

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

Lab # 70077126	Repor	t of Analys	is	Report Numl	per: 22-074-4242	
Account:	TOBY BILLINGS					
27791	CITY OF RICHLA	ND		14	0	
	PO BOX 190			1Cold	700	
	RICHLAND WA 9	9352		Robert Ferris		
				Account Manager		
Date Sampled:	2022-03-01			402-829-9871		
Date Received:	2022-03-02			City of Richland	Finished Compost 5	
Sample ID:	City of Richland F	C 52-65		22200282		
					Total content,	
			Analysis	Analysis	lbs per ton	
			(as rec'd)	(dry weight)	(as rec'd)	
NUTRIENTS						
Nitrogen						
Total Nitroge	n	%	1.30	2.62	26.0	
Organic Nitro	ogen	%	1.11	2.25	22.3	
Ammonium I	Nitrogen	%	0.186	0.375	3.7	
Nitrate Nitrog	gen	%	< 0.01			
Major and Secon	ndary Nutrients	2/				
Phosphorus		%	0.31	0.63	6.2	
Phosphorus	as P2O5	%	0.71	1.43	14.2	
Potassium	%	0.59	1.19	11.8		
Potassium a	s K2O	%	0.71	1.43	14.2	
Sulfur		%	0.21	0.42	4.2	
Calcium		%	1.40	2.83	28.0	
Magnesium	%	0.31	0.63	6.2		
Sodium		%	0.050	0.101	1.0	
Micronutrients						
Iron		ppm	6290	12697	12.6	
Manganese		ppm	128	258	0.3	
Boron		ppm	272	549	0.5	
OTHER PROPERTIES						
Moisture		%	50.46			
Total Solids		%	49.54		990.8	
Organic N	Matter	%	25.70	51.88	514.0	
Ash		%	23.50	47.44	470.0	
Total Carbor	1	%	15.20	30.68		
Chloride		%	0.16	0.32		
рН			6.3			
Conductivity	1:5 (Soluble Salts)	mS/cm	3.69			

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

		logical & Pl	hysical Pro	operties	Report Num	ber: 22-074-4242		
Account:	TOBY	BILLINGS			\Box			
27791	27791 CITY OF RICHLAND					Fes		
	PO BC	OX 190			1000	/		
	RICHL	AND WA 993	352		Rot	pert Ferris		
					Client Servi	ce Representative		
Date Sampled:	2022-0	03-01		402	-829-9871			
Date Received:	2022-0	03-02			City of Richlan	d Finished Compost		
Sample ID:	City of	Richland FC	52-65		22200282			
		Analysis	Analysis					
		(as rec'd)	(dry weight)	Units	Detection Limit	Method		
Biological Properties								
Germination		100		%	1	TMECC 05.05A		
Germination Vig	jor	100		%	1	TMECC 05.05A		
CO ₂ OM Evoluti	on	0.64		mgCO ₂ -C/gC	M/day 0.01	TMECC 05.08B		
CO2 Solids Evol	ution	0.96		mgCO2-C/gT	S/day 0.01	TMECC 05.08B		
Salmonella			< 1.2	mpn/4g	1.2	TMECC 07.02		
Stability Rating		Stable		N/A	N/A	TMECC 05.08B		
		Stable		N/A	N/A	TMECC 05.08B		
Physical Properties								
Physical Properties Bulk Density (Lo		876		lbs/cu yard	1	WT/VOL		
Physical Properties Bulk Density (Lo Bulk Density (Pa		876 1095		lbs/cu yard lbs/cu yard	1	WT/VOL WT/VOL		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics	acked)	876 1095 n.d.		Ibs/cu yard Ibs/cu yard %	1 1 0.1	WT/VOL WT/VOL TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment	acked)	876 1095 n.d. n.d.		lbs/cu yard lbs/cu yard %	1 1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics	acked) ts	876 1095 n.d.		lbs/cu yard lbs/cu yard % %	1 1 0.1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment	acked) ts	876 1095 n.d. n.d. n.d. n.d.		lbs/cu yard lbs/cu yard %	1 1 0.1 0.1 0.1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps	acked) ts	876 1095 n.d. n.d. n.d.		lbs/cu yard lbs/cu yard % %	1 1 0.1 0.1 0.1 0.1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le	acked) ts ength	876 1095 n.d. n.d. n.d. n.d.	3.0	Ibs/cu yard Ibs/cu yard % % % % inches	1 1 0.1 0.1 0.1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing	acked) ts ength g 3"	876 1095 n.d. n.d. n.d. n.d.	3.0 100	Ibs/cu yard Ibs/cu yard % % % % inches %	1 1 0.1 0.1 0.1 0.1 0.1 0.1	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing Sieve % Passing	acked) ts ength g 3" g 2"	876 1095 n.d. n.d. n.d. n.d.		Ibs/cu yard Ibs/cu yard %	1 1 0.1 0.1 0.1 0.1 0.1 0.1 N/A	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC Sieve TMECC Sieve		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing	acked) ts ength g 3" g 2"	876 1095 n.d. n.d. n.d. n.d.	100	Ibs/cu yard Ibs/cu yard %	1 1 0.1 0.1 0.1 0.1 0.1 N/A 0.01	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC Sieve		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing Sieve % Passing Sieve % Passing	acked) ts ength g 3" g 2" g 1.5" g 1"	876 1095 n.d. n.d. n.d. n.d.	<mark>100</mark> 100	Ibs/cu yard Ibs/cu yard %	1 1 0.1 0.1 0.1 0.1 0.1 N/A 0.01 0.01	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC Sieve TMECC Sieve TMECC Sieve TMECC Sieve		
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Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing Sieve % Passing Sieve % Passing	acked) ts ength g 3" g 2" g 1.5" g 1.5" g 3/4"	876 1095 n.d. n.d. n.d. n.d.	100 100 100 100	Ibs/cu yard Ibs/cu yard %	1 1 0.1 0.1 0.1 0.1 0.1 N/A 0.01 0.01 0.01 0.01	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC 03.08 TMECC Sieve TMECC Sieve TMECC Sieve TMECC Sieve		
Physical Properties Bulk Density (Lo Bulk Density (Pa Film Plastics Glass Fragment Hard Plastics Metal Fragment Sharps Max. Particle Le Sieve % Passing Sieve % Passing Sieve % Passing Sieve % Passing	acked) ts ength g 3" g 2" g 1.5" g 1.5" g 3/4" g 3/4" g 5/8"	876 1095 n.d. n.d. n.d. n.d.	100 100 100 100 100	Ibs/cu yard Ibs/cu yard 0% %	1 1 0.1 0.1 0.1 0.1 0.1 0.1 N/A 0.01 0.01 0.01 0.01 0.01	WT/VOL WT/VOL TMECC 03.08 TMECC 03.08		

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Report #:	22-074-4242	
DATE RECEIVED:	2022-03-02	
		-
Greater than 20% indicates a desirable range for compo	st on a dry weight basis	S.
ant source of Organic Matter, which is an important supplie	r of carbon Organic M	attor
	DATE RECEIVED: Greater than 20% indicates a desirable range for compo ant source of Organic Matter, which is an important supplie	

organisms, and enhancing the reservoir of soil nutrients.

C/N	Ratio	
	11.7:1	

20-30 indicates an ideal range for the initial compost process. 10-20 indicates an ideal range for a finished compost.

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 % 50.46	<35% = Indicates overly dry compost	
	>55% = Indicates overly wet compost	
present affects	ent is the measure of water present in the compost and expressed as a percentage of total weight. Moisture handling and transport. Overly dry will be light and dusty while overly wet will be heavy and clumpy. A ture content of finished compost will range between 40 to 50%.	

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Compost Results Interpretations	Report #:	22-074-4242
Page 2	DATE RECEIVED:	2022-03-02

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	
3.7	
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.

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Compost Results Interpretations Page 3	Report #: DATE RECEIVED:	22-074-4242 2022-03-02				
pH Value						
6.3 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 po	ssibly				
lower the soil pH making the soil more conducive to plants that the	ive in a more acidic soil condition.					

Nutrient Index >1(,			The Nutrie	ent Index nor	mally runs	between 1 a	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										
	salt injury possible			nt drainage ch ality and low sa		you	may use on so qu	oils with poor c ality, or high s		water	for all soils
	1	2	3	4	5	6	7	8	9	10	> 10

Nutrients (N+	P205+K20)
	Average Nutrient Content Dry Weight<2 = Low, >5 = HighRating 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%.



PO BOX 190 CITY OF RICHLAND RICHLAND WA 99352 TOBY BILLINGS





REPORT OF ANALYSIS City of Richland Finished Compost 52-65 For: (27791) CITY OF RICHLAND

www.midwestlabs.com

22200282

Analysis	Level Found As Received Dry Weight	und Dry Weight	Units	Reporting Limit	Method	Analyst- Date	Verified- Date
Sample ID: City of Richland FC 52-65	Lab Number: 70077126)77126	Date Samp	Date Sampled: 2022-03-0	03-01 1132		
Cadmium (total)	n.d.	n.d.	mg/kg	0.50	EPA 6010	ery3-2022/03/07 kkh9-2022/03/15	kkh9-2022/03/15
Chromium (total)	7.03	14.2	mg/kg	1.00	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Mercury (total)	n.d.	0.10	mg/kg	0.05	EPA 7471	mrs3-2022/03/09	kkh9-2022/03/15
Lead (total)	5.6	11.4	mg/kg	5.0	EPA 6010	ery3-2022/03/07 kkh9-2022/03/15	kkh9-2022/03/15
Molybdenum (total)	1.9	3.9	mg/kg	1.0	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Nickel (total)	6.3	12.8	mg/kg	1.0	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Zinc (total)	118.2	238.7	mg/kg	2.0	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Copper (total)	63.4	128	mg/kg	_	EPA 6010	ery3-2022/03/07	kkh9-2022/03/15
Arsenic (total)	2.36	4.76	mg/kg	0.5	EPA 6020	ras7-2022/03/15 kkh9-2022/03/15	kkh9-2022/03/15

n.d. = not detected , ppm = parts per million, ppm = mg/kg

Cole C Parsons

cparsons@midwestlabs.com (402)829-9850

Account Manager

For questions please contact:

13611 B Street | Omaha, NE 68144-3693 | 402-334-7770 Viidwest aboratories[®]

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Submitted By: Toby Billings Order Date: 2022-03-01 15:21:52 Order Number: 5007341

S S

RICHLAND, WA 99352

PO BOX 190

Account: 27791 CITY OF RICHLAND

SUBMITTAL FORM

70077126-126 - Samples

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Sample Description: City of Richland Finished Compost 52-65 Project/PO Number: TBD

Comment: Will Send PO Along When I Receive

SAMPLES FOR ANALYSIS

Compost



5007341-1 Sample ID: City of Richland FC 52-65 Date Sampled: 2022-03-01

70077126

Time Sampled: 1132

Analysis Requested:

Salmonella (Percent solids, Salmonella) STA w/o Fecal (Carbon (total), Loss on ignition (OM), Nitregen (total), Ammonium nitrogen (total), Germination vigor, Sieve (ret) 3-8 in. 9.25 mm, Salmonella, CO2 OM Evolution, CO2 Solids Evolution, Stability rating, % passing - 3" sieve (DW), % passing - 3/4" sieve (DW), % passing - 1" sieve (DW), % passing - 1.5" sieve (DW), % passing - 1/4" sieve (DW), Sieve maximum particle length (inches), Cadmium (total), Chromium (total), Mercury (total), Lead (total), Molybdenum (total), Nickel (total), Germination, % passing - 5/8" sieve (DW), Conductivity 1:5 dilution, Suffur (total), Germination, % passing - 5/8" sieve (DW), Conductivity 1:5 dilution, Suffur (total), Magnesium (total), fron (total), Calcium (total), Sodium (total), Manganese (total), Bulk density (packed), Bulk density (loose), Film plastic, Glass fragments, Hard plastic, Metal fragments, Sharps, Chloride, Boron (total), Phosphate (P2O5), Numera and Antonia antonia antonia antonia antonia antonia antonia antoni Nitrate-nitrogen, Ash, Nitrate-nitrogen, Ash, Moisture, % passing - 2" sieve (DW), Selenium (total), Zinc (total), Potash (K2O), Copper (total), Arsenic (total), pH)

PAG	E 8/8
Bill To City o 625 S Richla	

625 Swift Blvd MS#09 Richland, WA 99352 City of Richland - Accounts Payable Bill Io

11214 MIDWEST LABORATORIES INC 13611 B STREET OMAHA, NE 68144-3693 accountspayable@ci.richland.wa.us

> MS-27 555 LACY RD RICHLAND, WA 99352 Ship To MSZ7 WASTEWATER TREATMENT FAC

70077126 PURCHASE ORDER

03/03/2022	ar Date	Purchase Order Date
22200282	er Number	Purchase Order Number
UMBER MUST APPEAR ON S'AND SHIPPING PAPERS	HASE ORDER NICES PACKAGE	THIS PUR
Page 1 of 1	2022	Fiscal Year

Department r Date SEWER OPERATIONS

DELIVERY HOURS Monday - Friday 7:30 am - 11:30 am / 12:30 pm - 3:00 pm Warehouse Phone (509) 942-7440

CTEM # DESCRIPTION	Acceptance of this Purchase Order is subject to the Standard Terms and Conditions located at https://www.ci.richland.wa.us/departments/admli agreed to in writing by the City.	NOTES	402-334-7770 JMCMANIS@MIDWESTLABS.COM	VENDOR PHONE NUMBER VENDOR EMAIL VENDOR NUMBER REQUISITION NOMBER BUYER NAME
	to the Standard Terms	pear On All Corresponde		EMAIL VENDOJ
	and Conditions located a	ance - Packing Sheets Ar	11214	R NUMBER
QUANT	t <u>https://www.ci.richland.</u>	nd Bills Of Lading	12200509	JISTION NUMBER
QUANTITY UON UNIT PRICE	wa.us/departments/administrative-services/purchasin		Raney, Barbara	EUVER NAME
EXTENDED PRICE	/purchasing unless			LIVERY REFERENCE

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2	Acceptance of this Purchase Order is subject to the Standard Terms and Conditions located at https://www.ci.nichland.wa.us/departments/admligagreed to in writing by the City.	The Above Purchase Order Number Must Appear On All Correspondence - Packing Sheets And Bills Of Lading
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GL # S3358000 - 4911	FINISHED COMPOST - SALMONELLA - COR COMPOST ROWS 52-65	GL #. S3358000 - 4911	COR LANDFILL COMPOST FAC 3-1-22 SAMPLING EVENT FINISHED COMPOST - SEAL OF TESTING ASSURANCE (STA) COMPOST COUNCIL PK WITHOUT FECAL - COR COMPOST ROWS 52-65
\$85.00		\$350.00	INCIL PK
	1.0000		1.0000
	EACH		EACH
	\$85.0000		S350.0000
	\$85.00		\$350.00

https://www.ci.richland.wa.us/departments/administrative-services/purchasing

bushning fucknoing Representative PURCHASING BUYER purchasing@cl.richland.wa.us Phone (509) 942-7710

Total Ext, Price

\$435.00

Purchase Order, Total