



Scalable Waste
Conversion Solutions

City of Battle Creek MI Demo Project

SG Composting Solution

GORE® Cover Technology



110 South Poplar St, Suite 400
Wilmington, DE 19801
Sustainable-Generation.com

Reference Materials

- Demo Proposal
 - Responsibilities
 - Equipment Requirements
 - Power Connection
 - Feed Stock Calculations
- Operating Manual
 - Installation
 - Training
 - Mixing
 - Heap Construction
 - Process Control
- Project Plan & Report
 - Data Capture
 - Sampling



Sample Plan & Mix Calc's



Sample	Description/ Sample Name	Sample Date	Test	Report	
Batch #1 - 1	ALB - GW Bulking Input	09/30/2014	101	9103.0-1.pdf	GW
Batch #1 - 2	ALB -Biosolids Input	09/30/2014	101	9103.0-1.pdf	BS
Batch #1 - 3	ALB - Day 0 Mixed BS/GW Input	11/06/2014	101	9142.0.pdf	Mix
Batch #1 - 4	ALB - Day 28 Phase 1	12/3/2014	101	9176.0.pdf	P1
Batch #1 - 5	ALB - Day 42 Phase 2	12/15/2014	101	9193.0.pdf	P2
Batch #1 - 6	ALB - Day 56+7 Phase 3	1/7/2015	110	9217.0-1.pdf	P3
Batch #1 - 7	ALB - Finished 30 Day unscreened	2/4/2015	110	9237.0-1.pdf	Storage- 30 Day
Batch #1 - 8	ALB - Finished 60 Day screened	4/8/2015	110	9327.0-2.pdf	Screened

Sample	Description/ Sample Name	Sample Date	Test	Report	
Batch #2 - 1	ALB - GW Bulking Input	12/30/2104	101	9208.0-1.pdf	GW
Batch #2 - 2	ALB -Biosolids Input	12/30/2104	101	9208.0-1.pdf	BS
Batch #2 - 3	ALB - Day 0 Mixed BS/GW Input	1/7/2015	101	9217.0-1.pdf	Mix
Batch #2 - 4	ALB - Day 28 Phase 1	2/4/2015	101	9237.0-1.pdf	P1
Batch #2 - 5	ALB - Day 42 Phase 2	2/17/2015	101	9246.0.pdf	P2
Batch #2 - 6	ALB - Day 63 Phase 3	3/3/2105	110	9273.0.pdf	P3
Batch #2 - 7	ALB - Finished 30 Day unscreened	4/8/2015	110	9327.0-2.pdf	Storage- 30 Day
Batch #2 - 8	ALB - Finished 30 Day screened	4/8/2015	110	9327.0-2.pdf	Screened

Calculation using Density of Input							
Input	Density lbs/y3	moisture %	C:N ratio	Mix Ratio 1 to 4 %	Comment	Source	Definition
1 Biosolids	1331	87.2%	4.4	20%	Primary Input	N, M	N Nitrogen
2 Woodwaste	623	46.5%	22	80%	Secondary Input	C, P	C Carbon
3				0%			P Porosity
4				0%			M Moisture
Estimated Summary	Weight lbs/y3	Moisture %	C:N ratio	Water Required Gals/ton			Desired Moisture Level
	765	55%	18	1			55%
2 Inputs							
System Design	Standard Heap MidRange						
Volume							
Cubic y3	Input 1	Input 2	Input 1	Input 2	Weight		
	530	106	424	71	132		203

Battle Creek Responsibilities



UNITS	ITEM	DESCRIPTION
All	Permitting	Obtain permits and approvals per the State or Local governing approving authority.
1	Equipment Acceptance	Receive pilot equipment and store prior to installation.
1	Compost Pad	Minimum 200 ft. x 50 ft. solid ground (concrete, asphalt, or as approved by SG)
1	Electrical Connection	480v 3phase 10-amp circuit to be installed and connected by licensed electrician Other power configurations may be available. Ask SG for details.
250 Tons/batch	Feedstocks	Adequate feedstock and bulking agent for 250 ton heap <ul style="list-style-type: none"> • Feedstock Recipe Mix • C:N of 25-30:1 • 55-65% Moisture Content • Minimum 35% porosity
1	Pre-treatment	Mixer or other for material recipe mixing Pre-treatment is defined as the activity associated with receiving and mixing of the input materials (manure with wood shaving and bulking material) into the mixed recipe in preparation for entering the composting process. Mixing equipment to be supplied by other.
1	Material Handling Machine	Front-End Loader or other machine for building heap 12 ft. high
1	Installation and Start Up Assistance	Assist SG Technician in the startup checklist and system testing to ensure proper functioning of the equipment
1	Heap Construction	Building of the heap, GORE® Cover placement, weighting system placement, flipping of heap for Phases 1-3
1	Post-treatment	Screening of final product
1	Equipment Shipment	Pickup by carrier of equipment for shipment back to SG
1	Lead Operator	Designated Single Point of Contact who will be responsible for operation of control system and system reporting.
8	Laboratory Testing	Sample, ship, and lab testing per SG protocol. All laboratory testing costs are CUSTOMER responsibility. Lab results shared by CUSTOMER, SG, and Gore.
Required	Insurance	Proof of Insurance as specified in Insurance Terms section

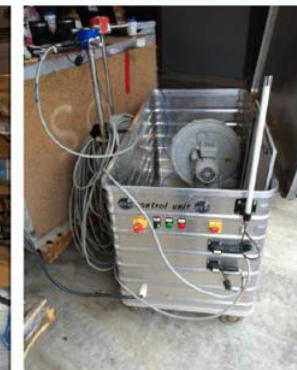


Wally Stimpert
 Manager of Distributor &
 Gov't/Industrial Sales
 620-338-0090 cell
 620-225-1142 ofc.
 wstimpert@rotomix.com

ROTO-MIX, LLC
 2205 East Wyatt Earp Blvd.
 PO Box 1724
 Dodge City, KS 67801



Equipment Set up



Pre- Treatment – Mixing:

Truck Mounted Scale



Solids 12-15%
(Moisture 88-85%)



Solids 45-55%
(Moisture 55-45%%)

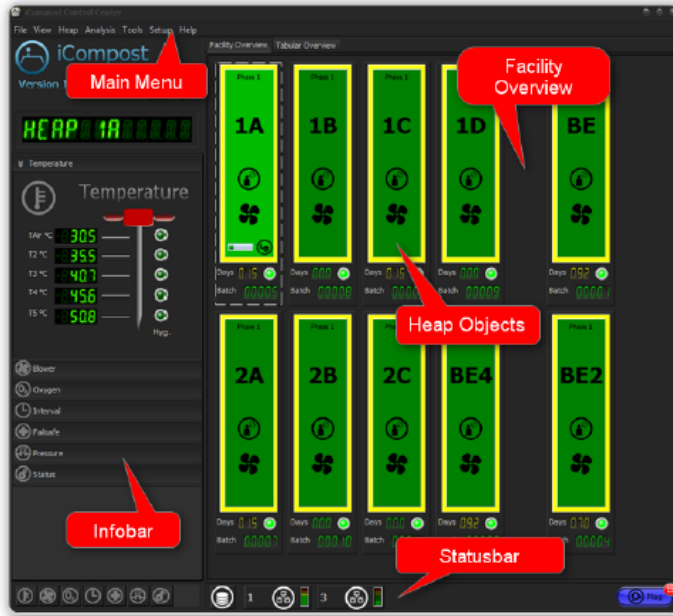


1:1
←

1:2
→



Heap Construction & Software Training



Heap Construction- continued



Phase 1-28 Days



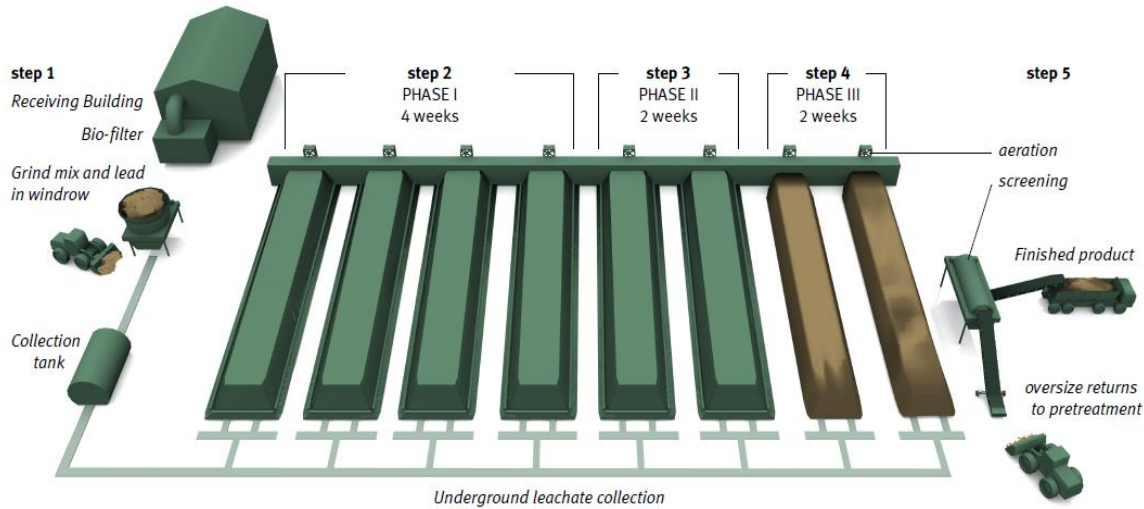
Phase 2 – 14 Days



Phase 3 – 14 Days



8 Week Process and Sampling and Odor Evaluation



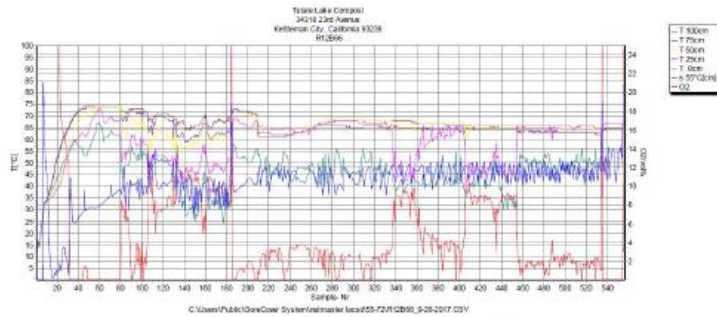
Sample	Description/ Sample Name	Sample Date	Test	Report	
Batch #1 - 1	ALB - GW Bulking Input	09/30/2014	101	9103.0.1.pdf	GW
Batch #1 - 2	ALB - Biosolids Input	09/30/2014	101	9103.0.1.pdf	BS
Batch #1 - 3	ALB - Day 0 Mixed BS/GW Input	11/06/2014	101	9142.0.pdf	Mix
Batch #1 - 4	ALB - Day 28 Phase 1	12/3/2014	101	9176.0 pdf	P1
Batch #1 - 5	ALB - Day 42 Phase 2	12/15/2014	101	9193.0 pdf	P2
Batch #1 - 6	ALB - Day 56+7 Phase 3	1/7/2015	110	9217.0-1.pdf	P3
Batch #1 - 7	ALB - Finished 30 Day unscreened	2/4/2015	110	9237.0-1.pdf	Storage- 30 Day
Batch #1 - 8	ALB - Finished 60 Day screened	4/8/2015	110	9327.0-.2.pdf	Screened

Data Collection

KOMPMASTER Data R12

KOMPMASTER protocol
Tulare Lake Compost
 34318 23rd Avenue
 Kettleman City, California 93239

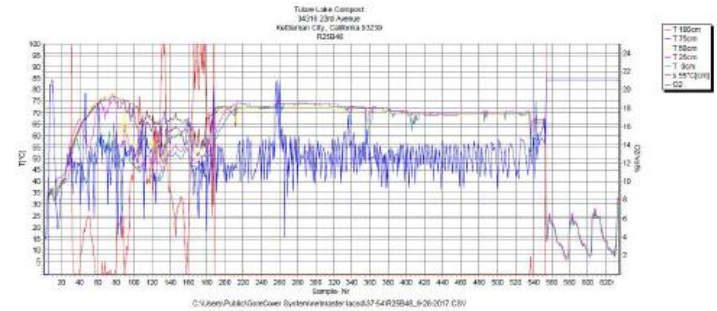
Stack name : R12696
File name : C:\Users\Public\OneDrive\System\metmaster\lcsd55-72\R12696_9-28-2017.CSV
 37% bioassids mix half heaps for tarp test
 First data download at: 9/28/2017



KOMPMASTER Data R25

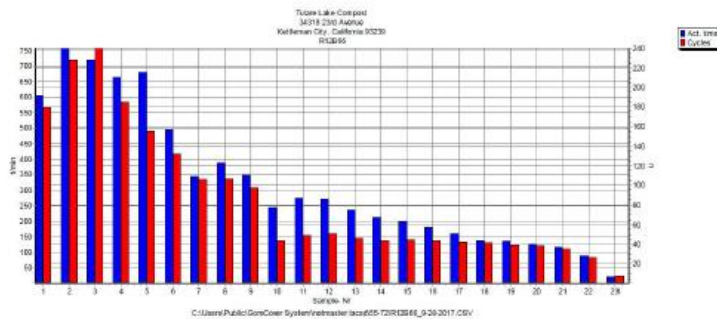
KOMPMASTER protocol
Tulare Lake Compost
 34318 23rd Avenue
 Kettleman City, California 93239

Stack name : R25848
File name : C:\Users\Public\OneDrive\System\metmaster\lcsd37-54\R25848_9-28-2017.CSV
 37% half heap for tarp test
 First data download at: 9/28/2017



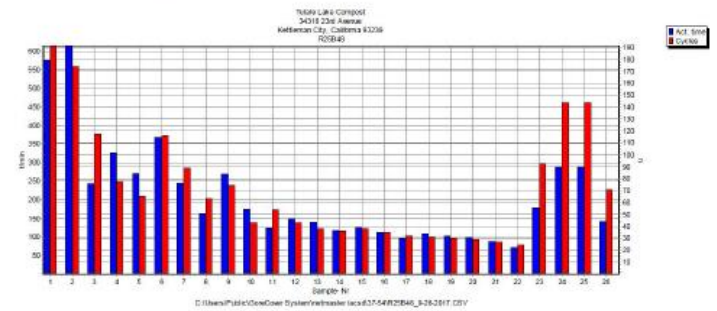
KOMPMASTER protocol
Tulare Lake Compost
 34318 23rd Avenue
 Kettleman City, California 93239

Stack name : R12696
File name : C:\Users\Public\OneDrive\System\metmaster\lcsd55-72\R12696_9-28-2017.CSV
 37% bioassids mix half heaps for tarp test
 First data download at: 9/28/2017



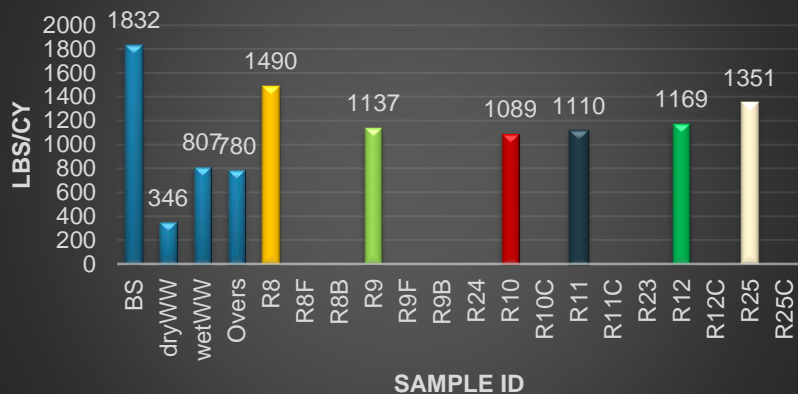
KOMPMASTER protocol
Tulare Lake Compost
 34318 23rd Avenue
 Kettleman City, California 93239

Stack name : R25848
File name : C:\Users\Public\OneDrive\System\metmaster\lcsd37-54\R25848_9-28-2017.CSV
 37% half heap for tarp test
 First data download at: 9/28/2017

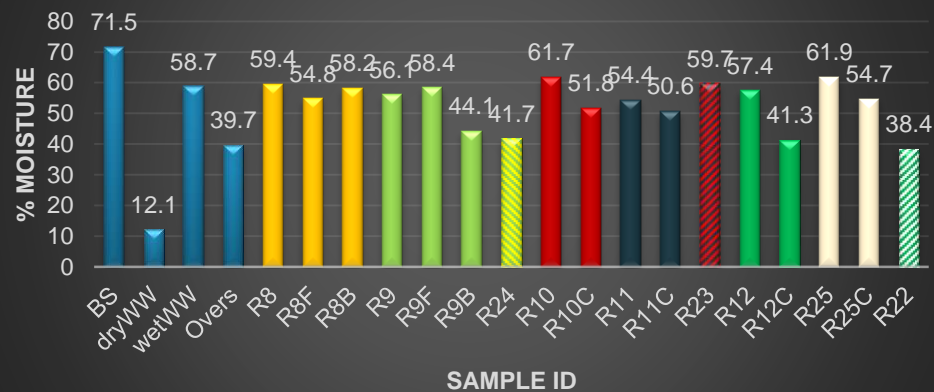


Lab Data

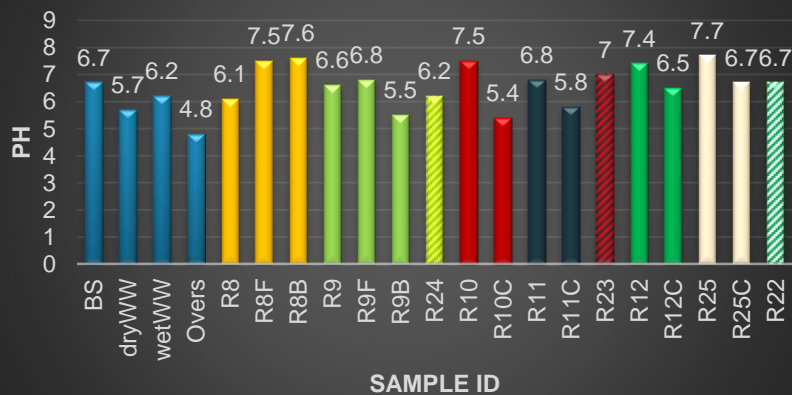
Bulk Density



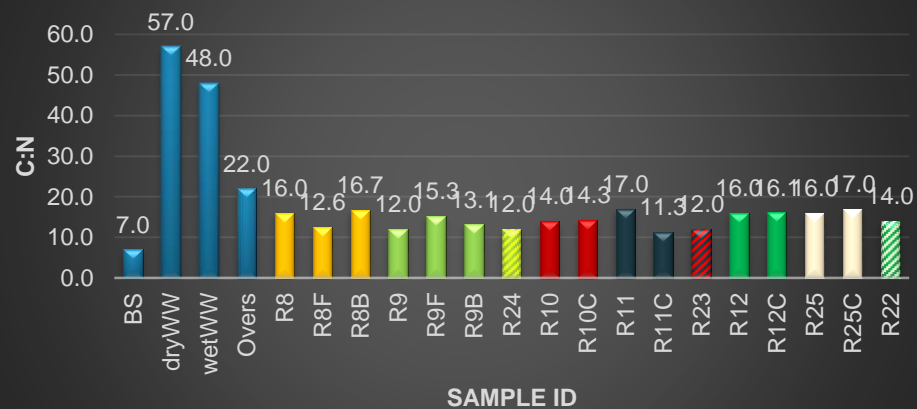
Moisture Content



pH




C:N






Progress Reports & Final Report






110 South Poplar St.
Suite 400
Wilmington, DE 19801

Metropolitan Water Reclamation District of Greater Chicago (MWRD)
SG Mobile™ System with GORE® Covers
Demonstration Project Report #1 DRAFT
Batch #1 Results to date + Start of Batch #2
Feb 16, 2015
 Revised by Scott Woods

Page 1 of 52 Confidential and Proprietary Information, Sustainable Generation, LLC 2/17/2015




110 South Poplar St. Suite 400
Wilmington, DE 19801

SG Mobile™ System
GORE® Cover
Demo Report

November 30, 2015
 Revised by Brian Fuchs

City of Albany WWTP
 Albany, OR



From:
 Ben Fuchsgill
 Sustainable Generation LLC
 110 South Poplar St. Suite 400
 Wilmington, DE 19801
 Ben.Fuchsgill@sustainable-generation.com
 303-885-9883

Page 1 of 52 Confidential and Proprietary Information, Sustainable Generation, LLC 11/30/2015
 SG Mobile™ System using GORE® Cover System Demo Report- Albany WWTP

Kennedy/Jenks Consultants
 421 SW 6th Avenue, Suite 1000
 Portland, Oregon 97204
 503-423-4000
 FAX: 503-295-4901

Albany
Biosolids Compost
Demonstration Study

8 March 2016

Prepared for:
W.L. Gore and Associates
 195 Vines Way
 Elkton, MD 21521

City of Albany
 Public Works Department
 310 Waverly Drive NE
 Albany, OR 97321

KJ Project No: 1570014.00

TECH TALK

Compost by Design

A PILOT PROJECT INVOLVING FIVE COMPOST BATCHES GIVES AN OREGON CITY VALUABLE INSIGHTS TO THE COMPOSTING PROCESS AND VERIFIES CAPABILITY TO PRODUCE CLASS A MATERIAL



Kristen Preston, City of Albany wastewater superintendent, leads an odor panel as part of the city's project to design a marketable biosolids compost product.

By Brian Fuchs



Contact Us:

Scott Woods

Mobile: 917.678.6947

scott.woods@sustainable-generation.com

Brett Hoyt

Mobile: 303.601.3404

brett.hoyt@sustainable-generation.com

info@sustainable-generation.com

www.sustainable-generation.com