

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

N571343023

FACILITY: JACKSON TUMBLE FINISH		SRN / ID: N5713
LOCATION: 1801 MITCHELL ST, JACKSON		DISTRICT: Jackson
CITY: JACKSON		COUNTY: JACKSON
CONTACT: Michelle Morrison , Quality Manager		ACTIVITY DATE: 01/11/2018
STAFF: Mike Kovalchick	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS:
SUBJECT: Scheduled inspection.		
RESOLVED COMPLAINTS:		

Minor Source-**Facility Contacts**

Michelle Morrison-Quality Manager

Michael Beshalske-Director of Health & Safety

Daniel Guerrero-Plant Supervisor

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<http://jacksontumble.com/>**Purpose**

On January 11, 2018, I conducted an unannounced compliance inspection of Jackson Tumble Finish (Company) located at 1801 Mitchell Street in Jackson. 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.

Facility Location

The facility is located in a commercial area of Jackson but with a couple of residential homes directly next to the facility on the NE side. See attached aerial photo of facility.

Facility Background

This facility was last inspected on 12/20/2012 and was found to be in compliance. The Company has three buildings totaling 40,000 square feet. The center building houses the office, dip lines, tumble area, wastewater treatment, surface sanding, shot blast area, boiler and loading docks. The east building is used mostly for storage. The Company mostly puts finish coatings on small metal parts for the auto industry. The west building house shot blast and deburring and is also used for storage. The facility has 3 phosphating lines, one black oxidation line, 1 passivation line, 1 pickling line, Tumbling/Vibratory equipment, shot blasting, degreasing/washing, as phosphate and lube process line.

Attachment (1) shows process flow diagrams of the various dip lines and other processes at the facility.

Regulatory Applicability

Rule 285 (2) (r)(i) or (ii) is a permit exemption rule that applies to the dip tanks if the process emissions "are only released into the general in-plant environment." Generally there is no dedicated exhaust for each tank/line but some of the general ventilation fans on the roof are just above each process and heated emissions from the tanks rise straight into these fans suggesting that this permit exemption rule isn't applicable for all the dip line tanks.

Rule 284 (2) (h) (iv) is a permit exemption rule that applies to the low concentration HCL tanks

Rule 282 (2) (b) (i) is a permit exemption rule that applies to the boiler.

Rule 290 (2) may apply to the dip tanks lines except for the manganese phosphate dip tank were is it possible the manganese compound emissions exceed the combined toxic compounds limit of 20 pounds/month for an uncontrolled process.

40 CFR Part 63, Subpart WWWW - National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations (6W MACT) is **applicable** to the manganese phosphate coating tank.

Arrival & Facility Contact

Visible emissions were not observed upon my approach to the Company's facility. I noticed some odors directly North of the facility. I arrived at 9:00 am, proceeded to the facility office to request access for an inspection, provided my identification and spoke with Michelle Morrison (MM). I informed her of my intent to conduct a facility inspection and to review the various records as necessary.

MM extended her full cooperation and fully addressed my questions.

Pre-Inspection Meeting

MM outlined that there are approximately 50 employees who work two 12 hours shifts 5 days a week. There have been few changes to the facility since the last inspection. The facility is close to full production. I discussed the 6W MACT regulation that applies to the manganese phosphate tank which MM was not aware of.

NOTE: Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are not used at this facility.

Onsite Inspection

MM gave me a tour of the facility. We were joined by plant personnel Michael Beshalske and Daniel Guerrero.

We first looked at a small washing/degreasing line at that contained a cleaning agent and an adjacent passivation tank containing some dilute citric acid. (See attached photos.)

We then looked at a Line 4 zinc phosphate line. The temperature of the tanks was around 145 deg. F. There were no dedicated exhausts except some roof fans. No acid was being used. The final tank contained an aqueous oil solution. No smoke appeared to be generated when metal parts were added to this tank. (See attached photos.)

Next, we observed the black oxide line. Dilute HCL acid was being used. Two roof fans were present above the process.

We then looked at the manganese phosphate line. This tank contains an aqueous mixture of phosphoric acid, manganese nitrate and manganese phosphate. I noted a roof fan directly above the manganese phosphate tank. This tank is being used 3 to 6 hours per day. The temperature of the tanks is around 195 deg F. The tank contains about 350 gallons of water and 50 gallons of the manganese compounds. Usage of the manganese compounds were estimated at 25 to 45 gallons per week. (The manganese compounds make about 10 to 20 % of the 25 to 45 gallons. Weight of compound is 11 pounds/gallon which works out to a maximum estimate of 200 to 400 pounds of manganese compounds per month. ITSL 0.3 (**ug/m3**) Prior to the manganese phosphate tank, there was an alkaline cleaner tank. (See attached photos of this line.)

Next, we observed the Line 2 zinc phosphate line. There was also an aqueous oil tank in this line. Acid concentrate (HCL) in one of the tanks was estimated at 5%. I did not observe any dedicated exhausts but with ceiling exhaust fans nearby. Line 1 was directly adjacent to Line 2 with a similar setup. No dedicated exhausts other than roof exhaust fans directly above the process.

We then looked at the Line 3 phosphate line. No findings. Near that area was a 10 Million BTU natural gas fired boiler. (See attached photos.)

We stopped briefly to look at a room containing 5 tumble machines. No dust was observed and there was no exhaust from the room.

We exited the building then walking across a dirt road to the West building that contained deburring and shot blast. Nothing was operating. The 2 shot blast machines were each controlled by a baghouse that exhausted

outside. (See attached photos.)

At this point, I requested access to the roof to the main building. A small mechanical lift was provided to access the roof. The roof appeared to be in excellent shape. Generally, no opacity was observed. One of the exhaust vents that vented horizontally was generating moderate odors and also appeared to contain a little smoke mixed in with the steamy emissions. (See attached photos.) I requested that we go back into the main build to observe the source of this odorous. I was brought back inside to Line 1 and was shown an alkaline cleaner tank and an oil skimmer tank. Emissions from both tanks lofted upwards to a roof fan/horizontal exhaust port that I had just witnessed on the roof. Parts were first placed in this oil skimming tank to remove the oil. The temperature was kept between 180 to 220 degrees F. The cleaner appears to be potassium hydroxide. There were too much steamy emissions coming from these 2 tanks to observe any potential smoke.

Overall, the conditions of the dip tanks lines appeared to be poor. The tanks appeared to be old, in some cases corroded, and there was evidence of recent spills adjacent to the tanks.

Records Review

Attachment (2) includes the MSDS's for the alkaline cleaner that they use, the water-soluble oil compound, the manganese phosphate compound, and another cleaning compound they use.

I was told during the inspection that approximately 25 to 45 gallons of manganese compounds are used per week in the manganese phosphate tank. This amounts to approximately 200 to 400 pounds of manganese compounds potentially emitted per month if we assume all these compounds are emitted. (The Company does not maintain actual estimated emission calculations for possible Rule 290 considerations.) With the ITSL of manganese compounds being 0.3 $\mu\text{g}/\text{m}^3$ emissions can be no more than 20 pounds per month. Hence, Rule 290 does not apply and thus emissions of manganese compounds require a PTI permit.

Post-Inspection Meeting

I held a brief post-inspection meeting with MM. I indicted to her that the only compliance issue was the manganese phosphate tank and I would be citing the Company for violations of the 6W MACT. I also noted that I had received odor complaints nearby but believe the source of the odors is from Elm Plating which is located just to the West of the Company.

I thanked MM for her time and cooperation, and I departed the facility at approximately 10:45 am.

Compliance Summary

The Company is in compliance except for the manganese phosphate tank which is not in compliance with the 6W MACT and Rule 201-No Permit to Install (PTI). A Violation Notice (VN) will be sent to the Company and they will have 21 days to respond.

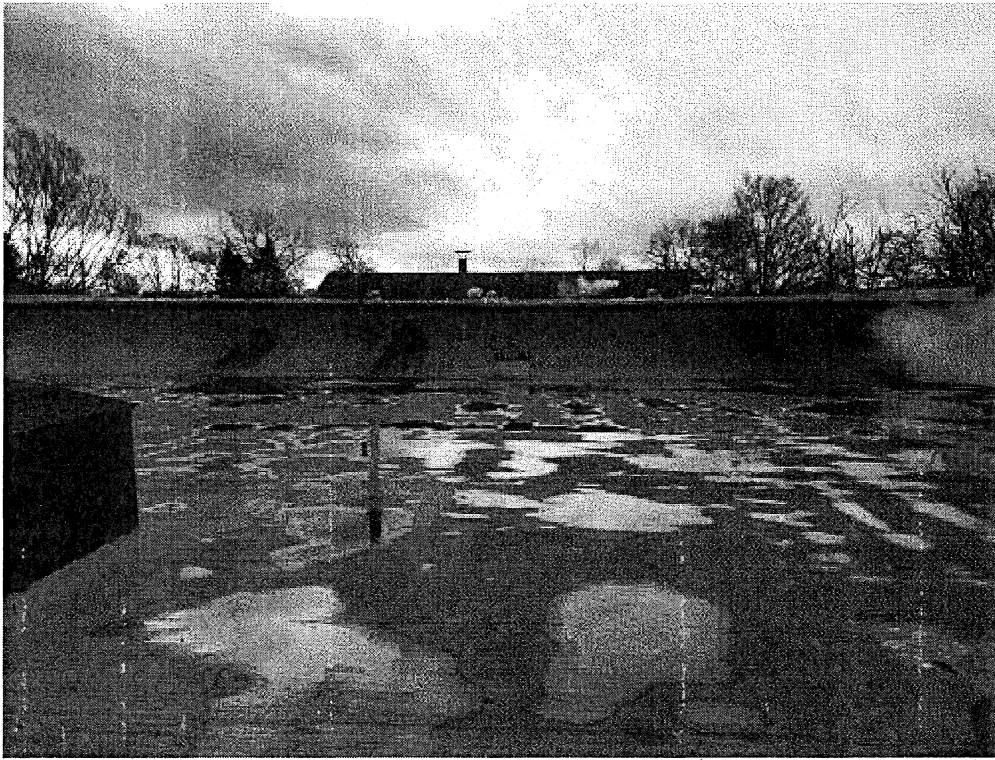


Image 1(Roof Main Building) : Roof-main building



Image 2(Smoke?) : Possible smoke from line 1 cleaner tank/oil skimming tank.

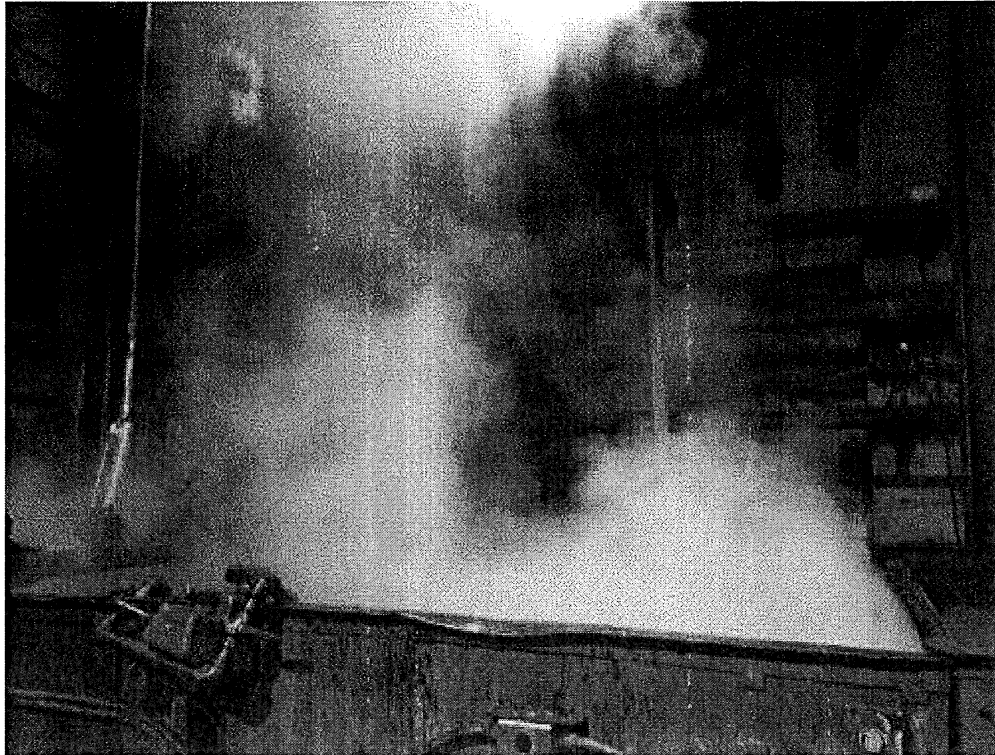


Image 3(Odororous tank) : Odorous cleaning tank and oil skim tank with emissions exiting via horizontal ceiling exhaust.

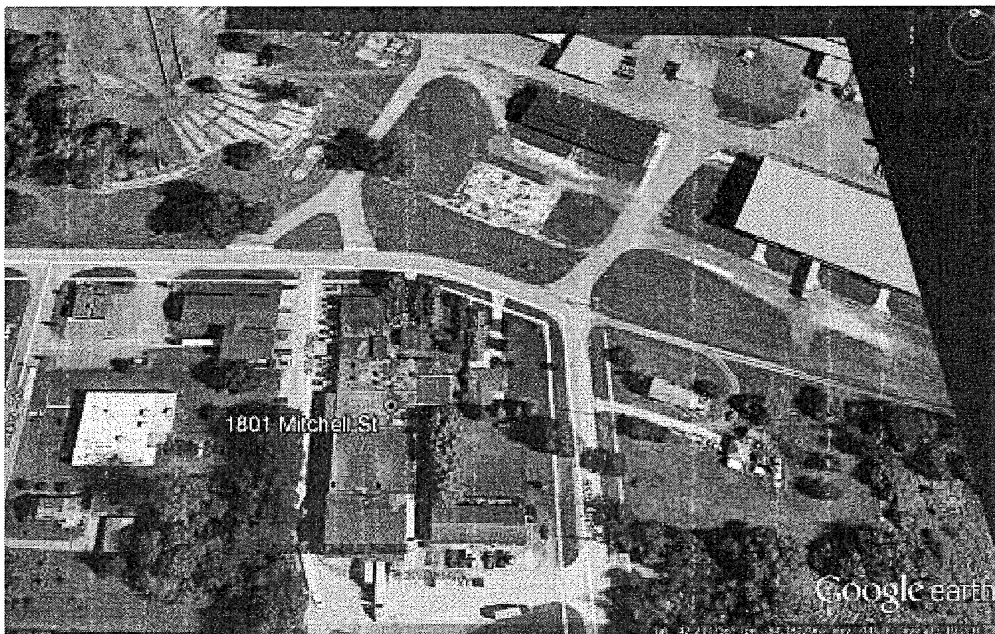


Image 4(Aerial photo) : Aerial photo



Image 5(Washing/Degreasing) : Washing/Degreasing line.

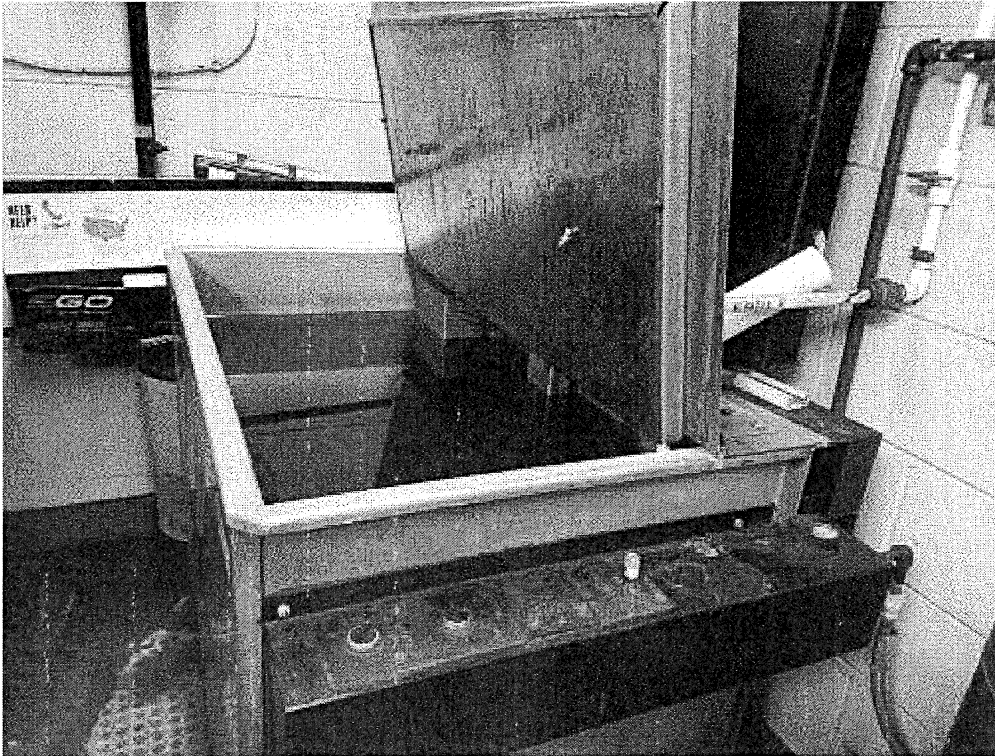


Image 6(Passivation tank) : Passivation tank using dilute citric acid.

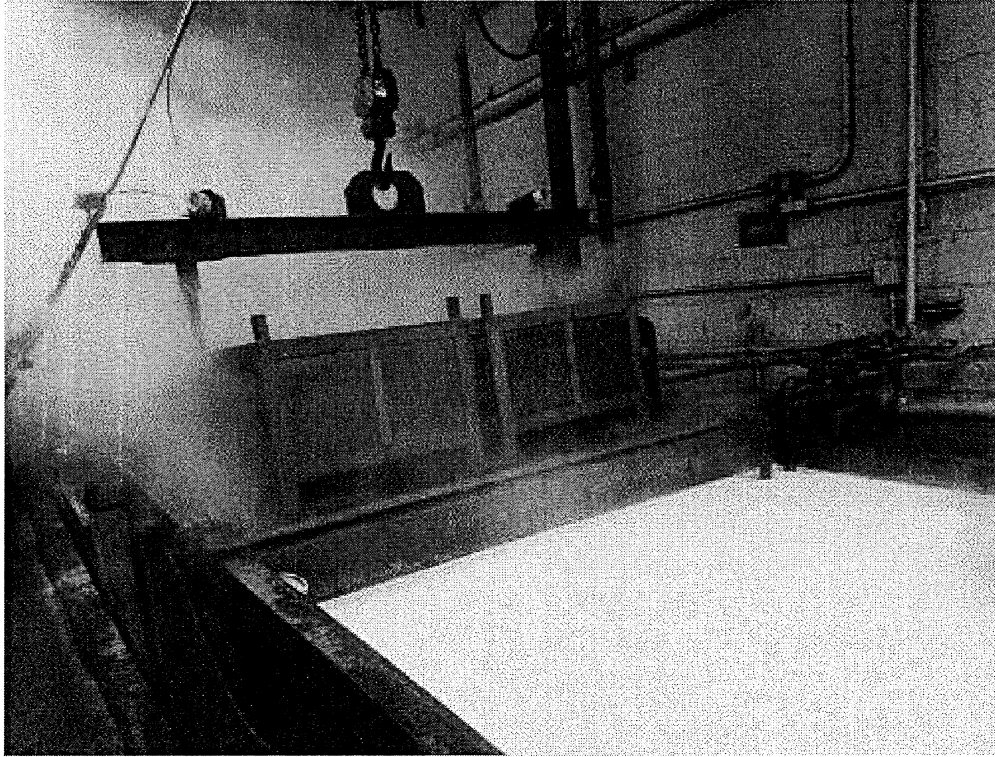


Image 7(Aqueous oil tank) : Line 4 Zinc phosphate with aqueous oil tank

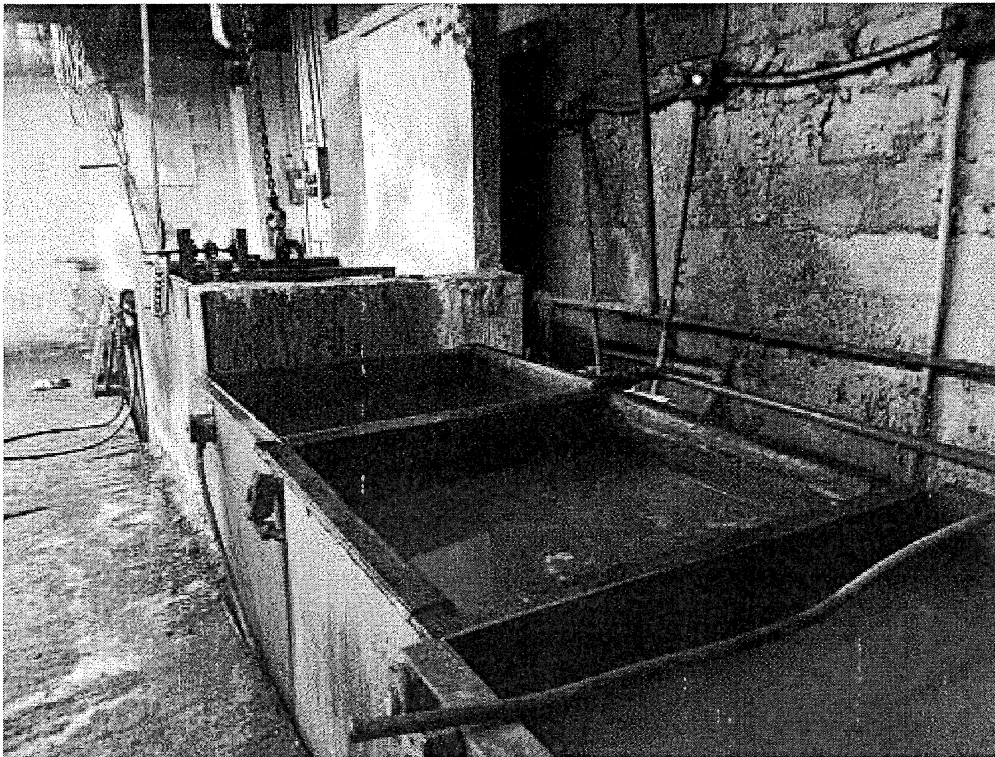


Image 8(Black Oxide line) : Black oxide line.

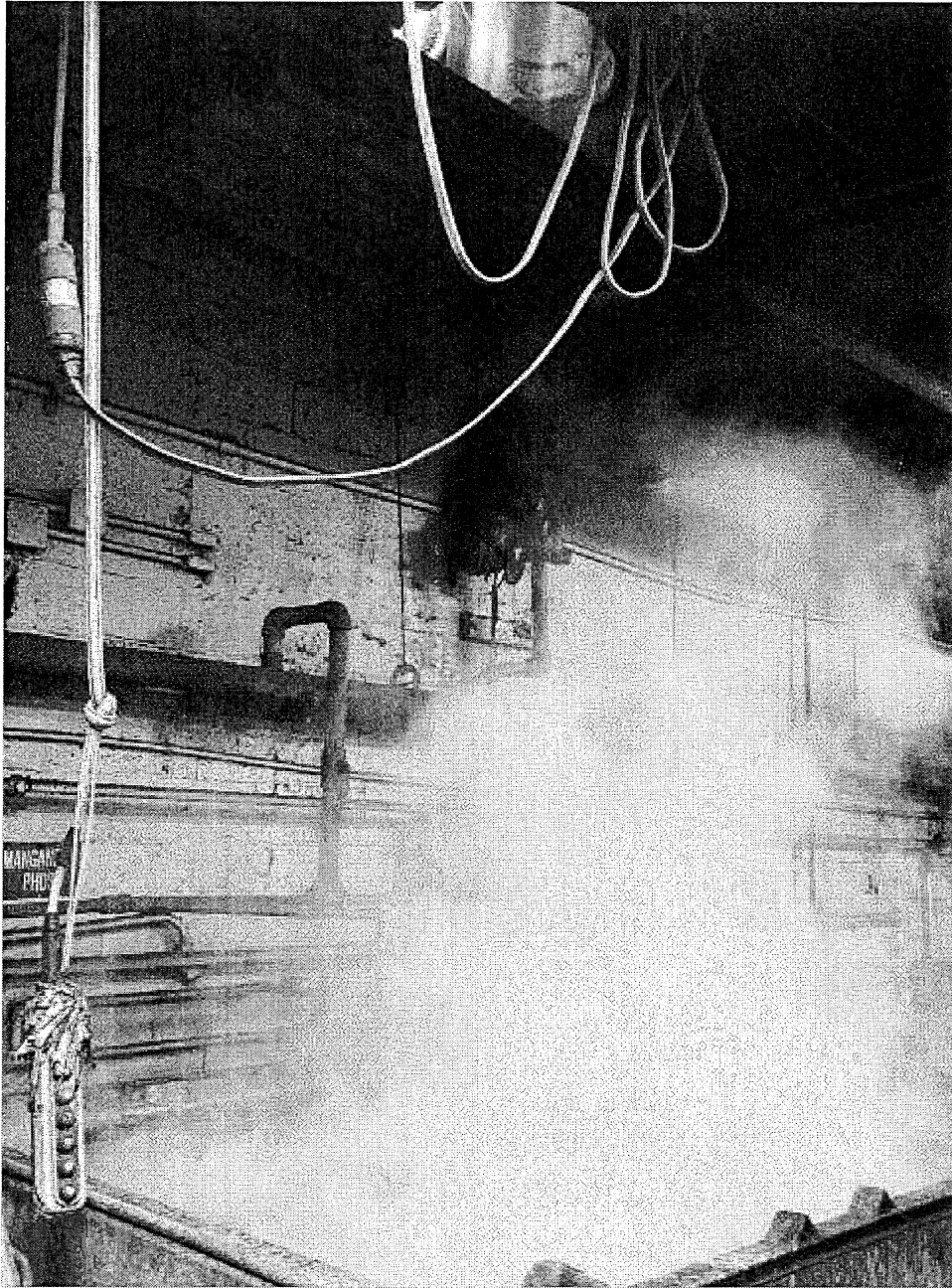


Image 9(Manganese tank) : Manganese phosphate tank with ceiling exhaust fan.

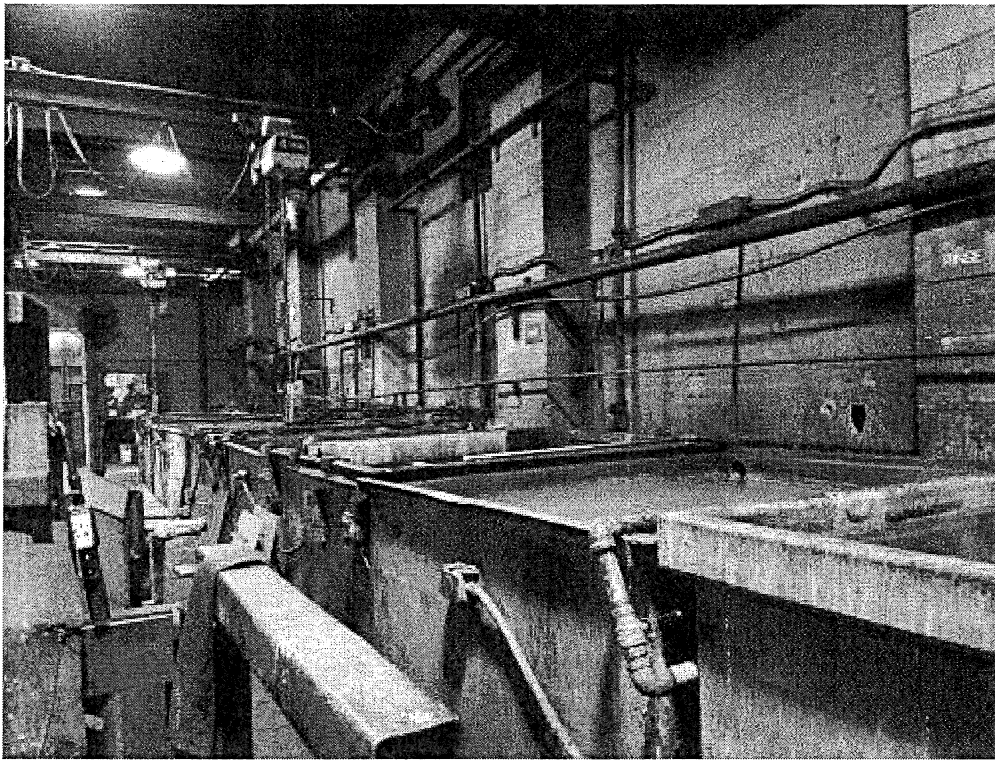


Image 10(Line 2 Zinc Phosphat) : Line 2 Zinc phosphate line.

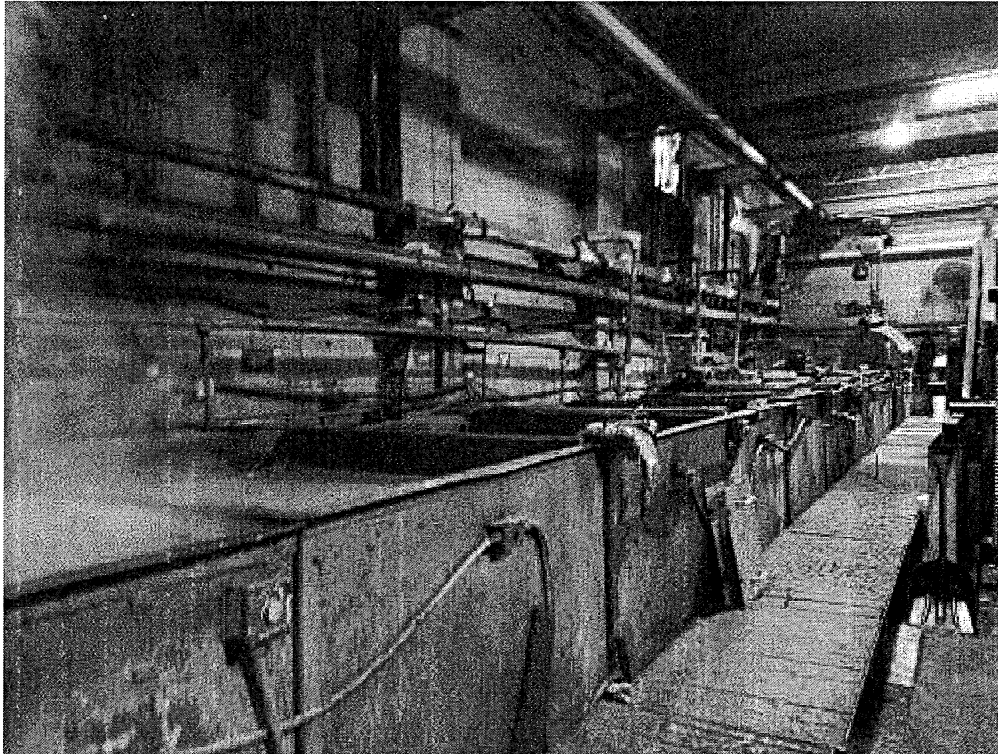


Image 11(Line 1 Zinc Phosphat) : Line 1 Zinc Phosphate line

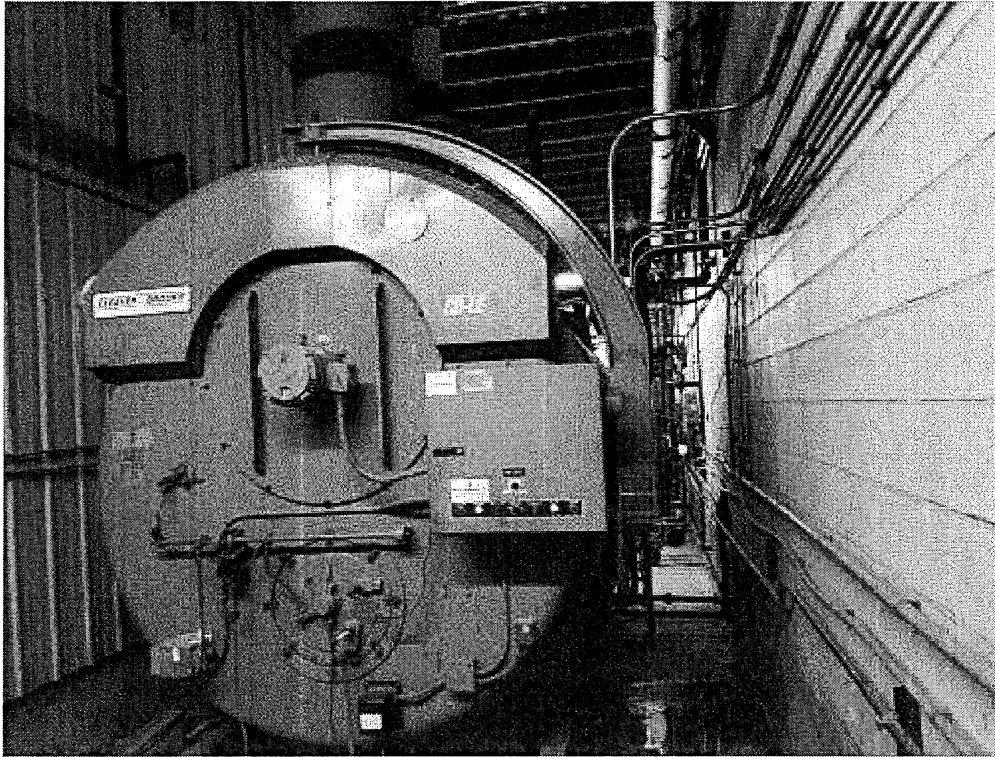


Image 12(Boiler) : Natural gas boiler

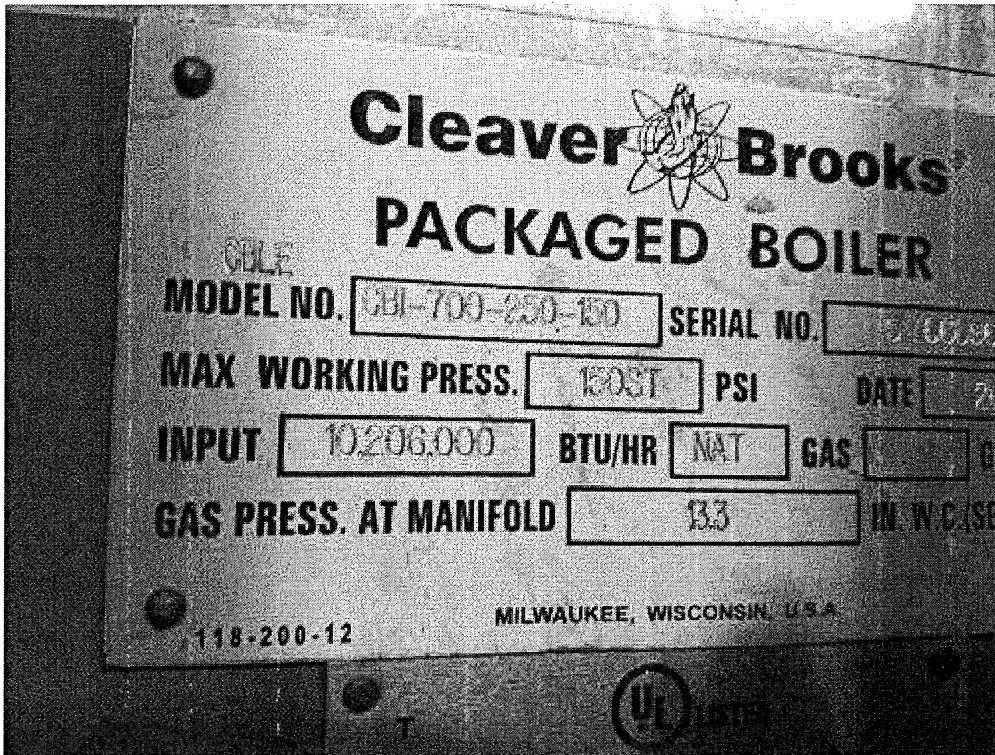


Image 13(Boiler plate) : Boiler plate showing 10 million BTU rating

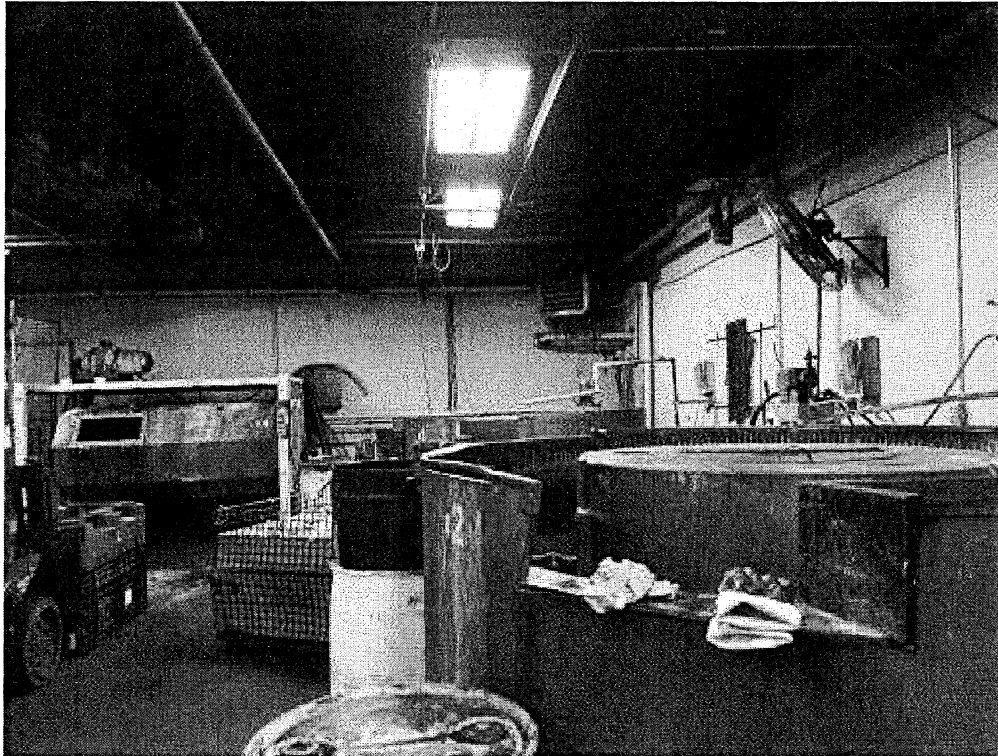


Image 14(Tumbler machines) : Tumbler machines

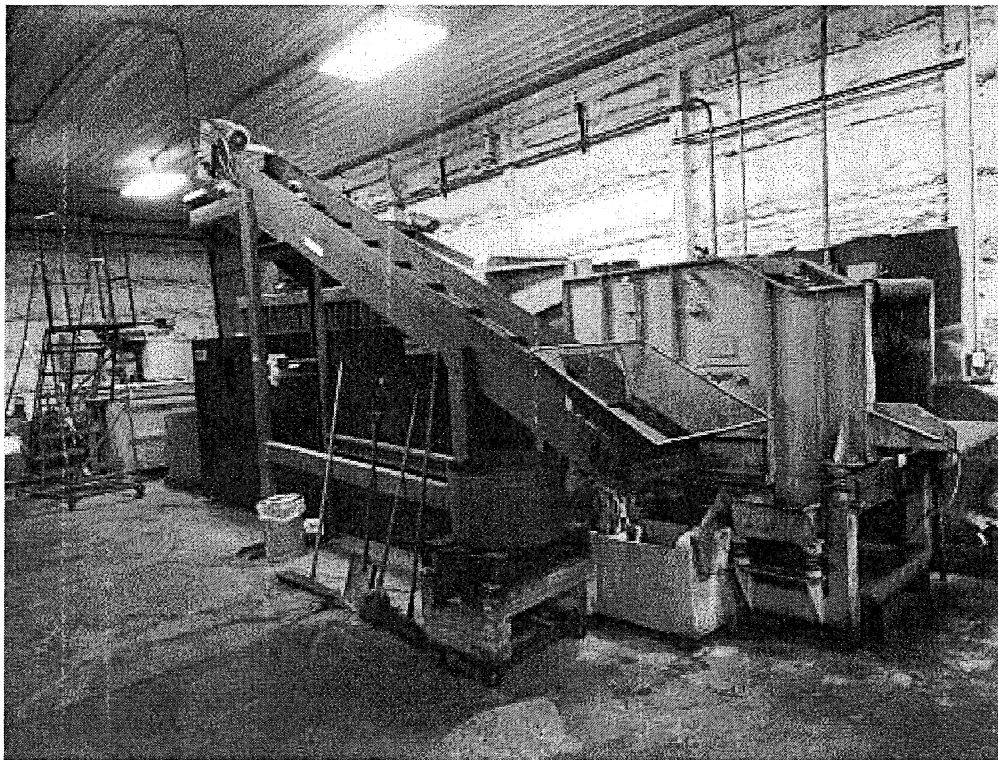


Image 15(Deburring machine) : Deburring machine.

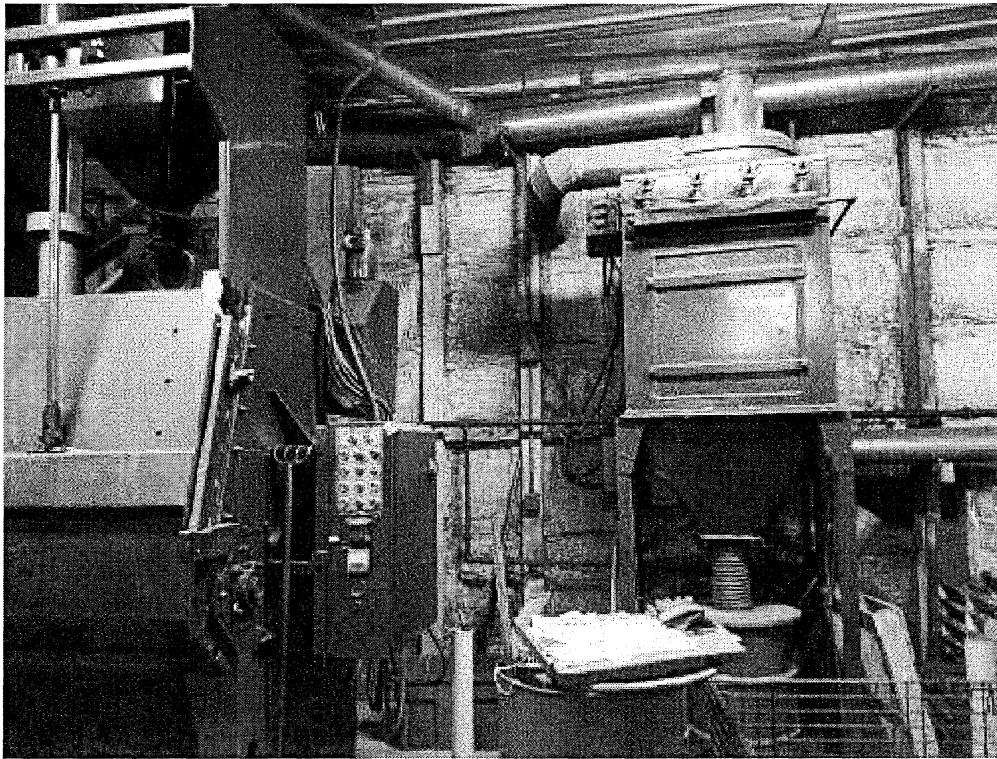


Image 16(Shot blast) : 1 of 2 shot blast machines with baghouse.



Image 17(Exhaust stack) : Exhaust stack for 1st shot blast baghouse.

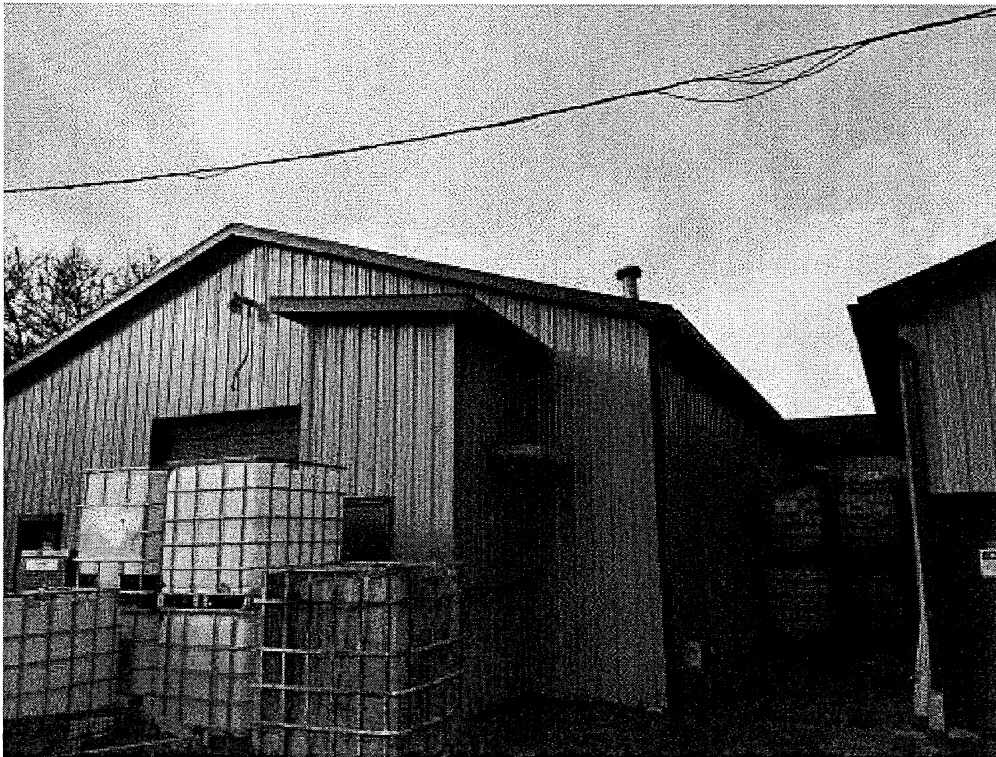


Image 18(Exhaust shotblast) : Small roof stack from 2 shotblast baghouse. 2nd baghouse located in small building in front of the main building.

NAME M. Kovalchuk

DATE 1/17/2018

SUPERVISOR [Signature]