

WASTE MANAGEMENT INC. OF FLORIDA

Vista Landfill, LLC 242 W. Keene Road Apopka, FL 32703

March 8, 2017

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: <u>DEP_CD@dep.state.fl.us</u>

Subject: Q1 2017 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 \geq 55°C for 3 consecutive days.

In accordance with the approved Operations Plan, Vista Landfill also collected an annual baseline sample in January 2017 to use in the %ROM calculations for calendar year 2017. 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:

% 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 904-748-6006 or email me at eparker1@wm.com.

Sincerely,

SUBMITTED VIA EMAIL SIGNED ELECTRONICALLY

Eric Parker Environmental Protection Manager Waste Management Inc. of Florida

cc: Deborah Perez, WMIF via email Ray Stamper, WMIF via email Jay Davoll, City of Apopka via email Vista Organics Facility %ROM calculations

Baseline Sample	Q1 2016 Percent	Q1 2016 Percent	Q2 2016 Percent	Q2 2016 Percent	Q3 2016 Percent	Q3 2016 Percent	Q4 2016 Percent	Q4 2016 Percent
Result 2016	Organic Matter	Reduction Organic	Organic Matter	Reduction Organic	Organic Matter	Reduction Organic	Organic Matter	Reduction Organic
(%OM2016)	(%OMKQ1)	Matter (%ROMQ1)	(%OMKQ2)	Matter (%ROMQ2)	(%OMKQ3)	Matter (%ROMQ3)	(%OMKQ4)	Matter (%ROMQ4)
	86.5 57	.6 78.8	<mark>3</mark> 0	100.0	() 100.0	<mark>)</mark> () 100.0

REPORT NUMBER



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

REPORT OF ANALYSIS For: (36317) VISTA LANDFILL LLC FOOD WASTE, GREEN WASTE

	Level F	ound		Reporting		Analyst-	Verified-
Analysis	As Received	Dry Weight	Units	Limit	Method	Date	Date
Sample ID: VISTA Q1 2017	Lab Number: 2620745						
Organic Matter	29.7	86.5	%	0.01	MWL WC PROC 60	bjs0-2017/01/19	acm2-2017/01/20
Moisture	65.65		%	0.10	SM 2540 G-(1997)	bjs0-2017/01/23	acm2-2017/01/27
Total organic carbon (TOC)	5.61	16.33	%	0.01	ASTM D 5373 (mod)	kmc4-2017/01/26	acm2-2017/01/27
Percent solids	34.35		%	0.01	SM 2540 G-(1997) *	bjs0-2017/01/23	cmw2-2017/01/23

This report was reissued on 2017-01-27 12:26:37 by acm2 for the following reason: add on tests per client.

For questions please contact:

Rob Ferris Account Manager raf4@midwestlabs.com (402)829-9871

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

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REPORT NUMBER

Jan 17, 2017





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



Laboratories

FOOD WASTE, GREEN WASTE

Detailed Method Description(s)

🖊 Midwest

SM 2540 G

Analysis follows MWL WC 060 which is based on SM 2540 G. A sample is weighed placed in a vacuum drying oven to drive off the moisture and re-weighed. The sample is then placed in a muffle furnace at 550 degrees C, cooled, and re-weighed. The residue remaining is the ash and the mass lost is the volatile matter.

SM 2540 G

Analysis follows MWL WC 060 which is based on SM 2540 G. A sample is weighed placed in a vacuum drying oven to drive off the moisture and re-weighed. The sample is then placed in a muffle furnace at 550°C, cooled, and re-weighed. The residue remaining is the ash and the mass lost is the volatile matter.

Carbon/nitrogen in coal ASTM D 5373 (mod)

Sample analysis follows MWL PR 263 which references ASTM D 5373 (modified). Samples are placed in a combustion instrument where carbon is oxidized in oxygen to produce carbon dioxide and nitrogen compounds are converted to elemental nitrogen and the levels determined. The modification indicated is the matrix analyzed is not part of the ASTM scope.

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



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Lab # 2632981	Repor	t of Analys	is	Report Numb	per: 17-062-4057
Account:	RAY STAMPER				
36317	VISTA LANDFILL	LLC	That P		
	242 W KEENE R	D		Cold	700
	APOPKA FL 3270	03		Robe	ert Ferris
				Accour	nt Manager
Date Sampled:	2017-02-15			402-8	329-9871
Date Received:	2017-02-16			STA COMPOST	Γ
Sample ID:	STA V217				
					Total content,
			Analysis	Analysis	lbs per ton
			(as rec'd)	(dry weight)	(as rec'd)
NUTRIENTS					
Nitrogen					
Total Nitroge	n	%	1.32	2.44	26.4
Organic Nitro		%	1.31	2.43	26.3
Ammonium N	Nitrogen	%	0.006	0.011	0.1
Nitrate Nitrog	jen	%	< 0.01		
Major and Secor	ndary Nutrients				
Phosphorus		%	0.19	0.35	3.8
Phosphorus	as P205	%	0.44	0.81	8.8
Potassium	431200	%	0.46	0.85	9.2
Potassium as	s K20	%	0.55	1.02	11.0
Sulfur		%	0.00	0.22	2.4
Calcium		%	2.42	4.47	48.4
Magnesium		%	0.12	0.22	2.4
Sodium		%	0.210	0.388	4.2
			0.2.0		
Micronutrients					
Iron		ppm	790	1459	1.6
Manganese		ppm	30.6	57	
Boron		ppm	< 100		
OTHER PROPERTIES					
Moisture		%	45.85		
Total Solids		%	54.15		1083.0
Organic N	latter	%	30.90	57.06	618.0
Ash		%	23.20	42.84	464.0
Total Carbon		%	15.38	28.40	
Chloride		%	0.31	0.57	
рН			7.6		
Conductivity	1:5 (Soluble Salts)	mS/cm	5.42		

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	Bio	logical & P	hysical Pro	operties	Report Num	ber: 17-062-4057
Account:	RAY S	TAMPER				
36317	VISTA	LANDFILL L	LC		1/11	Fes
	242 W	KEENE RD			per	/ -
	APOPI	KA FL 32703			Rot	pert Ferris
					Client Servio	ce Representative
Date Sampled:	2017-0)2-15			402-	-829-9871
Date Received:	2017-0)2-16			STA COMPOS	T
Sample ID:	STA V	217				
		Analysis	Analysis			
		(as rec'd)	(dry weight)	Units	Detection Limit	Method
Biological Properties						
Germination		90		%	1	TMECC 05.05A
Germination Vig	gor	100		%	1	TMECC 05.05A
CO2 OM Evoluti	ion	0.41		mgCO ₂ -C/gO	M/day 0.01	TMECC 05.08B
CO2 Solids Evo	lution	0.67		mgCO ₂ -C/gT	S/day 0.01	TMECC 05.08B
Fecal Coliform			0	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
Physical Properties						
Bulk Density (Lo		944		lbs/cu yard	1	WT/VOL
Bulk Density (P	acked)	1213		lbs/cu yard	1	WT/VOL
Film Plastics		n.d.		%	0.25	Microscopic
Glass Fragmen	ts	n.d.		%	0.25	Microscopic
Hard Plastics		n.d.		%	0.25	Microscopic
Metal Fragment	t	n.d.		%	0.25	Microscopic
U		absent				Microscopic
Sharps			1.3	inches	N/A	TMECC Sieve
Ŭ	ength		1.5	moneo	1071	
Sharps Max. Particle Le Sieve % Passin	ig 3"		1.3	%	0.01	TMECC Sieve
Sharps Max. Particle Le	ig 3"					TMECC Sieve TMECC Sieve
Sharps Max. Particle Le Sieve % Passin	ig 3" ig 2"		100	%	0.01	
Sharps Max. Particle Le Sieve % Passin Sieve % Passin	ig 3" ig 2" ig 1.5"		100 100	<mark>%</mark> %	0.01 0.01	TMECC Sieve
Sharps Max. Particle Le Sieve % Passin Sieve % Passin Sieve % Passin	ng 3" ng 2" ng 1.5" ng 1"		100 100 100	% % %	0.01 0.01 0.01	TMECC Sieve TMECC Sieve
Sharps Max. Particle Le Sieve % Passin Sieve % Passin Sieve % Passin Sieve % Passin	ig 3" ig 2" ig 1.5" ig 1" ig 3/4"		100 100 100 100	% % % %	0.01 0.01 0.01 0.01 0.01	TMECC Sieve TMECC Sieve TMECC Sieve
Sharps Max. Particle Le Sieve % Passin Sieve % Passin Sieve % Passin Sieve % Passin Sieve % Passin	ng 3" ng 2" ng 1.5" ng 1" ng 3/4" ng 5/8"		100 100 100 100 100	% % % %	0.01 0.01 0.01 0.01 0.01 0.01	TMECC Sieve TMECC Sieve TMECC Sieve TMECC Sieve

Compost Results Interpretations	Report #:	17-062-4057	
Page 1	DATE RECEIVED:	2017-02-16	
Organic Matter %			
30.90 As Received	Greater than 20% indicates a desirable range for compo	st on a dry weight basis	6.
57.06 Dry Weight			
Compost is a signi	ficant source of Organic Matter, which is an important supplie	of carbon Organic M	attor
	ency by improving soil physical properties, providing a source		

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 %	<35% = Indicates overly dry compost
45.85	>55% = Indicates overly wet compost
present affects handling	measure of water present in the compost and expressed as a percentage of total weight. Moisture and transport. Overly dry will be light and dusty while overly wet will be heavy and clumpy. A ent of finished compost will range between 40 to 50%.

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Compost Results Interpretations	Report #:	17-062-4057
Page 2	DATE RECEIVED:	2017-02-16

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	
5.4	
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:	17-062-4057 2017-02-16	
pH Value 7.6 0 to 14 scale with 6 to 8 as no	ormal nH levels for compost		
	ange indicates a more mature compost		
pH measures the acidity or alkalinity of the compost, and is a measurement of the	e hydrogen ion activity of a soil or compost on a		
logarithmic scale. The pH scale ranges from 0 to 14 and 7 indicate	es a neutral pH. Growing media with a higher pH	or pH	
greater than 7 can benefit from a compost that has a more acidic p	oH or pH below 7. This type of application will po	ssibly	
lower the soil pH making the soil more conducive to plants that thri	ive in a more acidic soil condition.		

Nutrient Index	()			The Nutrie	nt Index nor	mally runs I	between 1 a	and 10.				
The Nutrient		•	-		(N,P,K) by up of Sodium			dium and C	hloride). T	he higher tl	he Nutrient	
	AG INDEX CHART											
	salt use on soils with excellent drainage characteristics, injury you may use on soils with poor drainage, poor water for all soils opssible good water quality and low salts quality, or high salts all soils							for all soils				
	possible				1 2 3 4 5 6 7 8 9 10 > 10							

Nutrients (N+	+P205+K20)
	Average Nutrient Content Dry Weight <2 = Low, >5 = High 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 ha 1% Nitrogen, 2% Phosphate and 2% Potash. Most compost tests will have a average nutrient level (N+P+K) of < 5%.

REPORT NUMBER

17-062-4057 REPORT DATE

Mar 03, 2017 RECEIVED DATE Feb 16, 2017 SEND TO 36317

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REPORT OF ANALYSIS For: (36317) VISTA LANDFILL LLC STA COMPOST

		Level F	ound		Reporting		Analyst-	Verified-
Analysis	As	Received	Dry Weight	Units	Limit	Method	Date	Date
Sample ID: STA V217	Lab Number: 2632981	Date	Sampled: 20	17-02-15 1	100			
Cadmium (total)		< 0.50	< 0.50	mg/kg	0.50	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Chromium (total)		3.34	6.17	mg/kg	1.00	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Mercury (total)		< 0.05	< 0.05	mg/kg	0.05	EPA 7471	ccm2-2017/02/20	bab2-2017/02/24
Lead (total)		< 5.0	< 5.0	mg/kg	5.0	EPA 6010	ras7-2017/02/20	bab2-2017/02/24
Molybdenum (total)		< 1.0	< 1.0	mg/kg	1.0	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Nickel (total)		< 1.0	< 1.0	mg/kg	1.0	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Selenium (total)		< 10.0	< 10.0	mg/kg	10.0	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Zinc (total)		36.1	66.7	mg/kg	2.0	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Copper (total)		14.5	26.8	mg/kg	1	EPA 6010	ras7-2017/02/19	bab2-2017/02/24
Arsenic (total)		1.33	2.46	mg/kg	0.5	EPA 6020	cjm4-2017/02/22	bab2-2017/02/24

Hold time exceeded for Salmonella and fecal coliform, not suitable for regulatory purposes. ppm = parts per million, ppm = mg/kg

For questions please contact:

Rob Ferris Account Manager raf4@midwestlabs.com (402)829-9871

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

SUBFORM NUMBER	t:
629629	

ACCOUNT NO: 36317 VISTA LANDFILL LLC RAY STAMPER 242 W KEENE RD APOPKA, FL 32703

/ Midwest		
Laboratories	_® 067530)
13611 B Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 www.midwestlabs.com		



SAMPLE DESCRIPTION

COPY TO:



STA COMPOST

PO NUMBER:

			A	er Submittal Form	PLACED BY: Robe	rt A Ferris
				TESTS REQUESTED	CONTAINER	COMMENTS
SAMPLE ID	•	MPLED	STA COMPOST	2632981	1	
STAV217		DO AM				
				·		
			+			
					411-112	
Sempled by: (Signature)	Terpe on Arrival	Cooler arrived intact	<u></u>	Relinquished by: (Signature)		Received by: (Signature)
Relinduished by: (Signature)	Date/Time	Received by: (Signati)	Relinquished by: (Signature)	Date/Time	Received in tab by: (Signature)
	1					

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OFFICIAL Seal of Testing Assurance
Compost Sample Chain of Custody Form

US COMPOSITIN #36	a 3 <u>17</u>	0 C	FFICLA ompost	4L Seal Sample	of Testing A Chain of Cl	ssura istody	v Form
STA Laboratory: Mid West Laboratorie Address: 13611 B Street	5 Tel: 402 FAX: Email:	-334-777		ATORY USE C	a 11 B		rage Shelf
City, State Zip code: Omaha Nebraska			Sample	Condition:	Maiojura:		
Client/Reporting Company: V; Stalundf: 11 Contact Name: Ray Staunper Billing Address: 242 W-Keene Pol	Tel: 216- FAX: Email: B I ⁻ SFa	956-094 mfetQ.Wm.e	9 Sample P.	Type: O POINT O. Number:	Malodor: Moisture: T O COMPOSITE O ST S O NO	RATIFIED	
City, State Zip code: <u>APoPKa</u> FL.327 Send Results to: NSFamper@WM.Com City. State Zip code:	Pp 3		SELECTI STA Sui	on of ANALYSIS. R e; State DOT Tests (in	efer to http://www.tmecc.org/cap/n dicate Stale); A, B, C – Specity ot nples, etc.). NOTE I STA analytic Chain of Custody form are submit	ner tests in ner al results via fi	he STA Compost
Name or Source of Sample(s): <u>STA</u> Carry (Name of Person(s), Sample Collector(s): Ray Stampe	Post		· · A			<u>. </u>	
Client Sample ID and Special Instructions 1. List Feedstocks 2. Check all that apply 3. List % by volume. (Optional)	Collection Date/Time	Sample Matrix	Composting Operation Type	Shipping Temperature	Indicate Compost Ar Requirements (*identii	alysis y state)	LAB USE ONLY Job Number & Sample Status
STAV217 Green waste Carcass Manure Fish Waste Frod Grease, Fats Biosolids MSW	Date: 2/15/17 Time://.'00 A m Initials: R S	Compost X Feedstock O Mulch O O	Windrow X Static pile O In-Vessel O O	Ambient O Wet Ice			
INFORM THE STA LABORATORY AND SPECIFY THE RE PLEASE PROVIDE SPECIFIC FEEDSTOCK AND OPERATIONAL D YOUR VOLUNTEERED INFORMATION PROVIDES USCC STANDARDS AN							
Releasing Signature 1	Date 2/15/17 ^{1m}	e ;3 <i>074 n</i> a_Sign	ring ature 1 (TA)	· · · · · · · · · · · · · · · · · · ·	Alle	117	Time
Releasing	Date Tim		/ing ature 2		Da		
Signature 2 Releasing	Date Tim		ving ature 3		Da	ite	Time
Signature 3 Releasing Signature 4	Date Tim	e Receiv			Da	ite	Time

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Document Number: RC CHKLIST 001 Revision No.: 3 Effective Date: 1/31/17 Page 1 of 1

Lab Number:		
Thermometer Used: □ Therm Fisher IR Q Sample Temperature (°C): 1.2	Cooler Intact: Received on Ice: Hand Delivered:	→ Yes □ No → Yes □ No □ Yes □ No
Date & Initials of person accepting samples:	2/16/17	

	Comments:
Chain of Custody present?	Yes I No I N/A
Chain of Custody complete?	Yes 🛛 No 🗆 N/A
Sample ID(s):	Yes No N/A
Sample Location(s):	Strate Yes □ No □ N/A
Client Contact:	Yes D No D N/A
Analysis Requested:	Yes D No N/A
Sampler name on COC?	\Rightarrow Yes \Box No \Box N/A
Date & Time of collection:	A Yes D No N/A
Sample labels match COC?	Yes D No D N/A
Written in indelible ink?	\rightarrow Yes \square No \square N/A
Labels indicate proper preservation?	Yes 🗆 No 🗆 N/A
Chain of Custody relinquished with signature?	🔁 Yes 🗆 No 🗆 N/A
Samples arrived within hold time?	Yes 🗆 No 🗆 N/A
Sufficient volume?	Yes D No D N/A
Appropriate containers used?	range Yes □ No □ N/A
Filtered volume received for dissolved tests?	□ Yes □ No 😽 N/A
Headspace in VOA vials?	🗇 Yes 🗆 No 🛇 N/A
Trip Blank present?	\Box Yes X No \Box N/A

Client Notification/Resolution: Date/Time Contacted: _____

Person Contacted: _____ Contacted By: _____

Comments/Resolution: