WASTE MANAGEMENT INC. OF FLORIDA
Vista Landfill, LLC
242 W. Keene Road
Apopka, FL 32703

August 20, 2015

Mr. Tom Lubozynski, P.E.
Administrator, Waste Management
Florida Department of Environmental Protection
Central District
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

Via email: DEP_CD@dep.state.fl.us

Subject: Q3 2015 Composting Disinfection Sample Results
Vista Organic Composting Facility
WACS Facility 87081
Permit No. SO48-0165969-020

Dear Mr. Lubozynski,

In order to show compliance with the disinfection requirements for compost in FAC 62-709, the Vista Landfill is submitting the attached quarterly lab analysis. This analysis shows compliance with the testing and record keeping requirements of 62-709.530. The facility also maintains onsite records showing compliance with the temperature monitoring requirements. Since the composting system uses aerated static piles, the materials are maintained ≥55°C for 3 consecutive days. Pursuant to a determination from the Department, the change was made to a Florida certified laboratory for this sampling event.

As described in last quarter's submittal, Vista Landfill also collected an annual baseline sample in February 2015 to use in the %ROM calculations for calendar year 2015. This lab report is also included. If our inbound feed stock changes significantly, we will collect a new baseline sample as necessary.

The reduction of organic matter is determined by comparing the organic matter content of the feedstock into the composting process and the organic matter content of the compost product. The amount of reduction is determined as a percent of the original amount contained in the feedstock using the following calculation:

$$\% \text{ ROM} = [1 - (OMK(100 - OM)/OM(100 - OMK))]100$$

where: % ROM = reduction of organic matter, OM = % organic matter content of dry matter before decomposition, and OMK = % organic matter content of dry matter after decomposition.

A spreadsheet is attached showing the calculated %ROM values. If you have any questions, please call me at 321-704-4162 or email me at jchristi@wm.com.

Sincerely,

SUBMITTED VIA EMAIL SIGNED ELECTRONICALLY

Jim Christiansen
Environmental Protection Manager
Waste Management Inc. of Florida

cc: Allen Rainey, FDEP via email
Deborah Perez, WMIF via email
Karen Hawkins, WMIF via email
Jay Davoll, City of Apopka via email

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Lab # 2428562 **Report of Analysis** Report Number: 15-229-4146

Account: 36317	RAY STAMPER VISTA LANDFILL LLC 242 W KEENE RD APOPKA FL 32703
Date Sampled:	2015-08-04
Date Received:	2015-08-05
Sample ID:	STA

Robert Ferris
Account Manager
402-829-9871

STA AUGUST 2015

		Analysis (as rec'd)	Analysis (dry weight)	Total content, lbs per ton (as rec'd)
NUTRIENTS				
Nitrogen				
Total Nitrogen	%	0.81	1.60	16.2
Organic Nitrogen	%	0.80	1.58	16.0
Ammonium Nitrogen	%	0.012	0.024	0.2
Nitrate Nitrogen	%	< 0.01	----	----
Major and Secondary Nutrients				
Phosphorus	%	0.10	0.20	2.0
Phosphorus as P2O5	%	0.23	0.46	4.6
Potassium	%	0.24	0.48	4.8
Potassium as K2O	%	0.29	0.57	5.8
Sulfur	%	0.08	0.16	1.6
Calcium	%	1.04	2.06	20.8
Magnesium	%	0.08	0.16	1.6
Sodium	%	0.080	0.158	1.6
Micronutrients				
Iron	ppm	695	1376	1.4
Manganese	ppm	26.9	53	----
Boron	ppm	< 20	----	----
OTHER PROPERTIES				
Moisture	%	49.49		
Total Solids	%	50.51		1010.2
Organic Matter	%	26.50	52.46	530.0
Ash	%	24.00	47.52	480.0
Total Carbon	%	16.70	33.06	
Chloride	%	0.08	0.16	
pH		7.3		
Conductivity 1:5 (Soluble Salts)	mS/cm	2.19		

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Lab # 2428562 **Biological & Physical Properties** Report Number: 15-229-4146

Account: 36317	RAY STAMPER VISTA LANDFILL LLC 242 W KEENE RD APOPKA FL 32703
Date Sampled:	2015-08-04
Date Received:	2015-08-05
Sample ID:	STA

Robert Ferris
Client Service Representative
402-829-9871

STA AUGUST 2015

	Analysis (as rec'd)	Analysis (dry weight)	Units	Detection Limit	Method
Biological Properties					
5 Day Germination	100		%	1	TMECC
7 Day Vigor	100		%	1	TMECC
CO_2 OM Evolution	0.32		mgCO_2-C/gOM/day	0.01	TMECC 05.08A
CO_2 Solids Evolution	0.47		mgCO_2-C/gTS/day	0.01	TMECC 05.08A
Fecal Coliform		475	mpn/g	2	EPA 1681
Salmonella		< 0.01	mpn/4g	0.01	EPA 1682
Stability Rating	Stable		N/A	N/A	TMECC 05.08A
Physical Properties					
Bulk Density (Loose)	843		lbs/cu yard	1	WT/VOL
Bulk Density (Packed)	1281		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		2.5	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"		98	%	0.01	TMECC Sieve
Sieve % Passing 1/4"		95	%	0.01	TMECC Sieve

Compost Results Interpretations

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Report #:	15-229-4146
DATE RECEIVED:	2015-08-05

Organic Matter %

26.50 As Received

52.46 Dry Weight

Greater than 20% indicates a desirable range for compost on a dry weight basis.

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

20.6:1

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 %

49.49

<35% = Indicates overly dry compost

>55% = Indicates overly wet compost

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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Report #:	15-229-4146
DATE RECEIVED:	2015-08-05

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

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Report #: 15-229-4146

DATE RECEIVED: 2015-08-05

pH Value

7.3

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 possibly lower the soil pH making the soil more conducive to plants that thrive in a more acidic soil condition.

Nutrient Index (Ag Index)

8.3

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

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

Nutrients (N+P205+K20)

2.63 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%.

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VISTA LANDFILL LLC
RAY STAMPER
242 W KEENE RD
APOPKA FL 32703

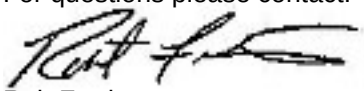
REPORT OF ANALYSIS

For: (36317) VISTA LANDFILL LLC
STA AUGUST 2015

Analysis	Level Found As Received	Level Found Dry Weight	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
Sample ID: **STA** Lab Number: **2428562**	Date Sampled: **2015-08-04 09:00**						
Cadmium (total)	< 0.50	< 0.50	mg/kg	0.50	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Chromium (total)	3.68	7.28	mg/kg	1.00	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Mercury (total)	< 0.05	< 0.05	mg/kg	0.05	EPA 7471 *	ccm2-2015/08/08	bab2-2015/08/10
Lead (total)	< 5.0	< 5.0	mg/kg	5.0	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Molybdenum (total)	< 1.0	< 1.0	mg/kg	1.0	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Nickel (total)	< 1.0	< 1.0	mg/kg	1.0	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Selenium (total)	< 10.0	< 10.0	mg/kg	10.0	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Zinc (total)	28.5	56.4	mg/kg	2.0	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Copper (total)	15.1	29.9	mg/kg	1	EPA 6010 *	ras7-2015/08/06	bab2-2015/08/10
Arsenic (total)	0.80	1.58	mg/kg	0.5	EPA 6020	akj2-2015/08/07	bab2-2015/08/10

ppm = parts per million, ppm = mg/kg

For questions please contact:



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

Vista Organics Facility %ROM calculations

Baseline Sample Result 2015 (%OM2015)	Q1 2015 Percent Organic Matter (%OMKQ1)	Q1 2015 Percent Reduction Organic Matter (%ROMQ1)	Q2 2015 Percent Organic Matter (%OMKQ2)	Q2 2015 Percent Reduction Organic Matter (%ROMQ2)	Q3 2015 Percent Organic Matter (%OMKQ3)	Q3 2015 Percent Reduction Organic Matter (%ROMQ3)	Q4 2015 Percent Organic Matter (%OMKQ4)	Q4 2015 Percent Reduction Organic Matter (%ROMQ4)
97.62	48.34	97.7	56.9	96.8	52.5	97.3		

REPORT NO.
F15036-6008
ACCOUNT NUMBER
30557

A & L GREAT LAKES LABORATORIES, INC.

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: VISTA LANDFILL, LLC
242 W KEENE RD
APOPKA, FL 32703-7919

FOR: VISTA 20315

ATTN: RAY STAMPER

COMPOST ANALYSIS REPORT

LAB NUMBER: 77043
SAMPLE ID: VISTA 20315

DATE SAMPLED: 02/03/2015
DATE RECEIVED: 02/05/2015
DATE REPORTED: 02/09/2015 **PAGE:** 1

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	58.97		TMECC 03.09-A
Dry Matter	%	41.03		TMECC 03.09-A
Organic Matter	%	40.05	97.62	TMECC 05.07 (Calculated)
Total Organic Carbon (C)	%	20.03	48.81	TMECC 04.01-A

TMECC - Test Methods for the Examination of Composting and Compost, The U.S. Composting Council.

Report Approved By: Greg T. Neyman
Greg Neyman - Vice President / COO

Approval Date: 2/09/2015