

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

N320950860

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| FACILITY: ELM PLATING CO | | SRN / ID: N3209 |
| LOCATION: 1319 S ELM ST, JACKSON | | DISTRICT: Jackson |
| CITY: JACKSON | | COUNTY: JACKSON |
| CONTACT: Brian Boyer, Director of Environmental Engineering | | ACTIVITY DATE: 10/04/2019 |
| STAFF: Stephanie Weems | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR |
| SUBJECT: Unannounced, scheduled inspection. | | |
| RESOLVED COMPLAINTS: | | |

Minor Source Inspection of Elm Plating Company (N3209)Facility Contacts

Brian Boyer – Director of Environmental Engineering

Email: Brian.boyer@elmplating.com

Phone: 517-782-8161 Ext. 135

Website: <http://www.elmplating.com/>Purpose

On October 4, 2019, I conducted an unannounced compliance inspection of Elm Plating Company located at 1319 South Elm Street, Jackson, Michigan. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules, and conditions of Permit to Install (PTI) numbers 136-00 and 238-04.

Facility Location

The facility is in the city of Jackson, in a commercial and industrial area. A public park is located about 1,000 feet west of the facility. See Image 1 for an aerial view.

Facility Background

This location of Elm Plating Company provides their customers with two main services, zinc barrel plating (both zinc and chromate plating) and heat treating of all-metal fasteners and stampings. Historically, most of their production has been for the auto industry.

This facility was last inspected on October 19, 2017 and was found to be out of compliance. At that time, AQD staff cited opacity limit exceedances, 40 CFR Part 63, Subpart 6W compliance issues, Rule 910 – improper operation of a control device violations, and Rule 201 violations for not having a PTI for 3 oil quenching tanks.

A response to the violation notice (VN) was received on November 27, 2017. AQD staff determined that the facility's response was adequate in addressing the cited violations. On March 30, 2018, AQD staff received an updated response stating that 3 baghouse collectors for the 3 oil quench tanks were installed and operational.

On October 20, 2008, the company submitted an Initial Notification to EPA for compliance with 40 CFR 63 Subpart WWWW (6W) - National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations. In this initial notification, the company indicated that they had 11 chrome conversion tanks with a control device to control potential chromium emissions.

On May 11, 2016, the facility submitted a PTI exemption analysis for installation of a new zinc plating line that contains chrome conversion tanks (Referenced as line B5).

Subsequently, in November of 2017, the facility submitted a corrected initial notification for Subpart 6W, which included a notification for their new chrome conversion tank.

During the last inspection it was noted that one of the older zinc barrel plating lines (B2) had become inactive in August 2017 and that the new B5 line had gone into full production around December 27, 2016. A decision hadn't been made at that time as to whether the B2 would be permanently decommissioned.

Regulatory Applicability

The facility operates under two PTIs: 136-00 and 238-04.

PTI 136-00 covers a hydrochloric acid dip tank (HCLTANK6), a potassium hydroxide soak cleaner tank (KOHTANK2), and a potassium hydroxide electro cleaner tank (KOHTANK10). These emission units are all identified under flexible

group FGBARRELL4, along with all other tanks and equipment that is part of barrel line #4 and is exempt from permitting.

PTI 238-04 covers three heat treat lines (EUOQ1, EUOQ2, and EUOQ3), identified under flexible group FG123.

The facility has also been using permit exemption Rules 285 and 290 to operate some of their equipment.

Additionally, this facility is subject to 40 CFR Part 63 Subpart W (6W) - National Emission Standards for Hazardous Air Pollutants (NESHAP): Area Source Standards for Plating and Polishing Operations. NOTE: Due to EGLE not having delegation to enforce this regulation, this subpart was not evaluated for a compliance determination during this inspection.

Emission Unit Details

PTI No. 136-00: Zinc Barrel Plating Line / AKA Barrel Line 4 (B4).

The permit for this barrel line does not specify air pollution control equipment and requires a single stack (Stack 1). The permit does not specify dimensions for the acid dip tank containing hydrochloric acid (HCLTANK6), a soak cleaner tank containing potassium hydroxide (KOHTANK2) and an electro cleaner tank containing potassium hydroxide (KOHTANK10). Permit special condition (SC) 1 requires the facility to maintain a 20 percent or less hydrochloric acid (HCl) concentration in HCLTANK6 and to keep records of the HCl purchased and concentration used in HCLTANK6. Permit SC 2 requires the facility to keep records of the amount used and concentration of KOH in KOHTANK2 and KOHTANK10.

PTI 238-04: Heat Treat Lines with Oil Quench.

The permit for the three heat treat lines does not specify air pollution control equipment or stack requirements. The heat treat lines are all described as a heat treat line equipped with a hardening furnace, oil quench, a draw furnace and auxiliary equipment. The group of heat treat lines has a particulate emissions limit of 2,460 pounds per month (SC 1.1) determined monthly based upon a material balance recordkeeping identified in Appendix I of the permit. Per permit SC 1.2, the visible emissions from the group must not exceed a six-minute average of 10 percent opacity. Per SC 1.3, the process must not use more than 335.0 gallons of quench oil in the group per month.

Additionally, the facility installed three Torit baghouses, one for each heat treat line. These baghouses were installed to help resolve the opacity issues noted during the last inspection. These units are equipped with fire dampers and magnehelic pressure gauges.

Permit Exemption Rule 290: Zinc Barrel Plating Line / AKA B3.

The B3 line consists of several tanks, including alkaline cleaner tanks (KOH), HCl acid tanks, and an electro cleaner tanks containing KOH. These specific tanks have a blower associated with each line that exhausts via a single stack. Past compliance for HCl emissions was demonstrated through Rule 290, and the KOH tanks are exempt by Rule 285(2)(l)(iii). The plater tanks, which vent into the in-plant environment, are next in line, and they are exempt per Rule 285(2)(r)(vii). Additionally, parts that are zinc plated on line B3 receive a chromate coating based on customer finishing needs.

Permit Exemption Rule 285(2)(l): Chromate Conversion Lines

The facility also has two chromate lines, C1 and C3. Sixteen tanks are associated with line C1, and eight tanks are associated with line C3. The facility offers 3 chromate finishes: black, yellow, and a clear chromate. The lines do not exhaust directly to the exterior.

Permit Exemption Rule 290: New Chrome Conversion Coating Line B5

This line consists of 42 separate tanks, which includes alkaline cleaner tanks, acid tanks, an activation tank, plating tanks and multiple water rinse tanks. It also includes a natural gas fired boiler and 5 small drying/curing ovens.

The water rinse tanks are exhausted to the in-plant environment. The cleaning, acid and zinc plating tanks are exhausted via stacks. The 5 chrome conversion tanks are exhausted to a Viron International Viro-Chrome 9000 chrome scrubber that has a 99.8% removal efficiency.

Arrival & Facility Contact

No visible emissions or odors were observed upon my approach to the facility. Additionally, I drove around the facility and down Bagley Ave. to view the stacks associated with the heat treat area of the facility. No visible emissions were observed. I arrived at approximately 9:08 AM, proceeded to the facility office to request access for an inspection, provided my identification, and met with Brian Boyer, Director of Environmental Engineering. I informed him of my intent to conduct a compliance inspection and to review various records as necessary.

Brian extended his full cooperation throughout the duration of my visit and fully addressed all my questions.

Pre-Inspection Meeting

I began the meeting by providing Brian with a copy of the facility's PTIs, a copy of the most recent inspection report, and a list of records that would be needed to determine compliance.

Brian outlined that there are approximately 125 employees at this location, and they typically operate 24 hours a day, 5 days a week, except for the heat treat process that operates 24 hours a day, 7 days a week.

I then asked Brian about some of the processes at the facility, including if they had any boilers, emergency generators, cold cleaners, parts washers, or degreasers. Brian explained that, of the processes mentioned, there are only a few boilers. I requested that Brian send me the specifications and installation dates for the boilers when he sends the other requested information.

Furthermore, I asked Brian if there had been any changes at the facility since the time of the last inspection. Brian described the installation of the three baghouses associated with the oil quench processes. He also said that the zinc barrel plating line B2 had been completely removed around January 2019. Additionally, he explained that the facility had also extended the height of the stacks associated with the B5 line in Fall 2018/Spring 2019, based upon a recommendation given to them by the previous inspector of the facility.

Onsite Inspection

Brian then escorted me as I conducted the onsite tour portion of the inspection. We first observed the B3 Line, which was not operating during the inspection (See Image 3). Brian explained that the B3 line does not have as much work as some of the other lines, so they typically don't operate it on Fridays.

Next, we observed the newer B5 line. Brian explained that each tank in this line can be monitored independently, allowing for better conservation of electricity (See Image 2). He also pointed out the exhaust system associated with the line, and how it runs to the scrubber control device. The control device appeared to be well-maintained. Overall, the B5 line appeared to be in good condition and well ventilated. Tanks producing emissions were collected via side collection hoods adjacent to each tank. On the opposite side of the tank from the hood was a blower to direct tank emissions to the hoods.

We then walked outside to observe the stacks associated with the B5 line (See Image 4). No odors or visible emissions were noted. Brian explained that the very top section, from the top set of bolts up, was the part that was recently added to the stacks.

Next, we went to the heat treat building. As we approached this building from the outside, it was noted that one of the bay doors was open, but no visible emissions were observed.

We then stopped into the office to discuss the baghouse operations with the heat treat manager, but he was unavailable. We were, however, able to talk to other staff who were helpful in describing the changes that have occurred at the facility since the installation of the baghouses. He indicated that the amount of smoke in the facility has greatly diminished since the installation of the baghouses. He also said he would help Brian obtain the manuals for the baghouse and the facility preventative maintenance procedures for these control units, as I had requested Brian send me that information.

After this discussion, we toured the three heat treat lines and observed the baghouses (See images 6 and 7). Brian pointed out hoods that were installed on the furnaces to help direct emissions to the baghouses. See Image 5.

We then proceeded to the area that previously housed the B2 line. This area is now completely cleared of all process equipment and is used as a pre-staging area for the other lines. As we walked through this area, it was noted that there were only containers of nuts, bolts, and other products being stored in this area.

Next, we observed the B4 (see Image 8) and C3 lines. These lines are located within the same vicinity. No issues were noted.

Finally, we observed the C1 line (see Image 9). It was not operating at the time of the inspection as it is normally shutdown from Friday to Monday.

Post-Inspection Meeting

A brief post inspection meeting was held with Brian where we discussed the requested records and when they were expected by. I thanked Brian for his time and cooperation and departed the facility at approximately 10:10 AM.

Recordkeeping Review

The following records request sheet was given to Brian during the inspection:

ALL RECORDS ARE REQUESTED FROM SEPTEMBER 2018 TO PRESENT

- 1) Provide necessary records for Rule 290 compliance for lines B3 and B5.
- 2) Provide necessary records to show compliance with special conditions 1 and 2 of PTI 136-00

3) Provide necessary records to show compliance with special conditions 1.1, 1.2, 1.3 and 1.4 of PTI 238-04

Furthermore, during the inspection I requested information on the boilers located at the facility, as well as the operating manual and the facility's preventative maintenance procedure for the 3 baghouses.

PTI No. 136-00 / B4 Records Review:

Records for the requested time period indicate compliance with permit SC 1, which requires the facility to maintain a 20 percent or less hydrochloric acid (HCl) concentration in HCLTANK6 and to keep records of the HCl purchased and concentration used in HCLTANK6 (the HCl concentration was generally between 9 and 12% during the time period reviewed). Additionally, the facility supplied the records of the amount used and concentration of potassium hydroxide as required in SC 2.

PTI No. 238-04 Records Review:

The records provided by the company appear to demonstrate compliance with permit SC 1.1, which limits particulate emissions from the 3 heat treat lines to 2,460 pounds/month and with SC 1.3, which limits quench oil usage to 335 gallons per month. The facility reported their net quench oil usage as 286.0 gallons per month and their particulate emissions at 1990.6 lbs/month.

Permit Exemption Rule 290: Zinc Barrel Plating Lines B3 and B5 Records Review:

The records provided by the company appear to demonstrate compliance with Rule 290 requirements, which includes emitting less than the monthly emission limit, providing a description of the emission units, and providing records for the requested timeframe.

Boilers:

Brian provided a spreadsheet with the basic information for each of the boilers located at the facility. There are 5 boilers with the following information:

1. B3 line boiler – Lochinvar – Installed 2012 – Heat input capacity 1,260,000 Btu/hour
2. B4 line boiler – Fulton – Installed 2018 – Heat Input capacity 2,511,000 Btu/hour
3. B5 line boiler- Columbia – Installed 2015 – Heat Input capacity 4,200,000 Btu/hour
4. M3 South boiler – Slant/Fin Corp-Galaxy – Installed 2018 – Heat Input capacity 375,000 Btu/hour
5. M3 North boiler – Slant/Fin Corp-Galaxy – Installed 2018 – Heat input capacity 375,000 Btu/hour

Since all the boilers are below 10 MMBtu/hour heat input capacity they are not subject to 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

Furthermore, since all the boilers are below 50,000,000 Btu/hour heat input capacity and they run on natural gas they are exempt from permitting under Rule 282(2)(b)(i).

Finally, since all the boilers burn only natural gas, they are not subject to 40 CFR Part 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Source.

Compliance Summary

Based upon the facility inspection and review of the records, it appears that the facility is in compliance at the time of this inspection.



Image 1(1) : Aerial view

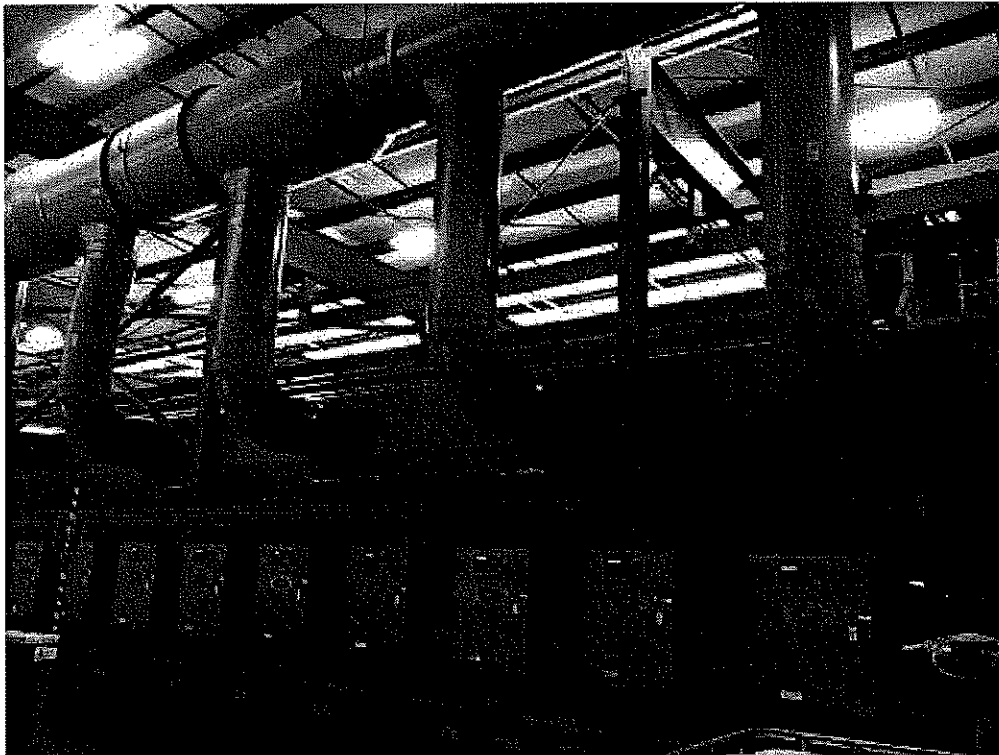


Image 2(2) : Tanks and exhaust for the B5 line.



Image 3(3) : View of the B3 line. (Not in operation at the time of the inspection)



Image 4(4) : Stacks associated with the B5 line.

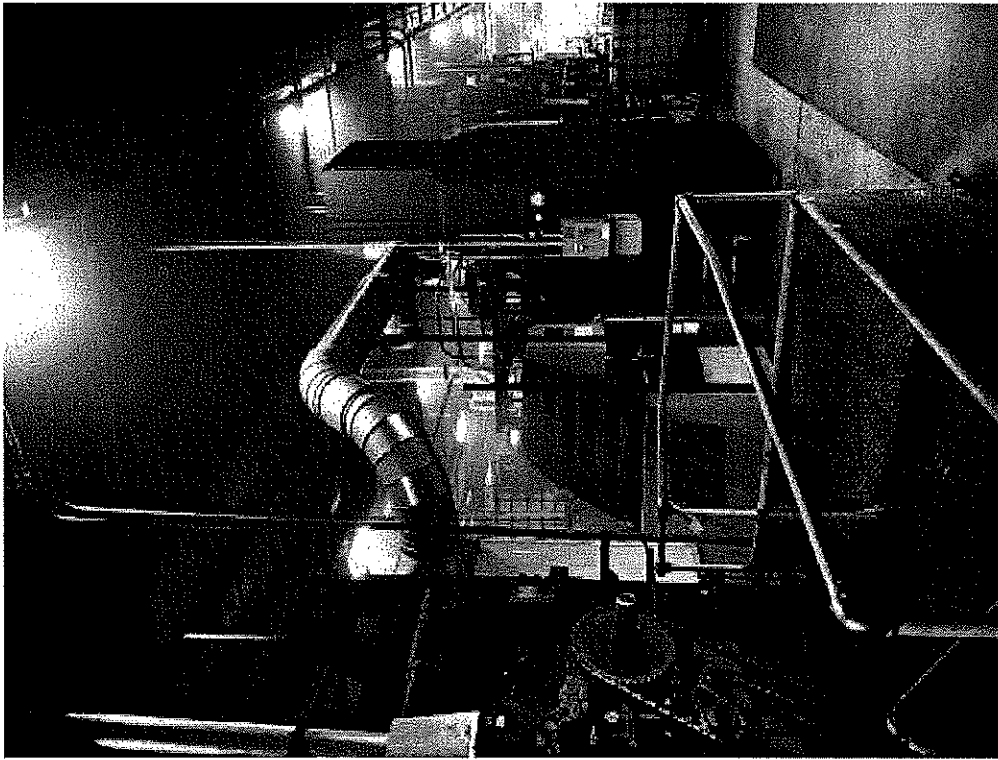


Image 7(7) : View of heat treat line



Image 8(8) : View of B4 line

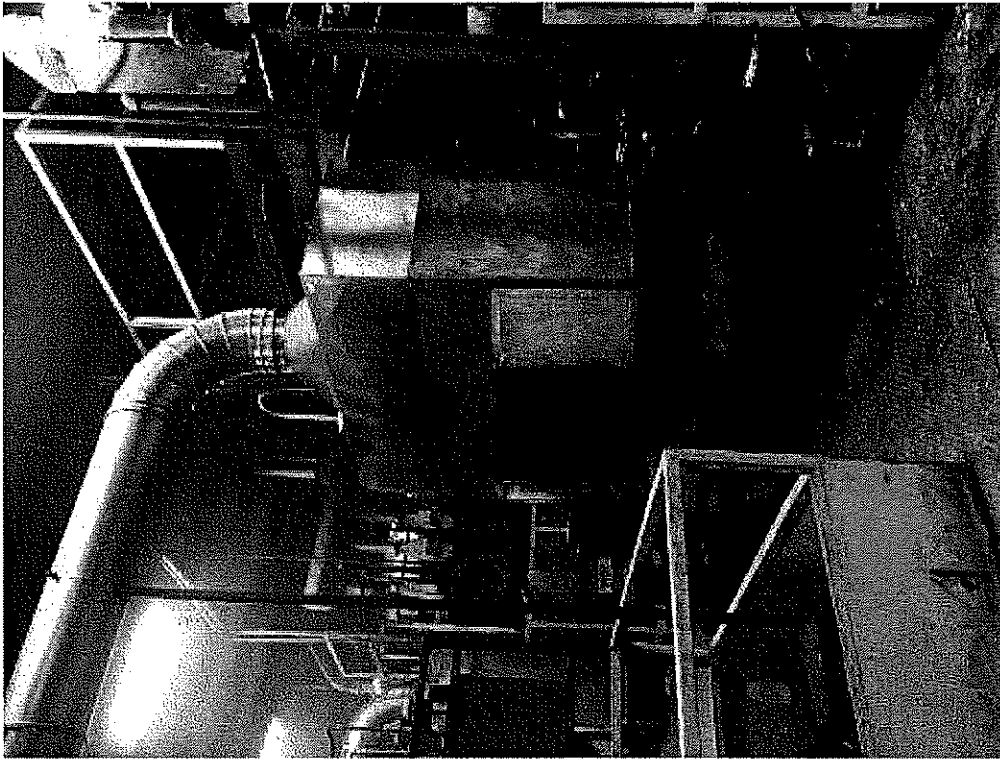


Image 5(5) : One of the hoods installed on one of the heat treat lines.

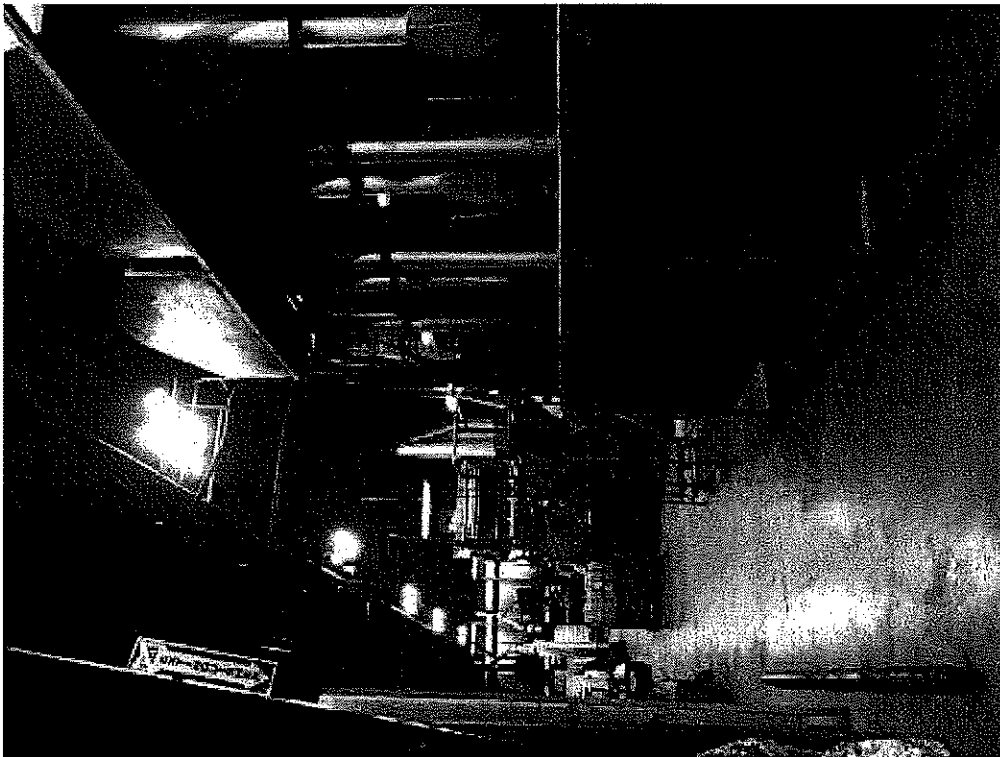


Image 6(6) : View of heat treat line

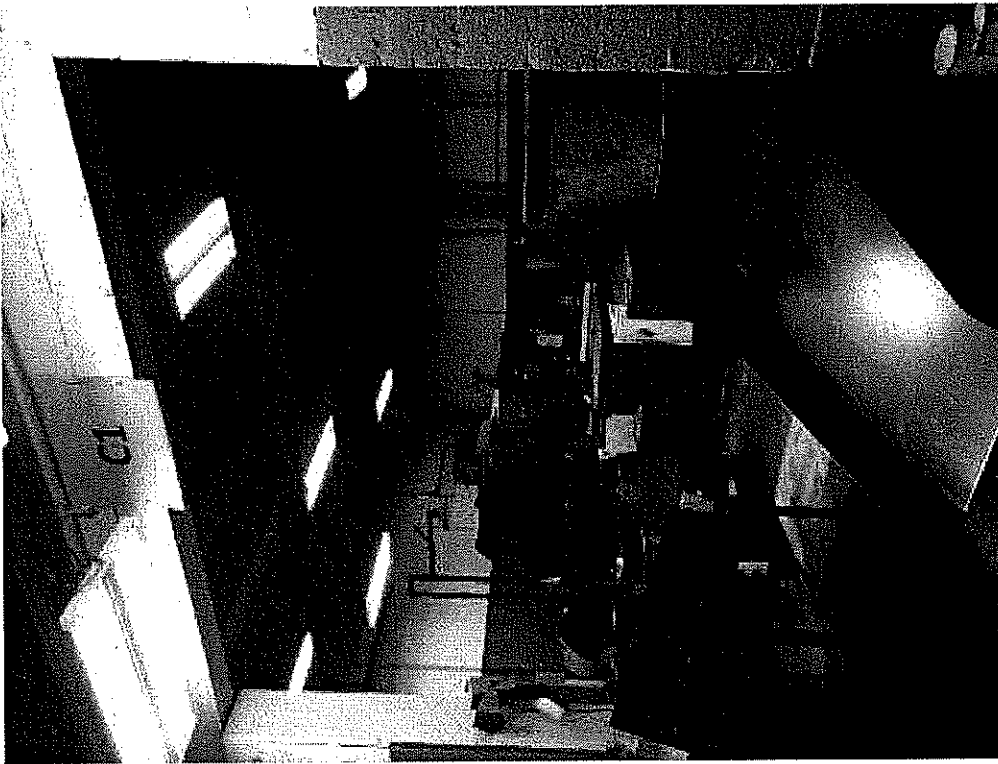


Image 9(9) : View of C1 line area (not operating during inspection)

NAME *Shawn W.*

DATE 10/14/19

SUPERVISOR *[Signature]*