



North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

August 24, 2010

Mr. Billy Dunham
Craven Ag Services, Inc.
2115 Hwy 55 West
New Bern, North Carolina 28562

Re: SWCD-25-01

Dear Mr. Dunham:

The Division of Waste Management, Solid Waste Section, has reviewed your request for an extension of Craven Ag Services, Inc approval of a Solid Waste Pilot Composting Project. Your request is considered approved in accordance with the N.C. Solid Waste Management Rules, 15A NCAC 13B .1409 and subject to the following conditions:

1. All original permit conditions remain in effect.
2. The demonstration approval shall expire June 4, 2011 and all operations shall cease after that date unless a permit to operate a solid waste management facility has been obtained.
3. Should you choose to apply for a permit to operate this facility the application should be submitted at least 90 days prior to this approval expiring.

Mr. Ray Williams, Environmental Senior Specialist, will be responsible for oversight and inspection of the facility and activities. Mr. Williams can be contacted at (910) 796-7342. If you have any questions please feel free to contact me at 919-508-8508.

Sincerely,

Michael E. Scott, Environmental Supervisor
Composting & Land Application Branch

cc: Ray Williams, Environmental Senior Specialist
Central File

h:\cl\compost\Demo\25-craven\dunham-ext0810.doc



North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

February 3, 2010

Mr. Billy Dunham
Craven Ag Services, Inc.
2115 Hwy 55 West
New Bern, North Carolina 28562

Re: SWCD-25-01

Dear Mr. Dunham:

The Division of Waste Management, Solid Waste Section, has reviewed the results of the tests conducted on the compost produced at your compost demonstration project in Craven County. The test results meet the minimum requirements for pathogens, regulated metals and man made inerts in the Solid Waste Compost Rules. The compost is therefore approved for distribution.

This approval is ongoing as long as the required tests are conducted every 6 months or 20,000 tons, the results are acceptable and are submitted to the Division in a timely manner. In addition, operational records must be maintained and be available to Division staff during inspections.

If you have any questions please feel free to contact me at 919-508-8508.

Sincerely,

Michael E. Scott, Environmental Supervisor
Composting & Land Application Branch

cc: Ray Williams, Environmental Senior Specialist
Central File

h:\cla\compost\Distribu\ 25-craven\Dunham-distrappr0210.doc

Craven AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562



BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

December 27, 2010

Dr. Bob Rubin
192 Searrington Post
Pittsboro, N. C.



Dear Dr. Rubin:

As we discussed on 2-12-11 I would like to move our composting operation to the back of our field. Since we can now carry our effluent water to the City of Kinston's waste water treatment plant we can open up one of our application sites for composting. By moving the operation back we will be 1000 feet or more off the highway and away from people's homes. This could also give us the opportunity to take on other wastes such as food scraps and produce without having an odor problem so close to the highway and to people's homes.

Also, these fields are deep sands and are further away from water ways. I feel that this would be an all around good move for our future composting needs.

I am sending you a rough copy of the proposed new sites and a brief explanation of each as follows:

1. Site A: would be the receiving and mixing site for feed stock & composting material.
2. Site B: would be the windrow area for composting of unfinished material.
3. Site C: would be the windrow area for composting of unfinished material in the future should we get that large.
4. Site D: would be the storage site for finished product as it cures. Also this would be our prep site for sales whether it be bulk or a bagging facility.

Sincerely,

Billy Dunham
Billy Dunham

Craven Ag Service

Co: Mike Scott NCSWD

SLAS 2509

Craven Ag Services Inc.

50 ft Buffer

*Pine Plantation
6.85 acres*

B

A

*Bermuda Field
4.34 acres*

C





2010-2011

MEMBER

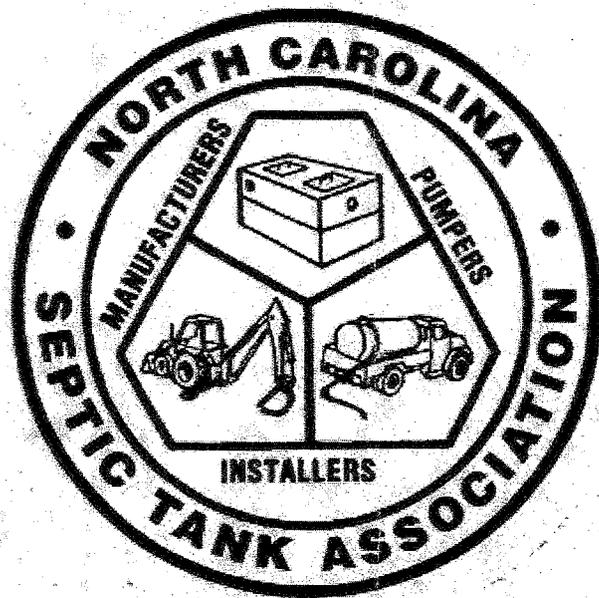
**US COMPOSTING
COUNCIL**

Craven Ag Services

North Carolina Septic Tank Association

Member 2011

CRAVEN AG SERVICE INC



Membership Expires January 2012

Jerry O. Pearce, NCSTA President

Craven AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

Mike Scott
Composting and Land Application Branch
N.C. Division of Waste Management
1646 Mail Service Center
Raleigh, N. C. 27699-1646

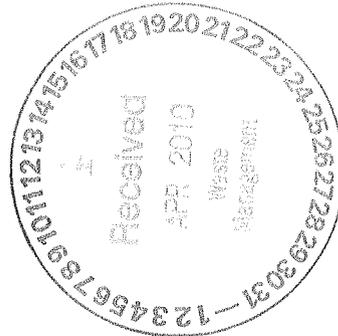
Dear Mr. Scott:

We have been composting our dewatered septage and grease since July of 2009. Our Pilot Composting Approval will expire on June 4, 2010. We are requesting an extension for this composting facility in order for us to begin the process of getting a permanent permit.

Considering the fact that a formal composters stake holders committee is currently discussing rules and regulations pertaining to composting permits, what steps should we start with on pursuing a composting permit.

Billy Dunham

Billy Dunham
Craven Ag Service, Inc.



13. Reporting:

Reporting shall be done in accordance with section .1408 (c) (1-7) of the North Carolina solid waste rules.

14. Curing:

After the product has completed its pathogen reduction cycle and has been stabilized it will be stored away from composting windrows so as not to get cross contaminated.

The curing process will be for at least 6 months. During that time the product will be turned as needed to enhance the composting process.

15. Product use:

Product will be sold or given away for Horticulture and / or Agriculture use.

Submitted by:

Billy Dunham
President, Craven Ag Services, Inc.

Craven AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

Mike Scott
Composting and Land Application Branch
N.C. Division of Waste Management
1646 Mail Service Center
Raleigh, N. C. 27699-1646



Dear Mr. Scott:

I have completed testing requirements set fourth in section .1408 pages 13 of the N. C. Solid Waste Compost Rules. Sampling was done according to rules set fourth in this sections 1 through 5 a and b. I am sending you the following information:

1. Foreign Matter Content: 24 oz were taken from the sample collected (sample collection was taken according to Item 2 of section .1408) and dried in the oven at 300 degrees F. After drying the compost was allowed to cool to room temperature. Then we screened it with ¼ inch wire mesh over a pan. No foreign matter was found. Therefore, I am saying that we have less than 1 % foreign matter.
2. Waste Analysis Report. Two samples were analyzed. Sample number 1L1C is a 50 % lime and 50 % compost sample. Sample number CIS in 100 % compost. (See enclosed report)
3. Pathogen Analysis was done by Microbac Laboratories in Fayetteville, N.C. The samples were taken at 6:00 AM and hand delivered to the lab by 10:30 AM of the same day. (See enclosed report)
4. The temperature of the sampled batch was 105 degrees F. These piles were done in July and August of 2009.

What other information is needed before I can start moving this product as a class A Compost?

Billy Dunham


Craven Ag Service, Inc.



Waste Analysis Report

Grower: **Dunham, Billy/John/Mac**
 C/O Craven Ag Service
 2115 Hwy 55 W
 New Bern, NC 28562

Copies to:

Farm:

Received: 01/11/2010

Completed: 01/14/2010

[Links to Helpful Information](#)

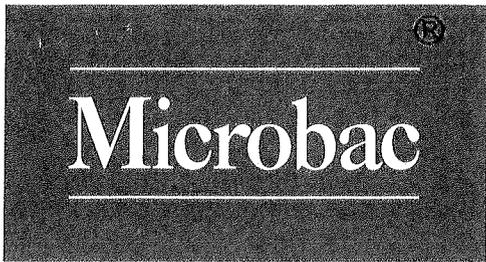
Craven County

Sample Information		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID: 1L1C	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C							
	Total	7767	1907	2213	94319	2616	763	856	120	57.1	21.1	9.37		167085							
Waste Code: FCW	-NH ₄ -NO ₃	Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALE(tons)							
Description: Composted Waste - Other	OR-N Urea	1798	13.5	0.24	2.86				9.19	88	21.51	63.13									
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		<i>lbs/ton (wet basis)</i>										<i>lbs/ton (wet basis)</i>									
		N	P ₂ O ₅	K ₂ O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		3.9	3.3	2.7	71.5	2.0	0.58	0.65	0.09	0.04	0.02	0.01			2.3	0.02	T	T			
Soil Incorp		4.9	4.1	3.0	89.3	2.5	0.72	0.81	0.11	0.05	0.02	0.01			2.3	0.02	T	T			
Completed: January 14, 2010																					
Sample Information		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID: C1S	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C							
	Total	9608	1166	1635	18792	832	775	933	94.1	84.9	25.2	9.54		191805							
Waste Code: FCW	-NH ₄ -NO ₃	Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALE(tons)							
Description: Composted Waste - Other	OR-N Urea	344	2.23	0.32	5.20				7.97	33	19.96	52.47									
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		<i>lbs/ton (wet basis)</i>										<i>lbs/ton (wet basis)</i>									
		N	P ₂ O ₅	K ₂ O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		4.0	1.7	1.7	11.8	0.52	0.49	0.59	0.06	0.05	0.02	0.01			0.36	T	T	0.01			
Soil Incorp		5.0	2.1	1.9	14.8	0.65	0.61	0.73	0.07	0.07	0.02	0.01			0.36	T	T	0.01			



Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.

Thank you for using agronomic services to manage nutrients and safeguard environmental quality.
 - Steve Troxler, Commissioner of Agriculture



® **Microbac Laboratories, Inc.**

FAYETTEVILLE DIVISION
2592 HOPE MILLS ROAD
FAYETTEVILLE, NC 28306
(910) 864-1920 FAX (910) 864-8774
R. W. SANDERS, VICE PRESIDENT

STATE CERT ID.

NC #11
NC #37714
USDA #3787

http://www.microbac.com E-Mail: rsanders@microbac.com

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WATER · AIR · WASTES · FOOD · PHARMACEUTICALS · NUTRACEUTICALS

CERTIFICATE OF ANALYSIS

Craven AG Service
Mr. Billy Dunham
2115 Hwy 5 SW
New Bern, NC 28562

Date Reported: 01/11/2010
Date Received: 01/06/2010
Order Number: 1001-00888
Invoice No.: 70585
Customer #: B900
Sample Date: 01/06/2010
Sample Time: 6:00

Permit No.
Sampler: Dunham

Subject: Compost, Class A

SMP	Test	Method	Result	Date	Time	Tech
001	Compost, Grab					
	SOLIDS, % TOTAL	SM 2540 G	64.1 %	01/06/2010	11:00	PGR
	COLIFORM, FECAL	SM18 9221E	<2.0 MPN/gram	01/06/2010	10:50	PGR

RESPECTFULLY SUBMITTED: R. W. Sanders
MICROBAC LABORATORIES, INC.

Thank you for your business. We invite your feedback on our level of service to you. Please contact the Laboratory Director, Ron Sanders at 910-864-1920, Robert Morgan, COO, at rmorgan@microbac.com or Trevor Boyce, CEO, at tboyce@microbac.com with any comments or suggestions.

LAB CODES: N/D = None Detected N/F = None Found < = Less than > = Greater than Est. = Estimated

The data and other information contained on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon the condition that it is not to be reproduced wholly or in part for advertising or other purposes without written approval from the laboratory.
USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research





North Carolina Department of Environment and Natural Resources

Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

6/4/09

Craven Ag Services Inc
Mr. Billy Dunham
2115 Hwy 55 West
New Bern NC 28562

Dear Mr. Dunham:

The Division of Waste Management, Solid Waste Section, has reviewed your request for approval of a Solid Waste Pilot Composting Approval (SWCD-25-01) on River Rd and Hwy 55 in Craven County. Your request is considered approved in accordance with the N.C. Solid Waste Management Rules, 15A NCAC 13B .1409 and subject to the following conditions:

- (1) The approval period is from receipt of this letter to June 4, 2010. If an extension is needed it must be requested by March 4, 2010 with a justification for the extension.
- (2) A full Solid Waste Compost facility permit will not be issued for this facility without approval from the appropriate local zoning officials or a letter indicating that the property is not zoned. Any local zoning approvals necessary for the demonstration approval are the responsibility of the applicant.
- (3) Composting at this site shall be limited to the materials specified in the application.
- (4) The site shall be prepared to control run-off and run-on. Best management practices shall be utilized for this purpose. All run-off from the site and any leachate generated shall be managed to prevent any impact to ground or surface waters. A full Solid Waste Compost facility permit will not be issued for this facility until storm water and leachate from the site are managed according to the Division of Water Quality's standards.
- (5) This approval is subject to immediate revocation if activities on site result in a direct or potential threat to the public health or the environment or if significant odor problems are created. The Division of Waste Management reserves the right to apply any other requirements of 15A NCAC 13B Section .1400 as the Division deems necessary during the above approval period.
- (6) Operation of the facility and compost monitoring activities shall be in accordance with the approved application and Section .1406 of the Solid Waste Management Rules. Records of temperatures shall be maintained to show pathogen reduction and vector attraction reduction requirements have been met and shall be available to representatives of the Section upon request.
- (7) Compost testing, frequency of testing, and reporting of test results shall be in accordance with the

approved application and Section .1408 of the Solid Waste Management Rules. Classification and distribution of compost shall be in accordance with Section .1407 of the Solid Waste Management Rules.

- (8) All compost shall be tested and the results approved by the Solid Waste Section prior to removal from the facility for any use.
- (9) Any changes or additions to this facility, subsequent to receipt of this letter shall be approved prior to the start of the operation.
- (10) This approval is not transferable.
- (11) Mr. Ray Williams, Environmental Senior Specialist, will be responsible for oversight and inspection of the facility and related activities. Mr. Williams can be contacted at (910) 796-7342.

If you have questions concerning this approval please contact me at (919) 508-8508.

Sincerely,

A handwritten signature in black ink that reads "Michael E. Scott". The signature is written in a cursive style with a large, stylized "M" and "S".

Michael E. Scott, Branch Head
Composting and Land Application Branch

cc: Ray Williams, Environmental Senior Specialist
Dennis Shackelford, Eastern District Supervisor
Ken Pickle, NC Division of Water Quality

Craven

AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530



Request for Compost Demonstration Permit

1. Site Owner: Craven Ag Services, Inc.

Land Owner: Craven Ag Services, Inc.

2. Location: 2115 Highway 55 West
New Bern, N. C.

3. Ingredients:

- A. Yard waste (2000)
- B. Dewatered domestic septage and grease trap pumping (1000 tons)
- C. Pre and post consumer food waste (500 tons)
- D. Food processing waste (300 tons)
- E. Inorganic N may be added if need for proper C:N
- F. Wood chips/sawdust (1500 ton)
- G. Cotton gin trash (1000)
- H. *Lime from Weyerhaeuser*

4. Schedule:

Request a twelve month approval to work with compost process to get proper mixture and procedures.

5. Methodology: Compost bins and windrows:

Primary compost method will be compost bins under a shelter with concrete pad. Bins will be 12 ft wide and 6 to 10 ft high.

Wastes will be premixed in a knight manure spreader on a concrete pad before being discharged into the bins.

The mixed material will stay in the bins until temperature, moisture, oxygen and other composting factors have been stabilized and temperatures are holding at 130 to 160 degrees F.

Once stabilized the composting material will be moved to windrows not to exceed 10-15ft wide and 6-10 ft high.

Windrows will be laid out on adequate slope to prevent water from collecting at the base.

The windrows will be surrounded by a fifty foot grassed buffer to control runoff.

6. Aeration:

Aeration will be provided by turning bin piles and windrows with a rubber tired front end loader or a skid steer loader. After initial heating of compost, windrows will be turned every 3-5 days, until pathogen reduction requirements have been met. Windrows will maintain above 131 degrees for 15 consecutive days, and during the period the windrows are above 131 degrees, they will be turned at least 5 times.

After pathogen reduction requirements have been met, windrows will be turned as often as needed, to maintain oxygen and moisture levels. Each step will be documented and kept for reference to accomplish proper mixture. Compost will be turned as needed to add oxygen and keep temperature at least 131 degrees.

7. Blending:

Blending will be done by mixing 1 yard of carbon waste to 1 yard of domestic septic and grease trap with a knight manure spreader.

8. Monitoring:

Temperatures will be measured at least 3-4 times per week (Monday- Wednesday_ Friday) until pathogen reduction requirements are met. Windrows will be monitored every 25 feet at depths of 4ft, 3 ft, and 1 ft. Bins will be monitored every 3 ft at 3 ft, and 1 ft depths. Moisture will be checked by hand method- -by squeezing compost and checking water dripping out or to dry by compost falling apart.

9. Leachate:

Material will be mixed in proper proportions so that water does not run out. This will be done in the bins before moving the product outside to windrows (Bins will have a concrete pad and will be covered by a shelter). The windrow site is on a Tarboro soil and is approximately 1.5 acres. It is surrounded by 20 acres of annual row crops. Wind rows will be laid out so that water will not stand between them. The area has a slope of less than 6 % and will be surrounded with fifty feet of grassed area or field crops. These practices should control soil erosion and run off.

10. On-Site Storage:

Storage of grease trap and septic pumping are stored at our permitted storage facility- License # 25- 08. After dewatering the solids will be moved to our covered storage shed where it will be mixed with a carbon source and placed in a compost bin. Carbon material such as wood chips, yard waste, etc. will be stored beside the composting bins. This area has a clay subsoil and adequate depth to seasonal wetness.

11. Product testing:

Product testing shall be done in accordance with section .1408, (a) (1-5) of the North Carolina solid waste rules

12. Record Keeping: (we will use the record form from appendix D page 153 of the ON FARM COMPOSTING HANDBOOK produced by (NRAES) for daily record keeping)

Record keeping shall be done in accordance with section .1408 (b) (1-6) of the North Carolina solid waste rules. Dailey records will show the following:

1. Dailey temperature readings (should show 131 degrees F for 15 days)
2. Windrow turning events (at least 5 times in 15 days with temperatures above 131 degrees F.
3. Type and quantity of all materials in each windrow
5. Dates and times of each event.

13. Reporting:

Reporting shall be done in accordance with section .1408 (c) (1-7) of the North Carolina solid waste rules.

14. Curing:

After the product has completed its pathogen reduction cycle and has been stabilized it will be stored away from composting windrows so as not to get cross contaminated.

The curing process will be for at least 6 months. During that time the product will be turned as needed to enhance the composting process.

15. Product use:

Product will be sold or given away for Horticulture and / or Agriculture use.

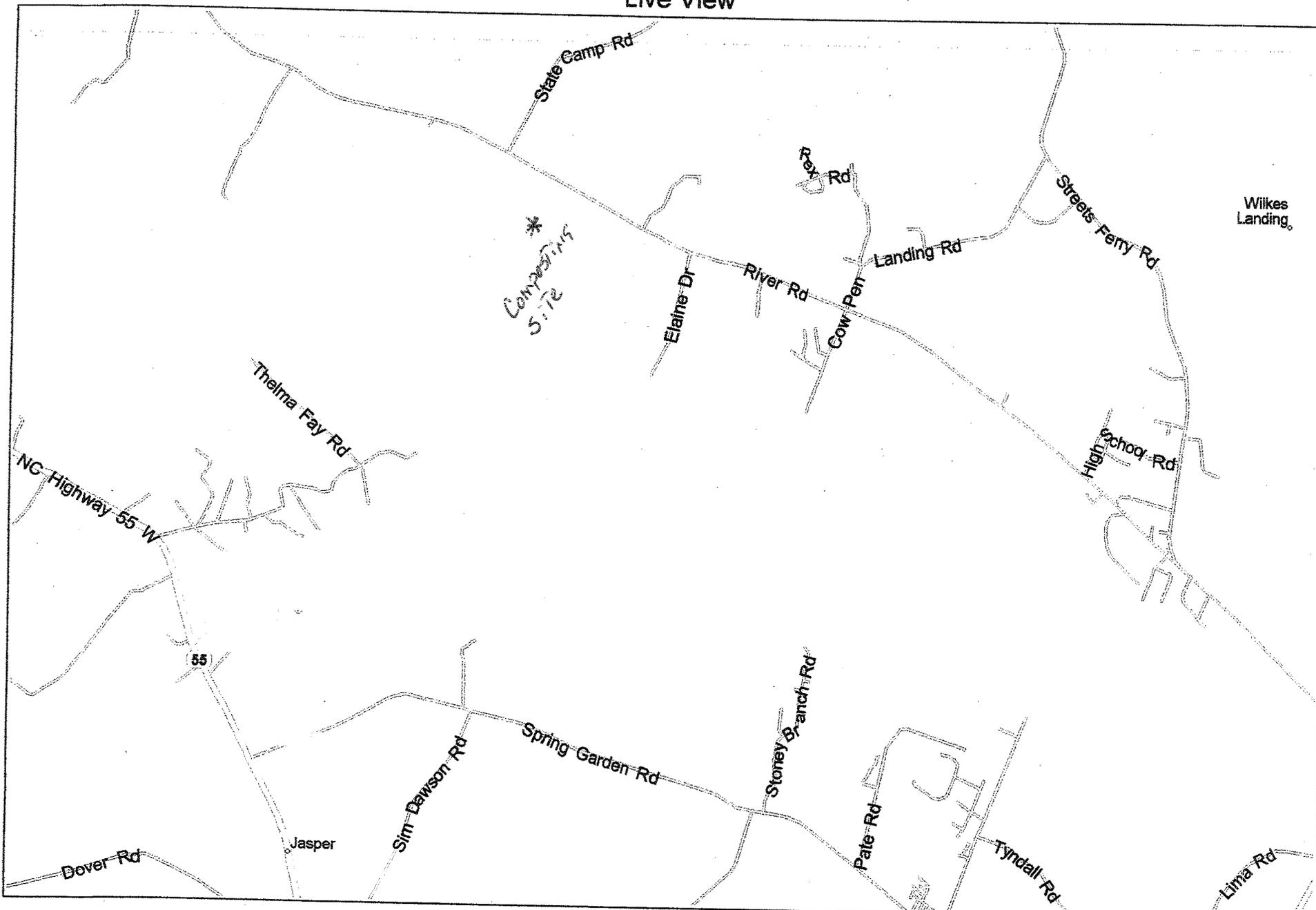
Submitted by:

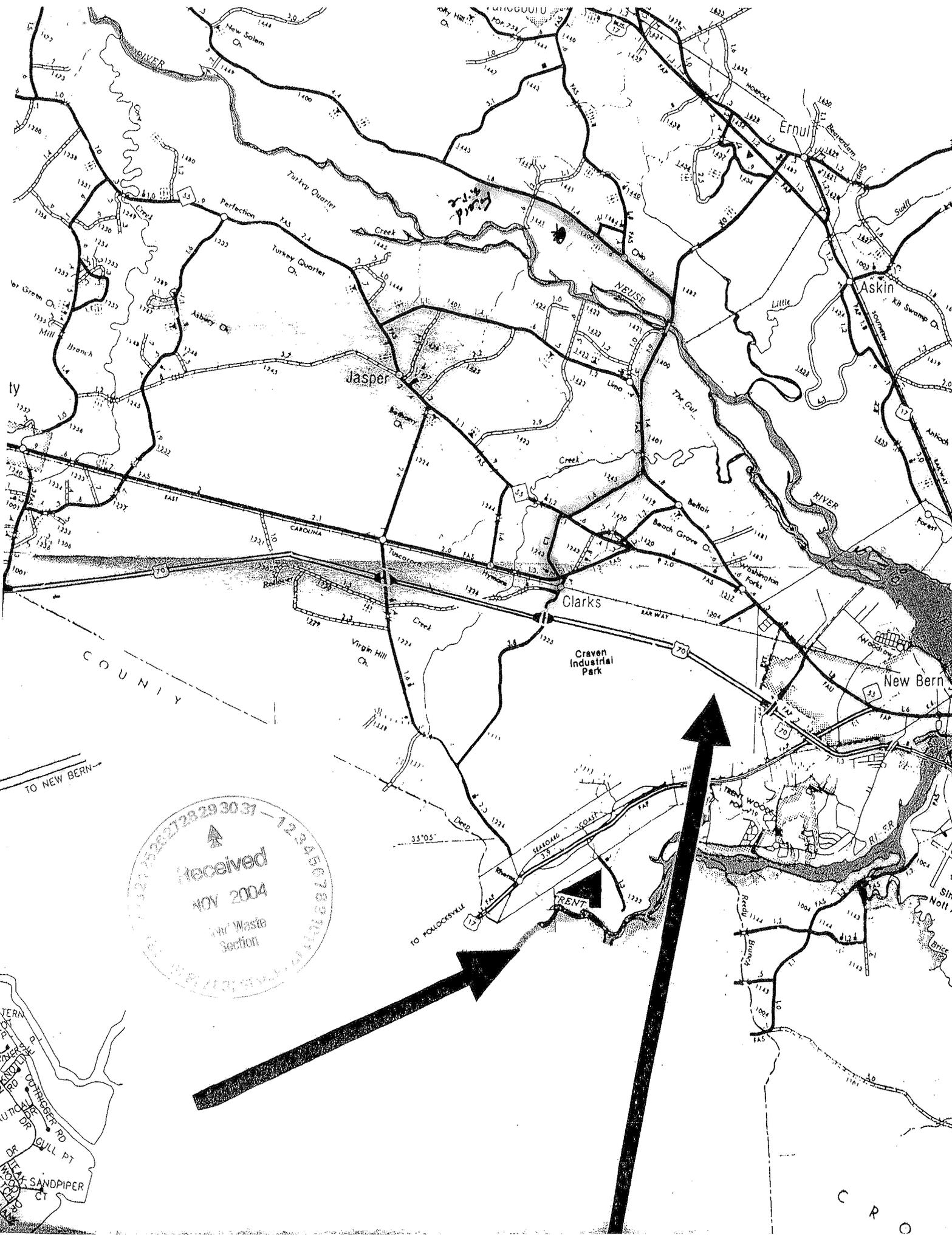


Billy Dunham

President, Craven Ag Services, Inc.

Live View





Received
NOV 2004
Air Waste
Section

WATER
ROAD
NAUTICAL DR
DE
SANDPIPER
CT

C R O

Craven
AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

Billy Dunham, President
Office – 252-633-5334
Cell- 252-670-8530

Mike Scott
Division of Solid Waste
P O Box 27687
Raleigh, NC 27611



Mr. Mike Scott,

Enclosed is a request for a Demonstration Composting Facility. Please review and let me know if you need anything else.

Billy Dunham, President
Craven AG Services, Inc.

Craven

AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

July 15, 2010

Mike Scott
Composting and Land Application Branch
N.C. Division of Waste Management
1646 Mail Service Center
Raleigh, N. C. 27699-1646



Dear Mr. Scott:

I am sending you my annual report for my composting program. I hope I have included everything required for annual reporting. We do not have scales to monitor quantity for most of our figures. The only thing that is actual weight is the saw dust we buy by the ton. Wood chips were hauled by the load. Grease/septic was averaged from loads we hauled to the landfill before we started composting. Food waste was weighed at the store before it was picked up.

Sincerely

A handwritten signature in cursive that reads "Billy Dunham".

Billy Dunham
Craven Ag Services, Inc.



BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

2115 Hwy 55 West New Bern, NC 28562

**CRAVEN AG SERVICES, INC.
ANNUAL COMPOSTING REPORT
JULY 1 1009-JUNE 30 2010
SWCD-25-01**

A. WASTE STREAM:

- 1. Saw dust 502 ton**
- 2. Wood chips 600 ton**
- 3. Septic and Grease solids 280 dry ton (assuming 70% moisture)**
- 4. Tobacco dust 100 wet ton**
- 5. Post consumer food waste 24 wet ton**

B. Total quantity:

- 1. 1,506 ton**

C. Total tons of compost:

- 1. 903 ton of class A compost @ 30% moisture (assuming a 40% loss to composting)**

D. Total tons removed:

- 1. 200 ton class A compost applied on farm land for Agricultural use**
- 2. 100 ton sold as 50/50 class A compost and soil mix**



2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

3. 100 ton sold as Class A compost
4. 100 ton sold as Class A compost and lime 50/50 mix
5. 403 ton still in storage

E. Monitoring Support:

1. All windrows were kept at a minimum of 131 degrees f for 15 days and they were turned a minimum of 5 times during the 15 days and at least monthly until removed from the site. (see Operation records that are enclosed)

F. Test results:

1. Test were done by Billy Dunham for inert material, NCDA for metals and nutrient, and Microbac Laboratories, Inc. for Pathogens. (See enclosed material)

Craven

AG SERVICES, INC.

2115 Hwy 55 West New Bern, NC 28562

BILLY DUNHAM, PRESIDENT
(252) 633-5334
(252) 670-8530

Mike Scott
Composting and Land Application Branch
N.C. Division of Waste Management
1646 Mail Service Center
Raleigh, N. C. 27699-1646

Dear Mr. Scott:

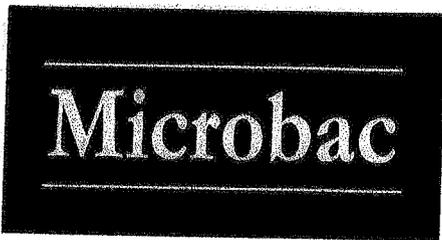
I have completed testing requirements set fourth in section .1408 pages 13 of the N. C. Solid Waste Compost Rules. Sampling was done according to rules set fourth in this sections 1 through 5 a and b. I am sending you the following information:

1. Foreign Matter Content: 24 oz were taken from the sample collected (sample collection was taken according to Item 2 of section .1408) and dried in the oven at 300 degrees F. After drying the compost was allowed to cool to room temperature. Then we screen it with ¼ inch wire mesh over a pan. Know foreign matter was found. Therefore, I am saying that we have less than 1 % foreign matter.
2. Waste Analysis Report. Two samples were analyzed. Sample number 1L1C is a 50 % lime and 50 % compost sample. Sample number CIS in 100 % compost. (See enclosed report)
3. Pathogen Analysis was done by Microbac Laboratories in Fayetteville, N.C. The samples were taken at 6:00 AM and hand delivered to the lab by 10:30 AM of the same day. (See enclosed report)
4. The temperature of the sampled batch was 105 degrees F. These piles were done in July and August of 2009.

What other information is needed before I can start moving this product as a class A Compost?

Billy Dunham

Craven Ag Service, Inc.



®

Microbac Laboratories, Inc.

FAYETTEVILLE DIVISION
2592 HOPE MILLS ROAD
FAYETTEVILLE, NC 28306
(910) 864-1920 FAX (910) 864-8774
R. W. SANDERS, VICE PRESIDENT

STATE CERT ID.

NC #11
NC #37714
USDA #3787

http://www.microbac.com E-Mail: rsanders@microbac.com

CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · CONSUMER PRODUCTS
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CERTIFICATE OF ANALYSIS

Craven AG Service
Mr. Billy Dunham
2115 Hwy 5 SW
New Bern, NC 28562

Date Reported: 1/11/2010
Date Received: 1/6/2010
Order Number: 1001-00888
Invoice No.: 70585
Customer #: B900
Sample Date: 1/6/2010
Sample Time: 6:00

Permit No.
Sampler: Dunham

Subject: Compost, Class A

SMP	Test	Method	Result	Date	Time	Tech
001	Compost, Grab					
	SOLIDS, % TOTAL	SM 2540 G	64.1 %	1/6/2010	11:00	PGR
	COLIFORM, FECAL	SM18 9221E	<2.0 MPN/gram	1/6/2010	10:50	PGR

RESPECTFULLY SUBMITTED: R. W. Sanders
MICROBAC LABORATORIES, INC.

Thank you for your business. We invite your feedback on our level of service to you. Please contact the Laboratory Director, Ron Sanders at 910-864-1920, Robert Morgan, COO, at rmorgan@microbac.com or Trevor Boyce, CEO, at tboyce@microbac.com with any comments or suggestions.

LAB CODES: N/D = None Detected N/F = None Found < = Less than > = Greater than Est. = Estimated

The data and other information contained on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon the condition that it is not to be reproduced wholly or in part for advertising or other purposes without written approval from the laboratory.
USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research





Waste Analysis Report

Grower: **Dunham, Billy/John/Mac**
 C/O Craven Ag Service
 2115 Hwy 55 W
 New Bern, NC 28562

Copies to:

Received: 12/10/2009

Completed: 12/15/2009

Farm:

Craven County

Sample ID:	Nutrients Available for First Crop														Other Elements							
	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C	Na	Ni	Cd	Pb	Al	Se	Li	
<i>post</i> <i>lime</i>	Total 3352	207	637	314090	210	196	269	15.5	21.4	3.88	3.26											
Waste Code:	-NH4																					
FCW	-NO3																					
Description:	OR-N	59.1																				
Composted Waste - Other	Urea								11.06	107	48.45	56.89	63.00	2.50								
Recommendations:	Nutrients Available for First Crop																					
Application Method	N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	lbs/ton (wet basis)								
Broadcast	1.5	0.32	0.70	214.4	0.14	0.13	0.18	0.01	0.01	T	T			Other Elements								
Soil Incorp	1.9	0.40	0.78	268.0	0.18	0.17	0.23	0.01	0.02	T	T			lbs/ton (wet basis)								
Completed: 12/14/2009														0.07								

Sample ID:	Nutrients Available for First Crop														Other Elements						
	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C	Na	Ni	Cd	Pb	Al	Se	Li
<i>post</i> <i>lime</i>	Total 4726	508	194	274760	1664	190	133	40.2	12.4	2.82	1.73										
Waste Code:	-NH4																				
FCW	-NO3																				
Description:	OR-N	1182																			
Composted Waste - Other	Urea								10.11	58	39.69	51.65	58.50	3.00							
Recommendations:	Nutrients Available for First Crop																				
Application Method	N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	lbs/ton (wet basis)							
Broadcast	2.0	0.72	0.19	170.3	1.0	0.12	0.08	0.02	0.01	T	T			Other Elements							
Soil Incorp	2.4	0.90	0.22	212.9	1.3	0.15	0.10	0.03	0.01	T	T			lbs/ton (wet basis)							
														1.2							
														1.2							



Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.

Thank you for using agronomic services to manage nutrients and safeguard environmental quality.
 - Steve Troxler, Commissioner of Agriculture

Sample ID: [Redacted] <i>Compost</i>	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C
Total	9034	408	518	6164	323	364	283	14.4	22.9	7.47	5.37			201111
Waste Code: FCW	-NH4 -NO3													
Description: Composted Waste - Other	OR-N Urea	Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALE(tons)
		115							7.35	21	22.26	53.01		

Recommendations:	Nutrients Available for First Crop																				
Application Method	N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	lbs/ton (wet basis)		Other Elements								
Broadcast	3.8	0.59	0.53	3.9	0.21	0.23	0.18	0.01	0.01	T	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li	
Soil Incorp	4.8	0.74	0.59	4.9	0.26	0.29	0.23	0.01	0.02	0.01	T	T	T	0.12							0.12

Sample ID: [Redacted] <i>Compost</i>	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C
Total	10007	652	295	4706	164	785	228	16.7	24.8	6.73	6.93			297285
Waste Code: FCW	-NH4 -NO3													
Description: Composted Waste - Other	OR-N Urea	Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALE(tons)
		106							7.36	27	29.71	45.92		

Recommendations:	Nutrients Available for First Crop																				
Application Method	N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	lbs/ton (wet basis)		Other Elements								
Broadcast	3.7	0.82	0.26	2.6	0.09	0.43	0.13	0.01	0.01	T	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li	
Soil Incorp	4.6	1.0	0.29	3.2	0.11	0.54	0.16	0.01	0.02	T	T	T	T	0.10							0.10

Sample ID: [Redacted] <i>Compost</i>	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C
Total	9888	652	213	8043	153	628	235	19.7	32.4	7.92	5.96			179990
Waste Code: FCW	-NH4 -NO3													
Description: Composted Waste - Other	OR-N Urea	Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALE(tons)
		82.6							8.01	126	18.20	56.47		

Recommendations:	Nutrients Available for First Crop																				
Application Method	N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	lbs/ton (wet basis)		Other Elements								
Broadcast	4.5	1.0	0.23	5.5	0.10	0.43	0.16	0.01	0.02	0.01	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li	
Soil Incorp	5.6	1.3	0.26	6.8	0.13	0.53	0.20	0.02	0.03	0.01	T	T	T	0.09							0.09

Sample ID: [redacted] <i>mp12</i>																					
Waste Code: <i>WJ000</i> <i>Best</i> FCW Description: Composted Waste - Other	N		P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
	Total	7469	477	1715	4705	582	462	376	28.8	25.1	5.64	6.55			173360						
	IN-N -NH4 -NO3 OR-N Urea																				
			Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCB%	ALE(tons)						
			94.6							7.4	68	23.21	58.34								
Recommendations:	Nutrients Available for First Crop																				
Application Method	N	P ₂ O ₅	K ₂ O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Other Elements							
Broadcast	3.5	0.76	1.9	3.3	0.91	0.32	0.26	0.02	0.02	T	T			Na	Ni	Cl	Pb	Al	Se	Li	
Soil Incorp	4.4	0.96	2.2	4.1	0.51	0.40	0.33	0.03	0.02	T	0.01			0.11							
														0.11							



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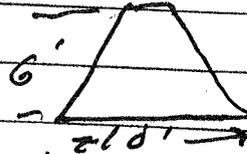
Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1

Date constructed 6-16-09

Ingredients and comments 1 grease, 2 yard waste, ~~2 wood chips~~

windrows are 10' x 6'



This Row held odors longest

Date	Time	Moisture rating	Odor rating	Depth	Temperature (°F)			
					Distance from end of pile			
					feet 5	feet 2.5	feet	feet
6-18-09	3:00	Moderate	Low	1	140	135		
				2	128	120		
				3	114	100		
6-20-09	7:30 AM	Moderate	Low	1	163	156		
				2	140	139		
				3	120	120		
Turned 6-20-09								
6-22-09				1	149	158		
				2	140	158		
				3	138	138		
Turned 6-22-09								
6-23-09	12:30	mod	Low	1	140	156		
				2	146	148		
				3	142	134		
6-24-09	9:15	mod	Low	1	152	160		
				2	150	160		
				3	140	152		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet 1	feet 25	feet	feet
6-25-09	7:50	mod	low	1	154	156	
				2	150	146	
				3	138	145	
6-27-09	8:45 A.M.	mod	low	1	158	158	
				2	140	142	
				3	140	120	
6-27-09	TURNED						
6-29-09	11:00	mod	low	1	158	160	
				2	150	150	
				3	140	142	
6-30-09	5:00	mod	low	1	160	160	
				2	160	160	
				3	130	140	
7-1-09	12:00	mod	low	1	160	160	
				2	160	150	
7-1-09	TURNED			3	132	134	
7-3-09	10:45	low	low	1	158	158	
				2	158	152	
				3	158	148	

Recorded by windrow, pile, or cell

6
8
10
11
12
14

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1 page 3

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet	feet	feet	feet	
7-5-09	5:00	Mod	low	1	160	165		
(8) Turned 5-6-09				2	160	160		16
				3	150	150		
7-7-09	2:30	Mod	Low	1	144	150		
				2	144	150		18
7-9-09	1:15	Mod	Low	1	158	158		
(6) Turned 7-9-09				2	150	150		20
				3	142	142		
7-13-09	4:30			1	160			
				2	160			24
				3	150			
7-15-09	4:15	mod	Low	1	158			
(2) Turned 7-15-09				2	158			26
				3	140			
7-18-09	11:15	mod	Low	1	150	154		
(8) Turned 7-18-09				2	152	156		29
				3	142	152		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1 page 4

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet	feet	feet	feet	
7-26-09	1:00	Low	Low	1	158			32
				2	158			
				3	142			
7-28-09	2:30	Low	Low	1	160			34
				2	152			
				3	142			
7-28-09	9:50	Low	Low	1	160			38
				2	152			
				3	150			
7-27	Turned			1				
				2				
				3				
7-29-09	9:15	Low	Low	1	162			40
				2	160			
				3	150			
7-31-09	2:30	Low	Low	1	162			42
				2	160			
				3	152			
8-3-09	11:25	Low	Low	1	154			45
				2	154			
				3	140			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1 @ page 5

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet	feet	feet	feet	
(10) 8-5-09	9:30			1	158			
Turned	8-5-09			2	154			47
8-7-09	1:45	Low	Low	1	146			
				2	140			49
8-10-09	11:30	Low	Low	1	167			
				2	158			52
8-12	11:55	Low	Low	1	160			
(10) Turned	8-12-09			2	158			64
				1	140			
8-17-09	8:40	Low	Low	1	150	156		
				2	152	154		68

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 2

Date constructed 6-18-09

Ingredients and comments 1 grass, 2 yardwaste, 1/2 sawdust

This is a good mix

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 5	feet 25	feet 75	feet 100	
6-18-09	7:00 AM	moderate	Low	1 130	131			
				2 118	117			
				3 120	109			
6-20-09	8:00 AM	moderate	Low	1 142	150			1
				2 120	130			
				3 112	100			
6-20-09	Turned pile							
6-22-09	10:00	moderate	LOW	1 165	160	160		
				2 156	158	152		3
				3 140	142	140		
6-22-09	Turned Pile							
6-23-09	12:45	mod	Low	1 158	160	150	156	
				2 152	158	148	148	4
				3 150	156	130	138	
6-24-09	9:30	Med	Low	1 167	166	152	158	
				2 160	160	142	140	5
				3 142	134	140	132	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 2 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 5	feet 25	feet 75	feet 100	
6-25-09	8:00	mod	Low	1 164	2 165	3 158	4 160	6
				2 160	160	150	140	
				3 140	142	138	130	
6-27-09	8:55 PM	mod	Low	1 168	2 160	3 158	4 162	8
				2 160	160	142	158	
				3 140	128	140	140	
6-27-09	Turned							10
6-29-09	11:10	mod	Low	1 162	2 162	3 162	4 160	
				2 160	160	160	160	
				3 158	158	158	156	
6-30-09	5:00	mod	Low	1 162	2 162	3 160	4 160	11
				2 160	160	160	158	
				3 150	140	138	140	
7-1-09	12:00	mod	Low	1 164	2 162	3 162	4 162	12
				2 158	162	162	162	
				3 154	158	160	160	
7-3-09	11:00 AM	Low	Low	1 162	2 160	3 162	4 160	13
				2 150	156	160	160	
				3 140	140	140	140	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 2 page 4

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
7-21-09	2:10	Low	Low	1	162	162	160	30
				2	162	162	144	
				3	150	154		
7-23-09	2:35	Low	Low	1	168	164		32
				2	162	164		
				3	152	150		
7-27-09	9:55	Low	Low	1	162	160		36
				2	164	160		
				3	150	158		
(9) Turned 7-27-09								
7-29-09	9:09	Low	Low	1	160	162		38
				2	160	160		
				3	158	156		
7-30-09	2:35	Low	Low	1	162	160		40
				2	162	160		
				3	154	156		
8-3-09	11:15	Low	Low	1	150	152		43
				2	150	152		
				3	140	150		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 3

Date constructed 6-23-09

Ingredients and comments 1 grease, 2 yard waste, 1/2 sawdust

This is a good mix

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 5	feet 25	feet 75	feet	
6-24-09	9:30	mod	mod	1	118	130		
				2	118	120		
				3	115	118		
① 6-24-09	Turned							
6-25-09	8:15	moist	mod	1	132	120	128	
				2	130	128	130	
				3	100	118	117	
6-27-09	9:00	mod	Low	1	150	158	160	
				2	140	150	150	
				3	120	120	130	
② 6-27-09	Turned							
6-29-09	11:15	mod	Low	1	162	162		made Raw today
				2	160	152		
				3	140	150		
6-30-09	5:00	mod	Low	1	162	160	160	
				2	162	164		
7-1-09	12:00	mod	Low	3	150	160		
				1	168	160		
③ 7-1-09	Turned			2	160	160		
				3	152	160		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 3 - Page 2

Date constructed _____

Ingredients and comments _____

Turned

Days

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
7-3-09	10:50	Med	Low	1	160	160	1	6
				2	154	154		
				3	130 130	136		
7-5-09	5:10	Med	Low	1	160	160		8
(4) Turned	7-6-09			2	160	160		9
				3	158	150		
7-7-09	2:45	Med	Low	1	160	160		11
(5) Turned	7-9-09			2	160	150		15
				3	150	150		
7-9-09	1:20	Med	Low	1	160	160		17
				2	160	162		
				3	140	140		
7-13-09	4:30	Med	Low	1	160	158		17
				2	158	158		
				3	140	140		
7-15-09	4:25	Med	Low	1	160	160		
(6) Turned	7-15-09			2	160	162		
				3	150	150		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 3 page 3

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
7-18-09	11:20	Moist	Low	1	160	160		
⑨ Turned 7-18-09				2	160	160		
				3	158	152		
7-21-09	11:10	Moist	Low	1	162	162	160	24
				2	162	162	150	
				3	152	162		
7-23-09	2:40	Mud	Low	1	162	162		
				2	162	162		
				3	142	158		
⑩ 7-27-09	10:00	Low	Low	1	162	162		28
⑪ Turned 7-27-09				2	162	162		
				3	160	160		
7-29-09	9:00	Low	Low	1	160	158		30
				2	160	158		
				3	160	150		
7-31-09	2:40	Low	Low	1	160	158		32
				2	160	158		
				3	160	158		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 3 page 4

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
8-3-09	11:10	Med	Low	1 150	150			35
				2 150	150			
				3 150	140			
8-5-09	9:20			1 160	158			37
(9) Turned	8-5-09			2 158	154			
8-7-09	11:55	Med	Low	1 160				40
				2 160				
8-12-09	11:20	Med	Low	1 162				40
				2 158				
8-12-09	10:00	mod	Low	1 162				44
				2 164				
(10) Turned	8-12-09			1 140				
8-17-09	8:33	mod	Low	1 160	160			44
				2 160	154			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 4

Date constructed 6-25-09

Ingredients and comments 1 grease/sept, 1 yard waste, 1 sand/dust

This staged out longer

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet 5	feet 25	feet	feet
6-27-09	9:10	moist	mod	1 120	122		
				2 120	120		
				3 115	115		
(1) 6-27-09	Turned						
6-29-09	11:15	moist	mod	1 152	148		1
				2 140	138		
				3 140	138		
6-30-09	5:00	moist	mod	1 152	160		2
				2 140	150		
				3 140	140		
7-1-09	12:00	moist	low	1 160	160		3
				2 140	150		
(2) 7-1-09	Turned			3 140	132		
7-3-09	11:55	moist low	low	1 158	160		5
				2 140	140		
				3 130	120		
7-5-09	5:15	mod	low	1 160	160		7
				2 160	160		
				3 158	140		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 4 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
3 Turned 7-6-09							
7-7-09	2:50	mod	low	1 150	152		
4) Turned 7-9-09				2 152	150		9
				3 140	142		
	7-9-09	1:20	mod	low	1 160	160	
				2 154	154		11
				3 140	140		
7-13-09	4:45	mod	low	1 158	160		15
				2 156	156		
				3 140	140		
7-17-09	4:30	mod	low	1 160	158		17
5) Turned 7-18-09				2 150	160		
				3 140	140		
	7-18-09		mod	low	1 160	156	
6) Turned 7-18-09				2 150	150		21
				3 140	140		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 4 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile <i>west side</i>				
				feet	feet	feet	feet	
7-21-09	11:20	med	Low	1	162			24
				2	164			
				3	156			
7-23	2:50	med	Low	1	162			26
				2	152			
				3	140			
7-27-09	10:05	Low	Low	1	170			30
				2	167			
				3	150			
(7) Turned								
7-29-09	8:56	Low	Low	1	160			32
				2	160			
				3	158			
7-30-09	2:05	Low	Low	1	160			34
				2	162			
				3	158			
8-3-09	10:00	Low	Low	1	154			37
				2	152			
				3	152			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 4 page 3

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 10	feet	feet	feet	
8-5-09	9:15			1	150			47
(8) Turned	8-5-09			2	150			38
8-7-09	2:00	Med	low	1	160			48
				2	160			
8-10-09	11:18	med	low	1	168			43
				2	158			
8-12-09	10:05	Med	low	1	168			47
(9) Turned	8-12-09			2	160			
				1	140			
8-17-09	8:30	Low	Low	1	158			49
				2	158			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 5

Date constructed 7-3-09

Ingredients and comments 1 grease, 2 yard waste, 2 sawdust

This did excellent

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet	
7-5-09	4:50	Moist	Low	1 140	150			
(1) Turned 7-6-09				2 130	140		1	
				3 130	140			
9-7-09	3:00	Med	Low	1 132	148	148	2	
(6) 7-9-09	Turned			2 130	144	150		
				3 120	140	140		
7-9-09	1:30	Moist	Med	1 156	156	158	4	
				2 156	158	160		
				3 148	148	150		
7-13-09	4:45	Moist	Low	1 160	160	160	8	
				2 158	158	156		
				3 144	140	142		
(3) 7-15-09	4:40	Moist	Low	1 158	158	158	10	
				Turned 7-15-09	2 156	158		158
					3 150	130		150
7-18-09	11:30	Moist	Low	1 150	158	158	13	
				(4) Turned 7-18-09	2 152	158		158
					3 140	150		150

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 5 / page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days	
				Distance from end of pile					
				feet	feet	feet	feet		
7-20-09	1:25	High	mod	1	158	160	160	160	16
				2	158	162	158	160	
				3	150	150	150	158	
7-21-09	3:40	High	Low	1	158	160	160		17
				2	158	162	158		
				3	154	154	156		
(5) Turned 7-21-09									
7-23-09	2:55	Med	Low	1	160	160	160		19
				2	160	160	158		
				3	150	150	150		
Turned 7-23									
(6) 7-27-09	10:10	mod	Low	1	162	160			23
				2	162	160			
				3	160	158			
Turned 7-27-09									
7-29-09	9:05	med	Low	1	152	152			25
				2	148	152			
				3	140	140			
7-31-09	2:25	mod	Low	1	160	160			27
				2	160	160			
				3	152	152			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 5 page 3

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
8-3-09	10:50	Med	Low	1 152	148			
8-3-09	10:50			2 150	150			30
				3 140	140			
8-5-09	9:10			1 158	154			32
(9) Turned	8-5-09			2 150	150			
				3 136	140			
8-7-09	2:05	Low	Low	1 158	158			34
				2 158	158			
8-10-09	11:16	Low	Low	1 160	160			37
				2 156	160			
8-12-09	10:10	Low	Low	1 164	162			39
(10) Turned	8-13-09			2 160	162			
				1 140				
8-17-09	8:25	Low	Low	1 158	160			43
				2 158	140			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 6

Date constructed 7-17-09

Ingredients and comments 1 grease, 1 yard, 1 sawdust
looks like it might be too wet

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 10	feet 30	feet 50	feet 70	
7-18-09	11:40	Wet	Mod	1	120	115	115	
				2	115	115	115	
				3	115	115	115	
7-20-09	1:45	Wet	High	1	138	142	138	144
				2	132	150	140	142
				3	115	122	130	120
7-21-09	3:45	Wet	High	1	158	150	156	150
				2	158	142	147	140
				3	140	140	130	130
(1) Turned	7-21-09							
7-23-09	3:00	Wet	Mod	1	160	160	160	156
				2	142	140	150	142
				3	132	125	132	130
(2) Turned	7-23-09							
7-27-09	10:10	Moist	Mod	1	158	158	160	
				2	150	150	158	
				3				
(3) Turned	7-28-09							
7-29-09	8:55	Moist	Mod	1	150	148		
				2	150	150		
				3	140	140		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 6 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				10 Distance from end of pile				
				feet	feet 20	feet	feet	
7-30-09	3:10	Mod	Low	1	158	158		9
				2	158	148		
				3	140	158		
7-31-09	2:20	mod	Low	1	160	160		8
				2	160	160		
				3	146	146		
8-3-09	10:40	Mod	Low	1	150	148		11
				2	150	150		
				3	150	148		
(H)	TURNED 8-3-09							
8-5-09	9:00	mod	Low	1	158	150		13
				2	142	148		
				3	130	140		
8-7-09		mod	Low	1	158	154		15
				2	142	150		
				3				
(5)	8-10-09	11:14	Mod	Low	1	160	160	18
					2	154	158	
	TURNED							

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 6 page 3

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
8-12-09	9:45	moist	low	1	140	150		
(6) Turned	8-13-09			2	142	150		
				1	140			
8-17-09	8:25	moist	low	1	162	160		
				2	160	156		
8-19-09	1:00	moist	low	1	163	162		
(7) Turned	8-20-09	moist	low	2	160	154		
				1	158	162		
8-20-09	12:15			2	150	166		
8-24-09		mod	low	1	162	160		
(8) Turned	8-24			2	160	160		
8-26	10:25	mod	low	1	160	160		
				2	152	152		
8-31	9:10	mod	low	1	160	152		
				2	140	142		
9-2-09	2:50	mod	low	1	142	142		
				2	140	140		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 7

Date constructed 7-27-09

Ingredients and comments 1 guano, 1 yard waste, 1 sawdust

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Day
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet	
7-29-09	8:45	wet	Low	1	129	132	140	1
				2	130	130	136	
				3	120	120	120	
7-30-09	3:00	wet	Low	1	140	144	152	2
				2	144	148	140	
				3	138	134	130	
7-30-09	2:10	wet	Low	1	152	154	158	3
				2	150	150	152	
				3	140	144	140	
8-1-09	10:30	wet	Low	1	152	150	150	6
				2	142	150	150	
				3	140	140	140	
(1) 8-3-09	Torn	Med	Low	1	144	150	150	8
				2	140	140	140	
				3	130	130	136	
(2) 8-5-09	(Torn)	Med	Med	1	150	148	150	10
				2	140	130	138	
				3				

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 7 / page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
(3) 8-10-09	11:08	Med	Low	1	160	160	160	13
				2	150	150	158	
Turned 8-11-09								
8-12-09	11:50	Med	Low	1	142	152		
				2	150	150		
(4) 8-13-09 Turned								
8-17-09	8:20	Med	Low	1	160	160	160	17
				2	158	156	160	
8-19-09	1:10	Med	Low	1	163	162	160	19
(5) Turned 8-20-09								
8-20-09	12:05	Med	Low	1	162	162	162	20
				2	162	162	162	
8-24-09		Med	Low	1	162	160	160	24
(6) Turned 8-24								
8-26	10:30	Med	Low	1	162	160		26
				2	152	156		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 8

Date constructed 8-3-09

Ingredients and comments 2 yard, 1 grease, 2 sawdust, 1 grease, 2 yard, 1 grease
made windrow with Knight mixer left it for 48hrs
1st Temperatures were 3' deep.
Consist of 4 grease layers

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Day	
				Distance from end of pile					
				feet 10	feet 20	feet 30	feet 40		
8-5-09	8:45			140	140	134	134	(1)	
(1) Turned	8-5-09							(1)	
8-7-09			1	154	154	154	154	(2)	
			2	140	140	142	142	(3)	
8-10-09	11:05	moist	low	1	158	160	160	156	(4)
			2	158	158	156	150	(5)	
8-12-09	9:10	moist	low	1	160	160	160	160	9
(2) Turned	8-12-09			2	158	158	154	158	9
8-13-09	9:50	WAT	low	1	151	150	150	148	10
			2	150	150	150	148	10	
(3) Turned	8-12-09			1	140				
8-17-09	8:15			1	154	160	160	160	14
			2	154	160	160	160	14	
8-19-09	1:20	med	low	1	158	162	162	164	16
(4) Turned	8-20-09			2	154	160	160	160	16
8-20-09	12:00	med	low	1	160	160	160	158	17
			2	140	160	160	158	17	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 8 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Day	
				Distance from end of pile					
				feet 20	feet 40	feet 60	feet 80		
8-24-09		moist	low	1	152	160	160	160	23
(5) Turned 8-24				2	154	150	160	158	
8-26	10:10	moist	low	1	160	160	160	160	25
(6) 8-28 Turned 8-28				2	144	150	150	152	
				1	160	162	162	160	27
				2	150	152	154	152	
8-31	9:25	mod	low	1	150	158	158	158	31
				2	142	142	142	140	
9-2-09	2:40	mod	low	1	140	142	142	142	34
(7) Turned 9-6-09				2	138	140	140	140	
9-8-09	9:30	mod low	low	1					
				2					

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 9-

Date constructed 8-19-09

Ingredients and comments 1 grease/saptin; 1 yard waste/1 sawdust

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet 40	
1-19-09	2:00	High	High 1	130	132	128	129	5
			2	122	124	124	124	
1-20-09	11:15	High	High 1	158	150	142	140	1
(1) Turned	8-21-09		2	150	147	132	132	2
8-24-09		High	Med 1	158	150	150	150	
(2) Turned	8-24		2	160	150	150	150	6
8-26-09	10:00	Med	Low 1	152	152	158	158	
(3) Turned	8-28-09		2	148	148	152	154	8
8-31-09	9:30	Med	Low 1	152	152	152	148	
(4) Turned	8-31-09		2	150	142	142	148	14
9-2-09	12:30	Med	Low 1	140	140	148	150	
(5) Turned	9-2-09		2	140	132	140	140	16
9-4-09	8:10	Med	Low 1	150	152	152	152	
(6) Turned	9-4-09		2	142	150	150	150	18
9-6-09	Pilled in Row with 8							

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1-5 Combined into 1 Windrow

Date constructed on 8-12-09

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet 20	feet 40	feet 60	feet	
8-17-09		Low	Low 1	158	160	160		5
(1) Turned	8-20-09		2	158	160	160		3
8-24		Low	Low 1	158	160	160	160	7
(2) Turned	8-24		2	158	152	160	160	9
8-26	1:05	Low	Low 1	160	160	162	162	9
			2	154	154	154	154	9
8-31	9:00	Low	Low 1	150	152	154	152	14
(3) Turned	8-31		2	140	142	140	140	14
9-2-09	3:00	Low	Low 1	148	146	140	144	16
			2	144	140	138	140	16
9-4-09	8:45	Low	Low 1	150	152	140	152	18
			2	140	150	138	140	18
9-9-09	9:45	Low	Low 1	134	140	134	134	24
Refilled	9-12-09							
9-16-09		Low	Low	140	142			31
9-25-09		Low	Low	150	150			40

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 1-5 Page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet 10	feet 20	feet	feet	
10-20-09		Low	Low 1	158	158			47
			2					
10-13-09		Low	Low	158	150			58
10-30-09		Low	Low	140	152	144		75
Turned	11-2-09							
11-3-09		Low	Low	134	140	140		87
11-9-09		Low	Low	145				95
11-13-09		Low	Low	132	128			
11-15-09		Low	Low	122	122			97
11-17-09		Low	Low	120	120			
11-20-09				130	130			
11-27-09		Low	Low	134	128			109
				134	132			
12-7-09		Low	Low	120	120			119
12-27-09				118	116			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 6-8 Combined 6-8-9

Date constructed 9-3-09 Added 9 on 9-6-09

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)					
				Distance from end of pile					
				feet	feet	feet	feet		
9-3-09	Formed new Pile 6-8			None met all requirements					
9-4-09	8:30	Low	Low	1	132	144	142	146	1
				2	132	144	142	140	
9-8-09	9:30	Low	Low	1	140	140	140	144	
9-16-09	8:30				150	150	152	150	
9-25-09		Low	Low		158	152	154	154	23
10-2-09		Low	Low		152	154	154	154	30
10-13-09	T	Low	Low		150	150	130	140	41
10-30-09		Low	Low		162	160	160		58
11-9-09		Low	Low		160	160	160		67
11-11-09	Turned	Combined	with	1-5	120				
11-13-09		Low	Low			120			
11-15-09		Low	Low	Turned during Rain			110		78
11-17-09		Low	Low		118	118			80
12-27-09					120	120			

Recorded by windrow, pile, or cell 118 118 118
120 120 120

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 10 page 1

Date constructed 9-6-09

Ingredients and comments 1 guano, 1 sawdust, 1 yardwast

Date	Time	Moisture rating	Odor rating	Temperature (°F)					
				Distance from end of pile					
				feet 10	feet 20	feet 30	feet 40		
(1) 9-8-09	9:10	High	Mod	1	140 144	144	144	144	
	Turned 9-9-09			2	134	140	140	140	
	9-10-09	Mod	Mod	1	140	140	140	138	2
				2	130	130	140	140	
9-11-09	2:30	mod	mod	1	152	152	150	158	3
(2) Turned	9-11-09			2	142	142	142	150	
9-12-09	4:30	mod	mod	1	152	148	150	154	4
(3) Turned	9-14			2	140	150	152	156	
9-14-09				1	150	150	155	160	6
				2	145	144	150	150	
9-16-09	8:00	mod	mod	1	160	160	160	164	8
(4) Turned	9-16-09			2	150	158	152	152	
9-18-09	12:00	mod	low	1	160	162	162	160	10
(5) Turned	9-18-09			2	154	158	158	158	
(6) 9-19-09	Turned	mod	low	1	160	150	148	158	11
				2	150	154	150	152	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 10 page 2

Date constructed 9-7-09

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet 40	
9-22-09		med	med	164	162	164	164	
(7) Turned	9-22-09			2 152	160	160	160	14
9-23-09		med	med	160	160	160	160	
(8) Turned	9-25-09			2 144	148	142	150	15
9-25-09		med	low	158	160	160	160	
Turned	9-28-09	med	low	2 148	148	148	154	17
9-28-09		med	low	158	152	154	154	
(9) Turned	9-30-09			2 146	146	148	148	20
10-2-09		med	low	158	160	162	158	
Turned (10)	10-7-09			2 148	152	152	148	22
10-9-09		med	low	156	160	158	160	
Combined with no. 11				2 156	160	160	160	29
10-13-09		med	low	162	168			
				2 162	170			23
10-30-09		med	low	160	160			
								50

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 11

Date constructed 9-19-09

Ingredients and comments 1 grease, 2 sawdust, 1 yard waste

Date	Time	Moisture rating	Odor rating	Temperature (°F)				feet
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet	
9-20-09		mod	mod	1 152	152	154		1
(1) Turned 9-20-09				2 140	140	140		
9-23-09		mod	mod	1 132	144	144		4
(2) Turned 9-25-09				2 132	138	144		
9-25-09		mod	mod	1 150	152	152		6
(3) Turned 9-28-09				2 140	148	148		
9-28-09		mod	mod	1 146	154	154		9
				2 140	148	148		
9-30-09		mod	mod	1 160	158	160		11
(4) Turned 9-3-09		mod	.	2 155	152	157		
10-2-09		mod	mod	160	160	160		13
(5) Turned 10-2-09				158	150	150		
Turned 10-5-09		mod	mod	158	160	156		16
10-9-09		mod	mod	150	152	150		
Completed with no 10				156	160	158		20
				156	160	160		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 10 x 11
~~7-2-09~~ Windrow 10 x 11 combined

Date constructed 11-2-09

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
11-9-09		Low	Low	160	160	160	
11-13		Low	Low	140	140		
11-13		Low	Low	110	110		Unturned
Turned on 11-11-09 During Rain event							Turned
11-15-09		Med	Low	Turned	120	Unturned	130
Turned	11-16-09				120		138
11-17-09					130	122	
11-27-09		Med	Low		160	150	
11-20-09					158	150	
					132	124	
12-27-09					118	118	
					118	118	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 12

Date constructed 9-12-09

Ingredients and comments Two leaf & limb, One grease & septage, two sawdust, One leaf & limb 1/2 way through each load, then two sawdust after each grease, one leaf & limb @ the end

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 20	feet 40	feet 60	100 feet	
10-13-09	4:30	mod	mod	1 120	1 40	1 44	1 88	(1)
				2 120	2 20	2 30	2 40	
10-14-09		mod	mod	1 144	1 50	1 44	1 42	(2)
(1) Turned 10-14-09				2 130	2 30	2 30	2 30	(2)
10-15-09		mod	mod	1 138	1 40	1 38	1 40	(3)
				2 130	2 34	2 32	2 34	
10-17-09		mod	mod	1 150	1 50	1 50	1 50	(5)
(2) Turned 10-17-09				2 140	2 38	2 40	2 40	(5)
10-19-09		mod	mod	1 158	1 60	1 56	1 58	(6)
(3) Turned 10-21-09				2 152	2 52	2 50	2 54	(6)
10-21-09		mod		1 160	1 60	1 58	1 60	(9)
(4) Turned 10-23-09				2 154	2 56	2 54	2 58	(9)
10-23-09		mod	mod	1 142	1 62	1 60	1 62	(11)
				2 158	2 58	2 56	2 58	
10-25-09		mod	mod	1 158	1 60	1 60		(13)
(5) Turned 10-25-09				2 158	2 60	2 60		(13)
(6) Turned 11-9-09								(14)

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 12 Page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
(6) 10-26-09		Med	Med	1	160	160	160	
Turned 10-26-09				2	156	160	160	15
10-30		mod	mod	1	160	160	160	39
11-13		High	Low		128	128	128	43
11-15		High	Low	1	140	140	138	45
(7) Turned 11-16				2	130	138	130	
11-17-09					140	138	138	
Turned 11-18-09								
11-19-09		mod	Low		140	142	140	
11-20-09					154	160	158	52
(8) Turned 11-24		mod	Low					
11-27-09					146	146	152	
					130	160	150	
12-7-09		mod	Low		140	144		62
					144	150		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 13

Date constructed 10-30-09

Ingredients and comments Sawdust @ 2 to 1 grease - Used two yardwaste as base on half-way through mixing & are @ end of mixing - Approximately 10 sawdust, 5 grease & 1/2 yard waste

Turned during rain on 11-11-09 Terry's Fall

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet 10	feet 20	feet 30	feet 40	
11-1-09		Med	Med	142	144	138	135	
(1) Turned	11-2-09							
11-3-09		Med	Med	140	142			
(2) Turned	11-3-09		2	140	150			3
11-5-09		Med	Med	144	144			0
(3) Turned	11-5-09		2	150	142			
11-7-09		Med	Med	150	150			7
			2	148	148			
(4) 11-9-09		Med	Med	158	142			9
Turned	11-9-09	Med	Med	2	158	159		
11-11-09		Med	Med	1	148	146		
(5) Turned	11-11-09		2	146	144			11
11-13-09		High	Low	1	134	134		
(6) Turned	11-13		2	132	132			13
11-15-09		High	Low	(1) 150	150			15
			(2)	140	140			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 14

Date constructed 10-30-09

Ingredients and comments Took ingredients of pile 13 & mixed it with Tobacco Dust @ a 1 to 1 ratio.

* Flips are present on Tobacco pile

	Date	Time	Moisture rating	Odor rating	Temperature (°F)				
					Distance from end of pile				
					feet 10	feet 20	feet 30	feet 40	
(1)	11-1-09		Med	Med	134	158	158		
	Turned	11-2-09							
(2)	11-3-09		Med	Med	138	138	140		
	Turned	11-3-09			2 138	140	142		3
	11-5-09		Med	High Med	1 138	142	138		
(3)	Turned	11-5-09			2 140	142	140		5
	11-7-09		Med	Med	1 140	142	140		
(4)	Turned	11-9-	Dry	Med	2 136	138	140		7
	11-9-09				1 162	152	154		
(5)	Turned	11-11-09			2 140	150	150		9
	11-11-09		Med	Med	1 158	152	156		
	11-13-09		High	Med	2 152	150	152		11
					1 132	132	132		
					2 130	128	130		13
(6)	Turned during	Rain increased moisture Temp 5 min							
	11-13-09	Turned							
	11-15-09		High	Med	150	150	144		15
					132	132	130		

Recorded by windrow, pile, or cell

To Sal $\phi 6 \times 25$ NCDA-CS

127 Cardinal Dr Ee.
Wilmington 28405
Windrow/pile temperature monitoring record

Windrow (pile) or cell number 15

Date constructed 10-30-09

Ingredients and comments Trash from Septage of loading
bar screens & cured compost mixed @ 1 to 1

Turned down

Hand 6.30 inches on 11-11-09 & 11-12-09

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet 0	feet 20	feet	feet
(1) 11-1-09		Low	Low	148	150		
Turned	11-2-09						
(2) 11-3-09		Low	Med	138	140		3
Turned	11-3-09						
11-5-09		Low	High	150	150	150	5
(3) Turned	11-5-09						
11-7-09		Low	High	150	140	144	7
(4) Turned	11-9						
11-11-09		Med	High	150	145	148	11
(5) Turned	11-11-09	High	Med	142			
11-13-09				132	125	100	13
Turned	During Rain - Increased Moisture Temperature						
(6) Turned	11-13-09						
11-15-09		Med	Low	132	140		15
				(144)	140		
11-16-09		Med	Med	142	150	150	16
Turned	11-16			130	138	138	
11-17				130	132	128	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 16

Date constructed 11-16-09

Ingredients and comments 1 grease, 1 sawdust, 1 yard waste, 1 Tobacco DUST

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
11-17-09		High	Med	120	120	115	100
				100	115	100	98
11-18-09		High	med	134	140	132	132
Turned 11-19		added sawdust		120	120	120	120
11-19-09				132	128	122	122
				120	128	120	122
(2) 11-20-09				144	140	134	144
Turned 11-20-09				134	140	134	130
(2) 11-21-09		Med	med	140	150	148	140
				138	132	134	132
11-23-09		Med	med	148	150	150	
(3) Turned 11-25-09				132	140	132	
11-25-09				150	152	158	158
				152	152	148	148
11-27-09		med	low	158	152	152	152
(4) Turned 11-27-09				148	140	140	140

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 16 page 2

Date constructed _____

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
(5) 11-30-09	Turned 11-30-09	mod	mod	160	160	162	14
				158	158	160	
12-2-09				148	150	150	16
				148	148	148	
(6) 12-4-09	Turned 12-4-09			150	152	148	18
				148	148	148	
(7) 12-7-09	Turned 12-7-09			140	140	140	21
				140	140	140	
(8) 12-10-09	Turned 12-10-09			132	128	130	23
				138	132	136	
12-18-09				132	130	134	27
				134	130	130	
12-21-09				148	150	150	28
				140	142	150	
12-26-09				120	118	120	33

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 17

Date constructed 11-20-09

Ingredients and comments 1 sawdust, 1 grease, 1 yardwaste, 1 grease

	Date	Time	Moisture rating	Odor rating	Temperature (°F)				
					Distance from end of pile				
					feet	feet	feet	feet	
(1)	11-20-09				140	138	132		
	Turned	11-21-09			140	110	120		
	11-24-09		Med	Med	158	158	158		
	11-25-09		Med		140	138	150		
(2)	11-27-09		Med	Med 1	150	160	158	158	
	Turned	11-27-09		2	152	152	148	148	5
(3)	11-27-09		Med	Med	154	154	160		
	Turned	11-27-09			150	150	152		7
(4)	11-30-09								
	Turned	11-30-09	Med	Low	164	160			10
					164	160			
	12-3-09		Med	Low	160	160			12
					158	156			
(5)	12-4-09		Med	Low	150	152			14
	Turned	12-4-09			148	150			
	12-7-09				142	152			17
(6)	Turned	12-7-09			132	134			

Recorded by windrow, pile, or cell

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670-4640

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 18

Date constructed 11-24-09

Ingredients and comments 1 sandvst, 1 grease, 1 yardwaste,
1 sandvst, 1 grease

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
(1) 11-25-09		med	med	110	100	100	
Turned	11-25-09			100	90	90	
11-27-09		Med	low	148	142		
(2) Turned	11-27-09			148	142		
(3) Turned	11-30-09						
11-30-09		med	low	158	158		
				160	150		
12-20-09		med	low	158	156		
				154	154		
12-4-09		med	low	158	158		
(4) Turned	12-4-09			150	150		
12-6-09		med	low	156	142		
(5) Turned	12-7-09			142	134		
12-8-09				154	150		
				146	144		
(6) 12-10-09				140	150	152	
Turned	12-10-09			140	148	152	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 19

Date constructed 12-21-09

Ingredients and comments 2 sand, 2 grass, 2 yardwaste

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
12-22-09								
(1) Turned	12-23-09		1	134	132	130		(1)
			3	122	120	118		
12-23-09			1	136	140	134		(2)
(2) Turned	12-23-09		3	100	104	100		
12-28-09			1	144	144	140	132	(7)
Turned	12-28-09		3	126	128	132	114	
12-30-09			1	140	132	131	140	(8)
(3) Turned	12-30-09		3	120	120	124	132	
12-31-09			1	132	131	124	138	(9)
(4) Turned	12-31-09		3	118	122	124	130	
1-1-10			1	138	140	138	140	(10)
(5) Turned	1-2-10		3	134	136	132	140	
1-4-10			1	151	154	140	154	(14)
(6) Turned	1-4-10		3	140	132	130	134	
1-6-10			1	138	134	134	131	(16)
(6) Turned	1-6-10		3	136	128	118	118	
1-7-10				134	133	128	132	(17)
				136	128	118	132	

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow/pile, or cell number 20

Date constructed 11-28-09

Ingredients and comments 1 sandust, 1 grass, 1 yard waste
1 grease, 1 sandust

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
1-4-10							
(1) Turned	1-4-10		1	124	132		
			3	100	100		1
1-6-10			1	148	148	144	
(2) Turned	1-6-10		3	100	104	114	
1-7-10				132	131	134	
				110	107	106	4
1-9-2010				141	142	134	
(3) Turned	1-9-2010			130	134	130	
1-11-10				140	138	138	
(4) Turned	1-11-10			134	132	13	
1-13-10				140	142	140	
(5) Turned	1-13-10			136	132	132	
1-15-10				146	148	144	
(6) Turned	1-16-10			140	140	138	(12)
1-18-10				148	151	150	
				140	144	144	(15)

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 21
 Date constructed 2-27-10 Sawdust, Septic, wood chips
 Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
3-4-10								
(1) Turned	3-4-10			140	142	132	134	(1)
				122	138	128	130	
3-6-10								
(2) Turned	3-6-10			150	147	151	152	(2)
				142	139	148	148	
3-8-10								
				146	139	147	148	
				139	133	140	142	(4)
3-10-10								
(3) Turned	3-10-10			157	149	150	151	(3)
				145	143	144	144	
3-13-10								
(4) Turned	3-13-10			150	151	149	147	(11)
				147	142	141	142	
3-16-10								
(5) Turned	3-16-10			148	152	142		(14)
				150	142	142		
3-24-10								
				150	150	152		(22)
				150	144	158		

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 22

Date constructed 3-22-10

Sawdust, Septic, woodchips

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
3-24-10							
(1) Turned	3-24-10		1	160	132	140	140
				2	140	132	132
3-26-10							
(2) Turned	3-26-10			160	136	145	143
					144	132	138
3-29-10							
(3) Turned	3-29-10			158	152	152	144
					150	150	150
3-31-10							
(4) Turned	3-31-10			156	150	152	140
					150	148	148
4-2-10							
(5) Turned	4-2-10			158	154	156	146
					152	150	149
4-4-10							
				156	154	168	156
				150	150	154	138
4-6-10							
				158	156	156	152
(6) Turned	4-6-10			152	150	152	140
4-8-10							
				154	152	154	148
4-10-10				148	146	148	142
				156	154	156	152
				150	144	149	146

7 days
 9
 15

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 23

Date constructed 4-8-10 Sawdust, septic, woodchips

Ingredients and comments _____

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
4-10-10				140	142	140	138
(1) Turned	4-10-10			134	136	134	132
4-12-10				144	146	144	144
(2) Turned	4-12-10			138	140	138	138
4-14-10				144	144	146	148
(3) Turned	4-14-10			138	140	140	142
4-16-10				146	148	148	148
(4) Turned	4-16-10			140	142	142	142
4-19-10				152	150	152	152
(5) Turned	4-19-10			152	150	152	152
4-20-10				150	152	150	158
(6) Turned	4-21-10			160	160	160	160
4-21-10				152	156	154	158
(7) Turned	4-26-10			160	160	160	160
4-26-10				154	158	158	158
				160	160	160	160

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 24

Date constructed 4-24-10

Ingredients and comments seedbed, Septic, wood chips

	Date	Time	Moisture rating	Odor rating	Temperature (°F)				Days
					Distance from end of pile				
					feet	feet	feet	feet	
(1)	4-26-10				149	156	144		
	Turned	4-26-10			150	154	148		
	4-28-10				150	156	148		
(2)	Turned	4-28-10			150	152	144		
	4-30-10				154	156	150		
(3)	Turned	4-30-10			152	152	148		4
	5-2-10				158	158	154		
(4)	Turned	5-2-10			156	154	148		6
	5-4-10				160	160	160		
					158	160	160		8
	5-6-10				170	162	160		
(5)	5-7-10	Turned			162	162	160		10
	5-8-10				160	164	164		
(6)	Turned	5-8-10			160	164	164		12
	5-10-10				160	164	164		
(7)	Turned	5-10-10			160	170	170		15

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 25.

Date constructed 5-1-10

Ingredients and comments Did not use mixer

Flies are Bad 1st 6 days - final Composting
did O.K. without mixing using the Knight mixer

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
(1) 5-6-10				130	138		
Turned 5-6-10				136	140		
5-8-10				134	140		
(2) Turned 5-8-10				140	142		
5-10-10				152	160		
(3) Turned 5-10-10				160	160		4
5-12-10				152	160		
(4) Turned 5-12-10				160	160		
5-14-10				150	150		
(5) Turned 5-14-10				160	154		8
5-16-10				150	150		
(6) Turned 5-16-10				152	152		
5-18-10				152	152		
(7) Turned 5-18-10				152	152		12
5-20-10				150	150		
(8) Turned 5-20-10				150	150		14
5-23-10				158	158		
				160	150		16

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 26

Date constructed 5-13-10

Ingredients and comments 3 Saw Dust, 1 grease, 1 Chips

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
5-15-10				132	134	136	
(1) Turned	5-15-10			132	136	138	
5-17-10				138	140	140	
(2) Turned	5-17-10			138	140	140	2
5-18-10				138	140	140	
				138	140	140	3
5-20-10				140	138	138	
(3) Turned	5-20-10			138	138	138	5
5-23-10				142	150	142	
				142	150	142	7
5-25-10				144	150	146	
(4) Turned	5-25-10			144	150	146	9
5-29-10				158	140	148	
(5) Turned	5-29-10			138	140	144	13
6-1-10				158	158	156	
6-5-10				132	156	156	16
				150	150	150	
				150	150	150	21
6-21-10				150	150	150	

Recorded by windrow, pile, or cell

150

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 27

Date constructed 5-26-10

Ingredients and comments Food waste covered with Compost ^{food waste} 24 tons to 8 Buckets of Compost - mixed then combined in windrow @ 1 to 1 with grease/sawdust + chips - then covered with grease + sawdust mixture.

Date	Time	Moisture rating	Odor rating	Temperature (°F)				
				Distance from end of pile				
				feet	feet	feet	feet	
5-29-10				131	134	131	134	1
				131	134	131	134	
6-1-10				152	152	152	150	
(1) Turned	6-1-10			140	130	134	140	4
6-3-10				150	150	150	150	6
				142	140	142	144	
6-5-10				152	154	152	150	8
				146	144	144	144	
6-7-10				152	158	148	152	10
(2) Turned	6-7-10			152	142	138	144	
6-10-10				154	158	158	158	13
(3) Turned	6-10-10			154	158	158	158	
6-12-10				156	160	160	160	15
(4) Turned	6-12-10			152	156	154	154	
6-16-10				154	160	160	160	19
(5) Turned	6-16-10			156	158	156	158	
6-21-10				140	140			

Recorded by windrow, pile, or cell

Windrow/pile temperature monitoring record

Windrow, pile, or cell number 28

Date constructed 6-18-10

Ingredients and comments Sawdust, Grass, yard waste, Produce @ 1 to 1

Date	Time	Moisture rating	Odor rating	Temperature (°F)			
				Distance from end of pile			
				feet	feet	feet	feet
①	6-21-10			140	150	150	150
				140	140	140	140
②	6-23-10			150	149	152	149
				140	140	140	140
3	6-24-10			158	150	150	150
				140	140	142	142
3	6-24-10			158	158	158	158
				140	142	144	144
④	7-4-10			152	154	158	158
				146	150	150	150
⑤	7-6-10			154	154	158	158
				146	150	150	150
⑥	7-9-10			158	158	158	158
				150	150	150	150
6	7-9-10			156	160	160	158
				150	152	152	150

Recorded by windrow, pile, or cell