

## **RCRA Inspection Report**

### **1) Inspector and Author of Report**

Laurie Benton DiGaetano, Environmental Engineer  
Land, Asbestos and Lead Section  
Chemical Safety and Land Enforcement Branch  
Enforcement and Compliance Assurance Division  
U.S. Environmental Protection Agency (EPA), Region 4  
61 Forsyth Street, S.W. Phone: 404-562-8948  
Atlanta, Georgia 30303 Email: benton-digaetano.laurie@epa.gov

### **2) Facility Information**

|                                 |                        |
|---------------------------------|------------------------|
| Kewaunee Scientific Corporation | Physical Address:      |
| Mailing Address:                | 2700 West Front Street |
| PO Box 1842                     | Statesville, NC 28677  |
| Statesville, NC 28687           | EPA ID# NCD003217726   |

### **3) Responsible Officials**

Mr. Scott Hager, Environmental Health and Safety Specialist

### **4) Inspection Participants**

Emily Reavis, Kewaunee Scientific Corporation  
Andrew Martin, NCDEQ  
Laurie Benton DiGaetano, USEPA

### **5) Date of Inspection**

September 8, 2020

### **6) Applicable Regulations**

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), Title 15A of the North Carolina Administrative Code (NCAC), Chapter 13; and 40 Code of Federal Regulation (C.F.R.), Parts 260 - 270, 273, 278, & 279.

### **7) Purpose of Inspection**

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine Kewaunee Scientific Corporation compliance with the applicable requirements of RCRA and the corresponding NCDEQ regulations. This was an EPA lead inspection.

## 8) **Facility Description**

Kewaunee Scientific Corporation (Kewaunee) specializes in the design, manufacture and installation of laboratory, healthcare and technical furniture products for domestic and international markets. Kewaunee manufactures wood and metal laboratory furniture and molded resin countertops under the NAICS code 337127 for Institutional Furniture Manufacturing at the subject facility in Statesville, North Carolina. This facility is home to the company's corporate headquarters and three manufacturing plants: the Wood Plant, the Metal Plant, and the Resin Plant. Kewaunee has approximately 600 employees at this location, and operations run 24 hours per day, seven days per week. The three manufacturing plants occupy approximately 8.75 of the facility's 19 total acres of land. Access is controlled by surrounding the operations with an 8-foot chain link fence, topped with barbed wire. Kewaunee operates an additional manufacturing facility in Bangalore, India.

Kewaunee has been operating as a generator of hazardous waste at this location for over thirty years. The company initially operated as a large quantity generator (LQG) of hazardous waste until 2003, when they notified as a small quantity generator (SQG) of hazardous waste. Between 2016 and 2020, Kewaunee alternated between LQG and SQG status. The facility notified as a LQG, then SQG and back to LQG in 2016; notified as a LQG in 2018; and notified as a SQG in 2019 and 2020. On 02/26/2020, Kewaunee most recently notified as a SQG generating F005 hazardous waste ignitable spent solvents from painting / coating, D001 hazardous waste ignitable solids from painting / coating, D001 hazardous waste ignitable liquids from rinsing, D001 hazardous waste ignitable solid wipes from other production activities, D001 hazardous waste ignitable miscellaneous liquid from discarding chemicals, D001 hazardous waste flammable, toxic and corrosive liquid from painting / coating, and U190 hazardous waste liquid (phthalic anhydride) from accidental contamination.

Kewaunee manages four hazardous waste SAAs in the Wood Plant, two hazardous waste SAAs in the Metal Plant, and five hazardous waste SAA in the Resin Plant. In the Wood Plant, spent solvents generated at the manual spray booth are accumulated in a SAA next to the spray booth; hazardous waste paint related material generated from mixing paint and performing quality assurance testing is accumulated in a SAA in the stain pump room; hazardous waste still bottoms generated from the distillation of spent solvents is accumulated in a SAA in the distillation outbuilding; and broken fluorescent lamps are accumulated as hazardous waste in the maintenance area. In the Metal Plant, loose paint containers generated from touch-up painting are accumulated in a SAA near the powder coating area; and waste aerosol cans generated at the facility are accumulated in a SAA at the metal paint area. In the Resin Plant, spent acetone mixed with black edge coating, which is generated during the process of cleaning the edge coater machine, is accumulated in a SAA at the UV area; and used cheesecloth contaminated with flammable liquid is accumulated in SAAs at the KMER area, the ovens area, the sinks area and the repair area.

Spent acetone, isopropyl alcohol, and t-butyl acetate that are generated in the Wood Plant during the process of cleaning machines used in the "flat-line finishing / painting process" and the roll-coating operation and following the process of mopping the floors are accumulated in a small tank between the spray coat line and the roll coat line. The tank is also used to store spent solvents that are generated from cleaning the UV coater in the Resin Plant. The spent solvents

are pumped from this holding tank into a small distillation still, which is used to reclaim the cleaning solvent for reuse on-site. The still is in a small outbuilding just outside of the stain pump room at the Wood Plant.

Containers of hazardous waste, used oil, solid resin waste, excluded solvent contaminated rags and steel wool waste are stored at the facility's Central Accumulation Area (CAA), which is in the upstairs resin warehouse. Used oil and universal waste is accumulated in the facility's maintenance shop.

## 9) **Previous Inspection History**

NC DEQ has conducted three RCRA CEIs at the subject facility since 2007. The most recent RCRA CEI was conducted on May 16, 2017, and no apparent violations of RCRA were found during that inspection.

## 10) **Findings**

On September 8, 2020, EPA inspector Laurie Benton DiGaetano, accompanied by NCDEQ inspector Andrew Martin, arrived at Kewaunee Scientific Corporation at approximately 10:00 a.m. Ms. Emily Reavis, Safety and Environmental Specialist, immediately received the inspectors. The inspectors introduced themselves, showed their credentials, and explained the purpose of the visit. Mr. Scott Hager, Environmental Health and Safety Manager, was not available on the day of the inspection. Therefore, Ms. Reavis provided records and led the inspectors on a tour of the Facility operation.

**Wood Plant - Distillery:** The inspection participants visited the small outbuilding located next to the stain pump room at the Wood Plant. The building houses the facility's distillation system, and it is kept secure with a padlock on the door. The inspectors observed signs reading "Caution," "Hazardous Waste Satellite Accumulation Point," "Unauthorized Personnel Keep Out," "No Smoking," "Danger," and "Keep Out" on the door to the outbuilding. The inspectors observed an emergency eyewash station next to the SAA inside the building. The distillation unit was not in use at the time of the inspection, and the lid to the unit was open. The inspectors observed liquids inside the unit (Photos 1 and 2) and recommend that the facility review standard operating procedures to prevent potential release of hazardous wastes or waste constituents to the atmosphere.

Ms. Reavis stated that personnel working in the Finishing Room are responsible for running the system, and those personnel only work during the first shift. Mr. Will Gaillard, an employee familiar with the distillation system, stated that spent solvents are pumped directly from the tank near the process lines into the distillation unit, and recovered solvent is pumped into a 55-gallon drum for re-use at the facility. Mr. Gaillard explained that the unit is typically operated only once each day, because it takes too long to cool down for a second cycle. Once cooled, leftover solids and paint are removed from the unit and accumulated in the SAA located in the corner of the building by the door (Photo 3). The inspectors observed one 55-gallon drum at this SAA. The drum was grounded and closed, but it was not labeled with the words "hazardous waste" or an indication of the hazards for solvent still bottoms (Photo 4). In an email from Scott Hager to Andrew Martin on 09/11/2020, Mr. Hager indicated that the drum was empty at the time of the

inspection.

Wood Plant - Stain Pump Room: Specific wood stain colors are mixed according to customer needs in the mixing or stain pump room, located next to the cabinet assembly area in the Wood Plant. The room consists of two sliding fire doors, two emergency exits, one overhead metal door, fire extinguishers and overhead sprinklers. The floor is curbed, and the inspectors observed an emergency eye wash station and spill kit in this area.

Hazardous waste paint related material generated when mixing colors or performing quality assurance testing is accumulated in a SAA located near the door leading to the distillation outbuilding (Photo 5). The inspectors observed one 55-gallon drum with a latched funnel lid in this SAA. The drum was labeled as D001 / F003 / F005 hazardous waste paint related material and identified with a flammable liquid hazard placard. The inspectors also observed a second 55-gallon drum labeled excluded solvent contaminated wipes in this area.

Wood Plant - Spray Coat Line and Roll Coat Line: The inspectors observed a small tank between the spray coat line and the roll coat line (Photo 6). The tank was labeled D001 / F003 / F005 hazardous waste acetone and it was identified with a flammable liquid hazard placard. The tank is used to store spent solvents generated from cleaning machines used in the “flat-line finishing / painting process” and the roll-coating operation, from mopping the floors in the Wood Plant, and from cleaning the UV coater in the Resin Plant. The inspectors observed signs reading “hazardous waste storage area” and “no smoking” on the roll-coating process unit near the tank. The inspectors also observed an emergency eyewash station and fire extinguisher in this area.

Although the tank is equipped with piping to feed waste solvents from the process units into the tank, Mr. Gaillard explained that most of these lines are no longer in use. Instead, employees accumulate spent solvents in a bucket while they clean the machines and then dump the contents of the bucket into the tank. Employees use a foot pedal to open the tank lid, and the lid automatically closes when pressure is removed from the pedal. The area also has a manual pump for employees to pump waste from an accumulation container into the tank, if preferred. According to the standard operating procedures posted near the tank, up to 10.5 gallons of spent solvents can be accumulated in the tank and sent to the distillery each day (Photo 7). Employees remove spent solvents from the tank by pumping it directly from the tank into the distillation unit using a dedicated pump and piping line (Photo 8). The inspectors observed a calendar hanging next to the waste storage tank. Facility personnel use this calendar to track when the tank is emptied, and written standard operating procedures describing this tracking system were observed with the calendar.

The inspectors also observed a 10-gallon flip-top flammable can labeled solvent excluded wipes in this area.

Wood Plant - Manual Spray Booth: Spent solvents generated from cleaning the paint gun in the manual spray booth are accumulated in a SAA next to the booth (Photo 9). The inspectors observed one 10-gallon container with a latched funnel in this SAA. The container was labeled as D001 / F003 / F005 hazardous waste paint and identified with a flammable liquid hazard placard. An employee working at the spray booth explained that the process would take approximately two-and-one-half weeks to fill the container, so the contents of the container are

poured into the 55-gallon drum at the stain pump room at the end of each day. The inspectors explained that hazardous waste cannot be transferred from one SAA to another, because that waste would no longer be at or near the point of generation where wastes initially accumulate. In an email from Scott Hager to Andrew Martin on 09/11/2020, Mr. Hager indicated that the contents of the 10-gallon container are actually emptied into the holding tank between the spray coat line and roll coat line, which is managed as a hazardous waste central accumulation area.

The inspectors also observed a small flip-top flammable can labeled solvent excluded wipes next to the hazardous waste container in this SAA.

Wood Plant - Maintenance Shop: Used oil and universal wastes are accumulated in the facility's maintenance shop. The inspectors observed one 55-gallon drum labeled used oil on a portable secondary containment and one 55-gallon drum labeled oil clean-up on another portable secondary containment unit in this area. The used oil drum was equipped with a funnel. The inspectors also observed two 4-foot cylinders labeled universal waste lamps in this area (Photo 10). One cylinder was dated 08/04/20, and the other was dated 06/01/20.

Hazardous and universal wastes are accumulated in a SAA cabinet in the maintenance area (Photo 11). The inspectors observed one 5-gallon bucket for accumulating broken fluorescent lamps as hazardous waste. The bucket was closed and labeled hazardous waste crushed fluorescent lamps, and it was identified with an indication of the hazards. According to the labels, the contents of the other containers included universal waste lamps (metal halide), nonregulated non-PCB ballast, universal waste lithium ion batteries, universal waste nickel metal hydride batteries, and universal waste alkaline batteries. Each universal waste container was labeled and marked with an accumulation start date, and the oldest date observed on any container was 11/12/19.

Metal Plant – Metal Paint Area: Kewaunee manages a SAA for accumulating waste aerosol cans in the metal paint area (Photo 12). The inspectors observed one 55-gallon drum with a flip-top lid in this SAA. The drum was labeled D001 / F003 / F005 hazardous waste aerosols, and it was identified with a flammable gas hazard placard.

Metal Plant – Hoods Area: Kewaunee manages a SAA for accumulating waste touch-up paint bottles in the hoods area (Photo 13). The inspectors observed one 55-gallon drum with a latched flip-top lid in this SAA. The drum was labeled D001 / F003 / F005 hazardous waste loose flammable containers, and it was identified with a flammable liquid hazard placard.

Resin Plant - Regulated and Unregulated Waste Storage Central Accumulation Area: The facility's main hazardous waste central accumulation area (CAA) is in the upstairs resin warehouse (Photos 14 and 15). The area is identified with signs reading "regulated and unregulated waste storage" and "no smoking" and it is equipped with a fire extinguisher and emergency eyewash station. The inspectors observed several gaps in the secondary containment berm around the perimeter of this area. Ms. Reavis stated that Personnel carry cell phones or walkie talkies to alert a team leader in the event of an incident in this area. She also explained that personnel generally work in pairs when working in this area. The inspectors observed yellow lines painted on the cement floor in this area to define space to create aisle spacing and five rows for staging waste containers.

The inspectors observed five 55-gallon drums on wooden pallets in one row of the CAA. The drums were labeled as excluded solvent contaminated wipes, and the oldest drum should be shipped off-site by 09/27/20. The inspectors observed two 55-gallon drums labeled D001 / F003 hazardous waste acetone still bottoms and identified with a flammable solid hazard placard and one 55-gallon drum labeled D001 / F003 / F005 hazardous waste paint related material and identified with a flammable liquid hazard placard in another row of the CAA. The drums were dated 08/18/20, 09/08/20 and 08/26/20, respectively. The inspectors observed two 55-gallon drums labeled D001 hazardous waste cheesecloth and identified with a flammable solid hazard placard and one 4-foot cylinder labeled universal waste lamps in another row of the CAA. The containers were dated 08/20/20, 09/02/20 and 08/20/20, respectively.

Resin Plant - KMER: Kewaunee manages a SAA for accumulating contaminated cheesecloth used for cleanup activities in the KMER area (Photo 16). The inspectors observed one 55-gallon drum with a latched flip-top lid in this SAA. The drum was labeled D001 hazardous waste cheesecloth, and it was identified with a flammable solid hazard placard.

Resin Plant - Ovens Area: Kewaunee manages a SAA for accumulating contaminated cheesecloth used for cleanup activities in the ovens area. The inspectors observed three 55-gallon drums with flip-top lids in this SAA. One drum was labeled D001 hazardous waste solids containing flammable liquid (naphtha), and it was identified with a flammable solid hazard placard. The second drum was labeled excluded solvent contaminated wipes, and the third drum was labeled nonhazardous steel wool.

Resin Plant - Sinks Area: Kewaunee manages a SAA for accumulating contaminated cheesecloth used for cleanup activities in the sinks area. The inspectors observed one 55-gallon drum with a latched flip-top lid in this SAA. The drum was labeled D001 hazardous waste cheesecloth, and it was identified with a flammable solid hazard placard.

Resin Plant - Repair Area: Kewaunee manages a SAA for accumulating contaminated cheesecloth used for cleanup activities in the repair area. The inspectors observed two 55-gallon drum with latched flip-top lids in this SAA. One drum was labeled D001 hazardous waste cheesecloth, and it was identified with a flammable solid hazard placard. The other drum was labeled excluded solvent contaminated wipes.

Resin Plant - UV Area: Kewaunee manages a SAA for accumulating spent solvent generated during cleanup activities in the UV area (Photo 17). The inspectors observed one 55-gallon drum with a latched flip-top lid in this SAA. The drum was labeled D001 / F003 hazardous waste recycled solvent, and it was identified with a flammable liquid hazard placard. The inspectors also observed a 30-gallon flammable can labeled excluded solvent contaminated wipes near this area.

Training Records: The inspectors reviewed job descriptions that were provided for maintenance employees, finishing technicians / operators, resin technicians / operators, and managers / team leaders. Employee hazardous waste training records were reviewed for 2018, 2019 and 2020.

Preparedness and Prevention: Ms. Reavis mentioned that Mr. Hager was in the process of updating the facility's contingency plan, and the most recent plan available during the inspection was dated 2017. On 04/13/2018, the facility sent emails to local emergency response entities requesting to make arrangements to plan for potential emergency response actions.

The contingency plan provided during the inspection identified the facility's primary, secondary and tertiary emergency coordinators; it included a list of available emergency response equipment and a description of the emergency evacuation routes; and it included a facility diagram that identified the locations of hazardous waste SAAs and CAAs. The facility is equipped with fire extinguishers, pull stations, an intercom paging system, and spill control equipment. The fire alarm system direct dials the local fire department and is maintained by ADT.

Manifest Records: The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent since August 2019. Hazardous waste manifest records show that D001 / F003 / F005 hazardous waste paint related material, D001 hazardous waste solids containing flammable liquid (naphtha), D001 / F003 hazardous waste flammable solid (acetone), and D001 / F003 hazardous waste flammable liquid (acetone) are routinely shipped to GRR Sumter (SCD036275626), and the most recent shipment was made on 08/18/2020.

Records indicated that the facility may have exceeded the 1,000 kg/month generation rate limit of an SQG for three months between December 2019 and February 2020, but that the facility appeared to stay below this threshold before and after this timeframe. At the time of the inspection, the facility appeared to be operating as an SQG by generating less than 1,000 kilograms of hazardous waste per calendar month.

Shipments of excluded solvent contaminated rags were sent to Kleen Tech in Hickory, NC on 01/22/2019, 04/16/2019, 08/06/2019, 11/26/2019, 04/08/2020, and 07/28/2020.

Shipments of universal waste are sent to SE Recycling Tech in Johnson City, TN. Records show that shipments of universal waste lamps and batteries were sent on 11/08/2019 and 02/10/2020, and shipments of universal waste lamps were sent on 12/04/2019 and 01/09/2020.

Inspection Records: The inspectors reviewed available records of inspections of hazardous and universal waste management areas. No records were available of daily inspections of the hazardous waste storage tank located in the Wood Plant. Inspections are recorded for weekly inspections of the universal waste accumulation areas, the hazardous waste SAAs, and the hazardous waste CAAs. The records include the date and time of the inspection and the signature of the employee conducting the inspection. Each week, the employee records notations of observations and necessary follow-up actions for the inspected areas.

**Pursuant to 15A NCAC 13A .0107 [40 C.F.R. § 262.16], a generator may accumulate hazardous waste onsite for 180 days or less without a permit or without having interim status, as required by Sections 130A-294(c) and (g) of the NCSWML, N.C.G.S. § 130A-294(c) and (g) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 15A NCAC 13A .0107 [40**

C.F.R. § 262.16] (hereinafter referred to as the “SQG Permit Exemption”).

**Pursuant to 15A NCAC 13A .0107 [40 C.F.R. § 262.16(b)(3)(iii)(A)-(C)], which is a condition of the SQG Permit Exemption, a small quantity generator that accumulates hazardous waste in tanks must, at least once each operating day, inspect, where present: discharge control equipment to ensure that it is in good working order; data gathered from monitoring equipment to ensure that the tank is being operated according to its design; and the level of waste in the tank.**

**11) Out-Briefing**

The inspectors conducted the exit meeting with Ms. Reavis. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

**12) Conclusion**

Based on the observations made during the inspection, Kewaunee was apparently deficient with the following RCRA requirements:

- **Pursuant to 15A NCAC 13A .0107 [40 C.F.R. § 262.16(b)(3)(iii)(A)-(C)], which is a condition of the SQG Permit Exemption, a small quantity generator that accumulates hazardous waste in tanks must, at least once each operating day, inspect, where present: discharge control equipment to ensure that it is in good working order; data gathered from monitoring equipment to ensure that the tank is being operated according to its design; and the level of waste in the tank.**

**13) Signed**

\_\_\_\_\_  
Laurie Benton DiGaetano  
Senior Enforcement and Compliance Specialist

\_\_\_\_\_  
Date

**Concurrence**

\_\_\_\_\_  
Alan A. Annicella  
Chief, Land, Asbestos and Lead Section  
Chemical Safety and Land Enforcement Branch  
Enforcement and Compliance Assurance Division

\_\_\_\_\_  
Date



**Photo 1:** Open distillation unit inside the distillery.



**Photo 2:** Spent solvent liquids inside the open distillation unit.



**Photo 3:** Wood Plant SAA for accumulating hazardous waste silt bottoms in the distillery. 55-gallon drum was grounded and closed, and reported to be empty.



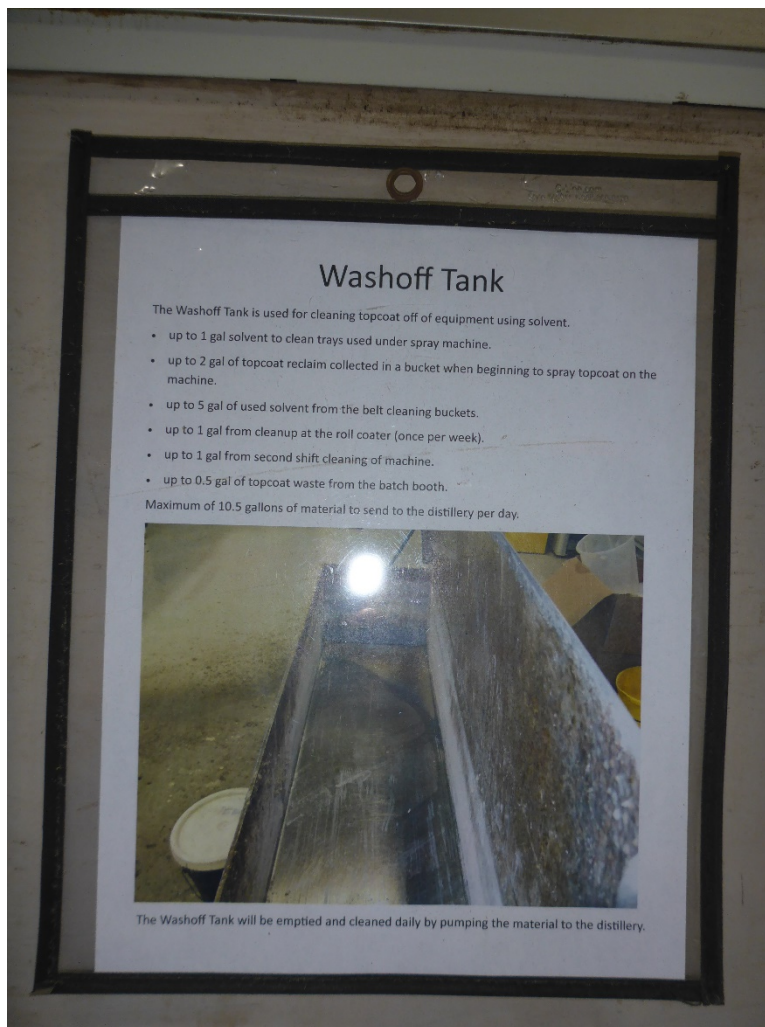
**Photo 4:** 55-gallon drum in the distillery SAA. Drum to be used for accumulating hazardous waste still bottoms, but it was not labeled with the words “hazardous waste” or with an indication of the hazards. Drum reported to be empty.



**Photo 5:** Wood Plant SAA for accumulating waste in the stain pump room. One 55-gallon drum and one red flip-top flammable can each labeled excluded solvent contaminated wipes located on the left, and one 55-gallon drum for accumulating waste paint related material located on the right. Drum on the right labeled D001 / F003 / F005 hazardous waste paint related material and identified with a flammable liquid hazard placard.



**Photo 6:** Small tank located between the spray coat line and the roll coat line in the Wood Plant. Tank is labeled D001 / F003 / F005 hazardous waste acetone and identified with a flammable liquid hazard placard.



**Photo 7:** Standard operating procedures for accumulating a maximum of 10.5 gallons of spent solvent in the tank and sending it to the distillery for recycling.



**Photo 8:** Dedicated pump and piping line to transfer spent solvents from the storage tank into the distillation unit.



**Photo 9:** Wood Plant SAA for accumulating waste near the manual spraybooth. One red flip-top flammable can for accumulating excluded solvent contaminated wipes. One 10-gallon container of product material. 10-gallon container with latched funnel for accumulating D001 / F003 / F005 hazardous waste paint related materials.



**Photo 10:** Two 4-foot cylinders for accumulating universal waste lamps in the maintenance shop. Containers labeled universal waste lamps and dated 08/04/20 and 06/01/20.



**Photo 11:** SAA cabinet in the maintenance area. One 5-gallon white bucket for accumulating broken fluorescent lamps as hazardous waste, and several other universal waste containers.



**Photo 12:** SAA for accumulating waste aerosol cans in the Metal Plant. 55-gallon drum with flip-top lid labeled D001 / F003 / F005 hazardous waste aerosols.



**Photo 13:** SAA for accumulating waste touch-up paint bottles in the Metal Plant. 55-gallon drum with latched flip-top lid labeled D001 / F003 / F005 hazardous waste loose flammable containers.



**Photo 14:** Main hazardous waste central accumulation area. Several gaps in the secondary containment berm around the perimeter of the area.



**Photo 15:** Main hazardous waste central accumulation area. Several gaps in the secondary containment berm around the perimeter of the area.



**Photo 16:** Resin Plant SAA for accumulating contaminated cheesecloth in the sinks area. 55-gallon drum with flip-top lid labeled D001 hazardous waste cheesecloth.



**Photo 17:** Resin Plant SAA for accumulating contaminated spent solvent generated during cleanup activities in the UV area. 55-gallon drum with flip-top funnel lid labeled D001 / F003 hazardous waste recycled solvent.