

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

A016042399

FACILITY: VIKING CORP		SRN / ID: A0160
LOCATION: 210 INDUSTRIAL PARK, HASTINGS		DISTRICT: Grand Rapids
CITY: HASTINGS		COUNTY: BARRY
CONTACT: John Hippe , Corporate EHS Manager		ACTIVITY DATE: 11/08/2017
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced compliance inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Viking Corporation manufactures, assembles and tests commercial and residential fire suppression systems.

The facility has between 300 and 350 employees, with approximately 210 of those being production employees. The facility operates three shifts five days a week.

REGULATORY ANALYSIS

The facility has one permit to install (PTI No. 358-96) which covers a small acid dip tank. The facility utilizes Part 2 exemptions for the remainder of the air pollutant emitting processes.

COMPLIANCE EVALUATION

At the facility, AQD staff, consisting of Eric Grinstern (EG), met with John Hippe, Manager – Environmental Health and Safety, and Garrett Cornell.

Prior to entering the facility, no visible emissions or odors were observed.

The facility can be divided into three sections (buildings), the main production building, the East Campus, and testing facilities.

Below is a summary of air emission sources evaluated during the inspection.

MAIN PRODUCTION BUILDING

Primary Paint Booth

The facility has one small paint booth used to paint valve housings. The booth is equipped with filters to capture overspray. The primary filters are replaced during the third shift, every day. The facility tracks coating usage to document exemption under Rule 287(2)(c)(ii). The facility is currently using approximately a drum of paint per month. Observation of the painting showed good capture by the exhaust system and good housekeeping practices. (Photo attached)

Machining Operations

The facility has numerous machining/lathe operations, both automated and manual.

The machining processes are vented internally. Both the manual and automated processes appear to be exempt from permitting under Rule 285(2)(l)(vi)(B). During the inspection, the facility expressed interest in possibly venting some of the machining operations to a baghouse which would then vent to the outside atmosphere. The facility could vent the processes to the outside atmosphere and remain exempt from permitting if they meet the requirements of Rule 278 and Rule 285(2)(l)(vi)(C), if the equipment is controlled by a properly designed and operated fabric filter that is preceded by a mechanical precleaner.

Soldering Operations

The facility has three soldering emission sources: an automated soldering station, a manual soldering station and a soldering room.

The automated soldering station has been in place for approximately 1-1.5 years and attaches concealment covers. Emissions from the station are vented through a HEPA filter to the outside atmosphere. Adjacent to the automated soldering station is a manual station that also attaches concealment covers. The manual station has an oven that vents to the outside atmosphere. The facility has a separate room in which multiple soldering stations vent uncontrolled through a common stack. All the soldering operations appear to be exempt from permitting under Rule 285(2)(i). (Photos attached)

Acid Dip Tank

The facility operates a small acid dip tank under PTI No. 358-96 to clean and treat small metal parts. The acid solution contains nitric, sulfuric and a small amount of hydrochloric acid. The acid dipping operation is vented via a hood to the outside atmosphere uncontrolled. The permit restricts nitric acid emissions and limits visible emissions to 10 percent. Compliance with the emission limits is based on continued operation in accordance with the operating scenario detailed in the permit application. The process was not in use at the time of the inspections, however, due to the size and frequency of use, opacity issues would not be expected. (Photo attached)

Aerosol Can Painting Booth

Small parts are painted with hand-held aerosol spray cans in a booth equipped with mat filters. The facility utilizes a can puncturing unit to aid in the disposal of empty cans. A record of the number of cans of paint used is kept at the booth. Hand-held aerosol spray cans and puncturing are exempt from the requirement to obtain a permit to install under Rule 285(2)(hh). (photo attached)

EAST CAMPUS**Fire Suppression Tank Filling**

In the south end of the building is a small fire suppression tank filling operation. The facility fills pressurized tanks with coolant/suppressant via totes. A majority of the tanks (80%) are filled with Novec 1230 (1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-3-pentanone). Additionally, FM-200/R227 (heptafluoropropane) is used in approximately 20% of the tanks. Mr. Hippe stated that the only emissions associated with the process occur when the filling lines are connected and disconnected. This process appears to be exempt from permitting under Rule 285(2)(ff).

TESTING FACILITIES

The facility has a separate building (Burn Building) in which they conduct fire testing of sprinkler systems and foam testing of fire-suppression foaming equipment. Adjacent to the fire testing building is a structure designed for attic sprinkler testing. The facility provided an exemption analysis in 1998, when the testing facility was installed. The facility determined the processes to be exempt under Rule 283(2)(a)(v), Rule 283(2)(c) and/or Rule 285(2)(ff).

Burn Building

Within the Burn Building, UL specified wood structures (made of kiln dried wood) are burnt with the aid of heptane to evaluate sprinkler systems. The facility may also burn other material as part of the test burns. The building has an exhaust system that filters through a HEPA filter to the outside atmosphere.

Foam Generation Testing

The facility also conducts proportionate testing of fire suppression foam. This testing evaluates the generating capacity of the systems and is not used on actual fires. During testing the systems use between 1-3% foam concentration with 97-99% water. The foam generated during testing is directed to a lined basin that is covered. The cover was added within the last 5 years.

The spent foam is pumped from the basin by Liquid Industrial Waste Service and transported to the Holland Board of Public Works waste water treatment system. It appears that originally the spent foam storage basin discharged to the city sewer system. Based on information provided by the facility, testing on 3M foams was done from 1998-1999 until 2001. In 2001, 3M took their AFFFs (aqueous film forming foam) out of production due to PFOS concerns. Viking switched to AFFF manufactured by National Foam from late 2001 until 2008. Viking transferred foam testing to a third-party facility located in Alabama sometime between 2002 and 2008. From 2008 until 2014, the facility did not conduct any foam testing. From 2015 until current, the facility has tested seven different AFFF solutions produced by FomTec (SDS attached). The facility also noted that they currently primarily perform testing with EnvironSenze 2500, an environmentally friendly "simulation foam" that mimics concentrations with non-foaming properties.

MISCELLANEOUS

Primary Paint booth equipment cleaning - The facility is evaluating the use of an enclosed Herkules cleaner to clean painting equipment associated with the Primary Pain Booth. The facility currently uses a station with Lacquer Thinner 75. The use of a Herkules cleaner could allow them the vent the unit when the cover is open and use a less aggressive solvent. The

facility mentioned they can track the amount of solvent used to document compliance with a permit exemption (Rule 290). The use of Rule 290 to exempt such a unit would likely be feasible.

Distiller for water from soldering stations – The facility discussed the possibility of adding in-line distillation units at each of the soldering stations to reduce the amount of waste water generated. Emissions from the distillation units would be discharged through the soldering room exhaust stack. The water would contain small amounts of lead due to contact with the solder. Since there does not appear to be an applicable exemption for a distillation process like this, the facility would need to apply for an air use permit.

Spent Foam evaporator – The facility is evaluating a new R&D facility that would include proportionate testing of AFFF. Viking is looking at several options for handling the spent foam. Viking currently collects the spent foam in a covered detention pond that is periodically pumped and transported by Liquid Industrial Waste Services for proper disposal. At the new R&D facility the company is evaluating the possibility of utilizing an evaporator to reduce the amount of water to concentrate the amount of waste needing disposal. As discussed with the facility, the use of an evaporator would require an air use permit.

CONCLUSION

Based on the information and observations made as part of this inspection, the facility appears to be in compliance with applicable air quality rules and regulations.

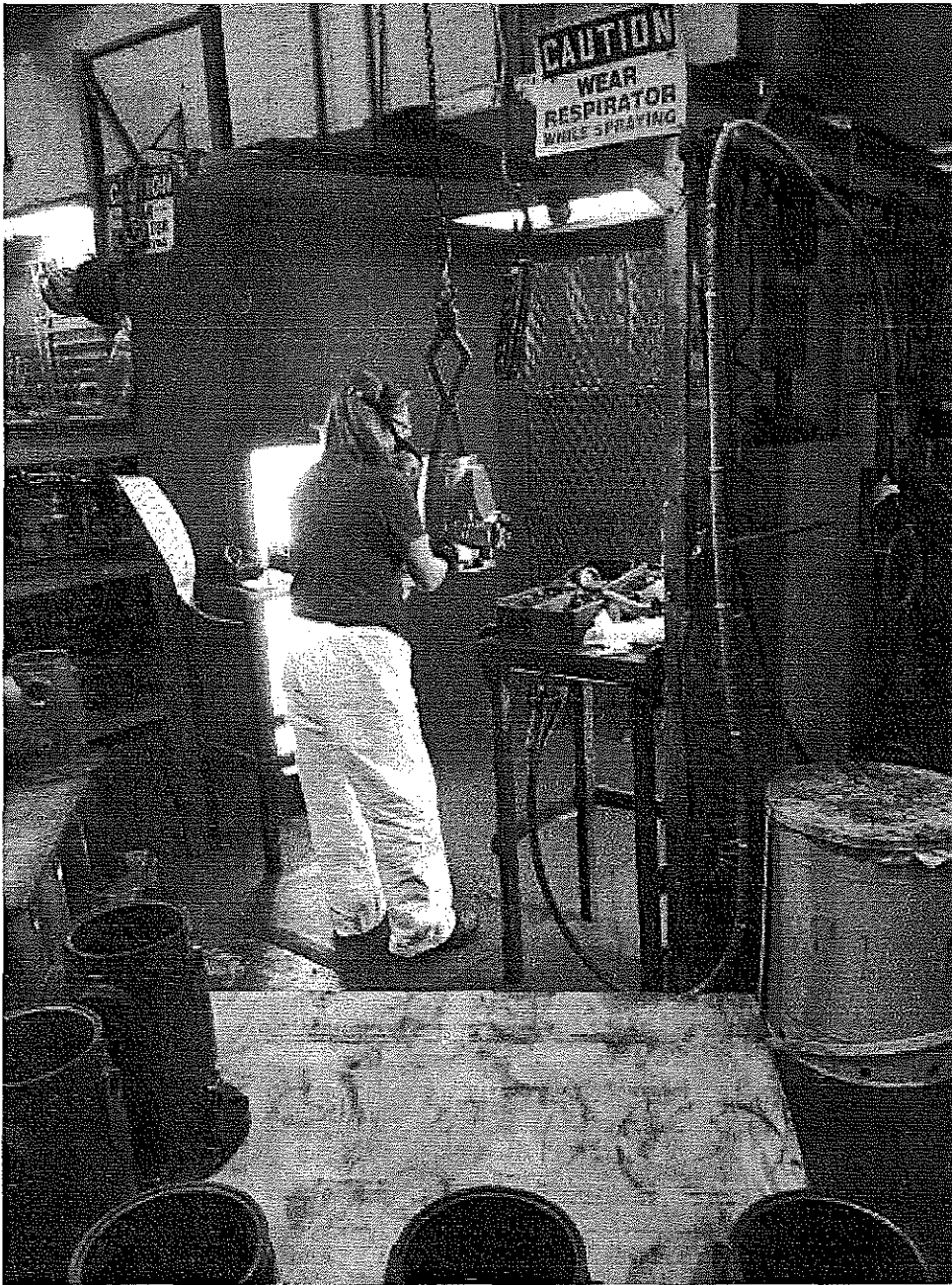


Image 1(Primary Paint Booth) : Primary Paint Booth

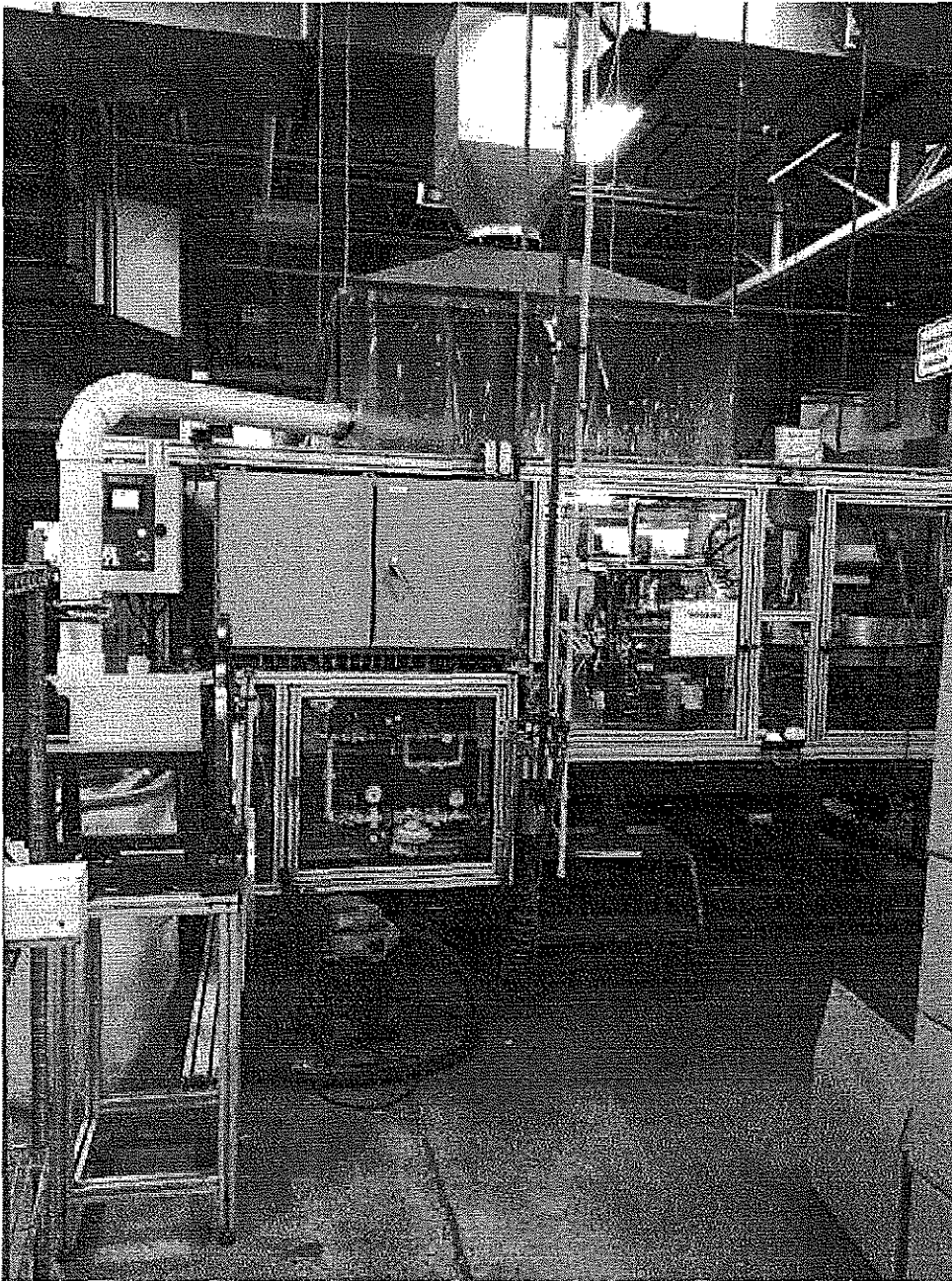


Image 2(Automated Solder) : Automated Solder



Image 3(Manual Solder) : Manual Solder

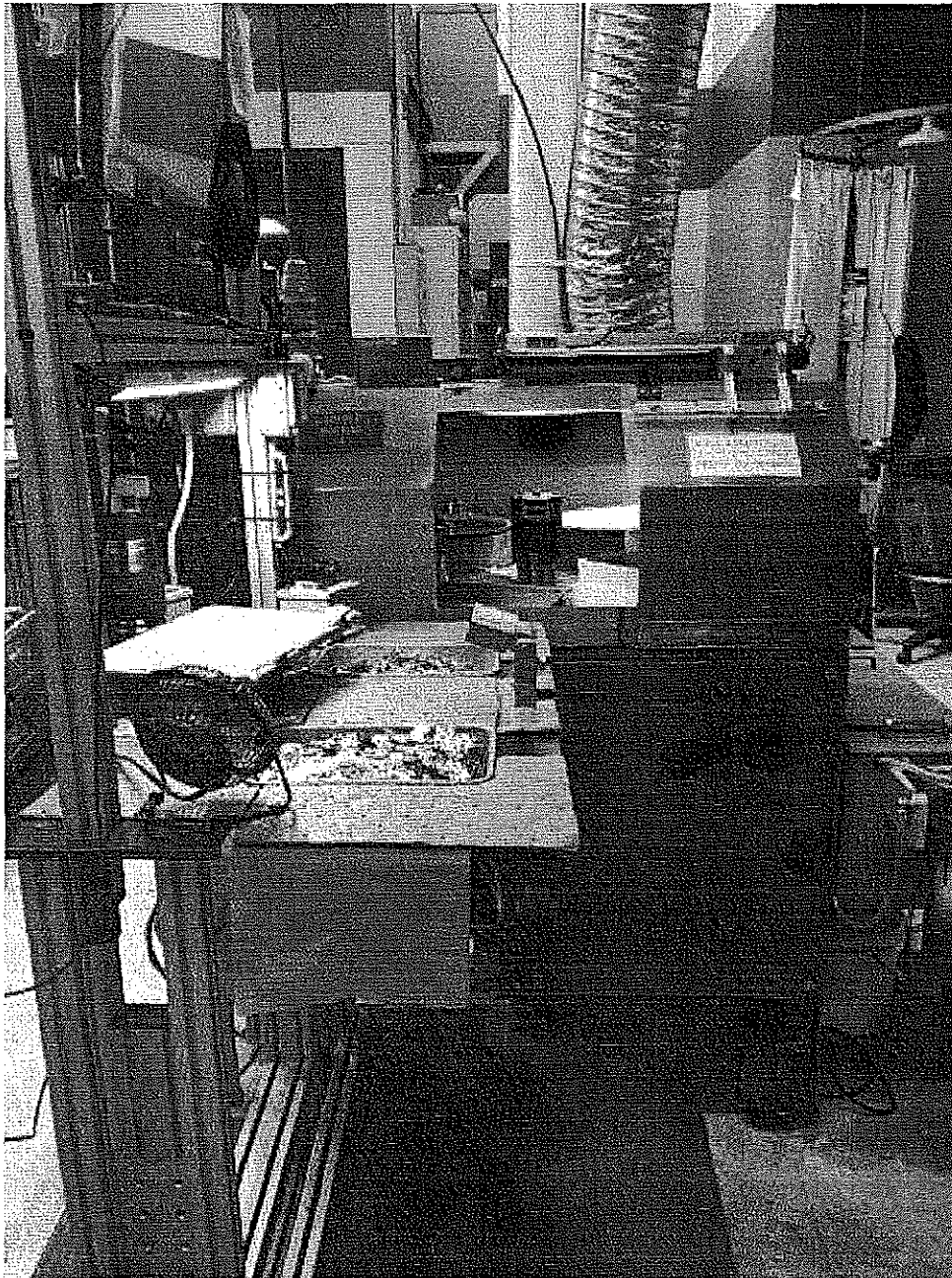


Image 4(Solder Room) : Solder Room

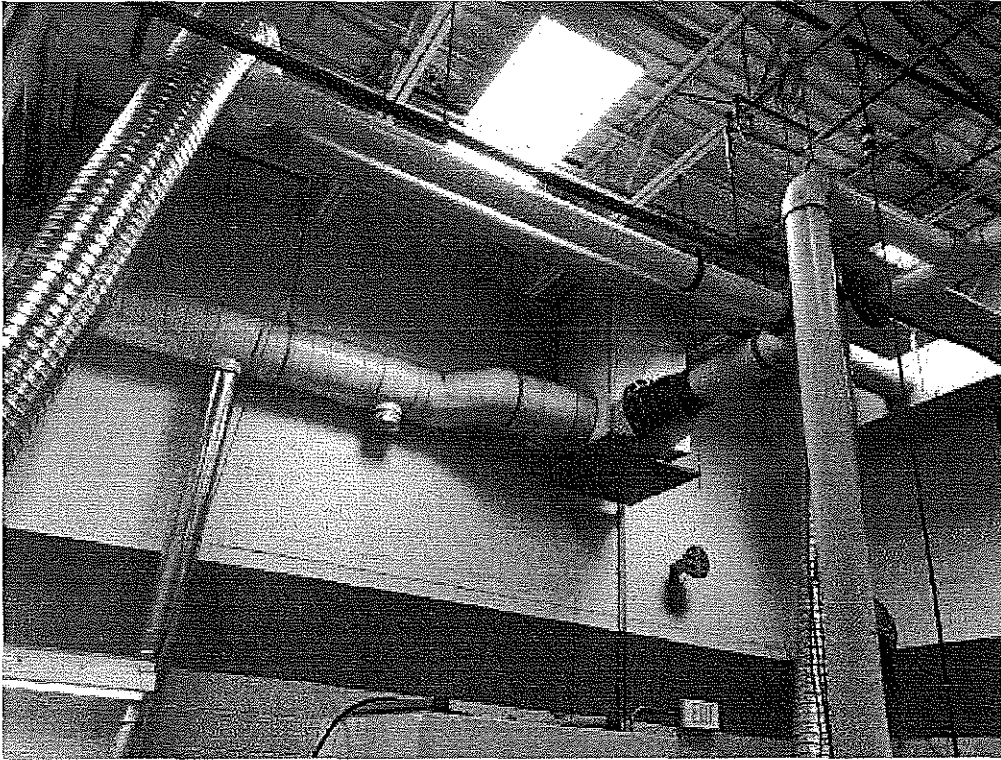


Image 5(Solder Room Exhaust) : Solder Room Exhaust

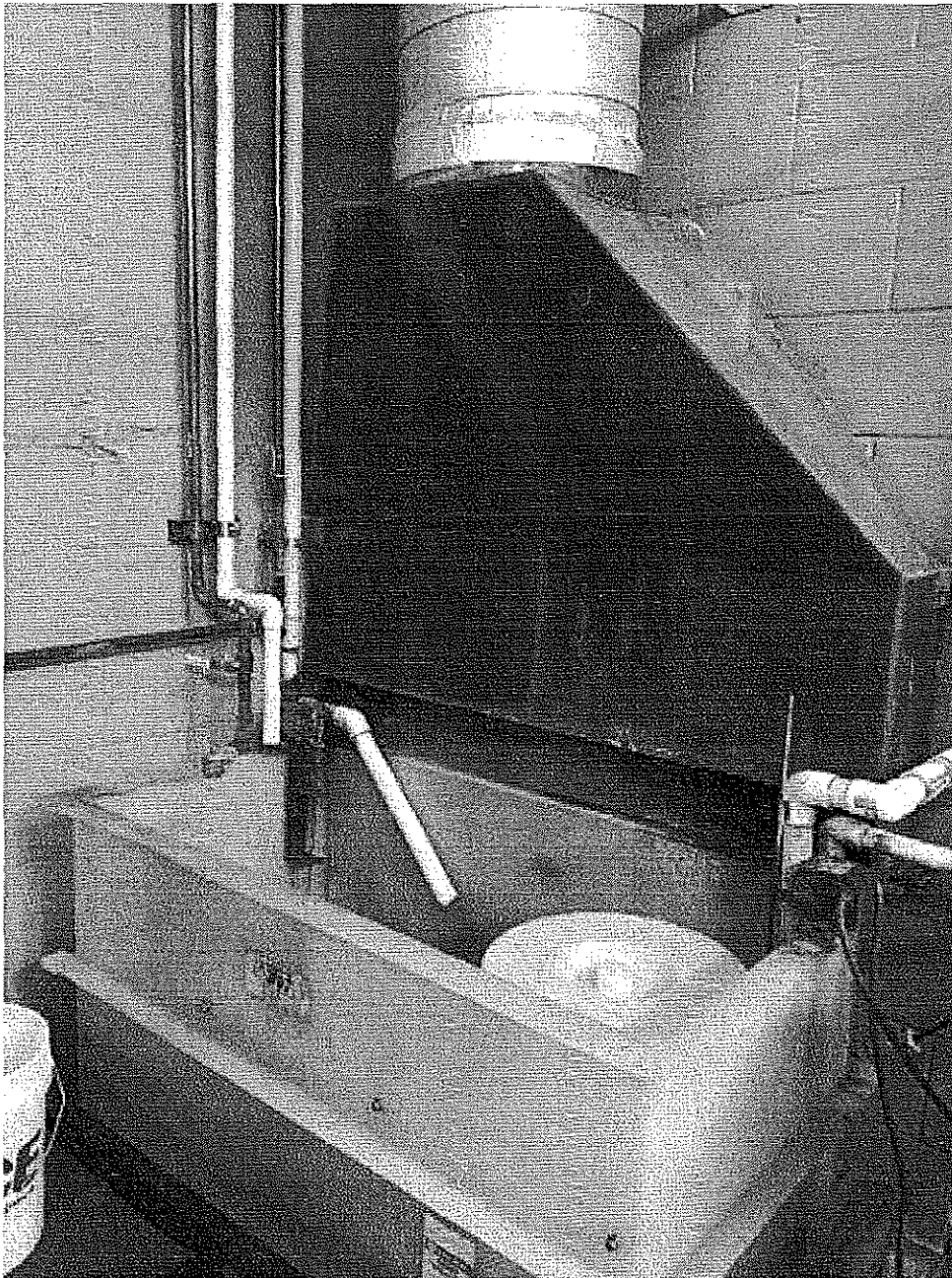


Image 6(Acid Tank) : Acid Tank

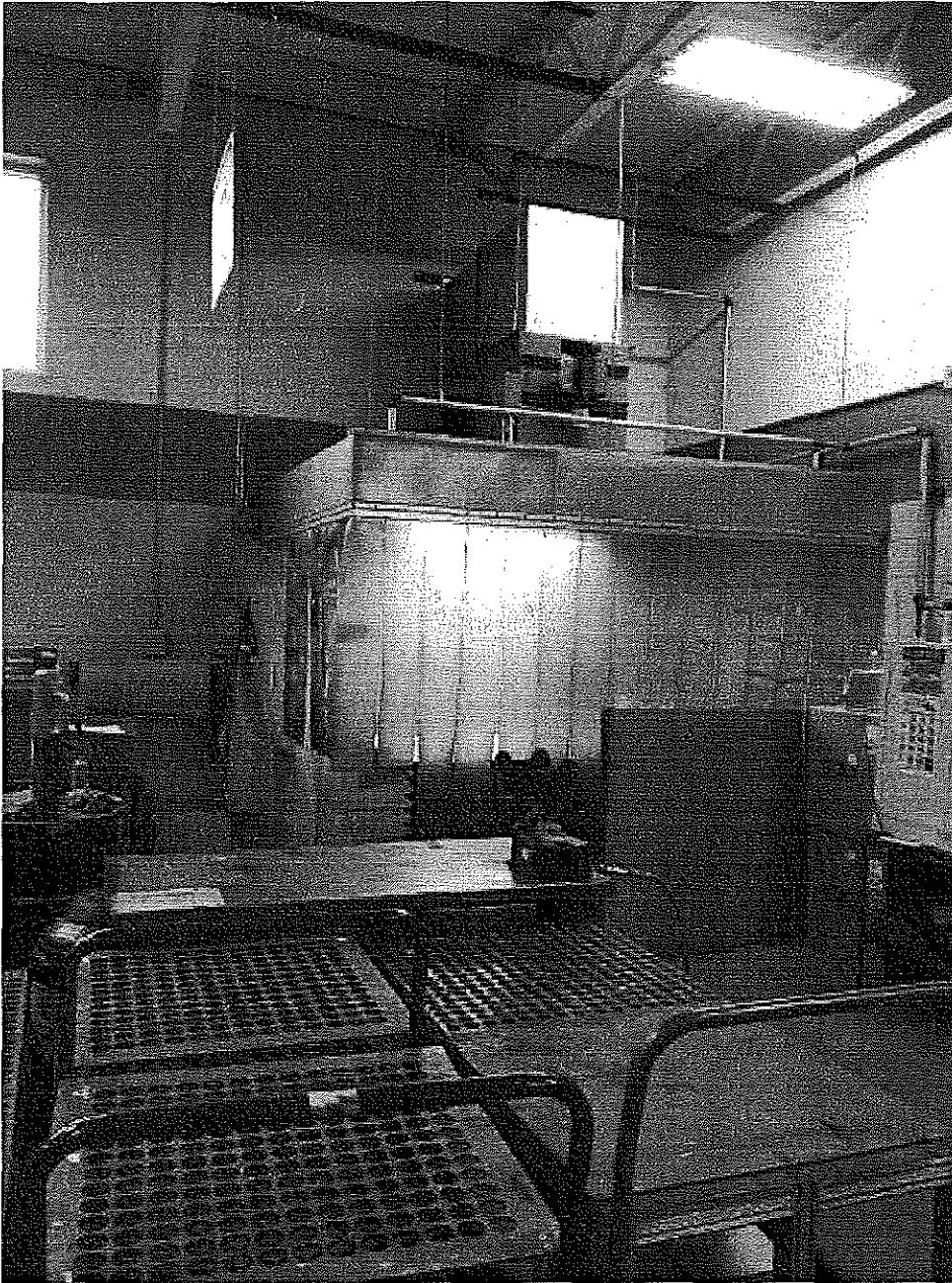


Image 7(Aerosol Can Booth) : Aerosol Can Booth

NAME *Chris Dunster*

DATE *12/6/2017*

SUPERVISOR *[Signature]*