72		74	76	74	70	5.	74	74	72	19
29       29       70       71       70       71       70       73       73       70         30       70       69       69       71       70       74       73       70         31       70       74       73       70       73       70       78       70       74       70         31       70       70       74       70       73       70       74       70       70       76       70	28			62		71	02	02		73		75	73	- 72	70		73	20	20
30     30     73     70     73     74     74     74     74     70     74     74     70     74     70     74     70     74     70     74     70     76     70     74     70     70     74     70     74     70     76     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     74     70     74     74     74     76     70     74     74     74     76     70     74     74     74     74     74     74     74     74     74     74     74     74     74     74     74     74     74     74     74     <	29									ALC: NOT THE	- -								
31     31     64     68     69     72     73     74     70     73     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     74     70     70     74     70     70     74     70     <	30			a faith	69		71	· 20	42		- 73		75	69	78	77	-	73	2
Color Key     Monday     Green     Friday     Blue       Color Key     Monday     Green     Friday     MBLue       Tuesday     Yellow     Saturday     Purple       Wednesday     Sunday     Sunday       Thursday     Orange   MARCH-2020-BAY-3-TRACKING SHEET	31			64	State State State	68		69	72	73		74	1.19913	70	23	75	74		20
Color Ney     Montagy     Visition       Tuesday     Yellow     Saturday     Purple       Wednesday     Yellow     Sunday       Thursday     Orange   MARCH-2020-BAY-3-TRACKING SHEET						45													
Wednesday         Sunday         March-2020-BAY-3-TRACKING SHEET		\c)		schav	Yell Yell	A NO	Satur	1av	Blirb	e									
Thursday Orange MARCH-2020-BAY-3-TRACKING SHEET			Wed	nesdav			Sund	av											
MARCH-2020-BAY-3-TRACKING SHEET			Thu	Irsdav	Orai	nde													
												Σ	ARCH-	2020-B/	<b>Υ-3-TR</b>	ACKING	SHEE	F	

Temperatu	ire Trackir	ig Progra	E								Bay Nur	nber:	~			·		
		-	-		   									_ 				Τ
	+ 10	Zone A	36	ΔR	50 Lone	20 L	84	96	108 1	120 1	132	144	156	168	180	192	204	216
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Day 1					and the state of the													
2					62	29	69	12		72	68		67	68	68	69	() () ()	64
3			þ8			68		73	72		72	70		17	72	02	68	99
4			32	91			70	172	52	73		71	17		20	68	67	68
5			32	42	68			72	. 72	74	73		72	70		۰ 71	69	67
9			.Sines	35	29	19 A.			72	75	73	73		72	73		68	66
7			33		57	68	以及来的			72	23	74	: 72		70	70		65
8	A Second Street		and the second															
6				57		69	02	32			74	72	72	73		75	72	
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2 7			OK.	and the second second		14 A A A A A A A A A A A A A A A A A A A		99	66	6181			62	66	68	62		60
	A STATE AND A STATE AND A			22	1000		٩Ľ	) ) )	73	72	WZ			72	54	102	68	
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13			30	40	0		94		(S)	0)	21 1		And and the second			D 1 4	00	Ç
14				49	60	99		70		/3	14	13	and the second secon		<u> </u> 0/	10	00	00
15			10120															
16			15.000		64	0/ 10	68		73		72	69	66	£2 <b>[</b> 2]		68	62	65
17			27	57		67	inii 68 💉	70				72	72				67	99
18			99	69	64		68	72	[24]		73		72	72	20			70
19			54	58	62	68		73	73	75		73		72	68	01		
20		and the second se		63	63	70	1172		75	73	02		66		66	64	62	(9)(3)
21			47		66	12	0.072	74		74	72	70		68		12	: 67	99
22						N	a and the set											
23				699 No. 10		72	$0L^{+}$	. 73	1 73		71	72	12.5		71		66	68
24					68		73	73	74	73		72	70	68		10		67
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26			47	68	0.0162		72	10 10 10 10 10 10 10 10 10 10 10 10 10 1	73	74	73	72		69	68	70		68
27				62	66	69		73	1000	76	74	73	73		72	72	68	191
28					67	101	02		73		75	74	72	72		20	67	69
29	A STATE OF STATE																	
30				69	10000	72	12	72		74		72	70	71	71		72	72
31		and the second second	29		68	1000	72	72	84		74	( ) million	73	70	72	- 71		20
															_			
Color Key		Mon	day	Gree	en e	Frid	ау											
		Tue	sday	Yello	WC	Satur	day	Pung	ole									
		Wedn	esday			Sunc	ay											
		Thur	sday	Oran	ge													
											2	IARCH-	2020-B/	Y-1-TR	ACKING	SHEE		

Temper	ature T	rackin	g Progra	E								Bay Nu	mber:	-					
		~ 4	Zone A			Zone	ЭB			Zone	°C			Zone	٥D			Zone E	
	put	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
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<u>е</u>			Stred Line Indian via Aliantia St	49	69	69		19		/2	L/ and	e <i>V</i>		W		74	74	66	2
41					69	102	72		73		72	72	72		<u>171</u>		202	67	68
<u>م</u>				Constants investigation															9
9						69	71	71		73		71	71	71		73		65	70
7					Contraction of the second	70	72	70		73		71	102	70		73		68	69
8				01			72	72	73		74		71	02	12		72		99
6				<u>79</u>	221		and the second	0/2	73	72		17.1	- 12068	70	0Zerolate	73		70	
10				68	44		- (5)422	72	73	62		72		70	72	73		02	
11					02	88			72	64	74		64		71	64	73		68
10		the state of the	the state of the						- - -							¥ -	<ul> <li>Contraction</li> </ul>		)
4 4				CL-SHOWING AND		Ce.				10				10			L		20
13				Design of C		90	Ŵ			2/	(3	90		19		68	CQ	PO	19
14			a second as the	69		67	72		the state of the s	73	74	70		70		68	70	67	99
15			and the state of the	70	02		66	02			74	72	72	1092 - 100	68		20	67	99
16		Sector Sector		68	17	02		73	27.00			75	73	71		02		69	67
17					GR	64	60		74	78	S. S		74	102	88		U2		66
- <del>4</del>		Contraction of the		78 W	2	50 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	88	UŽ		75	IV.L			71	90	102		57	S
							×								2	>		5	
פ																			
20				68		68	68	68		auto ma74	9/			02	72	73		72	
21		or and the			68		69	68	0 <u>7</u> 0		70	70		-	70	70	71		65
22		10. 622		67		66		68	67	$\mathcal{L}^{\mathcal{L}}$ and	10000	69	49			20	02	63	A SI SI
23		a constant and a second	10303	64	68		69		102	72	1/21/2010		68	68			02	89	66
24		Section of the sectio		62	65		68		02	02	68		63	60		S. Nation	68	63	63
25			and the second s		68	677		0Z an loss		8495	64	04		66	68			67	65
26						and the second second		and the second secon											and the second
22		and the second second	ALC: CONTRACTOR OF	67		R7	172				71	171	61		70	69			69
200		THE REPORT OF	The Design of th						2		and the second se	1		C Constanting				Rossin hereitigen auf	2
787				204	22	t	77	20 20 20	91	/2	ĥ	0/ 1	7)		Ę	99	90	00	
52	and a state in the second	2		AC .	<u>, //U</u>	60		00	07				00	10	10		INJ -	60	ROTES
30			1.13-10	62	69	- 44 CO	72		70	73		74		68	70	72		68	67
31																			
Color K	ey		Mon	day	Gre	en	Frid	ay		(\$). (\$)									
			Tues	day	Yelli	MC	Satur	day	hund	ple									
			Wedne	sday			Sunc	lay											
			Thurs	sday	Orar	901													
		-										+	<b>APRIL-2</b>	020-BA	Υ-1-TR∕	<b>NCKING</b>	SHEET		

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Temperat	ure Tracki	ng Progra	m								Bay Nu	imber:	е-					
		Zone A			Zone	B			Zone	C			uo7	еD			Zone E	
lnp	ut 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month																		
		international and a second				1.122907								A distant in the second se				
Day 1			60	68		68		70	L	72	140	73		72	68	63	64	Chunt
2			63	68	(98)		70		7	72	74		74		76		- /3	<u>70</u>
3			52	10 H O	(3)3)		11		73	62	12		73		/9/		74	66
4				69	12	02		<b>Main 72</b>		73	22	75		76		72	82 Acres	20/
5																		
9			68		70	02.1	69		02		73	74	72		74		73	69
2			67	68		70	02	72		73	( 1983) 	74	71	75		72	Contraction of the second	20
8			69.1	68		70	. 71	73		74		77	72	76		20		66
6			02	02	68	120916	70	<u>ک</u> ن ک	72		73		70	76	52		72	
10			69	02	70		72	72	73		75		73	74	42		69	
11			67	69	68	02		72	B700	74		76		73	74	72	100 A	68
12															A Martin Contraction of the second			and the first second
13			17	68	69	69	68		70	02	12,511,51		65		71	67	99	61
14			65	68	67	04	70		73	73	75	Contraction of the	34 74		73	67.000	68	00 1
15			HZ	20	73	52	69	70		73	52	54 miles		74		71	68	66
24			6A	201	70	73	02.4	OZ as des	73		73	73	04		22		69	67
2 4		Contraction and and a second	8	04	U4	Q4:193	102	64	04	72	1	73	70	82 S.S.	A CARGE CONTRACTOR	UL ST		63
2 ar			67	17 F	02	21	24	71	G2	<u>64</u>	72	2	<u>69</u>	72	73		68	
			· · · · ·		A PARTY AND A P		All a substants of the										A DESCRIPTION OF A DESC	
8-00				UL VL		04	04	04	62	54	AT A STATE	04101010		76	75	WAR IN		60
707								21	2	01	21	0		01	04	04 1-1		20
21	Transferrence and the second se			۷å		UN STREET	1 March	00	2	21	21	5		71	0)	01	CC	
22			69		68		69	69	17	2	0/	U) and a	<u>L/</u>		17	00	00	00707
23			62	68		0.00 July 1.		01.0	68	71	72	72	07.	73	` .	. 67	. 6/	64
24		22	<b>New 60</b>	67		69		02	· · · 64	69	73	20	99	72		62	99	60
25				69	0714		02		72	72	02	71	68	69	67		65	62
26		A State State		Alphanteri meta												A. A. Installing		
27	and a state of the second s		69		99	02		63		$\mathcal{U}$	72	2	29	13	<u>L7</u>	99		20
28			89	68		72	70		73		74	175	72	71	71	02	67	
29			60	68	68		69	20				Providence (C)	0/	12	10/	67	99	<u>co</u>
30			<u>99</u>	69	02	71		70	72		74		72	72	73	71	02	
31																		
Color Ke	λ	Mor	hday	Gre	en.	Fric	lay	(a)										
		Tue	sday	Yell	WO	Satu	rday	Pur	ole									
		Wedn	esday			Sun	day											
		Thur	sday	Orai	nge													
												APRIL-	2020-BA		ACKING	SHEET		

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	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bavs	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	7.45	<u> </u>	<u>~</u>	7.45		2	
2	6.85			6.8		2	
3	4			4			
4	4			4.1		2	
5							
6	7.3			7.9		2	
7	3.5			3.65		1	
8	7.5			7.85		1	
9	5.9			6		2	
10							
11	2.8			3		2	
12							
13	6.3			6.8		2	
14	8			8.5			
15	7.8			8		2	
16	7.7			7.8		2	
17	4.2			4.5		2	
18	3.4			3.5		2	
19							
20	4.1			4.25		1	
21	8.6			9		1	
22	7.9			8.2		2	
23	3.7			4		2	
24	3.8			4			
25	3.6			3.8		2	
26							
27	8.6			8.5		2	
28	6.8			7		2	
29	7			6.9		2	
30	7.1			7.3	<u> </u>	2	
31							
Totals:	147.9		0	152.8		40	

Tempe	srature	Trackin	g Progra	L L								Bay Nu	mber:						
		Ī	Zone A			Zone	B		-	Zone	с С	_		Zone	٥D			Zone E	
4001	Input	12	24	36	48	00	72	84	96	108	120	132	144	156	168	180	192	204	216
Day 1				60	79	Ĝ8	72	S 1999	73	74		70		02	12	72		70	70
2				5	68	68	04	69		73	72		20		68	70	02		69
3				14556-54			Multiple and a second												
4				66		70	72	72	74	1963	74	74		70		74	73	70	
5			All and a second se	189	02.11	1.00000	71	02	72	74	,	73	72	07/99/20	68		70	67	68
9				99	69	· · · 63		69	92	75	75	100000	69	67		69		99	64
7				60	68	70		20	73	47	74	Contract (1)	73	44		72		68	66
8				64	02	69	69	-1923	73	73	92	73		69	22		73		02
0					68	02	μ2	12		74	74	72	17		73	82 miles		02	
10				1-1,000								and the second							
11						67	70	68	69		72	71	69	69		72	72		69
12		A Contraction of the contraction		(90)			70	021	72	73	and the second s	72	64	74	04		71	0/2	Hanna and
13				P.S			68	RA RA	73	74		72	G2	102	02		- 02	55	
214		Alexandra alexandra		CO	67 N			70	70	12	7/	1	73	04	04	20	2		53
<u>+</u>				20	30		And Anna Anna Anna Anna Anna Anna Anna A	N N	21	t i	±		0			51		2	10
15				63	69	979		121 Brailean Victor - 11	/4	74	11	(2		20	0/	72	72		20
16				60	99	- 65	02	370		75	73	72	70		70	72	70	67	
17				Stratic and sold		a side a succession of the					August and a second second	the state of a							
18				99	70	20	12.00	012		71	72	02	.68		68	68	02	68	
19	192				68	65	69	02			72	μ <u>ζ</u>	70	67		70	70	67	67
20			developments of	67		62	68	68	12			70	02	68	02		70	64	60
21				63	69		70	72	73	73			73	72	70	.72		66	63
22				1,000	67	65		70	72	74	92			72	73	73	72		68
23				60		68	70		72	73	02	72			72	71	68	68	
24		State State									Contraction of the second								
25				63	1990 (March 1997)	68	02	a Managara	72	73	72	04			72	72	74	70	
26					20		70	12		72	73	73	02			02	72	68	99
27				72		66	- 1996 	68	68		72	69	68	69			69	67	68
28				68	02.1		70	-	70	72	Statistics and the second	74	71	02	27.00			66	67
29					73	66	1010 1010 1010 1010 1010 1010 1010 101	69		17	-73	10/10/02	70	68	69	69			62
30				29	199	65	69		70	at 1996	74	73		02	02	68	67		
31																	Addition of the second		
																			0
Color	Key		Mon	day	Gree	an .	Frid	ay											
			Tues	sday	Yello	W.	Satur	day	Pur	)le									
			Wedn	esday			Sunc	lay		-									
			Thur	sday	Oran	ge		5 5 6 7 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8											
													<b>MAY-2(</b>	)20-BAY	-1-TRA	CKING S	SHEET		

Temper	ature Tr	acking	Prograi	E						•		Bay Nu	mber:	ε Γ					
		й   	one A			Zone	B			Zone	ပ			Zone	D		2	cone E	
		12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month							1000												
					A CONTRACTOR		a had been all a shirt									1			00
Day 1				56	781 et al	02	20		72	73		77		UZINA AND	73	74	73	<u> </u>	68
77					67	68	72	70		72	73				0//	70	A A	6/	00
			and a state	<b>7</b>		<u>C</u>	64	UL.	02120		N.L.	<u>144</u>	NY NEW	54		70	<u>U</u>	<u>U</u>	68
4		1		10	CO.	27	70	01	5/ 71	U4	<b>H</b>	41	102	<b>D</b> 2	64		02	02	67
<u>ہ</u>				20	A0		2	71	71	0/	Cit.	01	A1	202	21	<u>04</u>	57	201	10
91				99	91	19 19		40	<u>04</u> 1	11	21 21		11.00	02 60		07		CO BB	
	1. 1999 (1997) 1. 1999 (1997)			CQ	BO SO	n/	¢†		n/	N/	0/	04 states	(a)	07		0./	02		n v
∞ (				99		Q0		1	00	70 70	0/0	01	C C	00	144 144	212	20	UL SALES	10
6				10	./0	NV	71	1.1.5		$\overline{\Sigma}$	21	01	0.		3	25		2	
10						l	C.				C (	C.	4	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-			10K2/01		
11					ALL STATE STATES	11	69	99-	<u>(1</u>		(3	13	77	/0			00	1010 C	00
12				67		ingenter al	71	02	72	51 T 3		74	74	12	2		20	67	0
13				09	(*************************************	4288727	69	20	70	12		75	15	0/	(2		C0		
14				63	29			71	72	72	73		74	72	73	73			63
15				56	66	12			70	74	74	75		71	74	78	71		66
16				60	65	68	67			73	73	74	74		73	74	70	68	
17																			
18					69	70	72	69	14 ( A )		72	74	1.1.76	74		75	73	70	69
19					68	68	0.2	02			73	72	74	73		74	72	68	65
20				62		68	70	69	69			72	70	02	70		65	64	63
21				99	02	10100 (0100)	72	70	02	72			72	70	72	72		66	8
22					99	68		72	72	173	02			70	72	12	68		62
23				64		69	(0)2		20	73	75	74			73	02	70	67	
24						astrone and the								West and a second s					
25				and the second second	1 - <b>6</b> 8		72	71		72	74	76	74			74	74	72	0/
26		and the second			68		68	70			72	74	74			73	72	107	19
27		3		66		65		68	17		73	73	72	69			72	0/	
28				69	29		68		72	72		72	74	23	73			20	68
29					69	ēē		69		70	74	SNS S	74	68	70	71			60
30				65	Calendor Hi	68			07 1		74	74		68	68	72	70		
31															19 - 20 - 20 - 20 19 - 20 - 20 - 20 19 - 20 - 20 - 20				
Color I	<ey< td=""><td></td><td>Mon</td><td>day</td><td>Gre</td><td>en</td><td>Fric</td><td>lay</td><td>ale -</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></ey<>		Mon	day	Gre	en	Fric	lay	ale -	-									
			Tues	day	Yell	WO	Satu	day	dind -	ole:									
			Wedne	esday			Sun	day											
			Thurs	sday	Ora	nge													
		_											MAY-2	020-BA)	(-3-1 KA	CKING	SHEEL		

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# MONTH: MAY-2020

	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	4			4			
2	3.9			4		2	
3							
4	7.9			8.1		2	
5	8			7.9		2	
6	7.3			7.7		2	
7	7.7			7.9		2	
8	3.7			4			
9	3.2			3.35		2	
10							
11	7			7.4		2	
12	8.7			9.1		2	
13	4.2			4.3			
14	7.3			7.7		2	
15	7.5			7.6		2	
16	3.4			3.5		2	
17							
18	7			7.2		1	
19	8 .			8.1		1	
20	4.2			4.3		2	
21	8.2			8.8		2	:
22	4.2			4.2		2	
23	1.8			2		2	
24							
25	3.4			3.5		1	
26	7.8			8		1	
27	8.9			9.3		2	
28	7.7			7.8		2	
29	7.6			8		2	
30	3.3			3.5		2	
31							
Totals:	155.9		0	161.25		42	

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Tempe	srature	Trackir	ng Progre	m								Bay Nu	mber:						
							 (			1							`		
			Zone A		4	ZONE	9 B - 10	2	-	Zone	۔ بان			Zone				Zone E	0.0
Month	Input	12	24	36	48	09	2	84 84	96	108	120	132	144	156	168	180	192	204	216
Day 1					02		68	12		72		68	0/2	0,000000	72	73	73	68	(a)
2				65		66		20	72		75		20	0)4		72	71	14	67
3				62	67		68		74	36		68		71	72		72	68	66
4			12,532	63	(19) and (19)	65		70		74	76		72		74	73	40	70	66
5			- 23.594	65	02	- 64	10 (A)	68		73	74		17		72	13/2		70	68
9					68	99	04		73		20	69		72		73	72		67
7				1					States of						00000				
8				66	1999	68	68	6,8		74		72	72		73		74	102	(3)
6				65	02	100226	66	02	73		72		74	12 marine		73		70	۲۲
10				68	17	60	1200	65	72	22		73	2,2048	73	73		72		102
11				64	69	68		67	73	74		73		72	74		72		70
12				70	PZ market	67	89×1×		66	02	02	010000000	02		70	72		02	
13					72	68	69	66		72	73	52	a we have a	72		73	76		02
14				1000		ALL DE LE CARACTERISTE		A STATE STATE											
15					A POTO PERSON AND A DECIDINAL AND A	5	69	R.R	67		70	02	<u> </u> BB		67		70	<u> G</u> B	66
16				68		•		22	70	70		73	73	<u>0</u> 2		73		70	67
17		10.000 000 000 000 000 000 000 000 000 0		6R		- <u>1</u>	<u>90</u>	12	12	62		73	64	12		71		67	67
18			The second second	67	(C) <u>/2</u>			70	72	22	73		72	12	71	167232	02.50		67
10				70	1179	68			71	84 L	7.4	79		02	17	PT-		19 1	and the second
200				209	71	00	10/2			7.7	8 <u>2</u>	62	52	≊ > -	162	02	88		67
24				2	-					1	<b>)</b>	•	<b>)</b>		1		5		5
		and the second se			UL VL	57	20	014	KER SOLO (27)		25	04	64	U£			64	60	100
75				Color State		10	80		1074 July 1		(s)	10	14	0 / T	04	2	70	00	
23				íny.		107	68	L/	/3		Shawibara Pe Litit Autorit	12	(2)	14	77		(3	<u> </u>	10/
24				49	10/		65	69	72	47			73	73	72	72		67	68
25				58	66		69	70	72	72			74	72	72	<u> </u>		99	68
26				60	69	65		67	73	70	72			70	70	12	70		. 66
27					68		69		- 72	74	75	57		Service (36)	. 70	72	70	66	
28				- 10 (200) -															
29					-785	66	02	02		74	22	9/2	72		to to the	74	74	72	70
30				- 57			69	02	02		73	73	74	52			12	68	99
31																			
-																			
Color	Key		Mon	Iday	Gre	en j	Frid	ау	julis!										
			Tue	sday	Yell	ow	Satur	day	Purp	le									
			Wedn	esday			Sunc	lay											
			Thur	sday	Orai	nge													
													JUNE-2	020-BA)	<u> </u>	CKING	SHEET		

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Tempe	sture Track	ing Progra	E								Bay Nu	mber:	   					
		Zone A			Zone	В			Zone	ပ			Zone	θD			Zone E	
	Input 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Vonth								TO BE A DESCRIPTION OF								And the state of the second		
					Alexandra 1	C I						1.6		<b>41</b>	75	K4	1011 1011	
Day 1				68		7.1	0/ 1/10		<u></u>		0/	11 1		J J.	C)	11	14) 140	
7			60		99		10/	72		. /3	ł		21		14	5)	70	20
e			29	69		68			12		/4		N	14		21		00
4		071.73	99		66		72		73	4		0/		74	14		07	
5			60	66	66		68		1.13	<u>q)</u>		<u> </u>		10/	(4		12	
9			1	67	68	02		72		26	76		9/		5	12		0/
7			- र स्प्रिये ह													1		
8			70		68	68	68		- 72		75	72		<u>9/</u>			14	
6			60	66		70	68	70 -		74	500	75	73		74		0/	66
10			63	89	63		66	68	70		74		70	74		72		68
11			68	68	65		68	02	73		74		1.72	1. State 173		73		67
12			102	69	02	72		68	12	74		75		74	57		68	
1 0				68	99	02.	12		72	52	92		72		73	北北部市市		67
2				2	2		e Stad autor (* 19	Table	(		and the second		A later of the second se		100 A			
4			Anger State of Lands and Lands				00	ur.		1	04			CALENDAR		02	SOI	
15					69	0/	00	<u> </u>		77	21	71		0) 	C/Ł		90	64
16	And the second s		68			69	68	1	12		/3	14	11	C T	01	CT.	1001 - 1001	10
17			0 an 03	67			68	02	71	73		14	07	12		27		CO
18			02	68			70	72	72	74		73	74	73		01		<b>G</b> 9
19			70	01	68			20	10L	73	75		73	13	72		(2	
20			68	20	. 67	12.00			72	73	74	73		72	72	00/		68
21																		
22				67	68	102	69			72	74	74	72		73	72	97	997.79
23			68		02	72	102	69		o entrope -	76	74	70	. 73		73	70	68
24			56	1.9		70	71	71	73			71	121000	72	73	-	<u>2</u>	AQ
25			09	29		70	72	52	73			73	70	LL I	EZ		/0	99
26			61	64	60		02	71	70	72			70	2)	E/	12		40
27				66	64	69		72	73	13	74			72	(2	/3	//	
28													Bandyan an an an Inda.		I		NH.	
29					66	10/	70		74	75	-76	72			14	/4	7/	21
30			99.4			67	68	68		72	74	74	02			0	10	/9
31																		
Color	Kev	Mor	hday	Gre	en	Frid	lay											
		Tue	sday	Yell	OW.	Satur	rday	Pur	ole 👘									
		Wedn	esday			Sun	day											
		Thur	sdav	Orar	nge 👘													
			1									JUNE-2	020-BA	Y-3-TR/	ACKING	SHEET		
		-																

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### MONTH: JUNE-2020

	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	8.5			8.9		2	
2	7.9			8.2		2	
3	7.7			7.9		2	
4	7.9			8.2		2	
5	3.8			3.9			
6	3.5			3.7		2	
7							
8	8			8.2		2	
9	7.3			7.8		2	
10	7.2			7.6		2	
11	4			4.2			
12	3.9			4		2	
13	3.5			3.6		2	
14							
15	7.9			8.3		2	
16	7			7.4		2	
17	3.3			3.4		1	
18	7			7.4		1	
19	7			7.3		2	
20	3.6			3.7		2	
21							
22	8.7			9.1		2	
23	6.9			7.1		2	
24	8.2			8.6		2	
25	3.7			3.8			
26	6.1			6.5		2	
27	3.5			3.7		2	
28							
29	7.7			8		2	
30	7.6			7.9		2	
31							
Totals:	161,4		0	168.4		44	

Temp	erature	Tracki	ng Progre	ـــــــــــــــــــــــــــــــــــــ								Bay Nu	mber:						
			Zone A			Zone	В			Zone	0			Zone	D			Zone E	
	Input	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
onth		and the second				20													
ľ						Sandon Halandara ( 1.1			70			C I	(t	()		A ghann Div , C.A.		]	2
Uay 1				20	62			61 66	90 20	6 <u>7</u>		73	73	72	11/			67	00
3 6				51	69	(9)			61	66	66		67	67	66	66		8	64
4			•	57	64	69	uk.		67	0/2	5 <u>7</u> 3		72	70	72	72	a le		67
5															A Statistics				
9				Baseria Ella	70	.67	0/			71	71	102		02	72	74	74		
						65	29	20			72	52	72		02	73	72	69	NO CO
<u>∞</u>	C.			56		Restablige of Mallow Allowed and the	64	67	73		Waterweiten	72	72	72	62	72	20	68	66
൭			200-004	60	68			69	72	72			20	12	72		70	69	67
9		and the second second		65	67			62	66	0/10			70	02	71		73	68	68
1					69	69			66	68	02			70	72	73		17	71
12													1000					a bit of the second second	old Albert of the second
13				65	1	66	68			70	20	01			70	72	70		67
14		and the state of the	A STATE STATE AND	67		68	99			70	μ <u>2</u>	177			102	72	72		65
15				62	68		63	65	1010		70	68	69			71	20	66	0101
16				64	67	Print State	65	65			20	02.04	02			69	70	67	10/21
17				65		63		64	29 v	14.9 1000		69	68	68			69	64	68
18					67	65	68		71	02:51	ap/soc		70	68	02			66	67
19							and the state					•							
20						64	64	64		66	69			68	68	69	1.10		66
21				39			67	67	70		72	73			68	02	01		
22			State of the state of the	58			66	67	72		74	72		1.4386c	70	04	68		
23				66				69	68	73		72	70	A Plant of the		68	29	65	iele)
24				62	65			64	68	68		70	70			67	67	66	(e)(e)
25				60	66	64			70	72	72	1999	73	70			68	02	66
26																			
27				64	68	66	69			73	74	74		72	72			20	67
28				63	66	62		69			73	73	74	2.1.2.2.1	20	89			67
29				56	64	57	63	69	04			11 T2	12	12	-49,946	69	68		
30			1	57	66	62	64	68	12	82.20			74	72	02		20	68	6101
31					69	60	63	66	72	73	72			71	17	20		65	64
Color	Key		Mon	day	Grei	en	Frid	ay	Interes a										
		2	Tues	sday	Yello	MC	Satur	day 🖉	Purp	le .									
			Wedn	esday			Sunc	lay											
			Thun	sday	Orar	ige 🦷			- 										
												-	JULY-2(	)20-BAY	-1-TRA(	CKING S	SHEET		

Temperatu	rre Trackir	ng Progra	E L								Bay Nu	mber:	e.					
									-									
		Zone A			Zone	эВ			Zone	C			Zone	D			Zone E	
ndul	t 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month	owned to conside the state of the																	
								00	SIE:	No. of Street,	04 contraction	N C	20				71	RO
Day 1			50	90			00	00	12		01	14	00	1.1				20
5			VQ V	00 1	(SC)		68	0)	7.6	1577	14	71	00	07			2	00
<u>, n</u>		-arri2 -	40	00	04			100	nj.	71		2 *	200	00	1 J			50
4			54	61	<u>\$</u>			0/		11		14	71	10	2)11			01
<u>م</u>									C F	04	<u> 7.7</u>		0	V.	76	NYAN MARA		
9 1				ΩQ	10/	0)		MARTIN AND	<u> </u>	71	73	101 <u>4</u>	10 1	72	NZ NZ	- <u>1</u>	1614	1.1.2
			(1))		<u> </u>	00	00	NAL-		12	0 / 	24 1	Nov.	0.5	t Cr	72	20	N N N
<u>α</u>			20	* <b>* *</b>		10	00		NYZANA M		1 V	73	02	C4	01.0	5.5	202	69
۲ ۲				10			202	67	1.1		272 N.Ger	72	68	66		72	12	70
2,	The second second		00				t 5	10		NVA I		1	80		1942		E E	E S S
11				77	50				(N)	07	an an air an a'		80	A CARLON AND A			22	5
12														1				CC State
13	A STATE AND A STATE	a state of the	021		66	29			70	72	12			12		7)		89
14			65	1.5883	67	69	10		70	02	72			73	72	72		29
15			63	62		65	66			70	. 72	70			72	72	112	a) (c)
16			39 Miles	02	2-172.5	68	11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			70]	72	73			70	$T_{T}$	70	5(3) 3(3)
17			1944	64	0.05		65	69		40998	68	69	89 N		Lo-Size	69	70	69
181				67	66	1 N 68		70	72			72	02 -	72			70	68
19	Contraction of the local distance of the loc			A STATE OF A	And the states	and the second second										diam of the		
2.00	A CONTRACTOR OF		Strangers.		RF		A A A A	5	67	68			69	12	12		17-14	69
707			HALLENDARIA	A n and an and an	22	00 10	60	UC: T	5		02			22	62	02		
1.7			104	A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A		10	00	201		<u>1</u>				100	4.	04		
22	A second market		09	19		19 139	20	77		/4	<del>(</del> 4)		Runds and etc. 17 Your Inc.	00	V CT	3)		
23	in the first state		63	67.			68	20	72		74	13			2	69	68	
24			60	60			65	69	73		74	73			<u>и</u> -	W	N N	
25			67	69	66			17.	72	74		73	72			73	02	. 67
26																		
27			02	68	60	69			07.00	74	76		70	73			72	68
28			68	67	64	68	69			15 × 75	76	72		70	74			02
29			58	66	65	67	69	0/			70	69	. 68		۲۲.	02		
30		1000	64	67	68	68	70	02	72			72	70	68		73	02	
31				62	65	02	69	70	した	72		-	67	69	73		73	71
Color Key		Mon	iday	Gre	ien war	Fric	Jay		et in									
		Tue	sday	Yell	ow .	Satu	rday	Pun	ole									
		Wedn	esday			Sun	day											
		Thur	sday	Orai	nge													
												JULY-2	020-BA)	-3-TRA	CKING	SHEET		

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MONTH	: JUL	.Y-2020
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	Sludae	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	6.5			6.72		2	
2	6.2			7.2			·····
3	3.5			4		2	
4							
5							
6	8.25			8.6		2	
7	7.7			8.1		2	
8	7.3			7.5		2	
9	3.9			4		2	
10	3.6			3.8			
11	3			3.1		2	
12							
13	7.2			7.5		2	
14	6.7			6.1			
15	3.8			4		2	
16	3.5			3.7			
17	3.3			3.4		2	
18	3.5			3.8		2	
19							
20	7			7.5		2	
21	7.2			7.6		2	
22	3.8			4			
23	6.8			7.1		2	
24	4.3			4.5			
25	3.3			3.5		2	
26							
27	8			8.6		2	
28	8.1			8.4		2	
29	8.3			8.6		2	
30	7.5			8.2		2	
31	7.2			7.5		2	
Totals:	149.45		0	157.02		40	

Temperatu	ıre Trackir	g Progre	Ē								Bay Nui	nber:						
																1		
		Zone A			Zone	B B			Zone	ပ ပ		ł	Zone			<b>7</b>		
Inpu	ıt 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month			492														aller bekennen i	and the second second
					N.U	20	00	C.	70	62	272			12	04	60		SS
Uay 1			8		04	00	00	41	, k	1				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3		3
7 7				04		68	d a	80	02	20	72	7/2/	ana ang ang ang ang ang ang ang ang ang		PZ.	62	68	
<u>,</u>			Rev. Annual		State C		20	04	04	02	73	PL.	072			102	69	66
4 1			DO C		60 80		00	71	70	73	73	5 <u>4</u>	12			69	67	66
0.4			53	E T	10	ŝ0	5	70	C.4	23	73	72	<u>U</u> Lunin	074			66	66
0 ^		States in the second second	er Fa	- PA	30	22	99	5 -	73	7L	7.3	72	62	04	02			65
- 0				to S	20		2	A D	2) 2)	73	6 <u>2</u>	64	02	79	14	02.5		
0 0			20	<u> </u>	20			00		2	2	1	<b>)</b>	-		× 6		
ה קי					C	×< .	20		40		50	67	82	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	71	04	200	12428
10				AO I	00	10	00	P(4.).		04	2	52	70		14	80	69 G	66
11			70		na	00	00	1		0)	94	2	20	21	104	00	202	85 BE
12			CO	9/		66	6/	0/	07		13		77		21	200	00	200
13			. D	64		67	68	71	07		(2		(2	1/2	N) I I I	/ó	20	00
14			62	66	64	A CARLES OF	63	68	65	70		69		70	17	20/	65	66
15				65	63	66	Q(5)	68	67	72	72		68		70	20	. 67	68
16																		
17					67	29	68		72	74	74	73		72		74	70	67
18					65	66	69		72	72	73	72	017	02		73	102	68
10			53			64	68	14		72	71	02	69		70		68	99
00			309	1.100		67	67	20		73	73	72	02,200		73	UN TRAD	70	29
21			58	64			67	04	12		20	70	68	68	023353	70		64
20				65	34			72	72	73		74	71	72	02		68	
73					Sol and a set									A Contraction of the second			Street Balling	
24 C			12.022 Mg		88	60			71	20	02	022	72	73	57	74		68
25		A STREET OF STREET	SIC.			68	ଗ୍ର			70	73	72		73	73	72	68	
26	1.126/1026/1016/0016		55	64	Balla Distant		65	71			72	72	70		68	67	64	64
27			60	66			89 March	68	20	24(2)3	72	22	024420		11	70	67	65
28			66	68	60			99	66	CALCULATION OF A		12	02	02	WY CONTRACTOR	70	64	66
29			Structure contract of the second	67	60	99			02	12			73	72	02 100		66	65
30												0.823		A CONTRACTOR				
31					64	64	64			72	69			71	04	70		65
Color Ke		Mor	Jday	Gre	en		ay											
		Tue	sday	Yell	ow	Satul	day	Mud	ole									
		Wedr	lesday			Sun	day											
		Thui	sday	Oral	nge											Ľ	ŀ	
											A	IGUSI.	-2020-B/	47-1-1 K	ACKINC		_	

Temper	ature Trackir	ng Progra	am am								Bay Nur	nber:	8-					
		Zone A			Zone	- -	+-		Zone	-  	╞		Zone				Zone E	
<u>u</u>	put 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month		area and an and an an							A CONTRACTOR OF A CONTRACTOR A									
Day 1			09		68	att 189		70	72	1.72 A	76			68	52	72		68
2															1	C t	1	
3				69		68	68	02	72	74	75	172			10	10/ 72	74	04
4 r			58		- 63 24		68 86	17	13	73	70	(3) (3)	01			04	80	RR RR
<u>n</u> u			00			GO	00	71	<u> </u>	73	20	71	69	C/Long			68	67
0		and the second secon	57	62	<u>िति</u>		68		72	72	72	70	68	68	202			68
- 00			55	60	- 66 -	67	69	17		72	02	69	69	68	04	02		
6			and the second															
101				64	62	65	66		70		73	177	66	02	73	-73	72	69
11			66		64	65	67	02		73		69	68	04	71	70	101	70
12	and the state of t		60	64		66	68	12 PZ	0Z		<u>0</u> 2	-	67	68	70	20	68	69
13	2		. 64	<u>7</u> 8		68	<u> </u>	0ZH-1	72		72		69	02	20	68	67	67
14			65	66	63		64	<u> </u>	69	02.500		74		71	12	69	68	67
15				66	65	68	19(9) (1)	12.00	71	72	72		70	1,223	72	7	67	68
16	and the second second	And a second																
17					68	123430	69		- 70	74	76	73		73		75	72	02
18					69	ŭΣ	70		72	72	74	73		72		72	U/	89
19		A Constant of the other	·** •63			67	68	68		72	73	02	0/		74		20	20
20		and the state of the	68		12,663	69	02	72		73	75	<u> </u>	12		/4	9	2	<u>, 0</u>
21			64	99			66		0 <u>7</u>		74	/2	0/1	14		6/		90
22				69	68			70	72	73		74	72	7b	1.74		12	
53			Restance of the						1				26	40	24	34.		02
24					20	00			۱ ۱	70	0/	173 C		51	74	01	64	69
07			ay ay	120		5	99	<u>U2</u>		1	72	023	66	Constant of the local division of the local	70	70	04	70
27		The second second	55 55	88			68	12			74	73	70		73	73	02	68
28			66	65	89			67	12			71	68	12	EN ST	71	71	68
29				65	67	30			20	02			71	72	72		02	67
30																		1
31					66	29	64			71	70		-16784	68	72	11		69
		ACAN I	,	9 C	an in													
	ey		sdav	lie/	MO	Satur	dav	Puro	ie in									
		Wedr	Tecdar			Sunc	) e											
			rsdav	, ELO	106													
			2007		2						A	UGUST	-2020-B	AY-3-T	RACKIN	SHEET		

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MONTH:	AUGU	ST-2020
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<u></u>	Sludae	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	3.7			4		2	
2							
3	7.8			8.1		2	
4	7.3			7.6		2	
5	3.5			3.7			
6	7.1			7.4		2	
7	5.7			6.05		2	
8	2.4			2.6		2	
9							
10	3.4			3.65		2	
11	6.9			7.2		2	
12	6.9			7.1		2	
13	3.4			3.5			
14	7.6	1		8.1		2	
15	2.8			3		2	
16							
17	7.4			7.9		2	
18	3			3			ļ
19	3.4	1		3.7		2	ļ
20	7.8			8.3			L
21	4.3			4.5		2	<u> </u>
22	3.7			3.9		2	
23							<u></u>
24	7.5			7.8		2	<u> </u>
25	7.2	T		7.45		2	<u></u>
26	7.1			7.6		2	
27	7.2			7.5		Ļ	
28	4.8			5.1		2	
29	3.2			3.4		2	
30						ļ	
31	6.8			7.3		2	
Totals:	141.9		0	149.45		42	

Bay Number:		96 108 120 132 144 156	- 20 89 27 89		/0 // // // // // // // // // // // // /	(1) 71 (1017) 750 (1017)	7 [70] 22 12 12 12 12 12 12 12 12 12 12 12 12	68 72 72 72 72 77 73 77 73 77 73 77 75 77 75 77 75 77 75 77 75 77 75 77 75 77 75 77 75 77 75 77 75 77 75 75	73 72 50 10 10 10 10 10 10 10 10 10 10 10 10 10	70 70 74 70 74 74 77 74 74 77 74 77 74 77 77 74 77 77		00 V V VZ 00 V0 VZ 00 VV	71 7.0 7.0	66 63 68 65 01	72 70 6	09 00 1/2 00 00 00 00 00 00 00 00 00 00 00 00 00	66 70 70 70 70	Estimates 70 % 72 72		0// 004 004 004 004 004 004 004 004 004		Purple	
	Zone B	60 72 84	64 68 54	69 67 67	68 60 64 64 65	56 64 65	62 67 67 68	66 69 60 60 60 60 60 60 60 60 60 60 60 60 60	63 56 65 65 69	<u>64</u> 65 68	65 65 65 65 65 65 65 65 65 65 65 65 65 6		<u>67</u> 64 66 68	0 03 03 04 04 04 04 05 04 04 04 04 04 04 04 04 04 04 04 04 04	70 64 64	7/2 62 62 62 62 67 65	68 64 64	67 No. 68 70	CC CC CC CC	67 00 00 00 00 00 00 00 00 00 00 00 00 00	Green Fridav	Yellow Saturday	Sundav
ram I		36 48	( <u>)</u>	67	67		(63) 201	64	64		() () () () () () () () () () () () () (	65 65		66	19 Sta	60 60	63		67	60	l Indav	lesday	dneedav

	Ш Ш Ш	4 216		G7 2 2	80 67	68 65	65 65	69			04 04 04	1 ( S )		70		72 68	70 67	71 71	67	69				71 68	69 65		N 0 + 63	<u>V</u>		70 61	00 00 00 00	00 00				
	Zon(	92 20		70	70					10	/3		70	73		76	74				72		2/	72		70	70	73		74	(3)	20		-		
		180 1		20	01			78		74		1472 1	73	72					2S	72	73	1	77		69	69	20	73		/6						
		168				3491	(0)Z	A VZ MA			1975	04	70					73	70	64	69			67	63	- 66		02		04	0/	99				
ю—	Zone	156			64	70	<u>20</u>				70 20	00 68		684		02	72	68	70	63		LC	60	65	63	68	69			0/				_		
umber:		144		012	4 1 1	t				72	202			72		74	0/	69			71	Ì		70	0/			72			2)	69				
Bay N		132		04				22 8		2 72	E/		3 70	3 73		74	73		2 74	3 71	3 74			73		73	70	6		2 7 3 70				_		
		120				2 V	2 70	2 3 70					3 70	7:		Ö	60	6 7	3	3 7	2	Ì	1	0	7.			2 7			N	Z				
	Zo	108				0 72	1	7:				2	7.	2		0 71	3 7,	5 6	3 7	1	.7		ത	7	(0)	$1 \times 7$	2 6	2		2				3 de se	urole	ALL ALL AND
		96		0		- ×	7				<u>/ L</u>			<u>7</u>		<u>2</u> 0.	<u> </u>	6 6	7	<u>7</u>	Ő		0	<u>(5)</u>	99 - 09 19	L'angle	9	02				) A			<u>а</u>	
	_	84						M		38	59 /	a.	2 02	39 7	1	39 7	71 3		02	38	1 X		33	38	Statistics of the second s	36	00	<u>39 7</u>		102		66		Fridav	aturdav	
	one B	72		ľ.	(1997) S 20	X	X	35 6		34 - (		37 6	35	38 6		e e		36			34		<u>84</u>		<b>35</b>	297	66	68		68					N N	1000 M 2000
		60			100 S	9.61 3.41 10 10 10	63 6	60		<b>)</b>	63	SQ THE R	65 (55			67	66		60	6	66		Rest and a second	63	62	67	65	68			68	65		Green	Yellow	Market Street, and and of the street of the
		48				62 1	62	and the second se	1000	61	69	<u>66</u>		63		Sal spectrum		<u>ê</u> 61	62	62			66	66	64	65	64			68	66	63				「おいたい」というないできたのです。
ogram		36					1000 states																											Mondav	uesdav	
king Pro	Zone	24															Section of the sectio																_			
ure Trac	-	ıt 12						A North State											Concession of the second																	
mperatu		lnpt	L L			3 6	4	5	9	~	<u></u>	104	1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	olor Kev		

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### MONTH: SEPTEMBER-2020

onon and a failed and	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	7.1			7.5		2	
2	6.8			7		2	
3	3.9			3.75		1	
4	7			7.45		1	
5	3.6			3.65		2	
6							
7	3.4			3.65		2	
8	7.6			7.7		2	
9	6.9			7		2	
10	7.9			8		2	
11	7.8			8.1		2	
12	3.4			3.5		2	
13							
14	7.1			7.3	very dry	2	
15	5.5			6			
16	3.4			3.3		2	
17	7.1			6.7		2	
18	3.9			3.5			
19	3.5			3.5		2	
20							
21	7.5			7.1		2	
22	8.3			6		2	
23	8.6			6.4		2	
24	8.2			6		2	
25	4			2.9			
26	3.5			3		2	
27							
28	8.3			6.6		2	
29	8			6.5		2	
30	3.9			3			
31							
Totals:	156.2		0	145.1		42	

Temperatur	e Trackin	g Progra	E								Bay Nu	mber:	4					
																_		
		Zone A			Zone	B			Zone	ပ			Zone	D			Zone E	
Input	12	24	36	48	60	72	8	96	108	120	132	144	156	168	180	192	204	216
Month																	and the second	
							č	00	CP.	74		102	- 10 F		60		65	53 m
Day 1	10.00 CO 10.00		55	29	29	4	64	00	N N	17	Ch		00	17744	00	04	2	22
2			63	66	63	99	4	69	L/	12	71	C	00		C ľ		50 V	20
ë			58	63	62	19	60		92	101	h)	00		A.1.	1.4		00	
4						10		C		Ċ	U^	104	U⊃ U		08.	701		<u>e</u> r
5				68	60	65	64	68		69	10/	02	A0		50	00		00
6				65	63	66	67	67		72		inv	0/	04	21	00	i ≦v	10
7					62	66	. 67	0/	1 12		7.7	0/	0/	00	Ĩ	00.4	00	E C
8			60	66		67	99	68	17.2	12		69			1)		0/1	00
6			57	64		. 63	65	68	70	72		/0	11	1/	12	Ċ	00	00
10				62	60		67	70	70	72	73		72	70	20	69		69
11																		
12				021111	58	19/01	62	69	02 **	1.1Z	70		70	68	69	70		63
13	A STATE OF		60		64	69		10/	72	72	72	73		71	70	68	68	
14	(approximate and an and a set of the set of		58	62		29	68	172.8 m	73	72	70	68	68		67	67	60	65
15			66	63	8 5000	64	67		72	73	73	72	70	-riferr	02	68	66	64
16			57	66	64		68	72		74	73	73	73	72		02	19	65
12				64	63	67		02	73		73	72	101	78	69		68	66
18	And a state of the second			- >	}													
01					EO I	23	EG.		67	66	E BE	64	64	63	64	78 manual 87		67
- CO				200 F8	S C	98	87		64	64	CVL PLOT	02	68	66	67	67		65
N2 V2			1-15	Estratulas est	5	20	ar ar	044004		644.	μ <u>Ľ</u>	108222	67	66	68	99.000	65	
1.7		A STATE OF A	DG S		Der Latter	20	00	00			64	02	No.	65 65	67	6A	69	64
22			60	00			00	100	02		- (E	2 T	Cit.	3	10	202	S.S.	88
23				62	56			<u>(0)</u>	<u> </u> ]	12	4	1 T. Bakalon	2) (7		1 /	74	20	
24			68		60	<u>67</u>			6/	07	20		AO	۸J		1.1	10	00
25										an te dine and the second			A State of the second se				C C	ľ
26				65		60	63			71	02	0/		72	19 20 20		20	So I
27				66		62	65			70	N.	02		12	10/		ρġ	CO LC
28		article article and a	63	A Distance	65		. 61	63			70	20	0/		U.S. starting			20
29	Construction of the second sec	Chapellour.	99	29		63		67	69	07.0		0/	0/	2/		0/	0/	
30			52	62	1.0.13	65		20	72			. 72	0/	(U)	Contraction of the local distribution of the	71		
31				69	62		67		72	72			20	12	(2		10	00
Color Key		Mor	nday	Gre	en 👘	Frid	ay		0									
		Tue	sday	Yell	ow	Satur	day	Pun	ole									
		Wedn	lesday			Suno	day											
		Thur	sday	Orai	nge												ļ	
											ŏ	CTOBEH	R-2020-E	3AY-1-I	RACKIN	NG SHE		

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### MONTH: OCTOBER-2020

				A	0/ 0-11-1-1	Deve	0/ Colido
		% Solids	Dry Ions	Amendment	% Solids	Bays	70 Solius Compost
		Siuage	Sludge		Amenument	2	Oumpost
	/			<u> </u>		2	
2	3.8			<u>ک</u>		2 2	
3	3			2.0		2	- <u></u>
4	77			5.6		2	
5	1.1			2.0			
	3.8			5.20		2	
<u> </u>	8			5.2		2	
8	6.8			4.3		۷	
9	3.1			2		0	
10	3.5			2.6		<u> </u>	
11							
12	3.1			2.4			
13	3.75			3.3		1	
14	3.7			7.05		2	
15	7.85			3.4		1	
16	4.4			4.5		1	
17	4			4.1		2	
18							
19	7.7			7.9		2	
20	3.75			3.7		1	
21	7.85			7.45		1	
22	8.3			7.8		2	
23	7.5			7.4		2	
24	3.5			3.5		2	
25							
26	8.1			7.7		2	
27	7.4			7.3		1	
28	3.8			3.9		1	
29	8.3			8.2		2	
30	9			9.2			
31						2	
Totals:	148.7		0	131.55		40	l

Temp	erature	Trackir	ng Progr	am								Bay Nu	mber:	3					
	1		Zone A		01		e B 40	-		Zone	- - 			Zone		001		Zone E	010
Month	Indui	2	47	95	48	00	2	84	о <u>л</u>	108	120	132	144	156	168	180	192	204	216
			And a state of the		and the relation bucks														
Day 1				<u>60</u>	94 10	64	00	67	02	17	20		66	65		69		68	67
א ע פון				04 61	00 66	0.7 65	50 67	68	() ()	/ z 68	70	QZ	<u>02</u>	90	290 00		10/ 10/	67 67	60
4							F1	) )		)								5	
5					67	67	67	67	<u>67</u>		69	72	12	66		72	70		68
9					66	66	68	69	68		72	72	70	- 68		72	72		69
7				62		64	70	70	72	- 72		75	72	65	67		12	68	
80				63	99		68	69	LZ.	72	72	-	72	69	99	72	i i i i i i i i i i i i i i i i i i i	199	67
െ				800 GO	63		64	99	66	68	02		72	68	02	73	4000 <b>5</b> 7	69	65
<del>[</del> ]9					65	67	00	68	20	102	72	72		67	68	20	72		67
=[					Heart at Picture														and the second for the second s
12		Contraction of the		69 State		64	60	C (a	67	70	μZ nite	02	67	22:52	68	70	69	65	
13			and the second s	57		67	68		71	70	21.4 72	72	73	C.M.199	70	72	72	69	
14				56	64		68	68		. 72	73	72	69	66		20	02	68	99
15				68	99	67		02	69		72	72	02	67	04	101024	71	68	67
16		and the second	0.000	09	99	68		69	68	02.02	20	72	72	69	71		72	02	67
17					29	29	69		29111	12		72	73	69	02.000	72		70	68
18		in the second			different strands												s		
19				62		63	64	65		69	69		68	64	64	69	66		67
20				09	63		1911	69	70		02	73	1592 B	68	66	69	68	66	
21			A state of the sta	60	64		68	70	70		13	72		66	68	17	02		
22				29	62	66		02.1	μ2	72		67.1	12		67	02	68	- 67	65
23				60	63	63	65		68	68	72	:	72	99		12	20	89	67
24				57	60	63	11 58 F	60		61	68			63	65		69	69	65
25						<b>清晰的</b> 。"""		Self-pite Lander									The second se		
26					62	65	65	19	10 P		02:04	72	02		99	102	(Stor	67	64
27				<b>Biddler</b> 59		64	66	64	67	70		71	0.4	66		68	69		67
28				22		64	65	65	66	20		72	72	65		12	69		68
29				58	61		62	66	66	68	70		124	67	68		69	67	50
30					62		65	65	70	72	72		72	1 70	73		72	68	69
31				56	99 Hall	62	(19)	67	69	72	72	72		02	72	- 72		1. 1. 1. B.7	66
Ċ							 L												
Color	Key			iday		ien .		ay											
			Ine	sday	Yel	MO	Satur	day	duba	ole -									
			Wedn	esday			Sunc	ay											
			Thur	sday	Ora	nge				<u>.</u>		(						ļ	
												S	I OBEK	-ZUZU-B	AY-3-11	ACKIN	פ מעבר	_	

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empe	rature	Trackin	g Progra									Bay Nu	mber:						
	+-		Zone A			Zone	B			Zone	- - - - -			Zon				Zone E	
	nput	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
<u> </u>					4														
5																to the second			
-				50		69	60	0191000	68		67	67			66	02	72		68
10				56	65	{	19 M	66		71		02	04	0.02.23.646		70	02	66	
4				53	62		62	66		72		02	66			63	64	62	
2				- 29	66	62		68	0/		70		99	69.00		an a	67	65	67
6			1.000 C	19.00	66	<u>. 60</u>		67	69		62		64	68			68	\$	65
1				58	64	61	5 E 9 3		02	12		66		58	62			66	68
8		1.000			the second states and												-1		
σ				62	68	66	63	<b>62</b>		72	74		02000000		60	09			66
<u>کار</u>		and the second second		80	66	Pθ	65	<b>R</b> B		04	84		02		64	65			68
1	άΨ.			P.B. Ball	57	S S S S	88	A.	68		64.4	73		64		64	6.4		
= Ę				60	24	36	) u	SS.	80		<u>61</u>	62		77		67	88		
<u>v</u>		And a subsection of the subsection of the		70	00	3	00	00	00		14	4		7	C.C.		200	S. C.	
13				58	66	64	64		65	70		67	13		29		60	oğ 👘	
14					65	62	66	66	68	72	73		73	72		67		66	65
15	onsidil <sup>o</sup>				TEN DINGUNG	A STATE OF A STATE				A Contraction of the	and states								
10					-	63	65	65	72	02	-72	74		70	66	4 (1) 4 (1) 4 (1)	69		. 66
1						58	60	58	64	04.1	0/	02		68	66		68		64
12	***			66			69	69	68	68	02	69	68		64	68		63	
ο				57			65	63	69	72	73	67.	68			61		62	
2 6				RR RR	96			60	67	71	73	74	72	68		65	67	A 14	63
3 2					87 87	EN EN			02	6L	23	73	12	AR AR	6.5		1997 B	1.9	
7 0					10	LO.				1	>			7					
2				And Alternative Participation Sectors			11 Disandikasi 2012 Juli 2013				CI I	R - Harrison and a	C T	<b>C</b> P	20	t c		ro.	č
53		alt Automation and			85258	63	° (0)			07	12	/4	/3	10/	99	/0		5	20
24		(ASSAULAS)	lighter ballater by the second	58			19-11- <b>6</b> 5	29			73	74	72	20/	67	60	64		0
25				- 57			67	66			22	74	72	68	. 65	63	63		99
20				-57	63			63	70			76	73	71	67	67	199 No.	63	
27		test of the other		57	64			64	69			74	74	70	67	68	70	66	
28				60	64	61			102	72			74	72	66	67	67	65	65
29													and the second secon						
30				64	66	64	<u> 29</u>			73	73	THE SEC		17	99	67	69	66	63
31																			
ļõ	Key		Mon	day	Gre	en	Fric	ay	UKSI AN										
			Tues	sday	Yell	ow	Satul	-day	hud	ole									
			Wedn	esday			Sun	day											
			Thur	sday	Orai	nge													
												0 N	VEMBE	R-2020	-ВАҮ-1-	TRACKII	NG SHE	ΕT	
	and an other statements and a second statements and																		

l emp	erature	Trackin	ig Progra	Ш								Bay Nu	mber:	с Г				_	
			Zone A			Zone	B			Zone	ပ			Zone	D			Zone E	
	Input	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month																			
1																alt, a la cita			
Day 1												4			0	6	4		
00		a the second		65	67	69	(13) (13)		64	99 70	70 70	0/	N/	04	99	2/	04 07	99	00
ν				10	00	00	00	00		22	7	51	ALC: NOT OF			2			
4				1.50	64	64	66	<u> 6</u> 0		68	11	1/2	10/	69		0/	72	29	
5		and the second second		58	62	67	69	68	20		- 72	73	W.	68	68		01	69	64
9				95.00	63	66	66	68	72		73	72	72	66	68		. 70	68	66
7				59	63	63	64	64	e   .67	01.0	100 100 100 100 100 100 100 100 100 100	73	68	66	68	72		70	
8			Support of the support						Here and the state of the state										
6		A Contraction of the	ALC: NO POINT	65	65	63	66	65	68	68	02		72	. 66	68	74	74		68
10				57	64	65	65	66	69	17	72		72	67	69	72	70		67
					85	66	88	70	70	72	573	22		66	68	02	72	02	10.00
					N. GE	57	67	N. RO	12		73	64		6B	68	44	70	70	
7				00	00	50	30	202	11	0.1	2- 		200		57	C۲ ۲	70	RO RO	<b>5</b> 7
51				ACC: SHERE	04	00	00	00	<u> </u>	Inv.	71	N)	201	E Contraction	20		2	20	10
14		A STATE AND A STATE OF			62	67	68	69	7	70	72	73	73	68	4 0 . 6 4 .	10/	72	69	19
15		And South States														distribution formation			
16						. 65	67	67	68	68	72	74	72	99	68		70	68	66
17		Were the state of the state				62	09	56	59	62	64	67	71	02			68	66	66
18		Control of		609 190			ESTER S	65	58	58	64	66	102	63	63	66		67	64
				a a a a a a a a a a a a a a a a a a a			55	78 S	04		70	64	68	64	65	68		65	63
			a la superiora de	00			66	10	24	200	37	70	20	5	00	64	175	D C C C C C C C C C C C C C C C C C C C	81
7,			the subtraction of the subtraction of the	20	00		Struction (Diversity of the State		04	00		11	80 C	10	00			μ. L	
21					99.4	60			10	11	/3	2	12	<b>Q</b> Q	69	90	00	70	
22										depited at the set			Street, Marine				and the second second		
23						99				02	. 72	73	72	68	70	73	72	60	65
24				09	K AN I STORE		68	68			74	74	73	70	17.50	12	70	67	64
25				39	1.		69 No.	024			74	94	72	99	89	02	69		62
26				64	90			02	14	and the second		1 74	72	66	68	02	70	68	65
27				68	88			65	68			72	72	66	70	74	72	69	99
		No. of Concession, Name	V No. Prove state and state		CO CO	Contraction of the second			14 <u>4</u>	54			79	60	U2	72	62	68	64
N C				5	no	20			A A A	0				20	2	1			
77									Statical - Color		B Z K Z Hander			40	CE	N.C.	20	UL .	V Z
30	_			67	67	67	68			024-24	1/2			89	(2	/4	<i>[</i> 2	NV N	04
3																			
Colo	r Key		Mor	nday	Gre	en	Frid	ay 🛛	BILL	ä									
			Tue	sday	Yell	OW .	Satur	-day	Purp	ole.									
			Wedn	esday	• • • •		Sunc	Jay		-									
			Thur	sdav	Orai	nae													
											1	NO.	VEMBE	R-2020-	BAY-3-	TRACKI	NG SHE	ĒT	

#### MONTH: NOVEMBER-2020

	Sludge	% Solids	Dry Tons	Amendment	% Solids	Bays	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1							
2	8.2			8.3		2	
3	4.2	-		4.35		2	
4	4.7			4.9			
5	3.8			3.9		2	
6	7.5			7.65			
7						2	
8							
9	7.1			7.3		2	
10	3.9			4			
11	3,6			3.9		2	
12	4			4.2			
13	7			7.15		2	
14						2	
15							
16	7.7			7.8		2	
17	4.3			4.2			
18	3.8			3.8		2	
19	7.9			8			
20	8.3			8.5		2	
21						2	
22			-				
23	7.8			8.1		2	
24	8.5			8.6		2	
25	7.5			7.6			
26	1					2	
27	4			4.2			
28	3.9			4		2	
29							
30	4	<u> </u>		3.9		2	
31	1						
Totals:	121.7		0	124.35	1	34	
i i utaia.	1 14-11	1	1 V	1	1		

Tempers	iture Tracki	ing Progre	am								Bay Nur	nber:						-
		Zone A			Zone	В			Zone	ပ			Zone	۵		. 7	Zone E	
In	out 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month		,		1000 1000 1000 1000 1000 1000 1000 100														
Dav 1			61	65	63	68	3 <del>7</del> 5		73	73			72	67	68	70	67	64
- 6			68	67	62	65	67			73	9/2			99	68	68	65	63
1 0		1.22	57	68	65	67	67	04			73	14			63	65	64	62
4			69	61	59	59	61	68			75	72			63	63	61	61
5				62	60	62	63	67	02			13	67	4		64	63	60
9													63		n S		Ce	02
7			59		62	. 63	62	68	72	73			68	64			29	29
8			56	63		64	66	20	72	73	<u>10/</u>			CO	93			10
0			58	65	62		69	AG FT	13	12	0/	21	South and a start of the second		00	02		
10			52	62	60		69	74	10	C/	74	71			40	00	1021	
11			50	60	61	. 63		11	9/	Q)	(3 1		00			00	00	
12				63	61		68		- 75	76	74	2	69	00			00	AO
13											. 1	1	Ċ	00				Υ.Q.
14				- portor #1	62	65	58	67		17	Q)	14	00	00	04		1000 Kilo	+0 +2
15				Statistical interactions and the second s	60	64	6/	77	C t	14	14	5)	10	04	00	(C)		э.
16			58			6/	CQ.	200	27		0/		10	04	5 U	00		
17			56	Red all		66	64	68	99	L C	77	0.5	00	00	00	20	08 S	1.49
18		er ( 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Min. 160	29			60	20	00	00	CA.	- N	00	t 10 0 14	30	200	00	80
19				64	62			9/	<u>lu</u>	12	/2		60	20	5	3	40	3
20							Sources in the second s				1	C		C.C.	00	00	03	54
21						67			/2	14	13	0/	00	00	70	00	00	20
22			58	.e Ye		67	64			74	16	(3)	20		00	20	200	02
23	and the second se		50			64	63		<ul> <li>A consistent of the second seco</li></ul>	(3	61	1/	00	00		-04	3 2	
24			57	99			65				13	27	/9	00		03	0	200
25			69	99			99	12			0/	71	00	00	UN VI	30	202	
26			60	64	64	20		13	11 -			15	2	10	30		30	5
27									C(f	Letter 1			22	60	Ca	61		55
28			65	65	64	9			10	20 (A)	N.L.		00	00	20	0	60	3
29			60	99	65	69	68			- la/				00	00	10	200	<b>ド</b> ビット 1
30			58	65	99	20	72	74			C/11/11	(0) 1			70	000	90	10
31			61	29	65	68	70	73	97				9			00	00	00
			1	20	upe	Erid	av			-								
			(policy)		low'	Satur		Bilto										
		100 M	souay andari	5	MO.		dav		2									
			icsuay	C			uuy I											
			Isuay	20	1 Ac						Ŭ			L-L-VA	LRACKIN	HUC UN	ЦЦ	
											Ĺ		->4>4-		555	5	-	

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MONTH: DECEMBER
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	Sludge	% Solide	Dry Tons	Amendment	% Solids	Bavs	% Solids
Date	(Wet Tons)	Sludge	Sludge	(Wet Tons)	Amendment	Turned	Compost
1	7.7	<u> </u>	7.9			2	
2	7.7		7.5			2	
3	8,5		8.4			2	
4	7.8		7.6			1	
5						2	
6							
7	8.6		8.4			2	
8	9.05		8.8			2	
9	8.3		7.9			1	
10	2.8		3			1	
11 ·	4		3.9			1	
12	2.9		3			2	
13							
14	7.9		7.5			2	
15	4.1		3.9			0	
16	7.6		7.4			2	
17	3.6		3.5			0	
18	4		4			2	
19	3.4		3.2			2	
20							
21	8.15		8.1			2	
22	7		6.9			2	
23	7.5	•	7.6			0	
24	4.2		4.1			2	
25							
26	4.5		4.7			2	
27							
28	8.8		8.9			2	
29	7.3		7.45			2	
30	7.2		7.6			2	
31	7.5		7.5			2	
Totals:	160.1		158.75	0		42	

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Temper	ature Tra	cking F	rogram									Bay Nu	mber:	e E					
		Zo	ne A			Zone	B			Zone	с С			Zone	D		• 7	Cone E	
	T 11	2	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
Month																			
				after the									• • •					Lord Des M-N	
Day 1	A CONTRACTOR OF A CONTRACTOR O	attest and	and the second	65	68	64	99			72	72			02	72	72	7	66	66
2				66	. 67		68	70	5-10 AD		73	73			70	72	71	67	65
3				11 66 U	65	63	64	66	63			74	172	ALC STREET		73	72	68	64
4					99	- 67	67	71	71	72			64	64			69	67	66
5				57		68	67	69	70	70	73	5. (1)		65	68			68	66
9								teresting and the second s											
7					200 B		99 1	66	67	70	72	52			67	74			65
8				69		67		68	07.1	72	72	74	1.7			73	72		
6			Anital Social Street	· 52		65		68	02	71	73	74	02			172 July 172	72		
101				5.4	57	63			73	67 martine	74	75	174	65			12	66	1010 111
1		Contract of the second s	distant in the	49	50		02		72	73	75	76	57	62			70	66	(5)
10				53	56	56		12.000		73	74	76	72	64	66			67	66
1 5		Statistics of the second s		2 2	2			and the light for		N 187 States and	A CONTRACTOR OF A CONTRACTOR				A STATE OF STATE	and the summarial first fails and the second		A Succession	
2			and the second se						CC		04	11	05	00	60	Vol a			80
14			1. 1. 1.		60	04	PO		00		5		n/	70	00	7)			00
15					59	64			72		73	75	73	. 65	. 67	5/1			<b>C</b> O
16				63		65	65	66	i o la	70		74	72	67	70	75	74	\$ (a)	
17				62		67	68	67		12		73	72	68	72	73	73		
18				09.1	62		65	65	64		70		0/	67	70	72	72	70	6.6
19					× 63	66		67	67	69	19 2 3 3 3	72		89	μ2	73	72	67	65
20					A CONTRACTOR OF THE	Statistics of the							120200						
	(Baracar					04	74		68	69	72		73		72	74	73	70	64
33	<b>BARKWARKS</b>			1912121			ΡU	67		701	71	82		68		72	68	65	62
3 5			Notes and a second	60			64	69		67	UZ	64		63		02	66	63	61
24		A CONTRACTOR OF			1969		7	57	2.2			64	64	No. Participation	DO NO S		UL .	H BA	60
74				00	00 67			01	as		2 62	73	202		77		204	RA .	62
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