



FACILITY COMPLIANCE INSPECTION REPORT
Division of Waste Management
Solid Waste Section

UNIT TYPE:											
Lined MSWLF		LCID		YW		Transfer		Compost	X	SLAS	COUNTY: Chatham PERMIT NO.: 19-06 FILE TYPE: COMPLIANCE
Closed MSWLF		HHW		White goods		Incineration		T&P		FIRM	
CDLF		Tire T&P / Collection		Tire Monofill		Industrial Landfill		DEMO		SDTF	

Date of Site Inspection: January 26, 2015

Date of Last Inspection: February 24, 2014

FACILITY NAME AND ADDRESS:

M^cGill Environmental Systems of NC, Inc. – Merry Oaks Facility Large, Type 4 SWC Facility
 634 Christian Chapel Church Road
 New Hill, NC 27562

GPS COORDINATES: N: 35.63591 E: -79.00802

FACILITY CONTACT NAME AND PHONE NUMBER:

Steve Cockman, Operations Manager
 w. 919-362-1161
 c. 919-542-8903
 f. 919-362-1141
scockman@mcgillcompost.com

FACILITY CONTACT ADDRESS:

Steve Cockman, Operations Manager
 M^cGill Environmental Systems of NC, Inc. – Merry Oaks Facility
 634 Christian Chapel Church Road
 New Hill, NC 27562

PARTICIPANTS

John Patrone, Environmental Senior Specialist - Solid Waste Section (SWS)
 Steve Cockman, Operations Manager - M^cGill Environmental Systems of NC, Inc. – Merry Oaks Facility

STATUS OF PERMIT:

Permit To Operate (PTO) issued February 24, 2014
 PTO expiration date December 8, 2015

PURPOSE OF SITE VISIT:

Comprehensive Inspection

STATUS OF PAST NOTED VIOLATIONS

None

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OBSERVED VIOLATIONS

None

The item(s) listed above were observed by Section staff and require action on behalf of the facility in order to come into or maintain compliance with the Statutes, Rules, and/or other regulatory requirements applicable to this facility. Be advised that pursuant to N.C.G.S. 130A-22, an administrative penalty of up to \$15,000 per day may be assessed for each violation of the Solid Waste Laws, Regulations, Conditions of a Permit, or Order under Article 9 of Chapter 130A of the N.C. General Statutes. Further, the facility and/or all responsible parties may also 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.

ADDITIONAL COMMENTS

On January 26, 2015, John Patrone met with Steve Cockman to conduct a comprehensive inspection of the M^cGill Environmental Systems of NC, Inc. – Merry Oaks Facility Large, Type 4 SWC Facility on Christian Chapel Church Road in New Hill, Chatham County.

1. The facility is a Large, Type 4 Solid Waste Compost (SWC) Facility. It produces compost from industrial and municipal residuals and sludges, grease trap waste, and food and agribusiness wastes and from a variety of bulking agents: ash, yard waste, wood mulch, tobacco waste, and sawdust.
2. Approval from the SWS – Permitting Branch shall be obtained prior to acceptance of additional materials.
3. Contact Donna Wilson, Permitting Engineer – SWS, at 919-707-8255 to obtain approval to accept gypsum.
4. The facility permit, site plan, and operations plan were discussed.
5. Material is received from counties within North Carolina.
6. Compost is sold in bulk to landscape supply businesses, grading companies, and to the agribusiness community.
7. The facility is in operation Monday through Friday 8:00 am to 5:00 pm and Saturday 8:00 am to noon.
8. Active composting is conducted within the facility building. Feedstocks are off-loaded into a mixing and bulking pit. Bulking material, stored outside, is brought into the pit through a bay door. Mixed material is stockpiled within the pit area until enough is on-hand to fill an active compost bay. The material is placed in positive aeration bays to meet process to further reduce pathogens (PFRP). When the material has met PFRP it is screened, by a dedicated screener located within the building, and placed in a triple-wide bay (maximum pile height: 10') to meet vector attraction reduction (VAR).
9. Material removed from the active compost bays awaiting VAR that has not been screened is stockpiled in the building within the open to the weather/area not under cover. This area can store a maximum of 10,000 yd³ of material (maximum: 15' high @ 60% floor coverage).
10. Mr. Cockman stated that ~ 50 percent of the material that has met VAR is returned to the mixing and bulking pit (this includes overs from the screening process) to aid the active compost process.
11. Material is considered cured after meeting VAR. Cured product is screened by a dedicated screener. The screener and feed-hopper are located within the building. The screened material deposits outside on a concrete pad.
12. Mr. Cockman stated that at certain times of the year material that has met VAR and has not been screened is stockpiled outside in operational areas until needed/ready to be screened.
13. Screened compost is considered finished product. Finished product is stockpiled outside in storage bays constructed of large concrete block.
14. The facility has 10 individual active compost bays (Nos.: 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19) and a curing area constituting what would be three bays (Nos.: 21, 23, and 25).
15. Each bay has a dedicated positive aeration fan (three fans in the curing area).
16. An active compost bay is constructed with a layer of wood chip, seven feet of material to be composted, and one foot of finished compost along the front of the pile, facing the open end of the bay.
17. A front end loader combines materials in the mixing and bulking pit and transfers it to the active compost bays. When material has met PFRP it is removed by a second front end loader to be screened and then transferred to the curing area to meet VAR.

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18. Mr. Cockman stated that each front end loader is dedicated to a prescribed operation and if secondary use is required the bucket is decontaminated.
19. Each active compost bay is enclosed on three sides and has a reinforced polyethylene laminate tarp that remains in-place across the open portion of the bay. The mixing and bulking pit bay door and entranceway to the corridor, from the mixing and bulking pit to the active compost bays, have the same reinforced polyethylene laminate tarps; which are raised-up during facility operation and drawn-down afterhours.
20. The mixing and bulking pit, active compost bays, and curing area exhaust fans route to a biofilter located outside, adjacent to the building.
21. There are six biofilters, each containing five twelve-inch perforated plastic pipes. The biofilters are constructed atop a clay ash pad followed by an initial layer of wood chip, [the] perforated pipe, a layer of compost, and a second layer of wood chip. The area allotted for the biofilter is ~ 400' x 110'.
22. Mr. Cockman stated that the biofilter media for the PFRP bays was replaced in August 2013 and the biofilter media for the VAR bays and the mixing and bulking pit were replaced in May/June 2012.
23. Maintenance pathways (areas that do not contain filter media) stretch throughout the biofilters. Each biofilter is ~ 40' wide and each maintenance pathway is ~ 40' wide. The total biofilter area is ~ 26,400 ft² [and 3.5'high] and the total maintenance pathway area is ~ 17,600 ft². The biofilter volume is ~ 92,400 ft³ or 3,422.2 yd³.
24. Active compost bay groups: Nos.: 1, 3 and 5, Nos.: 7 and 9, Nos.: 11 and 13, and Nos.: 15, 17, and 19 each exhausts through a manifold to one of four biofilter units. The mixing and bulking pit exhausts to a dedicated biofilter unit and the curing area exhausts to a dedicated biofilter unit.
25. There are a total of 19 fans: 13 positive aeration and 6 negative aeration (PFRP, VAR, mixing and bulking pit, and biofilter).
26. High carbon nitrogen ratio bulking material is stored outside behind the building. Clean wood and yard waste are ground ~ every 4 to 6 weeks. A portable grinder is brought on site to grind the material. Mr. Cockman stated that there is currently ~ 1,000 tons of bulking material on site.
27. The facility building is ~ 112,500 ft². Rainwater that enters the building through the open to the weather/area not under cover is primarily absorbed by the stockpile of material awaiting VAR. The vehicle corridor contains a layer of mulch/compost to absorb leachate that occurs. The mulch/compost in the vehicle corridor is routinely changed-out. The material removed is incorporated into the mixing and bulking pit.
28. The facility has a 110,000 gallon sludge aboveground storage tank (AST). Mr. Cockman stated that absorbent material is on-hand in case of emergency and that bagged sand and hydrated lime is kept in a shipping container stored on site. The facility no longer pumps sludge into the AST, it only removes it. Mr. Cockman estimates that there is 10,000 gallons of sludge in the AST and that it will be empty in 1 year. At that time the AST will no longer be used. Sludge is off-loaded directly into the mixing and bulking pit.
29. Stockpiling of feedstocks and finished product shall be limited to 50' in width x 30' in height.
30. The facility operational capacity is limited to 151,200 tons of materials composted per year. The tonnage limit includes all feedstocks, amendments, and recycled material.
31. A vehicle scale test was conducted by the NC Department of Agriculture & Consumer Services on September 23, 2014. The result stated: needs service [repair] within 10 days.
32. A vehicle scale repair was conducted by Central Carolina Scale, Inc. on September 29, 2014. The result stated: tested good.
33. A vehicle scale test was conducted by Central Carolina Scale, Inc. on September 30, 2014. The result stated: no error.
34. The facility maintains throughput records. The amount and type of material received was verified for 2014. The facility received 79,860.45 tons of material: 62,396.99 tons of feedstock and 17,463.46 tons of bulking material. The amount of compost created is 99,814 yd³. The amount sold is 91,314 yd³. The amount of cured compost on site is 8,500 yd³.
35. The facility annual report (FAR) was received by the SWS dated July 14, 2014. Facility throughput for July 2013 through June 2014 is 84,161.02 tons. The amount of compost produced is 34,112.67 tons. The amount sold and given away is 34,111.67 tons and the amount stockpiled is 2,500 tons.

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36. The facility produces Grade A compost. An information pamphlet is provided for customers in the office and on-line material is available at the facility website: www.mcgillcompost.com. The customer product manifest has a caution note for proper use.
37. Compost bay temperature records for PFRP and VAR were verified for 2014.
38. Mr. Cockman stated that material placed in the curing area to meet VAR is placed in rows and kept separate from one another (the middle area left open/unfilled).
39. The facility uses a program from the University of Maine to monitor bulk density and C:N ratio. Moisture content is verified by hand per the facility operating manual, page 32. Bulk density and C:N ratio is calculated via weekly feedstocks tonnage received and percent added bulking materials. Records for 2014 were verified.
40. The facility obtains samples for analysis from screened cured compost. The material sampled is kept separate from compost stored for sale.
41. The facility has total metals analysis conducted by Pace Analytical Services, Inc. in Eden, NC. Records were reviewed for material collected on May 19, 2014. Results are pending for material collected on December 19, 2014.
42. The facility has routine total metals, pathogen (fecal coliform and salmonella), Total Nitrogen, and manmade inerts analysis conducted by Soil Control Lab in Watsonville, CA. Records were reviewed for January 7, February 10, March 7, April 4, June 9, July 3, August 7, September 10, and December 8, 2014. The analysis results are provided to the facility through the US Composting Council.
43. When pathogen analysis is conducted, if fecal coliform and salmonella are tested, both select pathogens must pass/be within respective required limit.
44. If a select pathogen fails/is not within respective required limit a second pathogen analysis must be conducted within seven calendar days. Only compost that passes/is within respective required limit shall be distributed to the public.
45. The facility shall maintain records of additional pathogen analysis conducted for test result verification and a written log tracking the retested product.
46. The facility has a 20,000 gallon water tank available for yard maintenance and fire prevention.
47. The facility has a water tank trailer used for dust control.
48. Mr. Cockman stated that there has not been an odor complaint.
49. During the inspection there was no odor detected at the facility boundary.
50. The facility has a stormwater discharge National Pollutant Discharge Elimination System General Permit NCG240000, Certificate of Coverage NCG240005, effective 08/13/12 – expiration 09/30/16.
51. The facility has three stormwater ponds. The stormwater ponds appeared in good order.
52. Ensure stormwater does not accumulate at the basin inlet of pond No.1. It is suggested that compost that has accumulated on the ground in the area be removed, the check dam reconfigured such that stormwater is not retained, and stockpiled material be reconfigured after a rainfall event.
53. On January 27, 2015, Mr. Cockman emailed Mr. Patrone stating that their grading contractor will excavate the area and conduct maintenance on the stormwater basin inlet.
54. The operational area (outside of the building) should be maintained such that water does not pond in tire ruts, etc.
55. There was no indication of erosion or runoff.
56. All leachate from the compost process shall remain in the building.
57. The facility roof that is over the curing area and compost screener has been removed due to storm damage in early 2014. Currently, the facility conducts the curing operation within the building in the storage area that is open to the weather/area not under cover. A berm of absorbent material (cured compost) is placed at the open-end of the building to prevent leachate from leaving the building.
58. Mr. Cockman stated that the roof is expected to be repaired by late spring 2015 and that the curing operation will move back to its previous location. The SWS – Permitting Branch is aware of the planned facility building repairs and current facility operation.

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- 59. The facility has installed six positive aeration fans (the seventh has not been installed to date) to assist with regulating material moisture in the storage area that is open to the weather/area not under cover. This area constitutes what would be bay Nos.: 2, 4, 6, 8, 10, 12, and 14.
- 60. The SWS – Permitting Branch is aware of the facility building upgrades.
- 61. An emergency at the facility can be addressed by the Moncure Fire Department.
- 62. The facility has proper signage.
- 63. Access roads are of all-weather construction.
- 64. The facility is secured by a locked gate.
- 65. The PTO expiration date is December 8, 2015.
- 66. The PTO renewal application shall be submitted to the SWS by August 8, 2015.

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

Phone: 336-776-9673

John Patrone, Environmental Senior Specialist
Division of Waste Management, NCDENR

Sent on: <u>January 28, 2015</u>	X	Email		Hand delivery		US Mail		Certified No. []
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Electronic Copies: Deb Aja, Western District Supervisor - SWS
Sarah Rice, Compliance Officer - SWS
Tony Gallagher, Composting & Land Application Branch Head - SWS
Donna Wilson, Permitting Engineer - SWS
Liz Patterson, Environmental Technician - SWS
M. Noel Lyons, President - McGill Environmental Systems of NC, Inc.
(nlyons@mcgillcompost.com)

Digital pictures taken January 26, 2015
by John Patrone, DWM – SWS

Mixing and bulking pit



PFRP bays (right side) and temporary compost berm



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Area of building open to the weather/area not under cover, temporary curing area – VAR dedicated screener



Curing area – not currently used, roof to be constructed



Compost screener – roof to be constructed (screener and feed-hopper to be within building), w/pic of compost berm



Yard waste/bulking material



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Biofilter (one of six rows of media)



Left side of building – where curing area roof is to be constructed



Left side of building (fans for PFRP, VAR, mixing and bulking pit, and biofilter)



Right side of building – newly installed fans (area open to the weather/area not under cover)

