

RCRA Inspection Report

1) Inspector and Author of Report

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U.S. Environmental Protection Agency, Region 4
Enforcement and Compliance Assurance Division
Chemical Safety and Land Enforcement Branch
RCRA Enforcement Section
61 Forsyth Street, S.W.
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2) Facility Information

University of North Carolina
at Chapel Hill
1000-A Estes Drive Extension
UNC Buildings 488 and 531
Chapel Hill, North Carolina 27599-1650

EPA ID No.: NCD982093783
NAICS #: 611310 – Colleges, Universities, and
Professional Schools

3) Responsible Official

Catherine Brennan
Executive Director
Environment, Health & Safety (EHS)
crbrennan@ehs.unc.edu

4) Inspection Participants

Catherine Brennan, University of North Carolina at Chapel Hill
Adam Postyn, University of North Carolina at Chapel Hill
Doug Benjamin, University of North Carolina at Chapel Hill
Aram Kim, North Carolina Department of Environmental Quality (NCDEQ)
William Kappler, U. S. Environmental Protection Agency, Region 4

5) Date of Inspection

May 15, 2024, at 9:17 a.m.

6) Applicable Regulations¹

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; The North Carolina Solid Waste Management Law, N.C.G.S. § § 130A-17 to -28 and 130A-290 to - 310.22, and North Carolina Hazardous Waste Management Rules, 15A NCAC 13A .0101 to .0119; and Hazardous Waste Permit NCD982093783-R2.

Pursuant to 15A NCAC 13A .0102(b) [40 C.F.R. § 260.10], a large quantity generator of hazardous waste (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 pounds) of non-acute hazardous waste in a calendar month.

¹ As the State's authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions will be to the authorized State program. However, for ease of reference, the federal citations will follow in brackets.

Pursuant to 15A NCAC 13A .0119(a) [40 C.F.R. § 273.9], a small quantity handler of universal waste (SQHUW) is a universal waste handler who does not accumulate 5,000 kilograms or more of universal waste (batteries, pesticides, mercury-containing equipment, lamps, or aerosol cans, calculated collectively) at any time.

7) Purpose of Inspection

The purpose of this inspection was to conduct a joint unannounced compliance evaluation inspection to determine the University of North Carolina at Chapel Hill hereinafter, (“UNC” or the “facility”) compliance with the conditions of its RCRA Hazardous Waste Facility Operating Permit (NCD982093783-R2), the applicable requirements of RCRA and the corresponding North Carolina Department of Environmental Quality (NCDEQ) regulations. This was an EPA lead inspection.

8) Facility Description

The UNC’s Main Campus generates hazardous waste at various research and teaching labs. Hazardous wastes are also generated in pharmacies and clinics operated by the various processes located in the UNC Health Care System.

The hazardous waste generated from The UNC’s Main Campus is transported (via hazardous waste manifest) to the UNC’s Hazardous Waste Materials Facility (HWMF). The HWMF is a permitted storage facility at 1080 Estes Drive Extension, Chapel Hill, North Carolina. The HWMF includes Buildings 488 and 531. The current hazardous waste operating permit for the storage facility became effective on September 26, 2016, and expires on September 26, 2026.

Building 488 has a container unloading/loading dock, a consolidation room, and a liquid waste bulking and neutralization area. Building 531 has a container unloading/loading dock, a flammable storage room, nine hazardous waste storage bays, and non-hazardous waste storage areas. According to the most recent generator notification submitted to the North Carolina Department of Environmental Quality (NCDEQ), the UNC-Main Campus (the largest contributor of hazardous wastes shipped to the HWMF) is registered as a large quantity generator of hazardous waste.

9) Previous Inspection History

UNC was inspected by the NCDEQ and by the EPA on February 28, 2023, for compliance with state and federal hazardous waste regulations and found manifest violations for shipments of hazardous waste from UNC’s Main Campus to the HWMF.

10) Opening Conference

On May 15, 2024, EPA inspector William Kappler, accompanied by NCDEQ inspector Aram Kim, (inspectors) arrived at UNC at approximately 9:17 a.m. Catherine Brennan, Adam Postyn, and Doug Benjamin, UNC representatives, immediately received the inspectors. The inspectors introduced themselves, showed their credentials and explained the purpose of the visit. The inspectors described the anticipated use of a digital camera during the inspection and provided a request for records. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The company did not assert a business confidentiality claim.

UNC provided an overview of the facility's current operations during the opening conference. Also discussed were the health and safety protocols and required personal protective equipment before UNC representatives escorted the inspectors on a tour of the operations.

11) Inspection Observations

Building 488

Building 488 and 531 are both within a gated chain link fence. Building 488 is approximately 50 feet long by 36 feet wide and is constructed on a concrete slab. The floors in the HWMF have been coated with an epoxy sealer that has been determined to be compatible with the stored hazardous waste. Hazardous wastes are initially received into Building 488. Once received, hazardous wastes are inventoried, packaged for storage, or bulked/blended for storage in Building 531. Incoming wastes which are hazardous solely for corrosiveness (D002) might be treated using elementary neutralization under a hood in Building 488.

Wastes coming into Building 488 upon being received, are characterized, and segregated into waste types which include water reactive, flammable corrosives, alkaline flammable/corrosive, alkaline corrosive, oxidizing acids, acidic corrosives, organic acids, and toxic liquids.

The segregated wastes up to one gallon are then placed into plastic secondary containment pans on storage shelves. These pans can accommodate six to twelve 4-liter bottles, depending on the size of the pan. Individual containers are then placed into plastic lab pack drums located in front of the shelving units until full. Wastes in the lab packing area are consolidated in two-gallon, five-gallon, 15-gallon, 30-gallon or 55-gallon lab pack containers.

The inspectors observed two 55-gallon containers prepared for off-site shipment on the building 488 loading dock storing universal waste lead/acid batteries. The containers were

closed, labeled with the words universal waste batteries, and one container marked with the date December 22, 2024, and the second container marked with the date January 29, 2024.

Supply Room

Supplies are stored in this room for the building. The inspectors observed a small refrigerator in the supply room for the storage of hazardous waste solids and liquids that are temperature sensitive. The inspectors observed five 25 to 100-gram containers storing hazardous waste solids and liquids (D001 and D002) in the refrigerator. The containers were closed, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with dates in September or October 2023. The oldest date observed was September 26, 2023 (Photograph 1).

Non-Hazardous Waste and Universal Waste Room

The inspectors observed two 30-gallon containers storing universal waste lead/acid batteries. The containers were closed, labeled with the words universal waste batteries, and both containers marked with the date April 10, 2024

The inspectors observed a large multi-shelf unit storing 17 lead/acid batteries. A sign was posted on the multi-shelf unit with the words universal waste and marked with the date December 21, 2023, (Photograph 2). UNC representatives labeled each battery with the words universal waste and marked a date on each battery.

Pursuant to 15A NCAC 13A .0119(a) [40 C.F.R. 273.14(a)], a SQHUW who accumulates universal waste batteries (*i.e.*, each battery), or a container in which the batteries are contained, must be labeled, or marked clearly with any one of the following phrases: “Universal Waste—Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies);”.

Pursuant to 15A NCAC 13A .0119(a) [40 C.F.R. 273.15(c)(1-6)], a small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

Consolidation and Bulking Room

Northeast Wall

The inspectors observed one 55-gallon container storing hazardous waste liquid. The container was closed, in good condition, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with the date April 2, 2024.

Northwest Wall

The inspectors observed two 55-gallon containers storing hazardous waste. The containers were closed, in good condition, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with the date October 3, 2023, and February 22, 2024.

East Wall

The inspectors observed eight 55-gallon containers storing hazardous waste in this area. The hazardous waste consisted of ignitable, corrosive, and toxic solids and liquids. The inspectors observed the containers were closed, in good condition, maintained with aisle space, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with the accumulation start dates. The oldest date observed was February 21, 2024.

East Wall Multi-Shelf Unit

The inspectors observed several one-gallon to 5-gallon containers storing hazardous waste. The inspectors observed the containers were closed, in good condition, maintained with aisle space, labeled with the words hazardous waste, and labeled with an indication of the hazards.

The inspectors also observed two one-liter containers and a 2.5-liter container storing hazardous waste in a tray. The inspectors observed the containers were closed, in good condition, maintained with aisle space, labeled with the words hazardous waste, and labeled with an indication of the hazards. The inspectors observed the containers in this area were marked with dates. The oldest date observed was February 16, 2024.

Fume Hood on Southwest Wall

The inspectors observed two 55-gallon containers storing hazardous waste liquid under a fume hood. The containers were closed, in good condition, maintained with aisle space, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with the dates May 8, 2024, and May 13, 2024.

The inspectors observed building 488 was equipped with an eye wash station, spill kits and fire extinguishers. The flooring of the building appeared to be free of cracks or gaps.

Building 531

The storage area within Building 531 is segregated by three-feet concrete block walls. Nine separate bays were observed and one bulking area. All containers in this area were closed, in good condition, maintained with aisle space, labeled with the words hazardous waste, labeled with an indication of the hazards, and marked with a storage start date of less than one year unless noted otherwise. Below is an inventory of containers observed in this area at the time of the inspection.

The inspectors observed a large multi-shelf storage unit along the wall. The inspectors observed three five-gallon containers storing gas cylinders marked with the date April 5, 2024, April 22, 2024, and May 6, 2024.

Flammable Room

The inspectors observed two 55-gallon containers storing hazardous waste marked with the date May 6, 2024, and May 13, 2024.

Bay 1 - Flammables

The inspectors observed six 55-gallon containers storing hazardous waste. The inspectors observed the oldest date was February 5, 2024.

Bay 2 – Flammables

The inspectors observed five 55-gallon containers storing hazardous waste. The inspectors observed the oldest date was January 23, 2024.

Bay 3 – Flammables

The inspectors observed seven 55-gallon containers storing flammable, corrosives, and toxic hazardous waste. The inspectors observed the oldest date was December 1, 2023.

The inspectors observed one 55-gallon container storing waste aerosols was not marked with a date storage began on the hazardous waste label. The inspectors observed a date of April 22, 2024, was marked on the hazardous waste transfer form attached to the container. UNC representatives marked the container's hazardous waste label with the date April 22, 2024 (Photograph 5).

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40 C.F.R. § 268.50(a)(2)(i)(D)], each container is clearly marked to identify its content and with: The date each period of accumulation begins.

Bay 4 – Nonhazardous Waste

The inspectors observed six 55-gallon containers storing nonhazardous waste.

Bay 5 – Corrosives

The inspectors observed six 55-gallon containers storing hazardous waste. The inspectors observed one 55-gallon container storing corrosive and toxic hazardous waste was not marked with a date storage began on the hazardous waste label. UNC representatives marked the container's hazardous waste label with the date February 23, 2024, which was the oldest date observed on the containers of hazardous waste.

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40 C.F.R. § 268.50(a)(2)(i)(D)], each container is clearly marked to identify its content and with: The date each period of accumulation begins.

Bay 6 – Universal Waste

The inspectors observed six 55-gallon containers storing universal waste batteries. The inspectors observed the containers were closed, labeled with the words universal waste and marked with dates. The oldest date was August 3, 2023.

Bay 7 – Radioactive Mixed Waste

The inspectors observed a multi-shelf storage unit in this bay. The inspectors observed sevenone-liter to two-liter containers on the shelf and four five-gallon containers on the floor storing various radioactive mixed wastes. UNC is waiting for a reduction in radiation which will allow for shipment of the containers to an off-site treatment, storage, or disposal facility. Long-lived radioactive mixed wastes are stored at the HWMF until they have decayed below regulated levels. Short-lived radioactive mixed waste radionuclides are allowed to decay, then the waste is handled as a hazardous waste. Following radioactive decay to below regulated levels, these wastes are shipped to an off-site hazardous waste designated facility.

Bay 8 – Poisons

The inspectors observed eight 55-gallon containers storing hazardous wastes. The containers were closed, labeled with the words hazardous waste and marked with dates less than one year. The inspectors observed one 55-gallon container storing hazardous waste photo paper (D011) identified with a class 9 hazard indicator label and not marked or labeled with an indication of the hazards of the contents (Photograph 3).

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40 C.F.R. § 268.50(a)(2)(i)(C)], each container is clearly marked to identify its content and with: An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

Bay 9 – Corrosives

The inspectors observed ten 55-gallon containers and one 30-gallon container storing hazardous waste. The inspectors observed the oldest date was August 22, 2023. The inspectors observed one 55-gallon container of hazardous waste photo fixer/developer (D011) identified with a class 9 hazard indicator label and not marked or labeled with an indication of the hazards of the contents (Photograph 4). UNC representatives labeled the container with a toxic hazard indicator.

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40 C.F.R. § 268.50(a)(2)(i)(C)], each container is clearly marked to identify its content and with: An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

The inspectors observed building 531 was equipped with an eye wash station, spill kits and fire extinguishers. The flooring of the building appeared to be free of cracks or gaps.

12) Records Review

RCRA Permit

UNC maintains the RCRA permit and permit application at the facility.

Inbound and Outbound Manifests

The inspectors reviewed the inbound hazardous waste manifests and land disposal restriction forms for March, June, August, and November 2023, and for March and May 2024. The inspectors reviewed the outbound hazardous waste manifests and land disposal restriction forms from March 2023 to May 2024. Manifest records show that hazardous waste was transported by Clean Harbors Environmental Services, Inc (MAD039322250), Tradebe Transportation, Inc (INR000123947) and Veolia ES Technical Solutions (NJD080631369) to permitted TSD facilities. The TSD destination facilities include Clean Harbors Deer Park, LLC (TXD055141378), Clean harbors Reidsville, LLC (NCD000648451), Tradebe Treatment and Recycling of TN, LLC (TND000772186), and Veolia ES Technical Solutions, LLC (NCD986166338).

Contingency Plan and Quick Reference Guide (QRG)

The inspectors reviewed the contingency plan.

Arrangement with the Local Authorities

The inspectors reviewed records of the attempt to make arrangements with the local fire department, police department, hospital, and local emergency response teams.

Training Records

The inspectors reviewed records of hazardous waste training given and completed by personnel in 2023. The inspectors reviewed the job titles and position descriptions for personnel given training.

Weekly Inspection Records

The inspectors reviewed the daily and weekly inspection records of the HWMF from January 2023 to the present.

Waste Minimization Plan

The inspectors reviewed the waste minimization plan date January 25, 2024.

13) Closing Conference

The inspectors conducted a closing conference with UNC representatives. During the meeting, the inspectors stated their preliminary conclusions of the inspection.

14) Summary of Observations

Pursuant to 15A NCAC 13A .0119(a) [40 C.F.R. 273.14(a)], a SQHUW who accumulates universal waste batteries (*i.e.*, each battery), or a container in which the batteries are contained, must be labeled, or marked clearly with any one of the following phrases: “Universal Waste—Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies);”.

Pursuant to 15A NCAC 13A .0119(a) [40 C.F.R. 273.15(c)(1-6)], a small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40

C.F.R. § 268.50(a)(2)(i)(D)], each container is clearly marked to identify its content and with:
The date each period of accumulation begins.

The storage of hazardous wastes restricted from land disposal under 40 CFR 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

Pursuant to hazardous waste management permit NCD982093783-R2, Section VI.B.2. Land Disposal Prohibitions and Treatment Standards, which incorporates 15A NCAC 13A .0112 [40 C.F.R. § 268.50(a)(2)(i)(C)], each container is clearly marked to identify its content and with: An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

15) List of Attachments

Attachment 1 – RCRA Inspection Photograph Log

16) Signed

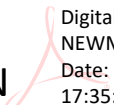
WILLIAM
KAPPLER

 Digitally signed by WILLIAM KAPPLER
Date: 2024.07.12 16:08:01 -04'00'

William Kappler
Physical Scientist

17) Concurrence

ALAN
NEWMAN

 Digitally signed by ALAN
NEWMAN
Date: 2024.07.12
17:35:03 -04'00'

Alan Newman
Acting Chief
RCRA Enforcement Section

ATTACHMENT 1 – PHOTOGRAPH LOG

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

CHAPEL HILL, NORTH CAROLINA

COMPLIANCE EVALUATION INSPECTION PHOTOGRAPHS

MAY 15, 2024

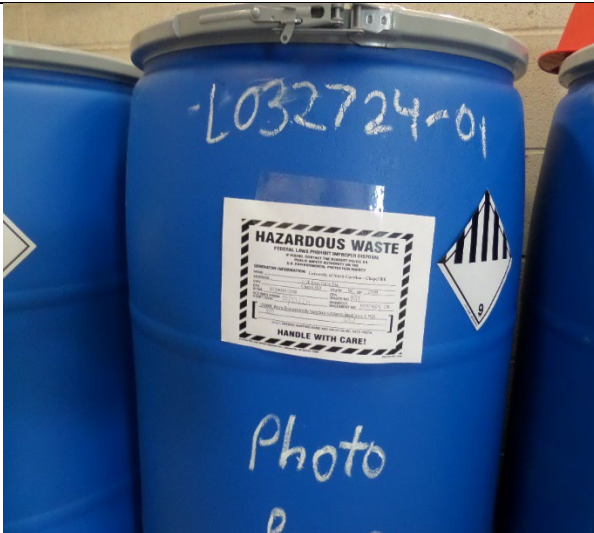
**Photos taken by: William Kappler
Samsung Camera (Model WB250F)
EPA Property Tag# S75917**



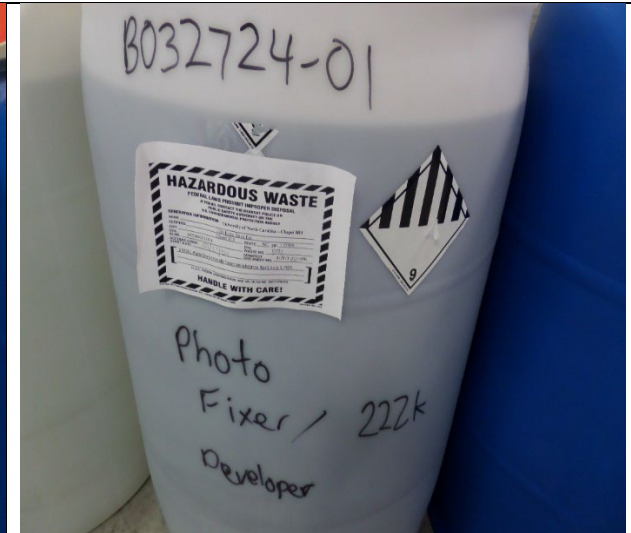
University of North Carolina at Chapel Hill (UNC). Building 488 Supply Room. Photograph 1 taken at 10:20 a.m.



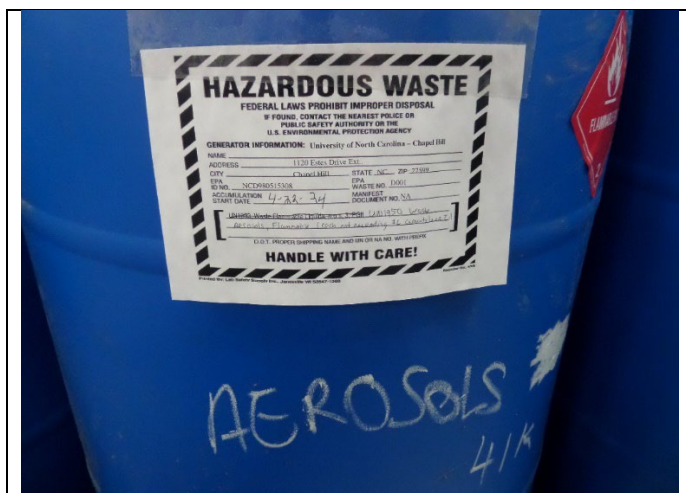
UNC. Building 488 Nonhazardous Waste/Universal Waste Room. Photograph 2 taken at 10:28 a.m.



UNC. Building 531 Bay 8. Photograph 3 taken at 11:24 a.m.



UNC. Building 531 Bay 9. Photograph 4 taken at 11:30 a.m.



UNC. Building 531 Bay 3. Photograph 5 taken at 11:34 a.m.