

**Wallace Farm Inc.
Large, Type 3 Compost Facility
Huntersville Site**



Permitting Report

October 2014



1100 Crescent Green, Suite 208, Cary, North Carolina 27513

• O: 919-792-1900 • F: 866-311-7206

Firm No. C-2910



10/13/14



October 13, 2014

Ms. Donna Wilson
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

RE: Permit Number SWC-60-22 – Dated 4/22/2010
Wallace Farm Inc. Large, Type 3 Compost Facility
Mecklenburg County, North Carolina

Dear Ms. Wilson:

On behalf of Wallace Farm Inc., we are pleased to submit the enclosed permit application for renewal of the current permit for the Large, Type 3 Compost Facility located in Mecklenburg County, North Carolina.

If you have any questions or need additional information, please call.

Sincerely,

GARRETT & MOORE, INC.

A handwritten signature in cursive script that reads "Bernie Garrett".

Bernie Garrett P.E.

Cc: Eric Wallace

**PERMIT APPLICATION DEMONSTRATING
COMPLIANCE WITH SOLID WASTE SECTION RULE
.1400-SOLID WASTE COMPOST FACILITIES
FOR
WALLACE FARM, INC.
LARGE, TYPE 3 COMPOST FACILITY**



OWNER:

Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
Phone: 704-875-2975

ENGINEER:

Garrett & Moore, Inc.
1100 Crescent Green Drive
Suite 208
Cary, NC 27518
Phone: 919-792-1900

October 2014

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Permit Drawings

See Attached Permit Drawings

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1.0 - GENERAL

Wallace Farm, Inc. (herein also referred to as Wallace Farm) operates a Large Type 3 Compost Facility on Eastfield Road, Huntersville, Mecklenburg County, North Carolina. The facility processes various types of feedstocks, including animal manures, yard waste, wood waste, land clearing debris, cotton and tobacco materials, food and/or animal processing residuals, and food waste. All of the feedstocks used at the facility are non-hazardous. (Further details on materials for composting operations are detailed below.) These operations offer environmentally friendly options to landfills, help ease environmental and energy burdens on the state, and produce useful end-products, while helping meet the state's recycling goals.

General Statute 130A-309.04 calls for reducing the public's use of, and reliance upon, landfills. Composting is a key, preferred method for achieving this goal. With its green operations, Wallace Farm enhances and promotes this critically important goal for all citizens of North Carolina.

The accompanying permit documents have been compiled to meet requirements of the North Carolina Department of Environment and Natural Resources (NC DENR) Division of Waste Management - Solid Waste Section as outlined in the North Carolina Solid Waste Compost Rules - Section .1400 - Solid Waste Compost Facilities.

2.0 - APPLICATION REQUIREMENTS

This application addresses requirements for a Large, Type 3 Solid Waste Compost Facility, as detailed in the North Carolina Solid Waste Compost Rules - Section .1400. These materials were prepared under the supervision and direction of a professional engineer duly registered in the State of North Carolina.

2.1 – PERMIT DRAWINGS

A permit drawing, which includes a one-fourth mile map and site plan are included as an attachment to this report.

2.2 - ZONING

Documents from the unit of government having zoning jurisdiction over the site is included in Appendix A.

2.3 - SITING AND DESIGN STANDARDS

The following sections include description of how the solid waste composting operations comply with siting and design standards in Rule .1404 of the North Carolina Solid Waste Compost Rules.

2.3.1 - Floodplain

The solid waste composting operations are not within the 100 year floodplain.

2.3.2 - Property Line Buffer

Wallace Farm will operate such that the minimum 100 foot buffer from the property line to the solid waste composting area will be maintained. The permit drawings demonstrate compliance with the property line buffer.

2.3.3 - Residences Buffer

This facility was permitted by NCDENR and has been in operation based on a 100 foot buffer from compost operations to the property line. A 500 foot buffer from residences is not applicable for this site because the facility was permitted prior to the existence of residences.

2.3.4 - Well Buffer

There are two water wells located on the Wallace Farm property. The wells are greater than 100 feet from the composting areas. There are also seven groundwater monitoring wells, as shown on the site plan.

2.3.5 - Perennial Streams/Rivers Buffer

A minimum 50 foot buffer will be maintained between perennial streams/rivers and solid waste composting areas. The permit drawings demonstrate compliance with perennial stream/river buffers.

2.3.6 - Surface Water Quality Standards

Surface water is addressed through a number of means. Stormwater from compost areas is directed to a collection pond, which has a storage volume of approximately 2,000,000 cubic feet. Charlotte-Mecklenburg Utilities (CMU) has issued Wallace Farm a permit for routing water from this pond to the CMU wastewater system via a sewer line which traverses the Wallace Farm property. A copy of the renewed permit (effective on August 22, 2012) is provided in Appendix B. All details regarding flow rates, sampling and testing regimens, and reporting requirements, are stipulated in the CMU permit and other Appendix B information.

Wallace Farm has been issued a storm water permit (a copy is included, in Appendix C) by the Division of Water Quality. Underground pipes, shown on the site plan, divert non-process stormwater runoff off-site. Passive treatment methods (including grassy areas) are in place. No known violations of water quality standards have ever occurred.

2.3.7 - Closed-Out Disposal Area

The composting facility is not located over a closed-out disposal area.

2.3.8 - Adequate Access

A 25 foot minimum distance will be maintained around the periphery of the composting areas to allow adequate access by fire fighting equipment. The permit drawings demonstrate compliance with adequate access.

2.3.9 - Surface Water Requirements

The site shall meet the following surface water requirements:

- (A) A site shall not cause a discharge of materials or fill materials into waters or wetlands of the state that is in violation of Section 404 of the Clean Water Act; No waters or wetlands of the state will be filled to construct or operate the proposed facility.
- (B) A site shall not cause a discharge of pollutants into waters of the state that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), under Section 402 of the Clean Water Act. Stormwater discharges for operations of the proposed facility are permitted in accordance with NPDES General Permit No. NCG 240000.
- (C) A site shall not cause non-point source pollution of waters of the state that violates assigned water quality standards. Stormwater discharges for operations of the proposed facility are permitted in accordance with NPDES General Permit No. NCG 240000.

2.3.10 - Groundwater Requirements

The facility utilizes natural soils for pads. Wallace Farm installed groundwater monitoring wells. Locations of these wells are shown on the site plan, and tabulated well designations and testing results are included in Appendix D.

Appendix D also includes an April 26, 2000 letter from the Division of Water Quality indicating that the composting operation has not been a factor affecting ground water quality. The Aquifer Protection Section's summary of groundwater requirements for the site is summarized in a letter dated March 7, 2005 (also included in Appendix D). The seasonal high water table has been determined by Wallace Farm's geologist to be greater than two feet from the surface (see the May 9, 2008 letter in Appendix D). Wallace Farm is working with the Aquifer Protection Section, Mooreville Regional Office on all ground water matters, and that office reported recently that all requirements for monitoring and reporting are up-to-date.

2.3.11 - Public Access

The facility will not allow uncontrolled public access. A fence surrounds the proposed facility on all sides and trespassing has never been an issue. Members of the public can only visit the facility operations when accompanied by a Wallace Farm employee.

2.3.12 - Sedimentation Pollution Control Law

Stormwater discharges for operations of the facility are permitted in accordance with NPDES General Permit No. NCG 240000.

2.3.13 - Air Pollution Control Requirements

The facility will be operated to meet air pollution control requirements to minimize fugitive odorous emissions and to minimize odors at the property boundary. Minimize means to reduce to the smallest amount, extent, or degree reasonably possible. Operational procedures for maintaining aerobic conditions within the compost piles will be applied to minimize odor generation. These procedures include adjusting the porosity, moisture content and pH of mixes. Additionally, the carbon to nitrogen (C:N) ratio of the initial mix will be greater than 20:1 to minimize the release of nitrogen based compounds such as ammonia.

An additional step that will be utilized, when necessary, is covering windrows with carbonaceous materials, as described in Section 2.6 and in the O&M Manual. Conveyors have been added to two spreaders to apply a layer of carbonaceous materials to windrows after formation, and following turning.

2.4 – FEEDSTOCK AND MATERIAL TYPES

Feedstocks to be composted under this permit include animal manures, wood materials, yard waste, cotton materials, food and/or animal processing residuals, food waste, grease trap residuals, US domestic tobacco material, wood ash, cardboard, bleaching clay, cosmetics production materials, virgin gypsum board, lime, and starch water. Wood materials to be composted at the facility under this permit include land clearing debris, yard waste, wood shavings, sawdust, and pallets. Wood materials are from ground and unground land clearing debris and pallets. Ground and unground yard waste is generated by local municipalities and the general public. The wood shavings are generated from sawmill and furniture manufacturing operations. No wood materials will have been painted, stained, glued, or treated. The ash is from facilities that have received approval from NCDENR or DWQ for ash distribution.

The food processing residuals result from biological treatment of animal and/or food processing wastewater (with no human components) and the food waste comes from vegetable, dairy, meat, and bakery products. No domestic wastewater is included in the food residuals, food waste, the cosmetic, or starch water waste streams. New waste streams will not be received until approval by the Division of Waste Management.

The only feedstocks that are expected to have seasonal variations in availability are leaves, yard waste, and mulch. Leaves are seasonal and arrive in the fall and winter. Ground mulch typically arrives during the drier months of the year when land clearing jobs are undertaken. These factors vary depending upon the economy and the extent of construction activities. It is very important for Wallace Farm to stockpile this material when it is available to help make it through times when it is not.

Estimated annual quantities of feedstocks are summarized in Table 1. Please note that, as can be shown in annual reports submitted by Wallace Farm, exact quantities received will vary from year to year and from feedstock to feedstock, and in some years certain feedstocks might not be available at all.

Note also that approximately 26,000 to 40,000 tons per year of wood materials are estimated as going into Wallace Farm's mulch business. This business component involves grinding, coloring, and/or blending mulch products to be distributed in bulk or packaged form.

Table 1. Estimated¹ Annual Feedstock Quantities

Feedstock	Estimated Annual Range (Tons)	Estimated Density², lb/ cubic yard	Estimated Annual Range (cubic yards)
Ground Wood Debris	35000 - 60000	700	100000 – 171400
Yard Waste	8000 – 18000	600	26700 – 60700
Food Processing Residuals	35000 - 45000	1650	42400 - 54500
Cotton	500 - 1000	400	2500 - 5000
Sawdust/Shavings	500 - 1000	440	2300 - 4500
Food Waste	1000 - 2500	1400	1400 - 3600
Animal Manures	1000 - 1500	750	2700 - 4000
Tobacco	500 - 1000	400	2500 - 5000
Wood Ash/Lime	1500 - 6000	1100	2700 - 10900
Cardboard	100 - 1000	260	800 - 7700
Virgin Gypsum Board	100 - 1000	1485	100 - 1300
Bleaching Clay	2000 - 4000	685	5800 - 11700
Cosmetic Production Residuals	500 - 1000	1500	700 - 1300
Starch Water	7000 - 8000	1685	8300 - 9500
Vegetable Waste	12000 – 50000	550	43600 - 181800
Unground Wood	1000 - 4000	850	2400 - 9400

¹Quantity estimates are for years when feedstocks are available. Not all feedstocks are available each year. The estimated values are subject to change.

²Densities are field measurements, or estimated from various references.

2.4.1 Design (or maximum throughput) capacity

The design capacity (or maximum throughput rate) of a windrow-based facility is a function of a number of factors, including composting, curing, and storage times. These factors can vary depending on operations approaches (composting has minimum time and temperature requirements, for example, but longer times may be used), market conditions, and sales outlets' timing and needs. One means of estimating the design capacity is to consider product mixing rates.

Wallace Farm will not receive for composting more than 100,000 tons per year of material. Further, it is expected that the facility will receive approximately 40,000 tons of additional wood materials per year to be used for the mulching component of the facility.

2.4.2 Soils

Refer to Section 2.3.1

2.5 - SITE PLAN

The facility site plan is included in the permit drawings.

2.6 - OPERATION DESCRIPTION

Facility Operators are:

Eric Wallace 704-875-2975 ext. 17

Dale Cagle 704-875-2975 ext. 20

Dean Lentz 704-875-2975 ext. 19

The following describes facility operations. Dry carbonaceous materials (including wood materials, yard waste, sawdust, wood shavings, and cotton materials) are delivered to the facility and off loaded in the receiving area. A 1564 Hogzilla tub grinder, multiple Volvo, John Deere, and Cat wheel loaders, and a 320 Cat excavator are used for regrinding land clearing debris and for grinding unground land clearing debris, yard waste, and pallets. Materials with significant water content (including food and/or animal processing residuals, manures, US domestic, tobacco waste, food wastes, cosmetics waste, and starch water) are unloaded directly into the concrete receiving/mixing pit for preparing compost mixes. The mixing pit can hold

approximately 900 cubic yards of dry materials and approximately 120 tons of material with significant water content.

The facility utilizes three cone-bottom 15,000 gallon vertical tanks. These tanks are used for off-loading shipments of high-water content feedstocks that arrive when the mixing pit is in use and/or filled to capacity. Use of the tanks help maximize operations efficiency. (More detail on these tanks is provided in Section 2.7.)

The receiving pit is concrete, 60' x 60' with 8" thick floors. The walls are 8' high and 10" thick. A concrete unloading and washout area is located above the pit. This area is 60' x 30' with 8" thick floors. (See the Concrete Pit Construction Specifications, Appendix E).

Materials are blended in the mixing pit by thorough mixing using one or two Volvo, John Deere or Cat front end loaders at a rate of 300-400 yards per hour, targeting a homogenous mixture with a C:N ratio of 20:1 to 30:1 and a moisture content of 40-60%. After the last mixture is prepared and removed for further processing, the walls and dump areas are washed down with a high pressure hose. The wash water is directed into the pit, to which fresh bulking material is added on the bottom to absorb the moisture.

Analytical laboratory results for incoming feedstocks are used to determine the quantity of each feedstock to use in each compost mix. The feedstocks will be sampled annually and such analytical results will be updated and provided to the Division.

Parameters for each feedstock (%C, %N, moisture content, and bulk density) are entered into standard mass-balance equations for composting—those in use were originally acquired by Wallace Farm at one of the national composting schools. In addition, a standard computer spreadsheet is on-hand for verifying product mix ratios. Quantities of feedstocks used in mixtures are measured using two approaches: mass measurements of each feedstock load (known using tare readings), and by using the volume of the front end-loader buckets. When liquid wastes are stored, volumes routed to the mixing pit are measured from knowledge of the fraction of tank capacity utilized.

Within two hours of blending, the mix is transported to the composting pad using dump trucks and placed into windrows. A front end loader is used to improve the shape of the windrows as necessary. Windrows are constructed approximately 14 - 16 feet wide, 5 - 7 feet high, and several hundred feet long. The windrows are turned periodically using a Backhus windrow turner to maintain

aerobic conditions within the pile and to invert and fluff the windrow. The composting areas slope with the natural lay of the land to facilitate drainage and allow access during any weather conditions.

Material generally remains in the turned windrows for approximately eight to sixteen weeks, followed by placement in a static pile for a minimum of six months. The material achieves the process to further reduce pathogens (PFRP) requirements (as well as Vector Attraction Reduction requirements) in the windrows by maintaining pile temperatures at or above 131°F for at least 15 consecutive days. Windrows are turned at least five times during the period when temperatures are \geq 131°F. During the PFRP period, temperatures are measured one time per week until requirements have been met. An oxygen meter is used to measure oxygen content of compost pile pore space, and usually is applied at the same time that temperatures are checked. Current process durations for the various steps are shown in Table 2.

Working windrows vary from 5 - 7 feet in height by 14 - 16 feet in width. Cross-sections vary depending upon initial size at set-up, and due to shrinkage. Windrow lengths may vary. Other windrow sizes may be used, depending upon equipment settings, and other factors.

Table 2. Process durations at Wallace Farm.

Step	Process duration
Receiving	<ul style="list-style-type: none"> • 0.5 hours for weighing and removal • Storage of feedstocks and bulking agents up to 180 Days • Storage of high water content feedstocks up to 72 hours
Preparation	<ul style="list-style-type: none"> • 1 hour for each mixing pit loading • 2 days for each windrow
Composting	8 to 16 weeks
Curing	6 to 18 months
Distribution	<ul style="list-style-type: none"> • 36 months of onsite storage • Occurs all year, with increases in distribution occurring in the Spring and Fall.

In the event that a batch of compost does not meet state or facility requirements for distribution, the material can be added to a new compost mix for reprocessing or applied to farm land. (Land application of compost not meeting state requirements must be pre-approved by DENR.)

If land is not available for land application, then an approved municipal solid waste landfill will be used as a last resort for disposal.

After composting, the material is screened to approximately ½-3/8 inch to prepare for marketing. The compost is marketed as Composted Cow Manure, Grade A Compost Plus, and Mushroom Compost. In addition, the compost is mixed with other materials to create a variety of products. These products include items such as Blended Top Soil, Planting Soils, and Potting Soils.

These products are marketed in both bulk and bagged form. Many professional landscape organizations and retail outlets utilize the final products. In the event material cannot be marketed, it will be applied to pasture or farmland to supplement commercial fertilization practices.

Personnel at Wallace Farm are trained to perform various work tasks on the farm and in conjunction with the composting operation. There is not a precise routine at the composting facility. Different personnel will work together to perform various operations on a given day. For example,

moving material off of the composting pad to the static pile may be the priority one week, whereas screening the material in preparation for marketing may be the priority the next week.

Listed below are some general operations typically performed by personnel at the facility:

General Manager - Manage all operations and direct work efforts

Office Manager - Coordinates all billings and administrative activities

Fleet Manager - Coordinates all deliveries and trucking operations

Tractor Trailer and Dump Truck Drivers - Haul feedstocks and finished materials

Front End Loader Operator - Mixes feedstocks/shapes windrows/loads product/mixes and screens finished products

Compost Turner Operator - Turns windrows/monitors compost piles

Bagging Line Operator - Bags finished products

The operation schedule varies as for other farm operations. Operations procedures may be performed seven days per week depending on the work to be accomplished.

There are few routine tasks performed at the start of each day. Other than unlocking the buildings, work is resumed from the previous evening. For example, bagging lines are restarted, and compost mixing recommences.

Activities performed at the end of each day include: washing down the concrete receiving area and mixing pit, removing keys from all trucks and equipment, locking fuel tanks and buildings.

Airborne particulates are generally associated with dry compost. The initial mix solids content can be varied during mixing to prevent over drying of the piles during composting. In addition, water from the collection pond, or water from an on-site farm pond may be used to add moisture, if necessary. A tractor driven PTO (power take-off) pump is used to fill a 4,000 gallon Hydroforce water tank that is mounted on an International truck, and/or a 5,000 gallon Hydroforce water tank mounted on a Volvo, off-road truck. The water trucks are equipped with spray nozzles for applying water to travel areas and are equipped with specially designed nozzles for applying water to the top of compost windrows.

Wallace Farm reports the following operational approach for meeting PFRP. During the first month following windrow formation, Wallace Farm targets turning windrows every 5-10 days. If necessary, water from the collection or a farm pond is added to windrows during this time, which is prior to the start of PFRP. PFRP is typically met during the second month of active composting. (As stated in the Rules (.1406 (12) (A)), for meeting PFRP, "Aerobic conditions shall be maintained

during the compost process. A temperature of 131 degrees F (55 degrees Celsius) or greater shall be maintained in the windrow for at least 15 days. During the high temperature period, the windrow shall be turned at least five times.” As noted above, Vector Attraction Reduction is accomplished by meeting PFRP requirements.) If additional water is needed during this PFRP period, well water is used. After PFRP has been met, turning frequency is reduced to approximately every 10 days.

Household wastes are not part of the Wallace Farm feedstocks, such that household hazardous wastes (nor any type of hazardous wastes) are not expected. If household hazardous wastes were delivered, they would be seen during unloading and/or during product mixing, and they would be removed and disposed of in an approved facility.

2.7 - PROCESS FLOW

The process flow is depicted in Figure 3, with further details in the Process Flow Fact Sheet which follows. Processing steps are described in following sections. The tonnage values are estimates only and are subject to change. The total annual quantity received for composting will not exceed 100,000 tons.

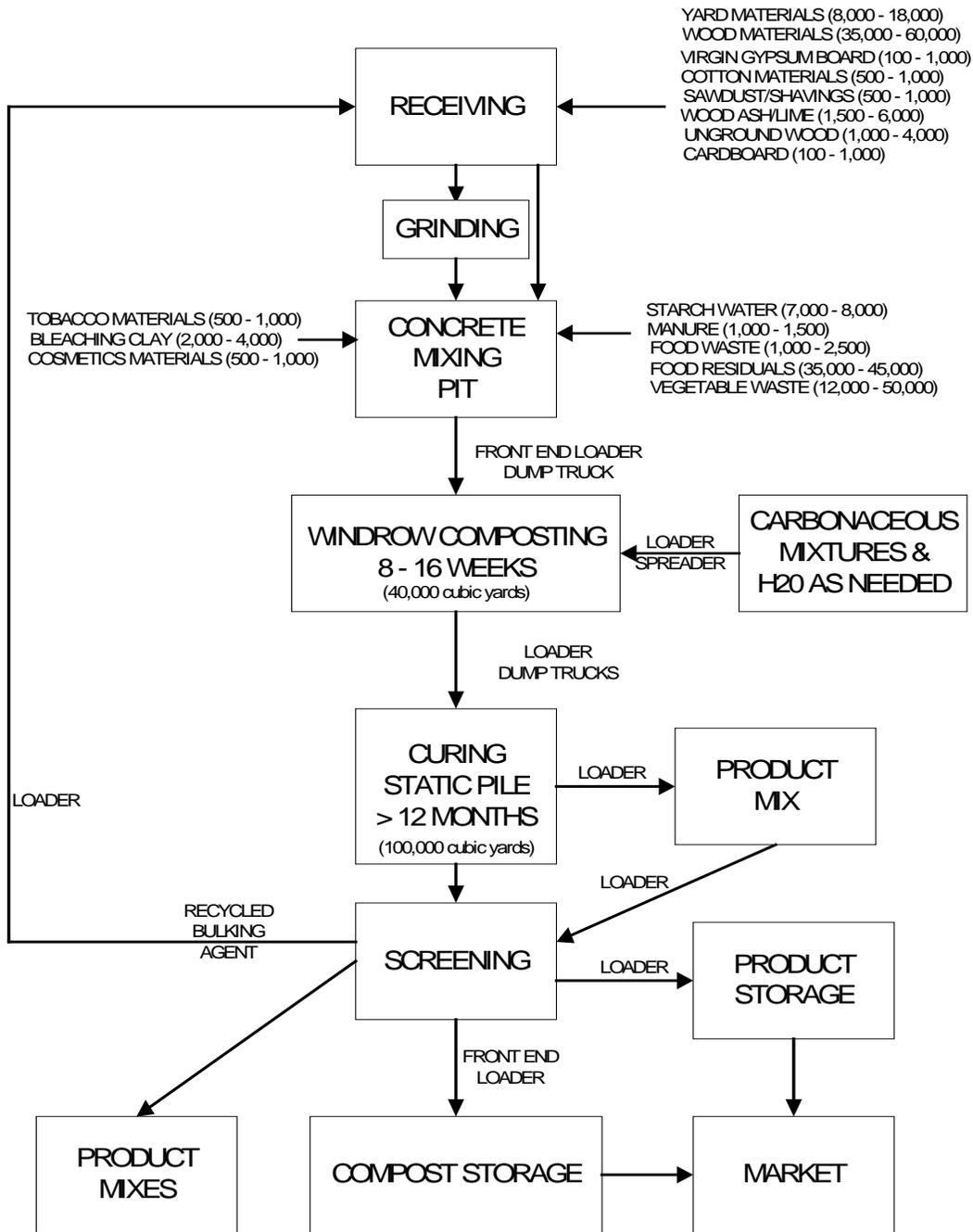


Figure 3. Wallace Farm Solid Waste Composting Facility Process Flow Diagram (see text for further details). All values are in tons/year, unless otherwise indicated.

Process Flow Fact Sheet

This Fact Sheet information summarizes the processing steps and equipment at the facility.

Note that aeration capacity is not cited because passive aeration is the method in use.

Grinding

- A 1564 Hogzilla tub grinder is used to grind and regrind incoming wood and yard materials at 240 cu yds/hr.
Volvo 150, Cat 962, John Deere 644 or 724 loaders and a Cat 320 excavator are also used when the grinder is in operation. Bucket sizes are 6 and 2 cubic yard, respectively.

Mixing Pit

- Volume: approximately 1500 cubic yards
- The detention time when mixing is performed is from 1 to 3 hours
- Equipment Used at Mixing Pit:
 - (1-2) Volvo 150 wheel loaders (6 cubic yard bucket)
 - Caterpillar 962 wheel loader (5 cubic yard bucket)
 - John Deere 724 wheel loader (5 cubic yard bucket)
 - (3) John Deere 250 articulated dump trucks (18 cubic yard capacity each)
 - (4) Ford 8000 tandem dump trucks. (18 cubic yard capacity each)
 - The equipment listed above is capable of mixing and hauling approximately 300 cubic yards per hour.

Windrow Composting

- Bachkus self-propelled compost turner on tracks. The Bachkus turner is capable of turning a windrow 5-7 feet tall and 14-16 feet wide at approximately 1200 cubic yards per hour.
- A 4055 or 4455 John Deere tractor and Knight manure spreaders that have been modified with a custom side discharge conveyers will be used to apply carbonaceous materials to the top of windrows. The Knight spreader has a capacity of approximately 18 cubic yards which will adequately cover one windrow.
- An International water truck and a Volvo off-road truck is used to apply water to windrows as needed. The water trucks are equipped with 4000 and 5000 gallon Hydroforce tanks, respectively. Each truck is capable of applying approximately 8000 gallons of water per hour.

Windrow Composting to Static Pile

- Equipment Used to Transport Compost from Windrow to Static Pile
 - Volvo 150 wheel loader (6 cubic yard bucket)

- Caterpillar 962 wheel loader (5 cubic yard bucket)
 - John Deere 644 and 724 wheel loaders (4.25-5 cubic yard buckets)
 - (3) John Deere 250 articulated dump trucks (18 cubic yard cap.)
 - (4) Ford 8000 tandem dump trucks (18 cubic yard capacity)
- Equipment Used to Construct Static Piles
 - Caterpillar D6 bulldozer
 - Caterpillar 963 track loader
 - Equipment Used to Add 3” to 6” of Finished Compost or other Carbonaceous Material to Windrows
 - John Deere 4055 and 4455 4WD Tractors
 - (2) Knight 8000 Series spreaders with custom built side conveyer

Static Pile to Product Mix Area

1. Equipment Used to Move Compost from Static Pile to Mixing Area
 - Volvo 150 Wheel loaders
 - Cat 962 wheel loader
 - John Deere 644 and 724 wheel loaders
 - Cat 320 excavators
 - (3) John Deere 250 articulated dump trucks as needed
 - (4) Tandem dump trucks as needed

Finished Product Mixing

1. Equipment Used in Product Mixing
 - Volvo 150 wheel loaders (6 cubic yard bucket)
 - John Deere 644 or 724 wheel loaders (4.25-5 cubic yard buckets)
 - Backhus compost turner

Product Screening

Equipment Used for Screening:

- (2) Powerscreen 2100 Phoenix trommel screens with a screening capacity of 225 cubic yards per hour per machine.

Storage capacity

- Feedstocks with high water content: 45,000 gallons total storage.
- Feedstocks with low water content: Receiving and storage areas shown on the Site Plan
- Storage for finished Product
 - A 200' x 80' building for product ready to be marketed.

- An additional 200' x 80' building includes three packaging lines used to package and palletize products for distribution.
- Outdoor storage: 100,000 cubic yards; pallet storage noted below

Bulking agent:

Only wood materials are accumulated, and quantities vary with local construction practices. The stored quantities can range from zero to approximately 75,000 cubic yards; and are on site from zero to 365 days.

Quantities and timing summary

Active compost

Approximately 40,000 cubic yards, composting for 8 to 16 weeks.

Compost in curing stage

Approximately 100,000 cubic yards for 1 year to 18 months.

Compost finished and ready for bagging after curing

Approximately 50,000 cubic yards, for up to 12 months

Products bagged and ready to go to market

Approximately 12,000 pallets, on-site up to 5 months, with ongoing production and shipping throughout the year

Topsoil

Approximately 75,000 cubic yards, 365 days

2.7.1 - Materials Receiving/Processing

Wood materials, yard waste, sawdust, wood shavings and cotton materials are delivered by truck to the site and unloaded in the receiving and bulking agent storage area. Grinding of wood materials will be performed with a 1564 Hogzilla Tub Grinder. Any contaminants such as metal or trash that are inadvertently mixed with the wood material are disposed of at a landfill. Manure, food processing residuals, and other feedstocks with high water content are delivered to the concrete receiving/mixing pit shown on the site plan for immediate processing.

2.7.2 - Mixing

Mixing is accomplished by a front end loader as described in Section 2.6. The mix is then moved by front end loader and dump trucks to a composting area.

2.7.3 - Composting

The mix is placed into windrows. A front end loader is used to shape the windrows, as required. Carbonaceous materials may be placed on top of the windrows to increase solids content to adjust the C:N ratio, or to minimize compost smells. The windrows are periodically turned with the Bachkus compost turner. Windrows are constructed approximately 14-16 feet wide at the base and 5-7 feet high and several hundred feet long. The temperatures are measured in each windrow once per week until PFRP is achieved by maintaining temperatures above or equal to 131°F for a minimum of 15 consecutive days. Windrows are turned at least five times during this period in which temperatures are ≥ 131 °F. (Vector attraction reduction is met by having temperatures higher than 104 Fahrenheit with an average temperature higher than 113 degrees for 14 days or longer.) Material remains in windrows for approximately eight to sixteen weeks during the active composting period.

2.7.4 - Curing and Storage

After active composting, material is stored in a static pile for approximately six to twelve months prior to screening. Compost will be stored in the compost storage shed, or in large piles or windrows outdoors. The piles and windrows may be covered with vented plastic covers to keep the compost dry during wet weather. Final curing and storage capacity for approximately thirty six

months of compost production is available outdoors. Additionally, approximately twelve months of storage capacity is provided under a roof.

2.7.5 - Screening

The material is screened to approximately $\frac{1}{2}$ - $\frac{3}{8}$ inch to produce a more marketable compost product. The overs (material greater than $\frac{3}{8}$ inch in nominal size) are recycled and stored in the receiving area until being mixed with incoming feedstocks.

2.7.6 - Air Emissions and Control Technologies

Operational procedures as specified in the operation and maintenance manual, such as maintaining aerobic conditions within the composting process (through control of porosity, moisture content, oxygen levels, and proper turning), maintaining a neutral pH, and increasing the C:N ratio will be followed. In addition, nitrogen-containing materials will be handled promptly, helping prevent formation of nitrogenous compounds such as ammonia. All reasonable efforts will be made to avoid turning windrows during unfavorable weather conditions, such as inversion conditions and undesirable wind directions, to minimize odors beyond the facility boundary. Data from an onsite weather station will be monitored on a daily basis. Windrows will be covered with carbonaceous materials (taking care not to reduce air flow), if offensive odors are observed.

Airborne particulates are generally associated with dry, dusty compost piles. The initial mix solids content can be varied during mixing to prevent over drying of the piles during composting. In addition, the water collected in the collection pond, or water from an on-site well and/or farm ponds may be used to add moisture back to the piles, if necessary. A tractor driven PTO pump is used to fill 4000 or 5000 gallon truck mounted Hydroforce water tanks. The water trucks are equipped with spray nozzles for applying water to travel areas and are equipped with specially designed nozzles for applying water to the top of compost windrows. Water from the collection pond and the farm pond is not added to windrows after the start of the PFRP period.

The following conditions apply:

1. The odor management plan shall be followed to minimize odors at the facility boundary. In response to an odor complaint, the facility shall implement the measures set out within section 2.7.6 of the operation and maintenance manual.

2. Upon receipt of a facility complaint, the facility operator shall investigate and take action as necessary to minimize the cause of the complaint. A copy of all complaints regarding this facility shall be maintained for the duration of the permit, including the operator's actions taken to resolve the complaints.

2.7.7 - Leachate Treatment

Stormwater from composting areas is routed using natural contours and installed diversion berms to the stormwater pond. Water from the stormwater pond is used on windrows that require additional moisture for dust suppression (but not during or after PRFP), and may be used for compost mixes.

2.8 - PRODUCT LABEL

A copy of the Wallace Farm product information sheets and product labels and compost (and feedstock) analytical data is included in Appendix G. The Grade A composted cow manure is registered with the NCDA as a fertilizer. The material is required to meet a minimum N-P-K value of .5-.5-.5. It is routinely tested by the NCDA Agronomic Division. Grade A compost plus and mushroom compost are registered with NCDA as a soil amendment.

2.9 - ENGINEERING PLANS AND SPECIFICATIONS

No additional site modifications are planned at present. Manufacturers' performance data for equipment utilized at the facility is included in Appendix F.

3.0 - REQUIRED INFORMATION FOR OPERATING PERMIT

The following section describes the information required for reviewing an application for a permit to operate the composting facility.

3.1 - CONTINGENCY PLANS

Contingency plans for unusual and adverse conditions are as follows:

3.1.1 - Equipment Breakdown

Wallace Farm has a full time mechanic on staff, who routinely conducts regular equipment maintenance. Sufficient storage of the feedstocks is provided to allow for routine maintenance problems. If the compost turner breaks down, loaders can be used while it is under repair. Wallace

Farm also maintains a good relationship with its vendors and can get equipment repaired quickly. However, equipment can be rented as necessary to maintain operations.

3.1.2 - Air Pollution/Odors

These approaches are described in Section 2.7.6.

3.1.3 - Non-Conforming Materials

Incoming feedstocks will be inspected upon arrival. Non-conforming materials are not allowed on the site and visual inspection prevents this from being a problem. Any rocks found in shipments are removed. Plastics are not a factor; however these would be separated out, by hand, if present and placed in the on-site dumpster.

3.1.4 - Spills

Spills of non-composted material will be cleaned up by a front end loader and added to active compost piles.

3.1.5 - Fires

The local fire department will be called if needed in the event of any fire at the facility. If piles of material catch on fire, a bulldozer and loaders will be used to separate the unburned material from the burning material and prevent the fire from spreading.

3.1.6 - Particulates

Particulates are generally associated with overly dry compost piles. Water from on-site farm ponds, from the collection pond, or from an on-site well can be used to increase moisture content and reduce particulates. As noted above, addition of water from on-site ponds will not be performed after the start of PRFP.

3.1.7 - Noise

Equipment normally associated with farm operations and grading operations has been used at this location for many decades and will continue to be used on the site. Reasonable levels of noise are expected

3.1.8 – Vectors

Vector attraction reduction takes place during composting. To meet vector attraction reduction, materials are to be treated in an aerobic process for 14 days or longer, during which time the temperature of compost shall be higher than 40 degrees Celsius (104 degrees F) and the average temperature shall be higher than 45 degrees Celsius (113 degrees F). Periodic turning occurs throughout the composting process, as discussed above and in the O&M Manual. This approach is considered very effective at controlling vectors. Nevertheless, Wallace Farm staff makes visual observations for vectors. The attraction of birds has never been an issue on the site.

Process modifications will be made, if required, to ensure these vector attraction reduction requirements are met. This may include increasing the amount of wood material and cotton material in the initial mix. Mixing of incoming wet materials and bulking agents occurs is outlined in Section 2.6. Periodic turning occurs throughout the composting process, as discussed above and in the O&M Manual.

3.1.9 - Unusual Traffic Conditions

Delivery schedules may be modified, if required, to prevent traffic impacts.

3.1.10 – Adverse Weather Conditions

Operations will be curtailed as necessary during wind, heavy rain, snow, freezing or other adverse weather conditions. If conditions are very severe, feedstock delivery will be stopped, and operations will cease. The compost turner, which runs on tracks, permits operations under all but the most severe conditions. Delivery and other operations will also be reduced to match staff absences due to inclement weather.

3.2 - OPERATIONS AND MAINTENANCE MANUAL

A separate operations and maintenance (O&M) manual for the facility has been prepared and is included with this permit application.

3.3 - QUALITY ASSURANCE PLAN

Detailed records, including quantity and type of incoming materials, outgoing products, pile temperatures, moisture and oxygen levels, turning frequency, and product testing will be maintained at the facility. Composite compost samples will be taken quarterly and compared to the standards shown in Table 4. Wallace Farm uses certified laboratories, and their testing procedures are noted on each lab analysis. Wallace Farm will test or obtain test data on the cotton material, food processing residuals, and other incoming feedstocks annually to ensure metals are below Solid Waste standards as shown in Section .1407.

Non-compostable materials are not allowed on the site. Wallace Farm receives feedstocks of very consistent quality from known suppliers. This feedstock does not contain any sort of non-compostable materials. Should non-compostable materials be delivered, they will be sent back to those that sent them, if allowable by law. If hazardous materials are received, Wallace Farm will report to the Division of Waste Management immediately to seek solutions with them and determine proper removal and disposal procedures to follow. If non-compostable materials are screened from initial delivery, they will be separated and processed according to law. If they are non-hazardous, they will be routed to a landfill. If hazardous, Wallace Farm will follow directions of experts at the Division of Waste Management.

Table 4. Quarterly monitoring for Class A compost requirements.

Parameter	Unit	Limit
Foreign Matter	%	< or = 6
Cadmium	mg/kg dry wt.	39
Copper	mg/kg dry wt.	1500
Lead	mg/kg dry wt.	300
Nickel	mg/kg dry wt.	420
Zinc	mg/kg dry wt.	2800
Selenium	mg/kg dry wt	36
Arsenic	mg/kg dry wt	41
Mercury	mg/kg dry wt	17
Pathogens (fecal coliform)	MPN/g dry wt.	< 1000 per g
Total N	%	None
Phosphorous	%	None
Potassium	%	None

3.4 - PROCESS FLOW

The process flow is described in Section 2.7.

3.5 - PERMITS AND APPROVALS

A copy of the local zoning authority approval to operate the composting facility is included in Appendix A

3.6 - PRODUCT MARKETING AND DISTRIBUTION PLANS

Wallace Farm successfully markets the final compost in both bag and bulk form to large chain retail outlets, area landscapers, and homeowners.

REFERENCES

Epstein 1997. *The Science of Composting*. Technomic Publishing Co., Inc., Lancaster, Pennsylvania p. 340.

Radcliffe, D.E., K.A. McVay, and D.E. Brune, 1997. "Nitrogenous and Phosphorus Losses from Dairy Loafing Areas and Lagoons." From the Proceedings of the Southeastern Sustainable Animal Waste Management Workshop. February 11 - 13, 1997, Tifton, Georgia, p. 25.

Appendices

Appendix A – Zoning Verification

Appendix B – CMU Permit Information, Including Access Point Design

Appendix C – Stormwater Permit

Appendix D – Groundwater Information, Including Well Designations, Test Results, and Depth to Water Table Information

Appendix E – Concrete Pit Construction Specifications

Appendix F – Manufacturers' Equipment Information

Appendix G – Product Label and Analytical Information

Appendix A - Zoning Verification



COPY

CERTIFIED MAIL

J. Woodley and Betty Wallace
14324 Eastfield Road
Huntersville, NC 28078

RE: APPEAL FROM A DECISION
14410 Eastfield Road
CASE NUMBER 06-057

Dear Mr. and Mrs. Wallace:

At its meeting on August 29, 2006, the City of Charlotte Zoning Board of Adjustment ("Board") upheld the Zoning Administrator's determination that the current use of the property at 14410 Eastfield Road is a legal nonconforming use, and the Board struck the four (4) stipulations to that determination.

The Board based its decision on the following findings of fact:

1. John Woodley Wallace and Betty Belk Wallace own property located at 14410 Eastfield Road.
2. The property is identified as Tax Parcel Numbers 029-641-01 and 029-241-03, and is zoned R-3.
3. The evidence presented at the hearing supports that composting has been occurring on this property since 1956.
4. The use of the property was a bona fide farm operation under the County Code, and various zoning ordinances have been passed since 1956 which apply to this property.
5. Until this property was annexed into the City of Charlotte ETJ in 1999, composting was allowed on this property under the County Zoning Ordinances.
6. Evidence presented by the adjacent neighbors was not relevant to the legal nonconformance of the composting operation, which operation had been in existence prior to the development of the adjacent neighborhood.

Based upon the above findings of fact, the Board concludes that the applicant has met standard stated in §5.109 of the Ordinance, and more specifically:

Conclusions of Law

1. The Zoning Administrator erred in applying stipulations in this case.
2. Upon annexation into the City of Charlotte ETJ, composting was not included within the definition of a farm and, therefore, the composting operation became legally non-conforming.

Pursuant to N.C.G.S. Section 160A-388(e), the Board's decision in Case no. 06-57 may be appealed by a petition for review in the nature of *certiorari* to Superior Court within thirty (30) days from the date stated below, which is the date when the decision of the Board was filed in the Planning Commission/Zoning Administration Division, or within thirty (30) days after receipt of the decision by an aggrieved party who filed a written request for such copy with the Clerk to the Board at the time of the hearing of the case, whichever is later.

Sincerely,

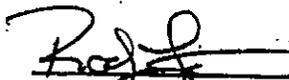


Andy Zoutewelle
Chairperson

cc: Debra Campbell, Planning Commission Director
Gary Huss, Zoning Supervisor
George Lee, Code Enforcement Inspector
Rodger Lentz, Zoning Administrator
Keith MacVean, Planning Commission
The Odom Law Firm
Jeff Bennett

DECISION FILED IN THE PLANNING COMMISSION:

10-21-06
Date



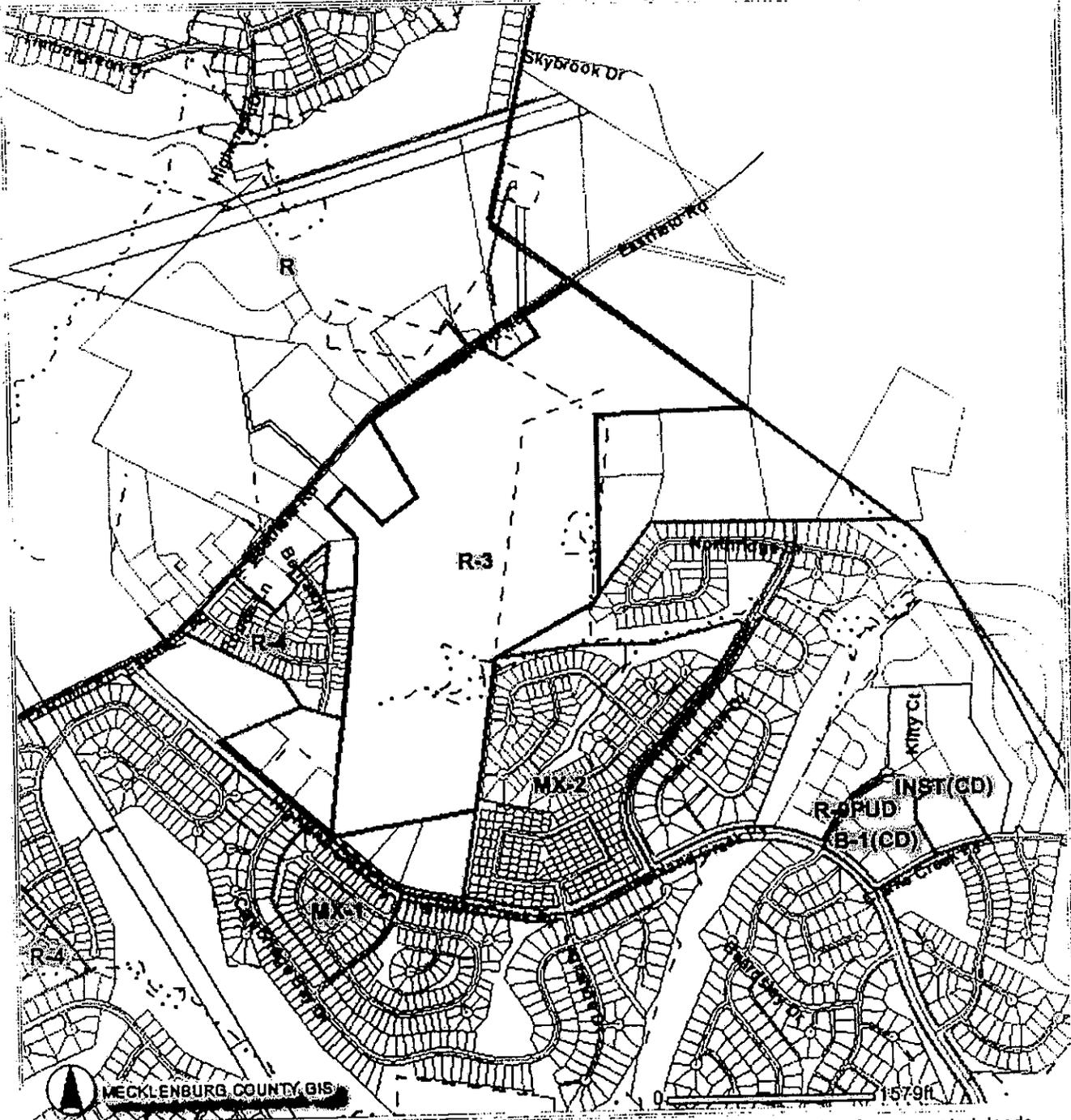
Rodger Lentz, Zoning Administrator

Mecklenburg County, North Carolina

POLARIS

Property Ownership Land Records Information System

Date Printed: Wed Jan 19 2005 10:28:44 GMT-0500 (Eastern Standard Time)



This map is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

Appendix B

CMU Permit Information, Including Access Point Design

CHARLOTTE_{sm}

August 22, 2008

Mr. Eric Wallace
Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078

RE: Permit # 6001, effective August 23, 2008

Dear Mr. Wallace,

Please find enclosed your permit # 6001 effective August 23, 2008 to discharge Industrial Waste under Charlotte-Mecklenburg Utilities, System Protection Section's Industrial Pretreatment Program. Please review the **ENTIRE** permit; all sections are important. The permit consists of a cover page and four parts. The following addresses generally what each section consists of:

- Cover page: Regulations your operations and discharges are subject to, the legal name of your company, pretreatment units/systems required to be used, what POTW receives your permitted discharge, and the effective dates of Permit #6011.
- Part I: What waste streams you are allowed to discharge, where these waste streams are monitored, the quantity of pollutants you are allowed to discharge, the city's and your monitoring frequency, certain definitions, test procedure requirements, reporting requirements for monitoring events, flow measuring and Pipe 001 accessibility requirements.
- Part II: General Conditions- these are standard conditions in all permits issued by the Control Authority.
- Part III: Special Conditions- A, B & C are standard special conditions in all permits issued by the Control Authority.
- Part IV: Permit Modification History- This section to the Permit will allow the Control Authority to re-open and modify existing Permits as needed.

CITY OF CHARLOTTE
CHARLOTTE-MECKLENBURG UTILITIES
CHARLOTTE, NORTH CAROLINA

PERMIT

To Discharge Wastewater Under The
Industrial Pretreatment Program

Permit Number 6001

In compliance with the provisions of Chapter 23 of the Charlotte City Code, North Carolina General Statute 143-215.1, 40 CFR 403, and other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission and the City of Charlotte, the following industry,

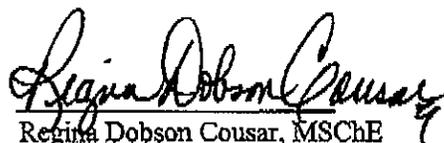
Wallace Farm, Inc.

Hereafter referred to by name or as the Permittee, is hereby authorized to:

1. After receiving authorization to construct from the City of Charlotte, construct and operate pretreatment units as needed to meet final effluent limitations, monitoring requirements, and all other conditions set forth in Parts I, II and III hereof; and
2. Discharge wastewater from the facility located at 14410 Eastfield Road, Huntersville, NC 28078 into the Cabarrus County, Rocky River Wastewater Treatment Plant NPDES Number NC0036269 in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

This permit shall become effective **August 23, 2008**

This permit and the authorization to discharge shall expire at midnight on **August 22, 2012**



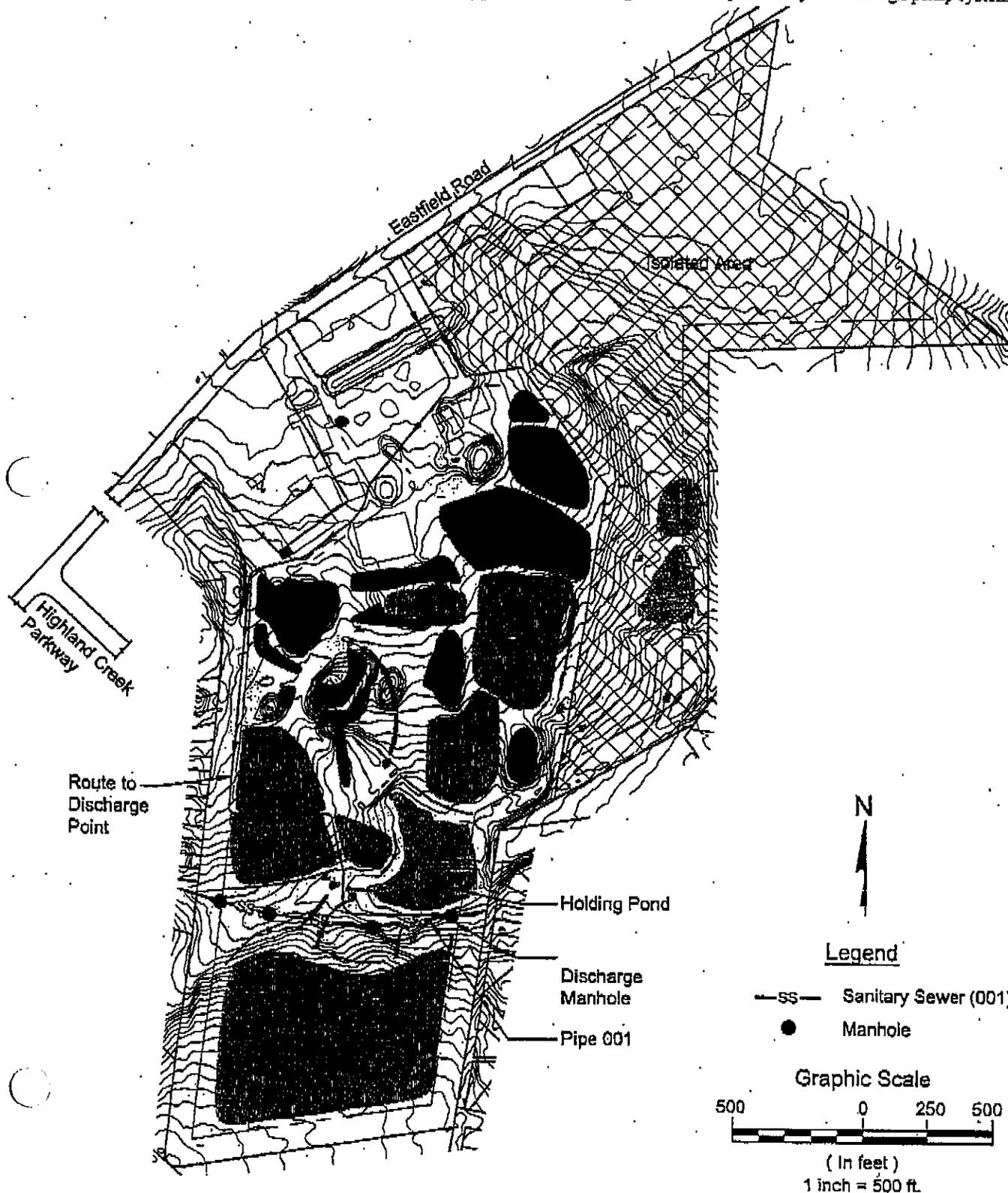
Regina Dobson Cousar, MSChE
Environmental Compliance Manager - System Protection
Environmental Management Division
Charlotte-Mecklenburg Utilities
4222 Westmont Drive
Charlotte, North Carolina 28217

PART I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Description of Discharges

Pipe Description

001 Leachate and run-off that is collected in a holding pond to be discharged to sanitary sewer system through pump system



B. Effluent Limits and Monitoring Requirements - Final

Effective August 23, 2008 and lasting until midnight on August 22, 2012, the Permittee is authorized to discharge from pipe 001 to the Cabarrus County Rocky River Wastewater Treatment Plant NPDES Number NC0036269. This discharge shall be limited and monitored as specified below. Parameters and prohibitions not included below shall be regulated and limited in compliance with the sewer use ordinance.

<u>Limited Parameter</u>	<u>Effluent Limitation mg/ unless otherwise noted</u>		<u>Sample Type</u>	<u>Monitoring Frequency</u>	
	<u>Daily Maximum</u>	<u>Maximum Monthly Average</u>		<u>City</u>	<u>Permittee</u>
Flow(1)	<u>.007 MGD</u>	<u>.007 MGD</u>	Metered	4**/3 months	4**/3 months
As, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Ammonia as N	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
BOD ₅	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
COD	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cd, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cr, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cu, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cyanide, T	<u>***</u>	<u>***</u>	Grab	4**/3 months	4**/3 months
Pb, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Hg, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Ni, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
TSS	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Zn, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Oil & Grease, T	<u>***</u>	<u>***</u>	Grab	4**/3 months	4**/3 months
pH	<u>* S.U.</u>		Grab	4**/3 months	4**/3 months

* pH must be greater than or equal to 6.0 and less than or equal to 12.0 at all times.

** Grab or 24 hour flow proportional composite samples collected for four consecutive days.

*** No permit limits established at time of permit issuance. (See part III special condition G)

(1) Wastewater meter.

C. Monitoring and Reporting

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water or substance. Monitoring points shall not be changed without notification to, and approval by, the permit issuing authority.

2. Reporting

- a. The Permittee shall monitor in the months of **January, April, July, October** each year for the parameters listed in Part I, B. above per Chapter 23 of the Charlotte City Code. Monitoring information documented on the CMU-SPS developed forms along with a completed Periodic Self-Monitoring Report ("PSMR") Certification form shall be delivered to the Control Authority no later than the twentieth day of the month following the month in which the samples were taken. If no discharge occurs during the reporting period, "no discharge" shall be reported. Copies of these and all other reports required herein shall be delivered to the Control Authority at the following address:

Charlotte-Mecklenburg Utilities
System Protection Section
4222 Westmont Drive
Charlotte, North Carolina 28217

- b. If sampling performed by the Permittee indicates a violation(s), the Permittee shall notify the Control Authority within 24 hours of becoming aware of the violation(s). The Permittee shall also repeat the sampling (four consecutive discharge days) and analysis for the parameter(s) in violation and deliver the required monitoring information, documented on the CMU-SPS developed forms, along with a completed PSMR Certification form to the Control Authority within thirty (30) days of becoming aware of the violation(s).

3. Definitions

In addition to the definitions in the City Code, the following definitions apply:

- a. A "comp." sample for monitoring requirements shall be defined as:

A 24 hour flow proportional composite sample, which consists of a series of aliquots of equal volume collected from a representative point in the discharge stream, over a 24 hour period with the time intervals between aliquots determined by a preset number of gallons passing through Pipe 001. Flow measurement between aliquot intervals shall be determined by the ISCO 4230 bubbler flow meter and 60 degree trapezoidal flume, and the preset gallon interval between aliquot collection fixed at no greater than 1/24 of the expected total daily flow through Pipe 001.

- b. A "grab" sample for monitoring requirements is defined as a single "dip and take" sample collected at a representative point in the actively flowing discharge stream.

- c. "4**/3 months" is defined as monitoring for four consecutive discharge days every three months.

- d. "Monthly average" is defined as the average of all data points (for a particular parameter) received, evaluated and accepted by the Control Authority for a given calendar month.

- e. "Continuous" for the purpose of flow monitoring is defined as the measure of discharge flow from the facility, which is documented in the form of permanent flow records and occurs without interruption.

- f. "Daily" or "day" is defined as any 24 (twenty-four)-hour period.

- g. "Control Authority" is defined as the City of Charlotte's Charlotte-Mecklenburg Utilities- System Protection Section ("CMU-SPS").

- h. "POTW" is the abbreviation for publicly owned treatment works.

- i. The City of Charlotte Sewer Use Ordinance is contained in the Charlotte, North Carolina, City Code chapter 23, article III.

4. Test Procedures

Test procedures for the analysis of pollutants shall be performed in accordance with the methods prescribed in 40 CFR Part 136 and amendments thereto (unless specified otherwise in the monitoring conditions of this permit) by a laboratory certified by the State of North Carolina to perform the analyses required on pretreatment program samples.

5. Additional Monitoring by Permittee

If the Permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be delivered to the Control Authority. The Control Authority may require more frequent monitoring or the monitoring of other pollutants not required in this permit by written notification.

6. Reporting Requirements

a. Required analytical information shall be documented on the form prescribed by the CMU-SPS known as the City of Charlotte Industrial User CMU-SPS Periodic Self-Monitoring Report ("PSMR") Form by the laboratory performing the analyses. Required information may include, but shall not be limited to, the following:

1. Permit number and name of the industrial user (Permittee);
2. Date sample(s) collected, interval flow volume and corresponding COC number;
3. Lab sample id, laboratory name, N.C.W.W. Laboratory Certification number, name and signature of laboratory supervisor, and date signed; and
4. Prep and analytical methods, prep and analysis start date(s) and times, prep and analyst's initials the detection limit of the analysis and the analytical result in mg/l and/or parameter specific units.

b. Required sample handling and collection information shall be documented on the form prescribed by the CMU-SPS known as the City of Charlotte Industrial User CMU-SPS Chain of Custody ("COC") Record Form. Required information may include, but shall not be limited to, the following:

1. COC number, permit number, permit effective dates, name of the industrial user (Permittee), and physical facility address of the industrial user (Permittee);
2. Sample type (composite or grab), composite type (flow, time or hand), and composite start and stop date(s) and times;
3. Name and signature of sample collector;
4. Date sample(s) collected, time(s) grab(s) collected and time composite poured into individual sample bottles, and sample(s)' description and location;
5. Container type (plastic or glass) and volume, as well as number of containers, chemical preservative, and analyses requested;
6. Lab use only sections requiring documentation of lab sample id number(s), if samples were received on ice and properly field preserved, if volatile organic samples had zero headspace and Teflon septa, and if samples were in proper containers upon receipt into the lab; and
7. Date(s) and times samples relinquished and received prior to and upon receipt into the lab, the signatures and affiliation of all individuals handling the samples prior to and upon receipt into the lab, and the N.C.W.W. Certification Number of the lab receiving the samples (documented as the affiliation of the individual receiving the samples for the lab).

c. Required composite sampling details flow readings, and field pH information shall be documented on the form prescribed by the CMU-SPS known as the City of Charlotte Industrial User CMU-SPS Field Measurement Record ("FMR") Form. Required information may include, but shall not be limited to, the following:

1. Name of industrial user (Permittee), physical address of the facility, sampling location, and corresponding COC number;
2. Automatic composite sampler information such as composite type (flow or time), the identity of the individual who programmed the sampler, programmed start collection date and time, actual sampler end collection date and time, number of aliquots comprising the composite, programmed pulse or time interval, sampler flow pulse equivalent, and documentation as to whether or not the composite sample was iced during collection;
3. Hand composite information such as process wastewater start and stop discharge date(s) and times, aliquot collection times, identity of the individual collecting the aliquots, and documentation as to whether or not the aliquots were chilled upon collection;

PART I—PAGE 5
PERMIT # 6001

4. Flow measurement information such as meter type(s) (i.e. wastewater, water, in-product, etc.), meter reporting units, dates and times non-resettable totalizers read initially and finally, final and initial non-resettable totalizer readings, interval flow volume in gallons, and the identity of the individual(s) obtaining the non-resettable totalizer readings;
 5. Field pH measurement information such as date and time pH sample collected, time field pH analysis performed if different from the collection time, identity of the individual(s) collecting and analyzing the pH sample, the pH result in S.U. as well as the sample temperature-(in Celsius); and
 6. Miscellaneous information such as whether or not "upon set up of the automatic sampling equipment for day 1, the sample collection bottle and tubing were clean and if not, why".
- d. The Permittee shall certify to the accuracy of the self-monitoring submittal by properly completing the form prescribed by the CMU-SPS known as the City of Charlotte Industrial User CMU-SPS Periodic Self-Monitoring Report ("PSMR") Certification Form, and having the appropriate company official (see Part II, I. of this permit) sign where specified. Required information may include, but shall not be limited to, the following:
1. Permit number and name of the industrial user (Permittee);
 2. Sample date(s) and monitoring event type(s);
 3. Documentation of violations (if any) as well as when and how the CMU-SPS was notified of the violations to comply with Part I, C. 2. b. Of this permit; and
 4. The name, signature, and title of the company official making the certification as well as the date signed.

D. Flow Measurement & Monitoring Point

1. The Permittee shall provide and operate monitoring facilities for the inspection, sampling and flow measurement of the Permittee's process wastewater discharges.
2. The approved wastewater meter shall be calibrated, at a minimum, once every six months by the manufacturers authorized service representative.
3. The Permittee is responsible for the periodic maintenance and calibration of the ISCO 4230 bubbler flow meter and 60 degree trapezoidal flume to assure accuracy. The Permittee shall, upon request of the Control Authority, furnish maintenance and calibration records.
4. There shall be interface capability with an Isco model composite sampler (contact closure); the Permittee shall purchase the interface line. The Control Authority monitoring shall take precedence; therefore, a splitter cable, purchased by the Permittee, will enable both the Control Authority and the Permittee to monitor at the same time and insure no interruption occurs in the Permittee's self-monitoring event.
5. The wastewater meter must have a non-resettable mechanical totalizer that reads in cubic feet or gallons.
6. If the wastewater meter is being used for billing or compliance, it must have permanent flow records (i.e. strip chart recordings) that include at minimum the following basic information: date, time, totalizer reading (with units), interval flow volume (with units), maximum flow rate (with units), primary measuring device type, and if there is a graph, a scale with units on both axis. Any interruption in such records is a violation of this permit and may result in a fine of at least \$100.00 each day the interruption is allowed to continue.
7. Flow monitoring equipment and the sampling point shall be located in an area accessible to the Control Authority personnel without prior notification. The Control Authority must be supplied with any keys and/or other tools necessary to perform the aforementioned.
8. There shall be no by-pass capability of the wastewater metering devices and monitoring point(s). The Permittee is required, within thirty days after receipt of this permit, to deliver to the Control Authority certification that all process wastewaters discharged into the City of Charlotte's POTW, flow through pipe 001 as specified in Part I, A. of this permit.
9. The wastewater meter shall have a back-up power source (battery or generator) to insure uninterrupted measurement of the discharge flow in the event of a power failure. The back-up source shall provide power to the wastewater meter's sensor and permanent flow records for a minimum of 12 hours.
10. The Permittee shall maintain permanent flow records and maintenance and calibration records for a minimum of three years.

GENERAL CONDITIONS

A. Duty to Comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the City Code and is grounds for possible enforcement action including, but not limited to, \$25,000.00 Civil Penalty per occurrence.

B. Duty to Mitigate - Prevention of Adverse Impact

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the POTW, the waters receiving the POTW's discharge, or the environment.

C. Facilities Operation

The Permittee shall at all times maintain in good working order and operate as efficiently as possible, all control facilities or systems installed or used by the Permittee to achieve compliance with the terms and conditions of this permit. Bypass of treatment facilities is prohibited except when approved in advance by the Control Authority. Bypass approval shall be given only when such bypass is in compliance with 40 CFR 403.17.

D. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from such materials from entering the POTW. The Permittee is responsible for assuring its compliance with any requirements regarding the generation, treatment, storage, and/or disposal of "Hazardous Waste" as defined under the Federal Resource Conservation and Recovery Act.

E. Upset Conditions

An "upset" means an exceptional incident in which there is an unintentional and temporary noncompliance with the effluent limitations of this permit, because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed or inadequate treatment facilities, lack of preventative maintenance, or careless or improper operations.

An upset may constitute an affirmative defense for action brought for the noncompliance. The Permittee has the burden of proof to provide evidence and demonstrate that none of the factors specifically listed above were responsible for the noncompliance.

F. Right of Entry

The Permittee shall allow the staff of the State of North Carolina Department of Environment, Health and Natural Resources, Division of Environmental Management, the Regional Administrator of the Environmental Protection Agency, the City of Charlotte, and/or their authorized representatives, upon the presentation of credentials:

1. To enter upon the Permittee's premises where a real or potential discharge is located or in which records are required to be kept under the terms and conditions of this permit; and
2. At reasonable times to have access to and copy records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

G. Availability of Records and Reports

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records as well as copies of reports and information used to complete the application for this permit for at least three years. All records that pertain to matters that are subject to any type of enforcement action shall be retained and preserved by the Permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Except for data determined to be confidential under the City Code, all reports prepared in accordance with terms of this permit shall be available for public inspection at the City of Charlotte. As required by the Code, effluent data shall not be considered confidential.

H. Duty to Provide Information

The Permittee shall furnish to the Control Authority or his designee, within a reasonable time, any information which the Director, his designee, or the Division of Environmental Management may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish, upon request, copies of records, required to be kept, by this permit.

I. Signatory Requirements

All reports or information delivered pursuant to the requirements of this permit must be signed and certified by a ranking official or duly authorized agent of the Permittee.

J. Toxic Pollutants

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit may be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

K. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

L. Federal and/or State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal and/or State law or regulation.

M. Penalties

Chapter 23 of the City Code provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$25,000 per violation per day for as long as the violation(s) continues.

The District Attorney for the 26th Judicial District may, at the request of the Control Authority, prosecute non-compliant users who violate the provisions of N.C.G.S. 143-215.6B.

N. Need to Halt or Reduce not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit.

O. Transferability

This permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without prior approval of the Control Authority and full compliance with the City Code and North Carolina General Statute or implementing regulation.

P. Property Rights

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

Q. Severability

The provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

R. Permit Modification, Revocation, Termination

This permit may be modified, revoked and reissued or terminated with cause in accordance to the requirements of the City Code and North Carolina General Statute or implementing regulations.

S. Reapplication for Permit Renewal

The Permittee is responsible for filing a complete and accurate application for re-issuance of this permit at least 180 days prior to its expiration date.

T. Dilution Prohibition

The Permittee shall not increase the use of potable or process water or in any other way attempt to dilute the discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

U. Notification of Production Changes

The Permittee shall give notice to the Control Authority 90 days prior to any facility expansion, production increase or decrease, or process modification which has the potential to result in new or substantially increased or decreased discharges or a change in the nature of the discharge. This shall also apply to any substantial changes in the relative proportions or dilution flow and regulated flow, whether increases or decreases. The Permittee shall not proceed with that facility expansion, production increase, or process modification until the Control Authority has given permission.

V. Construction

No construction of pretreatment facilities or additions thereto shall begin until Final Plans and Specifications have been delivered to the Control Authority and written approval and an Authorization to Construct have been issued.

W. Sludge Management Plan

Ninety days prior to the initial disposal of sludge generated by any pretreatment facility, the Permittee shall deliver a sludge management plan to the Control Authority.

X. Categorical Standard Re-opener

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 302(b)(2)(C), and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- (1) Contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
- (2) Controls any pollutant not limited in this permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

Y. Accidental Discharges and Slug Loads

The Permittee shall provide protection from accidental and slug discharges of prohibited materials and other substances regulated by this permit. The Permittee shall develop a written slug/spill control plan and submit it to the Control Authority within 120 days of receipt of this permit for approval by the Control Authority. The plan shall include, but is not limited to: description of discharge practices; description of stored chemicals; procedures for immediately notifying the POTW of slug discharges that would cause a violation of 40 CFR 403.5(b), with procedures for notification within 5 days; and if necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response. A copy of this plan shall be delivered to the Control Authority by the implementation date.

The Permittee shall notify, by telephone, WSACC (Water & Sewer Authority of Cabarrus County) immediately of all discharges that could cause problems to the POTW including any slug loading as defined by 40 CFR 403.5(b). If the Permittee experiences such a discharge, they shall speak with the Operator-in-Charge at the Cabarrus County Rocky River Wastewater Treatment Plant at 704-788-4164, and with an individual of the Control Authority, telephone number (704) 336-4407 immediately upon the first awareness of the commencement of the discharge. Should the Permittee be unable to speak with the Operator-in-Charge and with the Control Authority personnel upon calling the specified numbers, a message or the phone number where the Permittee can be reached shall be left on the CMU-SPS pager at (704) 581-5435. Notification shall include location of the discharge, type of waste, concentration and volume if known and corrective actions taken by permittee. A written follow-up report describing the cause of the discharge and measures taken to prevent similar future occurrences shall be filed with the Control Authority by the Permittee within five (5) days of the discharge. Such written notification shall not relieve the Permittee from any liability, which may be incurred as a result of the discharge.

Z. General Prohibitive Standards

The Permittee shall comply with the general prohibitive discharge standards in 40 CFR 403.5(a) and (b) of the Federal pretreatment regulations.

PART III - PAGE 1
PERMIT #6001SPECIAL CONDITIONS

- A. The permit shall be reopened and modified or revoked and reissued to comply with any applicable effluent standard or limitation for the control of any pollutant shown through headworks analysis to contribute to interference, inhibition, pass through and/or toxicity at the POTW. Similarly, permit modification or re-issuance shall be made for any pollutant that is otherwise limited by or appears on the POTW's NPDES discharge permit and/or is limited by 503 sludge regulations. The permit as modified or reissued under this paragraph may also contain any other requirements of local, State or Federal pretreatment regulations then applicable.
- B. The Permittee was responsible for filing complete and accurate information for issuance of this permit. Said information consisted of a permit application and wastewater survey dated February 19, 2008. Should the Permittee determine that said information was incomplete and/or inaccurate in any manner, the Permittee shall notify the Control Authority immediately in writing. Such notice shall identify the information, which was incomplete and/or inaccurate and shall include the new complete and accurate information as well as an explanation of the impact of the new complete and accurate information on the existing permit.
- C. The Permittee is responsible for communicating all requirements and conditions of this permit to all applicable persons.
- D. Within one hundred and eighty days of the issuance of this permit, the Permittee shall develop and deliver to the Control Authority a waste minimization plan. As an additional resource in developing a plan, The Division of Pollution Prevention and Environmental Assistance may be contacted at (919) 715-6500 or mailing address: 1639 Mail Service Center, Raleigh, NC, 27699-1639
- E. Permittee may discharge up to 7000 gallons per calendar day, and no more. Sewer Line Capacity is the deciding factor in this special condition. Future development will take precedence over Wallace Farm, Inc.
- F. Permittee is responsible for maintenance and operation of all on-site storm water control devices or diversions. Efforts to ensure that stormwater continues to be diverted away from the composting area, to the extent possible, shall be taken.
- G. Part I - Page 2 in permit will be reviewed after 1 year of data is collected, from effective date, to determine if limits are needed to better control pollutants of concern.

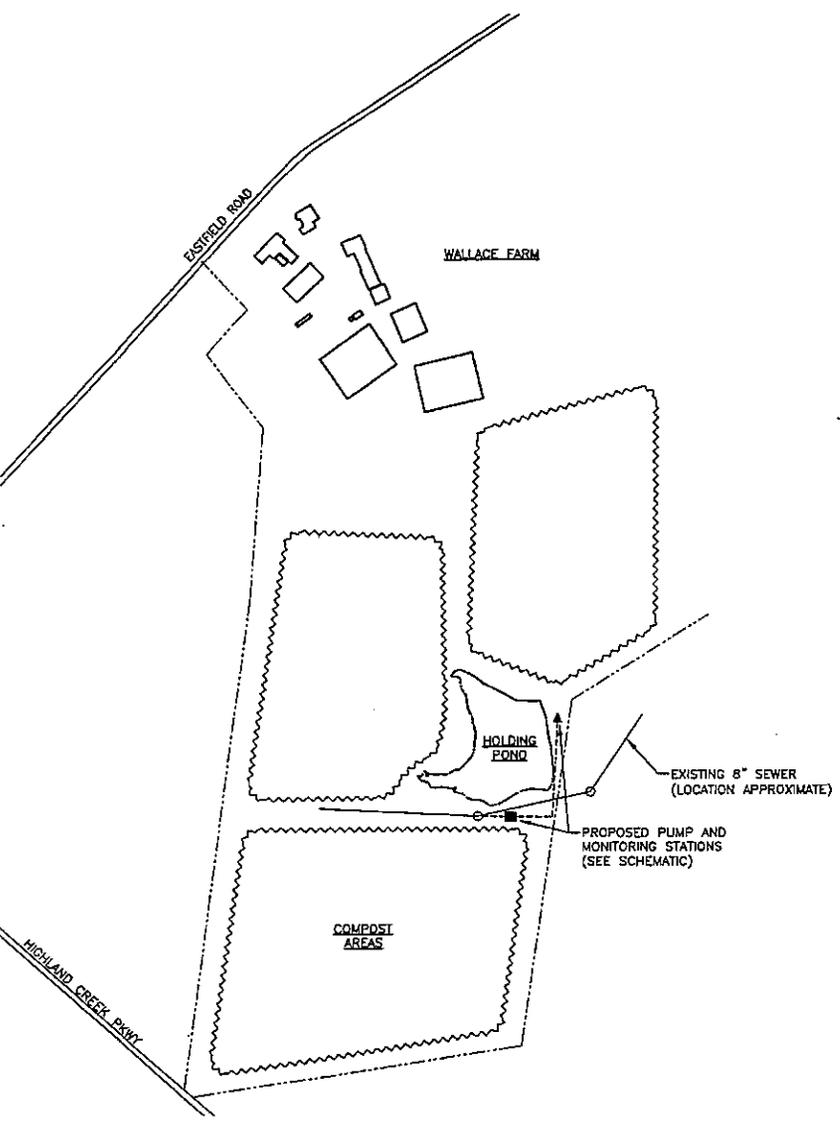
PART IV - PAGE 1
PERMIT # 6001PERMIT HISTORY08/23/2008

Permit # 6001 is extended for four years, through August 22, 2012. The changes made to this permit are as follows: Permit effective and expiration dates have changed, Flow average (monthly) changed from .0084 MGD to .007 MGD, The Control Authority address and phone numbers have changed and now reflect the most current numbers and address, Special conditions "E" and "F" have changed, with two special conditions being removed and two added. Special Condition "F" now states that permittee is responsible for maintenance and operation of all on-site storm water devices, Special Condition "E" was changed (hourly and minute restriction were removed) to allow IU to discharge at non-peak hours if necessary, Special Condition "G" was added to address permit limits one year from permit effective date to determine if limits are needed and the emergency pager number for WSACC WWTP has been removed at their request.

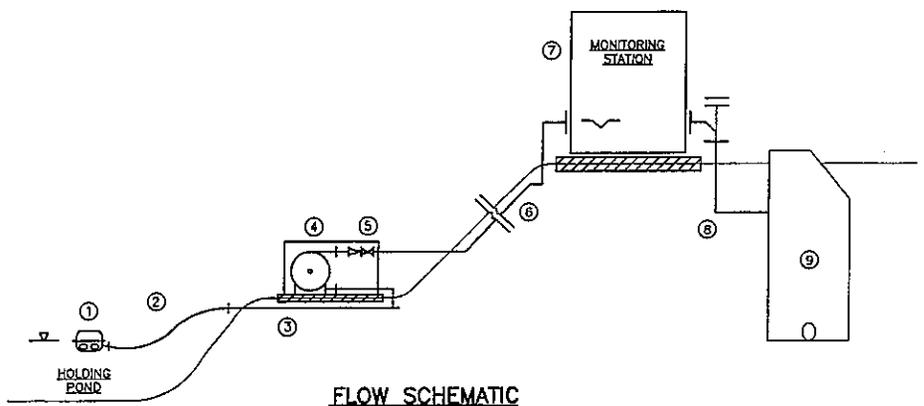
08/23/2007

Permit # 6001 is a permit written for Wallace Farm, Inc for duration of one year. This permit will be finalized and written to reflect the maximum duration of five years once all activities in schedule of compliance are complete and approval has been granted by the Control Authority. The permit is intended for use as a tool to help Wallace Farm, Inc. meet all activities in schedule of compliance in order to reach permit finalization, and to help this business achieve a solid waste permit to continue operations. Meetings held with Wallace Farm, Inc. have been used to guide the process of permitting and to ensure a complete understanding of what will be expected of Wallace Farm, Inc. regarding flow limits and permit requirements. Wallace Farms has agreed to do everything in their power to restrict the entry of stormwater into the sanitary sewer and will divert most run-off from getting into the holding pond to be used as a wastewater collection point. The State of NC has determined that once leachate from the composting facility commingles with stormwater, it is considered wastewater, therefore restricting the flow of their controlled run-off from entering the surface waters. This business is viewed as an environmentally friendly operation for the solid waste and organic debris that is recycled and sold for reuse versus landfilled.

WILKS ENGINEERS, 1520 SOUTH BOULEVARD, CHARLOTTE, NORTH CAROLINA, 28203



PLAN



FLOW SCHEMATIC

- LEGEND**
- ① 2" FLOATING STRAINER, MEGATOR DOLPHIN OR APPROVED EQUAL.
 - ② 2" FLEXIBLE PVC SUCTION HOSE.
 - ③ 2" SCH 80 PVC SUCTION PIPING, REDUCE TO 1 1/2" FLANGE AT PUMP CONNECTION.
 - ④ VARIABLE SPEED HOSE PUMP, WATSON-MARLOW-BREOEL MODEL SPX40 WITH 2 HP VFO IN NEMA 4X ENCLOSURE, MOUNT ON 4" CONCRETE PAD.
 - ⑤ 2" PVC DISCHARGE PIPING INCLUDING 1 1/2" ENLARGER, CHECK VALVE, BALL VALVE AND FITTINGS AS REQUIRED, HOUSE IN PUMP ENCLOSURE.
 - ⑥ 2" SCH 80 PVC DISCHARGE PIPE TO MONITORING STATION, BURY 18" DEEP.
 - ⑦ PREFABRICATED MONITORING STATION, PLASTI-FAB SHELTER MODEL #5 ON CONCRETE SLAB WITH INTEGRALLY FABRICATED 60" TRAPEZOIDAL FLUME, ISCO MODEL 4230 BUBBLER FLOW METER AND FLOW SAMPLING STATIONS.
 - ⑧ 4" PVC DISCHARGE PIPING.
 - ⑨ EXISTING CHARLOTTE-MECKLENBURG UTILITIES SEWER.

- NOTES:**
1. LOCATION OF PUMPING STATION AND MONITORING STATION TO BE DETERMINED IN THE FIELD IN AREAS NOT IN CONFLICT WITH FARM OPERATIONS.
 2. 3 PHASE -- 460V POWER SERVICE TO BE PROVIDED NEAR THE PUMP STATION AND SINGLE PHASE, 110V POWER TO BE PROVIDED TO THE MONITORING STATION BY THE OWNER.

DESIGNED BY: CAW/JF	
DRAWN BY: CAW/JF	
CHECKED BY: AMA	
DATE: G.J.W.	

wilks ENGINEERS

WALLACE FARM
WASTEWATER DISCHARGE

PLAN AND SCHEMATIC

1970.001
01.DWG
OCTOBER 2007



CHARLOTTE_{sm}

October 10, 2008

Mr. Eric Wallace
Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078

RE: Modified Permit # 6001, effective October 10, 2008

Dear Mr. Wallace,

Please find enclosed modified permit # 6001 effective October 10, 2008 to discharge Industrial Waste under Charlotte-Mecklenburg Utilities, System Protection Section's Industrial Pretreatment Program. Please review the **ENTIRE** permit; all sections are important. The permit consists of a cover page and four parts. The following addresses generally what each section consists of:

- Cover page: Regulations your operations and discharges are subject to, the legal name of your company, pretreatment units/systems required to be used, what POTW receives your permitted discharge, and the effective dates of Permit #6011.
- Part I: What waste streams you are allowed to discharge, where these waste streams are monitored, the quantity of pollutants you are allowed to discharge, the city's and your monitoring frequency, certain definitions, test procedure requirements, reporting requirements for monitoring events, flow measuring and Pipe 001 accessibility requirements.
- Part II: General Conditions- these are standard conditions in all permits issued by the Control Authority.
- Part III: Special Conditions- A, B & C are standard special conditions in all permits issued by the Control Authority.
- Part IV: Permit Modification History- This section to the Permit will allow the Control Authority to re-open and modify existing Permits as needed.

The changes made to this permit are listed on the last page in the permit history. Changes are listed as follows for your convenience:

The changes made to this permit are as follows:

- Flow average (monthly and daily) changed from .007 MGD to .010 MGD

You have a 30-day comment period to address any comments to this Permit, please send any comments to my attention, in writing.

If you have any questions or concerns, call (704) 336-4631 or e-mail to mnunez@ci.charlotte.nc.us.

Respectfully,



Matt Nunez
Environmental Compliance Specialist
System Protection Section

CITY OF CHARLOTTE
CHARLOTTE-MECKLENBURG UTILITIES
CHARLOTTE, NORTH CAROLINA

PERMIT

To Discharge Wastewater Under The
Industrial Pretreatment Program

Permit Number 6001

In compliance with the provisions of Chapter 23 of the Charlotte City Code, North Carolina General Statute 143-215.1, 40 CFR 403, and other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission and the City of Charlotte, the following industry,

Wallace Farm, Inc.

Hereafter referred to by name or as the Permittee, is hereby authorized to:

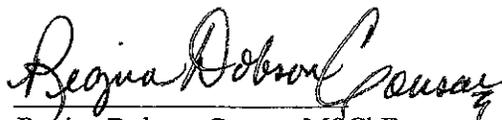
1. After receiving authorization to construct from the City of Charlotte, construct and operate pretreatment units as needed to meet final effluent limitations, monitoring requirements, and all other conditions set forth in Parts I, II and III hereof; and

Discharge wastewater from the facility located at 14410 Eastfield Road, Huntersville, NC 28078 into the Cabarrus County, Rocky River Wastewater Treatment Plant NPDES Number NC0036269 in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

This permit shall become effective **August 23, 2008**

This permit was modified **October 10, 2008**

This permit and the authorization to discharge shall expire at midnight on **August 22, 2012**



Regina Dobson Cousar, MSChE
Environmental Compliance Manager - System Protection
Environmental Management Division
Charlotte-Mecklenburg Utilities
4222 Westmont Drive
Charlotte, North Carolina 28217

B. Effluent Limits and Monitoring Requirements - Final

Effective **October 10, 2008** and lasting until midnight on **August 22, 2012**, the Permittee is authorized to discharge from pipe 001 to the Charrus County Rocky River Wastewater Treatment Plant NPDES Number NC0036269. This discharge shall be limited and monitored as defined below. Parameters and prohibitions not included below shall be regulated and limited in compliance with the sewer use ordinance.

Effluent Limitation mg/l
unless otherwise noted

Monitoring Frequency

<u>Limited Parameter</u>	<u>Daily Maximum</u>	<u>Maximum Monthly Average</u>	<u>Sample Type</u>	<u>City</u>	<u>Permittee</u>
Flow(1)	<u>.010 MGD</u>	<u>.010 MGD</u>	Metered	4**/3 months	4**/3 months
As, T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Ammonia as N	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
BOD ₅	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
COD	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cd,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cr,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cu,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Cyanide, T	<u>***</u>	<u>***</u>	Grab	4**/3 months	4**/3 months
Pb,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Se,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Ni,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
TSS	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Zn,T	<u>***</u>	<u>***</u>	Comp.	4**/3 months	4**/3 months
Oil & Grease, T	<u>***</u>	<u>***</u>	Grab	4**/3 months	4**/3 months
pH	<u>* S.U.</u>		Grab	4**/3 months	4**/3 months

* pH must be greater than or equal to 6.0 and less than or equal to 12.0 at all times.

** Grab or 24 hour flow proportional composite samples collected for four consecutive days.

*** No permit limits established at time of permit issuance. (See part III special condition G)

(1) Wastewater meter.

SPECIAL CONDITIONS

- A. The permit shall be reopened and modified or revoked and reissued to comply with any applicable effluent standard or limitation for the control of any pollutant shown through headworks analysis to contribute to interference, inhibition, pass through and/or toxicity at the POTW. Similarly, permit modification or re-issuance shall be made for any pollutant that is otherwise limited by or appears on the POTW's NPDES discharge permit and/or is limited by 503 sludge regulations. The permit as modified or reissued under this paragraph may also contain any other requirements of local, State or Federal pretreatment regulations then applicable.
- B. The Permittee was responsible for filing complete and accurate information for issuance of this permit. Said information consisted of a permit application and wastewater survey dated February 19, 2008. Should the Permittee determine that said information was incomplete and/or inaccurate in any manner, the Permittee shall notify the Control Authority immediately in writing. Such notice shall identify the information, which was incomplete and/or inaccurate and shall include the new complete and accurate information as well as an explanation of the impact of the new complete and accurate information on the existing permit.
- C. The Permittee is responsible for communicating all requirements and conditions of this permit to all applicable persons.
- D. Within one hundred and eighty days of the issuance of this permit, the Permittee shall develop and deliver to the Control Authority a waste minimization plan. As an additional resource in developing a plan, The Division of Pollution Prevention and Environmental Assistance may be contacted at (919) 715-6500 or mailing address: 1639 Mail Service Center, Raleigh, NC, 27699-1639
- E. Permittee may discharge up to 10,000 gallons per calendar day, and no more. Sewer Line Capacity is the deciding factor in this special condition. Future development will take precedence over Wallace Farm, Inc.
- F. Permittee is responsible for maintenance and operation of all on-site storm water control devices or diversions. Efforts to ensure that stormwater continues to be diverted away from the composting area, to the extent possible, shall be taken.
- G. Part I – Page 2 in permit will be reviewed after 1 year of data is collected, from effective date, to determine if limits are needed to better control pollutants of concern.



PERMIT HISTORY

10/10/2008

Permit #6001 has been modified to reflect a flow increase of 3,000 GPD from the original permitted flow limit. Wallace Farm will now have the ability to discharge up to 10,000 GPD for the remainder of permit duration, unless otherwise specified. The request was received via fax on 9/24/2008. The request was the result of a need to be able to pump more than the permitted limit in extreme rain events and a recommendation from the City of Charlotte Storm Water group. The additional capacity is available in the system.

08/23/2008

Permit # 6001 is extended for four years, through August 22, 2012. The changes made to this permit are as follows: Permit effective and expiration dates have changed, Flow average (monthly) changed from .0084 MGD to .007 MGD, The Control Authority address and phone numbers have changed and now reflect the most current numbers and address, Special conditions "E" and "F" have changed, with two special conditions being removed and two added. Special Condition "F" now states that permittee is responsible for maintenance and operation of all on-site storm water devices, Special Condition "E" was changed (hourly and minute restriction were removed) to allow IU to discharge at non-peak hours if necessary, Special Condition "G" was added to address permit limits one year from permit effective date to determine if limits are needed and the emergency pager number for WSACC WWTP has been removed at their request.

08/23/2007

Permit # 6001 is a permit written for Wallace Farm, Inc for duration of one year. This permit will be finalized and written to reflect the maximum duration of five years once all activities in schedule of compliance are complete and approval has been granted by the Control Authority. The permit is intended for use as a tool to help Wallace Farm, Inc. meet all activities in schedule of compliance in order to reach permit finalization, and to help this business achieve a solid waste permit to continue operations. Meetings held with Wallace Farm, Inc. have been used to guide the process of permitting and to ensure a complete understanding of what will be expected of Wallace Farm, Inc. regarding flow limits and permit requirements. Wallace Farms has agreed to do everything in their power to restrict the entry of stormwater into the sanitary sewer and will divert most run-off from getting into the holding pond to be used as a wastewater collection point. The State of NC has determined that once leachate from the composting facility commingles with stormwater, it is considered wastewater, therefore restricting the flow of their controlled run-off from entering the surface waters. This business is viewed as an environmentally friendly operation for the solid waste and organic debris that is recycled and sold for reuse versus landfilled.



Appendix C
Stormwater Permit

Appendix D

**Groundwater Information, Including Well Designations,
Test Results, and Depth to Water Table Information**

BARNES BIERCK, P.E., PH.D.
ENVIRONMENTAL ENGINEERING CONSULTANT
3 HAMPTON HILL PLACE
CHAPEL HILL, NC 27517
TEL 919-401-0591
EFAX 815 550-2322

January 28, 2005

Andrew Pitner
Aquifer Protection Section
NC DENR
Mooresville Regional Office
610 East Center Ave., Ste 301
Mooresville, NC 28115
FAX: (704) 663-6040

Re: Wallace Farm, Huntersville: Solid Waste Composting Permit

Dear Mr. Pitner:

Thanks for speaking with me earlier this week concerning Wallace Farm.

As we discussed, Wallace Farm is currently renewing its Solid Waste Composting Permit. This process triggers the need for ensuring that your Section has had appropriate input into the process.

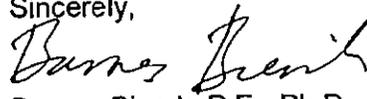
To help bring you up to speed, attached please find two letters concerning a sampling and testing program, and resulting DWQ determinations, back in 2000 when the current permit was being developed.

I would appreciate hearing back at your earliest convenience regarding your Section's determinations as to any groundwater matters that need addressing, enabling Wallace Farm to move forward on its Solid Waste Composting Permit.

In the meantime, please don't hesitate to get in touch with any questions or concerns.

Thanks very much.

Sincerely,


Barnes Bierck, P.E., Ph.D.

Attachments: Letter from Matt Heller regarding Wallace Farm, dated April 26, 2000
Letter from Philip R. Thompson, P.G. regarding Wallace Farm,
dated March 28, 2000

cc: Ted Lyon, Division of Solid Waste, DENR, Raleigh
Eric Wallace, Wallace Farm, Huntersville, NC

Philip R. Thompson P.G.*Geological and Environmental Services**241 Laurens Road West, Indian Trail, North Carolina 28079 (704) 882 2788*

March 28, 2000

Mr. Matt Heller
NCDENR Groundwater Section
919 North Main Street
Mooresville NC 28115

Re: Monitor Well Sampling
Wallace Farms
14410 Eastfield Road
Huntersville, Mecklenburg County, NC

Dear Mr. Heller

In reference to our October Meeting with the Ground Section and Solid Waste of NCDENR, TGES and McCall Brothers Inc. installed four temporary monitor wells at the Site. Four monitor wells were installed to top of weathered rock in October 1999. After four days only TMW-1 (re-designated MW-5) was found to contain ground water. The sample TMW-1 was collected at this time. Due to drought conditions TGES and Wallace Farms delayed installing replacement wells while waiting for the groundwater to recharge. In February 2,000, since groundwater had not recharged, TMW-6, TMW-7 and TMW-8 were reinstalled into the weathered rock.

The location of the temporary monitor wells is indicated on the Figure 1., a copy of an aerial site photograph. The photograph also shows the location of the compost rows and stockpiles.

Location of Wells

Per our conversation the wells were placed to target different area with different historical uses to assist in determining a true background level at the site for Nitrates (NO₃-N). Please note the site was used as dairy farm from 1945 to 1999. Prior to 1945 the site was a mixed use farm with row crops and livestock.

Monitor well TMW-1(MW-5) was placed upgradient of the of MW-2, a well with historically high nitrate levels. The well was placed between compost rows in a historic dairy cow lounging yard. The well was completed to a depth of 14 feet below grade. Drilling halted upon making contact with hard weathered rock. Groundwater level at TMW-1(MW-5) was above the hard weathered rock contact.

Monitor well TMW-2 (MW-6) was placed upgradient of the of MW-5 at the base of a bulking pile, downgradient of a waste lagoon. The well was placed into hard weathered rock. Groundwater was below the contact with hard weathered Rock.

Monitor well TMW-3(MW-7) was placed upgradient of the of all compost rows and waste lagoons in an old lounging yard (Note*. historically the lounging lots were bare of all vegetation).The well was placed into hard weathered rock. Groundwater was below the contact with hard weathered Rock.

Monitor well TMW-4 (MW-8) was placed upgradient of the of compost rows and storage in an old feed lot. The well was placed into hard weathered rock. Groundwater was below the contact with hard weathered Rock.

On February 21, 2,000, samples were collected from monitor wells TMW-6, TMW-7, and TMW-8. The well samples were collected in general accordance with EPA sampling protocol. Three well volumes were purged from each well prior to collection of the samples. The groundwater samples were collected using disposable bailers. The groundwater samples from each well was placed in laboratory supplied containers specifying the date, well number; analytical parameters, time of collection and samplers initials. The samples were placed on ice immediately upon collection for delivery to the laboratory.

The monitor well samples were analyzed by Test America of Charlotte NC for NO₃-N. The sampling and test results are summarized below in Table 1.

Table 1

70 mg/l	72 mg/l	5.81mg/l	33.7 mg/l	19.9mg/l	10mg/l
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Table 2 shows perimeter monitor well data for comparison purposes.

Table 2
 Sampling Data Perimeter Monitor Wells
 4/23/99 and 6/29/99

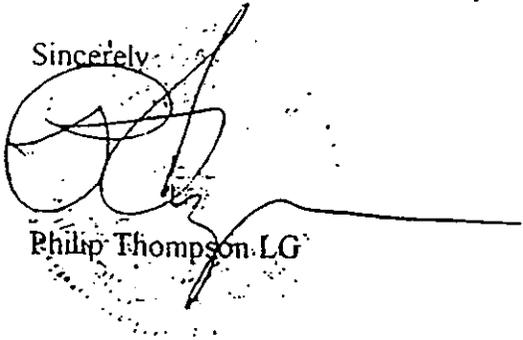
Nitrate	<.05	60 mg/l	12.5 mg/l	.54 mg/l
---------	------	---------	-----------	----------

Results

Sampling results indicate high levels of nitrates in areas upgradient of composting operations as well as in areas of composting activities. MW-4 (see Table 2.) located in compost rows but not in a historic lounging area has low nitrates. TMW-8 located upgradient of composting activities in a former feed lot has high nitrate levels. TMW-7 located upgradient of all composting activities as well as former lagoons has high nitrate levels. TMW-6 located downgradient of waste lagoons but above the former lounging yard has low levels of nitrates. Data indicates the high $\text{NO}_3\text{-N}$ levels are associated with the former dairy farming activities.

If you need additional information please call me at (704)882-2788.

Sincerely,



Philip Thompson LG

MOORESVILLE REGIONAL OFFICE
DIVISION OF WATER QUALITY
GROUNDWATER SECTION

April 26, 2000

MEMORANDUM

TO: Bobby Lufty
Solid Waste Section, Raleigh

FROM: Matt Heller *MH*

SUBJECT: Wallace Farms
14410 Eastfield Road, Huntersville
Mecklenburg County, N.C.

On September 17, 1999, you forwarded a report to me for Wallace Farms. The report identifies nitrate at concentrations above 10 mg/l in groundwater at the site. After reviewing the report, I scheduled a site visit to Wallace Farms. Based on my visit, I suggested that additional monitor wells be installed and sampled at the site in order to determine the source of the contamination. On March 29, 2000, I received a report containing the results of this additional sampling. I have attached a copy of this report for your review.

Based on the analytical results, Phil Thompson, an environmental consultant for Wallace Farms, suggests that the elevated nitrate in the groundwater is related to the former dairy operation and not the current composting operation. His conclusion is based upon the distribution of the nitrate with respect to areas of different land use, both former and current, at the site. I agree that the groundwater data collected to date is consistent with an agricultural source for the nitrate, via leaching from the former "lagoons" and/or the former cow "lounging" areas.

As a responsible party for the nitrate contamination, Wallace Farms is required by 15A NCAC 2L .0106(b) to "terminate and control the discharge [and] mitigate hazards resulting from exposure to the pollutants." Responsible parties for groundwater contamination related to agricultural activities are not required to perform specific assessment and corrective action requirements outlined in 15A NCAC 2L .0106(c). Since the pits have reportedly been excavated, the lagoon is out of use and the dairy is no longer in operation, the initial corrective action requirements of .0106(b) appear to have been met. Existing water supply wells in the area are potential exposure pathways and need to be sampled.

I believe that periodic groundwater monitoring is needed at this site. Ideally, I would like to coordinate with your section in order to develop a plan that would monitor the existing contamination and satisfy the requirements of a permit issued for the composting operation.

I look forward to hearing from you. If you have any questions about this matter, please call me at (704) 663-1699, ext. 241.

Attachment

cc: Phil Thompson - Thompson Geological and Environmental Services, Indian Trail
Alan Johnson - Water Quality Section, MRO
Rick Doby - Solid Waste Section, MRO
Eric Wallace - Wallace Farms, 14410 Eastfield Road, Huntersville, NC 28078



AQUIFER PROTECTION SECTION
March 7, 2005

Wallace Farm
14410 Eastfield Road
Huntersville, North Carolina 28078
Attention: Eric Wallace

RE: Request for Groundwater Sampling
Wallace Farm
GW Incident No. 20610
Site Priority Rank: Unknown
Mecklenburg County, N.C.

Dear Mr. Wallace:

On February 4, 2005, the Aquifer Protection Section of the Division of Water Quality, Mooresville Regional Office received a request for a determination in regards to groundwater contamination. We have reviewed the request and the groundwater incident file and recommend the following measures as a proactive approach to addressing groundwater contamination emanating from the site.

In order to protect human health and the environment, the Aquifer Protection Section (APS) requests that Wallace Farm completes a receptor survey showing the locations of all water supply wells and surface water within 1500 feet of the property. This will provide valuable information that will help determine if any water supply wells or surface waters are at risk from site contamination. Furthermore, since no groundwater samples have been collected since 2000, the APS feels it is necessary that groundwater samples be collected from monitoring wells MW-2, MW-3 and TMW-5 through TMW-8 and analyzed for nitrates as Nitrogen on an annual basis. This information should be included in an annual report and submitted to the APS in the Mooresville office.

Should you have any questions, please contact me at (704) 663-1699, ext. 2182 or by email at amber.lindon@ncmail.net.

Sincerely,

Amber R. Lindon, P.G.
Hydrogeologist

cc: Barnes Bierck, P.E., Ph.D. – Environmental Engineering Consulting, 3 Hampton Hill Pl, Chapel Hill, NC 27517
Ted Lyon – Division of Waste Management, Solid Waste Section, Raleigh
Teresa Bradford – Solid Waste Section, MRO

Well Designations and Results

Current and Historical Nitrate (NO₃-N) Sampling

Wallace Farms
11410 Eastfield Road
Huntersville NC

				TMW-1	TMW-2	TMW-3	TMW-4		
	TGW-2	TGW-3	TGW-4	TGW-5	TGW-6	TGW-7	TGW-8		
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	
								NC2L Standard	
4/23/98	>.05	420 mg/l	78/mg/l	.054 mg/l					10 mg/l
6/28/98	NS	60 mg/l	12.5 mg/l	NS					10 mg/l
2/21/00	NS	70 mg/l	NS	NS	72 mg/l	5.81 mg/l	33.7 mg/l	19.9 mg/l	10 mg/l
6/21/08	NS	55 mg/l	19 mg/l	NS	41 mg/l	16 mg/l	2.2 mg/l	1.2 mg/l	10 mg/l
11/28/07	NS	NS	5.22mg/l	NS	48.6mg/l	17.1mg/l	59.3mg/l	NS	10 mg/l

NS = not sampled

Philip R. Thompson P.G.

Geological and Environmental Services

8411 Lawyers Road West, Indian Trail, North Carolina 28079 (704) 882 2788

May 9, 2008

Eric Wallace
Wallace Farms
14410 Eastfield Road
Huntersville NC 28115

Re: Groundwater Levels
Wallace Farms
14410 Eastfield Road
Huntersville, Mecklenburg County, NC

Dear Mr. Wallace

Per your request TGES has gauged groundwater levels at Wallace Farm. Currently there are seven groundwater monitor wells located at the facility. Two wells, MW-1 and MW-2 are deep wells drilled and screened into the crystalline rock. Two of the monitor wells are installed in the saprolite (MW-2, and MW-3) and three of the wells are installed across the contact between the hard weathered rock and saprolite. The location of the wells are indicated in Figure 1

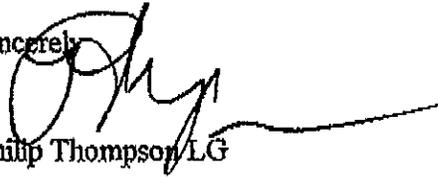
During the preparation of this report, TGES checked data with the USGS Website. The USGS has a shallow monitor well in Hornet Nest Park in Oakdale, Mecklenburg County. Data from the website indicates this years seasonal high for the USGS well was on March 17, 2008 for in the 2007-2008 seasonal year. The seasonal year runs from June to May. The seasonal low for the studied well was in August 2007. Currently groundwater in the USGS study well is 1' less than the seasonal high. Based on hydrographic data and site geology, the wells should show similar trends for seasonal highs.

Currently, depth to water in the shallow groundwater wells at Wallace Farm varies from 5.03 below grade (BG), in MW-3 to 20.9' BG in MW-6. Please note MW-3 is the low-lying buffer zone down gradient of a pond near the CMUD storm sewer lines.

Data from the current monitor wells indicates groundwater is greater than 2 feet blow grade for the seasonal high in all the shallow groundwater wells at Wallace Farms in the portions of the site used for waste receipt and storage, active composting and storage.

If you need additional information or clarification please call me at (704) 882-2788.

Sincerely,

A handwritten signature in black ink, appearing to read 'Philip Thompson', with a long horizontal flourish extending to the right.

Philip Thompson/LG

Appendix E

Concrete Pit Construction Specifications

March 17, 2004

Mr. Chuck Mayer
C. G. Mayer Construction Company
7826 Caswell Road
Stanley, NC 28164



Subject: **Structural Engineering Services
Soil Retaining Wall Structure Design Verification
Wallace Farm, Inc. – Huntersville, NC
IETS Project Number 2004-013**

Dear Mr. Mayer:

In accordance with your request, and acceptance of our proposal number Pro-2004-022, Industrial Engineering & Testing Services, P.C. (IETS) is pleased to submit this report of the structural adequacy of the retaining wall designs provided by Mr. Chuck Mayer. These walls are a portion of a new debris dumping facility being constructed at Wallace Farm, Inc. This report contains brief project background information and our findings and recommendations.

PROJECT BACKGROUND INFORMATION

On March 15, 2004, Mr. Mayer met with our Mr. Bill Griswold. During the meeting Mr. Mayer provided IETS with the proposed retaining wall design drawings. The walls are a portion of a new truck debris dumping facility that contains a recessed area approximately 60 feet wide and long. One end of the recessed area will be approximately 8 feet deep.

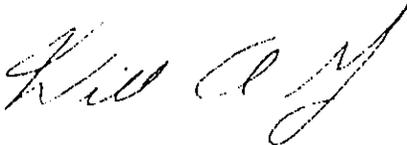
RESULTS OF ENGINEERING CALCULATIONS

Using assumed soil bearing and lateral pressure values, IETS engineers determined the retaining walls, wall foundations, and surrounding concrete slabs are structurally adequate for the proposed loadings and usage. One design change is required. The thickness of the 4-foot tall retaining wall needs to be reduced from 10 inches to 8 inches to meet the code requirements when using a single layer of reinforcing steel.

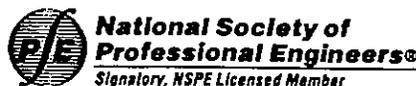
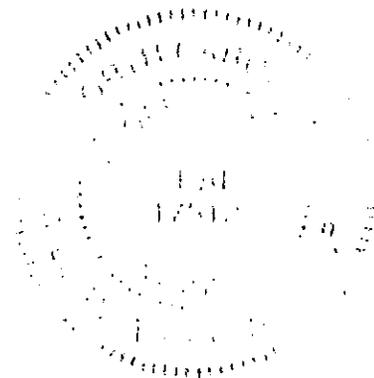
We appreciate the opportunity to provide our continuing professional services to you and Wallace Farm. If you have any questions please contact us.

Respectfully submitted,

INDUSTRIAL ENGINEERING AND TESTING SERVICES, P.C.



William A. Griswold, Jr., P.E.
Chief Engineer



C.G.Mayer Construction Co.

7826 Caswell Rd.
Address Line 2
Stanley N.C. 28164
Lincoln

Phone 704-8273793
Fax 704-8273793

February 19, 2004

Wallace Dairy Farm
Eastfield Rd.

Build compost pit

C.G.Mayer Construction Co. proposes to provide labor, material, and equipment to perform the following work.

Footing 64" x 12" footing with 8-#4 rebar continuous and #4 bars ties at 36" on O.C. app. 122' LF.

Walls 10" thick poured walls 8' high approximately 62' w #4 rebar vertically and horizontally at 12" O.C. front and back
10" Thick poured wall 9'4" high approximately 62' w #4 rebar vertically and horizontally at 12" O.C. Front and back
Brick ledge for slab to rest on 62 LF

Slabs

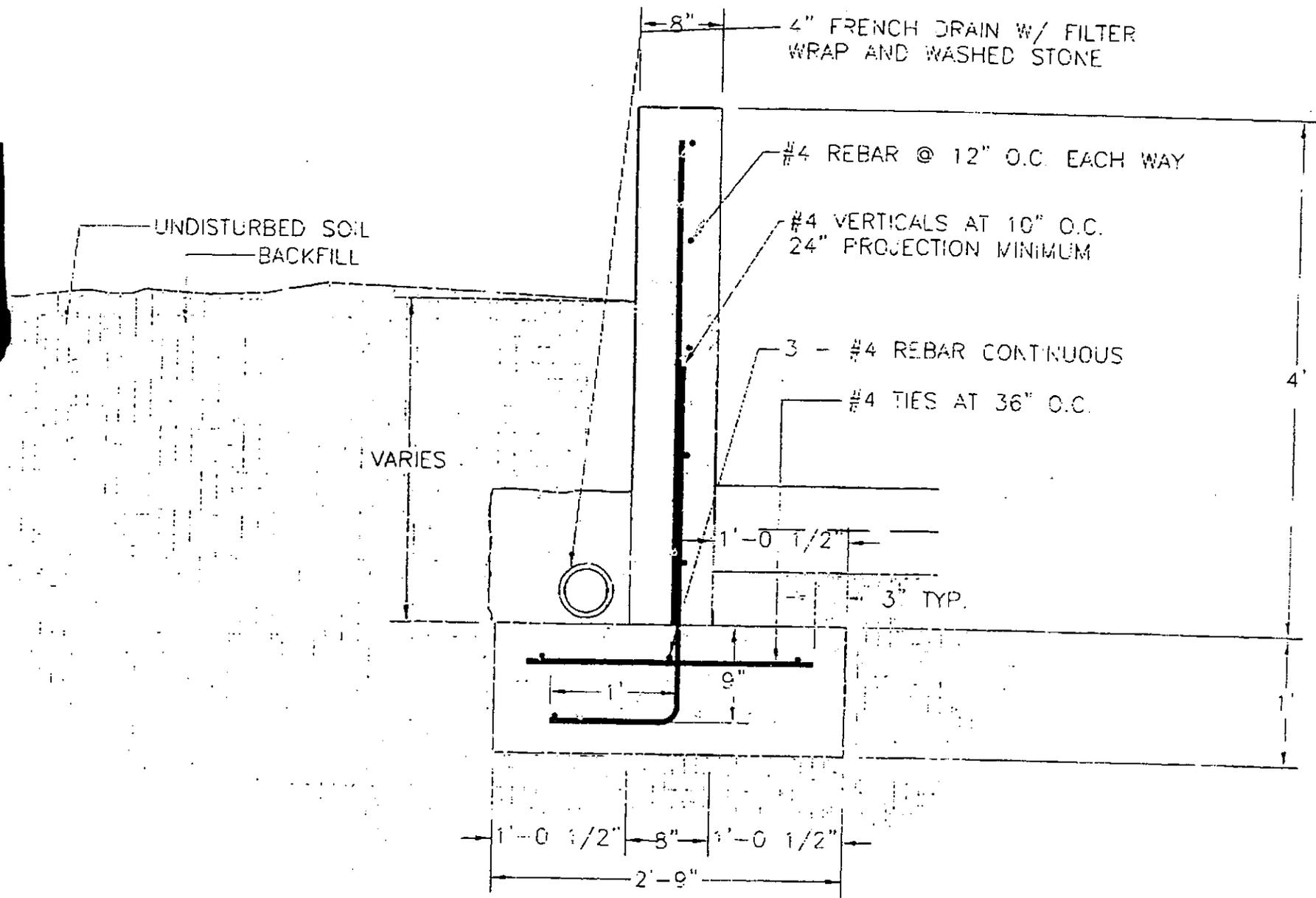
Slab for trucks to backup on 60' wide 30' deep 8" thick with 6x6 2.9/2.9 WWM. with sawed control joints and broom finish

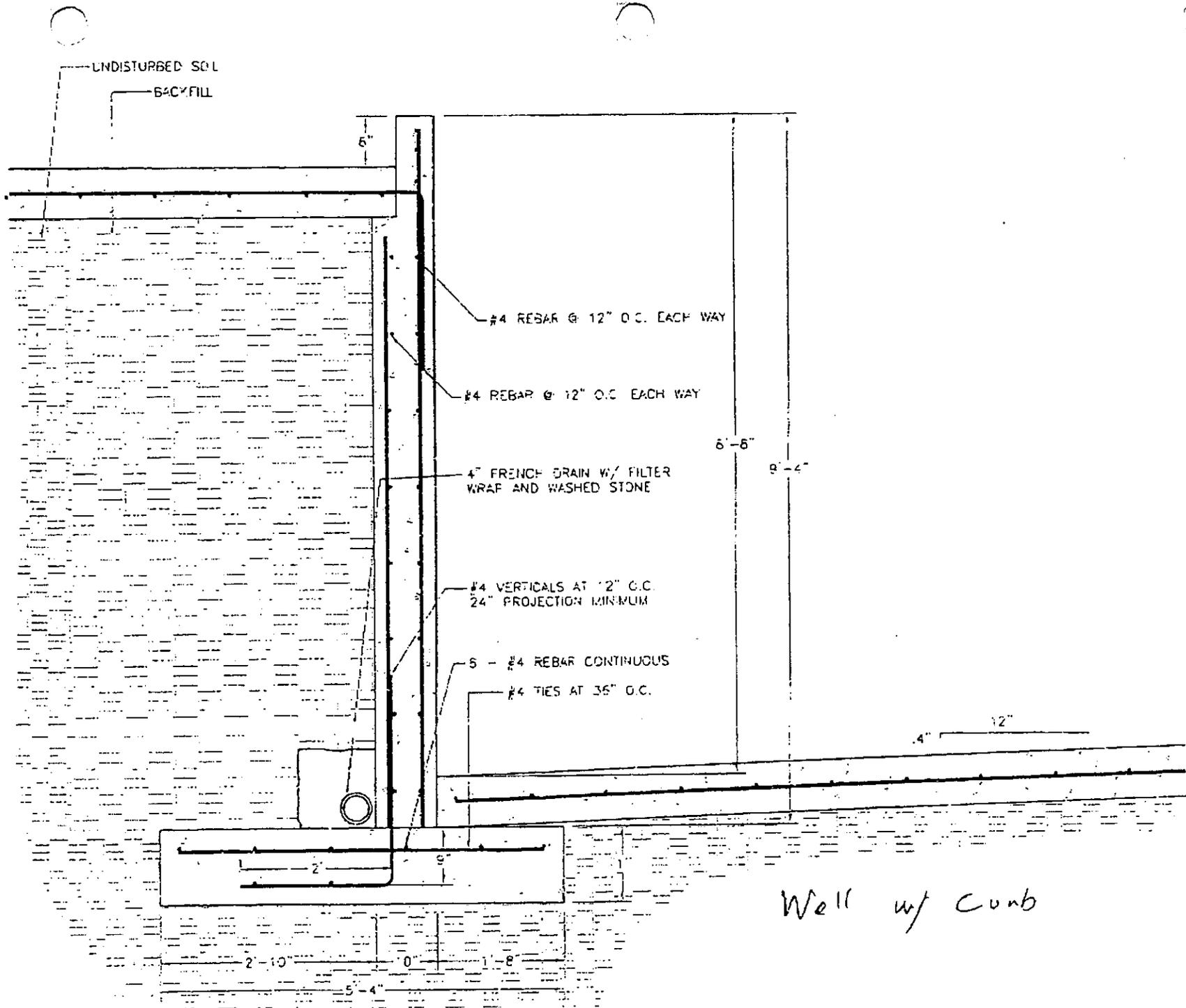
Slab for bottom of pit to be 60' x 60' 8" thick with 6x6 2.9/2.9 WWM. with broom finish and saw control joints also

If OWNER would rather have rebar #4 in 12" x 12" grid in floor slab add 6853.00 to total price

C.G.MAYER will only be responsible for digging footing, and fine grading of floor slabs in this quote
All other grading by owner

Water proofing as described in quote
All concrete to be 3000-PSI.





Well w/ Comb

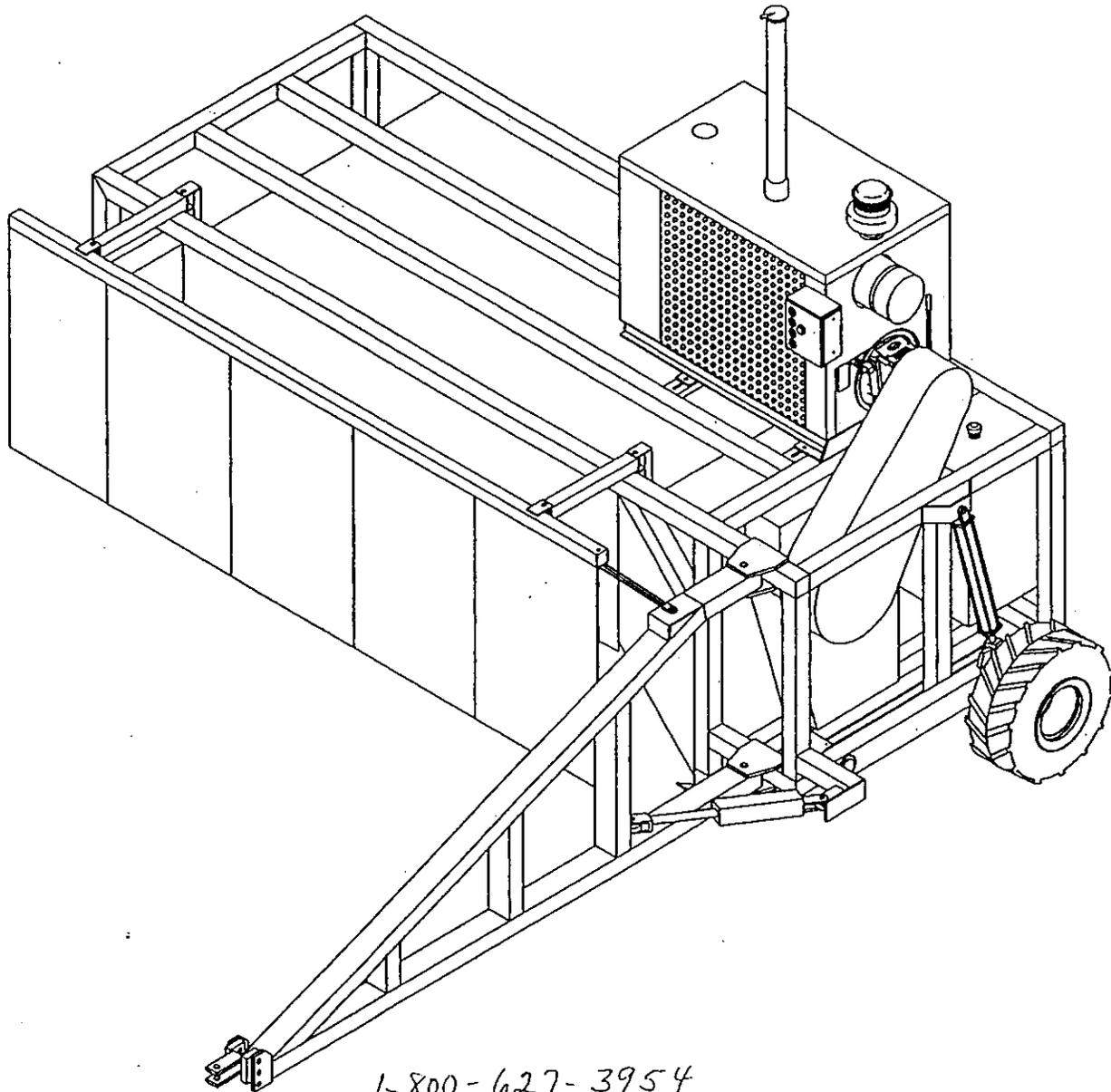
Appendix F

Manufacturers' Equipment Information

Delivered 8/26/02

WILDCAT EASY-OVER COMPOST TURNER (COMMERCIAL)

TS616-260 OWNER'S MANUAL



1-800-627-3954

Wildcat Manufacturing Company, Inc.
20 South Highway 81
Freeman, South Dakota 57029
Phone: (605) 925-4512

Model TS-616-260

Serial Number: 6330602

EA EXTEC

ALLSTAR

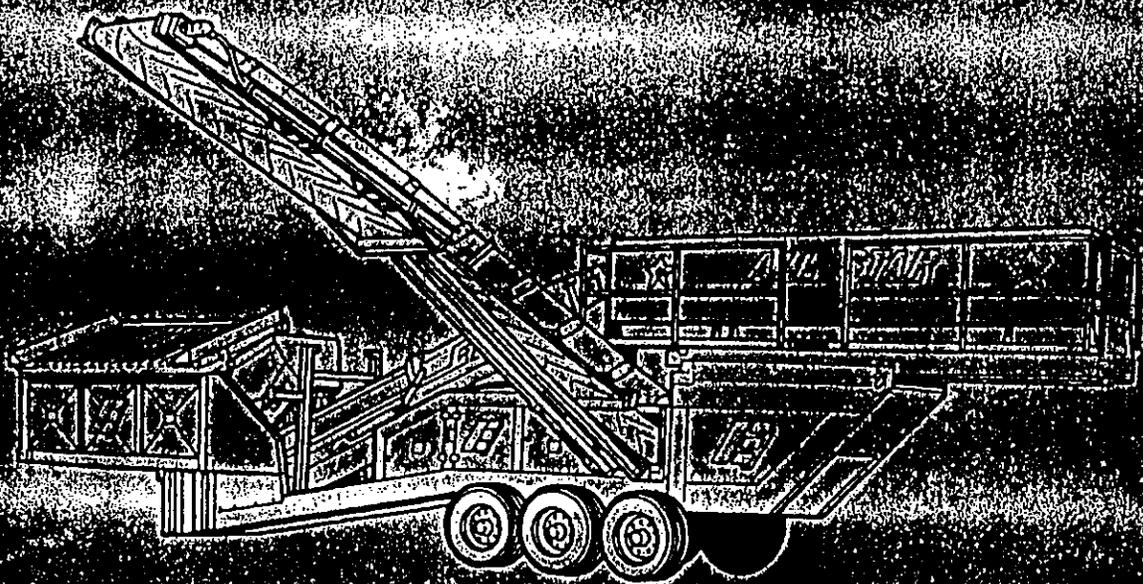
America's

Product #1844

*From
America's Parts Dept*

1-800-447-2733

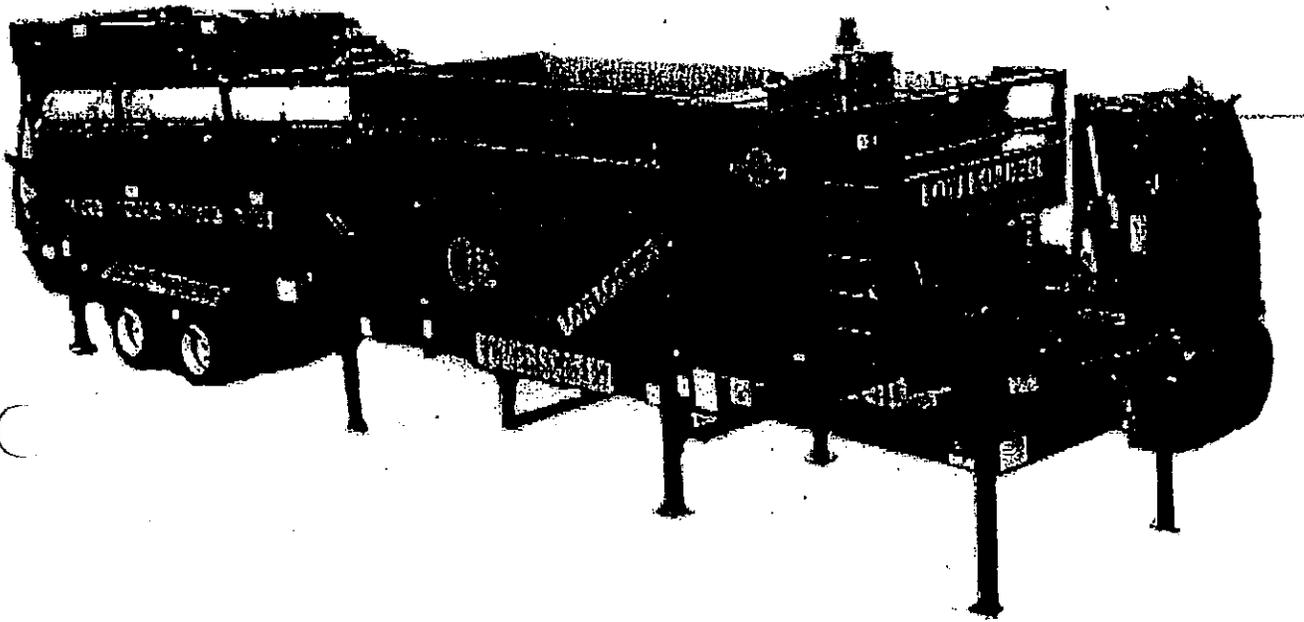
Also





POWERSCREEN

A Terex Company



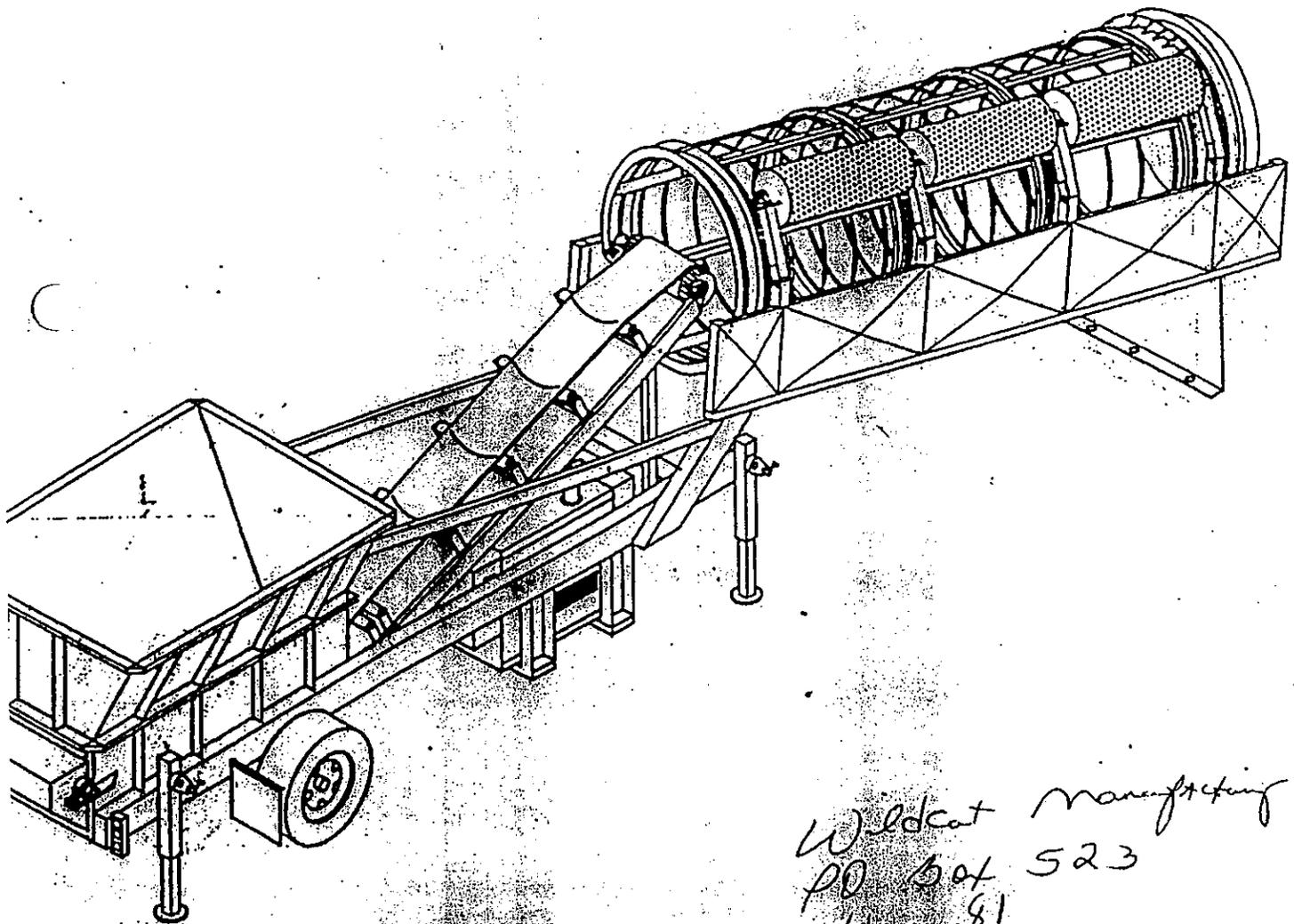
Powerscreen ***TROMMEL 725 LL***

User's & Spare Parts Manual

Powerscreen Ltd., Kilbeggan, Rep. of Ireland.

6-160

CROMMEL SCREENING PLANT



Wildcat Manufacturing Co.
PO Box 523
Hwy 81
Freeman, S. D.
57029

(605-425-4512)
*(1-800-627-3954)
FC1251

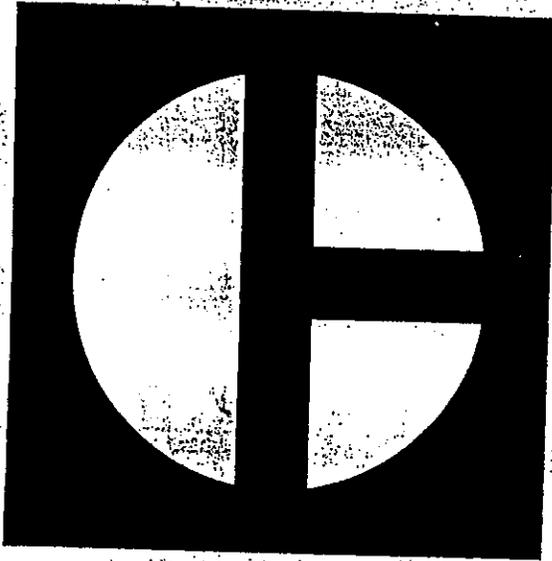
SCREEN USA

*Screen USA
Tornado Star 4012 Deluxe*

SERVICE & WARRANTY MANUAL

Serial # 3880500

MANUFACTURED BY:
SCREEN USA
1772 CORN ROAD
SMYRNA, GA. 30080
770-433-2440



WALLACE RM. INC.
14410 Eastfield Road
Huntersville, NC 28078

LUBRICATION & MAINTENANCE GUIDE

*Return To
Office*

920 & 930 WHEEL LOADERS

SERIAL NUMBERS | 41J1-41J1310 79J1-79J1479
75J1-75J1084 41K1-41K2039
62K1-62K3039

Maintenance Manual

966D Wheel Loader

35S1-UP
94X1-UP
99Y1-UP

**644H Loader and
644H MH Material
Handler**

*Evander
800-736-0300
Rocky Mt.*



**OPERATOR'S
MANUAL**

T176884 J8

Maintenance Manual

963
Track-Type Loader

UP
P
UP
UP
UP
UP
UP

Caterpillar permission file IR074

VME

Operators

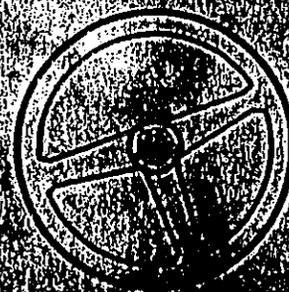
Instruction Manual

1994

VOLVO BM L120B

*Purchased
6/6/01
J. B. Smith*

Serial # L120V60146



Return to Volvo

VOLVO BM

CATERPILLAR®

SEBP2003
May 1992

Parts Manual

936F Wheel Loader

8AJ1-Up (Vehicle)
7Z27900-Up (Engine)
1ZX1-Up (Transmission)

Powered by 3304 Engine



KNIGHT

8000 Series ProTwin[®] Slingers

OPERATOR'S MANUAL and PARTS BOOK

**PHONE : 608-897-2131
FAX : 608-897-2561**

www.kuhnknight.com
E-MAIL: info@kuhnknight.com

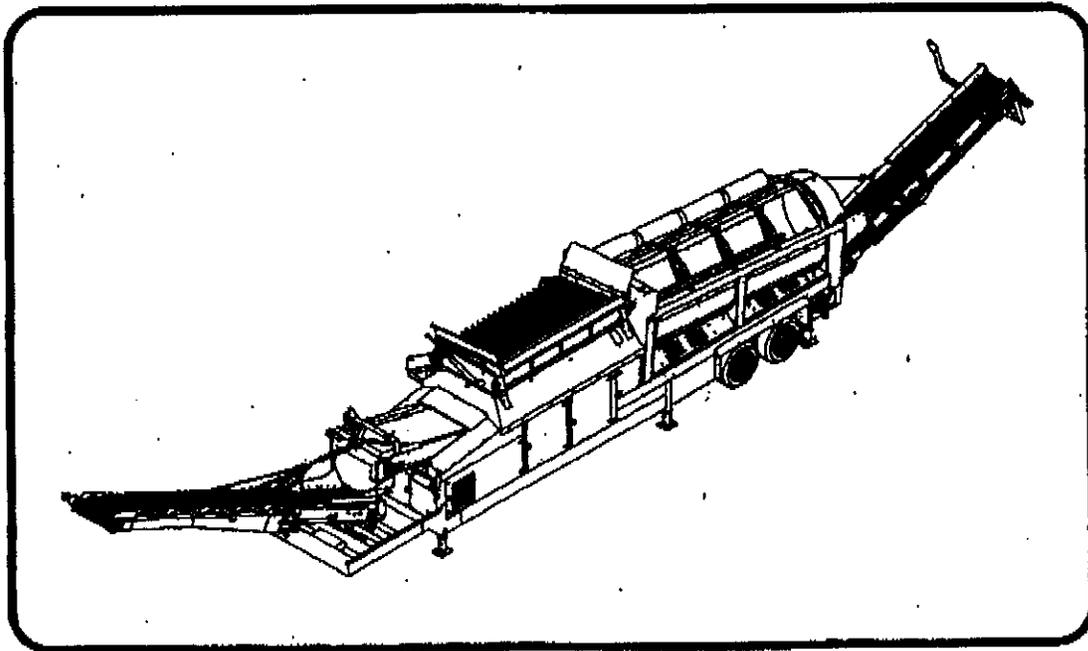
1501 WEST 7th AVENUE
P.O. Box 167
BRODHEAD, WISCONSIN 53520-0167
U.S.A.

8032, 8032HF, 8040 TRAILER TYPE
PARTS & OPERATOR'S

PRINTED IN U.S.A.
005916R120502



PHOENIX 2100



PRODUCT USER MANUAL

**OPERATION
INSTALLATION
MAINTENANCE AND SERVICE**

WARNING WARNING WARNING WARNING WARNING



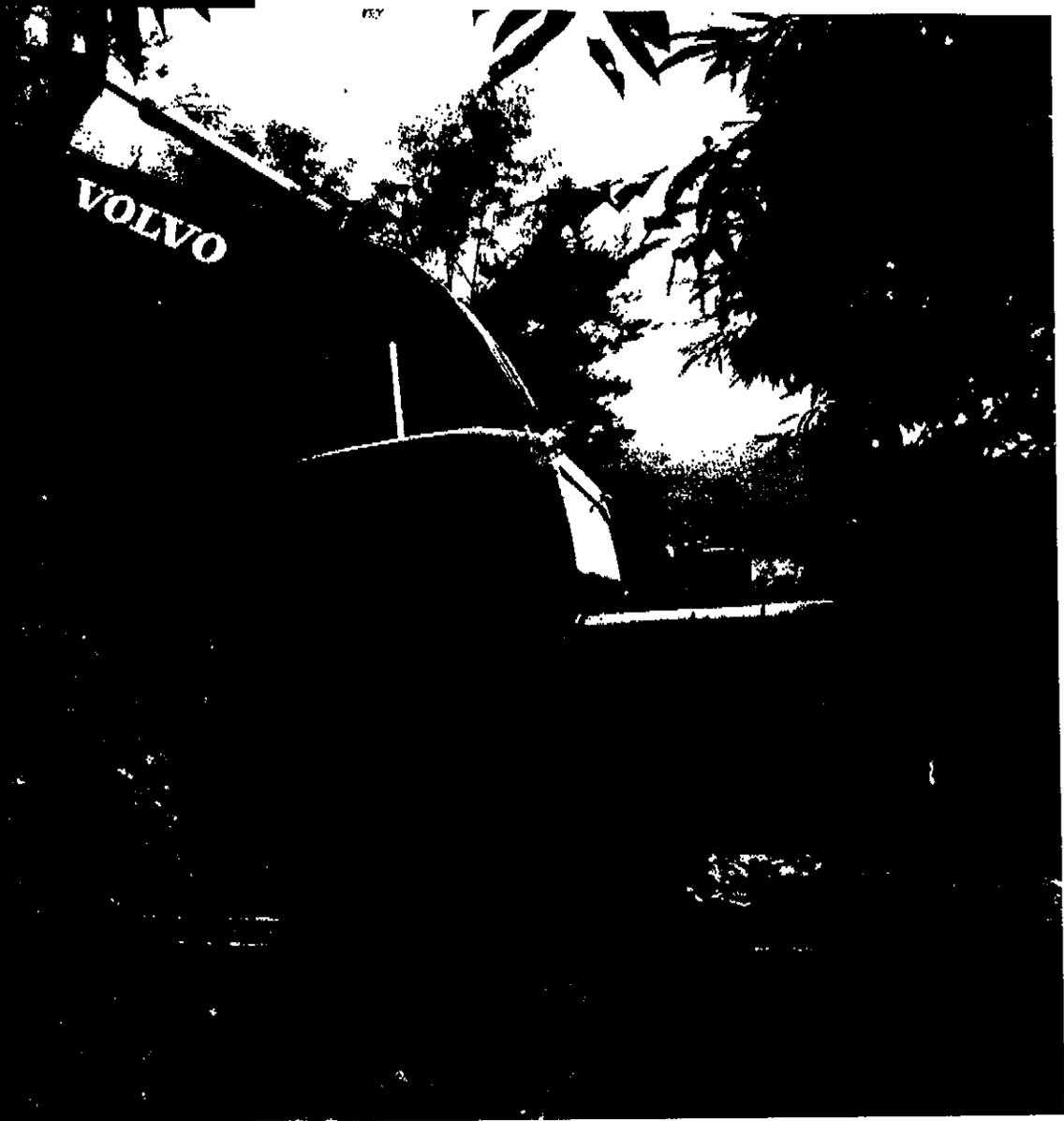
**DO NOT ATTEMPT TO OPERATE THIS PRODUCT UNLESS
YOU HAVE READ AND UNDERSTOOD THESE SAFETY INSTRUCTIONS.
FAILURE TO DO SO WILL INCREASE
THE RISK OF INJURY OR MAY RESULT IN DEATH!**



46,920 - 51,200 lb, 147 hp

VOLVO EXCAVATOR

EC210C

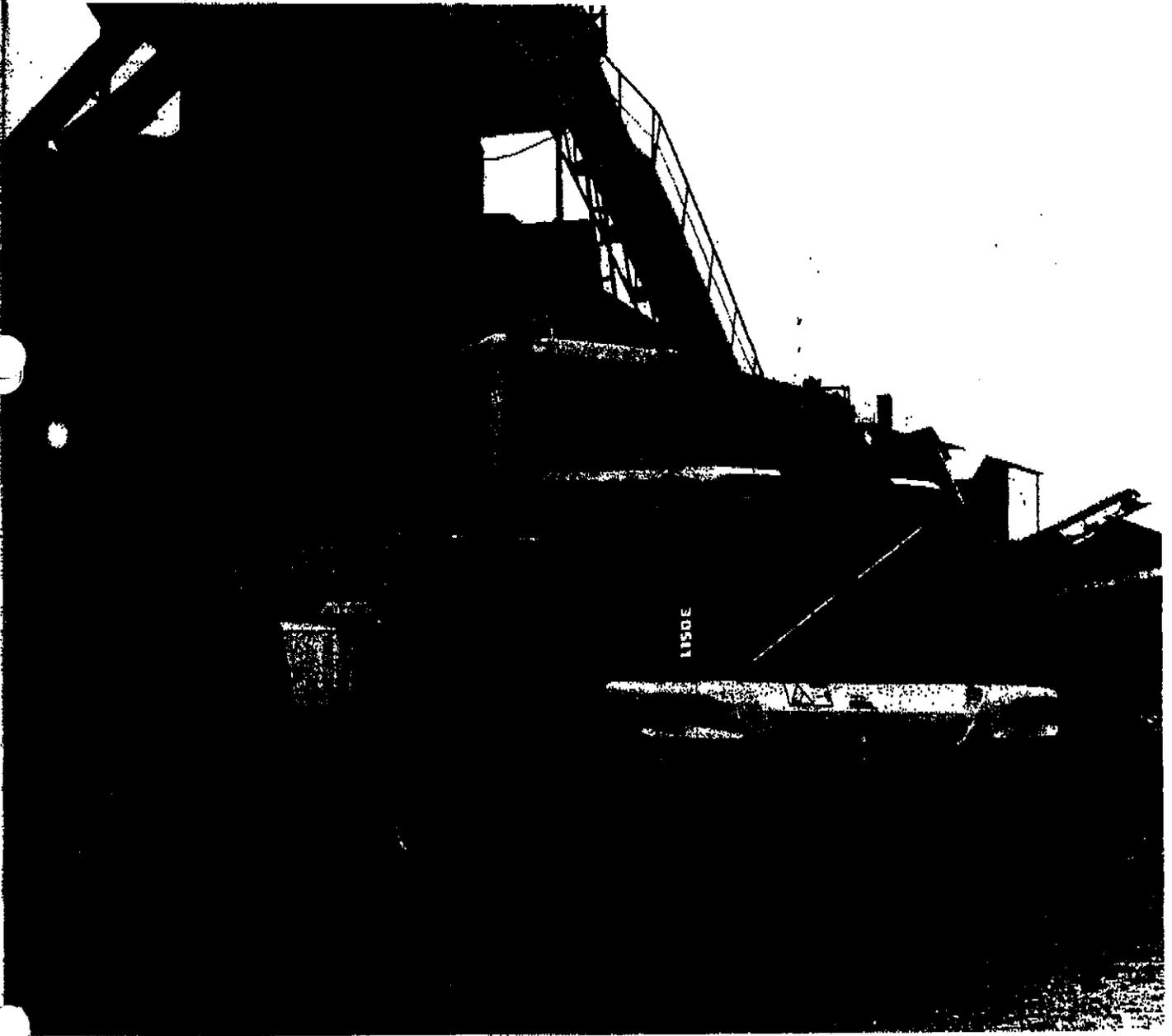


VOLVO

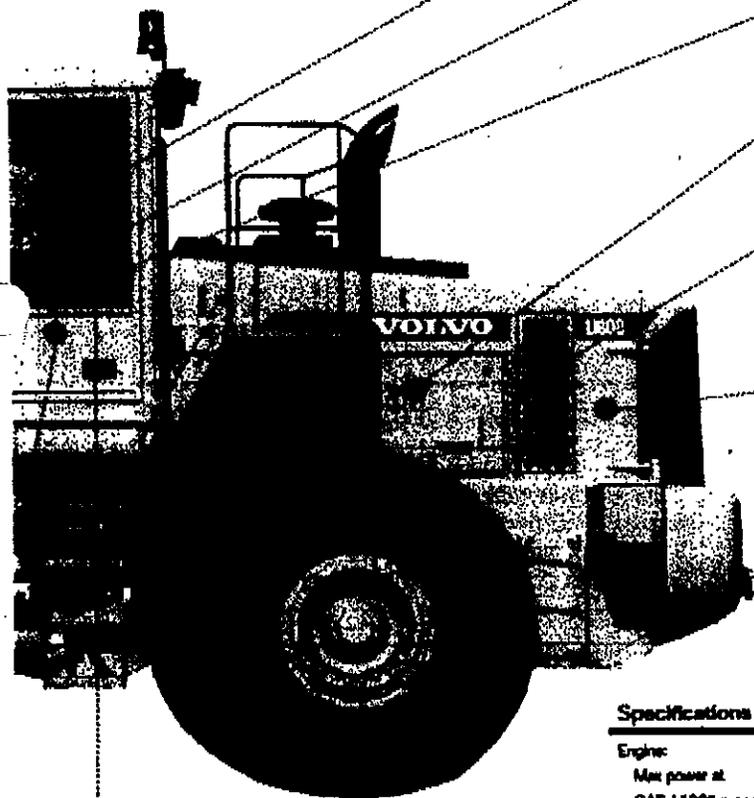
MORE CARE. BUILT IN.



VOLVO WHEEL LOADER
L150E



VOLVO



Load-sensing steering

Low fuel consumption and easy steering at low rpm are two important benefits of the load-sensing steering system.

Hydraulic System

The open center hydraulic system, with efficient high capacity vane pumps, allows precise control and quick movements even at low rpm.

Comfort Drive Control (CDC)*

Operator fatigue is reduced with the CDC lever steering system*, which allows you to steer and shift with easily operated controls mounted on the left armrest of the seat.

High Performance Low Emission Engine

The Volvo engine generates high torque at low rpm, giving quick response and low exhaust emissions that meet existing requirements.

Low external noise levels

An insulated engine compartment with an external radiator and hydraulically driven cooling fan help to keep external noise levels low. Optional EU 2006 noise reduction kits are available for both L150D and L180D.

Excellent serviceability

Easily accessible service panels and service points, a swing-out radiator* for quick cleaning and the Contronic II watchdog are just a few of the service-friendly solutions.

* Optional.

APS II

Volvo's unique automatic shifting system, APS II, monitors both engine speed and ground speed to provide optimum control of gear shifting in any application. A dashboard-mounted mode selector allows you to choose one of four different shifting programs to customize machine performance to your job. A 1st gear lockdown button and forward/reverse rocker switch mounted on the hydraulic console allow you to operate the APS II system with your right hand so that your left hand can stay on the steering wheel at all times.

Specifications	L150D	L180D
Engine:	Volvo TD 103 KCE	Volvo TD 122 KHE
Max power at:	35 r/s (2,100 r/min)	35 r/s (2,100 r/min)
SAE J 1995 gross:	188 kW (257 hp)	209 kW (284 hp)
ISO 9249, SAE J 1349 net:	186 kW (253 hp)	205 kW (280 hp)
Max torque at:	18.3 r/s (1,100 r/min)	15.0 r/s (900 r/min)
SAE J 1995 gross:	1 360 Nm (1,025 lbf ft)	1 580 Nm (1,165 lbf ft)
ISO 9249, SAE J 1349 net:	1 360 Nm (1,025 lbf ft)	1 580 Nm (1,165 lbf ft)
Breakout force:	180.7 kN* (40,623 lbf)*	210.3 kN** (47,275 lbf)**
Static tipping load:		
at full turn:	15 180 kg* (33,488 lb)*	18 410 kg** (40,587 lb)**
Buckets:	3,5 m ³ -12,0 m ³ (4,6-15,7 yd ³)	4,2 m ³ -14,0 m ³ (5,5-18,3 yd ³)
Tyres (grapples):	1,6-3,1 m ³ (17,2-33,4 yd ³)	1,6-3,5 m ³ (17,2-37,7 yd ³)
Operating weight:	23,2-28,5 t (51,150-62,210 lb)	26,0-29,0 t (57,320-63,930 lb)
Tires:	26.5 R25	28.5 R25

* Bucket: 3.7 m³ (4.8 yd³) straight edge wheel and supports (plate). Tires: 26.5 R25 L3, Std. beam.

** Bucket: 4.2 m³ (5.5 yd³) straight edge wheel (plate). Tires: 28.5 R25 L3, Std. beam.

HOGZILLA



INDUSTRIAL MONSTERS

GRINDERS

TC SERIES



TCII-1564P MODEL

Visit our Website
for further HogZilla Info.
www.hogzilla.com



TCII-1564P MODEL W/ SIDE-SLIDE THROWN OBJECT RESTRAINT SYSTEM

The Big Daddy of the HogZilla family.
All TC Models are built to be the world's most reliable high capacity grinders. This assures maximum production at the end of a day, be it acres, tons or yards of material being ground.

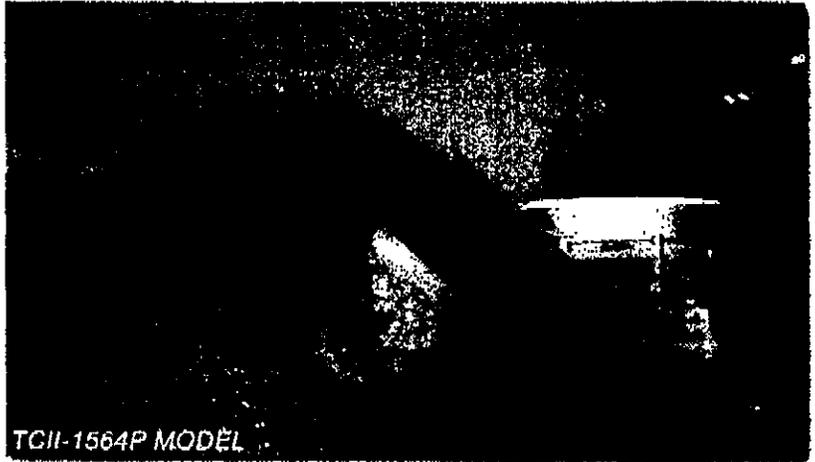
All TC models use a Torque Converter to drive the hammermill which multiplies engine torque for maximum production.



TCII-1564P MODEL

Whether you grind stumps and logs by the acre, wood waste by the ton or green waste by the yard, HogZilla is engineered to provide maximum production per hour. HogZilla is built for reliability providing you the most profit at the end of each month or year. It's no slacker lying down on the job costing you money. It's performance you can bank on!

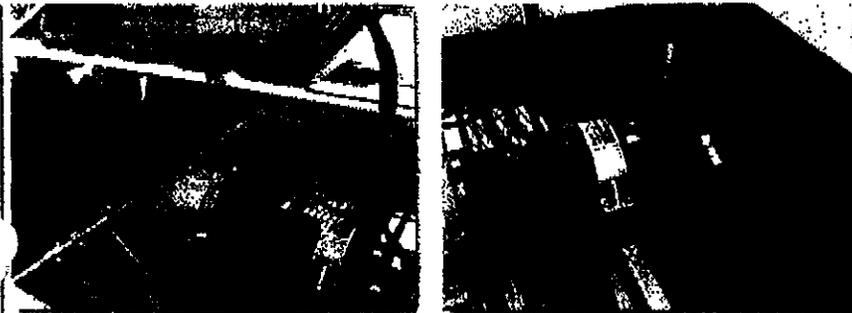
One operator in a loader/excavator feeds HogZilla, controlling it by remote control. The 60° radial stacking elevator allows a couple hours of grinding before the operator needs to attend to a ground pile. This reduces the need for a second loader or operator, however, you could use a second loader to keep your HogZilla properly fed.



TCII-1564P MODEL

TCII-1564P models feature patent adjustable hammermill swing capabilities. The versatile 36 inch swing does everything great, and heavy mulch almost beyond belief. A 38 inch swing is a little more aggressive and allows a larger bolt-on tip. The larger 45 inch swing works better for bushy material which require a bigger bite to utilize all the horsepower.

Check out HogZilla's features, quality and workmanship. You'll see why TC HogZilla Grinders are the most reliable high production grinders in the world.



When the load on the hammermill increases, the hydraulic fluid is automatically re-routed against the turbine blades, adding approx. 30% additional reaction torque to engine torque. The engine is protected by the torque converter fluid absorbing shock loads and torsional vibrations from the hammermill, assuring longer engine life.

Production Rates (tons per hour)
 Yardwaste - 150-200
 Stumps & Logs - 100-150
 Pallets/Construction Waste - 80-150

Standard Features
 Torque Converter
 Electronic Horsepower Controller
 Remote Control
 Radial Stacking Elevator
 Trougher Roller Conveyors
 Vulcanized Conveyor Belts
 Extreme Condition -
 Clog & Leak Resistant Radiator
 Radiator Pre-cleaner Enclosure
 Diesel Service Engine
 Auxiliary Hydraulic Power
 Air Compressor
 Hydraulic Rod Puller

Optional Equipment
 Mesabi or Glacier Radiator
 Side-Slide Thrown Object Restraint
 Bolt-In Tire Grinding Package

TC SERIES



TC Series Specifications		TCII-1664W	TCII-1564P	TAC-1564P	TC-1564P
Horsepower	Cat	1000 - 2000	1000 - 1650	1000	860 - 1000
	Cummins	1050 - 1500	1050	1050	750 - 1050
	Detroit	1000 - 1200	1005 - 1200	1005	1005
Hammer-Swing		45" x 64"	38" or 45" x 64"	38" x 64"	36" x 64"
Screen Area		5480 _{sq.ft.}	4610/5480 _{sq.ft.}	4610 _{sq.ft.}	4990 _{sq.ft.}
Screen Thickness		1½"	¾" - 1½" / 1"	¾" - 1½"	¾" - 1½"
Hammer Weight		110#	80 or 110#	80#	60#
Hammer Number		24 - 48	24 - 48	24 - 48	24 - 48
Rod Diameter		3"	3"	3"	3"
Tub Top Width		16'	15'	15'	15'
Conveyor/Elevator Belts		72" & 60"	48" & 42"	48" & 42"	48" & 42"
Trans. Width		13' - 11"	11' - 11"	11' - 11"	11' - 11"
Trans. Length		61' - 8"	56' - 3"	56' - 3"	56' - 3"
Total Weight (approx.)		130,000#	92,000#	88,000#	86,000#

Specifications subject to change without notice. As improvements are made, actual product offered for sale may vary in design.

Represented by:

J & T Equipment
 866-242-4949 (office)
 Jonathan Kalinoski
 mobile 207-266-4231
 Tom Ogden
 mobile 207-266-5454



CW MANUFACTURING, INC.
 14 Commerce Dr., Sabetha, KS 66534
 (785) 284-3454 FAX (785) 284-3601
 Toll Free: (800) 743-3491
 Web: www.hogzilla.com
 EMAIL: hogzilla@mawlan.com

07-19

Team Consulting & Contracting, LLC
 14 Twin Oaks Drive
 North Augusta, SC. 29850
 office 803.279.2480 / e.mail:djalmo@bellsouth.net

INVOICE

Invoice No. TCC.0807.001

Customer Attn: Eric Wallace

Name Wallace Farms
 Address 14410 Eastfield Road
 City Huntersville State NC ZIP 28078
 Phone Phone # Ph.704.875.2975 // Fx.704.875.2394

Misc

Date 8/2/2007
 W/E _____
 Terms _____

Qty	Description	Unit Price	TOTAL
3	<i>15,000 gal tanks</i> Vertical Tanks (used) 10' dia. x 36' ht., Cone Bottom, Carbon Steel Mat'l Platforms and Access Ladder to accommodate 3 tanks. Miscellaneous system components as identified during site walkdown on July 19, 2007. Note: Used Equipment Sale, items identified sold to customer with No Warranty, As Is...	\$ 12,500.00	\$ 37,500.00
1	Platforms, Access Ladder & Miscellaneous components. (piping, valves, fittings etc.)	\$2,500	\$ 2,500.00
4	Shipping and Payment of shall be the responsibility of Wallace Farms		
* 1	Wire Transfer of \$10,000 Requested.		
1	Wire Transfer of \$30,000 Required prior to or date of shipment.		

SubTotal \$ 40,000.00

Shipping

Tax Rate(s)

TOTAL \$ 40,000.00

Payment Check

Comments Wire Transfer
 Name Wachovia Bank
 Acct.# 2000032253917
 Routing# 061000227



Thank you!

Shipping charges not included. WF will pay.

DRIVER: **OUTBOUND**

QUALITY ASSURANCE AND SAFETY CHECKLIST

BRANCH NO. 028

DATE 7/17/06

RENTAL SALES ORDER NO. 938534

112344

- This unit has been inspected and is operationally "fit for use" within the scope and limitations of its intended use.
- Any relevant delivery concerns / condition(s) *must be clearly documented* in the "COMMENTS" SECTION.
- Damages beyond normal wear and tear will be billed to the renter.** Renter's Initials C.T.W.
- PUMP UNITS:** RENTOR IS ALSO RESPONSIBLE TO CHECK ALL FLUID AND OIL LEVELS AND CHANGE OIL FILTER EVERY 150-HOURS OF OPERATION.
- TANKS:** CUSTOMER IS RESPONSIBLE TO ASSURE PV VALVE IS NOT BLOCKED OFF OR MODIFIED AND ONLY MATERIALS AS SPECIFIED ON THE RENTAL AGREEMENT ARE STORED IN UNIT!
- RENTOR IS RESPONSIBLE TO ASSURE RENTAL UNIT IS NOT MODIFIED WHILE IN THEIR CUSTODIAL CARE.**

CUSTOMER NAME: <u>Wallace Farm</u>	RENTAL CUSTOMER'S NUMBER:
DELIVERY ADDRESS/LOCATION: <u>14410 Eastfield Rd Hunterville N.C. 28078</u>	
UNIT MODEL: <u>21000 gal</u>	UNIT SERIAL NUMBER: <u>255915</u>
ADDITIONAL DELIVERY COMMENTS:	

DELIVERED BY: David Royer DWR RECEIVED BY: Eric T. Wallace C.T.W.

PRINT NAME AND INITIAL PRINT NAME AND INITIAL

FORM No. 306 (REVISED 1/04/2005)

READY TO RENT: INSPECTED BY: D. Hayes CERTIFIED BY: David W Royer DATE: 7/17/06

✓ CHECKED-BOX INDICATES SPECIFIED ITEM AND RELATED ACCESSORIES HAVE BEEN INSPECTED AND ARE IN 'READY TO RENT' CONDITION - DETAILS ON BACKSIDE.

M E C H A N I C	• ALL UNITS [AS APPLICABLE]			
	<input checked="" type="checkbox"/> PAINT CONDITION	<input type="checkbox"/> Exterior Structural Condition	<input checked="" type="checkbox"/> INTERIOR STRUCTURAL CONDITION	<input checked="" type="checkbox"/> Electrical Components <input checked="" type="checkbox"/> Mechanical Components
	<input checked="" type="checkbox"/> Rolling Chassis and/or Trailer Assembly		<input checked="" type="checkbox"/> LADDERS & SAFETY RAILS/CHAINS	<input checked="" type="checkbox"/> VALVES, HANDLES, FLANGES & SEATS
	<input checked="" type="checkbox"/> ALWAYS ENSURE THAT ALL HATCHES, LADDERS AND RAILS ARE SECURELY FASTENED DOWN BEFORE MOVING UNIT!			
	• PUMP UNITS:			
	<input type="checkbox"/> Fuel Level:	OUT (Delivery) _____ IN (Return) _____	<input type="checkbox"/> Operating time (HR Meter)	OUT (Delivery) _____ IN (Return) _____
	<input type="checkbox"/> Vacuum (hg):	OUT (Delivery) _____ IN (Return) _____	<input type="checkbox"/> Mechanical Seal Oil (Color):	OUT (Delivery) _____ IN (Return) _____
	<input type="checkbox"/> Wear Plate Clearance:	OUT (Delivery) _____ IN (Return) _____	<input type="checkbox"/> Pump/End <input type="checkbox"/> Power & Compressor Units	<input type="checkbox"/> Bolts & Hoses <input type="checkbox"/> Battery & Starter
	• TANK AND BOX UNITS [AS APPLICABLE]			
	<input type="checkbox"/> SRD FILTRATION UNITS:	<input type="checkbox"/> Filter Media <input type="checkbox"/> Back-flush Controller	<input type="checkbox"/> Vessel Lids, O-Rings & Gaskets <input type="checkbox"/> Filter Pressure Sustaining Valve	<input type="checkbox"/> Top Lids / Tarps & Accessories <input type="checkbox"/> Pressure Gauges

Comment(s): OK

Similar to ~~ours~~ Wallace Farm's tank. 005



Stainless Steel Tank
Stainless 304L
Totally enclosed tank
Easy to move

<< More Information >>

Rent me?

18,100 Gallon



Worksafe Open Top Tank
Complete grip strut
walkway with safety
guardrails
Open top for ease of
viewing and cleaning

<< More Information >>

Rent me?

18,100 Gallon



Worksafe Mixer Tank
Five horsepower mixers
Individual control for each
mixer
Single electrical connection

Totally enclosed and vapor
tight

<< More Information >>

Rent me?

Other Storage Tank Solutions

The 12,000 capacity water tower is the portable, tow able solution to getting water to your job site. The tank can be easily converted to a tower with hydraulics. Ideal for construction sites. **NOTE:** The water tower is only available at select branches in California, Arizona and Nevada.

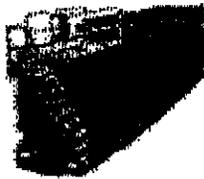
Water Tower



Holds 12,000 gallons of
water, 4" fill line

<< More Information >>

Rent me?

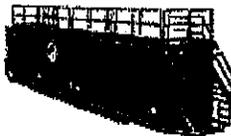


Steel Bi-Level Tank
Unique safety stairway
Totally enclosed tank
Rodless and cross style
internal bracing

<< More Information >>

Rent me?

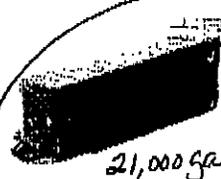
18,100 Gallon



Worksafe Two Weir Tank
Over and under Weirs
Safety stairway

<< More Information >>

Rent me?

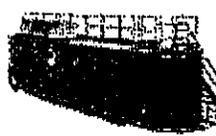


Steel Manifold Tank
Totally enclosed tank
Cross style internal
bracing

<< More Information >>

Rent me?

18,100 Gallon



Worksafe Flip Top Tank
Complete grip strut
walkway with safety
guardrails
Flip top lids for ease
of access and cleaning

<< More Information >>

Rent me?

terminals. The excavation pits contained storm water runoff contaminated with hydrocarbons, silt, and clay particulates. >the whole story...

Cogeneration Steam Generators



A new cogeneration plant in Klamath Falls, Oregon was being prepared to go online in the summer of 2001. Two Toshiba HRSB (heat recovery steam generators) for the plant needed to be thoroughly, chemically cleaned prior to operation. > the whole story...

Steel Tanks - Features

- Coated/Uncoated Interiors
- Full drain V bottoms
- Safety Staircase
- Options
- Vapor Tight
- Manifolds
- Steam Coils
- Flowback
- Weir
- Mixers

Level Gauge

- Options
- Digital Electronic
- Gauges
- Radar Level Gauge
- Telemetry
- Data Loggers

Poly Tanks -

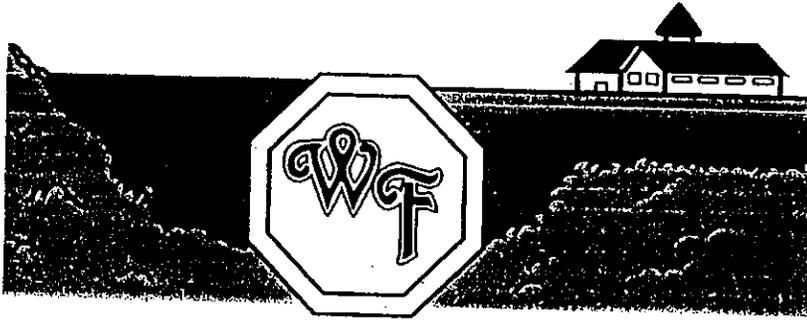
- Features
- Superior Chemical
- Resistance
- Lightweight
- Sloped & Domed Floors
- Safety Ladders
- Options
- Mixers
- Double Containment
- Acid Tanks

Appendix G

Product Label and Analytical Information

WALLACE FARM PRIDE

WALLACE
FARM PRIDE



COTTON COMPOST

COTTON COMPOST

- *Superb Soil Amendment*
- *Excellent Fine Textured Mulch*
- *Great for Top Dressing*

COTTON COMPOST

1 Cu. Ft. (28.3 L)
Net Weight 38 Lbs.

WALLACE FARM, INC.
14410 Eastfield Road
Huntersville, NC 28078
www.wallacefarmproducts.com



WALLACE
FARM PRIDE

1.000" clearance to bottom fold copy

WALLACE
FARM PRIDE

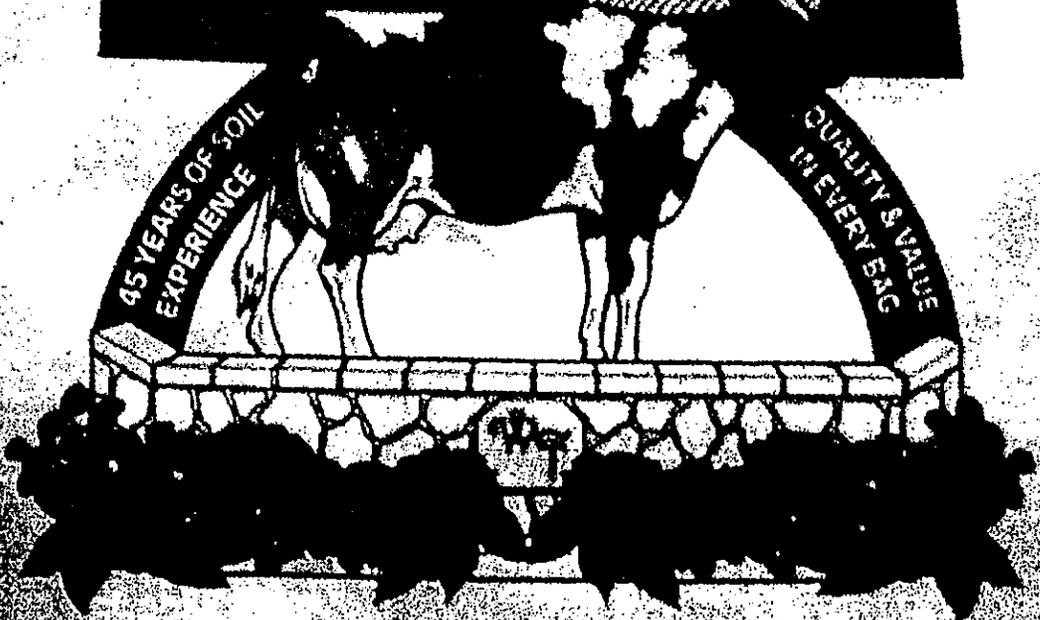
COTTON COMPOST

WALLACE FARM



45 YEARS OF SOIL
EXPERIENCE

QUALITY & VALUE
IN EVERY BAG



Indoor-Outdoor

POTTING SOIL

Net Wt. 20 LB (9 kg)

08/03/2002

WALLACE FARM POTTING SOIL

WALLACE FARM



**PREMIUM
TOP SOIL**

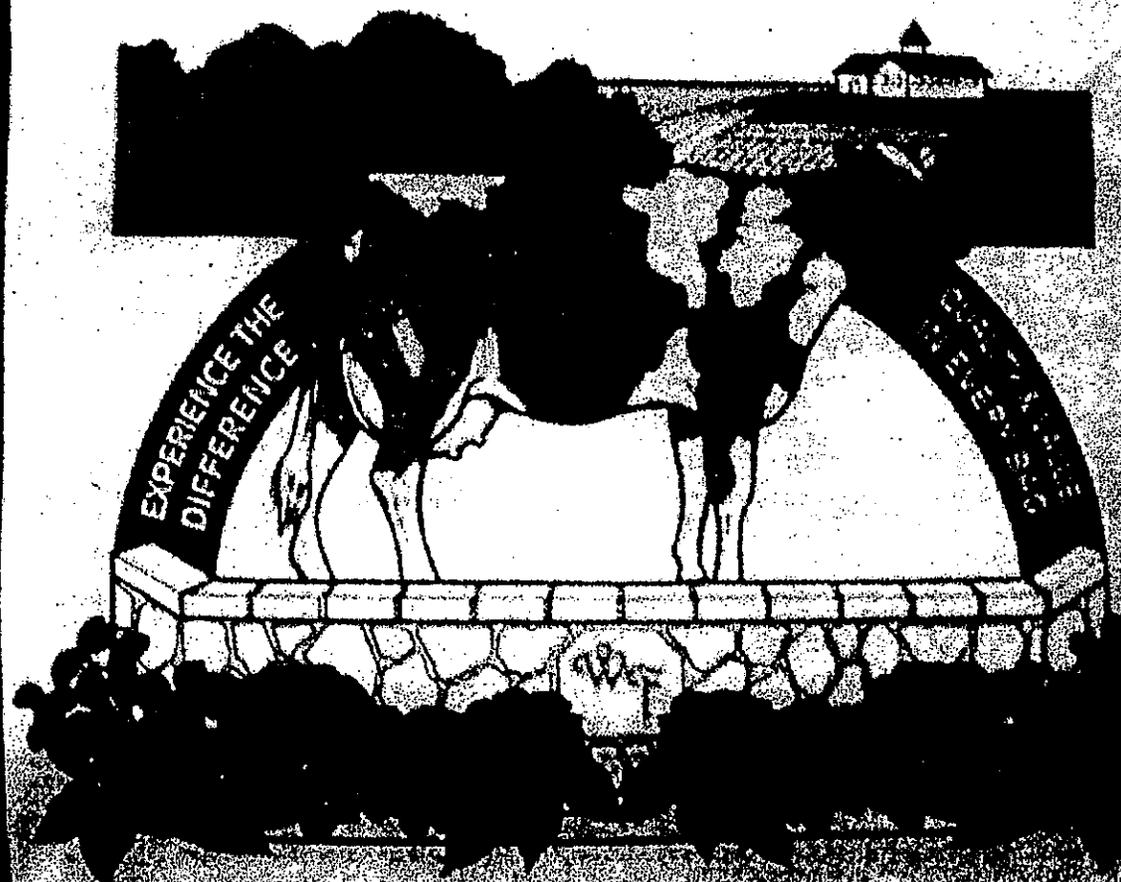
WALLACE FARM TOP SOIL

PREMIUM TOP SOIL

WALLACE FARM

WALLACE FARM COW MANURE

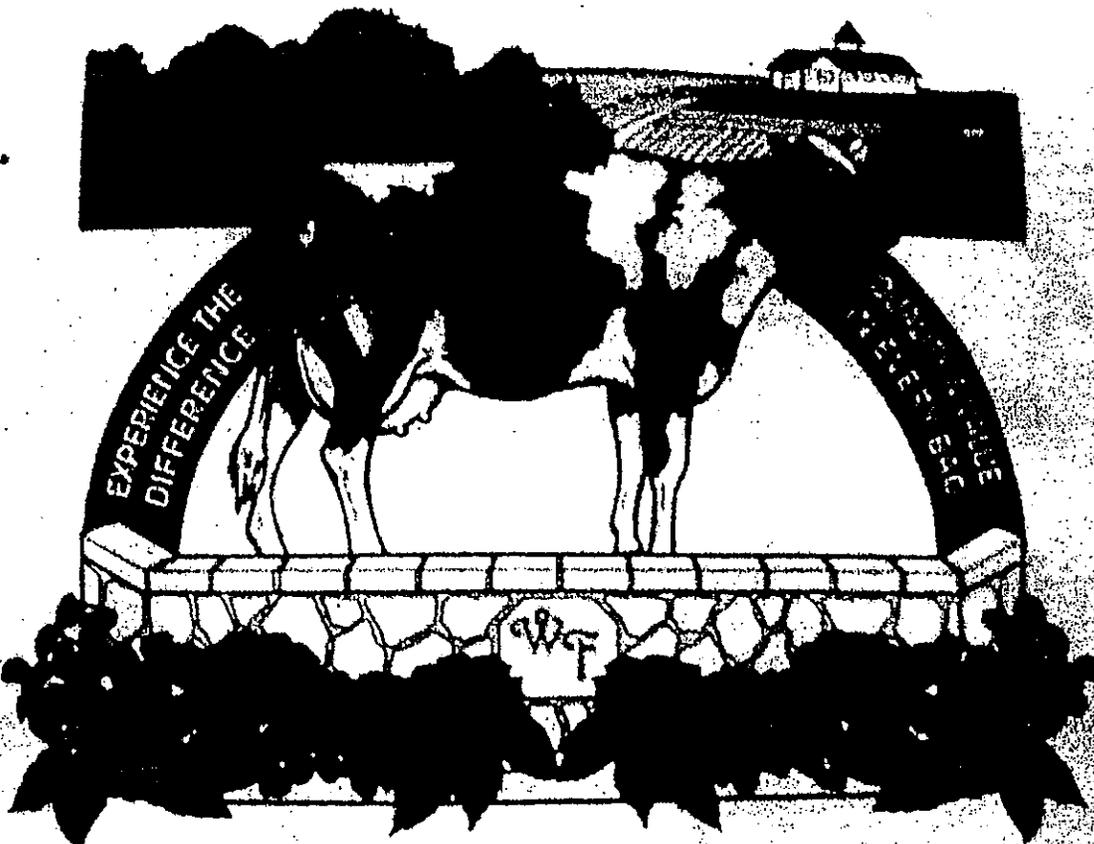
WALLACE FARM COW MANURE



Composted
COW MANURE
.5-.5-.5

1 CU. FT. (28 L)

WALLACE FARM



Grade A
**COMPOST
PLUS**

1 CU. FT. (28 L)

Wallace Farm, LLC
14710 Eastfield Road
Huntersville, N.C. 28078
www.wallacefarmproducts.com



08/03/2002

WALLACE FARM COMPOST PLUS

WALLACE FARM COMPOST PLUS

WALLACE FARM COMPOST PLUS

WALLACE FARM GARDENER'S DELIGHT

WALLACE FARM

Our Premium
**GARDENER'S DELIGHT
PLANTING SOIL**

- Ideal Soil Additive For In-Ground Planting
- Improves "Hard Clay" and Sandy Soils
- Promotes Vigorous Root and Plant Growth



WALLACE FARM GARDENER'S DELIGHT

1 Cubic Ft. (28L)



Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
(www.wallacefarmproducts.com)



WALLACE FARM GARDENER'S DELIGHT

WALLACE FARM MUSHROOM COMPOST

WALLACE FARM™

Our Premium MUSHROOM COMPOST

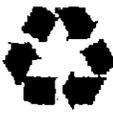
- Excellent for Flower and Vegetable Gardens
- Enriches the Soil
- Promotes Vigorous and Healthy Plants



WALLACE FARM MUSHROOM COMPOST

1 Cubic Ft. (28L)

Wallace Farm, Inc.
 14410 Eastfield Road
 Huntersville, NC 28078
 (www.wallacefarmproducts.com)



WALLACE FARM MUSHROOM COMPOST

5" Lth on Back Panel

3" Unprinted top of front and back

Red u
d line
Information please refer to
22x34+5
HD

Product Name	SOIL CONDITIONER
Net Weight	38 LBS
Net Volume	2 Cu. Ft.
Manufacturer	Wallace Farm, Inc.
Address	14410 Eastfield Road, Huntersville, NC 28078
Phone	(704) 861-1111
Fax	(704) 861-1112
Website	www.wallacefarmproducts.com
Country of Origin	USA
Lot Number	
Expiration Date	
Best Before Date	
Barcode	

WALLACE FARM

SOIL CONDITIONER

- 100% Aged Bark Fines
- Intended for In-Ground Planting and Mulching
- Loosens Hard Clay and Sandy Soils

GENERAL USES

Intended to be mixed with hard, compacted soils to loosen the soil and provide a better environment for growing flowers, vegetables, trees, shrubs, and turf. Can also be used in mulching applications where finely ground, premium mulch is needed.

APPLICATION INSTRUCTIONS

FLOWER BEDS AND GARDENS

Loosen existing soil 4-6 inches deep. Apply 2-4 inches of Wallace Farm Soil Conditioner over planting area (2 cu. ft. per 8 sq. ft.) and incorporate into existing soil. Plant and water thoroughly.

RAISED BEDS

Construct bedding perimeter allowing for a minimum depth of 12 inches. Fill the area with a mixture of one part Wallace Farm Soil Conditioner and one part Wallace Farm Premium Top Soil. Alternate emptying soil conditioner and top soil bags, mixing as you go, until desired depth is reached.

TREES AND SHRUBS

Dig a hole one-third larger and one-third deeper than root ball of plant. Disturb root ball *only* if root-bound. Mix one part Wallace Farm Soil Conditioner to one part existing soil. Fill bottom of hole with mixture to allow top of root ball to sit at ground level. Finish filling hole with mixture and lightly pack to avoid air pockets. Water thoroughly.

MULCHING

Wallace Farm Soil Conditioner is ideal for mulching around all types of plants and is especially suitable for use around smaller annuals and perennials. (2 cu. ft. covers approx. 10 sq. ft.)

Other Fine Wallace Farm Products:

- Premium Top Soil
- Planting Soil
- Potting Soil
- Premium Potting Mix
- Composted Cow Manure
- Mushroom Compost
- Compost Plus
- Play Sand



Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
www.wallacefarmproducts.com

2 Cu. Ft. (56L)
Net Weight 38 Lbs.

Quarter
Foot

TO REUSE PLEASE RECYCLE



Waste Analysis Report

Grower: **Wallace Farm LLC**
 14410 Eastfield Rd.
 Huntersville, NC 28078

Copies To: County Extension Director
 USDA-NRCS-Mecklenburg

Farm:

Mecklenburg County

Sample Info.		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
SI	Total	9026	2901	6549	7523	3151	1267	9657	355	123	78.6	22.2			147097						
Woodchips	IN -N																				
Waste Code:	-NH4																				
NCW	-NO3																				
Description:	OR-N																				
Non-Composted - Other	Urea																				
			Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALB(tons)						
			1705							6.65	297.00	16.30	69.31								
Recommendations:		Nutrients Available for First Crop											Other Elements								
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		2.5	3.7	8.7	4.2	1.8	0.70	5.4	0.20	0.07	0.04	0.01			2.4						
Soil Incorp.		5.0	5.5	9.8	6.3	2.6	1.1	8.0	0.2	0.10	0.07	0.02			2.4						

Sample Info.		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
S2	Total	9477	3098	5854	9851	3916	2536	15250	793	119	472	31.2			145614						
Compost	IN -N																				
Screenings	-NH4																				
Waste Code:	-NO3																				
FCD	OR-N																				
Description:	Urea																				
Composted Dairy Waste			Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALB(tons)						
			2314							6.89	150.00	15.36	58.21								
Recommendations:		Nutrients Available for First Crop											Other Elements								
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		4.4	5.0	6.5	6.9	2.7	1.8	10.7	0.55	0.08	0.33	0.02			2.7						
Soil Incorp.		5.5	6.2	7.4	8.6	3.4	2.2	13.3	0.69	0.10	0.41	0.03			2.7						

Nitrogen is very high in relation to carbon (Low C:N Ratio). If the waste product is to be used as a raw material in composting, blend it with another material with a high C:N ratio. The C:N ratio should be 20-30 for ideal composting conditions.

Soluble salt level is high. The roots of plants growing directly in the compost may be damaged, particularly under dry soil conditions. The compost should be blended at least 50:50 with another material of lower salt level. High soluble salts likely indicate high nutrient availability. Take a matching soil sample to further evaluate pH and nutrient availability.

Compost pH is higher than ideal for plant production. If the compost will be used as a landscape or potting soil, blend other materials or add elemental sulfur to decrease pH to the desired range. As a general rule, add 0.25 lb. of elemental sulfur per cu. yd. of soil to lower pH 0.5-1.0 unit. One month after treatment, take a soil sample to determine if pH is within the desired range.

NCDA Agronomy Division 4300 Reedy Creek Road Raleigh, NC 27607-6465 (919) 733-2655 Grower: Wallace Dairy Farms Report No. W02140 Pg 5																					
Sample Info		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C							
W1	Total	3934	196	748	2339	352	240	8544	210	15.2	6.49	0.68		246981							
Woodchips	IN-N	.39%	.02%	.07%																	
Waste Code:	-NH4																				
NBS	-NO3																				
Description:	OR-N	92.2	0.21	0.03	8.73																
Non-Composted Bark/Sawd	Urea																				
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Soil Incorp		1.6	0.22	0.80	1.2	0.17	0.12	4.3	0.10	0.01	T	T			0.09	T	T	0.01			
Sample ID:	N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C							
W2	Total	11379	893	2706	9492	1972	935	3347	960	93.9	11.9	19.6		405894							
Leaves	IN-N	1.14%	.09%	.27%																	
Waste Code:	-NH4																				
NCW	-NO3																				
Description:	OR-N	134	0.35	0.04	28.4																
Non-Composted - Other	Urea																				
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Soil Incorp		4.0	1.1	2.5	5.0	1.0	0.49	1.7	0.50	0.05	0.01	0.01			0.12	T	T	0.02			

Sample Info:		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
601 Leighs Cotton		Total	15396	1541	13325	9223	2000	2010	359	49.4	18.7	6.79	21.9		417369						
Waste Code:		IN-N	1.54%	.15%	1.33%																
NCR																					
Description:																					
Non-Composted Crop Residue																					
Urea																					
OR-N		218	0.09	0.01	0.40																
Na																					
Ni																					
Cd																					
Pb																					
Al																					
Se																					
Li																					
pH																					
SS																					
C:N																					
DM%																					
CCE%																					
ALE(tons)																					
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Soil Incorp		8.0	2.8	18.7	7.2	1.6	1.6	0.28	0.04	0.01	0.01	0.02			0.28	T	T	T			

Sample Info:		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
601 Bowers Cotton		Total	20015	2249	15399	14983	2733	2958	234	81.3	22.9	8.79	41.5		425950						
Waste Code:		IN-N	2.0%	.22%	1.54%																
NCR																					
Description:																					
Non-Composted Crop Residue																					
Urea																					
OR-N		343	0.12	0.01	0.00																
Na																					
Ni																					
Cd																					
Pb																					
Al																					
Se																					
Li																					
pH																					
SS																					
C:N																					
DM%																					
CCE%																					
ALE(tons)																					
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Soil Incorp		8.2	3.2	17.1	9.2	1.7	1.8	0.14	0.05	0.01	0.01	0.03			0.35	T	T	0.00			

Sample Info:		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
S1 Sawdust		Total	6823	126	756	1179	274	241	69.6	22.6	4.63	3.26	1.96		453305						
Waste Code:		IN-N	.68%	.01%	.08%																
NBS																					
Description:																					
Non-Composted Bark/Sawdust																					
Urea																					
OR-N		260	0.01	0.00	0.00																
Na																					
Ni																					
Cd																					
Pb																					
Al																					
Se																					
Li																					
pH																					
SS																					
C:N																					
DM%																					
CCE%																					
ALE(tons)																					
Recommendations:		Nutrients Available for First Crop										Other Elements									
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Soil Incorp		2.1	0.11	0.63	0.46	0.11	0.09	0.03	0.01	T	T	T			0.20	T	0.00	0.00			

REPORT NO.
F08016-6006
ACCOUNT NUMBER
90539

A & L GREAT LAKES LABORATORIES, INC.

3505 Conestoga Dr. • Fort Wayne, IN 46808 • 260-483-4759 • FAX 260-483-5274
www.algreatlakes.com • lab@algreatlakes.com



QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39625
SAMPLE ID: CGBC

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 1

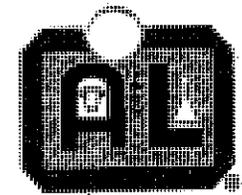
Bleaching Clay

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	11.92		TMECC 03.09-A
Dry Matter	%	88.08		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.04	0.04	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	1	1	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	1	1	TMECC 04.02-B
Nitrogen, Organic	%	0.04	0.04	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.14	0.16	TMECC 04.03-A
Phosphate (P205)	%	0.32	0.37	TMECC 04.03-A
Potassium (K)	%	0.16	0.18	TMECC 04.04-A
Potash (K2O)	%	0.19	0.22	TMECC 04.04-A
Sulfur (S)	%	0.37	0.42	TMECC 04.05-S
Calcium (Ca)	%	0.48	0.55	TMECC 04.05-CA
Iron (Fe)	mg/kg	9349	10612	TMECC 04.05-FE
Arsenic	mg/kg	1.018	1.156	SW846-6020 04.06-As
Cadmium	mg/kg	0.29	0.33	SW846-6020 04.06-Cd
Chromium	mg/kg	23.30	26.45	SW846-6020 04.06-Cr

REPORT NO.
F08016-6006
ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39625
SAMPLE ID: CGBC

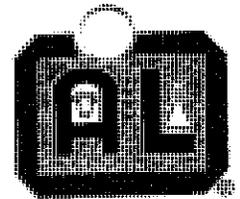
DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 2

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	5.44	6.18	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.01	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	11.62	13.19	SW846-6020 04.06-Ni
Lead	mg/kg	2.77	3.14	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.001	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	26.31	29.87	SW846-6020 04.06-Zn
pH	-	3.9		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	44.94	51.02	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	22.47	25.51	Estimated
Carbon:Nitrogen Ratio (C:N)	-	637.8:1	637.8:1	TMECC 05.02-A
Silver	mg/kg	<0.001	< 0.001	SW846-6020
Barium	mg/kg	40.457	45.932	SW846-6020

REPORT NO.
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ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

LAB NUMBER: 39626
SAMPLE ID: CPW

Cosmetic Production Waste

DATE RECEIVED: 01/16/2008
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COMPOST ANALYSIS REPORT

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	90.54		TMECC 03.09-A
Dry Matter	%	9.46		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.15	1.54	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	29	300	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.1	1	TMECC 04.02-B
Nitrogen, Organic	%	0.14	1.51	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.04	0.37	TMECC 04.03-A
Phosphate (P205)	%	0.08	0.85	TMECC 04.03-A
Potassium (K)	%	0.04	0.47	TMECC 04.04-A
Potash (K2O)	%	0.05	0.56	TMECC 04.04-A
Sulfur (S)	%	0.06	0.63	TMECC 04.05-S
Calcium (Ca)	%	0.13	1.38	TMECC 04.05-CA
Iron (Fe)	mg/kg	560	5898	TMECC 04.05-FE
Arsenic	mg/kg	<0.000	< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg	1.25	13.18	SW846-6020 04.06-Cr

TMECC - Test Methods for the Examination of Composting and Compost. The U.S. Composting Council.

COMPOST

REPORT NO.
F08016-6006
ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

LAB NUMBER: 39626
SAMPLE ID: CPW

COMPOST ANALYSIS REPORT

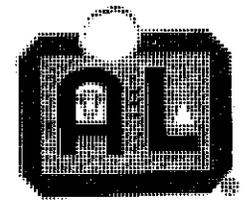
DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 4

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	3.71	39.23	SW846-6020 04.06-Cu
Mercury	mg/kg	0.37	3.94	SW846-6020 04.06-Hg
Nickel	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Ni
Lead	mg/kg	0.54	5.67	SW846-6020 04.06-Pb
Selenium	mg/kg	0.108	1.140	SW846-6020 04.06-Se
Zinc	mg/kg	41.13	434.75	SW846-6020 04.06-Zn
pH	-	5.0		TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry		0	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	8.38	88.63	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	4.19	44.31	Estimated
Carbon:Nitrogen Ratio (C:N)	-	28.8:1	28.8:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	2.514	26.580	SW846-6020

REPORT NO.
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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39632
SAMPLE ID: PRDB

Flour-Based Batter

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 15

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	81.45		TMECC 03.09-A
Dry Matter	%	18.55		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.63	3.39	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	16	86	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.4	2	TMECC 04.02-B
Nitrogen, Organic	%	0.63	3.38	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.15	0.80	TMECC 04.03-A
Phosphate (P205)	%	0.34	1.84	TMECC 04.03-A
Potassium (K)	%	0.02	0.10	TMECC 04.04-A
Potash (K2O)	%	0.02	0.12	TMECC 04.04-A
Sulfur (S)	%	0.07	0.36	TMECC 04.05-S
Calcium (Ca)	%	0.01	0.04	TMECC 04.05-CA
Iron (Fe)	mg/kg	401	2165	TMECC 04.05-FE
Arsenic	mg/kg	<0.000	< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg	3.01	16.21	SW846-6020 04.06-Cr

TMECC - Test Methods for the Examination of Composting and Compost. The U.S. Composting Council.

REPORT NO.
F08016-6006
ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
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ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39632
SAMPLE ID: PRDB

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 16

PARAMETER	UNIT	ANALYSIS RESULT	DRY-BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	4.30	23.17	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	5.23	28.20	SW846-6020 04.06-Ni
Lead	mg/kg	0.37	2.00	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.000	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	9.90	53.35	SW846-6020 04.06-Zn
pH	-	3.7		TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry		0	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	17.08	92.10	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	8.54	46.05	Estimated
Carbon:Nitrogen Ratio (C:N)	-	13.6:1	13.6:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	2.321	12.512	SW846-6020

REPORT NO:
F08010-6005
ACCOUNT NUMBER
90539

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TO: WALLACE FARM LLC.
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
DATE RECEIVED: 01/10/2008
DATE REPORTED: 01/22/2008 PAGE: 3

LAB NUMBER: 39590
SAMPLE ID: EQUB

Flour - Based Batter

PARAMETER	UNIT	ANALYSIS RESULT	DRY-BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	88.27		TMECC 03.09-A
Dry Matter	%	11.73		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.22	1.88	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	9	79	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.1	1	TMECC 04.02-B
Nitrogen, Organic	%	0.22	1.88	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.07	0.63	TMECC 04.03-A
Phosphate (P205)	%	0.17	1.45	TMECC 04.03-A
Potassium (K)	%	0.004	0.03	TMECC 04.04-A
Potash (K2O)	%	0.004	0.04	TMECC 04.04-A
Sulfur (S)	%	0.04	0.31	TMECC 04.05-S
Calcium (Ca)	%	0.01	0.07	TMECC 04.05-CA
Iron (Fe)	mg/kg	80	680	TMECC 04.05-FE
Arsenic	mg/kg	<0.000	< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg	0.68	5.79	SW846-6020 04.06-Cr

REPORT NO.
FO8010-6005
ACCOUNT NUMBER
90539

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TO: WALLACE FARM LLC
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FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
DATE RECEIVED: 01/10/2008
DATE REPORTED: 01/22/2008

PAGE: 4

LAB NUMBER: 39590
SAMPLE ID: EQUB

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	1.44	12.24	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.30	2.60	SW846-6020 04.06-Ni
Lead	mg/kg	0.07	0.56	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.000	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	7.92	67.48	SW846-6020 04.06-Zn
pH	-	3.9	-	TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry	-	90	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	11.21	95.54	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	5.60	47.77	Estimated
Carbon:Nitrogen Ratio (C:N)	-	25.4:1	25.4:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	0.513	4.375	SW846-6020

TMECC - Test Methods for the Examination of Compost and Compost. The U.S. Composting Council.

COMPOST

REPORT NO
F08010-6005
ACCOUNT NUMBER
90539

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TO: WALLACE FARM LLC
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HUNTERSVILLE, NC 28078-6636

FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
DATE RECEIVED: 01/10/2008
DATE REPORTED: 01/22/2008

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LAB NUMBER: 39591

SAMPLE ID: DOLL

Vegetable Waste

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	94.94		TMECC 03.09-A
Dry Matter	%	5.06		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.12	2.43	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	10	199	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	43	843	TMECC 04.02-B
Nitrogen, Organic	%	0.12	2.41	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.03	0.54	TMECC 04.03-A
Phosphate (P205)	%	0.06	1.24	TMECC 04.03-A
Potassium (K)	%	0.28	5.57	TMECC 04.04-A
Potash (K2O)	%	0.34	6.68	TMECC 04.04-A
Sulfur (S)	%	0.02	0.36	TMECC 04.05-S
Calcium (Ca)	%	0.05	1.01	TMECC 04.05-CA
Iron (Fe)	mg/kg	19	368	TMECC 04.05-FE
Arsenic	mg/kg	0.016	0.315	SW846-6020 04.06-As
Cadmium	mg/kg	0.06	1.15	SW846-6020 04.06-Cd
Chromium	mg/kg	0.35	7.00	SW846-6020 04.06-Cr

TMECC - Test Methods for the Examination of Composting and Compost. The U.S. Composting Council.

COMPOST

REPORT NO.
F08010-6005
ACCOUNT NUMBER
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TO: WALLACE FARM LLC
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HUNTERSVILLE, NC 28078-6636

FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

LAB NUMBER: 39591
SAMPLE ID: DOLL

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
DATE RECEIVED: 01/10/2008
DATE REPORTED: 01/22/2008 PAGE: 6

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	0.62	12.25	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.17	3.43	SW846-6020 04.06-Ni
Lead	mg/kg	0.02	0.41	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.000	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	2.65	52.44	SW846-6020 04.06-Zn
pH	-	4.2		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	4.28	84.68	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	2.14	42.34	Estimated
Carbon:Nitrogen Ratio (C:N)	-	17.4:1	17.4:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	0.443	8.757	SW846-6020

REPORT #
 F08010-600
 ACCOUNT NUMBER
 90539

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TO: WALLACE FARM LLC
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FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

LAB NUMBER: 39592
 SAMPLE ID: STOF

Dewatered Food Residuals

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
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PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	82.59		TMECC 03.09-A
Dry Matter	%	17.41		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.28	1.60	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	0.2	1	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.2	1	TMECC 04.02-B
Nitrogen, Organic	%	0.28	1.60	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.14	0.78	TMECC 04.03-A
Phosphate (P205)	%	0.31	1.79	TMECC 04.03-A
Potassium (K)	%	0.003	0.02	TMECC 04.04-A
Potash (K2O)	%	0.004	0.02	TMECC 04.04-A
Sulfur (S)	%	0.05	0.27	TMECC 04.05-S
Calcium (Ca)	%	0.05	0.28	TMECC 04.05-CA
Iron (Fe)	mg/kg	193	1109	TMECC 04.05-FE
Arsenic	mg/kg	0.070	0.404	SW846-6020 04.06-As
Cadmium	mg/kg	0.05	0.30	SW846-6020 04.06-Cd
Chromium	mg/kg	1.28	7.38	SW846-6020 04.06-Cr

REPORT N
F08010-600
ACCOUNT NUMBER
90539

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TO: WALLACE FARM LLC
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FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

LAB NUMBER: 39592
SAMPLE ID: STOF

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
DATE RECEIVED: 01/10/2008
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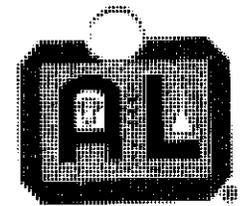
PARAMETER	UNIT	ANALYSIS RESULT	DRY-BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	2.59	14.85	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.85	4.88	SW846-6020 04.06-Ni
Lead	mg/kg	0.38	2.20	SW846-6020 04.06-Pb
Selenium	mg/kg	0.122	0.701	SW846-6020 04.06-Se
Zinc	mg/kg	12.84	73.75	SW846-6020 04.06-Zn
pH	-	4.8		TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry		100	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	14.95	85.87	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	7.48	42.94	Estimated
Carbon:Nitrogen Ratio (C:N)	-	26.8:1	26.8:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	1.392	7.994	SW846-6020

TMECC - Test Methods for the Examination of Compostino and Compost. The U.S. Compostino Council.

REPORT
F08016-6006
ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
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ATTN: ERIC WALLACE

LAB NUMBER: 39630
SAMPLE ID: STAW

Starch Water

DATE RECEIVED: 01/16/2008
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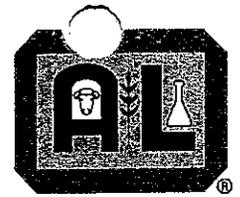
COMPOST ANALYSIS REPORT

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	92.45		TMECC 03.09-A
Dry Matter	%	7.55		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.29	3.83	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	1	9	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	1	16	TMECC 04.02-B
Nitrogen, Organic	%	0.29	3.83	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.005	0.06	TMECC 04.03-A
Phosphate (P2O5)	%	0.01	0.14	TMECC 04.03-A
Potassium (K)	%	0.01	0.18	TMECC 04.04-A
Potash (K2O)	%	0.02	0.22	TMECC 04.04-A
Sulfur (S)	%	0.07	0.98	TMECC 04.05-S
Calcium (Ca)	%	0.06	0.76	TMECC 04.05-CA
Iron (Fe)	mg/kg	83	1102	TMECC 04.05-FE
Arsenic	mg/kg	<0.000	< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg	0.04	0.48	SW846-6020 04.06-Cd
Chromium	mg/kg	0.19	2.57	SW846-6020 04.06-Cr

REPORT NO.
F08016-6006
ACCOUNT NUMBER
90539

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39630
SAMPLE ID: STAW

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 12

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	1.10	14.61	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.18	2.42	SW846-6020 04.06-Ni
Lead	mg/kg	0.16	2.12	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.000	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	3.77	49.87	SW846-6020 04.06-Zn
pH	-	4.4		TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry		0	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	6.92	91.68	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	3.46	45.84	Estimated
Carbon:Nitrogen Ratio (C:N)	-	12.0:1	12.0:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	0.818	10.833	SW846-6020

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ACCOUNT NUMBER
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TO: WALLACE FARM LLC
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HUNTERSVILLE, NC 28078-6636

ATTN: ERIC WALLACE

LAB NUMBER: 39629
SAMPLE ID: PMTB

Tobacco

COMPOST ANALYSIS REPORT

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 9

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	18.69		TMECC 03.09-A
Dry Matter	%	81.31		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.93	1.14	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	2776	3415	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	2282	2807	TMECC 04.02-B
Nitrogen, Organic	%	0.65	0.80	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.37	0.45	TMECC 04.03-A
Phosphate (P205)	%	0.84	1.03	TMECC 04.03-A
Potassium (K)	%	2.56	3.15	TMECC 04.04-A
Potash (K2O)	%	3.07	3.78	TMECC 04.04-A
Sulfur (S)	%	0.32	0.39	TMECC 04.05-S
Calcium (Ca)	%	2.14	2.63	TMECC 04.05-CA
Iron (Fe)	mg/kg	3572	4393	TMECC 04.05-FE
Arsenic	mg/kg	0.631	0.776	SW846-6020 04.06-As
Cadmium	mg/kg	0.96	1.18	SW846-6020 04.06-Cd
Chromium	mg/kg	13.16	16.19	SW846-6020 04.06-Cr

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COMPOST ANALYSIS REPORT

LAB NUMBER: 39629
SAMPLE ID: PMTB

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DATE REPORTED: 01/25/2008 PAGE: 10

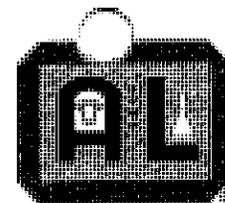
PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	129.80	159.63	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.01	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	7.51	9.24	SW846-6020 04.06-Ni
Lead	mg/kg	3.99	4.91	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.001	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	129.93	159.79	SW846-6020 04.06-Zn
pH	-	5.6		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	67.09	82.51	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	33.55	41.26	Estimated
Carbon:Nitrogen Ratio (C:N)	-	229.2:1	229.2:1	TMECC 05.02-A
Silver	mg/kg	<0.001	< 0.001	SW846-6020
Barium	mg/kg	72.862	89.610	SW846-6020

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ACCOUNT NUMBER

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ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 39627
SAMPLE ID: HFIC

Ice Cream

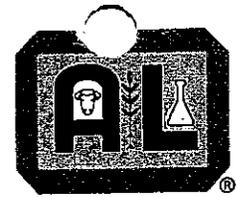
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DATE REPORTED: 01/25/2008 PAGE: 5

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	79.39		TMECC 03.09-A
Dry Matter	%	20.61		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.24	1.17	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	3	15	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.2	1	TMECC 04.02-B
Nitrogen, Organic	%	0.24	1.17	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.06	0.29	TMECC 04.03-A
Phosphate (P205)	%	0.14	0.67	TMECC 04.03-A
Potassium (K)	%	0.09	0.45	TMECC 04.04-A
Potash (K2O)	%	0.11	0.54	TMECC 04.04-A
Sulfur (S)	%	0.02	0.09	TMECC 04.05-S
Calcium (Ca)	%	0.06	0.31	TMECC 04.05-CA
Iron (Fe)	mg/kg	65	314	TMECC 04.05-FE
Arsenic	mg/kg	<0.000	< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg	0.19	0.93	SW846-6020 04.06-Cr

REPORT NO.
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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
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ATTN: ERIC WALLACE

LAB NUMBER: 39627
SAMPLE ID: HFIC

COMPOST ANALYSIS REPORT

DATE RECEIVED: 01/16/2008
DATE REPORTED: 01/25/2008 PAGE: 6

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	0.42	2.04	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.12	0.59	SW846-6020 04.06-Ni
Lead	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Pb
Selenium	mg/kg	<0.000	< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	5.43	26.33	SW846-6020 04.06-Zn
pH	-	4.1		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	20.08	97.41	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	10.04	48.70	Estimated
Carbon:Nitrogen Ratio (C:N)	-	41.6:1	41.6:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	0.237	1.151	SW846-6020

REPORT NO.
F08010-6005
ACCOUNT NUMBER
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TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008

DATE RECEIVED: 01/10/2008

LAB NUMBER: 39589

DATE REPORTED: 01/22/2008 PAGE: 1

SAMPLE ID: CCSL *Soft Drink Treatment Residuals*

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	91.93		TMECC 03.09-A
Dry Matter	%	8.07		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.58	7.22	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	41	502	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	1	11	TMECC 04.02-B
Nitrogen, Organic	%	0.58	7.17	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.12	1.49	TMECC 04.03-A
Phosphate (P2O5)	%	0.28	3.43	TMECC 04.03-A
Potassium (K)	%	0.05	0.63	TMECC 04.04-A
Potash (K2O)	%	0.06	0.76	TMECC 04.04-A
Sulfur (S)	%	0.06	0.80	TMECC 04.05-S
Calcium (Ca)	%	0.07	0.84	TMECC 04.05-CA
Iron (Fe)	mg/kg	370	4573	TMECC 04.05-FE
Arsenic	mg/kg	0.056	0.688	SW846-6020 04.06-As
Cadmium	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg	1.97	24.41	SW846-6020 04.06-Cr

REPORT #
 F08010-600
 ACCOUNT NUMBER
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TO: WALLACE FARM LLC
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FOR: COMPOST FEEDSTOCKS

ATTN: ERIC WALLACE

LAB NUMBER: 39589
 SAMPLE ID: CCSL

COMPOST ANALYSIS REPORT

DATE SAMPLED: 01/09/2008
 DATE RECEIVED: 01/10/2008
 DATE REPORTED: 01/22/2008 PAGE: 2

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	6.74	83.48	SW846-6020 04.06-Cu
Mercury	mg/kg	<0.00	< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	0.67	8.36	SW846-6020 04.06-Ni
Lead	mg/kg	0.35	4.36	SW846-6020 04.06-Pb
Selenium	mg/kg	0.057	0.709	SW846-6020 04.06-Se
Zinc	mg/kg	10.47	129.72	SW846-6020 04.06-Zn
pH	-	7.2		TMECC 04.11-A
Fecal Coliform/MPN	MPN/g dry		170	SM(20th)-9221E TMECC
Organic Matter by LOI @ 550C	%	7.34	90.97	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	3.67	45.49	Estimated
Carbon:Nitrogen Ratio (C:N)	-	6.3:1	6.3:1	TMECC 05.02-A
Silver	mg/kg	<0.000	< 0.001	SW846-6020
Barium	mg/kg	4.136	51.255	SW846-6020

REPORT NO.

F09174-6004

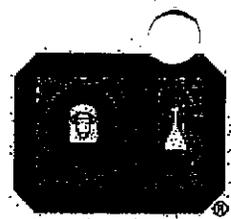
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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERSVILLE, NC 28078-6636

Coffee grounds

ATTN: ERIC WALLACE

LAB NUMBER: 46202

SAMPLE ID: SDCF

COMPOST ANALYSIS REPORT

DATE SAMPLED: 06/19/2009

DATE RECEIVED: 06/23/2009

DATE REPORTED: 07/07/2009

PAGE: 1

ANALYSIS	UNIT	RESULT	REFERENCE
Moisture @ 70 C	%	67.32	TMECC 03.09-A
Dry Matter	%	32.68	TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.89	2.73 TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	138	421 TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.3	1 TMECC 04.02-B
Nitrogen, Organic	%	0.88	2.69 TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.03	0.09 TMECC 04.03-A
Phosphate (P205)	%	0.07	0.21 TMECC 04.03-A
Potassium (K)	%	0.23	0.69 TMECC 04.04-A
Potash (K2O)	%	0.27	0.83 TMECC 04.04-A
Sulfur (S)	%	0.06	0.17 TMECC 04.05-S
Calcium (Ca)	%	0.08	0.24 TMECC 04.05-CA
Iron (Fe)	mg/kg	621	1899 TMECC 04.05-FE
Arsenic	mg/kg	1.132	3.463 SW846-6020 04.06-As
Cadmium	mg/kg	1.00	3.07 SW846-6020 04.06-Cd
Chromium	mg/kg	1.69	5.17 SW846-6020 04.06-Cr

TMECC - Test Methods for the Examination of Composting and Compost. The U.S. Composting Council.

08/24/2009 02:10 FAX 704 875 2394

Wallace Farm

004

COMPOST

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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
 14410 EASTFIELD RD.
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Coffee grounds, cont.

ATTN: ERIC WALLACE

LAB NUMBER: 46202
 SAMPLE ID: SDCF

COMPOST ANALYSIS REPORT

DATE SAMPLED: 06/19/2009
 DATE RECEIVED: 06/23/2009
 DATE REPORTED: 07/07/2009 PAGE: 2

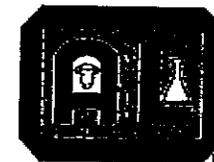
PARAMETER	UNIT	ANALYSIS RESULT	CRITERIA LIMIT	ANALYSIS REFERENCE
Copper	mg/kg	25.41	77.76	SW846-6020 04.06-Cu
Mercury	mg/kg		< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg	2.53	7.74	SW846-6020 04.06-Ni
Lead	mg/kg	1.66	5.08	SW846-6020 04.06-Pb
Selenium	mg/kg	1.531	4.686	SW846-6020 04.06-Se
Zinc	mg/kg	27.22	83.28	SW846-6020 04.06-Zn
pH	-	4.8		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	31.66	96.89	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	15.83	48.45	Estimated
Carbon:Nitrogen Ratio (C:N)	-	17.7:1	17.7:1	TMECC 05.02-A
Silver	mg/kg		<0.001	SW846-6020
Barium	mg/kg	7.49	22.93	SW846-6020

REPORT NO.
F09174

ACCOUNT NUMBER
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QUALITY ANALYSES FOR INFORMED DECISIONS

TO: WALLACE FARM LLC
14410 EASTFIELD RD.
HUNTERVILLE, NC 28078-6636

ylast

ATTN: ERIC WALLACE

LAB NUMBER: 46203
SAMPLE ID: YEST

COMPOST ANALYSIS REPORT

DATE SAMPLED: 06/19/2009
DATE RECEIVED: 06/23/2009
DATE REPORTED: 07/07/2009 PAGE: 3

PARAMETER	UNIT	ANALYSIS RESULT	DRY BASIS RESULT	ANALYSIS METHOD
Moisture @ 70 C	%	92.90		TMECC 03.09-A
Dry Matter	%	7.10		TMECC 03.09-A
Total Kjeldahl Nitrogen (TKN)	%	0.54	7.55	TMECC 04.02-A
Ammonium Nitrogen (NH4-N)	mg/kg	146	2063	TMECC 04.02-C
Nitrate Nitrogen (NO3-N)	mg/kg	0.1	2	TMECC 04.02-B
Nitrogen, Organic	%	0.52	7.34	TMECC 04.02-A, 04.02-C
Phosphorus (P)	%	0.09	1.28	TMECC 04.03-A
Phosphate (P205)	%	0.21	2.94	TMECC 04.03-A
Potassium (K)	%	0.12	1.73	TMECC 04.04-A
Potash (K2O)	%	0.15	2.08	TMECC 04.04-A
Sulfur (S)	%	0.03	0.49	TMECC 04.05-S
Calcium (Ca)	%	0.02	0.23	TMECC 04.05-CA
Iron (Fe)	mg/kg	8	107	TMECC 04.05-FE
Arsenic	mg/kg		< 0.001	SW846-6020 04.06-As
Cadmium	mg/kg		< 0.01	SW846-6020 04.06-Cd
Chromium	mg/kg		< 0.01	SW846-6020 04.06-Cr

TMECC - Test Methods for the Examination of Composting and Compost. The U.S. Composting Council.

COMPOST

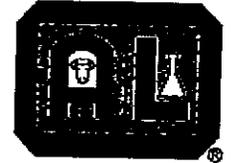
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ATTN: ERIC WALLACE

COMPOST ANALYSIS REPORT

LAB NUMBER: 46203
SAMPLE ID: YEST

DATE SAMPLED: 06/19/2009
DATE RECEIVED: 06/23/2009
DATE REPORTED: 07/07/2009 PAGE: 4

PARAMETER	UNIT	ANALYSIS RESULT	DRY/ASIS RESULT	ANALYSIS METHOD
Copper	mg/kg	0.08	1.10	SW846-6020 04.06-Cu
Mercury	mg/kg		< 0.01	SW846-6020 04.06-Hg
Nickel	mg/kg		< 0.01	SW846-6020 04.06-Ni
Lead	mg/kg		< 0.01	SW846-6020 04.06-Pb
Selenium	mg/kg		< 0.001	SW846-6020 04.06-Se
Zinc	mg/kg	0.54	7.56	SW846-6020 04.06-Zn
pH	-	4.5		TMECC 04.11-A
Organic Matter by LOI @ 550C	%	6.59	92.80	TMECC 05.07-A
Organic Carbon by LOI @ 550C	%	3.29	46.40	Estimated
Carbon:Nitrogen Ratio (C:N)	-	6.1:1	6.1:1	TMECC 05.02-A
Silver	mg/kg		< 0.001	SW846-6020
Barium	mg/kg		< 0.01	SW846-6020

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WALLACE FARM, INC.

SOLID WASTE COMPOSTING FACILITY OPERATION AND MAINTENANCE MANUAL

October 2014

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- ◆ Composted Cow Manure
- ◆ Compost Plus
- ◆ Potting Soil
- ◆ Play Sand
- ◆ Creek Sand
- ◆ Hardwood Mulch
- ◆ Pine Needles

Ph: 704-875-2975
Fax: 704-875-2394

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14410 Eastfield Rd., Huntersville, NC 28078



Prepared for:

Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
Phone: 704-875-2975

Prepared by:

Garrett & Moore Inc.
1100 Crescent Green Drive
Suite 208
Cary, NC 27518
Phone: 919-792-1900

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1.0 - INTRODUCTION

This Operation and Maintenance (O&M) Manual was developed for Wallace Farm, Inc. The objective of the manual is to provide guidance for operators and outline required activities so that the facility: (1) operates in accordance with state regulations, (2) minimizes external impacts, and (3) composting is undertaken with proper regard for the health and safety of the facility's operators and neighbors.

1.1 - COMPOSTING PROCESS DESCRIPTION

Composting is the controlled aerobic (oxygen rich), thermophilic (temperature range 105 °F to 165 °F), biological conversion of organic materials into a stable end product (compost). This conversion is accomplished by microorganisms (bacteria, actinomycetes, and fungi) normally present in organic materials within the composting mass. By optimizing the environment for the microorganisms, the process of decomposition is accelerated.

There are three major objectives in composting. The first is to destroy disease-causing organisms (pathogens) that may be present, by following state requirements for PFRP (Process to Further Reduce Pathogens) which meets Vector Attraction Reduction requirements. The second objective is to stabilize the product so that it does not putresce. The final objective is to produce a stable, manageable product for beneficial use in landscaping and other applications.

The method of composting used at Wallace Farm is the turned windrow method. This method achieves the objectives outlined above, while processing feedstocks efficiently.

1.2 - FACILITY OVERVIEW

The Composting Facility is in Mecklenburg County. Wallace Farm is a family owned and operated facility. There is not a precise routine; each employee is trained to perform various tasks. Depending on specific operations on any given day, several people may work together to accomplish the tasks. Operating schedules vary depending on the priorities of the day.

Staff and operations each typically performs are listed below.

- General Manager - Manage all operations and direct work efforts
- Office Manager - Coordinates all billings and administrative activities
- Fleet Manager - Coordinates all deliveries and trucking operations
- Tractor Trailer and Dump Truck Drivers - Haul feedstocks and finished materials

- Front End Loader Operator - Mixes feedstocks/shapes windrows/loads product/mix and screen finished product
- Compost Turner Operator - Turns windrows/monitors compost piles
- Bagging Line Operator - Bags finished products
- Grinder Operator – Grinds yard waste, pallets, and other mulch products.

2.0 STANDARD FACILITY OPERATIONS

The following sections cover standard operating procedures for the facility.

2.1 EROSION CONTROL

Stormwater and erosion control measures are installed and shown on the permit drawings.

Stormwater discharges for operations of the facility are permitted in accordance with NPDES General Permit No. NCG 240000.

2.2 LEACHATE MANAGEMENT

The compost windrows will be constructed to facilitate drainage between windrows. Stormwater discharges for operations of the proposed facility are permitted in accordance with NPDES General Permit No. NCG 240000.

Passive treatment of storm water from compost areas occurs as the water is routed through rip rap, silt fencing, over grassy areas, and to sedimentation catch basins. Water from composting areas is routed using natural contours and diversion berms to the stormwater ponds shown in the site plan. Water from the stormwater ponds may also be used on windrows for dust suppression (but not during or after PFRP), and in compost mixes.

2.3 SITE ACCESS

Public access is not allowed, except when accompanied by a Wallace Farm employee. A fence along the property boundary reasonably limits unauthorized access onto the site. An operator is on duty at the site when the facility is open. The road to the site is maintained to allow all-weather access.

2.4 SIGNAGE

A sign stating that “No hazardous waste, asbestos containing material, or medical waste is allowed on site” is prominently posted at the site entrance, along with signage providing information on materials that are acceptable. Copies of site signage are included in Appendix B.

2.4A SAFETY REQUIREMENTS

Safety requirements include the following:

- Open burning of solid waste is prohibited.
- As discussed in Section 4.4 and 4.4.1, equipment is provided to control accidental fires; arrangements have been made with the local fire protection agency to immediately provide fire-fighting services when needed (see Section 5.5).
- Personnel training is provided to insure that all employees are trained in site specific safety, remedial, and corrective action procedures. Training is discussed in Sections 4.2 and 4.4.
- In addition, all new employees complete an orientation program covering, at a minimum, the following: all aspects of job safety, including fire; general physical facility orientation; and job orientation, emphasizing duties of the employee, including composting procedures.

2.5 MATERIALS RECEIVING

Only permitted materials can be accepted. Hazardous materials are not allowed on the site. Incoming materials are inspected, and any unacceptable materials are to be loaded on the truck that brought them and transported to a permitted landfill. Feedstocks to be composted under this permit include animal manures, wood materials, yard waste, cotton materials, food and/or animal processing residuals, food waste, grease trap residuals, US domestic tobacco material, wood ash, cardboard, bleaching clay, cosmetics production materials, virgin gypsum board, lime, and starch water. Wood materials to be composted at the facility under this permit include land clearing debris, yard waste, wood shavings, sawdust, and pallets.

Materials are received and recorded on a weight (per ton) or volume (per gallon) basis. For materials recorded on a volumetric basis, a gallon of material is weighed. Then the resulting conversion factor (pounds per gallon) is multiplied by the total number of gallons received to convert to total pounds. Total pounds are converted to tons by dividing by 2000. USDA certified scales on site will be used to weigh incoming feedstocks. The dry carbonaceous materials such as the wood

materials and cotton materials, are unloaded in the receiving and storage area. A tub grinder is used to adjust the size of wood material products for composting, as described below.

Materials with significant water content (including food and/or animal processing residuals, waste water treatment residuals, manures, US domestic tobacco material, food waste, bleaching clay, starch water, and cosmetic production material, will be unloaded directly into the concrete receiving/mixing pit for preparing compost mixes. In addition, temporary storage for high-water content materials is being developed for the operations. If the mixing pit is filled to capacity or if it is in use when a load of high-water content material arrives, these materials can be off-loaded to the frac tank(s). Use of the tanks will help achieve maximum efficiency in the mixing pit. At a minimum, the tanks are to be emptied every 36 hours.

The scales, receiving areas, storage areas, and concrete receiving/mixing pit are shown on the site plan.

The receiving/mixing pit is cleaned out daily. After the last mixture is prepared and removed for further processing, the walls and dump areas are washed down with a high pressure hose. The wash water is directed into the pit, to which fresh bulking material is added on the bottom to absorb the moisture.

Prior to accepting a new waste material not included in this O&M manual, Wallace Farm, Inc. will thoroughly assess the material and the facility producing it to determine its composition and suitability for composting. NCDENR will be contacted for assistance with these evaluations. Samples will be obtained and tested, and lab results will be forwarded to NCDENR as part of the request for approval for adding the material to the list of allowable feedstocks. New waste materials will not be received without approval by the Division of Waste Management.

As discussed in the Application component of the Application/O&M Manual submittal, quantities received will vary from year to year and from feedstock to feedstock, and in some years certain feedstocks are not available at all.

2.6 MIXING

Dry carbonaceous materials (including wood materials; land clearing debris; yard waste; wood shavings; sawdust, virgin gypsum board, and cotton material), are delivered to the facility and off-loaded in the receiving/storage area. Wood materials, including land clearing debris, yard waste,

and pallets, are ground as necessary. Materials with significant water content (including food and/or animal processing residuals, waste water treatment residuals, manures, US domestic tobacco material, food waste, starch water, and cosmetic production materials) are unloaded directly into the concrete receiving/mixing pit for preparing compost mixes. These materials are blended with front end loaders in the mixing pit upon arrival. Materials are mixed to obtain a homogenous mix with a C:N ratio of 20:1 to 30:1.

A feedstock database that includes results of laboratory analyses is used to calculate the appropriate mix ratios to obtain a homogenous mix with a C:N ratio of 20-30:1 and target moisture contents of 40 to 60%. The calculations are performed by hand with a calculator using the standard compost mix mass balance equations, obtained by Wallace Farm at a national compost school. Computer spreadsheets are also available for verifying the hand calculations (see, for example, <http://compost.css.cornell.edu/download.html>).

Within two hours of blending, the mix is transported to the composting pad via dump trucks and placed into windrows. A front end loader is used to improve the shape of the windrows as necessary. The new windrows are turned immediately if favorable climatic conditions exist. If weather conditions are unfavorable, various procedures can be followed, as described in Sections 2.7 and 5.2.

2.7 COMPOSTING

Windrow composting at the facility is accomplished by placing the mix in windrows approximately 5 - 7 feet in height by 14 - 16 feet wide, and up to several hundred feet long. The windrows are periodically turned to break up clumps, to expose more surface area to active microorganisms, and to expose all materials to temperatures ensuring pathogen destruction and vector attraction reduction.

The facility uses a self-propelled, track driven Backhus compost turner and a, state-of-the-art, grinder (this equipment is described in Appendix F). The compost turner performs well during all weather conditions, and will improve mixing and aeration of compost windrows. The grinder will help optimize admixture and compost particle sizes. These machines improve composting efficiency.

To ensure pathogen destruction and vector attraction reduction, the pile temperatures are maintained at or above 131 °F for at least 15 consecutive days. Windrows are turned at least five times during this PFRP (Processes to Further Reduce Pathogens) period during which temperatures are ≥ 131 °F and temperatures are measured at least one time per week during this period. Temperatures are taken in each windrow at 50-foot intervals down the length of the windrow using a three-foot long dial type or digital thermometer. The probe is inserted approximately one to two feet into the pile from the pile surface. Temperatures are recorded as illustrated in the recording sheet shown in Appendix C. Temperatures are measured at least one time per week until the 131 °F for 15 consecutive days has been met. An oxygen meter will be used to measure oxygen content of compost pile pore space, usually at the same time that temperatures are checked. Windrows are turned based on temperature measurements and atmospheric conditions. Material generally remains in the turned windrows for approximately eight to sixteen weeks, the exact time being a function of windrow performance and temperature readings. Following this windrow processing period, the compost is placed in a static pile for a minimum of six months for curing.

If temperatures exceed 160 °F, the windrow requires turning to cool the composting material. If temperatures during the active composting period are less than 120 °F, the windrow requires turning as well. Low temperatures may indicate insufficient oxygen, and pile turning will provide the needed oxygen to the microorganisms. Temperatures determining when the compost pile requires turning are guides and may be adjusted based on long-term pile temperature trends and composting times. If material begins to dry significantly, thereby inhibiting microbial activity, and dusty conditions are prevalent, water will be added to the top of the windrows. This water can come from the potable supply, or, if added prior to the start of PFRP, can be from an on-site farm pond or the collection pond. After adding water, the pile is turned to distribute the moisture. Vector attraction reduction is met by maintaining pile temperatures above 104 °F for 14 days or longer, during which time the average temperature is greater than 113 °F.

Within two hours of blending, the mix is transported to the composting pad using dump trucks and placed into windrows. A front end loader is used to improve the shape of the windrows as necessary. The windrows are turned periodically using the Bachkus windrow turner to maintain aerobic conditions within the pile and to invert and fluff the windrow.

2.8 COMPOST CURING/STORAGE

The primary purpose of the curing/storage pile is to provide volume equalization. Multiple compost rows, once the compost material is stable, are moved to the curing/storage pile and then the compost material is moved out to the bagging operations and to other finished product storage areas.

Wallace Farm is a member of the US Composting Council (USCC). Compost rows are sampled regularly and tested by the USCC for stability. Wallace Farm consistently receives a rating of “very stable” from the USCC. The compost material moved from the compost rows to the curing/storage pile is considered to be stable and is ready for finished product uses at that time.

Two beneficial processes occur in the curing/storage. First, the material color darkens giving it a blacker hue, which is more desirable from an aesthetic standpoint. Also, the storage time in the curing/storage pile helps balance the moisture content of the finished product. Temperature of the curing/storage pile is typically around 110° F.

2.8.1 Compost Curing/Storage Pile Construction

Curing/storage is an important step in the operation by Wallace Farm and must be performed in a manner to prevent loss of finished product. There are two primary concerns associated with the curing/storage pile:

1. Loss of finished product due to absorption of water, which results in excessive moisture content and an unusable product.
2. Loss of finished product due to fire.

To minimize the potential for loss of product due to excessive moisture and loss of product due to fire, the following procedures will be implemented during construction of the curing/storage pile:

1. Finished compost will be hauled from the compost piles to the curing/storage area.
2. Compost will be spread in an approximate 1-foot lift and compacted with a dozer. No loose material will be allowed to remain in place.
3. Additional lifts will be spread and compacted resulting a “constructed” curing/storage pile with a relative high density of material with minimized voids.
4. Curing/storage pile side slopes will be constructed in a manner that allows equipment to perform compaction on side slopes.

5. Typical curing/storage piles will be 100 to 200 feet wide.
6. Maximum curing/storage pile height will be 60 feet.
7. All procedures used in constructing the curing/storage pile should focus on minimizing the intrusion of air into the pile and minimizing infiltration of water into the pile.
8. Vehicular access will be maintained around the entire perimeter of the curing/storage pile.

2.8.2 Compost Curing/Storage Pile Monitoring

Daily visual monitoring for vents and cracks will be performed. Any vents or cracks identified will be immediately remedied using the construction procedures described above.

Operators are trained to identify any hot areas in curing/storage pile. If temperatures in the curing/storage pile rise above the typical 110° F, the operators can feel the heat being generated and the operators take the corrective actions described below.

Visual inspections for smoke are continuously performed by the operators during daily operation and if smoke is identified the operators take the corrective actions described below

2.8.3 Compost Curing/Storage Pile Corrective Action

If hot areas are encountered or if smoke is identified, the material generating the heat or smoke is immediately removed from the curing/storage pile, mixed with compost material having a relatively higher moisture content, and moved to product packaging.

A 5,000 gallon water tanker is used on site at all times. The water tanker is a 6-wheel drive off road truck and is equipped with a water cannon capable of spraying water about 50 to 75 feet. The water tanker truck can drive on the curing/storage pile to access excessively hot or smoking areas.

If excessively hot or smoking areas are encountered, the Fire Department will be notified. An all-weather (aggregate base course) access road provides access from the public road through the site and directly to the curing/storage pile. Vehicular access will be maintained around the entire perimeter of the curing/storage pile.

2.9 SCREENING

Screening is conducted after curing. The screen size is 3/8-1/2” or as required by the market. The compost (< 1/2”) is stored on site prior to distribution. The overs (> 1/2”) are returned to the receiving/storage area and added to other feedstocks in amounts determined by experience and using Wallace Farm’s feedstock information database.

2.10 PRODUCT DISTRIBUTION

The finished product is distributed in bags and in bulk. Records are maintained of material purchasers. The compost products are registered with the NCDA as a fertilizer and/or soil amendment. Compost marketed as a fertilizer must meet a minimum N-P-K value of .5-.5-.5. (Product information is included in Appendix D.)

If product fails to meet state regulatory or facility requirements or is otherwise unmarketable, it can be applied per regulations and with NCDENR pre-approval to land or taken to an approved municipal solid waste landfill. Otherwise, poor quality compost, as well as compost not meeting all regulatory requirements, will be returned to the receiving/processing area and fully reprocessed following the treatment and monitoring steps described above.

2.11 EQUIPMENT MAINTENANCE AND STORAGE

Regular equipment maintenance is required to ensure a marketable product is produced. Refer to specific equipment O&M manuals for equipment maintenance schedules. Small equipment, such as temperature probes, will be stored inside the bagging line building or in the office.

2.12 OPERATOR CHECKLIST

The following chart is a quick reference for operators to ensure performance of proper procedures.

Operator Checklist

	As Required	Daily	Weekly	Monthly	Semi- Annually	Annually
Inspect Incoming Materials	<input type="checkbox"/>					
Turn Windrows	<input type="checkbox"/>					
Perform Equipment Maintenance	<input type="checkbox"/>					
Screen Compost	<input type="checkbox"/>					
Measure Windrow Temperatures			one time per week <input type="checkbox"/>			
Clean-up Spills	<input type="checkbox"/>					
Prepare/Update Windrow Data Sheets			<input type="checkbox"/>			
Record Information on Windrow Data Sheet			<input type="checkbox"/>			
Prepare Monthly Information Sheet				<input type="checkbox"/>		
Sample/Analyze Compost Product				<input type="checkbox"/>		
Inspect Grass Areas				<input type="checkbox"/>		
Reseed Grass Areas ¹					<input type="checkbox"/>	
Wash Mixing Pit		<input type="checkbox"/>				
Inspect/Repair Access Road	<input type="checkbox"/>					
Submit Report to NCDENR						<input type="checkbox"/>

¹Reseed at least semi-annually or more frequently, if required.

2.13 TROUBLESHOOTING

This section presents commonly encountered problems at composting facilities. The following is a guide to potential problem areas, and accompanying corrective action.

Problem/Condition	Corrective Action
Pile temperature too high (>160 °F)	Increase turning frequency and/or decrease pile size.
Pile temperature too low (<110 °F)	Increase turning frequency and/or increase pile size. Check pile moisture content, pH, and C:N
Dry piles	Check pile moisture content. Add water.
Dusty conditions at site	Spray water on windrows to suppress dust.
Odors around compost pad, or off-site odors	-Check for/clean up spills. Cover odorous windrows with compost or carbonaceous blend. -Do not disturb odorous windrow for approximately 10 days following initial turning. -Check incoming feedstocks.
Odors during pile turning	-Adjust as necessary the initial mix C:N ratio, pH, porosity and/or water content of mix. -Avoid turning during adverse atmospheric conditions, if possible.
Odor complaint from neighbor	Follow procedures noted below and in the next section, including: <ol style="list-style-type: none"> 1. Respond immediately 2. Complete Odor Response Form (see Appendix G) 3. Determine whether corrective action is needed. 4. If needed, perform immediate corrective action to address odors 5. Cover odorous windrows with a layer of carbonaceous materials. 6. Check incoming feedstocks. 7. Consult on-site weather station.
Proposal for processing new material	Contact NCDENR.

Odor complaints are addressed by following the procedures described in the next section.

2.13.1 PROCEDURES FOR RESPONDING TO ODOR COMPLAINTS

Procedures for responding to odor complaints are detailed in this section. Odor complaints can be called in or e-mailed to the Wallace Farm office. If a complaint is received, the following steps are taken:

1. A member of Wallace Farm office staff promptly visits the complaint location.
2. Upon arrival, Wallace Farm staff member completes an Odor Response Form.
3. The Wallace Farm staff member determines if complaint is verifiable.
4. If the complaint is not verifiable, the staff member returns to the office and files the completed Odor Response Form.
5. If the complaint is verifiable, the Wallace Farm staff member immediately contacts the compost facility manager.
6. The compost facility manager promptly investigates to identify the odor source.
7. Corrective Action is implemented immediately.
8. A weather data sheet is attached to the odor response form and filed.

These procedures are presented graphically in Figure 1.

2.13.2 NEIGHBORHOOD RELATIONS

Wallace Farm routinely invites neighbors who are curious or interested or who have experienced odors to tour the facility and to learn about the process to minimize any impacts.

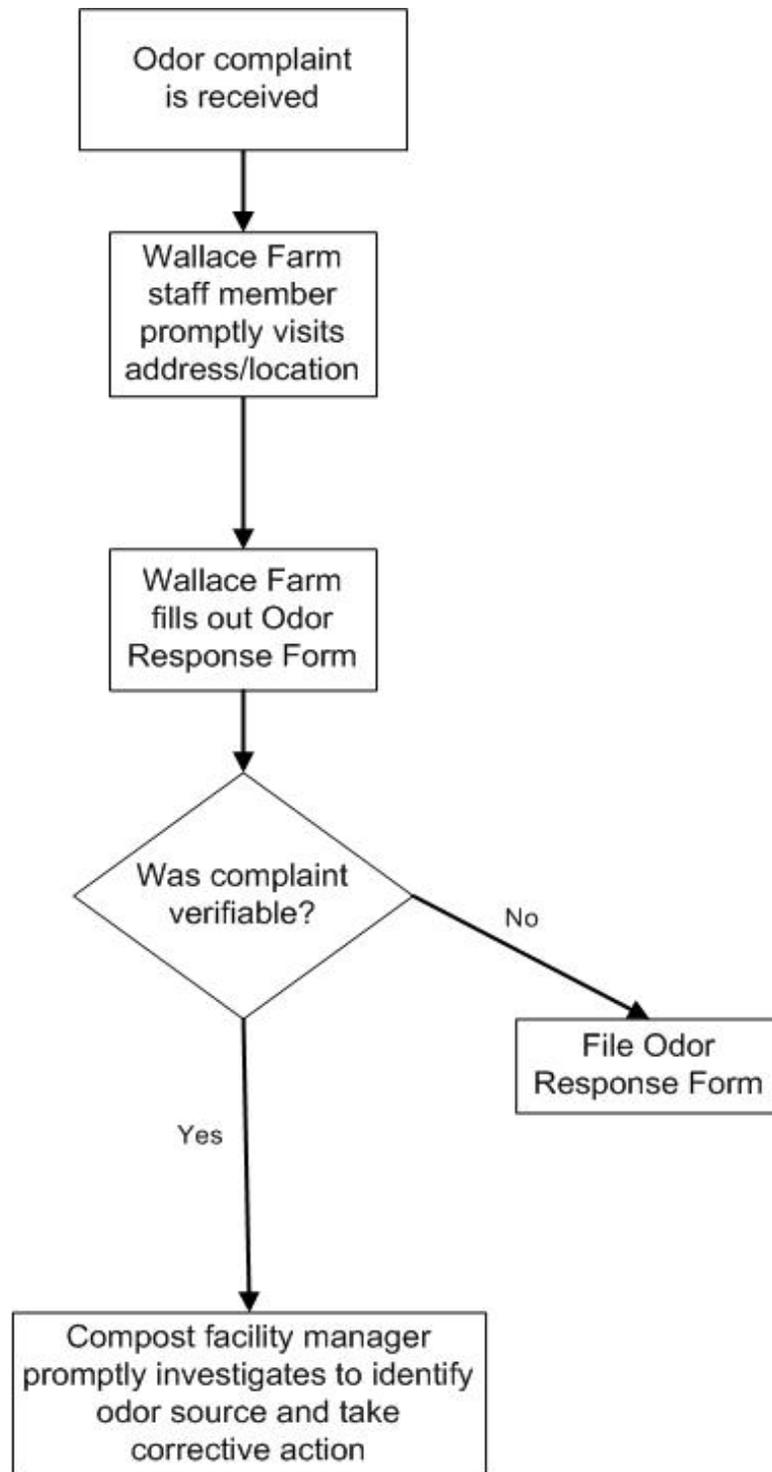


Figure 1. Odor complaint response sequence

3.0 SAMPLING, TESTING, AND RECORD KEEPING

Sampling and testing at the composting facility is necessary to:

- Monitor process efficiency
- Provide data to regulatory agencies
- Provide data for trouble-shooting
- Verify quality of materials for composting

It is extremely important that all sampling and testing be done at representative points in the process and in a consistent manner. The data resulting from any sampling and testing program is only as good as the sample taken. Sampling should be done consistently, on a regular basis, and using specific techniques. This section outlines the sampling schedule and sampling procedures required for a successful sampling and testing program. The operator should make every effort to follow a consistent routine, according to these guidelines.

Parameter testing includes pathogen indicators, regulated metals, nutrients, and foreign matter. Sampling and handling requirements are discussed in following sections.

3.1 SAMPLING AND TESTING SCHEDULE

Final product sampling is conducted every six months or 20,000 tons, whichever comes first. At Wallace Farm's option, compost samples are taken monthly to comply with the STA (Seal of Testing Assurance) Certification of the US Composting Council. The following sections outline sampling types and procedures.

3.1.1 Grab Sample Definition

Grab samples are collected at a specified time, in a specified location of a certain process. Analysis of a grab sample provides results from a random part of the process stream. To achieve a more representative analysis of a given process stream, many grab samples can be collected at various times and analyzed individually, or these grab samples can be combined to produce a composite sample.

3.1.2 Grab Sampling Procedure

Grab samples are collected using a plastic shovel and a clean, dry sampling jar (one-pint glass or plastic bag). The sample is collected at a point in the material approximately two feet into the storage pile from the outside of the surface and representative of the compost pile which is being sampled. Grab sample volumes should be consistent. Grab samples should be taken monthly and stored in refrigeration until needed to produce a six month (semi-annual) composite sample for analysis.

3.1.3 Composite Sample Definition

Composite samples are a mixture of grab samples collected individually at various times at the same location in a certain process, or a mixture of samples that are collected individually at various locations in a certain process. The grab samples are immediately transferred to a composite sample container for storage. Composite samples generally are more representative than grab samples.

3.1.4 Composite Sampling Procedure

Composite samples are stored in a clean, dry sampling jar (one gallon or larger) with an airtight, screw-on lid. The sampling container is labeled with data indicating time and location of the sample and stored in a cool, dry place, out of direct sunlight, preferably a refrigerator. At the end of the sampling period, the composite sample is well mixed and a representative portion placed in a smaller sampling jar (one pint) for analysis. The sampling jar is airtight and stored in a refrigerator until it is delivered to the laboratory for analysis. Analysis should be performed as quickly as possible, preferably within 24 hours after collection. The sample jar is adequately labeled with sample name, date of collection, and the operator's name. Composite samples can also be taken at random from the screened material (immediately after screening or in the product storage pile) approximately two feet from the pile surface. Several grab samples can be taken from the pile and combined and thoroughly mixed to create the composite sample.

3.1.5 Pathogen Samples

Pathogen samples will be grab samples. The pile will be broken apart using a front-end loader. A shovel will be cleaned with hot soapy water and then sterilized by pouring alcohol on the shovel and lighting it on fire. The sterile shovel will then be utilized to dig approximately two feet into the open face of the pile that was broken apart. A sterile scoop is then used to obtain a sample and place it in a sterile jar. The person sampling will also be wearing sterile gloves during the sampling event. Pathogen samples will be taken at least semi-annually. Once pathogen samples have been taken, they are stored on ice and sent to the lab immediately.

3.1.6 Metals and Foreign Matter

A composite sample of the compost is analyzed after every 20,000 tons of compost produced or every six months, whichever comes first, for regulated metals and foreign matter listed in Table 3.1

Sampling equipment (including coring devices, shovels, trowels, and containers) must be made of materials that will not contaminate or react with compost constituents. Suitable sampling equipment materials include glass, stainless steel and plastic (teflon, polyethylene, polypropylene). Any steel equipment used must not be galvanized or zinc coated because it can contaminate samples. All sampling equipment must be kept clean to avoid contamination.

Sample containers for metals (and all other analytes) are to be obtained from the certified laboratory doing the analyses. For metals these containers shall be plastic or glass, the minimum sample volume sent to the laboratory is 300 mL. Samples for metals analyses are to be stored at 4 °C, and can be held up to six months prior to analysis.

Foreign matter content is determined by passing a dried, weighed sample of the compost product through a one-quarter inch screen. EPA Method 160.3 is used to dry the sample. The material remaining on the screen is visually inspected, and the foreign matter that can be clearly identified is separated and weighed. The weight of the separated foreign matter divided by the weight of the total sample is determined and multiplied by 100. The result is the percent dry weight of foreign matter content.

3.2 OPERATIONAL RECORD KEEPING PROCEDURES

Keeping accurate records is an important part of the operation of any modern composting facility. Proper records are necessary to monitor the performance of the facility and to make operational decisions. Of great importance is the establishment of a reliable continuing record for proof of performance, thus justifying operational decisions, expenditures, and recommendations. Daily operational records also provide information useful in process adjustments required due to climatic or seasonal changes or other recurring problems of a specific nature. Accurate records also provide the basis for planning future expansion, planning future modifications, establishing and adjusting operating budgets, and providing evidence of performance in compliance with regulations.

The NC DENR Division of Waste Management requires record keeping sufficient for determining facility efficiency and the effectiveness of treatment in meeting standards. Personnel from NC DENR Division of Waste Management will make periodic visits to the facility. During these inspections, a review of operational and other records may be requested. Records must be retained for five years.

The following sections outline data to be maintained at the facility.

3.2.1 Material Receiving and Mixing Records

The type and quantity of materials received are recorded daily. Daily records are also kept documenting feedstock mix ratios and row placement on compost pads. A sample “Pit Mix Recording Sheet” is included in Appendix C.

3.2.2 Compost Windrow Data

Compost windrow data are maintained by the operator for each windrow built at the facility. Each windrow is defined as the mix placed on the composting area that is contained in one windrow. Data will include information as to the day the pile was built, along with monitoring data. A sample Windrow Data Sheet is attached in Appendix C. The P1, P2...P10 indicates the same relative location in a windrow. Each point is approximately 50 feet from the next. Temperatures are

measured at least one time per week until the time and temperature requirements are met. The day a pile is turned or sampled is also noted. The date pile construction began and date completed is when material is first placed in the windrow and when the last material is placed in the windrow, respectively. Windrow numbers start with 1 and increase throughout the composting pad as new windrows are constructed. Additional data is to be collected to record performance over periods greater than 30 days, as necessary. The operator also maintains a log to document the exact day and time the turner is in operation.

3.2.3 Row (Windrow) Data

Compost row data are summarized in a database for record-keeping and to evaluate the overall materials processing operation. Data should be recorded in the database as it becomes available, thus keeping records current. A sample Row Data Record Sheet is included in Appendix C.

Any material not meeting the time and temperature requirements, which fails pathogen or other testing, or is otherwise unmarketable, is identified in the database and appropriately segregated. Approaches for handling these materials are re-composting, land application with prior NCDENR approval, and transporting them to a Municipal Solid Waste landfill.

3.2.4 Laboratory Data

Laboratory data include bacteriological, heavy metal, and nutrient concentrations. Compost samples are taken at least every six months as outlined in Section 3.1. These samples are used to verify that the product meets the requirements listed in Table 3-1. Certified laboratories are used and testing procedures are noted on each analytical report.

Table 3-1. Semi-Annual Monitoring for Grade A Compost Requirements¹

Parameter	Unit	Limit
Foreign Matter	%	< or = to 6
Cadmium	mg/kg dry wt.	39
Copper	mg/kg dry wt.	1500
Lead	mg/kg dry wt.	300
Nickel	mg/kg dry wt.	420
Zinc	mg/kg dry wt.	2800
Selenium	mg/kg dry wt	36
Arsenic	mg/kg dry wt	41
Mercury	mg/kg dry wt	17
Pathogens (fecal coliform)	MPN/g dry wt.	< 1000 per g
Total N	%	None
Phosphorous	%	None
Potassium	%	None

¹NC DENR Solid Waste Compost Rules

4.0 GENERAL

Some feedstocks may contain pathogens, which composting, if carried out properly, will destroy. The following are some general recommendations for the health and safety of workers at Wallace Farm.

4.1 PERSONAL HYGIENE

The following personal hygiene recommendations will be stressed as common practices to all operators.

- Wash hands before eating, drinking, or smoking.
- If heavily contacted with feedstocks such as food processing residuals or manure, immediately take a hot shower and put on clean clothing.
- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection. Change bandages frequently and wear protective clothing or equipment over the wound.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

Individuals who are more susceptible to diseases or have severe allergies or asthma should not be employed to work at compost facilities.

4.2 PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and/or required in a compost facility workplace.

- Leather shoes with hard soles
- Noise reduction protection is required in areas where extended exposure to continuous high decibel levels are expected
- Disposable rubber latex or chemical resistant gloves for appropriate protection

- Dust filter masks

Following use, PPEs should be disposed or adequately cleaned, dried, and readied for reuse.

4.3 MECHANICAL EQUIPMENT HAZARD PREVENTION

The loaders, bulldozer, dump trucks, grinder, screen, and windrow turner should be operated with care, taking all necessary precautions. All safety equipment such as horns and lights should be functional.

4.4 EMPLOYEE HEALTH AND SAFETY

Some general safety rules are as follows:

- Make sure that you understand the job that has to be done. Review the equipment O&M Manual prior to attempting repairs/changes.
- Use common sense when attempting a job. Use the safest way to get the work done, including using the proper equipment and tools.
- Use the buddy system in case of repair of mechanical equipment (have a co-worker stand by).
- Keep the right attitude towards safety. Lack of awareness or a careless attitude can lead to accidents.
- Make sure you know the locations of the first aid kit and fire extinguishers. Understand how to use them.

4.4.1 Fire Extinguisher

Potential fire hazards at a compost facility are created from the build-up of fine dry dust particles on and around operational motors and control panels. These build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenance are not practiced. Portable fire extinguishers should be maintained in a state of readiness at the screen locations and on each piece of moving equipment.

4.4.2 Physical Exposure

Facility personnel who may be physically exposed on-site should be kept aware of the health aspects associated with the fluids, solids, and airborne constituents found at composting facilities. Training concerning safe work practices around these potential exposures should include all equipment, and proper disposal procedures for contaminated materials.

4.4.2.1 Bioaerosols

Bioaerosols are small particles containing microorganisms, and are of concern as are any materials that may contain pathogens. Bioaerosols can be created during many facility operations, including mixing, turning, and screening of composted materials. Once airborne, bioaerosols may be inhaled or contact the eyes. Dirty hands also may result in inadvertent transmission to the mouth or eyes.

Facility employees should refer to Sections 4.1 Personal Hygiene and 4.2 Personal Protective Equipment for reminder information on Health and Safety.

4.4.2.2 Dust

Excessive dust can have an irritating effect on eyes and mucous membranes if proper PPE, such as eye protective goggles and dust filter masks, are not worn by facility personnel in affected areas. As discussed in Section 2.2, water can be placed on windrows for dust suppression. Goggles and dust masks should be worn by staff regardless in “dusty” conditions.

4.5 - FACILITY EMERGENCY PHONE NUMBERS

EMERGENCY MEDICAL/FIRE
POLICE SERVICES:

911

FACILITY OWNER:

Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
Phone: (704) 875-2975 Ext 17
Cell: (980) 428-3185

OPERATORS:

Dale Cagle
Phone: (704) 875-2975 Ext 20

Dean Lentx
Phone: (704) 876-2975 Ext 19

5.0 CONTINGENCY PLANS

Contingency plans for unusual and adverse conditions are as follows:

5.1 EQUIPMENT BREAKDOWN

Wallace Farm has a full-time mechanic on staff who conducts regular equipment maintenance. Sufficient storage of the feedstocks is provided to allow for routine maintenance problems.

If the compost turner breaks down, loaders can be used while it is under repair. Wallace Farm also maintains a good relationship with its vendors and can get equipment repaired quickly. However, equipment can be rented as necessary to maintain operations.

5.2 AIR POLLUTION/ODORS

Composting is a controlled and constantly monitored process. Steps for minimizing odors during composting and on the site are described below. Minimize means to reduce to the smallest amount, extent, or degree reasonably possible.

One important operational procedure is maintaining aerobic conditions within the compost piles through adjusting the porosity and moisture content. Oxygen levels will be monitored using an oxygen meter to assure aerobic conditions exist.

Moisture levels in the compost windrows will be maintained in the 40 - 60% range for newly created compost windrows and compost windrows within the PFRP period. Moisture will be tested with a hand squeeze test when monitoring temperatures. Test results will be recorded with the temperature results, on the same form, in parentheses. It also is important to keep temperature levels between appropriate levels, maintaining PFRP temperatures as described in Section 2.7. Temperatures must not be allowed to get above 160° F, which can slow down the composting process and lead to odors.

Additionally, the carbon to nitrogen (C:N) ratio of initial mixes is to be greater than 20:1 to minimize the release of nitrogen based odorous compounds such as ammonia. This ratio is achieved through use of standard mass balance calculations using analytical data for feedstocks, as described in Section 2.6. All feedstock constituent data should be updated periodically through laboratory

analyses, to assure the accuracy of these calculations. Nevertheless, mix samples should be pulled periodically for carbon and nitrogen measurements by a lab, to verify that calculations are correct.

Additional steps will be taken to minimize odors include covering odorous windrows with a layer of carbonaceous materials and placing potentially odorous materials in the center of windrows during their construction.

5.3 NON-CONFORMING MATERIALS

Incoming feedstocks will be inspected upon arrival. Any non-conforming materials will be rejected, or removed and disposed of following state regulations, including disposal in a permitted landfill.

5.4 SPILLS

Spills of non-composted material will be cleaned up using a front-end loader and added to active compost piles before beginning the PFRP treatment regimen.

5.5 FIRES

The local fire department will be called if buildings catch fire. If piles of material catch on fire, the local fire department will be contacted, and a bulldozer will be used to separate the unburned material from the burning material to prevent the fire from spreading. In case of fire anywhere at the facility, the following must be contacted immediately, as follows:

Local fire department: call 911.

NCDENR Regional Environmental Senior Specialist
Currently: Hugh Jernigan 336-771-5093

Arrangements should be made with the fire department to provide immediate fire-fighting service when needed.

5.6 PARTICULATES

Particulates are generally associated with overly dry compost piles. Potable water or water from ponds on site can be used to increase moisture content and reduce particulates, as discussed in Section 2.2.

5.7 NOISE

Equipment normally associated with farm operations and land clearing has been used on this site for many decades and will continue to be used on the site. Reasonable levels of noise are expected.

5.8 VECTORS

Vector attraction reduction takes place during composting. To meet vector attraction reduction, materials are to be treated in an aerobic process for 14 days or longer, during which time the temperature of compost shall be higher than 40 degrees Celsius (104 degrees F) and the average temperature shall be higher than 45 degrees Celsius (113 degrees F). This approach is considered very effective at controlling vectors.

Process modifications will be made, if required, to ensure these vector attraction reduction requirements are met. This may include increasing the amount of wood material and cotton material in the initial mix.

Further, Wallace Farm staff are to make visual observations for vectors.

5.9 UNUSUAL TRAFFIC CONDITIONS

Delivery schedules may be modified, as necessary, to minimize traffic impacts.

6.0 REPORTING

An annual report for the period July 1 to June 30 is submitted by August 1 of each year, using the form provided by NC DENR. In addition, all windrow and monthly data sheets and semi-annual product test data is submitted with the report. The following records will be maintained and available for inspection by Mecklenburg County and the Division of Waste Management:

- Type and tons of materials received at the facility (dry weight)
- Origin of the materials
- Total tons of compost produced
- Total tons of compost used or disposed from the facility
- Monthly temperature monitoring sheets
- Product test results showing compliance with the Class A compost requirements

The monitoring requirements for Class A compost are as follows:

Parameter	Unit	Limit
Foreign Matter	%	< or = to 6
Cadmium	mg/kg dry wt.	39
Copper	mg/kg dry wt.	1500
Lead	mg/kg dry wt.	300
Nickel	mg/kg dry wt.	420
Zinc	mg/kg dry wt.	2800
Selenium	mg/kg dry wt	36
Arsenic	mg/kg dry wt	41
Mercury	mg/kg dry wt	17
Pathogens (fecal coliform)	MPN/g dry wt.	< 1000 per g
Total N	%	None
Phosphorous	%	None
Potassium	%	None

In addition to the above information, daily processing data, including temperature data and quantity of material processed, will be maintained and available for inspection by the Division of Waste Management.

7.0 PRODUCT MARKETING AND DISTRIBUTION PLAN

Wallace Farm is an established composting company, having been operating for many years. As such, the marketing and distribution plan is to continue marketing and distributing compost products as currently done, maintaining business practices, while modifying them from time to time as circumstances warrant.

REFERENCES

Epstein (1997). *The Science of Composting*. Technomic Publishing Co., Inc., Lancaster, Pennsylvania p. 340.

APPENDICES

Appendix A

- Site Plan

Appendix B

- Site Signage

Appendix C

- Row Data Record
- Windrow Data Recording Sheet
- Pit Mix Recording Sheet

Appendix D

- Compost Product Information

Appendix E

- Concrete Pit Construction Specifications

Appendix F

- New Compost Turner and New Grinder

Appendix G

- Odor Response Form

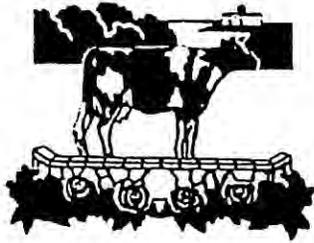
Appendix A

Site Plan

Appendix B

Site Signage

WALLACE FARM



Large, Type 3
Solid Waste
Compost Facility

Permit # SWC-60-22

• Approved Organic Waste •
Received Only.

Absolutely No Hazardous Waste
or Synthetic Waste of Any Kind.

Please Report To The Office
For Unloading Procedures.

OFFICE
STRAIGHT AHEAD



Appendix C

Sample Row Data Record
Sample Windrow Data Recording Sheet
Sample Pit Mix Recording Sheet

Compost Process Control Sheet

Weekly Readings

Date:
Lot:

Turned:

ROW #	TEMP 1	TEMP 2	TEMP 3	H2O Content	Maturity	Rowed	Material
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							

Temperature Taking Sheet

Lot 1.1 Date _____

Loc	Row	Temp 1	Temp 2	Temp 3	H2O Cnt	Rowed	Material	Cmp
1	1					2/28/2005		
2	2					2/28/2005		
3	3					3/1/2005		
4	4					3/1/2005		
5	5					3/2/2005		
6	6					3/3/2005		
7	7					3/3/2005		
8	8					3/4/2005		
9	9					3/4/2005		
10	10					3/5/2005		
11	11					3/5/2005		
12	12					3/7/2005		
13	13					3/10/2005		
14	14					3/10/2005		

Lot 1.2 Date _____

Loc	Row	Temp 1	Temp 2	Temp 3	H2O Cnt	Rowed	Material	Cmp
1	1					3/21/2005		
2	2					3/21/2005		
3	3					3/21/2005		
4	4					3/21/2005		
5	5					3/21/2005		
6	6					3/21/2005		
7	7					3/22/2005		
8	8					3/22/2005		
9	9					3/22/2005		
10	10					3/22/2005		
11	11					3/22/2005		
12	12					3/22/2005		
13	13					3/25/2005		
14	14					3/25/2005		
15	15					3/25/2005		
16	16					3/25/2005		
17	17					3/25/2005		
18	18					3/25/2005		

MASTER - Row Data by Lot

Lot Number 1a

Row Number 1

Rowed	Material							Completed
11/10/2003	Leaves and Chicken Manure							3/22/2004
Dates Row Turned								
1	2	3	4	5	6	7	8	
11/21/2003	12/5/2003	12/11/2003	12/23/2003	1/5/2004	2/5/2004	2/20/2004	3/4/2004	

Temperatures

Date	1	2	3	Avg Temp	Moisture
12/8/2003	135	140	123	133	
12/19/2003	145	145		145	M
12/30/2003	153	148	128	143	M
2/11/2004	105	93	86	95	
2/23/2004	88	84	88	87	

Row Number 2

Rowed	Material							Completed
11/10/2003	Leaves and Chicken Manure							3/22/2004
Dates Row Turned								
1	2	3	4	5	6	7	8	
11/21/2003	12/5/2003	12/11/2003	12/23/2003	1/5/2004	2/5/2004	2/20/2004	3/4/2004	

Temperatures

Date	1	2	3	Avg Temp	Moisture
12/8/2003	150	154	151	152	
12/19/2003	152	146		149	D
12/30/2003	143	156	142	147	D
2/11/2004	105	112	118	112	
2/23/2004	95	98	111	101	
3/4/2004	94	88	94	92	M
3/8/2004	90	97	99	95	

Materials		1	2	3	4
Equity	ticket #				
	time				
	# gallons				
Stouffer	ticket #				
	time				
	# tons				
Ice Cream	ticket #				
	time				
	# gallons				
Finetex	ticket #				
	time				
	# gallons				
Tobacco	ticket #				
	time				
	# tons				
Cargill Sludge	ticket #				
	time				
	# tons				
Cargill Clay	ticket #				
	time				
	# tons				
Coke Sludge	ticket #				
	time				
	# tons				
Coke Bev.	ticket #				
	time				
	# gallons				
Old Wood Chips	bkts				
New Wood Chips	bkts				
Sawdust	bkts				
Cargill Ash	bkts				
Cotton	bkts				
Leaves	bkts				
Screenings	bkts				
BAT Pile	bkts				
Compost	bkts				
Wood Ash	bkts				
Coal Ash	bkts				
Lot #					
Row #					

Appendix D
Compost Product Information



**US COMPOSTING
COUNCIL**

*Seal of Testing
Assurance*

Wallace Farm LLC

Eric Wallace
14410 Eastfield Rd
Huntersville NC 28078-6636
704-875-2975

Product Name: **WFCO**

Sample Date: **9/8/14 12:00 PM**

Receive Date: **9/9/14**

A & L Lab Number: **74269**

A & L Report Number: **F14252-6012**

COMPOST TECHNICAL DATA SHEET

A & L Great Lakes Laboratories, Inc. 3505 Conestoga Drive Fort Wayne IN 46808

<i>Compost Parameters</i>	<i>Method</i>	<i>Reported as (units of measure)</i>	<i>Test Results</i>	<i>Test Results</i>
Plant Nutrients:		%, weight basis	%, wet weight basis	%, dry weight basis
Nitrogen	TMECC 04.02-D	Total N	0.79	1.04
Phosphorus	TMECC 04.03-A	P ₂ O ₅	0.35	0.46
Potassium	TMECC 04.04-A	K ₂ O	0.42	0.55
Calcium	TMECC 04.05-CA	Ca	1.22	1.61
Magnesium	TMECC 04.05-MG	Mg	0.35	0.46
Moisture Content	TMECC 03.09-A	%, wet weight basis	24.10	
Organic Matter Content	TMECC 05.07-A	%, dry weight basis	35.72	
pH	TMECC 04.11-A	pH units	7.1	
Soluble Salts <i>(electrical conductivity EC_s)</i>	TMECC 04.10-A	dS/m (mmhos/cm)	0.90	
Particle Size	TMECC 02.02-B	% < 9.5 mm (3/8 in.), dw basis	98.40	
Stability Indicator <i>(respirometry)</i>			Stability Rating:	
CO ₂ Evolution	TMECC 05.08-B	mg CO ₂ -C/g OM/day	1	Very Stable
		mg CO ₂ -C/g TS/day	1	
Maturity Indicator (bioassay)				
Percent Emergence	TMECC 05.05-A	average % of control	97	
Relative Seedling Vigor	TMECC 05.05-A	average % of control	94	
Select Pathogens	TMECC 07.01-B	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	PASS	<i>Fecal Coliform</i>
Trace Metals	TMECC 04.06	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	PASS	<i>As, Cd, Pb, Hg,</i>
				<i>Mo, Ni, Se, Zn</i>

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.



Wallace Farm LLC

Eric Wallace
14410 Eastfield Rd
Huntersville NC 28078-6636
704-875-2975

Product Name: WFCO

Sample Date: 9/8/14 12:00 PM

Receive Date: 9/9/14

A & L Lab Number: 74269

A & L Report Number: F14252-6012

COMPOST TECHNICAL DATA SHEET

A & L Great Lakes Laboratories, Inc. 3505 Conestoga Drive Fort Wayne IN 46808

Compost Parameters	Method	Reported as (units of measure)	Test Results	
Plant Nutrients:		%, weight basis	Not Reported	
Moisture Content	TMECC 03.09-A	%, wet weight basis	24.10	
Organic Matter Content	TMECC 05.07-A	%, dry weight basis	35.72	
pH	TMECC 04.11-A	pH units	7.1	
Soluble Salts (electrical conductivity EC ₅)	TMECC 04.10-A	dS/m (mmhos/cm)	0.90	
Particle Size	TMECC 02.02-B	% < 9.5 mm (3/8 in.), dw basis	98.40	
Stability Indicator (respirometry)			Stability Rating:	
CO ₂ Evolution	TMECC 05.08-B	mg CO ₂ -C/g OM/day	1	Very Stable
		mg CO ₂ -C/g TS/day	1	
Maturity Indicator (bioassay)				
Percent Emergence	TMECC 05.05-A	average % of control	97	
Relative Seedling Vigor	TMECC 05.05-A	average % of control	94	
Select Pathogens	TMECC 07.01-B	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	PASS	Fecal Coliform
Trace Metals	TMECC 04.06	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13,	PASS	As, Cd, 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.



Wallace Farm LLC

Eric Wallace
 14410 Eastfield Rd
 Huntersville NC 28078-6636
 704-875-2975

Product Name: WFCO

Sample Date: 9/8/14 12:00 PM

Receive Date: 9/9/14

A & L Lab Number: 74269

A & L Report Number: F14252-6012

COMPOST TECHNICAL DATA SHEET for NORTH CAROLINA DOT

A & L Great Lakes Laboratories, Inc. 3505 Conestoga Drive Fort Wayne IN 46808

Compost Parameters	Method	Specification Requirements	Test Results
pH	TMECC 04.11-A	Minimum 5.0 Maximum 8.5	7.1
Soluble Salts	TMECC 04.10-A	Maximum 5.0 dS/m (mmho/cm)	0.90
Moisture Content	TMECC 03.09-A	30 - 60%, wet weight basis	24.10
Organic Matter Content	TMECC 05.07-A	25 - 65 %, dry weight basis	35.72
Sieve Size (aggregate size)	TMECC 02.02-B	% dry weight passing through 3" Sieve 100% 1" Sieve minimum 90% 3/4" Sieve minimum 65% 1/4 " Sieve maximum 50%	100.00 100.00 98.40 92.26
Stability Carbon Dioxide Evolution	TMECC 05.08-B	< 8 mg CO ₂ -C / gram OM / Day	1
Maturity Seed Germination	TMECC 05.05-A	> / = 80% (compared to control)	97
Trace Elements / Heavy Metals	TMECC 04.06	Meets US EPA Class A Standard 40 CFR § 503.13 PASS/FAIL	PASS
Pathogens	TMECC 07.01-B	Fecal Coliform < 1000 MPN / gram total solids PASS / FAIL	PASS
Man-made Inerts	TMECC 02.02-C	< 1.0% Total Inerts (dry basis)	0.00

Laboratory Report Number: F14252-6012
 Laboratory Sample Number 74269
 Approved by: Gregory T. Neyman - Vice-President / COO

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.

WALLACE FARM



45 YEARS OF
EXPERIENCE

QUALITY & VALUE
IN EVERY BAG

Indoor-Outdoor

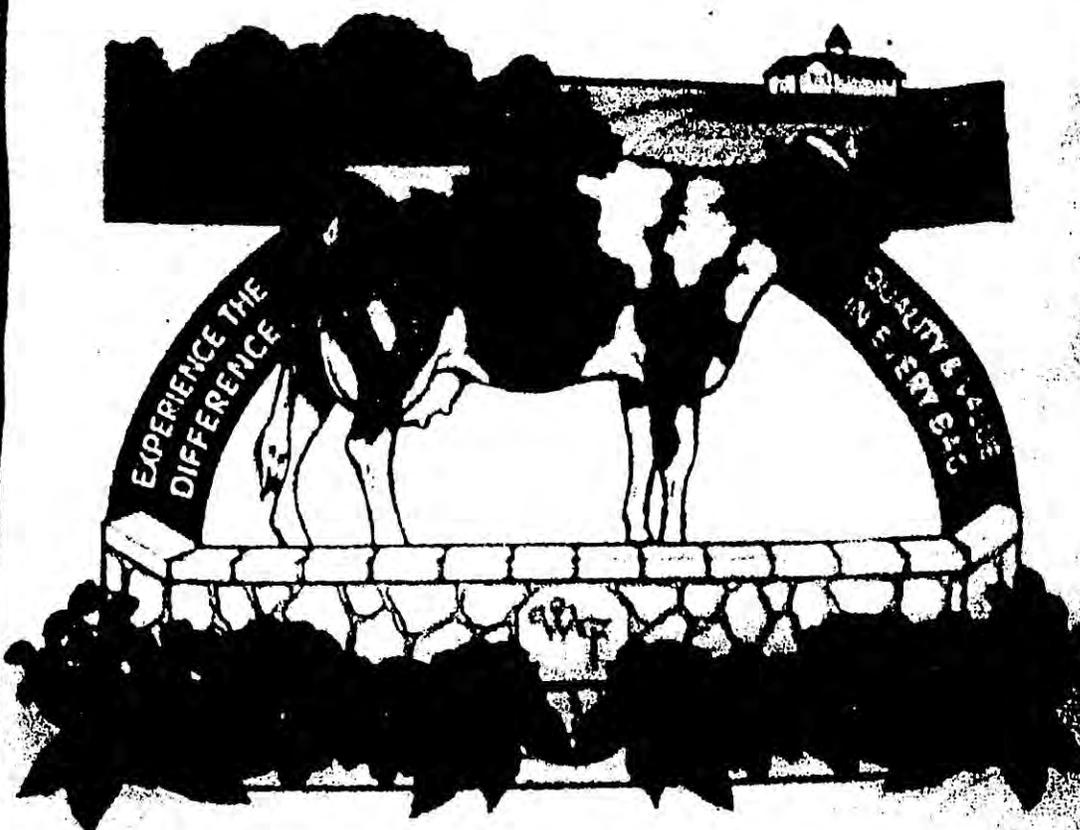
POTTING SOIL

Net Wt. 20 LB (9 kg)

1105 MILLION POTTING SOIL

08/03/2002

WALLACE FARM



WALLACE FARM PREMIUM TOP SOIL

WALLACE FARM PREMIUM TOP SOIL

PREMIUM TOP SOIL

WALLACE FARM



Composted
COW MANURE

.5-.5-.5

1 CU. FT. (28 L)

WALLACE FARM COW MANURE

WALLACE FARM COW MANURE

WALLACE FARM



WALLACE FARM COMPOST PLUS

WALLACE FARM COMPOST PLUS

Grade A
COMPOST PLUS

1 CU. FT. (28 L)

Wallace Farm, LLC
1410 Rutledge Road
Huntersville, N.C. 28078
www.wallacefarmproducts.com



08/03/2002

WALLACE FARM COMPOST PLUS

WALLACE FARM GARDENER'S DELIGHT

WALLACE FARM

Our Premium

GARDENER'S DELIGHT PLANTING SOIL

- Ideal Soil Additive For In-Ground Planting
- Improves "Hard Clay" and Sandy Soils
- Promotes Vigorous Root and Plant Growth



WALLACE FARM GARDENER'S DELIGHT

1 Cubic Ft. (28L)



Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
(www.wallacefarmproducts.com)



WALLACE FARM GARDENER'S DELIGHT

WALLACE FARM MUSHROOM COMPOST

WALLACE FARM™

Our Premium **MUSHROOM COMPOST**

- Excellent for Flower and Vegetable Gardens
- Enriches the Soil
- Promotes Vigorous and Healthy Plants



WALLACE FARM MUSHROOM COMPOST

1 Cubic Ft. (28L)

Wallace Farm, Inc.
 14410 Eastfield Road
 Huntersville, NC 28078
 (www.wallacefarmproducts.com)



WALLACE FARM MUSHROOM COMPOST

5" Lip on Back Panel

3" Unprinted top of front and back

WALLACE FARM SOIL CONDITIONER

- 100% Aged Bark Fines
- Intended for In-Ground Planting and Mulching
- Loosens Hard Clay and Sandy Soils

GENERAL USES

Intended to be mixed with hard, compacted soils to loosen the soil and provide a better environment for growing flowers, vegetables, trees, shrubs, and turf. Can also be used in mulching applications where finely ground, premium mulch is needed.

APPLICATION INSTRUCTIONS

FLOWER BEDS AND GARDENS

Loosen existing soil 4-6 inches deep. Apply 2-4 inches of Wallace Farm Soil Conditioner over planting area (2 cu. ft. per 8 sq. ft.) and incorporate into existing soil. Plant and water thoroughly.

RAISED BEDS

Construct bedding perimeter allowing for a minimum depth of 12 inches. Fill the area with a mixture of one part Wallace Farm Soil Conditioner and one part Wallace Farm Premium Top Soil. Alternate emptying soil conditioner and top soil bags, mixing as you go, until desired depth is reached.

TREES AND SHRUBS

Dig a hole one-third larger and one-third deeper than root ball of plant. Disturb root ball only if root-bound. Mix one part Wallace Farm Soil Conditioner to one part existing soil. Fill bottom of hole with mixture to allow top of root ball to sit at ground level. Finish filling hole with mixture and lightly pack to avoid air pockets. Water thoroughly.

MULCHING

Wallace Farm Soil Conditioner is ideal for mulching around all types of plants and is especially suitable for use around smaller annuals and perennials. (2 cu. ft. covers approx. 10 sq. ft.)

Other Fine Wallace Farm Products:

- Premium Top Soil
- Planting Soil
- Potting Soil
- Premium Potting Mix
- Composted Cow Manure
- Mushroom Compost
- Compost Plus
- Play Sand



Wallace Farm, Inc.
14410 Eastfield Road
Huntersville, NC 28078
www.wallacefarmproducts.com

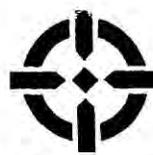
2 Cu. Ft. (56L)
Net Weight 38 Lbs.

22x34+5
HD



11/20/03
 Wallace Farm
 207 East Chestnut Road
 Huntersville, NC 28078
 Phone: 704.875.1111
 Fax: 704.875.1112
 Email: info@wallacefarm.com
 Website: www.wallacefarm.com
 © Wallace Farm, Inc. 2003

Gutter
Fold



Midwest Laboratories, Inc.™

Report Number
04-236-2208

13611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121
www.midwestlabs.com

REPORT OF ANALYSIS

For: (15314) WALLACE FARM INC
(704)875-2975

Mail to: **WALLACE FARM INC**
ERIC WALLACE
14410 EASTFIELD RD
HUNTERSVILLE NC 28078-

Date Reported: 08/23/04
Date Received: 08/13/04
Date Sampled: 08/10/04

COMPOST ANALYSIS

Lab number: 1001606 Sample ID: DAIRY MANURE CM

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date
Kjeldahl nitrogen	2,964	mg/kg	4	EPA 351.3	hnw-08/18
Phosphorus (total)	2,379	mg/kg	10.0	EPA 6010	xme-08/18
Potassium (total)	3,410	mg/kg	10.0	EPA 6010	xme-08/18
Sulfur (total)	1,615	mg/kg	25.0	EPA 6010	xme-08/18
Calcium (total)	9,241	mg/kg	1.0	EPA 6010	xme-08/18
Magnesium (total)	3,018	mg/kg	1.0	EPA 6010	xme-08/18
Sodium (total)	1,133	mg/kg	1.0	EPA 6010	xme-08/18
Iron (total)	28,377	mg/kg	5.00	EPA 6010	xme-08/18
Manganese (total)	788	mg/kg	1.0	EPA 6010	xme-08/18
Copper (total)	104	mg/kg	1.0	EPA 6010	xme-08/18
Zinc (total)	67.9	mg/kg	1.0	EPA 6010	xme-08/18
Ammoniacal nitrogen	828	mg/kg	2	EPA 350.2	hwn-08/17
Nitrate/Nitrite Nitrogen	828	mg/kg	20	EPA 353.2	jad-08/18
Arsenic (total)	3.74	mg/kg	0.50	EPA 6020	jsk-08/18
Barium (total)	116	mg/kg	0.50	EPA 6010	xme-08/18
Cadmium (total)	n.d.	mg/kg	0.50	EPA 6010	xme-08/18
Chromium (total)	44.2	mg/kg	1.0	EPA 6010	xme-08/18
Lead (total)	14.7	mg/kg	5.0	EPA 6010	xme-08/18
Mercury (total)	0.09	mg/kg	0.05	EPA 7471	jsk-08/18
Molybdenum (total)	1.2	mg/kg	1.0	EPA 6010	xme-08/18
Nickel (total)	12.3	mg/kg	1.0	EPA 6010	xme-08/18
Selenium (total)	0.93	mg/kg	0.50	EPA 6020	jsk-08/18
Silver (total)	n.d.	mg/kg	1.0	EPA 6010	xme-08/18

The above analytical results apply only to the sample(s) submitted

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REPORT OF ANALYSIS

Account: 15314 WALLACE FARM INC
Report Number: 04-236-2208

Page: 2

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date
Percent Solids	66.3	%	0.01	SM 2540G	xme-08/18
pH	6.0	S.U.		EPA 9045	dmg-08/13
Organic nitrogen	2,136	mg/Kg		CALC	cmw-08/13
Calculated Phosphate P2O5	5,448	mg/Kg		CALC	cmw-08/13
Calculated Potash K2O	4,106	mg/Kg		CALC	cmw-08/13
Carbon Nitrogen Ratio C/N	30.1			CALCULATED	jjk-08/23
Fecal Coliform	79	MPN/g	2	SM 9221E	mjh-08/14
Foreign materials	non detected	#/ 100 g		MICROSCOPIC	jjk-08/23
Total Carbon	8.92	%	0.050	CARBON ANALYZER LECO 2000	jpt-08/19

Notes:

n.d. - Not Detected.

The metals and nitrogen series are reported on a dry weight basis. The nitrogen series results on an as received basis are:

Kjeldahl Nitrogen: 1965 mg/Kg

Ammoniacal Nitrogen: 549 mg/Kg

Nitrate Nitrogen: 549 mg/Kg

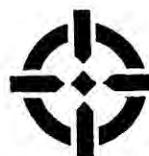
No man-made materials (glass, metal, plastic) were observed

Respectfully Submitted



Heather Ramig/Sue Ann Seitz/Rob Ferris
Client Services

The above analytical results apply only to the sample(s) submitted.



Midwest Laboratories, Inc. SM

Report Number
04-219-2108

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REPORT OF ANALYSIS

For: (15314) WALLACE FARM INC
(704)875-2975

Mail to: **WALLACE FARM INC
ERIC WALLACE
14410 EASTFIELD RD
HUNTERSVILLE NC 28078-**

Date Reported: 08/06/04
Date Received: 07/28/04
Date Sampled: 07/19/04

COMPOST ANALYSIS

Lab number: 996278 Sample ID: CP Compost Plus

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date
Kjeldahl nitrogen	12,383	mg/kg	4	EPA 351.3	hnw-07/30
Phosphorus (total)	5,209	mg/kg	10.0	EPA 6010	tsw-08/03
Potassium (total)	7,725	mg/kg	10.0	EPA 6010	tsw-08/03
Sulfur (total)	2,926	mg/kg	25.0	EPA 6010	tsw-08/03
Calcium (total)	27,242	mg/kg	1.0	EPA 6010	tsw-08/03
Magnesium (total)	4,623	mg/kg	1.0	EPA 6010	tsw-08/03
Sodium (total)	1,596	mg/kg	1.0	EPA 6010	tsw-08/03
Iron (total)	19,323	mg/kg	5.00	EPA 6010	tsw-08/03
Manganese (total)	988	mg/kg	1.0	EPA 6010	tsw-08/03
Copper (total)	54.6	mg/kg	1.0	EPA 6010	tsw-08/03
Zinc (total)	138	mg/kg	1.0	EPA 6010	tsw-08/03
Ammoniacal nitrogen	766	mg/kg	2	EPA 350.2	hnw-07/30
Nitrate/Nitrite Nitrogen	180	mg/kg	2	EPA 353.2	jad-07/30
Arsenic (total)	4.08	mg/kg	0.50	EPA 6020	jsk-08/03
Barium (total)	153	mg/kg	0.50	EPA 6010	tsw-08/03
Cadmium (total)	n.d.	mg/kg	0.5	EPA 6010	tsw-08/03
Chromium (total)	31.6	mg/kg	1.0	EPA 6010	tsw-08/03
Lead (total)	14.1	mg/kg	5.0	EPA 6010	tsw-08/03
Mercury (total)	0.12	mg/kg	0.05	EPA 7471	jsk-08/03
Molybdenum (total)	1.5	mg/kg	1.0	EPA 6010	tsw-08/03
Nickel (total)	16.7	mg/kg	1.0	EPA 6010	tsw-08/03
Selenium (total)	1.40	mg/kg	0.50	EPA 6020	jsk-08/03
Silver (total)	n.d.	mg/kg	1.0	EPA 6010	tsw-08/03

The above analytical results apply only to the sample(s) submitted

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REPORT OF ANALYSIS

Page: 2

Account: 15314 WALLACE FARM INC
Report Number: 04-219-2108

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date
Percent Solids	67.9	%	0.01	SM 2540G	tsw-08/03
pH	7.1	S.U.		EPA 9045	dmg-07/29
Organic nitrogen	11,617	mg/Kg		CALC	cmw-07/28
Calculated Phosphate P2O5	11,929	mg/Kg		CALC	cmw-07/28
Calculated Potash K2O	9,301	mg/Kg		CALC	cmw-07/28
Carbon Nitrogen Ratio C/N	17.9			CALCULATED	jt-08/06
Foreign materials	see comments	#/ 100 g		MICROSCOPIC	jt-08/06
Total Carbon	22.2	%	0.050	CARBON ANALYZER LECO 2000	jpt-08/06

Notes:

n.d. - Not Detected.

Report faxed upon completion.

The metals and nitrogen series are reported on a dry weight basis. The nitrogen series results on an as received basis are:

Kjeldahl Nitrogen: 8408 mg/Kg

Ammoniacal Nitrogen: 520 mg/Kg

Nitrate Nitrogen: 122 mg/Kg

The sample contained no glass or metal fragments.

The only man-made materials observed were fragments of plastic bags at < 0.1%

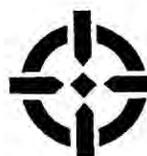
Respectfully Submitted



Heather Ramig/Sue Ann Seitz/Rob Ferris
Client Services

The above analytical results apply only to the sample(s) submitted.

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Midwest Laboratories, Inc.SM

Report Number
04-219-2110

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REPORT OF ANALYSIS

For: (15314) WALLACE FARM INC
(704)875-2975

Mail to: **WALLACE FARM INC
ERIC WALLACE
14410 EASTFIELD RD
HUNTERVILLE NC 28078-**

Date Reported: 08/06/04
Date Received: 07/28/04
Date Sampled: 07/19/04

COMPOST ANALYSIS

Lab number: 996279 Sample ID: MC *Mushroom Compost*

Analysis	Level		Detection		Analyst- Date
	Found	Units	Limit	Method	
Kjeldahl nitrogen	11,533	mg/kg	4	EPA 351.3	hnw-07/30
Phosphorus (total)	3,067	mg/kg	10.0	EPA 6010	tsw-08/03
Potassium (total)	6,703	mg/kg	10.0	EPA 6010	tsw-08/03
Sulfur (total)	2,870	mg/kg	25.0	EPA 6010	tsw-08/03
Calcium (total)	19,388	mg/kg	1.0	EPA 6010	tsw-08/03
Magnesium (total)	4,065	mg/kg	1.0	EPA 6010	tsw-08/03
Sodium (total)	1,190	mg/kg	1.0	EPA 6010	tsw-08/03
Iron (total)	21,867	mg/kg	5.00	EPA 6010	tsw-08/03
Manganese (total)	762	mg/kg	1.0	EPA 6010	tsw-08/03
Copper (total)	73.0	mg/kg	1.0	EPA 6010	tsw-08/03
Zinc (total)	104	mg/kg	1.0	EPA 6010	tsw-08/03
Ammoniacal nitrogen	1,032	mg/kg	2	EPA 350.2	hnw-07/30
Nitrate/Nitrite Nitrogen	156	mg/kg	2	EPA 353.2	jad-07/30
Arsenic (total)	4.41	mg/kg	0.50	EPA 6020	jsk-08/03
Barium (total)	141	mg/kg	0.50	EPA 6010	tsw-08/03
Cadmium (total)	n.d.	mg/kg	0.5	EPA 6010	tsw-08/03
Chromium (total)	54.0	mg/kg	1.0	EPA 6010	tsw-08/03
Lead (total)	11.5	mg/kg	5.0	EPA 6010	tsw-08/03
Mercury (total)	0.10	mg/kg	0.05	EPA 7471	jsk-08/03
Molybdenum (total)	1.4	mg/kg	1.0	EPA 6010	tsw-08/03
Nickel (total)	17.8	mg/kg	1.0	EPA 6010	tsw-08/03
Selenium (total)	1.45	mg/kg	0.50	EPA 6020	jsk-08/03
Silver (total)	n.d.	mg/kg	1.0	EPA 6010	tsw-08/03

The above analytical results apply only to the sample(s) submitted.

1/2

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REPORT OF ANALYSIS

Account: 15314 WALLACE FARM INC
Report Number: 04-219-2110

Page: 2

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date
Percent Solids	69.1	%	0.01	SM 2540G	tsw-08/03
pH	7.2	S.U.		EPA 9045	dmg-07/29
Organic nitrogen	10,501	mg/Kg		CALC	cmw-07/28
Calculated Phosphate P2O5	7,023	mg/Kg		CALC	cmw-07/28
Calculated Potash K2O	8,070	mg/Kg		CALC	cmw-07/28
Carbon Nitrogen Ratio C/N	17.4			CALCULATED	jt-08/06
Foreign materials	see comments	#/ 100 g		MICROSCOPIC	jt-08/06
Total Carbon	20.1	%	0.050	CARBON ANALYZER LECO 2000	jpt-08/06

Notes:

n.d. - Not Detected.

Report faxed upon completion.

The metals and nitrogen series are reported on a dry weight basis. The nitrogen series results on an as received basis are:

Kjeldahl Nitrogen: 7969 mg/Kg

Ammoniacal Nitrogen: 713 mg/Kg

Nitrate Nitrogen: 108 mg/Kg

The sample did not contain any glass or metal fragments. The only man-made material observed were fragments of plastic bags at < 0.1%.

Respectfully Submitted



Heather Ramig/Sue Ann Seitz/Rob Ferris
Client Services

The above analytical results apply only to the sample(s) submitted.

Midwest Laboratories, Inc. is not responsible for the accuracy of the results if the sample is not properly prepared or if the sample is not representative of the material being analyzed.

7/17

Appendix E

Concrete Pit Construction Specifications

March 17, 2004

Mr. Chuck Mayer
C. G. Mayer Construction Company
7826 Caswell Road
Stanley, NC 28164



**Industrial Engineering and
Testing Services, P.C.**

Subject: **Structural Engineering Services
Soil Retaining Wall Structure Design Verification
Wallace Farm, Inc. – Huntersville, NC
IETS Project Number 2004-013**

Dear Mr. Mayer:

In accordance with your request, and acceptance of our proposal number Pro-2004-022, Industrial Engineering & Testing Services, P.C. (IETS) is pleased to submit this report of the structural adequacy of the retaining wall designs provided by Mr. Chuck Mayer. These walls are a portion of a new debris dumping facility being constructed at Wallace Farm, Inc. This report contains brief project background information and our findings and recommendations.

PROJECT BACKGROUND INFORMATION

On March 15, 2004, Mr. Mayer met with our Mr. Bill Griswold. During the meeting Mr. Mayer provided IETS with the proposed retaining wall design drawings. The walls are a portion of a new truck debris dumping facility that contains a recessed area approximately 60 feet wide and long. One end of the recessed area will be approximately 8 feet deep.

RESULTS OF ENGINEERING CALCULATIONS

Using assumed soil bearing and lateral pressure values, IETS engineers determined the retaining walls, wall foundations, and surrounding concrete slabs are structurally adequate for the proposed loadings and usage. One design change is required. The thickness of the 4-foot tall retaining wall needs to be reduced from 10 inches to 8 inches to meet the code requirements when using a single layer of reinforcing steel.

We appreciate the opportunity to provide our continuing professional services to you and Wallace Farm. If you have any questions please contact us.

Respectfully submitted,

INDUSTRIAL ENGINEERING AND TESTING SERVICES, P.C.

William A. Griswold, Jr., P.E.
Chief Engineer



C.G. Mayer Construction Co.

7826 Caswell Rd
Address Line 2
Stanley N.C. 28164
Lincoln

Phone 704-8273793
Fax 704-8273793

February 19, 2004

Wallace Dairy Farm
Eastfield Rd.

Build compost pit

C.G. Mayer Construction Co. proposes to provide labor, material, and equipment to perform the following work.

Footings 64'' x 12'' footing with 8-#4 rebar continuous and #4 bars ties at 36'' on O.C. app. 122' LF.

Walls 10'' thick poured walls 8' high approximately 62' w #4 rebar vertically and horizontally at 12'' O.C. front and back
10'' Thick poured wall 9'4'' high approximately 62' w #4 rebar vertically and horizontally at 12'' O.C. Front and back
Brick ledge for slab to rest on 62 LF

Slabs

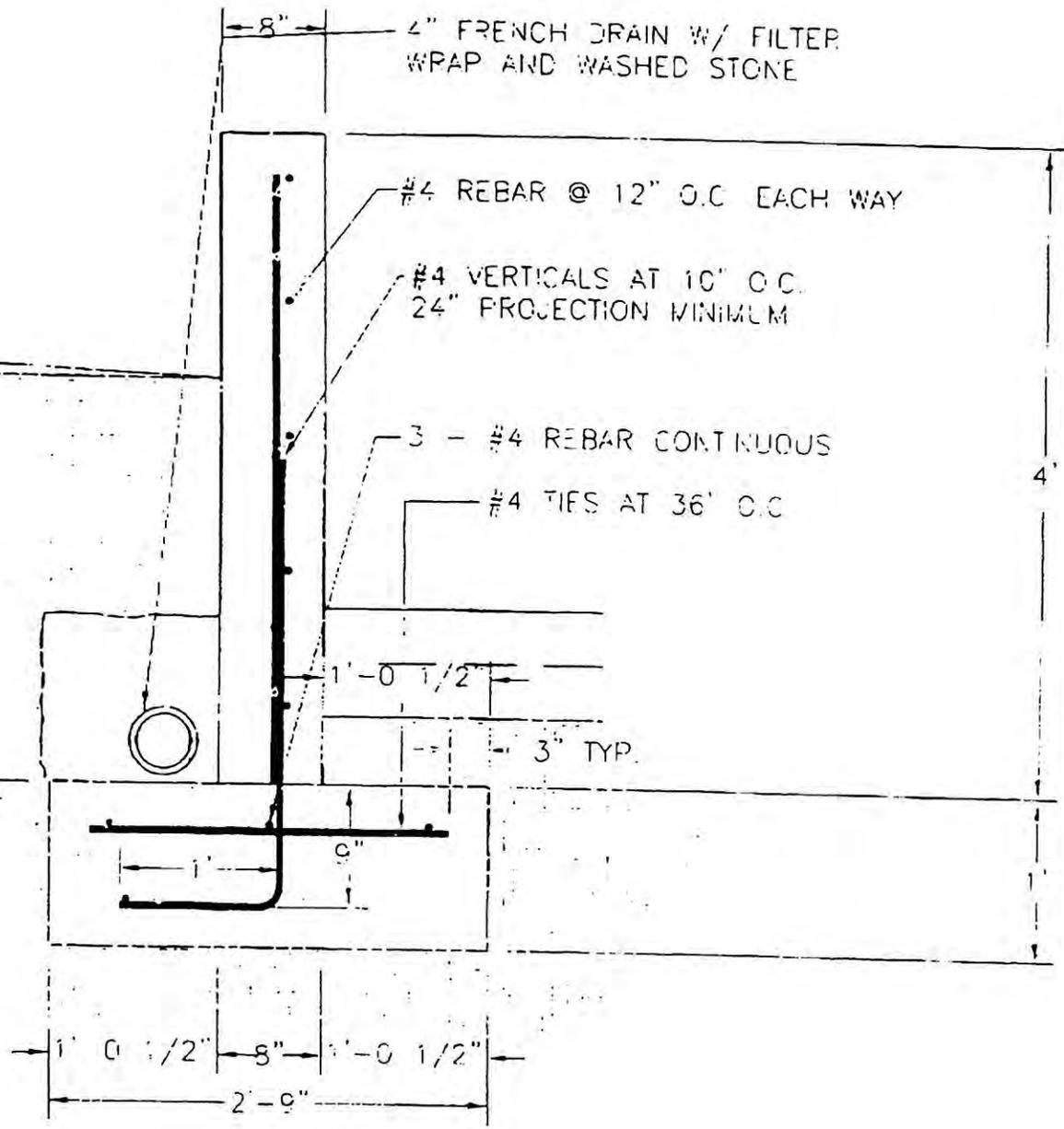
Slab for trucks to backup on 60' wide 30' deep 8'' thick with 6x6 2.9/2.9 WWM. with sawed control joints and broom finish

Slab for bottom of pit to be 60' x 60' 8'' thick with 6x6 2.9/2.9 WWM. with broom finish and saw control joints also

If OWNER would rather have rebar #4 in 12'' x 12'' grid in floor slab add 6853.00 to total price

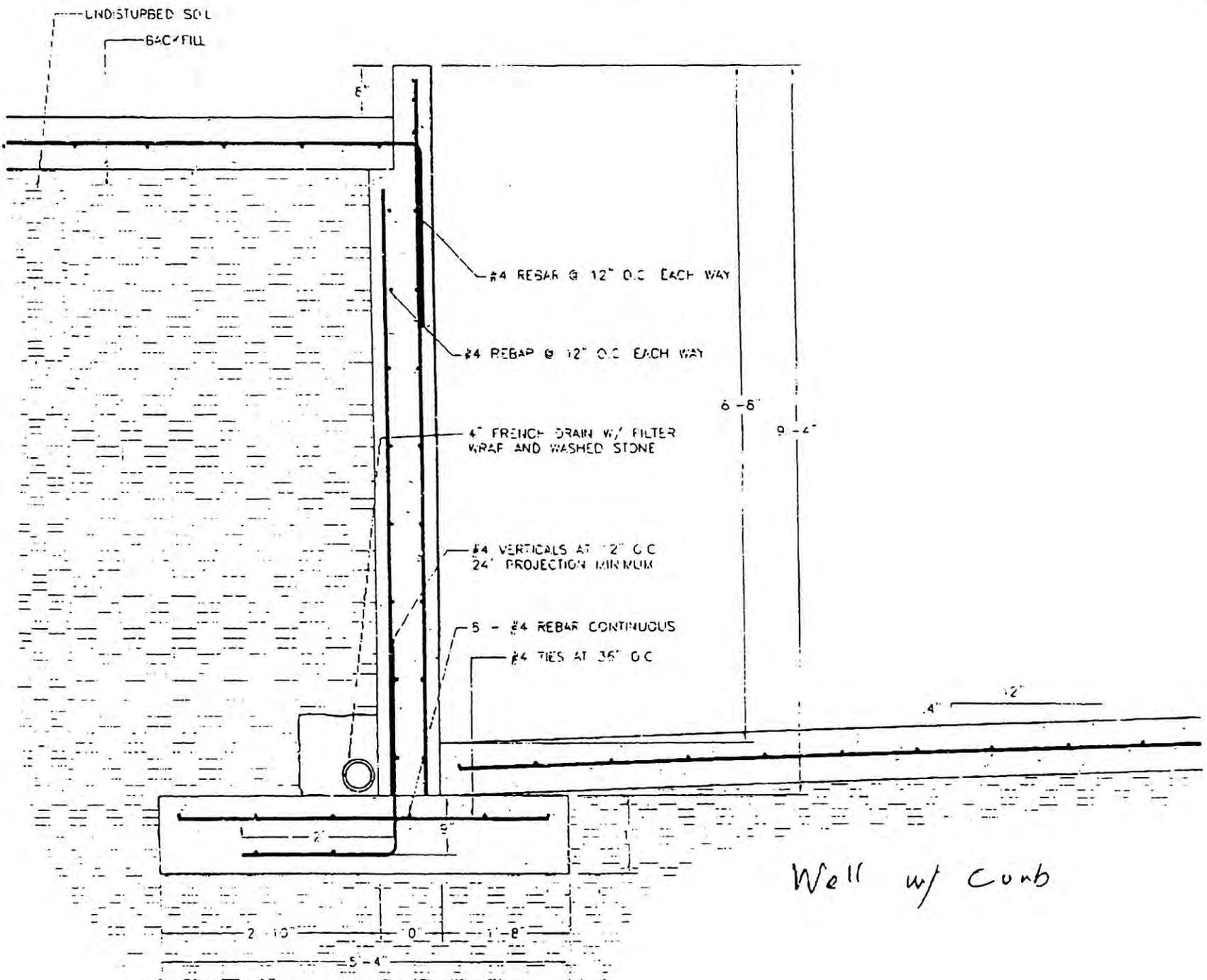
C.G. MAYER will only be responsible for digging footing, and fine grading of floor slabs in this quote
All other grading by owner

Water proofing as described in quote
All concrete to be 3000-PSI.



PAGE 01

03/16/2004 13:09



Well w/ Curb

Appendix F

New Compost Turner and New Grinder



N 40 Inc.
P.O. Box 1330
Rockwell, NC 28138
Phone: (336) 499-5881
Fax: (336) 499-5882
Web: www.n40compost.com

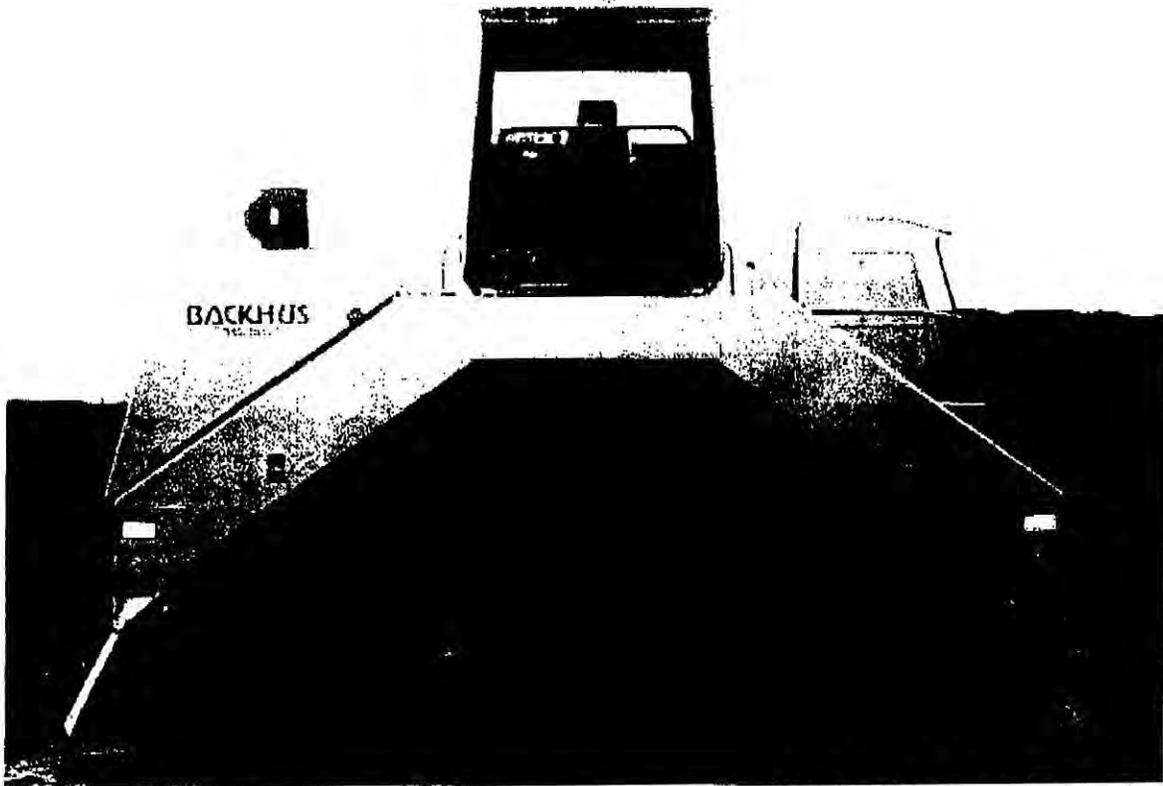
October 4, 2006

Mr. Eric Wallace
Wallace Farm
14410 Eastfield Road
Huntersville, NC 28078

New BACKHUS 17.50 *New series*
Compost Turner on Crawler Tracks for Windrows

- Windrow Width up to: 16 ft
- Windrow Height up to: 7.2 ft
- Windrow Cross-Section up to: 7.4 yd² per meter (bulk, angle approx. 45°)
- Area Utilization: 1.24 yd³/yd
- Track-Clearing Width: 2 x 1 ft
- Track-Clearing Share: 1.6 % of heap cross-section
- Grain Size up to: 12"
- Speed: 0 – 160 ft/min, steplessly controllable (backwards and forwards)
- Turning Capacity: up to 4,000 yd³/h
- Standard Engine: 6 cylinder Cummins turbo diesel
- Standard Engine: QSC 8.3-C 280 (water-cooled) certified according to Tier III
- Nominal Capacity: 280 hp at approx. 2,200 RPM
- Maximum Capacity: 300 hp at approx. 2,000 RPM
- Standard Cubic Capacity: 8.3 Liter
- Full Load Torque: 1,000 Ft. Lbs at 1,500 RPM
- Fuel Tank: 98 Gallon
- Power Supply: 24 volt, 2x12 V batteries each 143 Ah
three-phase alternator 70 A

- Standard Drum Diameter: 39"
- Number of Drum: 56
- Number of Drum Rakes: 8
- Dimensions in Working Position:
 - Depth: 15.7 ft
 - Width: 14.5 ft
 - Height: 14.8 ft
- Dimensions in Transporting Position:
 - Depth: 8.4 ft
 - Width: 23.5 ft
 - Height: 10 ft
 - Track width: 15.5 ft

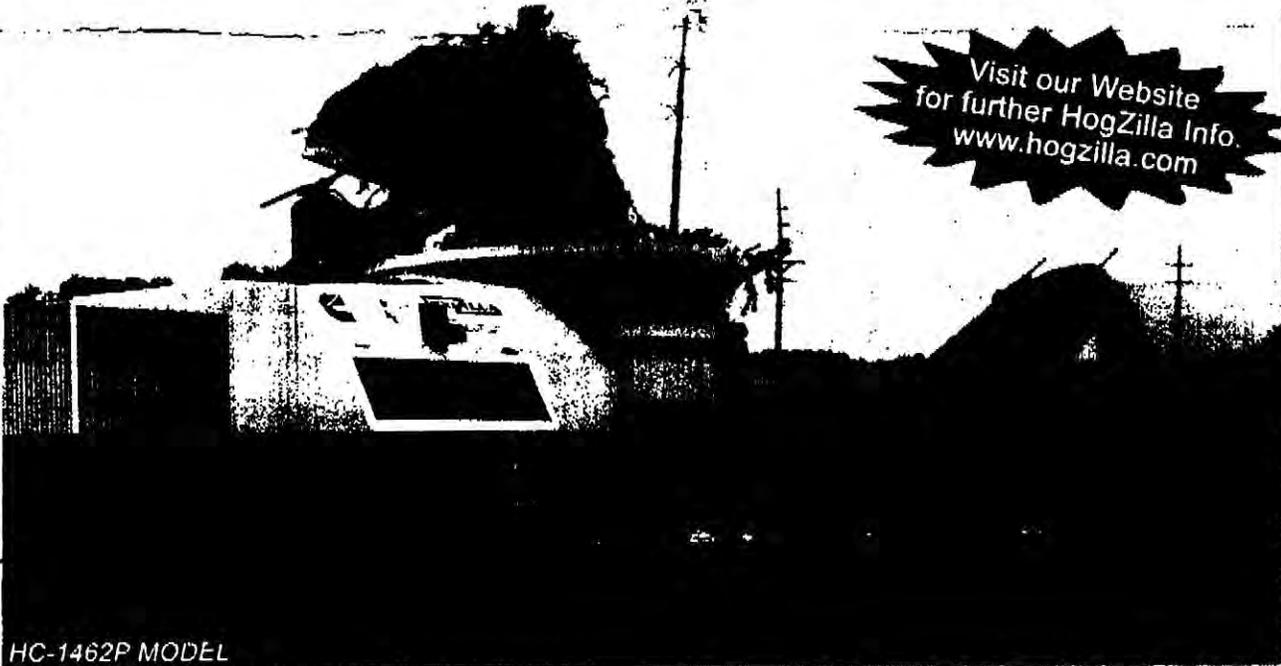


Engineering changes are subject to alteration

HOGZILLA

HC-1462P MODEL

INDUSTRIAL GRINDERS



HC-1462P MODEL

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HOGZILLA HC SERIES



HTC-1464T MODEL



HTC-1464T MODEL
W/ OPTIONAL TIRE
GRINDING PACKAGE

The HC series grinders are built to be the most reliable high capacity grinders in their class. You can expect maximum production at the end of the day, be it acres, tons, or yards of material being ground. At 750 to 1050 horsepower and 88,000lbs., they can handle your toughest jobs and last for years doing it. The power is delivered to the hammermill by a Hydraulic Coupling or an optional Torque Converter which multiplies the engine torque to the hammermill for even greater production. The HC series is available in fifth-wheel portable, self-loading, & track driven models.

Appendix G
Odor Response Form

Wallace Farm

Odor Response Form

Date of complaint: _____ Time of complaint: _____

Location of complaint: Sub-Division: _____ Village: _____
Complainant Name: _____
Address: _____
Phone #: _____

Complaint received by: Wallace Farm _____ (name)
 Mecklenburg County _____ (name)
 NCDENR _____ (name)

Date of response: _____ Time of response: _____

Who responded: Wallace Farm _____ (name)
 Mecklenburg County _____ (name)

Was any type of odor detected: yes no
Was a normal compost odor noted: yes no
Was an objectionable odor noted?: yes no Rate odor: 1(mild) – 10 (extreme) _____
Does there appear to be an odor problem?: yes no

Warning issued by county inspector: yes no
N.O.V. issued by county inspector: yes no

Was a compost facility manager notified? yes no Manager name: _____
Date: _____
Time: _____

Was an objectionable odor detected at the compost facility: yes no
What is the source of the odor? windrows receiving area
 windrow turning water collection
 other: _____

Describe corrective action taken: _____

Was the problem corrected? yes no
Is a weather data attached for the day and time the complaint was received? yes no

RULE .1406 (a)(1) ONE-FOURTH MILE MAP REQUIREMENTS
 (A) ENTIRE PROPERTY OWNED OR LEASED BY THE PERSON PROPOSING THE FACILITY.
 ENTIRE PROPERTY IS SHOWN.
 (B) LOCATION OF ALL HOMES, WELLS, INDUSTRIAL BUILDINGS, PUBLIC OR PRIVATE ROADS, WATERCOURSES, DRY RUNS, AND OTHER APPLICABLE INFORMATION REGARDING GENERAL TOPOGRAPHY WITHIN 600 FEET OF THE PROPOSED FACILITY.
 APPLICABLE FEATURES CAN BE SEEN ON THE AERIAL PHOTOGRAPH.
 (C) LAND USE ZONING OF THE PROPOSED SITE.
 PROPERTY IS ZONED R-3



1/4-MILE MAP

RULE .1406 (a)(2) SITE PLAN REQUIREMENTS
 (A) EXISTING AND PROPOSED CONTOURS
 EXISTING CONTOURS ARE SHOWN, NO NEW CONTOURS ARE PROPOSED.
 (B) LOCATION AND ELEVATIONS OF DIKES, TRENCHES, AND OTHER WATER CONTROL DEVICES AND STRUCTURES FOR THE DIVERSION AND CONTROLLED REMOVAL OF SURFACE WATER.
 PERTINENT FEATURES OF THE SURFACE WATER DIVERSION AND REMOVAL SYSTEM ARE SHOWN.
 (C) DESIGNATED SETBACKS AND PROPERTY LINES
 SETBACKS FROM THE PROPERTY LINE ARE SHOWN. FUTURE COMPOST AREAS SHALL OCCUR WITHIN THE ILLUSTRATED 100-FT SETBACK. FUTURE CONFIGURATION MAY VARY WITHIN THE SETBACK.
 (D) PROPOSED UTILITIES AND STRUCTURES
 NO NEW UTILITIES OR STRUCTURES ARE PROPOSED.
 (E) AREAS FOR UNLOADING, PROCESSING, ACTIVE COMPOSTING, CURING, AND STORING OF MATERIALS.
 OPERATIONAL AREAS ARE SHOWN.
 (F) LAND USE ZONING OF THE PROPOSED SITE.
 PROPERTY IS ZONED R-3



SITE PLAN

NOTE: AERIAL PHOTOGRAPHY AND TOPOGRAPHY FROM MECKLENBURG COUNTY GIS, DATED 2014.

REVISION	DATE
1)	
2)	
3)	
4)	

GARRETT & MOORE
 Engineering for the Power and Waste Industries

1100 CRENSHAW GREEN DRIVE
 SUITE 200
 DARY, NORTH CAROLINA 27616
 TEL: 919-798-1800
 FAX: 919-791-7000
 www.garrett-moore.com

**WALLACE FARM - HUNTERSVILLE SITE
 LARGE TYPE 3 COMPOST FACILITY**

1/4-MILE MAP AND SITE PLAN



JOB NUMBER
 SHEET
 1

Plot: V:\Wallace Farm\Huntersville\GIS DATA\GIS data-rev 4.dwg Plot Date/Time: Thu Oct 2 2014 / 13:20:51