

**FACILITY COMPLIANCE AUDIT REPORT**  
**Division of Waste Management**  
**Solid Waste Section**

UNIT TYPE:											
Lined MSWLF		LCID		YW		Transfer		Compost	<input checked="" type="checkbox"/>	SLAS	<b>COUNTY: Chatham</b> <b>PERMIT NO.: 19-05</b> <b>FILE TYPE: Compliance</b>
Closed MSWLF		HHW		White goods		Incin		T&P		FIRM	
CDLF		Tire T&P / Collection		Tire Monofill		Industrial Landfill		DEMO		SDTF	

Date of Audit: April 8, 2011Date of Last Audit: April 6, 2010**FACILITY NAME AND ADDRESS:**

Brooks Farm Composting Facility  
 1195 Beal Road  
 Goldston, North Carolina 27252

**GPS COORDINATES: N: 35.5470 E: -079.3697****FACILITY CONTACT NAME AND PHONE NUMBER:**

Dean Brooks: (919) 837-5914  
 Alan Brooks: (919) 842-0010

**FACILITY CONTACT ADDRESS:**

(same)

**AUDIT PARTICIPANTS:**

Robert Hearn, Solid Waste Section  
 Alan Brooks, Site Manager, Brooks Farm  
 Dean Brooks, Owner/Operator, Brooks Farm  
 Amy Brooks, Office Manager, Brooks Farm

**STATUS OF PERMIT:**

Permit Issued: September 22, 1999  
 Permit Amended (renewal): August 2, 2004  
 Permit Amended (renewal): January 22, 2010  
 Permit Expires: January 22, 2015

**PURPOSE OF AUDIT:**

Comprehensive audit

**NOTICE OF VIOLATION:**

(none)

You are hereby advised that, pursuant to N.C.G.S. 130A-22, an administrative penalty of up to \$5,000 per day may be assessed for each violation of the Solid Waste Statute or Regulations. If the violation(s) noted here continue, you may be subject to enforcement actions including penalties, injunction from operation of a solid waste management facility or a solid waste collection service and any such further relief as may be necessary to achieve compliance with the North Carolina Solid Waste Management Act and Rules.

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#### STATUS OF PAST NOTED VIOLATIONS:

(none)

#### AREAS OF CONCERN AND COMMENTS:

1. Brooks Farm Composting Facility, owned and operated by Dean and Judy Brooks, is permitted as a Large Type 3 composting facility. The facility accepts numerous wastes as compost feedstocks and produces compost and soil mixes. It receives an average of approximately 5,500 tons of waste per month, according to the Facility Annual Report submitted for the period of July 1, 2009 to June 30, 2010. Facility hours of operation are Monday through Friday from 7:00 a.m. until 5:00 p.m., and from 8:00 a.m. until 12:00 p.m. on Saturday. Inspected facility operations accompanied by Mr. Alan Brooks. Facility operations appeared to be consistent with the Permit and the approved Operations Plan.
2. Operational phases at this facility include receiving, bulking and incorporation, high-rate-decomposition (active composting), stabilization, refining, curing, and quality control. Facility composting windrow operations are chiefly conducted on two areas of the site, based on the type of waste being composted: eggshell/food ('eggshell') waste and bulked material/food ('bulking pit') waste. Another area of the site is used as a food-waste processing area, where food wastes are stabilized and partially-composted prior to being added to the active composting windrows.
3. Observed that all putrescible, odorous, and liquid waste materials are carefully managed upon receipt at the facility to minimize odors, vectors and overheating prior to being incorporated into windrows. Other, more stable feedstock waste materials, including leaves, sawdust, animal bedding, recycled paper and cardboard, and processed yard waste ('mulch') are utilized for bulking less-stable wastes in the bulk-mixing ('bulking') pit, the food-waste processing area, and the composting windrows.
4. Observed liquid waste processing in the 'bulking pit' area. Observed that liquid waste in the concrete bulking pit was mixed, using a bucket machine, with appropriate organic feedstocks, which serve to absorb liquids and produce a material that can be managed in the composting windrows. Observed that bulked waste material from the bulking pit was piled on a concrete pad adjacent to the pit. This bulked waste is allowed to drain for a period of several hours or days, as needed, until free liquids cease to drain from the pile. Runoff from the concrete pad is collected there by a drain system and returned to the bulking pit. Alternately, runoff liquid captured by the drain can be diverted to nearby, concrete settling vaults, from which it later can be pumped and reused in the bulking pit or applied in an appropriate manner to composting windrows.
5. Observed delivery of a load of food waste to the bulking pit area, where it was promptly placed in the pit and bulked prior to being moved to the food-waste-processing area. Once moved to that area, the bulked food waste is covered with leaves and/or compost for several hours or days as needed to allow the waste to "soften". Next, the bulked food waste is placed in a small windrow for approximately two weeks so to allow for partial composting prior to being incorporated into the active-composting windrows.
6. Observed that a load of eggshell waste which had recently been delivered to the facility's eggshell windrow area was promptly covered with partially-composted food waste to control odors (as part of the facility's Odor Control Plan) and vectors and absorb runoff. Mr. Brooks explained that the partially-composted food waste has proven to be a very good 'biofilter' material for controlling odors from especially-putrescible wastes such as eggshell and food waste.
7. Mr. Brooks explained that following placement of wastes in the windrow areas, the windrows are constructed using a bucket loader and are bulked by addition of appropriate amounts of compost and various stable organic feedstocks; this not only provides a source of carbon to facility proper composting, but also helps to control odors and vectors. He further explained that constructed windrows area then covered by partially-composted food waste or other organic wastes as part the Odor Control Plan. Observed only a minimal amount of odors or liquid runoff from recently-constructed windrows.

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8. Observed a windrow-turning machine turning windrows in the eggshell composting area. Mr. Brooks said that composting windrows are periodically turned to homogenize composting wastes and to facilitate thorough heating and composting of the windrowed materials. Mr. Brooks further explained that, to stabilize the composting process and minimize odors, windrows are continually monitored for desired temperature and moisture levels, and are managed by turning and addition of moisture as needed to achieve thorough composting of the waste materials.

9. Mr. Brooks explained that, to satisfy Permit and Operational requirements that active composting be a process to further reduce pathogens (PFRP) and achieve vector attraction reduction (VAR), the windrows are managed to maintain compost temperatures above 131° F for a minimum of fifteen days, during which time the windrows are turned at least five times. He explained that, on average, about 130 days are needed for thorough composting of an 'eggshell' windrow and about 110 to 140 days for thorough composting of a 'bulking pit' windrow. The PFRP and VAR requirements are documented to be met toward the end of the composting period.

10. Active-composting windrows across the site were observed to be in good shape. Windrows were found to be properly located and oriented and of appropriate size, with adequate spacing between windrows for operation of equipment. Windrows appeared to be well-maintained.

11. Observed minimal runoff from composting operations at the facility; a very minimal amount of runoff drained from the composting-windrow, food-waste, and curing-pile areas. Observed that drainage ways, including a perimeter ditch around the operational area, adequately channel runoff to a series of drainage shallow silt basins located along a natural swale near the center of the composting areas. Observed that the basins allow for settling of silt and other solids contained in runoff; wood-mulch barriers on the lower end of the basins serve to partially filter liquid passing through the basins. Liquid moving from the basins is flows into the facility's containment pond.

12. Observed that surface runoff, including leachate, is contained on site by a large containment pond. The NPDES Stormwater Permit for Brooks Farm Composting Facility was rescinded on April 14, 2009 by the NCDENR Division of Water Quality, thus no discharge of water from the containment pond is allowed at this time. Brooks Farm (as 'Brooks Contractor') has a "deemed-permitted" Pump-and-Haul system from the Division of Water Quality for removal of water from the retention pond, and has been granted approval from the Town of Siler City to discharge wastewater at the Siler City Wastewater Treatment Plant.

Mr. Brooks explained that the volume of wastewater in the containment pond is controlled by applying it to the active-composting windrows, where regular addition of moisture is needed to prevent elevated temperatures. He said that because the windrows consume very large amounts of moisture, this method utilizes enough wastewater maintain a satisfactory water level in the pond, and precludes the need to haul it for treatment at the Wastewater Treatment Plant. Mr. Brooks said that no wastewater is applied to the windrows after the PFRP and VAR requirements are met.

13. Observed screening of compost by specialized equipment prior to its placement in the curing pile area. Larger-sized compost material (known as "overs") that do not pass through the screens is stockpiled for re-use in the active-composting windrows. No runoff or excessive dust was observed in the screening area.

14. Inspected the curing pile area of the site, which consists of three large piles of compost. Mr. Brooks explained that curing further stabilizes the compost and helps dissipate odors from the compost. Observed that the curing piles appeared to be of appropriate height. Minimal runoff was observed draining from the curing piles. Also observed screening of compost by specialized equipment prior to placement in the curing piles.

15. The facility utilizes Green Mountain Technologies computer software and monitoring equipment for temperature and moisture monitoring and of compost windrows. Inspected printout records of data collected from "eggshell" and "non-eggshell" windrows during the past year. Observed that this data demonstrates that PFRP and VAR temperatures, turning frequencies, and holding times for each active-composting windrow were achieved.

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16. Inspected waste and feedstock analysis reports and compost analysis reports and found them to be present and in order. The facility permit, operations plan, and safety plan were also present and in order.

17. Discussed with Mr. Brooks the feedstocks that are currently accepted for composting at this facility, which include: eggshell waste, dairy waste, brewer's yeast/water, grease-trap waste, PEG wastewater, sugar water, glycerin/oil, food waste, yard waste (mulch), leaves, sawdust/shavings, animal bedding, and recycled paper and cardboard. Observed receipt and proper management of eggshell waste and food waste loads received at the facility at the time of inspection.

18. Inspected and found satisfactory the compost analysis reports from testing of finished compost materials; testing is conducted by the NCDA&CS Agronomic Lab as well as by A&L Laboratories. Also discussed analysis of waste feedstocks, which is conducted prior to initial acceptance of feedstock wastes, and thereafter as needed due to changes in composition of the wastes.

19. The entrance to the facility property is monitored around-the-clock by facility staff that work and reside on the property. The entrance to the composting area can be secured by blocking with heavy equipment in the event that no operator is present on site.

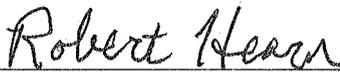
20. Observed that the facility access road and interior service roads are maintained with gravel cover and are graded to manage runoff.

21. Upon arriving at the facility, observed a tank truck applying water to facility roads for dust suppression.

22. Observed that adequate space exists between windrows and around curing piles to allow for access by equipment in case of emergency. Heavy equipment, irrigation equipment, and fire-suppression materials are present on site for use in fighting fires.

23. Observed signs in place at the entrance to the facility stating hours of operation and the facility-contact telephone number. Also observed sign at scale house noting wastes prohibited from acceptance at the facility.

Please contact me if you have any questions or concerns regarding this audit report.



Robert Hearn

Waste Management Specialist

*Regional Representative*

Phone: (919) 508-8525

cc: Mark Poindexter, Field Operations Branch Supervisor  
Jason Watkins, Central District Supervisor  
Michael Williams, Solid Waste Section Chief  
Shawn McKee, Compliance officer

Delivered on: 4/18/10	by		Hand delivery	X	US Mail	Certified No.
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