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Lab #	70076138	Report of Analysis		Report Number: 22-073-4002																																																																																																																																																	
<b>Account:</b> 34024	DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073		 Robert Ferris Account Manager 402-829-9871																																																																																																																																																		
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Compost Results Interpretations

Page 1

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2022-03-01

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
18.30	As Received	
23.27	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.
10.7:1		

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
21.37		

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%.

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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
2.8

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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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)

2.39

Average Nutrient Content Dry Weight

<2 = Low, >5 = High

1-0.5-0.5

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%.

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**Mar 14, 2022**  
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**Mar 01, 2022**

SEND TO  
**34024**



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ISSUE DATE  
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**CITY OF LARAMIE WWTP  
 DAVID SCHILLINGER  
 PO BOX C  
 LARAMIE WY 82073**

**REPORT OF ANALYSIS**  
 For: (34024) CITY OF LARAMIE WWTP  
 Compost Pkg

Analysis	Level Found		Units	Limit	Method	Analyst- Date	Verified- Date
	As Received	Dry Weight					
Sample ID: <b>10093388-1</b>	Lab Number: <b>70076138</b>		Date Sampled: <b>2022-02-28 1300</b>				

Salmonella	n.d.	n.d.	MPN/4g	0.26	EPA 1682	Ljm8-2022/03/08	jzh4-2022/03/10
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Aluminum (total)	4720	6010	mg/kg	5.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Cobalt (total)	2.04	2.60	mg/kg	1.00	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Total neutralizing value (CaCO3 eq)	5.3	6.8	%	0.1	AOAC 955.01	jed2-2022/03/04	eas2-2022/03/04

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 , MPN = most probable number , ppm = parts per million, ppm = mg/kg

For questions please contact:


*Kerri Stanek*  
 Kerri Stanek  
 Account Manager  
 kstanek@midwestlabs.com (402)590-2982

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.


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Lab # 70076139		Report of Analysis		Report Number: 22-073-4003	
<b>Account:</b> 34024		DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073		 Robert Ferris Account Manager 402-829-9871	
<b>Date Sampled:</b> <b>Date Received:</b> <b>Sample ID:</b>		2022-02-28 2022-03-01 1009388-2			
				Total content, lbs per ton (as rec'd)	
		Analysis (as rec'd)		Analysis (dry weight)	
<b>NUTRIENTS</b>					
Nitrogen					
Total Nitrogen	%	0.95	1.16	19.0	
Organic Nitrogen	%	0.82	0.99	16.3	
Ammonium Nitrogen	%	0.135	0.165	2.7	
Nitrate Nitrogen	%	< 0.01	----	----	
Major and Secondary Nutrients					
Phosphorus	%	0.29	0.35	5.8	
Phosphorus as P2O5	%	0.66	0.80	13.2	
Potassium	%	0.48	0.59	9.6	
Potassium as K2O	%	0.58	0.71	11.6	
Sulfur	%	0.25	0.30	5.0	
Calcium	%	2.84	3.46	56.8	
Magnesium	%	0.60	0.73	12.0	
Sodium	%	0.070	0.085	1.4	
Micronutrients					
Iron	ppm	7920	9653	15.8	
Manganese	ppm	213	260	0.4	
Boron	ppm	< 100	----	----	
<b>OTHER PROPERTIES</b>					
Moisture	%	17.95			
Total Solids	%	82.05		1641.0	
Organic Matter	%	18.60	22.67	372.0	
Ash	%	63.30	77.15	1266.0	
Total Carbon	%	10.45	12.74		
Chloride	%	0.04	0.05		
pH		8.0			
Conductivity 1:5 (Soluble Salts)	mS/cm	2.45			

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Lab #	70076139	<b>Biological &amp; Physical Properties</b>			Report Number: 22-073-4003						
<b>Account:</b>	34024	DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073			 Robert Ferris Client Service Representative 402-829-9871						
<b>Date Sampled:</b>	<b>Date Received:</b>	2022-02-28 2022-03-01									
<b>Sample ID:</b>		1009388-2			Compost Pkg						
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	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method						
<b>Biological Properties</b>											
Germination	90		%	1	TMECC 05.05A						
Germination Vigor	100		%	1	TMECC 05.05A						
CO <sub>2</sub> OM Evolution	0.68		mgCO <sub>2</sub> -C/gOM/day	0.01	TMECC 05.08B						
CO <sub>2</sub> Solids Evolution	0.29		mgCO <sub>2</sub> -C/gTS/day	0.01	TMECC 05.08B						
Fecal Coliform		40	mpn/g	0.2	EPA 1681						
Stability Rating	Stable		N/A	N/A	TMECC 05.08B						
<b>Physical Properties</b>											
Bulk Density (Loose)	1045		lbs/cu yard	1	WT/VOL						
Bulk Density (Packed)	1196		lbs/cu yard	1	WT/VOL						
Film Plastics	n.d.		%	0.1	TMECC 03.08						
Glass Fragments	n.d.		%	0.1	TMECC 03.08						
Hard Plastics	n.d.		%	0.1	TMECC 03.08						
Metal Fragment	n.d.		%	0.1	TMECC 03.08						
Sharps	absent		---	0.1	TMECC 03.08						
Max. Particle Length		1.0	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"		100	%	0.01	TMECC Sieve						



Compost Results Interpretations

Page 1

Report #:

22-073-4003

DATE RECEIVED:

2022-03-01

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
18.60	As Received	
22.67	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.
11:1		

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
17.95		

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

Page 2

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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	
2.5	
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  
Page 3

Report #: 22-073-4003  
DATE RECEIVED: 2022-03-01

**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)**

2.67 Average Nutrient Content Dry Weight <2 = Low, >5 = High  
1-0.5-0.5 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%.

**22-073-4003**

REPORT DATE  
**Mar 14, 2022**  
 RECEIVED DATE  
**Mar 01, 2022**

SEND TO  
**34024**



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ISSUE DATE  
**Mar 14, 2022**

**CITY OF LARAMIE WWTP  
 DAVID SCHILLINGER  
 PO BOX C  
 LARAMIE WY 82073**

**REPORT OF ANALYSIS**  
 For: (34024) CITY OF LARAMIE WWTP  
 Compost Pkg

**Sample ID: 1009388-2    Lab Number: 70076139    Date Sampled: 2022-02-28 1300**

Analysis	Level Found		Units	Limit	Method	Analyst- Date	Verified- Date
	As Received	Dry Weight					
Salmonella	n.d.	n.d.	MPN/4g	0.26	EPA 1682	Ljm8-2022/03/08	jzh4-2022/03/10
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Aluminum (total)	5230	6370	mg/kg	5.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Cobalt (total)	2.03	2.47	mg/kg	1.00	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Total neutralizing value (CaCO3 eq)	5.1	6.2	%	0.1	AOAC 955.01	jed2-2022/03/04	eas2-2022/03/04

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, MPN = most probable number, ppm = parts per million, ppm = mg/kg

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The result(s) issued on this report only reflect the analysis of the sample(s) submitted.


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Lab #	70076140	Report of Analysis		Report Number: 22-073-4004																																																																																																																																																	
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Lab #	70076140	<b>Biological &amp; Physical Properties</b>			Report Number: 22-073-4004
<b>Account:</b> 34024	DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073			 Robert Ferris Client Service Representative 402-829-9871	
<b>Date Sampled:</b>	2022-02-28			Compost Pkg	
<b>Date Received:</b>	2022-03-01				
<b>Sample ID:</b>	1009388-3				
	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method
<b>Biological Properties</b>					
Germination	100		%	1	TMECC 05.05A
Germination Vigor	99.3		%	1	TMECC 05.05A
CO <sub>2</sub> OM Evolution	0.47		mgCO <sub>2</sub> -C/gOM/day	0.01	TMECC 05.08B
CO <sub>2</sub> Solids Evolution	0.2		mgCO <sub>2</sub> -C/gTS/day	0.01	TMECC 05.08B
Fecal Coliform		39	mpn/g	0.2	EPA 1681
Stability Rating	Stable		N/A	N/A	TMECC 05.08B
<b>Physical Properties</b>					
Bulk Density (Loose)	1095		lbs/cu yard	1	WT/VOL
Bulk Density (Packed)	1247		lbs/cu yard	1	WT/VOL
Film Plastics	n.d.		%	0.1	TMECC 03.08
Glass Fragments	n.d.		%	0.1	TMECC 03.08
Hard Plastics	n.d.		%	0.1	TMECC 03.08
Metal Fragment	n.d.		%	0.1	TMECC 03.08
Sharps	absent		---	0.1	TMECC 03.08
Max. Particle Length		2.0	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"		98	%	0.01	TMECC Sieve
Sieve % Passing 1/4"		98	%	0.01	TMECC Sieve

Compost Results Interpretations

Page 1

Report #:

22-073-4004

DATE RECEIVED:

2022-03-01

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
19.00	As Received	
22.75	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.
10.8:1		

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
16.47		

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

Page 2

Report #:

22-073-4004

DATE RECEIVED:

2022-03-01

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
2.2

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  
Page 3

Report #: 22-073-4004  
DATE RECEIVED: 2022-03-01

**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)**

2.92 Average Nutrient Content Dry Weight <2 = Low, >5 = High  
1-1-0.5 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%.

**22-073-4004**

**PAGE 6/6**

REPORT DATE  
**Mar 14, 2022**

SEND TO  
**34024**

ISSUE DATE  
**Mar 14, 2022**

RECEIVED DATE  
**Mar 01, 2022**



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**CITY OF LARAMIE WWTP  
 DAVID SCHILLINGER  
 PO BOX C  
 LARAMIE WY 82073**

**REPORT OF ANALYSIS**  
 For: (34024) CITY OF LARAMIE WWTP  
 Compost Pkg

**Sample ID: 10093388-3      Lab Number: 70076140      Date Sampled: 2022-02-28 1300**

Analysis	Level Found		Units	Limit	Method	Analyst- Date	Verified- Date
	As Received	Dry Weight					
Salmonella	n.d.	n.d.	MPN/4g	0.26	EPA 1682	Ljm8-2022/03/08	jzh4-2022/03/10
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Aluminum (total)	5200	6230	mg/kg	5.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Cobalt (total)	2.08	2.49	mg/kg	1.00	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Total neutralizing value (CaCO3 eq)	6.7		%	0.1	AOAC 955.01	jed2-2022/03/07	eas2-2022/03/07

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, MPN = most probable number, ppm = parts per million, mg/kg

For questions please contact:


*Kerri Stanek*  
 Kerri Stanek  
 Account Manager  
 kstanek@midwestlabs.com (402)590-2982

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.


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Lab #	70076141	Report of Analysis		Report Number: 22-073-4005																																																																																																																																																	
<b>Account:</b> 34024	DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073		 Robert Ferris Account Manager 402-829-9871																																																																																																																																																		
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Lab #	70076141	<b>Biological &amp; Physical Properties</b>			Report Number: 22-073-4005
<b>Account:</b> 34024	DAVID SCHILLINGER CITY OF LARAMIE WWTP PO BOX C LARAMIE WY 82073			 Robert Ferris Client Service Representative 402-829-9871	
<b>Date Sampled:</b>	2022-02-28			Compost Pkg	
<b>Date Received:</b>	2022-03-01				
<b>Sample ID:</b>	1009388-4				
	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method
<b>Biological Properties</b>					
Germination	100		%	1	TMECC 05.05A
Germination Vigor	96.5		%	1	TMECC 05.05A
CO <sub>2</sub> OM Evolution	0.57		mgCO <sub>2</sub> -C/gOM/day	0.01	TMECC 05.08B
CO <sub>2</sub> Solids Evolution	0.29		mgCO <sub>2</sub> -C/gTS/day	0.01	TMECC 05.08B
Fecal Coliform		66938	mpn/g	0.2	EPA 1681
Stability Rating	Stable		N/A	N/A	TMECC 05.08B
<b>Physical Properties</b>					
Bulk Density (Loose)	977		lbs/cu yard	1	WT/VOL
Bulk Density (Packed)	1247		lbs/cu yard	1	WT/VOL
Film Plastics	0.2		%	0.1	TMECC 03.08
Glass Fragments	n.d.		%	0.1	TMECC 03.08
Hard Plastics	0.2		%	0.1	TMECC 03.08
Metal Fragment	n.d.		%	0.1	TMECC 03.08
Sharps	absent		---	0.1	TMECC 03.08
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

Page 1

Report #:

22-073-4005

DATE RECEIVED:

2022-03-01

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
19.80	As Received	
24.44	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.
10.7:1		

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
19.00		

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

Page 2

Report #:

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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	
2.1	
<b>Conductivity Level</b>	<b>Interpretation</b>
Greater than 10	Very High nutrient content. Use for Ag Applications
5 - 10	High nutrient content. Use for Ag Applications
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0.6 - 3	Desirable range for most plants
0.3 - 0.6	Ideal range for greenhouse growth media
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Compost Results Interpretations  
Page 3

Report #: 22-073-4005  
DATE RECEIVED: 2022-03-01

**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)**  
2.59 Average Nutrient Content Dry Weight <2 = Low, >5 = High  
1-0.5-0.5 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%.

**22-073-4005**

REPORT DATE  
**Mar 14, 2022**  
 RECEIVED DATE  
**Mar 01, 2022**

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**34024**



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ISSUE DATE  
**Mar 14, 2022**

**CITY OF LARAMIE WWTP  
 DAVID SCHILLINGER  
 PO BOX C  
 LARAMIE WY 82073**

**REPORT OF ANALYSIS**  
 For: (34024) CITY OF LARAMIE WWTP  
 Compost Pkg

Sample ID: **10093388-4** Lab Number: **70076141** Date Sampled: **2022-02-28 1300**

Analysis	Level Found		Units	Limit	Method	Analyst- Date	Verified- Date
	As Received	Dry Weight					
Salmonella	n.d.	n.d.	MPN/4g	0.26	EPA 1682	Ljm8-2022/03/08	jzh4-2022/03/10
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Aluminum (total)	4600	5680	mg/kg	5.0	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Cobalt (total)	1.91	2.36	mg/kg	1.00	EPA 6010	ery3-2022/03/03	ras7-2022/03/07
Total neutralizing value (CaCO3 eq)	7.7		%	0.1	AOAC 955.01	jed2-2022/03/07	ees2-2022/03/07

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, MPN = most probable number, ppm = parts per million, mg/kg

For questions please contact:

*Kerri Stanek*  
 Kerri Stanek  
 Account Manager  
 kstanek@midwestlabs.com (402)590-2982

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.

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