





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

Lab #	2680223	Report of Analysis		Report Number: 17-171-4137																																																																																																																																																	
<b>Account:</b> 29186	DAVE POWE SOCRRA 3910 W WEBSTER ROYAL OAK MI 48073		 Robert Ferris Account Manager 402-829-9871																																																																																																																																																		
<b>Date Sampled:</b> <b>Date Received:</b> <b>Sample ID:</b>	2017-06-03 2017-06-07 SAMPLE																																																																																																																																																				
			Compost																																																																																																																																																		
Total content, lbs per ton (as rec'd)																																																																																																																																																					
<table border="1"> <thead> <tr> <th></th> <th></th> <th>Analysis (as rec'd)</th> <th>Analysis (dry weight)</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="5"><b>NUTRIENTS</b></td> </tr> <tr> <td colspan="5">Nitrogen</td> </tr> <tr> <td>Total Nitrogen</td> <td>%</td> <td>0.89</td> <td>1.90</td> <td>17.8</td> </tr> <tr> <td>Organic Nitrogen</td> <td>%</td> <td>0.84</td> <td>1.80</td> <td>16.9</td> </tr> <tr> <td>Ammonium Nitrogen</td> <td>%</td> <td>0.046</td> <td>0.098</td> <td>0.9</td> </tr> <tr> <td>Nitrate Nitrogen</td> <td>%</td> <td>&lt; 0.01</td> <td>----</td> <td>----</td> </tr> <tr> <td colspan="5">Major and Secondary Nutrients</td> </tr> <tr> <td>Phosphorus</td> <td>%</td> <td>0.10</td> <td>0.21</td> <td>2.0</td> </tr> <tr> <td>Phosphorus as P2O5</td> <td>%</td> <td>0.23</td> <td>0.49</td> <td>4.6</td> </tr> <tr> <td>Potassium</td> <td>%</td> <td>0.40</td> <td>0.86</td> <td>8.0</td> </tr> <tr> <td>Potassium as K2O</td> <td>%</td> <td>0.48</td> <td>1.03</td> <td>9.6</td> </tr> <tr> <td>Sulfur</td> <td>%</td> <td>0.11</td> <td>0.24</td> <td>2.2</td> </tr> <tr> <td>Calcium</td> <td>%</td> <td>2.63</td> <td>5.62</td> <td>52.6</td> </tr> <tr> <td>Magnesium</td> <td>%</td> <td>0.44</td> <td>0.94</td> <td>8.8</td> </tr> <tr> <td>Sodium</td> <td>%</td> <td>0.040</td> <td>0.086</td> <td>0.8</td> </tr> <tr> <td colspan="5">Micronutrients</td> </tr> <tr> <td>Iron</td> <td>ppm</td> <td>4530</td> <td>9686</td> <td>9.1</td> </tr> <tr> <td>Manganese</td> <td>ppm</td> <td>266</td> <td>569</td> <td>0.5</td> </tr> <tr> <td>Boron</td> <td>ppm</td> <td>&lt; 100</td> <td>----</td> <td>----</td> </tr> <tr> <td colspan="5"><b>OTHER PROPERTIES</b></td> </tr> <tr> <td>Moisture</td> <td>%</td> <td>53.23</td> <td></td> <td></td> </tr> <tr> <td>Total Solids</td> <td>%</td> <td>46.77</td> <td></td> <td>935.4</td> </tr> <tr> <td>Organic Matter</td> <td>%</td> <td>23.10</td> <td>49.39</td> <td>462.0</td> </tr> <tr> <td>Ash</td> <td>%</td> <td>23.70</td> <td>50.67</td> <td>474.0</td> </tr> <tr> <td>Total Carbon</td> <td>%</td> <td>13.07</td> <td>27.95</td> <td></td> </tr> <tr> <td>Chloride</td> <td>%</td> <td>0.08</td> <td>0.17</td> <td></td> </tr> <tr> <td>pH</td> <td></td> <td>8.0</td> <td></td> <td></td> </tr> <tr> <td>Conductivity 1:5 (Soluble Salts)</td> <td>mS/cm</td> <td>2.87</td> <td></td> <td></td> </tr> </tbody> </table>							Analysis (as rec'd)	Analysis (dry weight)		<b>NUTRIENTS</b>					Nitrogen					Total Nitrogen	%	0.89	1.90	17.8	Organic Nitrogen	%	0.84	1.80	16.9	Ammonium Nitrogen	%	0.046	0.098	0.9	Nitrate Nitrogen	%	< 0.01	----	----	Major and Secondary Nutrients					Phosphorus	%	0.10	0.21	2.0	Phosphorus as P2O5	%	0.23	0.49	4.6	Potassium	%	0.40	0.86	8.0	Potassium as K2O	%	0.48	1.03	9.6	Sulfur	%	0.11	0.24	2.2	Calcium	%	2.63	5.62	52.6	Magnesium	%	0.44	0.94	8.8	Sodium	%	0.040	0.086	0.8	Micronutrients					Iron	ppm	4530	9686	9.1	Manganese	ppm	266	569	0.5	Boron	ppm	< 100	----	----	<b>OTHER PROPERTIES</b>					Moisture	%	53.23			Total Solids	%	46.77		935.4	Organic Matter	%	23.10	49.39	462.0	Ash	%	23.70	50.67	474.0	Total Carbon	%	13.07	27.95		Chloride	%	0.08	0.17		pH		8.0			Conductivity 1:5 (Soluble Salts)	mS/cm	2.87		
		Analysis (as rec'd)	Analysis (dry weight)																																																																																																																																																		
<b>NUTRIENTS</b>																																																																																																																																																					
Nitrogen																																																																																																																																																					
Total Nitrogen	%	0.89	1.90	17.8																																																																																																																																																	
Organic Nitrogen	%	0.84	1.80	16.9																																																																																																																																																	
Ammonium Nitrogen	%	0.046	0.098	0.9																																																																																																																																																	
Nitrate Nitrogen	%	< 0.01	----	----																																																																																																																																																	
Major and Secondary Nutrients																																																																																																																																																					
Phosphorus	%	0.10	0.21	2.0																																																																																																																																																	
Phosphorus as P2O5	%	0.23	0.49	4.6																																																																																																																																																	
Potassium	%	0.40	0.86	8.0																																																																																																																																																	
Potassium as K2O	%	0.48	1.03	9.6																																																																																																																																																	
Sulfur	%	0.11	0.24	2.2																																																																																																																																																	
Calcium	%	2.63	5.62	52.6																																																																																																																																																	
Magnesium	%	0.44	0.94	8.8																																																																																																																																																	
Sodium	%	0.040	0.086	0.8																																																																																																																																																	
Micronutrients																																																																																																																																																					
Iron	ppm	4530	9686	9.1																																																																																																																																																	
Manganese	ppm	266	569	0.5																																																																																																																																																	
Boron	ppm	< 100	----	----																																																																																																																																																	
<b>OTHER PROPERTIES</b>																																																																																																																																																					
Moisture	%	53.23																																																																																																																																																			
Total Solids	%	46.77		935.4																																																																																																																																																	
Organic Matter	%	23.10	49.39	462.0																																																																																																																																																	
Ash	%	23.70	50.67	474.0																																																																																																																																																	
Total Carbon	%	13.07	27.95																																																																																																																																																		
Chloride	%	0.08	0.17																																																																																																																																																		
pH		8.0																																																																																																																																																			
Conductivity 1:5 (Soluble Salts)	mS/cm	2.87																																																																																																																																																			

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

Lab #	2680223	<b>Biological &amp; Physical Properties</b>	Report Number: 17-171-4137																																																																																																																																																														
<b>Account:</b> 29186	DAVE POWE SOCRRA 3910 W WEBSTER ROYAL OAK MI 48073		 Robert Ferris Client Service Representative 402-829-9871																																																																																																																																																														
<b>Date Sampled:</b>	2017-06-03		Compost																																																																																																																																																														
<b>Date Received:</b>	2017-06-07																																																																																																																																																																
<b>Sample ID:</b>	SAMPLE																																																																																																																																																																
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%;">Analysis (as rec'd)</th> <th style="width: 15%;">Analysis (dry weight)</th> <th style="width: 10%;">Units</th> <th style="width: 10%;">Detection Limit</th> <th style="width: 15%;">Method</th> </tr> </thead> <tbody> <tr> <td colspan="6"><b>Biological Properties</b></td> </tr> <tr> <td>Germination</td> <td style="text-align: center;">70</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">1</td> <td>TMECC 05.05A</td> </tr> <tr> <td>Germination Vigor</td> <td style="text-align: center;">100</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">1</td> <td>TMECC 05.05A</td> </tr> <tr> <td>CO<sub>2</sub> OM Evolution</td> <td style="text-align: center;">0.66</td> <td></td> <td style="text-align: center;">mgCO<sub>2</sub>-C/gOM/day</td> <td style="text-align: center;">0.01</td> <td>TMECC 05.08B</td> </tr> <tr> <td>CO<sub>2</sub> Solids Evolution</td> <td style="text-align: center;">0.89</td> <td></td> <td style="text-align: center;">mgCO<sub>2</sub>-C/gTS/day</td> <td style="text-align: center;">0.01</td> <td>TMECC 05.08B</td> </tr> <tr> <td>Fecal Coliform</td> <td></td> <td style="text-align: center;">278</td> <td style="text-align: center;">mpn/g</td> <td style="text-align: center;">0.2</td> <td>EPA 1681</td> </tr> <tr> <td>Salmonella</td> <td></td> <td style="text-align: center;">&lt; 0.01</td> <td style="text-align: center;">mpn/4g</td> <td style="text-align: center;">0.01</td> <td>EPA 1682</td> </tr> <tr> <td>Stability Rating</td> <td style="text-align: center;">Stable</td> <td></td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td>TMECC 05.08B</td> </tr> <tr> <td colspan="6"><b>Physical Properties</b></td> </tr> <tr> <td>Bulk Density (Loose)</td> <td style="text-align: center;">944</td> <td></td> <td style="text-align: center;">lbs/cu yard</td> <td style="text-align: center;">1</td> <td>WT/VOL</td> </tr> <tr> <td>Bulk Density (Packed)</td> <td style="text-align: center;">1719</td> <td></td> <td style="text-align: center;">lbs/cu yard</td> <td style="text-align: center;">1</td> <td>WT/VOL</td> </tr> <tr> <td>Film Plastics</td> <td style="text-align: center;">n.d.</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.25</td> <td>Microscopic</td> </tr> <tr> <td>Glass Fragments</td> <td style="text-align: center;">0.2</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.25</td> <td>Microscopic</td> </tr> <tr> <td>Hard Plastics</td> <td style="text-align: center;">n.d.</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.25</td> <td>Microscopic</td> </tr> <tr> <td>Metal Fragment</td> <td style="text-align: center;">n.d.</td> <td></td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.25</td> <td>Microscopic</td> </tr> <tr> <td>Sharps</td> <td style="text-align: center;">absent</td> <td></td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td>Microscopic</td> </tr> <tr> <td>Max. Particle Length</td> <td></td> <td style="text-align: center;">1.8</td> <td style="text-align: center;">inches</td> <td style="text-align: center;">N/A</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 3"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 2"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 1.5"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 1"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 3/4"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 5/8"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 3/8"</td> <td></td> <td style="text-align: center;">100</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> <tr> <td>Sieve % Passing 1/4"</td> <td></td> <td style="text-align: center;">92</td> <td style="text-align: center;">%</td> <td style="text-align: center;">0.01</td> <td>TMECC Sieve</td> </tr> </tbody> </table>							Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method	<b>Biological Properties</b>						Germination	70		%	1	TMECC 05.05A	Germination Vigor	100		%	1	TMECC 05.05A	CO <sub>2</sub> OM Evolution	0.66		mgCO <sub>2</sub> -C/gOM/day	0.01	TMECC 05.08B	CO <sub>2</sub> Solids Evolution	0.89		mgCO <sub>2</sub> -C/gTS/day	0.01	TMECC 05.08B	Fecal Coliform		278	mpn/g	0.2	EPA 1681	Salmonella		< 0.01	mpn/4g	0.01	EPA 1682	Stability Rating	Stable		N/A	N/A	TMECC 05.08B	<b>Physical Properties</b>						Bulk Density (Loose)	944		lbs/cu yard	1	WT/VOL	Bulk Density (Packed)	1719		lbs/cu yard	1	WT/VOL	Film Plastics	n.d.		%	0.25	Microscopic	Glass Fragments	0.2		%	0.25	Microscopic	Hard Plastics	n.d.		%	0.25	Microscopic	Metal Fragment	n.d.		%	0.25	Microscopic	Sharps	absent		---	---	Microscopic	Max. Particle Length		1.8	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"		92	%	0.01	TMECC Sieve
	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method																																																																																																																																																												
<b>Biological Properties</b>																																																																																																																																																																	
Germination	70		%	1	TMECC 05.05A																																																																																																																																																												
Germination Vigor	100		%	1	TMECC 05.05A																																																																																																																																																												
CO <sub>2</sub> OM Evolution	0.66		mgCO <sub>2</sub> -C/gOM/day	0.01	TMECC 05.08B																																																																																																																																																												
CO <sub>2</sub> Solids Evolution	0.89		mgCO <sub>2</sub> -C/gTS/day	0.01	TMECC 05.08B																																																																																																																																																												
Fecal Coliform		278	mpn/g	0.2	EPA 1681																																																																																																																																																												
Salmonella		< 0.01	mpn/4g	0.01	EPA 1682																																																																																																																																																												
Stability Rating	Stable		N/A	N/A	TMECC 05.08B																																																																																																																																																												
<b>Physical Properties</b>																																																																																																																																																																	
Bulk Density (Loose)	944		lbs/cu yard	1	WT/VOL																																																																																																																																																												
Bulk Density (Packed)	1719		lbs/cu yard	1	WT/VOL																																																																																																																																																												
Film Plastics	n.d.		%	0.25	Microscopic																																																																																																																																																												
Glass Fragments	0.2		%	0.25	Microscopic																																																																																																																																																												
Hard Plastics	n.d.		%	0.25	Microscopic																																																																																																																																																												
Metal Fragment	n.d.		%	0.25	Microscopic																																																																																																																																																												
Sharps	absent		---	---	Microscopic																																																																																																																																																												
Max. Particle Length		1.8	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"		92	%	0.01	TMECC Sieve																																																																																																																																																												

Compost Results Interpretations  
Page 1

Report #: 17-171-4137  
DATE RECEIVED: 2017-06-07

Organic Matter %		Greater than 20% indicates a desirable range for compost on a dry weight basis.
23.10	As Received	
49.39	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.
14.7:1		

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
53.23		

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 #:

17-171-4137

DATE RECEIVED:

2017-06-07

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
2.9

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 #: 17-171-4137  
DATE RECEIVED: 2017-06-07

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)

3.42 Average Nutrient Content Dry Weight <2 = Low, >5 = High

1-0-0.5 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%.

**SOCRRA  
DAVE POWE  
3910 W WEBSTER  
ROYAL OAK MI 48073**

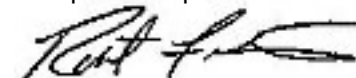
**REPORT OF ANALYSIS**

For: (29186) SOCRRA  
Compost

Analysis	Level Found			Reporting		Analyst- Date	Verified- Date
	As Received	Dry Weight	Units	Limit	Method		
Sample ID: <b>SAMPLE</b>	Lab Number: <b>2680223</b>		Date Sampled: <b>2017-06-03</b>				
Cadmium (total)	n.d.	n.d.	mg/kg	0.50	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Chromium (total)	130	278	mg/kg	1.00	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Mercury (total)	n.d.	n.d.	mg/kg	0.05	EPA 7471	ccm2-2017/06/09	bab2-2017/06/12
Lead (total)	11.2	23.9	mg/kg	5.0	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Molybdenum (total)	n.d.	n.d.	mg/kg	1.0	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Nickel (total)	3.6	7.7	mg/kg	1.0	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Selenium (total)	n.d.	n.d.	mg/kg	10.0	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Zinc (total)	58.2	124.4	mg/kg	2.0	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Copper (total)	12.5	26.7	mg/kg	1	EPA 6010	ras7-2017/06/08	bab2-2017/06/12
Arsenic (total)	3.59	7.68	mg/kg	0.5	EPA 6020	cjm4-2017/06/09	bab2-2017/06/12

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

For questions please contact:



Rob Ferris  
Account Manager  
ferris@midwestlabs.com (402)829-9871

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 reproduced in whole or in part, nor may any reference be made to the work, the results, or the company in any advertising, news release, or other public announcements without obtaining our prior written authorization.