





13611 B Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121 • www.midwestlabs.com

Lab #	8803432	Report of Analysis		Report Number: 20-276-4082																																																																																																																																																	
Account: 25124	RUSTY WILLARD CITY OF DENTON 1100 SOUTH MAYHILL RD DENTON TX 76208			 Robert Ferris Account Manager 402-829-9871																																																																																																																																																	
Date Sampled: Date Received: Sample ID:	2020-09-09 2020-09-10 MAY 2020, JUNE 2020, STOCKPILES																																																																																																																																																				
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Lab #	8803432	Biological & Physical Properties			Report Number: 20-276-4082
Account: 25124	RUSTY WILLARD CITY OF DENTON 1100 SOUTH MAYHILL RD DENTON TX 76208			 Robert Ferris Client Service Representative 402-829-9871	
Date Sampled: Date Received: Sample ID:	2020-09-09 2020-09-10 MAY 2020, JUNE 2020, STOCKPILES			COMPOST ANALYSIS	
	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method
Biological Properties					
Germination	100		%	1	TMECC 05.05A
Germination Vigor	84		%	1	TMECC 05.05A
CO ₂ OM Evolution	0.2		mgCO ₂ -C/gOM/day	0.01	TMECC 05.08B
CO ₂ Solids Evolution	0.24		mgCO ₂ -C/gTS/day	0.01	TMECC 05.08B
Fecal Coliform		< 0.2	mpn/g	0.2	EPA 1681
Salmonella		< 0.26	mpn/4g	0.26	EPA 1682
Stability Rating	Stable		N/A	N/A	TMECC 05.08B
Physical Properties					
Bulk Density (Loose)	994		lbs/cu yard	1	WT/VOL
Bulk Density (Packed)	1314		lbs/cu yard	1	WT/VOL
Film Plastics	n.d.		%	0.25	Microscopic
Glass Fragments	n.d.		%	0.25	Microscopic
Hard Plastics	n.d.		%	0.25	Microscopic
Metal Fragment	n.d.		%	0.25	Microscopic
Sharps	Absent		---	---	Microscopic
Max. Particle Length		1.5	inches	N/A	TMECC Sieve
Sieve % Passing 3"		100	%	0.01	TMECC Sieve
Sieve % Passing 2"		100	%	0.01	TMECC Sieve
Sieve % Passing 1.5"		100	%	0.01	TMECC Sieve
Sieve % Passing 1"		100	%	0.01	TMECC Sieve
Sieve % Passing 3/4"		100	%	0.01	TMECC Sieve
Sieve % Passing 5/8"		100	%	0.01	TMECC Sieve
Sieve % Passing 3/8"		100	%	0.01	TMECC Sieve
Sieve % Passing 1/4"		99	%	0.01	TMECC Sieve

Compost Results Interpretations

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20-276-4082

DATE RECEIVED:

2020-09-10

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
24.80	As Received	
46.68	Dry Weight	

Compost is a significant source of Organic Matter, which is an important supplier of carbon. Organic Matter improves soil and plant efficiency by improving soil physical properties, providing a source of energy to beneficial organisms, and enhancing the reservoir of soil nutrients.

C/N Ratio		20-30 indicates an ideal range for the initial compost process. 10-20 indicates an ideal range for a finished compost.
13.1:1		

All organic matter is made up of substantial amounts of carbon with lesser amounts of nitrogen. The balance of these two elements is called the Carbon/Nitrogen Ratio. For the best performance, the compost pile requires the correct proportion of carbon for energy and nitrogen for protein production. If the C:N ratio is too high (excess carbon) decomposition slows down. If the C:N ratio is too low (excess Nitrogen) the compost pile could be difficult to manage.

Moisture %		<35% = Indicates overly dry compost >55% = Indicates overly wet compost
46.87		

Moisture Percent is the measure of water present in the compost and expressed as a percentage of total weight. Moisture present affects handling and transport. Overly dry will be light and dusty while overly wet will be heavy and clumpy. A desirable moisture content of finished compost will range between 40 to 50%.

Compost Results Interpretations

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Conductivity or Soluble Salts measures the conductance of electrical current in a liquid compost slurry. Excessive soluble salt content in a compost can prevent or delay seed germination and proper root growth. Conductivity analysis is done on a 1:5 basis.

Conductivity 1:5
3.0

Conductivity Level	Interpretation
Greater than 10	Very High nutrient content. Use for Ag Applications
5 - 10	High nutrient content. Use for Ag Applications
3 - 5	Higher than desirable for salt sensitive plants, some loss of vigor
0.6 - 3	Desirable range for most plants
0.3 - 0.6	Ideal range for greenhouse growth media
0.0 - 0.3	Very Low: Indicates very low nutrient status: plants may show deficiencies.

Compost Results Interpretations
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pH Value
8.0

0 to 14 scale with 6 to 8 as normal pH levels for compost
A pH in the 6 to 8 pH range indicates a more mature compost

pH measures the acidity or alkalinity of the compost, and is a measurement of the hydrogen ion activity of a soil or compost on a logarithmic scale. The pH scale ranges from 0 to 14 and 7 indicates a neutral pH. Growing media with a higher pH or pH greater than 7 can benefit from a compost that has a more acidic pH or pH below 7. This type of application will possibly lower the soil pH making the soil more conducive to plants that thrive in a more acidic soil condition.

Nutrient Index (Ag Index)
>10

The Nutrient Index normally runs between 1 and 10.

The Nutrient Index is obtained by dividing the total nutrients (N,P,K) by the amount of salt (Sodium and Chloride). The higher the Nutrient Index the less chance of having a toxic buildup of Sodium (salt) in the soil.

AG INDEX CHART										
<i>salt injury possible</i>	<i>use on soils with excellent drainage characteristics, good water quality and low salts</i>				<i>you may use on soils with poor drainage, poor water quality, or high salts</i>				<i>for all soils</i>	
1	2	3	4	5	6	7	8	9	10	> 10

Nutrients (N+P205+K20)

5.48 Average Nutrient Content Dry Weight <2 = Low, >5 = High
1-1.5-0.5 Rating As Received

The most commonly used compost data is the amount of Nitrogen, Phosphate, and Potash (abbreviated as N,P,K) present and the information is similar to that found in common fertilizers. If a compost result has the rating 1-2-2 it means that the compost has 1% Nitrogen, 2% Phosphate and 2% Potash. Most compost tests will have a average nutrient level (N+P+K) of < 5%.

20-276-4082

REPORT DATE
Oct 02, 2020
 RECEIVED DATE
Sep 10, 2020

SEND TO
25124



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ISSUE DATE
Oct 02, 2020

CITY OF DENTON
RUSTY WILLARD
1100 SOUTH MAYHILL RD
DENTON TX 76208

REPORT OF ANALYSIS
 For: (25124) CITY OF DENTON
 COMPOST ANALYSIS

Analysis **Level Found** **As Received** **Dry Weight** **Units** **Reporting Limit** **Method** **Analyst-Date** **Verified-Date**

Sample ID: MAY 2020, JUNE 2020, STOCKPILES	Lab Number: 8803432	Date Sampled: 2020-09-09 0730						
Cadmium (total)	1.04	1.95	mg/kg	0.50	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Chromium (total)	15.9	29.9	mg/kg	1.00	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Mercury (total)	0.06	0.11	mg/kg	0.05	EPA 7471	pld8-2020/09/15	th1-2020/09/15	
Lead (total)	5.4	10.1	mg/kg	5.0	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Molybdenum (total)	1.4	2.6	mg/kg	1.0	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Nickel (total)	5.1	9.6	mg/kg	1.0	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Zinc (total)	112.8	212.3	mg/kg	2.0	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Copper (total)	91.4	172	mg/kg	1	EPA 6010	ery3-2020/09/15	th1-2020/09/16	
Arsenic (total)	2.43	4.58	mg/kg	0.50	EPA 6020	ras7-2020/09/16	th1-2020/09/16	

EPA 1681 holding time of < 24 hours from sampling to laboratory set up of samples for biosolids and compost has been exceeded. Individual states enforce different holding times for compost or biosolids so please contact the regulatory body in your state for their requirements.

EPA 1682 holding time of < 6 hours from sampling to laboratory set up of samples for biosolids and compost has been exceeded. If a level of Salmonella was reported, the value would be considered an estimate. Individual states enforce different holding times for compost or biosolids so please contact the regulatory body in your state for their requirements.
 n.d. = not detected , ppm = parts per million, mg/kg

For questions please contact:

The result(s) issued on this report only reflect the analysis of the sample(s) submitted. Our reports and letters are for the exclusive and confidential use of our clients and may not be used for any other purpose. Our reports and letters are for the exclusive and confidential use of our clients and may not be used for any other purpose. Our reports and letters are for the exclusive and confidential use of our clients and may not be used for any other purpose.

Rob Ferris
 Account Manager

may any reference be made prior written authorization.



US COMPOSTING COUNCIL

OFFICIAL Seal of Testing Assurance Compost Sample Chain of Custody Form

STA Laboratory: Midwest Laboratories
Address: 13611 B Street
City, State Zip code: Omaha NE 68144

Tel: 402-334-7770
FAX:
Email:

Client/Reporting Company: City of Denton
Contact Name: Billy Downey
Billing Address: 1100 South Mayhill Road
City, State Zip code: Denton, Texas 76208

Tel: 940-349-8626
FAX:
Email:

Send Results to:
City, State Zip code:

Name of Person(s) Sample Collector(s): Billy Downey

Client Sample ID and Special Instructions: May 2020, June 2020, Stockpiles

Collection Date/Time: Date 9/9/2020, Time 7:30 am, Initials BD

Sample Matrix: Compost X, Feedstock O, Mulch O

Composting Operation Type: Windrow X, Static pile O, In-Vessel O

Shipping Temperature: Ambient O, Wet Ice X, Dry Ice O

Indicate Compost Analysis Requirements (Identify state): A, B, C

LAB USE ONLY Job Number & Sample Status: 8803432

INFORM THE STA LABORATORY AND SPECIFY THE REQUIRED LABORATORY TESTS WHEN SUBMITTING REGULATED COMPOST SAMPLES (please use spaces A, B and C provided above).

PLEASE PROVIDE SPECIFIC FEEDSTOCK AND OPERATIONAL DETAIL IN THE SPACE PROVIDED.

YOUR VOLUNTEERED INFORMATION PROVIDES USCC STANDARDS AND PRACTICES COMMITTEE WITH CRITICAL DATA NEEDED TO BETTER UNDERSTAND THE COMPOSTING PROCESS AND COMPOST END USES.

Releasing Signature 1, Receiving Signature 1, Date 9/9/2020 Time 2:30 pm
Releasing Signature 2, Receiving Signature 2
Releasing Signature 3, Receiving Signature 3
Releasing Signature 4, Receiving Signature 4



5.6 aa