US COMPOSTING COUNCIL

Seal of Testing Assurance

Date Sampled/Received: 16 May 06 / 22 May 06

City of Plano
Rusty Thomas
P.O. Box 860358
Plano
TX 75086-0358

Product Identification: Compost

Compost

COMPOST TECHNICAL DATA SHEET for Texas 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)*	*TMECC Test Method*
Organic Matter Content	47.3	%, dry weight basis	05.07-A Loss-on-Ignition Organic Matter Method (LOI)
pH	8.32	Unitless	04.11-A 1:5 Slurry pH
Soluble Salts (electrical conductivity)	2.020	dS/m (mmhos/cm)	04.10-A 1:5 Slurry Method Mass Basis
Particle Size	100.0 86.7	%, dry weight passing through 5/8th inch screen and 3/8th inch screen	02.02-B Sample Sieving for Aggregate Size Classification
Stability Indicator (respirometry) CO2 Evolution	1.4	mg CO2-C/g OM/day	05.08-B Carbon Dioxide Evoultion Rate
Maturity Indicator (bioassay) Percent Emergence	100	average % of control	05.05-A Germination and vigor Evolution rate
Relative Seedling Vigor	100	average % of control	05.05-A Germination and vigor
Select Pathogens (Fecal Coliform)	Pass	PASS/FAIL: Per US EPA Class A standard, 40 CFR 503.32(a)	07.01-B Fecal coliforms
Trace Metals	Pass	PASS/FAIL: Per US EPA Class A 40 CFR 503.13, tables 1 and 3.	04.06-Heavy Metals standard, and Hazardous Elements

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 Batch Number: Jun.-1-06 Laboratory Number: 606016819384

Analyst: Kate Kurtz www.compostlab.com

US COMPOSTING COUNCIL

Seal of Testing Assurance

City of Plano
Rusty Thomas
P.O. Box 860358
Plano
TX 75086-0358

Date Sampled/Received: 16 May 06 / 22 May 06

Product Identification Compost
Compost

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	0.90	1.3
Phosphorus	P_2O_5	0.48	0.67
Potassium	K_2O	0.89	1.2
Calcium	Ca	3.8	5.3
Magnesium	Mg	1.5	2.1
Moisture Content	%, wet weight basis	28.4	
Organic Matter Content	%, dry weight basis	47.3	
pH	units	8.32	
Soluble Salts *(electrical conductivity EC_5)*	dS/m (mmhos/cm)	2.020	
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	1.4	Very Stable
	mg CO_2-C/g TS/day	0.67	
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100	
Relative Seedling Vigor	average % of control	100	
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

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Product Identification	Compost
Compost	

Date Sampled/Received: 16 May 06 / 22 May 06

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	28.4	
Organic Matter Content	%, dry weight basis	47.3	
pH	units	8.32	
Soluble Salts *(electrical conductivity EC_s)*	dS/m (mmhos/cm)	2.020	
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	1.4	Very Stable
	mg CO_2-C/g TS/day	0.67	
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100	
Relative Seedling Vigor	average % of control	100	
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

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Laboratory Batch Number: Jun.-1-06 Laboratory Number: 606016819384

Analyst: Kate Kurtz www.compostlab.com

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

42 HANGER WAY
WATSONVILLE
CALIFORNIA
95076
USA

Tel: 831 724-5422
FAX: 831 724-3188

Soil Control Lab
42 Hangar Way
Watsonville Ca 95076
www.compostlab.com

Account No.:
6060168-1-938
Group: Jun.-1-06 No. 4
CODE: Part-compost

Rusty Thomas
City of Plano
P.O. Box 860358
Plano, TX 75086-0358

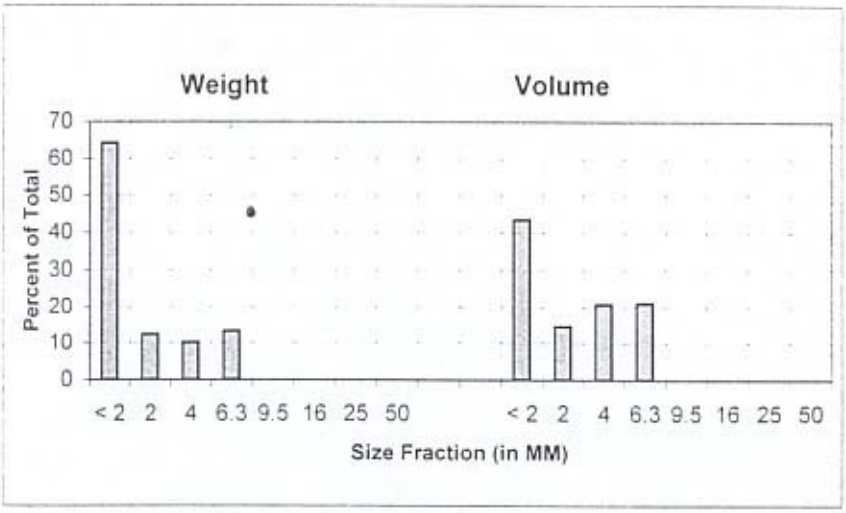
DATE RECEIVED: 22 May 06
SAMPLE ID: Compost
SAMPLE ID. No.: 1 6060168

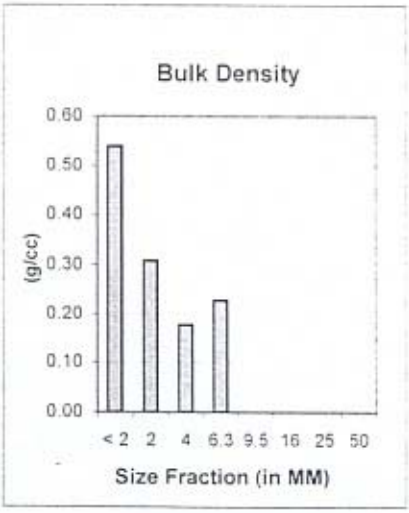
Sieve Size & Volume Distribution, Bulk Density and Inerts

Method: TMECC 02.02-B

MM	Inches	Percent by Weight	Percent by Volume	Bulk Density (g/cc)
> 50	> 2.0	0.0	0.0	0.00
25 to 50	1.0 to 2.0	0.0	0.0	0.00
16 to 25	0.64 to 1.0	0.0	0.0	0.00
9.5 to 16	0.38 to 0.64	0.0	0.0	0.00
6.3 to 9.5	0.25 to 0.38	13.3	21.2	0.23
4.0 to 6.3	0.16 to 0.25	10.1	20.8	0.18
2.0 to 4.0	0.08 to 0.16	12.3	14.6	0.31
< 2.0	< 0.08	64.3	43.4	0.54

Bulk density description:
< 0.35(g/cc) = light materials; 0.35 to 0.60 = mid-weight materials; > 0.60 = heavy materials





Percent (> 4mm fraction): Glass, Plastic, Metal and Sharps. Method: TMECC 02-02-C

Plastic: < 0.5	Glass: < 0.5	Metal: < 0.5	Sharps: None Detected

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Analyst: Kate Kurtz

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Soil Control Lab
42 Hangar Way
Watsonville Ca 95076
www.compostlab.com

Account No.:
6060168 1 938
Group: Jun.-1-06 No. 4
CODE: Stability-compost
CODE: Maturity-compost

Rusty Thomas
City of Plano
P.O. Box 860358
Plano, TX 75086-0358
DATE RECEIVED: 22 May 06
SAMPLE ID: Compost
SAMPLE ID. No.: 1 6060168

STABILITY

Carbon Dioxide Evolution Rate		**Respiration Rate**	**Biological Available Carbon**
	Test Conditions:	(as received)	(carbon made the limiting factor)
	Pre-incubated:	3 day-20 deg.C	3 day-36 deg. C
	Incubation:	36 deg.C	36 deg.C
	Moisture adjustment:	saturated	saturated
	pH	Not adjusted	6.5 to 7.5
	Porosity	Not provided	#20 quartz sand
	Nutrients	Not provided	NPK+trace
	TMECC Method	05.08-B	05.08-F
RESULTS:	mg CO2-C/g OM/day	1.4	1.8
	mg CO2-C/g OC/day	2.5	3.2
	mg CO2-C/g TS/day	0.67	0.85
INTERPRETATION:	Very Stable	< 2	< 2
	Stable	2 to 8	2 to 8
	Moderately Unstable	8 to 15	8 to 15
	Unstable	15 to 40	15 to 40
	Very Unstable	> 40	> 40

RESPIRATION RATE
Optimizing moisture with pre-incubation to simulate maximum biological activity in a source pile.
BIOLOGICAL AVAILABLE CARBON
Optimizing all conditions (except carbon) makes rate of degradation limited by the available carbon in the compost. Purpose is to simulate condition of end use in an agriculture environment where nutrients, porosity, pH adj. and moisture are provided from the grower or receiving soil when optimizing conditions for plant growth.

MATURITY

GERMINATION & GROWTH	TMECC 05.05-A	
Emergence (relative to control) %	100	100
Relative Seedling Vigor %	100	100
Description of plants:	healthy	healthy
Test Conditions:%Compost:%Vermiculite (v/v)	50%:50%	25%:75%

Positive Control: Sunland Garden Products (Watsonville, CA) potting mix: Negative Control:Vermiculite
This test uses a salt tolerant plant (cucumber) grown in a high concentration of test compost.
Composts that show phytotoxic effects under test conditions may not show toxic effects when used in actual field conditions. Conditions of high salts, acid or alkali pH, and ammonia toxicity can be corrected with added dilution or adjustments resulting from mixing with receiving soil. Composts showing phytotoxic effects should be used with caution.

 Analyst: Kate Kurtz

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95076
USA

Account No.:
6060168 - 1 - 938
Group: Jun.-1-06 No. 4
CODE: Nutrients-compost

Rusty Thomas
City of Plano
P.O. Box 860358
Plano, TX 75086-0358

DATE RECEIVED: 22 May 06
SAMPLE ID: Compost
SAMPLE ID. No.: 1 6060168

		Wet wt. Basis	Dry wt. Basis	Method: TMECC
Nutrients-Primary + Secondary				
Total Nitrogen:	%	0.90	1.3	4.02-D
Ammonia (NH4-N):	mg/kg	135	188	4.02-C
Nitrate (NO3-N):	mg/kg	29	40	4.02-B
Organic Nitrogen (Org.-N):	%	0.88	1.2	Calc.
Phosphorus (as P2O5):	%	0.48	0.67	Calc.
Phosphorus (P):	mg/kg	2097	2929	4.03-A
Potassium (as K2O):	%	0.89	1.2	Calc.
Potassium (K):	mg/kg	7409	10352	4.04-A
Calcium (Ca):	%	3.8	5.3	4.05
Magnesium (Mg):	%	1.5	2.1	4.05
Sulfate (SO4):	mg/kg	185	258	4.12-D/IC
Nutrients - Trace elements				
Copper (Cu):	mg/kg	36	51	4.05-Cu
Zinc (Zn):	mg/kg	56	79	4.05-Zn
Iron (Fe):	mg/kg	8549	11944	4.05-Fe
Manganese (Mn):	mg/kg	188	262	4.05-Mn
Boron (B):	mg/kg	15	21	4.05-B
Salts, pH, Bulk Density, Carbonates				
Sodium (Na):	%	0.23	0.32	4.05-Na
Chloride (Cl):	%	0.093	0.13	04.05/IC
pH Value:	units	8.32	NA	04.11-A
Electrical Conductivity (EC5 dw):	mmhos/cm	1.446	2.020	04.10-A
Bulk Density :	lb/cu ft	31	22	SCL
Carbonates : as CaCO3	lb/ton	158	221	04.08-A
Organic Matter:	%	33.9	47.3	05.07-A
Organic Carbon:	%	18.8	26.3	4.01
Ash:	%	37.7	52.7	3.02
C/N Ratio	ratio	21	21	calc.
Moisture:	%	28.4	0.0	3.09

NOTE: Wet Basis values baesd on a moisture content 28.4 percent. Analyst: Kate Kurtz

To Calculate: WetBasis = (Dry Basis) X ((100-%Moisture)/100)
To Calculate: lb/cu yd = % WetBasis X 22.27 X (27)/(100-%moisture)
To Calculate: lb/cu yd = mg/kg WetBasis X 22.27 X (0.0027)/(100-%moisture)

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Account No.:
6060168-1-938
Group: Jun.-1-06 No. 4
CODE:Met-compost
CODE:Fecal-compost

Rusty Thomas
City of Plano
P.O. Box 860358
Plano, TX 75086-0358

DATE RECEIVED: 22 May 06
SAMPLE ID: Compost
SAMPLE ID. No.: 1 6060168

Metals & Bacteria

Metals			Units	MDL	% Recovery	Date Tested
Arsenic (As):		18	mg/kg dw	1 mg/kg	91	1 Jun. 06
Cadmium (Cd):		2	mg/kg dw	1 mg/kg	97	1 Jun. 06
Chromium (Cr):		185	mg/kg dw	1 mg/kg	105	1 Jun. 06
Copper (Cu):		51	mg/kg dw	1 mg/kg	84	1 Jun. 06
Lead (Pb):		10	mg/kg dw	1 mg/kg	95	1 Jun. 06
Mercury (Hg):	Less than	1	mg/kg dw	0.1 mg/kg	119	1 Jun. 06
Molybdenum (Mo):		1	mg/kg dw	1 mg/kg	113	1 Jun. 06
Nickel (Ni):		44	mg/kg dw	1 mg/kg	95	1 Jun. 06
Selenium (Se):	Less than	1	mg/kg dw	1 mg/kg	111	1 Jun. 06
Zinc (Zn):		79	mg/kg dw	1 mg/kg	96	1 Jun. 06
Cobalt (Co)		11	mg/kg dw	0.5 mg/kg		
Total Solids (TMECC 03.09)		71.6	%	0.05%		26 May 06
Bacteria						
Fecal Coliform	Less than	2	MPN / gram dry wt.			22 May 06
Salmonella	Less than	3	MPN / 4 grams dry wt.			22 May 06

Pollutant Loading Rate:
Multiply mg/kg dry weight values times 0.0649 to give you kilograms pollutant per 100 metric ton compost as-received based on a moisture content of 28.43 percent.

Method (metals): EPA 3050B / EPA 6010
Method (metals): TMECC 04.12-B / 04.14-A
Method (Mercury Hg) TMECC 04.06 / EPA 7471
Method (Fecal Coliform): Standard Methods 9221E
Method (Salmonella): TMECC 04.02-A

Analyst: Kate Kurtz

Account No.: 6060168 - 1 - 938
Group: Jun.-1-06 No. 4

Date Received: 22 May 06
Sample i.d.: Compost
Sample I.d. No.: 1 6060168

INTERPRETATION:

Is Your Compost Stable?

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

Biodegradation Rate of Your Pile

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

Biological Available Carbon (BAC)
1.8 mg CO2-C/ g OM/day

Optimum Degradation Rate

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

Is Your Compost Mature?

AmmoniaN/NitrateN ratio
4.7 Ratio

VeryMature>|<	Mature	>|< Immature

Ammonia N ppm
188 mg/kg dry wt.

VeryMature>|<	Mature	>|< Immature

Nitrate N ppm
40 mg/kg dry wt.

< Immature	>|< Mature

pH value
8.32 units

< Immature	>|< Mature	>|< Immature

Cucumber Germination
100 percent

< Immature	>|< Mature

Is Your Compost Safe Regarding Health?

Fecal Coliform
2 MPN/g dry wt.

< Safe	>|< High Fecal Coliform

Salmonella
Less than 3 per 4 g **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)
3.2 Percent dry wt.

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

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

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

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

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

C/N Ratio
21 Ratio

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

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

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

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

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

What are the physical properties of your compost?

Percent Ash
52.7 Percent dry wt.

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

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

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

Account No.: 6060168 - 1 - 938
Group: Jun.-1-06 No. 4

Date Received 22 May 06
Sample i.d. Compost
Sample I.d. No. 1 6060168

INTERPRETATION:

Is Your Compost Stable?

Respiration Rate

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

The Respiration Rate (RR) measures the biodegradation rate of the organic matter in the sample as received. Only the moisture and temperature are optimized. The RR is determined by measuring the rate at which CO2 is released under optimized moisture and temperature conditions.

Biological Available Carbon

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

The Biological Available Carbon (BAC) measures 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

5 immature

Ammonia N ppm

188 mature

Nitrate N ppm

40 immature

pH value

8.32 immature

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 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 germination 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 required mix, we also test a diluted 1:4 mix to indicate a more sensitive toxicity level.

Is Your Compost Safe Regarding Health?

Fecal Coliform

2 / 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 / 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)

3.2 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 a low nutrient content and is best-used to improve soil structure via the addition of organic material. Most compost falls between 2 and 5.

Account No.:		Date Received	22 May 06	
6060168 - 1 - 938		Sample i.d.	Compost	
Group:	Jun.-1-06 No. 4	Sample I.d. No.	1	6060168

INTERPRETATION:

AgIndex (Nutrients/Na+Cl)

7 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

2.7 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

21 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)

2.020 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 ristking salt toxicity, is likely a good source of organic matter, and that nutrients will release slowly over time.

Lime Content (lbs. per ton)

221 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

52.7 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 minerilzation(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")

13.3 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 used with Soil Report for Application Rates

	lbs/ton	lbs/ton	
PAN Available Nitrogen (N)		2.7	
Ammonia (NH4-N)	0.2691		
Nitrate (NO3-N)	0.0576		
Available Phosphorus (P2O5*0.64)		6.1	estimated
Available Potassium (K2O)		17.8	