Compost

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

COMPOST
Facility Annual Report
For the period of **July 1, 2011-June 30, 2012**

According to (G.S. 130A-309.09D(b)) completed forms must be returned by August 1, 2012 and a copy of this report must be sent to the County Manager of each county from which waste was received. If you have questions or require assistance in completing this report, contact your Regional Environmental Senior Specialist.

Facility Name: McGill Environmental Systems of NC, Inc Permit: 1906-COMPOST- ID: P1066

Facility Website (URL): www.mcgillcompost.com

Physical Address	Mailing Address
Street 1: 634 Christian Chapel Church Rd	Street 1: 634 Christian Chapel Church Road
Street 2:	Street 2:
City: New Hill County: Chatham	City: New Hill
State: North Carolina Zip: 27562	State: North Carolina Zip: 27562

Primary Facility Contact Person	Billing Contact Person
Name: Steve Cockman	Name: Rhonda Henderson
Phone: (919) 542-8903 Fax: (919) 361-1141	Phone: (919) 361-1161 Fax: (919) 361-1141
Email: scockman@mcgillcompost.com	Email: rhenderson@mcgillcompost.com

1. Tipping Fee: $30.00 per Ton (Attach a schedule of tipping fees if appropriate.)

2. Please attach results of monthly temperature monitoring for the period of July 1, 2011 thru June 30, 2012.

3. For Type II, III, and IV facilities, attach results of tests (Waste Analysis with metals, foreign matter and pathogens) as required in Table 3 of Rule 15A NCAC 13B .1408 for the period of July 1, 2011 thru June 30, 2012. **Current Rules state that "Compost shall be analyzed at intervals of every 20,000 tons of compost produced or every six months, whichever comes first."**

4. What type and quantity of waste was composted by your facility?

Materials COMPOSTED	Check X if Received	Tons RECEIVED	Tons COMPOSTED	Unusable Tons DISPOSED
Yard Waste	☒	6,886.37	6,886.37	
Clean Wood	☐			
Sawdust	☐			
Wooden Pallets	☒	3,512.22	3,512.22	
Food Waste	☒	2,075.76	2,075.76	
Animal Waste	☒	1,577.77	1,577.77	
Sludge and Biosolids	☒	31,448.93	31,448.93	
Grease Trap Waste	☒	2,408.03	2,408.03	
Animal Mortalities	☐			
Sheetrock	☒	551.08	551.08	
Commingled (Describe)	☐			
Other (Describe) Tobacco Dust & Stems	☒	110.21	110.21	
Other (Describe) Ash	☒	4,224.46	4,224.46	
Other (Describe)	☐			
TOTAL		52,794.83	52,794.83	

5. What type and quantity of compost was produced and removed from your facility?

Type	Tons CREATED	Tons USED On Site	Tons SOLD to Public	Tons GIVEN to Public	Tons STOCKPILED	Tons DISPOSED	Other
Mulch							
Grade A Compost	25,219.42		23,739.42	280	1,200		
Grade B Compost							
Other							
Other							
TOTAL	25,219.42		23,739.42	280	1,200		

6. Indicate waste received at this compost facility during the period of July 1, 2011, through June 30, 2012. Indicate **tonnage** received by COUNTY of waste origin. Please indicate COUNTY and STATE if received from another state.

Received from	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
Alamance	401.85				96.62			398.99			213.53	348.09	1,459.08
Chatham	51.32	64.14	65.87	130.83	68.50	73.49	174.52	84.90	113.07	93.02	90.75	111.58	1,121.99
Cumberland		1.86	1.49	15.57	1.14	12.33			23.82	202.61	325.77	252.34	836.93
Durham	4.21	7.64	5.21	7.07	5.19	10.02	8.20	7.13	7.46	6.32	8.20	8.94	85.59
Franklin					16.27		14.24						30.51
Granville	5.61	7.13		7.95	9.56	11.72	8.95	7.51	11.56	5.50	15.23	19.49	110.21
Guilford	524.61	487.16	594.96	422.21	491.07	495.32	522.22	500.44	576.41	542.39	567.85	510.14	6,234.78
Hoke	33.32	38.05			22.45			2.26	13.45	39.16	185.97	232.11	566.77
Johnston	75.17	184.77	145.52	89.44	82.64		67.14	124.49	199.53	216.06	145.11	75.38	1,405.25
Lee	136.12	180.17	136.79	163.59	138.66	163.74	157.06	158.67	185.66	220.14	170.81	174.31	1,985.72
Moore						26.74	6.18			661.94			694.86
Orange	1,159.93	1,353.74	792.12	506.69	764.13	1,139.45	500.59	640.49	582.37	392.94	511.33	514.80	8,858.58
Pitt								202.16	504.11	483.55	524.19	444.55	2,158.56
Richmond	15.61	23.39	7.18	16.64	11.91	13.25	6.54	30.92	20.85	35.98	17.06	7.53	206.86
Wake	1,678.65	1,795.19	1,466.40	1,768.47	1,010.75	581.69	1,273.79	1,442.60	3,061.61	3,623.43	4,588.19	4,521.96	26,812.73
Wilson	9.24		32.63	20.93	37.21	14.81	20.64	20.83	30.08	10.17	16.88	12.99	226.41

Grand Total 52,794.83

7. Did your facility stop receiving waste during this past Fiscal Year? ☐ Yes ☒ No

If so, please report the date this occurred: _____

REMINDER: According to (G.S. 130A-309.09D(b)), this report must be sent to the Regional Environmental Senior Specialist for your area and a copy of this report must be sent to the County Manager of each county from which waste was received.

Please send your completed report to:

John Patrone
585 Waughtown Street
Winston-Salem, NC 27107-2275
phone: 336.771.5095 email: John.Patrone@ncdenr.gov

CERTIFICATION: I certify that the information provided is an accurate representation of the activity at this facility.

Signature: _____ Date: 7-24-12

Name: Steve Cockman Title: Operations Manager

Phone Number: (919) 362-1161 Email: scockman@mcgillcompost.com

MONTHLY TEMPERATURE MONITORING

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	FW.BIO YW OVERS
09060912	Bay09			

Start Date/Time: 6/9/2012 2:52:51 PM

Comment

Stop Date/Time: 6/20/2012 12:56:49 PM

Comment

Mruntime: 0

Date/Time	Temperature
6/9/2012 5:00:00 PM	157
6/10/2012 5:00:00 PM	146
6/11/2012 5:00:00 PM	134
6/12/2012 5:00:00 PM	134
6/13/2012 5:00:00 PM	133
6/14/2012 5:00:00 PM	133
6/15/2012 5:00:00 PM	133
6/16/2012 5:00:00 PM	132
6/17/2012 5:00:00 PM	132
6/18/2012 5:00:00 PM	132
6/19/2012 5:00:00 PM	132

PFRP SC

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	Curing
25051712	Bay25			

Start Date/Time: 5/17/2012 3:53:54 PM **Comment**

Stop Date/Time: 6/13/2012 8:58:17 AM **Comment**

Mruntime: 0

Date/Time	Temperature
5/26/2012 5:00:00 PM	142
5/27/2012 5:00:00 PM	132
5/28/2012 5:00:00 PM	132
5/29/2012 5:00:00 PM	132
5/30/2012 5:00:00 PM	132
5/31/2012 5:00:00 PM	132
6/1/2012 5:00:00 PM	132
6/2/2012 5:00:00 PM	132
6/3/2012 5:00:00 PM	132
6/4/2012 5:00:00 PM	132
6/5/2012 5:00:00 PM	132
6/6/2012 5:00:00 PM	132
6/7/2012 5:00:00 PM	132
6/8/2012 5:00:00 PM	132 UNK SC
6/9/2012 5:00:00 PM	131
6/10/2012 5:00:00 PM	131
6/11/2012 5:00:00 PM	131
6/12/2012 5:00:00 PM	131
6/13/2012 5:00:00 PM	132
6/14/2012 5:00:00 PM	132
6/15/2012 5:00:00 PM	132
6/16/2012 5:00:00 PM	132
6/17/2012 5:00:00 PM	131
6/18/2012 5:00:00 PM	131

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:
01052312	Bay01		FW_BIO YW OVERS

Start Date/Time: 5/23/2012 1:24:27 PM

Comment

Stop Date/Time: 6/5/2012 6:52:01 AM

Comment

Mruntime: 0

Date/Time	Temperature
5/23/2012 5:00:00 PM	92
5/24/2012 5:00:00 PM	148
5/25/2012 5:00:00 PM	135
5/26/2012 5:00:00 PM	135
5/27/2012 5:00:00 PM	134
5/28/2012 5:00:00 PM	134
5/29/2012 5:00:00 PM	134
5/30/2012 5:00:00 PM	133
5/31/2012 5:00:00 PM	133
6/1/2012 5:00:00 PM	133
6/2/2012 5:00:00 PM	133
6/3/2012 5:00:00 PM	132
6/4/2012 5:00:00 PM	102

PFRP 5c

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fwbioywovers
21050212	Bay21			

Start Date/Time: 5/2/2012 4:15:38 PM

Comment

Stop Date/Time: 5/24/2012 9:06:04 AM

Comment

Mruntime: 0

Date/Time	Temperature
5/2/2012 5:00:00 PM	113
5/3/2012 5:00:00 PM	123
5/4/2012 5:00:00 PM	127
5/5/2012 5:00:00 PM	128
5/6/2012 5:00:00 PM	128
5/7/2012 5:00:00 PM	128
5/8/2012 5:00:00 PM	129
5/9/2012 5:00:00 PM	128
5/10/2012 5:00:00 PM	129
5/11/2012 5:00:00 PM	130
5/12/2012 5:00:00 PM	132
5/13/2012 5:00:00 PM	133
5/14/2012 5:00:00 PM	132
5/15/2012 5:00:00 PM	132
5/16/2012 5:00:00 PM	132 UAR SC
5/18/2012 5:00:00 PM	132
5/19/2012 5:00:00 PM	132
5/20/2012 5:00:00 PM	132
5/21/2012 5:00:00 PM	132
5/22/2012 5:00:00 PM	132
5/23/2012 5:00:00 PM	132

CURING

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	FW BIO YW OVERS
07042412	Bay07			

Start Date/Time: 4/24/2012 11:04:42 AM ***Comment***

Stop Date/Time: 5/3/2012 11:49:38 AM ***Comment***

Mruntime: 0

Date/Time	*Temperature*
4/24/2012 5:00:00 PM	131
4/25/2012 5:00:00 PM	134
4/26/2012 5:00:00 PM	134
4/27/2012 5:00:00 PM	135
4/28/2012 5:00:00 PM	134
4/29/2012 5:00:00 PM	134
4/30/2012 5:00:00 PM	134
5/1/2012 5:00:00 PM	133
5/2/2012 5:00:00 PM	133

PFRP-5C

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	Curing
21041312	Bay21			

Start Date/Time: 4/13/2012 5:23:30 PM **Comment**

Stop Date/Time: 4/30/2012 2:43:42 PM **Comment**

Mruntime: 0

Date/Time	Temperature
4/14/2012 5:00:00 PM	128
4/15/2012 5:00:00 PM	130
4/16/2012 5:00:00 PM	132
4/17/2012 5:00:00 PM	132
4/18/2012 5:00:00 PM	132
4/19/2012 5:00:00 PM	128
4/20/2012 5:00:00 PM	126
4/21/2012 5:00:00 PM	126
4/22/2012 5:00:00 PM	126
4/23/2012 5:00:01 PM	124
4/24/2012 5:00:00 PM	122
4/25/2012 5:00:00 PM	116
4/26/2012 5:00:00 PM	116
4/27/2012 5:00:00 PM	114
4/28/2012 5:00:00 PM	114
4/29/2012 5:00:00 PM	115

VAR SC

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:
05033012	Bay05		FW BIO YW OVERS

Start Date/Time: 3/30/2012 9:53:20 AM

Comment

Stop Date/Time: 4/10/2012 1:52:55 PM

Comment

Mruntime: 0

Date/Time	Temperature	
3/30/2012 5:00:01 PM	122	
3/31/2012 5:00:01 PM	128	
4/1/2012 5:00:00 PM	134	> PFRP 5C
4/2/2012 5:00:00 PM	135	
4/3/2012 5:00:00 PM	138	
4/4/2012 5:00:00 PM	136	
4/5/2012 5:00:00 PM	134	
4/6/2012 5:00:00 PM	133	
4/7/2012 5:00:00 PM	133	
4/8/2012 5:00:00 PM	132	
4/9/2012 5:00:00 PM	94	

To Curing Bay

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	FW BIO YW OVERS
03022112	Bay03			

Start Date/Time: 2/21/2012 3:32:54 PM **Comment**

Stop Date/Time: 3/15/2012 5:14:43 PM **Comment**

Mruntime: 0

Date/Time	Temperature	
2/21/2012 5:00:00 PM	118	
2/22/2012 5:00:00 PM	124	
2/23/2012 5:00:00 PM	126	
2/24/2012 5:00:00 PM	130	
2/25/2012 5:00:00 PM	134	PFRP 5c
2/26/2012 5:00:00 PM	138	
2/29/2012 5:00:01 PM	142	
3/1/2012 5:00:00 PM	146	
3/2/2012 5:00:00 PM	150	
3/3/2012 5:00:00 PM	152	
3/4/2012 5:00:00 PM	148	
3/5/2012 5:00:00 PM	146	
3/6/2012 5:00:00 PM	142	
3/7/2012 5:00:01 PM	138	
3/8/2012 5:00:00 PM	134	
3/9/2012 5:00:00 PM	132	
3/10/2012 5:00:00 PM	128	
3/11/2012 5:00:00 PM	126	VAR
3/12/2012 5:00:00 PM	122	
3/13/2012 5:00:00 PM	118	
3/14/2012 5:00:01 PM	116	
3/15/2012 5:00:00 PM	118	

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:
11122711	Bay11		FW BIO YW OVERS

Start Date/Time: 12/27/2011 10:00:19 AM

Comment

Stop Date/Time: 1/13/2012 8:11:56 AM

Comment

Mruntime: 0

Date/Time	Temperature
12/27/2011 5:00:00 PM	120
12/28/2011 5:00:00 PM	126
12/29/2011 5:00:00 PM	136
12/30/2011 5:00:00 PM	136
12/31/2011 5:00:00 PM	140
1/1/2012 5:00:00 PM	144
1/2/2012 5:00:00 PM	146
1/3/2012 5:00:00 PM	148
1/4/2012 5:00:00 PM	146
1/5/2012 5:00:00 PM	144
1/6/2012 5:00:00 PM	138
1/7/2012 5:00:00 PM	132
1/8/2012 5:00:00 PM	128
1/9/2012 5:00:00 PM	124
1/10/2012 5:00:00 PM	120
1/11/2012 5:00:00 PM	118
1/12/2012 5:00:00 PM	118

PF12P SC

V/A12

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fwbioyw overs
03012711	Bay03			

Start Date/Time: 1/27/2011 2:13:57 PM

Comment

Stop Date/Time: 2/14/2011 1:25:47 PM

Comment

Mruntime: 0

Date/Time	Temperature	
1/27/2011 5:00:00 PM	74.11398	
1/28/2011 5:00:00 PM	163.3889	
1/29/2011 5:00:00 PM	171.9295	PFRP SC
1/30/2011 5:00:00 PM	171.3857	
1/31/2011 5:00:00 PM	140.8075	
2/1/2011 5:00:01 PM	140.3255	
2/2/2011 5:00:00 PM	140.4861	
2/3/2011 5:00:01 PM	140.1401	
2/4/2011 5:00:01 PM	140.2142	
2/5/2011 5:00:01 PM	140.3749	
2/6/2011 5:00:01 PM	140.3131	VAR SC
2/7/2011 5:00:00 PM	140.1524	
2/8/2011 5:00:00 PM	139.0648	
2/9/2011 5:00:00 PM	131.1545	
2/10/2011 5:00:01 PM	122.0206	
2/11/2011 5:00:00 PM	111.0451	
2/12/2011 5:00:00 PM	120.9947	
2/13/2011 5:00:00 PM	147.593	

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fw bio yw overs
03021711	Bay03			

Start Date/Time: 2/17/2011 3:28:48 PM

Comment

Stop Date/Time: 3/8/2011 2:42:00 PM

Comment

Mruntime: 0

Date/Time	Temperature	
2/17/2011 5:00:00 PM	118.9183	
2/18/2011 5:00:00 PM	131.4264	
2/19/2011 5:00:00 PM	129.7084	
2/20/2011 5:00:00 PM	128.6702	
2/21/2011 5:00:00 PM	128.3983	
2/22/2011 5:00:00 PM	129.8196	
2/23/2011 5:00:00 PM	134.3186	
2/24/2011 5:00:00 PM	141.5367	PFRP SC
2/25/2011 5:00:00 PM	141.5862	
2/26/2011 5:00:00 PM	140.5727	
2/27/2011 5:00:00 PM	140.3502	
2/28/2011 5:00:00 PM	139.8064	
3/1/2011 5:00:00 PM	132.5882	VAP
3/2/2011 5:00:00 PM	129.7844	
3/3/2011 5:00:00 PM	132.6642	
3/4/2011 5:00:00 PM	155.6764	
3/5/2011 5:00:00 PM	177.5903	
3/6/2011 5:00:00 PM	174.7475	
3/7/2011 5:00:00 PM	164.1428	

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fwbioywovers
0632311	Bay06			

Start Date/Time: 3/23/2011 11:38:21 AM **Comment**

Stop Date/Time: 4/5/2011 4:04:07 PM **Comment**

Mruntime: 0

Date/Time	Temperature
3/23/2011 5:00:00 PM	142
3/24/2011 5:00:01 PM	135
3/25/2011 5:00:00 PM	151 PFRP 5c
3/26/2011 5:00:01 PM	161
3/27/2011 5:00:01 PM	155
3/28/2011 5:00:00 PM	147
3/29/2011 5:00:00 PM	134
3/30/2011 5:00:00 PM	131
3/31/2011 5:00:00 PM	134
4/1/2011 5:00:00 PM	136
4/2/2011 5:00:00 PM	133
4/3/2011 5:00:00 PM	128
4/4/2011 5:00:00 PM	130
4/5/2011 5:00:00 PM	125 VAR
4/6/2011 5:00:00 PM	122
4/7/2011 5:00:00 PM	120
4/8/2011 5:00:00 PM	
4/9/2011 5:00:00 PM	
4/10/2011 5:00:00 PM	
4/11/2011 5:00:00 PM	
4/12/2011 5:00:00 PM	
4/13/2011 5:00:00 PM	
4/14/2011 5:00:00 PM	
4/15/2011 5:00:00 PM	

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	Curing
21032111	Bay21			

Start Date/Time: 3/21/2011 1:33:49 PM **Comment**

Stop Date/Time: 4/21/2011 10:41:45 AM **Comment**

Mruntime: 0

Date/Time	Temperature
3/21/2011 5:00:00 PM	142
3/22/2011 5:00:00 PM	92
3/23/2011 5:00:00 PM	100
3/24/2011 5:00:01 PM	139
3/25/2011 5:00:00 PM	140
3/26/2011 5:00:01 PM	129 PFRP 5C
3/27/2011 5:00:01 PM	162
3/28/2011 5:00:00 PM	161
3/29/2011 5:00:00 PM	155
3/30/2011 5:00:00 PM	149
3/31/2011 5:00:00 PM	143
4/1/2011 5:00:00 PM	135
4/2/2011 5:00:00 PM	122
4/3/2011 5:00:00 PM	118
4/4/2011 5:00:00 PM	122
4/5/2011 5:00:00 PM	119
4/6/2011 5:00:00 PM	125
4/7/2011 5:00:00 PM	123 VAIR
4/8/2011 5:00:00 PM	122
4/9/2011 5:00:00 PM	121
4/10/2011 5:00:00 PM	119
4/11/2011 5:00:00 PM	118
4/12/2011 5:00:00 PM	122
4/13/2011 5:00:00 PM	123

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fwbioywovers
0451411	Bay04			

Start Date/Time: 5/14/2011 12:20:08 PM **Comment**

Stop Date/Time: 5/24/2011 3:01:57 PM **Comment**

Mruntime: 0

Date/Time	Temperature
5/14/2011 5:00:00 PM	131
5/15/2011 5:00:00 PM	112
5/16/2011 5:00:00 PM	135
5/17/2011 5:00:00 PM	166 PFRP SC
5/18/2011 5:00:00 PM	156
5/19/2011 5:00:00 PM	125
5/20/2011 5:00:00 PM	124
5/21/2011 5:00:00 PM	146
5/22/2011 5:00:00 PM	167
5/23/2011 5:00:00 PM	166

PLACED IN CURING BAY

McGill Environmental Temperature Report

Batch	Bay	Initials	Residuals:	fwbioywovers
0406811	Bay04			

Start Date/Time: 6/8/2011 11:16:44 AM

Comment

Stop Date/Time: 6/20/2011 10:14:48 AM

Comment

Mruntime: 0

Date/Time	Temperature
6/8/2011 5:00:00 PM	164
6/9/2011 5:00:00 PM	180
6/10/2011 5:00:00 PM	185
6/11/2011 5:00:00 PM	183
6/12/2011 5:00:00 PM	177
6/13/2011 5:00:00 PM	174
6/14/2011 5:00:00 PM	173
6/15/2011 5:00:00 PM	169
6/16/2011 5:00:00 PM	164
6/17/2011 5:00:00 PM	157
6/18/2011 5:00:00 PM	141
6/19/2011 5:00:00 PM	148

PFRP 5c

WASTE

ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 5/1
Pace Project No.: 92117683

Sample: MERRY OAKS COMPOST **Lab ID: 92117683002** Collected: 05/01/12 15:45 Received: 05/02/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP SPE	Analytical Method: EPA 8081 Preparation Method: EPA 3535							
	Leachate Method/Date: EPA 1311; 05/07/12 14:00							
gamma-BHC (Lindane)	ND	mg/L	0.00050	1	05/08/12 14:30	05/16/12 00:45	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0030	1	05/08/12 14:30	05/16/12 00:45	57-74-9	
Endrin	ND	mg/L	0.00050	1	05/08/12 14:30	05/16/12 00:45	72-20-8	
Heptachlor epoxide	ND	mg/L	0.00050	1	05/08/12 14:30	05/16/12 00:45	1024-57-3	
Methoxychlor	ND	mg/L	1.0	1	05/08/12 14:30	05/16/12 00:45	72-43-5	
Toxaphene	ND	mg/L	0.0030	1	05/08/12 14:30	05/16/12 00:45	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	65	%	10-138	1	05/08/12 14:30	05/16/12 00:45	2051-24-3	
Tetrachloro-m-xylene (S)	60	%	10-110	1	05/08/12 14:30	05/16/12 00:45	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Aluminum	**24500**	mg/kg	118	10	05/05/12 16:00	05/08/12 14:11	7429-90-5	
Arsenic	**15.3**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7440-38-2	
Cadmium	**0.55**	mg/kg	0.12	1	05/05/12 16:00	05/07/12 20:45	7440-43-9	
Calcium	**55700**	mg/kg	118	10	05/05/12 16:00	05/08/12 14:11	7440-70-2	
Chromium	**23.0**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7440-47-3	
Copper	**212**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7440-50-8	
Lead	**13.7**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7439-92-1	
Magnesium	**3270**	mg/kg	11.8	1	05/05/12 16:00	05/07/12 20:45	7439-95-4	
Molybdenum	**3.1**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7439-98-7	
Nickel	**9.5**	mg/kg	0.59	1	05/05/12 16:00	05/07/12 20:45	7440-02-0	
Potassium	**8200**	mg/kg	589	1	05/05/12 16:00	05/07/12 20:45	7440-09-7	
Selenium	**2.0**	mg/kg	1.2	1	05/05/12 16:00	05/07/12 20:45	7782-49-2	
Sodium	**3330**	mg/kg	589	1	05/05/12 16:00	05/07/12 20:45	7440-23-5	
Zinc	**326**	mg/kg	1.2	1	05/05/12 16:00	05/07/12 20:45	7440-66-6	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Leachate Method/Date: EPA 1311; 05/11/12 16:15							
Arsenic	ND	mg/L	0.025	1	05/12/12 13:05	05/13/12 17:52	7440-38-2	
Barium	**0.56**	mg/L	0.50	1	05/12/12 13:05	05/13/12 17:52	7440-39-3	
Cadmium	ND	mg/L	0.0050	1	05/12/12 13:05	05/13/12 17:52	7440-43-9	
Chromium	**0.049**	mg/L	0.025	1	05/12/12 13:05	05/13/12 17:52	7440-47-3	
Lead	ND	mg/L	0.025	1	05/12/12 13:05	05/13/12 17:52	7439-92-1	
Selenium	ND	mg/L	0.10	1	05/12/12 13:05	05/13/12 17:52	7782-49-2	
Silver	ND	mg/L	0.025	1	05/12/12 13:05	05/13/12 17:52	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Leachate Method/Date: EPA 1311; 05/11/12 16:15							
Mercury	ND	mg/L	0.00020	1	05/14/12 12:15	05/15/12 11:34	7439-97-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.072**	mg/kg	0.0055	1	05/09/12 12:20	05/09/12 14:46	7439-97-6	

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 5/1
Pace Project No.: 92117683

Sample: MERRY OAKS COMPOST **Lab ID: 92117683002** Collected: 05/01/12 15:45 Received: 05/02/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 05/07/12 14:00							
1,4-Dichlorobenzene	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	106-46-7	
2-Methylphenol(o-Cresol)	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05		
Hexachloroethane	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	67-72-1	
Nitrobenzene	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	98-95-3	
Hexachloro-1,3-butadiene	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	87-68-3	
2,4,6-Trichlorophenol	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	88-06-2	
2,4,5-Trichlorophenol	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	95-95-4	
2,4-Dinitrotoluene	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	121-14-2	
Hexachlorobenzene	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	118-74-1	
Pentachlorophenol	ND	mg/L	0.10	1	05/08/12 09:00	05/08/12 23:05	87-86-5	
Pyridine	ND	mg/L	0.050	1	05/08/12 09:00	05/08/12 23:05	110-86-1	
Surrogates								
Nitrobenzene-d5 (S)	40	%	12-102	1	05/08/12 09:00	05/08/12 23:05	4165-60-0	
2-Fluorobiphenyl (S)	41	%	13-107	1	05/08/12 09:00	05/08/12 23:05	321-60-8	
Terphenyl-d14 (S)	72	%	21-132	1	05/08/12 09:00	05/08/12 23:05	1718-51-0	
Phenol-d6 (S)	19	%	10-110	1	05/08/12 09:00	05/08/12 23:05	13127-88-3	
2-Fluorophenol (S)	27	%	10-110	1	05/08/12 09:00	05/08/12 23:05	367-12-4	
2,4,6-Tribromophenol (S)	58	%	27-108	1	05/08/12 09:00	05/08/12 23:05	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260							
Benzene	ND	mg/L	0.19	38		05/03/12 20:38	71-43-2	
2-Butanone (MEK)	ND	mg/L	0.38	38		05/03/12 20:38	78-93-3	
Carbon tetrachloride	ND	mg/L	0.19	38		05/03/12 20:38	56-23-5	
Chlorobenzene	ND	mg/L	0.19	38		05/03/12 20:38	108-90-7	
Chloroform	ND	mg/L	0.19	38		05/03/12 20:38	67-66-3	
1,4-Dichlorobenzene	ND	mg/L	0.19	38		05/03/12 20:38	106-46-7	
1,2-Dichloroethane	ND	mg/L	0.19	38		05/03/12 20:38	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.19	38		05/03/12 20:38	75-35-4	
Tetrachloroethene	ND	mg/L	0.19	38		05/03/12 20:38	127-18-4	
Trichloroethene	ND	mg/L	0.19	38		05/03/12 20:38	79-01-6	
Vinyl chloride	ND	mg/L	0.19	38		05/03/12 20:38	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	70-130	38		05/03/12 20:38	17060-07-0	1g
Toluene-d8 (S)	99	%	67-135	38		05/03/12 20:38	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130	38		05/03/12 20:38	460-00-4	
Dibromofluoromethane (S)	107	%	70-130	38		05/03/12 20:38	1868-53-7	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**39.3**	%	0.10	1		05/03/12 13:36		
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010							
Flashpoint	**>200**	deg F	70.0	1		05/15/12 17:05		

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 5/1
Pace Project No.: 92117683

Sample: MERRY OAKS COMPOST **Lab ID: 92117683002** Collected: 05/01/12 15:45 Received: 05/02/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**3450**	mg/kg	82.4	1		05/12/12 14:45		
2540G Total Percent Solids	Analytical Method: SM 2540G							
Total Solids	**60.7**	%	0.10	1		05/03/12 08:56		N2
9045 pH Soil	Analytical Method: EPA 9045							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		05/04/12 12:45		
Plant Available Nitrogen	Analytical Method: 40CFR PART 432.2							
Plant Available Nitrogen	**4340**	mg/kg	1.0	1		05/16/12 13:35		N2
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**463**	mg/kg	14.2	1		05/15/12 17:35	7664-41-7	D6,M1
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**14000**	mg/kg	532	10		05/15/12 12:48	7727-37-9	
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**31.8**	mg/kg	3.3	1		05/16/12 00:38		
Nitrogen, Nitrite	**14.9**	mg/kg	1.6	1		05/16/12 00:38		
Nitrogen, NO2 plus NO3	**46.8**	mg/kg	3.3	1		05/16/12 00:38		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**5150**	mg/kg	358	50		05/15/12 09:28	7723-14-0	

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 12/20
Pace Project No.: 92109001

Sample: MERRY OAKS **Lab ID: 92109001002** Collected: 12/20/11 11:00 Received: 12/21/11 15:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP SPE	Analytical Method: EPA 8081 Preparation Method: EPA 3535							
	Leachate Method/Date: EPA 1311; 12/27/11 16:02							
gamma-BHC (Lindane)	ND	mg/L	0.00050	1	12/28/11 15:30	12/29/11 17:09	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0030	1	12/28/11 15:30	12/29/11 17:09	57-74-9	
Endrin	ND	mg/L	0.00050	1	12/28/11 15:30	12/29/11 17:09	72-20-8	
Heptachlor epoxide	ND	mg/L	0.00050	1	12/28/11 15:30	12/29/11 17:09	1024-57-3	
Methoxychlor	ND	mg/L	1.0	1	12/28/11 15:30	12/29/11 17:09	72-43-5	
Toxaphene	ND	mg/L	0.0030	1	12/28/11 15:30	12/29/11 17:09	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	80	%	10-138	1	12/28/11 15:30	12/29/11 17:09	2051-24-3	
Tetrachloro-m-xylene (S)	46	%	10-110	1	12/28/11 15:30	12/29/11 17:09	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Aluminum	**27500**	mg/kg	61.7	5	12/29/11 15:50	12/30/11 12:16	7429-90-5	
Arsenic	**13.6**	mg/kg	0.62	1	12/29/11 15:50	12/30/11 03:25	7440-38-2	
Cadmium	**0.71**	mg/kg	0.12	1	12/29/11 15:50	12/30/11 03:25	7440-43-9	
Calcium	**55000**	mg/kg	61.7	5	12/29/11 15:50	12/30/11 12:16	7440-70-2	
Copper	**255**	mg/kg	0.62	1	12/29/11 15:50	12/30/11 03:25	7440-50-8	
Lead	**11.4**	mg/kg	0.62	1	12/29/11 15:50	12/30/11 03:25	7439-92-1	
Magnesium	**3490**	mg/kg	12.3	1	12/29/11 15:50	12/30/11 03:25	7439-95-4	
Molybdenum	**3.7**	mg/kg	0.62	1	12/29/11 15:50	12/30/11 03:25	7439-98-7	
Nickel	**9.9**	mg/kg	0.62	1	12/29/11 15:50	12/30/11 03:25	7440-02-0	
Potassium	**9270**	mg/kg	617	1	12/29/11 15:50	12/30/11 03:25	7440-09-7	
Selenium	**2.5**	mg/kg	1.2	1	12/29/11 15:50	12/30/11 03:25	7782-49-2	
Sodium	**3770**	mg/kg	617	1	12/29/11 15:50	12/30/11 03:25	7440-23-5	
Zinc	**330**	mg/kg	1.2	1	12/29/11 15:50	12/30/11 03:25	7440-66-6	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Leachate Method/Date: EPA 1311; 12/28/11 16:00							
Arsenic	ND	mg/L	0.025	1	12/29/11 13:35	12/30/11 02:38	7440-38-2	
Barium	ND	mg/L	0.50	1	12/29/11 13:35	12/30/11 02:38	7440-39-3	
Cadmium	ND	mg/L	0.0050	1	12/29/11 13:35	12/30/11 02:38	7440-43-9	
Chromium	ND	mg/L	0.025	1	12/29/11 13:35	12/30/11 02:38	7440-47-3	
Lead	ND	mg/L	0.025	1	12/29/11 13:35	12/30/11 02:38	7439-92-1	
Selenium	ND	mg/L	0.10	1	12/29/11 13:35	12/30/11 02:38	7782-49-2	
Silver	ND	mg/L	0.025	1	12/29/11 13:35	12/30/11 02:38	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Leachate Method/Date: EPA 1311; 12/28/11 16:00							
Mercury	ND	mg/L	0.00020	1	12/29/11 17:20	12/30/11 12:31	7439-97-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.097**	mg/kg	0.0074	1	12/27/11 18:05	12/29/11 12:22	7439-97-6	

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 12/20
Pace Project No.: 92109001

Sample: MERRY OAKS **Lab ID: 92109001002** Collected: 12/20/11 11:00 Received: 12/21/11 15:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 12/27/11 16:02							
1,4-Dichlorobenzene	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	106-46-7	
2-Methylphenol(o-Cresol)	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34		
Hexachloroethane	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	67-72-1	
Nitrobenzene	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	98-95-3	
Hexachloro-1,3-butadiene	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	87-68-3	
2,4,6-Trichlorophenol	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	88-06-2	
2,4,5-Trichlorophenol	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	95-95-4	
2,4-Dinitrotoluene	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	121-14-2	
Hexachlorobenzene	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	118-74-1	
Pentachlorophenol	ND	mg/L	0.10	1	01/04/12 14:00	01/04/12 21:34	87-86-5	
Pyridine	ND	mg/L	0.050	1	01/04/12 14:00	01/04/12 21:34	110-86-1	
Surrogates								
Nitrobenzene-d5 (S)	45	%	12-102	1	01/04/12 14:00	01/04/12 21:34	4165-60-0	2g
2-Fluorobiphenyl (S)	47	%	13-107	1	01/04/12 14:00	01/04/12 21:34	321-60-8	
Terphenyl-d14 (S)	45	%	21-132	1	01/04/12 14:00	01/04/12 21:34	1718-51-0	
Phenol-d6 (S)	48	%	10-110	1	01/04/12 14:00	01/04/12 21:34	13127-88-3	
2-Fluorophenol (S)	50	%	10-110	1	01/04/12 14:00	01/04/12 21:34	367-12-4	
2,4,6-Tribromophenol (S)	33	%	27-108	1	01/04/12 14:00	01/04/12 21:34	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260							
Benzene	ND	mg/L	0.19	38		12/30/11 21:12	71-43-2	
2-Butanone (MEK)	ND	mg/L	0.38	38		12/30/11 21:12	78-93-3	
Carbon tetrachloride	ND	mg/L	0.19	38		12/30/11 21:12	56-23-5	
Chlorobenzene	ND	mg/L	0.19	38		12/30/11 21:12	108-90-7	
Chloroform	ND	mg/L	0.19	38		12/30/11 21:12	67-66-3	
1,4-Dichlorobenzene	ND	mg/L	0.19	38		12/30/11 21:12	106-46-7	
1,2-Dichloroethane	ND	mg/L	0.19	38		12/30/11 21:12	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.19	38		12/30/11 21:12	75-35-4	
Tetrachloroethene	ND	mg/L	0.19	38		12/30/11 21:12	127-18-4	
Trichloroethene	ND	mg/L	0.19	38		12/30/11 21:12	79-01-6	
Vinyl chloride	ND	mg/L	0.19	38		12/30/11 21:12	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	114	%	70-130	38		12/30/11 21:12	17060-07-0	1g
Toluene-d8 (S)	101	%	67-135	38		12/30/11 21:12	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130	38		12/30/11 21:12	460-00-4	
Dibromofluoromethane (S)	119	%	70-130	38		12/30/11 21:12	1868-53-7	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**40.4**	%	0.10	1		12/22/11 13:32		
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010							
Flashpoint	**>200**	deg F	70.0	1		01/05/12 13:00		

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Compost Sampling 12/20
Pace Project No.: 92109001

Sample: MERRY OAKS **Lab ID: 92109001002** Collected: 12/20/11 11:00 Received: 12/21/11 15:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**3440**	mg/kg	792	1		12/31/11 14:30		
2540G Total Percent Solids	Analytical Method: SM 2540G							
Total Solids	**59.6**	%	0.10	1		12/22/11 09:01		N2
9045 pH Soil	Analytical Method: EPA 9045							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		12/23/11 12:00		
Plant Available Nitrogen	Analytical Method: 40CFR PART 432.2							
Plant Available Nitrogen	**4020**	mg/kg	1.0	1		01/09/12 12:55		N2
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**294**	mg/kg	7.9	5		01/06/12 14:28	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**12200**	mg/kg	763	10		12/30/11 10:13	7727-37-9	
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**301**	mg/kg	10.1	3		01/06/12 15:07		
Nitrogen, Nitrite	**3.7**	mg/kg	1.7	1		01/06/12 14:50		
Nitrogen, NO2 plus NO3	**301**	mg/kg	10.1	3		01/06/12 15:07		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**4000**	mg/kg	182	25		01/02/12 14:11	7723-14-0	

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification Compost
Merry Oaks Soil Builder

Date Sampled/Received: 16 Jan. 12 / 19 Jan. 12

COMPOST TECHNICAL DATA SHEET

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Reported as*** *(units of measure)*	***Test Results***	***Test Results***
Plant Nutrients:	%, weight basis	Not reported	Not reported
Moisture Content	%, wet weight basis	41.8	
Organic Matter Content	%, dry weight basis	45.1	
pH	units	7.16	
Soluble Salts *(electrical conductivity EC_5)*	dS/m (mmhos/cm)	6.6	
Particle Size or Sieve Size	maxium aggregate size, inches	0.38	
Stability Indicator *(respirometry)*			*Stability Rating:*
CO_2 Evolution	mg CO_2-C/g OM/day mg CO_2-C/g TS/day	1.9 0.85	Very Stable
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100.0	
Relative Seedling Vigor	average % of control	100.0	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	Pass	*Fecal coliform*
		Pass	*Salmonella*
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	Pass	*As,Cd,Cr,Cu,Pb,Hg* Mo,Ni,Se,Zn

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Laboratory Group: Jan.12 C Laboratory Number: 2010434-1/1

Analyst: Assaf Sadeh

www.compostlab.com

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification Compost
Merry Oaks Soil Builder

Date Sampled/Received: 16 Jan. 12 / 19 Jan. 12

COMPOST TECHNICAL DATA SHEET

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Reported as*** *(units of measure)*	***Test Results***	***Test Results***
Plant Nutrients:	%, weight basis	%, wet weight basis	%, dry weight basis
Nitrogen	Total N	0.79	1.4
Phosphorus	P_2O_5	0.75	1.3
Potassium	K_2O	0.42	0.72
Calcium	Ca	3.2	5.5
Magnesium	Mg	0.25	0.43
Moisture Content	%, wet weight basis	41.8	
Organic Matter Content	%, dry weight basis	45.1	
pH	units	7.16	
Soluble Salts *(electrical conductivity EC_5)*	dS/m (mmhos/cm)	6.6	
Particle Size or Sieve Size	% under 9.5 mm, dw basis	100.0	
Stability Indicator *(respirometry)*			*Stability Rating:*
CO_2 Evolution	mg CO_2-C/g OM/day mg CO_2-C/g TS/day	1.9 0.85	Very Stable
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100.0	
Relative Seedling Vigor	average % of control	100.0	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	Pass Pass	*Fecal coliform* *Salmonella*
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	Pass	*As,Cd,Cr,Cu,Pb,Hg* Mo,Ni,Se,Zn

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Laboratory Group: Jan.12 C Laboratory Number: 2010434-1/1

Analyst: Assaf Sadeh

www.compostlab.com

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification:	Compost
Merry Oaks Soil Builder	

Date Sampled/Received: 16 Jan. 12 / 19 Jan. 12

COMPOST TECHNICAL DATA SHEET for NORTH CAROLINA DOT

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Test Results***	***Reported as (units of measure)***	***Project Specification (Allowable Limit)***
Organic Matter Content	45.1	%, dry weight basis	25 - 65
pH	7.16	Unitless	5.0 - 8.5
Moisture Content	41.8	%, wet weight basis	30 - 60
Soluble Salts (electrical conductivity)	6.6	dS/m (mmhos/cm)	5.0 dS/m, maximum
Particle Size	100.0 100.0 100.0 99.4	%, dry weight passing through 3 inch screen and 1 inch screen and 3/4 inch screen and 1/4 inch screen	100% 90% minimum 65% minimum 50% maximum
Stability Indicator (respirometry) CO_2 Evolution	1.9	mg CO_2-C/g OM/day	≤ 8
Maturity Indicator (bioassay) Percent Emergence	100.0	average % of control	80%, minimum
Relative Seedling Vigor	100.0	average % of control	80%, minimum
Select Pathogens (Fecal Coliform)	Pass	PASS/FAIL: Per US EPA Class A standard, 40 CFR 503.32(a)	Pass
Trace Metals	Pass	PASS/FAIL: Per US EPA Class A 40 CFR 503.13, tables 1 and 3.	Pass
Inert Contamination (man-made)	None Detected	%, dry weight	<1.0 %

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

For additional information pertaining to compost use, the specific compost parameters tested for within the Seal of Testing assurance Program, or the program in general, log on to the US Composting Council's TMECC web-site at http://www.tmecc.org.

This compost product has been sampled and tested as required by the Seal of Testing assurance Program on the United States Composting Council (USCC), using certain methods from the "Test Methods for the Examination of Compost and Composting" manual. Test results are available upon request by contacting the compost producer (address at top of page). The USCC makes no warranties regarding this product or its content, quality. or suitability for any particular use.

Laboratory Group:	Jan.12 C	Laboratory Number:	2010434-1/1
Analyst: Assaf Sadeh		www.compostlab.com	

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

TEL: 831-724-5422
FAX: 831-724-3188
www.compostlab.com

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Account #: 2010434-1/1-6691
Group: Jan.12 C #24
Reporting Date: February 1, 2012

McGill Environmental (New Hill)
634 Christian Chapel Church Road
New Hill, NC 27562
Attn: Steve Cockman

Date Received: 19 Jan. 12
Sample Identification: Merry Oaks Soil Builder
Sample ID #: 2010434 - 1/1

Nutrients	Dry wt.	As Rcvd.	units
Total Nitrogen:	1.4	0.79	%
Ammonia (NH_4-N):	260	150	mg/kg
Nitrate (NO_3-N):	450	260	mg/kg
Org. Nitrogen (Org.-N):	1.3	0.76	%
Phosphorus (as P_2O_5):	1.3	0.74	%
Phosphorus (P):	5600	3300	mg/kg
Potassium (as K_2O):	0.72	0.42	%
Potassium (K):	6000	3500	mg/kg
Calcium (Ca):	5.5	3.2	%
Magnesium (Mg):	0.43	0.25	%
Sulfate (SO_4-S):	2900	1700	mg/kg
Boron (Total B):	26	15	mg/kg
Moisture:	0	41.8	%
Sodium (Na):	0.21	0.12	%
Chloride (Cl):	0.22	0.13	%
pH Value:	NA	7.16	unit
Bulk Density :	25	42	lb/cu ft
Carbonates ($CaCO_3$):	130	78	lb/ton
Conductivity (EC5):	6.6	NA	mmhos/cm
Organic Matter:	45.1	26.2	%
Organic Carbon:	23.0	13.0	%
Ash:	54.9	32.0	%
C/N Ratio	17	17	ratio
AgIndex	8	8	ratio

Stability Indicator:		Biologically
CO2 Evolution	Respirometery	Available C
mg CO_2-C/g OM/day	1.9	1.9
mg CO_2-C/g TS/day	0.85	0.86
Stability Rating	*very stable*	*very stable*

Maturity Indicator: Cucumber Bioassay		
Compost:Vermiculite(v:v)	1:1	1:3
Emergence (%)	100	100
Seedling Vigor (%)	100	100
Description of Plants	*healthy*	*healthy*

Pathogens	Results	Units	Rating
Fecal Coliform	250	MPN/g	*pass*
Salmonella	< 3	MPN/4g	*pass*

Date Tested: 19 Jan. 12

Inerts	% by weight
Plastic	< 0.5
Glass	< 0.5
Metal	< 0.5
Sharps	ND

Metals	Dry wt.	EPA Limit	units
Aluminum (Al)	31000	-	mg/kg
Arsenic (As):	9.8	41	mg/kg
Cadmium (Cd):	< 1.0	39	mg/kg
Chromium (Cr):	35	1200	mg/kg
Cobalt (Co)	10	-	mg/kg
Copper (Cu):	120	1500	mg/kg
Iron (Fe):	14000	-	mg/kg
Lead (Pb):	12	300	mg/kg
Manganese (Mn):	1800	-	mg/kg
Mercury (Hg):	< 1.0	17	mg/kg
Molybdenum (Mo):	4.0	75	mg/kg
Nickel (Ni):	12	420	mg/kg
Selenium (Se):	2.0	36	mg/kg
Zinc (Zn):	240	2800	mg/kg

Size & Volume Distribution

MM	% by weight	% by volume	BD g/cc
> 50	0.0	0.0	0.00
25 to 50	0.0	0.0	0.00
16 to 25	0.0	0.0	0.00
9.5 to 16	0.0	0.0	0.00
6.3 to 9.5	0.6	0.4	0.71
4.0 to 6.3	2.0	2.6	0.37
2.0 to 4.0	24.7	30.8	0.39
< 2.0	72.7	66.1	0.54

Bulk Density Description:<.35 Light Materials, .35-.60 medium weight materials, >.60 Heavy Materials

Analyst: Assaf Sadeh

*Sample was received and handled in accordance with TMECC procedures.

Account No.: 2010434 - 1/1 - 6691
Group: Jan.12 C No. 24

Date Received 19 Jan. 12
Sample i.d. Merry Oaks Soil Builder
Sample I.d. No. 1/1 2010434

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate
1.9 mg CO2-C/ g OM/day

Biodegradation Rate of Your Pile

< Stable	>|< Moderately Stable	>|< Unstable	>|< High For Mulch

Biologically Available Carbon (BAC)
1.9 mg CO2-C/ g OM/day

Optimum Degradation Rate

< Stable	>|< Moderately Stable	>|< Unstable	>|< High For Mulch

Is Your Compost Mature?

AmmoniaN/NitrateN ratio
0.58 Ratio

VeryMature>|<	Mature	>|< Immature

Ammonia N ppm
260 mg/kg dry wt.

VeryMature>|<	Mature	>|< Immature

Nitrate N ppm
450 mg/kg dry wt.

< Immature	>|< Mature

pH value
7.16 units

< Immature	>|< Mature	>|< Immature

Cucumber Emergence
100.0 percent

< Immature	>|< Mature

Is Your Compost Safe Regarding Health?

Fecal Coliform
< 1000 MPN/g dry wt.

< Safe	>|< High Fecal Coliform

Salmonella
Less than 3 /4g dry wt.

<Safe (none detected)	>|< High Salmonella Count(> 3 per 4 grams)

Metals US EPA 503
Pass dry wt.

<All Metals Pass	>|< One or more Metals Fail

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P2O5+K2O)
3.4 Percent dry wt.

<Low	>|< Average	>|< High Nutrient Content

Agindex (Nutrients / Sodium and Chloride Salts) ((N+P2O5+K2O) / (Na + Cl))
8 Ratio

Na & Cl	>|< Nutrient and Sodium and Chloride Provider	>|< Nutrient Provider

Plant Available Nitrogen (PAN) Estimated release for first season
4 lbs/ton wet wt.

Low Nitrogen Provider>|<	Average Nitrogen Provider	>|<High Nitrogen Provider

C/N Ratio
17 Ratio

< Nitrogen Release	>|< N-Neutral	>|< N-Demand>|< High Nitrogen Demand

Soluble Available Nutrients & Salts (EC5 w/w dw)
6.6 mmhos/cm dry wt.

SloRelease>|< Average Nutrient Release Rate	>|<High Available Nutrients

Lime Content (CaCO3)
130 Lbs/ton dry wt.

< Low >|<	Average	>|< High Lime Content (as CaCO3)

What are the physical properties of your compost?

Percent Ash
54.9 Percent dry wt.

< High Organic Matter	>|< Average	>|< High Ash Content

Sieve Size % > 6.3 MM (0.25")
0.6 Percent dry wt.

All Uses	>|< Size May Restrict Uses for Potting mix and Golf Courses

Account No.:		Date Received	19 Jan. 12
2010434 - 1/1 - 6691		Sample i.d.	Merry Oaks Soil Builder
Group:	Jan.12 C No. 24	Sample I.d. No.	1/1 2010434

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate

1.9 Low: Good for all uses mg CO2-C/g OM/day

The respiration rate is a measurement of the biodegradation rate of the organic matter in the sample (as received). The respiration rate is determined by measuring the rate at which CO2 is released under optimized moisture and temperature conditions.

Biologically Available Carbon

2 Low: Good for all uses mg CO2-C/g OM/day

Biologically Available Carbon (BAC) is a measurement of the rate at which CO2 is released under optimized moisture, temperature, porosity, nutrients, pH and microbial conditions. If both the RR and the BAC test values are close to the same value, the pile is optimized for composting. If both values are high the compost pile just needs more time. If both values are low the compost has stabilized and should be moved to curing. BAC test values that are higher than RR indicate that the compost pile has stalled. This could be due to anaerobic conditions, lack of available nitrogen due to excessive air converting ammonia to the unavailable nitrate form, lack of nitrogen or other nutrients due to poor choice of feedstock, pH value out of range, or microbes rendered non-active.

Is Your Compost Mature?

AmmoniaN:NitrateN ratio

0.58 mature

Ammonia N ppm

260 mature

Nitrate N ppm

450 mature

pH value

7.16 mature

Composting to stabilize carbon can occur at such a rapid rate that sometimes phytotoxins remain in the compost and must be neutralized before using in high concentrations or in high-end uses. This step is called curing. Typically ammonia is in excess with the break-down of organic materials resulting in an increase in pH. This combination results in a loss of volatile ammonia (it smells). Once this toxic ammonia has been reduced and the pH drops, the microbes convert the ammonia to nitrates. A low ammonia + high nitrate score is indicative of a mature compost, however there are many exceptions. For example, a compost with a low pH (<7) will retain ammonia, while a compost with high lime content can lose ammonia before the organic fraction becomes stable. Composts must first be stable before curing indicators apply.

Cucumber Bioassay

100.0 Percent

Cucumbers are chosen for this test because they are salt tolerant and very sensitive to ammonia and organic acid toxicity. Therefore, we can germinate seeds in high concentrations of compost to measure phytotoxic effects without soluble salts being the limiting factor. Values above 80% for both percent emergence and vigor are indicative of a well-cured compost. Exceptions include very high salts that affect the cucumbers, excessive concentrations of nitrates and other nutrients that will be in range when formulated to make a growing media. In addition to testing a 1:1 compost: vermiculite blend, we also test a diluted 1:4 blend to indicate a more sensitive toxicity level.

Is Your Compost Safe Regarding Health?

Fecal Coliform

< 1000 / g dry wt.

Fecal coliforms can survive in both aerobic and anaerobic conditions and is common in all initial compost piles. Most human pathogens occur from fecal matter and all fecal matter is loaded in fecal coliforms. Therefore fecal coliforms are used as an indicator to determine if the chosen method for pathogen reduction (heat for compost) has met the requirements of sufficient temperature, time and mixing. If the fecal coliforms are reduced to below 1000 per gram dry wt. it is assumed all others pathogens are eliminated. Potential problems are that fecal coliform can regrow during the curing phase or during shipping. This is because the conditions are now more favorable for growth than during the composting process.

Salmonella Bacteria

Less than 3 3 / 4g dry wt.

Salmonella is not only another indicator organism but also a toxic microbe. It has been used in the case of biosolids industry to determine adequate pathogen reduction.

Metals

Pass

The ten heavy metals listed in the EPA 503 regulations are chosen to determine if compost can be applied to ag land and handled without toxic effects. Most high concentrations of heavy metals are derived from woodwaste feedstock such as chrome-arsenic treated or lead painted demolition wood. Biosolids are rarely a problem.

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P2O5+K2O)

3.4 Average nutrient content

This value is the sum of the primary nutrients Nitrogen, Phosphorus and Potassium. Reported units are consistent with those found on fertilizer formulations. A sum greater than 5 is indicative of a compost with high nutrient content, and best used to supply nutrients to a receiving soil. A sum below 2 indicates low nutrient content, and is best-used to improve soil structure via the addition of organic matter. Most compost falls between 2 and 5.

Account No.:		Date Received	19 Jan. 12
2010434 - 1/1 - 6691		Sample i.d.	Merry Oaks Soil Builder
Group:	Jan.12 C No. 24	Sample I.d. No.	1/1 2010434

INTERPRETATION:

AgIndex (Nutrients/Na+Cl)

8 Average nutrient ratio Composts with low AgIndex values have high concentrations of sodium and/or chloride compared to nutrients. Repeated use of a compost with a low AgIndex (< 2) may result in sodium and/or chloride acting as the limiting factor compared to nutrients, governing application rates. These composts may be used on well-draining soils and/or with salt-tolerant plants. Additional nutrients form another source may be needed if the application rate is limited by sodium or chloride. If the AgIndex is above 10, nutrients optimal for plant growth will be available without concern of sodium and/or chloride toxicity. Composts with an AgIndex of above 10 are good for increasing nutrient levels for all soils. Most composts score between 2 and 10. Concentrations of nutrients, sodium, and chloride in the receiving soil should be considered when determining compost application rates. The AgIndex is a product of feedstock quality. Feedstock from dairy manure, marine waste, industrial wastes, and halophytic plants are likely to produce a finished compost with a low AgIndex.

Plant Available Nitrogen (lbs/ton)

4 Low N Provider Plant Available Nitrogen (PAN) is calculated by estimating the release rate of Nitrogen from the organic fraction of the compost. This estimate is based on information gathered from the BAC test and measured ammonia and nitrate values. Despite the PAN value of the compost, additional sources of Nitrogen may be needed during he growing season to off-set the Nitrogen demand of the microbes present in the compost. With ample nutrients these microbes can further breakdown organic matter in the compost and release bound Nitrogen. Nitrogen demand based on a high C/N ratio is not considered in the PAN calculation because additional Nitrogen should always be supplemented to the receiving soil when composts with a high C/N ratio are applied.

C/N Ratio

17 Indicates immaturity As a guiding principal, a C/N ratio below 14 indicates maturity and above 14 indicates immaturity, however, there are many exceptions. Large woodchips (>6.3mm), bark, and redwood are slow to breakdown and therefore can result in a relatively stable product while the C/N ratio value is high. Additionally, some composts with chicken manure and/or green grass feedstocks can start with a C/N ratio below 15 and are very unstable. A C/N ratio below 10 supplies Nitrogen, while a ratio above 20 can deplete Nitrogen from the soil. The rate at which Nitrogen will be released or used by the microbes is indicated by the respiration rate (BAC). If the respiration rate is too high the transfer of Nitrogen will not be controlable.

Soluble Nutrients & Salts (EC5 w/w dw - mmhos/cm)

6.6 Average salts This value refers to all soluble ions including nutrients, sodium, chloride and some soluble organic compounds. The concentration of salts will change due to the release of salts from the organic matter as it degrades, volatilization of ammonia, decomposition of soluble organics, and conversion of molecular structure. High salts + high AgIndex is indicative of a compost high in readily available nutrients. The application rate of these composts should be limited by the optimum nutrient value based on soil analysis of the receiving soil. High Salts + low AgIndex is indicative of a compost low in nutrients with high concentrations of sodium and/or chloride. Limit the application rate according to the toxicity level of thesodium and/or chloride. Low salts indicates that the compost can be applied without risking salt toxicity, is likely a good source of organic matter, and that nutrients will release slowly over time.

Lime Content (lbs. per ton)

130 High lime content Compost high in lime or carbonates are often those produced from chicken manure (layers) ash materials, and lime products. These are excellent products to use on a receiving soil where lime has been recommended by soil analysis to raise the pH. Composts with a high lime content should be closely considered for pH requirements when formulating potting mixes.

Physical Properties

Percent Ash

54.9 Average ash content Ash is the non-organic fraction of a compost. Most composts contain approximately 50% ash (dry weight basis). Compost can be high in ash content for many reasons including: excess mineriization(old compost), contamination with soil base material during turning, poor quality feedstock, and soil or mineral products added. Finding the source and reducing high ash content is often the fastest means to increasing nutrient quality of a compost.

Particle Size % > 6.3 MM (0.25")

0.6 Suitable for all uses Large particles may restrict use for potting soils, golf course topdressings, seed-starter mixes, and where a fine size distribution is required. Composts with large particles can still be used as excellent additions to field soils, shrub mixes and mulches.

Particle Size Distribution

Each size fraction is measured by weight, volume and bulk density. These results are particularly relevent with decisions to screen or not, and if screening, which size screen to use. The bulk density indicates if the fraction screened is made of light weight organic material or heavy mineral material. Removing large mineral material can greatly improve compost quality by increasing nutrient and organic concentrations.

Appendix:

Plant Available Nitrogen (PAN) calculations:
PAN = (X * (organic N)) + ((NH4-N) + (NO3-N))
X value = If BAC < 2 then X = 0.1
If BAC =2.1 to 5 then X = 0.2
If BAC =5.1 to 10 then X = 0.3
If BAC > 10 then X = 0.4
Note: If C/N ratio > 15 additional N should be applied.

Estimated available nutrients for use when calculating application rates

	lbs/ton
Plant Available Nitrogen (PAN)	3.9
Ammonia (NH4-N)	0.30
Nitrate (NO3-N)	0.52
Available Phosphorus (P2O5*0.64)	9.6
Available Potassium (K2O)	8.4

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification Compost
Merry Oaks Soil Builder

Date Sampled/Received: 25 Jun. 12 / 29 Jun. 12

COMPOST TECHNICAL DATA SHEET

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Reported as*** *(units of measure)*	***Test Results***	***Test Results***
Plant Nutrients:	%, weight basis	Not reported	Not reported
Moisture Content	%, wet weight basis	33.3	
Organic Matter Content	%, dry weight basis	47.9	
pH	units	7.71	
Soluble Salts *(electrical conductivity EC_5)*	dS/m (mmhos/cm)	10	
Particle Size or Sieve Size	maxium aggregate size, inches	0.64	
Stability Indicator *(respirometry)*			*Stability Rating:*
CO_2 Evolution	mg CO_2-C/g OM/day mg CO_2-C/g TS/day	2.4 1.1	Stable
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100.0	
Relative Seedling Vigor	average % of control	91.7	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	Pass	*Fecal coliform*
		Pass	*Salmonella*
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	Pass	*As,Cd,Cr,Cu,Pb,Hg* Mo,Ni,Se,Zn

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Laboratory Group: Jun12E Laboratory Number: 2060856-1/1

Analyst: Assaf Sadeh

www.compostlab.com

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification Compost
Merry Oaks Soil Builder

Date Sampled/Received: 25 Jun. 12 / 29 Jun. 12

COMPOST TECHNICAL DATA SHEET

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Reported as*** *(units of measure)*	***Test Results***	***Test Results***
Plant Nutrients:	%, weight basis	%, wet weight basis	%, dry weight basis
Nitrogen	Total N	1.3	2.0
Phosphorus	P_2O_5	1.7	2.5
Potassium	K_2O	0.47	0.70
Calcium	Ca	3.5	5.3
Magnesium	Mg	0.26	0.39
Moisture Content	%, wet weight basis	33.3	
Organic Matter Content	%, dry weight basis	47.9	
pH	units	7.71	
Soluble Salts *(electrical conductivity EC_5)*	dS/m (mmhos/cm)	10	
Particle Size or Sieve Size	% under 9.5 mm, dw basis	99.6	
Stability Indicator *(respirometry)*			*Stability Rating:*
CO_2 Evolution	mg CO_2-C/g OM/day	2.4	Stable
	mg CO_2-C/g TS/day	1.1	
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100.0	
Relative Seedling Vigor	average % of control	91.7	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	Pass	*Fecal coliform*
		Pass	*Salmonella*
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	Pass	*As,Cd,Cr,Cu,Pb,Hg* Mo,Ni,Se,Zn

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Laboratory Group: Jun12E Laboratory Number: 2060856-1/1

Analyst: Assaf Sadeh

www.compostlab.com

US COMPOSTING COUNCIL

Seal of Testing Assurance

McGill Environmental (New Hill)
Steve Cockman
634 Christian Chapel Church Road
New Hill
NC 27562 (919) 362-1161

Product Identification:	Compost
Merry Oaks Soil Builder	

Date Sampled/Received: 25 Jun. 12 / 29 Jun. 12

COMPOST TECHNICAL DATA SHEET for NORTH CAROLINA DOT

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	***Test Results***	***Reported as*** *(units of measure)*	***Project Specification (Allowable Limit)***
Organic Matter Content	47.9	%, dry weight basis	25 - 65
pH	7.71	Unitless	5.0 - 8.5
Moisture Content	33.3	%, wet weight basis	30 - 60
Soluble Salts (electrical conductivity)	10	dS/m (mmhos/cm)	5.0 dS/m, maximum
Particle Size	100.0 100.0 100.0 97.7	%, dry weight passing through 3 inch screen and 1 inch screen and 3/4 inch screen and 1/4 inch screen	100% 90% minimum 65% minimum 50% maximum
Stability Indicator (respirometry) CO_2 Evolution	2.4	mg CO_2-C/g OM/day	≤ 8
Maturity Indicator (bioassay) Percent Emergence	100.0	average % of control	80%, minimum
Relative Seedling Vigor	91.7	average % of control	80%, minimum
Select Pathogens (Fecal Coliform)	Pass	PASS/FAIL: Per US EPA Class A standard, 40 CFR 503.32(a)	Pass
Trace Metals	Pass	PASS/FAIL: Per US EPA Class A 40 CFR 503.13, tables 1 and 3.	Pass
Inert Contamination (man-made)	None Detected	%, dry weight	<1.0 %

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

For additional information pertaining to compost use, the specific compost parameters tested for within the Seal of Testing assurance Program, or the program in general, log on to the US Composting Council's TMECC web-site at http://www.tmecc.org.

This compost product has been sampled and tested as required by the Seal of Testing assurance Program on the United States Composting Council (USCC), using certain methods from the "Test Methods for the Examination of Compost and Composting" manual. Test results are available upon request by contacting the compost producer (address at top of page). The USCC makes no warranties regarding this product or its content, quality. or suitability for any particular use.

Laboratory Group:	Jun12E	Laboratory Number:	2060856-1/1
Analyst: Assaf Sadeh		www.compostlab.com	

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

TEL: 831-724-5422
FAX: 831-724-3188
www.compostlab.com

Account #: 2060856-1/1-6691
Group: Jun12E #28
Reporting Date: July 17, 2012

McGill Environmental (New Hill)
634 Christian Chapel Church Road
New Hill, NC 27562
Attn: Steve Cockman

Date Received: 29 Jun. 12
Sample Identification: Merry Oaks Soil Builder
Sample ID #: 2060856 - 1/1

Nutrients	Dry wt.	As Rcvd.	units
Total Nitrogen:	2.0	1.3	%
Ammonia (NH_4-N):	2600	1700	mg/kg
Nitrate (NO_3-N):	10	7.0	mg/kg
Org. Nitrogen (Org.-N):	1.7	1.1	%
Phosphorus (as P_2O_5):	2.5	1.7	%
Phosphorus (P):	11000	7400	mg/kg
Potassium (as K_2O):	0.70	0.47	%
Potassium (K):	5800	3900	mg/kg
Calcium (Ca):	5.3	3.5	%
Magnesium (Mg):	0.39	0.26	%
Sulfate (SO_4-S):	4400	3000	mg/kg
Boron (Total B):	28	19	mg/kg
Moisture:	0	33.3	%
Sodium (Na):	0.27	0.18	%
Chloride (Cl):	0.21	0.14	%
pH Value:	NA	7.71	unit
Bulk Density :	23	35	lb/cu ft
Carbonates ($CaCO_3$):	79	53	lb/ton
Conductivity (EC5):	10	NA	mmhos/cm
Organic Matter:	47.9	32.0	%
Organic Carbon:	25.0	17.0	%
Ash:	52.1	34.7	%
C/N Ratio	13	13	ratio
AgIndex	> 10	> 10	ratio

Stability Indicator:		Biologically
CO2 Evolution	Respirometery	Available C
mg CO_2-C/g OM/day	2.4	2.7
mg CO_2-C/g TS/day	1.1	1.3
Stability Rating	*stable*	*stable*

Maturity Indicator: Cucumber Bioassay		
Compost:Vermiculite(v:v)	1:1	1:3
Emergence (%)	100	100
Seedling Vigor (%)	92	93
Description of Plants	*healthy*	*healthy*

Pathogens	Results	Units	Rating
Fecal Coliform	< 2.0	MPN/g	*pass*
Salmonella	< 3	MPN/4g	*pass*

Date Tested: 29 Jun. 12

Inerts	% by weight
Plastic	< 0.5
Glass	< 0.5
Metal	< 0.5
Sharps	ND

Metals	Dry wt.	EPA Limit	units
Aluminum (Al)	29000	-	mg/kg
Arsenic (As):	8.3	41	mg/kg
Cadmium (Cd):	< 1.0	39	mg/kg
Chromium (Cr):	29	1200	mg/kg
Cobalt (Co)	4.6	-	mg/kg
Copper (Cu):	150	1500	mg/kg
Iron (Fe):	17000	-	mg/kg
Lead (Pb):	14	300	mg/kg
Manganese (Mn):	1300	-	mg/kg
Mercury (Hg):	< 1.0	17	mg/kg
Molybdenum (Mo):	5.0	75	mg/kg
Nickel (Ni):	13	420	mg/kg
Selenium (Se):	3.7	36	mg/kg
Zinc (Zn):	330	2800	mg/kg

Size & Volume Distribution

MM	% by weight	% by volume	BD g/cc
> 50	0.0	0.0	0.00
25 to 50	0.0	0.0	0.00
16 to 25	0.0	0.0	0.00
9.5 to 16	0.4	0.3	0.57
6.3 to 9.5	1.9	2.5	0.39
4.0 to 6.3	5.6	8.4	0.34
2.0 to 4.0	16.3	24.0	0.35
< 2.0	75.8	64.8	0.60

Bulk Density Description:<.35 Light Materials, .35-.60 medium weight materials, >.60 Heavy Materials

Analyst: Assaf Sadeh

*Sample was received and handled in accordance with TMECC procedures.

Account No.: 2060856 - 1/1 - 6691
Group: Jun12E No. 28

Date Received 29 Jun. 12
Sample i.d. Merry Oaks Soil Builder
Sample I.d. No. 1/1 2060856

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate
2.4 mg CO2-C/ g OM/day

Biodegradation Rate of Your Pile
< Stable >|< Moderately Stable >|< Unstable >|< High For Mulch

Biologically Available Carbon (BAC)
2.7 mg CO2-C/ g OM/day

Optimum Degradation Rate
< Stable >|< Moderately Stable >|< Unstable >|< High For Mulch

Is Your Compost Mature?

AmmoniaN/NitrateN ratio
260 Ratio

VeryMature>|< Mature >|< Immature

Ammonia N ppm
2600 mg/kg dry wt.

VeryMature>|< Mature >|< Immature

Nitrate N ppm
10 mg/kg dry wt.

< Immature >|< Mature

pH value
7.71 units

< Immature >|< Mature >|< Immature

Cucumber Emergence
100.0 percent

< Immature >|< Mature

Is Your Compost Safe Regarding Health?

Fecal Coliform
< 1000 MPN/g dry wt.

< Safe >|< High Fecal Coliform

Salmonella
Less than 3 /4g dry wt.

<Safe (none detected) >|< High Salmonella Count(> 3 per 4 grams)

Metals US EPA 503
Pass dry wt.

<All Metals Pass >|< One or more Metals Fail

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P2O5+K2O)
5.2 Percent dry wt.

<Low >|< Average >|< High Nutrient Content

AgIndex (Nutrients / Sodium and Chloride Salts) ((N+P2O5+K2O) / (Na + Cl))
11 Ratio

Na & Cl >|< Nutrient and Sodium and Chloride Provider >|< Nutrient Provider

Plant Available Nitrogen (PAN) Estimated release for first season
10 lbs/ton wet wt.

Low Nitrogen Provider>|< Average Nitrogen Provider >|<High Nitrogen Provider

C/N Ratio
13 Ratio

< Nitrogen Release >|< N-Neutral >|< N-Demand>|< High Nitrogen Demand

Soluble Available Nutrients & Salts (EC5 w/w dw)
10 mmhos/cm dry wt.

SloRelease>|< Average Nutrient Release Rate >|<High Available Nutrients

Lime Content (CaCO3)
79 Lbs/ton dry wt.

< Low >|< Average >|< High Lime Content (as CaCO3)

What are the physical properties of your compost?

Percent Ash
52.1 Percent dry wt.

< High Organic Matter >|< Average >|< High Ash Content

Sieve Size % > 6.3 MM (0.25")
2.3 Percent dry wt.

All Uses >|< Size May Restrict Uses for Potting mix and Golf Courses

Account No.:		Date Received	29 Jun. 12
2060856 - 1/1 - 6691		Sample i.d.	Merry Oaks Soil Builder
Group:	Jun12E No. 28	Sample I.d. No.	1/1 2060856

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate

2.4 Low: Good for all uses mg CO2-C/g OM/day

The respiration rate is a measurement of the biodegradation rate of the organic matter in the sample (as received). The respiration rate is determined by measuring the rate at which CO2 is released under optimized moisture and temperature conditions.

Biologically Available Carbon

3 Low: Good for all uses mg CO2-C/g OM/day

Biologically Available Carbon (BAC) is a measurement of the rate at which CO2 is released under optimized moisture, temperature, porosity, nutrients, pH and microbial conditions. If both the RR and the BAC test values are close to the same value, the pile is optimized for composting. If both values are high the compost pile just needs more time. If both values are low the compost has stabilized and should be moved to curing. BAC test values that are higher than RR indicate that the compost pile has stalled. This could be due to anaerobic conditions, lack of available nitrogen due to excessive air converting ammonia to the unavailable nitrate form, lack of nitrogen or other nutrients due to poor choice of feedstock, pH value out of range, or microbes rendered non-active.

Is Your Compost Mature?

AmmoniaN:NitrateN ratio

260 immature

Ammonia N ppm

2600 immature

Nitrate N ppm

10 immature

pH value

7.71 mature

Composting to stabilize carbon can occur at such a rapid rate that sometimes phytotoxins remain in the compost and must be neutralized before using in high concentrations or in high-end uses. This step is called curing. Typically ammonia is in excess with the break-down of organic materials resulting in an increase in pH. This combination results in a loss of volatile ammonia (it smells). Once this toxic ammonia has been reduced and the pH drops, the microbes convert the ammonia to nitrates. A low ammonia + high nitrate score is indicative of a mature compost, however there are many exceptions. For example, a compost with a low pH (<7) will retain ammonia, while a compost with high lime content can lose ammonia before the organic fraction becomes stable. Composts must first be stable before curing indicators apply.

Cucumber Bioassay

100.0 Percent

Cucumbers are chosen for this test because they are salt tolerant and very sensitive to ammonia and organic acid toxicity. Therefore, we can germinate seeds in high concentrations of compost to measure phytotoxic effects without soluble salts being the limiting factor. Values above 80% for both percent emergence and vigor are indicative of a well-cured compost. Exceptions include very high salts that affect the cucumbers, excessive concentrations of nitrates and other nutrients that will be in range when formulated to make a growing media. In addition to testing a 1:1 compost: vermiculite blend, we also test a diluted 1:4 blend to indicate a more sensitive toxicity level.

Is Your Compost Safe Regarding Health?

Fecal Coliform

< 1000 / g dry wt.

Fecal coliforms can survive in both aerobic and anaerobic conditions and is common in all initial compost piles. Most human pathogens occur from fecal matter and all fecal matter is loaded in fecal coliforms. Therefore fecal coliforms are used as an indicator to determine if the chosen method for pathogen reduction (heat for compost) has met the requirements of sufficient temperature, time and mixing. If the fecal coliforms are reduced to below 1000 per gram dry wt. it is assumed all others pathogens are eliminated. Potential problems are that fecal coliform can regrow during the curing phase or during shipping. This is because the conditions are now more favorable for growth than during the composting process.

Salmonella Bacteria

Less than 3 3 / 4g dry wt.

Salmonella is not only another indicator organism but also a toxic microbe. It has been used in the case of biosolids industry to determine adequate pathogen reduction.

Metals

Pass

The ten heavy metals listed in the EPA 503 regulations are chosen to determine if compost can be applied to ag land and handled without toxic effects. Most high concentrations of heavy metals are derived from woodwaste feedstock such as chrome-arsenic treated or lead painted demolition wood. Biosolids are rarely a problem.

Does Your Compost Provide Nutrients or Organic Matter?

Nutrients (N+P2O5+K2O)

5.2 High nutrient content

This value is the sum of the primary nutrients Nitrogen, Phosphorus and Potassium. Reported units are consistent with those found on fertilizer formulations. A sum greater than 5 is indicative of a compost with high nutrient content, and best used to supply nutrients to a receiving soil. A sum below 2 indicates low nutrient content, and is best-used to improve soil structure via the addition of organic matter. Most compost falls between 2 and 5.

Account No.:		Date Received	29 Jun. 12
2060856 - 1/1 - 6691		Sample i.d.	Merry Oaks Soil Builder
Group:	Jun12E No. 28	Sample I.d. No.	1/1 2060856

INTERPRETATION:

AgIndex (Nutrients/Na+Cl)

11 High nutrient ratio Composts with low AgIndex values have high concentrations of sodium and/or chloride compared to nutrients. Repeated use of a compost with a low AgIndex (< 2) may result in sodium and/or chloride acting as the limiting factor compared to nutrients, governing application rates. These composts may be used on well-draining soils and/or with salt-tolerant plants. Additional nutrients form another source may be needed if the application rate is limited by sodium or chloride. If the AgIndex is above 10, nutrients optimal for plant growth will be available without concern of sodium and/or chloride toxicity. Composts with an AgIndex of above 10 are good for increasing nutrient levels for all soils. Most composts score between 2 and 10. Concentrations of nutrients, sodium, and chloride in the receiving soil should be considered when determining compost application rates. The AgIndex is a product of feedstock quality. Feedstock from dairy manure, marine waste, industrial wastes, and halophytic plants are likely to produce a finished compost with a low AgIndex.

Plant Available Nitrogen (lbs/ton)

10 Average N Provider Plant Available Nitrogen (PAN) is calculated by estimating the release rate of Nitrogen from the organic fraction of the compost. This estimate is based on information gathered from the BAC test and measured ammonia and nitrate values. Despite the PAN value of the compost, additional sources of Nitrogen may be needed during he growing season to off-set the Nitrogen demand of the microbes present in the compost. With ample nutrients these microbes can further breakdown organic matter in the compost and release bound Nitrogen. Nitrogen demand based on a high C/N ratio is not considered in the PAN calculation because additional Nitrogen should always be supplemented to the receiving soil when composts with a high C/N ratio are applied.

C/N Ratio

13 Indicates maturity As a guiding principal, a C/N ratio below 14 indicates maturity and above 14 indicates immaturity, however, there are many exceptions. Large woodchips (>6.3mm), bark, and redwood are slow to breakdown and therefore can result in a relatively stable product while the C/N ratio value is high. Additionally, some composts with chicken manure and/or green grass feedstocks can start with a C/N ratio below 15 and are very unstable. A C/N ratio below 10 supplies Nitrogen, while a ratio above 20 can deplete Nitrogen from the soil. The rate at which Nitrogen will be released or used by the microbes is indicated by the respiration rate (BAC). If the respiration rate is too high the transfer of Nitrogen will not be controlable.

Soluble Nutrients & Salts (EC5 w/w dw - mmhos/cm)

10 High salts This value refers to all soluble ions including nutrients, sodium, chloride and some soluble organic compounds. The concentration of salts will change due to the release of salts from the organic matter as it degrades, volatilization of ammonia, decomposition of soluble organics, and conversion of molecular structure. High salts + high AgIndex is indicative of a compost high in readily available nutrients. The application rate of these composts should be limited by the optimum nutrient value based on soil analysis of the receiving soil. High Salts + low AgIndex is indicative of a compost low in nutrients with high concentrations of sodium and/or chloride. Limit the application rate according to the toxicity level of thesodium and/or chloride. Low salts indicates that the compost can be applied without risking salt toxicity, is likely a good source of organic matter, and that nutrients will release slowly over time.

Lime Content (lbs. per ton)

79 High lime content Compost high in lime or carbonates are often those produced from chicken manure (layers) ash materials, and lime products. These are excellent products to use on a receiving soil where lime has been recommended by soil analysis to raise the pH. Composts with a high lime content should be closely considered for pH requirements when formulating potting mixes.

Physical Properties

Percent Ash

52.1 Average ash content Ash is the non-organic fraction of a compost. Most composts contain approximately 50% ash (dry weight basis). Compost can be high in ash content for many reasons including: excess mineriization(old compost), contamination with soil base material during turning, poor quality feedstock, and soil or mineral products added. Finding the source and reducing high ash content is often the fastest means to increasing nutrient quality of a compost.

Particle Size % > 6.3 MM (0.25")

2.3 May restrict use Large particles may restrict use for potting soils, golf course topdressings, seed-starter mixes, and where a fine size distribution is required. Composts with large particles can still be used as excellent additions to field soils, shrub mixes and mulches.

Particle Size Distribution

Each size fraction is measured by weight, volume and bulk density. These results are particularly relevent with decisions to screen or not, and if screening, which size screen to use. The bulk density indicates if the fraction screened is made of light weight organic material or heavy mineral material. Removing large mineral material can greatly improve compost quality by increasing nutrient and organic concentrations.

Appendix:

Plant Available Nitrogen (PAN) calculations:
PAN = (X * (organic N)) + ((NH4-N) + (NO3-N))
X value = If BAC < 2 then X = 0.1
If BAC =2.1 to 5 then X = 0.2
If BAC =5.1 to 10 then X = 0.3
If BAC > 10 then X = 0.4
Note: If C/N ratio > 15 additional N should be applied.

Estimated available nutrients for use when calculating application rates

	lbs/ton
Plant Available Nitrogen (PAN)	9.6
Ammonia (NH4-N)	3.40
Nitrate (NO3-N)	0.01
Available Phosphorus (P2O5*0.64)	21.5
Available Potassium (K2O)	9.4