

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

N572041213

FACILITY: CHENEY LIMESTONE CO		SRN / ID: N5720
LOCATION: 9400 SAND RD, BELLEVUE		DISTRICT: Lansing
CITY: BELLEVUE		COUNTY: EATON
CONTACT: Larry Mathewson , Plant Manager		ACTIVITY DATE: 08/21/2017
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled, unannounced inspection to determine compliance with PTI 533-95.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Larry Mathewson, Plant Manager (cheneylime@att.net)Other Personnel: Sky Cheney, Owner (skycheney@msn.com)**Purpose:**

Conduct an unannounced, scheduled compliance inspection by determining compliance with Cheney Limestone's Permit to Install (PTI) No. 533-95 for a limestone processing/crushing facility in addition to ensuring that recordkeeping not provided during the last inspection in 2016 was provided. Additionally, the inspection served as a platform for discussion concerning PTI 533-95 and the eligibility for Cheney Limestone to operate under a General Permit to Install, rather than this site-specific PTI.

Facility Background/Regulatory Overview:

Cheney Limestone (Cheney) mines and processes (crushes and screens) limestone from its own quarries, located across the street from their office at 9400 Sand Road. L. Mathewson explained that the crushed limestone is used for various applications including agricultural applications (soil acid neutralization); and roads, parking lots, and driveways (for the Eaton County Road Commission); and landfills. L. Mathewson said they have been located at this site since 1999.

Cheney Limestone generally operates based on daylight hours. Their operating season starts approximately April 1 and ends near the end of November. Operating hours are generally from 7:00/7:30 a.m. – 3:30 p.m., but sometimes as late as 5:30 p.m., 5 days a week, with 5-hour Saturday shifts (7 a.m. – 12 p.m.) in the spring and late fall if the demand for lime increases.

Cheney Limestone is subject NSPS Subpart OOO for non-metallic mineral crushers. NSPS Subpart OOO conditions are incorporated in the PTI. Cheney Limestone is required to report to MAERS.

I discussed with L. Mathewson during the inspection, and via email and over the phone with Sky Cheney, the possibility of obtaining a General Permit to Install for non-metallic mineral crushing, rather than their current permit, which is more arduous and restrictive in many respects. Based on my review of the evaluation for PTI 533-95, this permit was written similar to other PTI's that had been issued to other crushing facilities throughout Michigan, including PTI 1147-92 in the Jackson District Office, which has since been voided and replaced with a General PTI. I reviewed with L. Mathewson and provided a copy of PTI 533-95 to S. Cheney, highlighting special conditions that would be removed/no longer have to be complied with if a General PTI were issued. The conditions that would no longer apply under a General PTI include Special Condition 13, 15-27, 37-38, 40-43, and 48-49, which I stressed would reduce required recordkeeping and allow Cheney Limestone to operate with less restrictions. I also sent a link to the General PTI requirements to allow S. Cheney to compare the two documents.

Both L. Mathewson and S. Cheney expressed concerns that they would not be able to meet condition 1.7 of the General PTI (requiring watersprays on all crushers and screens) because limestone is a hygroscopic mineral and would have unwanted characteristics if it got too wet. I explained that as long as water was used enough to meet the opacity limits on the crushers and screens (15% and 10%, respectively), Cheney Limestone would meet the intent of the condition.

They also were interested in installing new equipment, and I explained that a General PTI would allow them the flexibility of adding and removing equipment with greater ease than applying for a permit to install modification. S. Cheney said they will consider the General PTI option.

Inspection

I had attempted to conduct an unannounced inspection on August 18, 2017; however, Larry Mathewson, Plant Manager, was not onsite that day, so I returned on August 21, 2017 at approximately 8:50 a.m. to conduct the unannounced inspection. I provided L. Mathewson with a copy of the January 2017 Permit to Install Exemption handbook.

PTI No. 533-95

I verified with L. Mathewson that the permitted equipment presented in Table 1 is present at the site. All equipment was being operated during the inspection. Photos of some of the equipment is attached.

Table 1. Permitted Equipment

Equipment	Description	Status
Feeder Hopper	Receives uncrushed lime	Present
Hazemag Primary Impactor; Model APPH 1315, 350 HP	NA	Present
Cage Mill Secondary Crusher Stedman Model G54, 250 HP	Secondary Crusher; used to crush lime down to "Ag Lime" size (powder/fine particulate)	Present
Scalping Screen	Also called "First Screen Tower"	Present
Final screen tower	Is equipped with 2 double decks	Present
Double deck	Equipped to First Screen Tower; used to sort crushed lime into 2 different sizes	Present
Double deck	Equipped to Final Screen Tower; used to sort crushed lime into 2 different sizes	Present

Material Limits

Cheney Limestone has a limit of 250,000 tons of limestone quarried per calendar year and a total of 250,000 tons processed through the crushing plant per calendar year. In MAERS, Cheney Limestone reported that they processed 167,728 tons of limestone in calendar year 2016. L. Mathewson said that this throughput is total limestone mined, which is equivalent to the total processed/crushed, as all material that is mined is also crushed. He provided me with records for the total plant throughput on a daily basis for March – November 2016, and March – July 2017. The 2016 records show a throughput of 168,149 tons. The 2017 records show a throughput of 104,060 tons. There is a slight discrepancy (~1/2 ton) between the MAERS reported throughput and the 2016 records provided at the inspection; however this would not affect the MAERS assessed fees.

Operating Hour Limits

The permit only allows Cheney to operate from the hours of 7 a.m. to 6 p.m. Monday through Friday, and from 7 a.m. to 12 noon on Saturdays. As discussed in the "Facility Background" section of this report, Cheney operates within these hours for the week days as well as Saturdays. These operating hour requirements limit Cheney's hours of operation per calendar year to 3120 hours. Cheney records the hours of operation for the feeder, impactor, screens and cage mill on a daily basis, as required by the permit.

Blast Requirements

Cheney conducts "blasts," which are explosions used to break the ground in order to make the limestone more accessible. L. Mathewson said they subcontracted this practice out after 9/11/01, to a company who deals solely with explosives. Before that time, Cheney would do their own blasting. The PTI mentions a rock drill in some of

its conditions but L. Mathewson verified that they no longer have this piece of equipment. He said it was used to drill and blast their own material. Blasts are conducted by drilling holes into the ground and filling them with a gel explosive: a nitrogen/fuel oil mixture. Cheney is allowed to perform up to 180 blasts per calendar year, never exceeding more than one blast per calendar day. The blasts are also only permitted to be conducted between the hours of 7 am and 6 pm Monday-Friday and 7 am to 12 noon on Saturday. The maximum surface area they are permitted to blast is 1100 ft² and they are allowed a maximum of 250,000 tons of material blasted per calendar year. Cheney is required to keep monthly records of the date and time blasts occur, the amount of material blasted per blast and total material blasted per month.

I reviewed all blast records for 2016 and 2017 while onsite. Each "Blast Report" contains the date, time, the dimensions of the blast area (burden front row x burden other rows), and the total tons blasted. Cheney conducted 12 blasts in 2016 through October and 7 blasts in 2017 through July. Blasts were not conducted more than once per day. To determine compliance with the square yards of material blasted, S. Cheney provided me with 2017 blast data. The smallest surface area blasted was 7,480 ft², the largest was 15,400 ft². Cheney Limestone has exceeded the 1100 ft² blast surface area limit; however, I have informed S. Cheney that if Cheney Limestone obtains a General PTI, or modifies their existing permit to conditions that are more up-to-date and align with the General PTI requirements, these requirements will no longer be applicable. During the inspection, L. Mathewson provided me with cubic yards for each blast as well. Each cubic yard is equivalent to 2.2 tons of limestone. For 2017, the total cubic yards (79,490) was converted to tons for a total of 174,878 tons blasted.

Blasting is also not allowed to occur within 25' of any property line nor within 100' of any property right-of-way line. A map for these two delineations is required to be kept. L. Mathewson showed me the map that they keep posted in his office which marks the 100' setback from all property lines and property right-of-way lines.

A General PTI would eliminate all blasting requirements.

Plant Yard Requirements & Fugitive Dust Plan

Cheney Limestone is required to keep a daily record of the type, size (weight) and number of vehicles entering and leaving the facility. This data is required to be converted to 50-ton equivalent transport trucks and totaled on a monthly basis. Cheney Limestone is limited to 5,000 50-ton equivalent transport trucks per calendar year. S. Cheney provided me with the 2016 50-ton equivalents on a monthly basis and a 12-month total. For 2016, Cheney Limestone had 2,987 50-ton equivalent vehicles entering and leaving the facility.

A fence is required to completely encompass the facility (except for the plant access road) with at least 2 strands of barbed wire and no trespassing signs posted every 100'. I verified that a barbed-wire fence enclosed the facility perimeter as well as no trespassing signs posted.

The plant access road is required to be paved. I verified that this was done.

Sprinklers were required to be installed by November 30, 1996 along the paved plant access road and the unpaved haul road from the quarry pit at a minimum of 50ft apart and should be activated for at least 15 minutes every hour on days when haul trucks are operating. Prior to installing the system, the Fugitive Dust Plan (Appendix A of PTI 533-95) is required to be implemented for applying water to the plant access road and haul road from the quarry pit. L. Mathewson said that they used to have a line of sprinklers along the paved road and roadway that went up to the feeder ("feeder trail"). I believe the intention of this condition was to ensure that the road dust was kept to a minimum. It is my professional judgment that as long as Cheney complies with the Fugitive Dust Plan they will be in compliance with the intent of requiring a sprinkler system.

Appendix A: Fugitive Dust Plan

The Fugitive Dust Plan requirements would become less restrictive and less stringent in the event that Cheney Limestone operated under a General PTI.

Storage Piles

Cheney is required to keep a free drop height from each conveyor to the storage pile no more than 3 ft. L. Mathewson brought to my attention that the conveyor free drop height for the rip rap pile was greater than 3'; however, I did not observe any opacity while rock was being loaded on the pile and informed him that I was not concerned that the 3 ft free drop height had been exceeded. Free drop height limits were intended to reduce opacity, and because opacity is minimized at an even greater free drop height, this is acceptable. This stringent condition is not present in the General PTI.

The Ag Lime stacker is required to have a 5' rubber boot slit to conform to the Ag Lime pile. L. Mathewson showed me the boot with the slits to conform to the pile, in addition to a sprinkler head that surrounds the boot to control dust prior to the lime hitting the pile.

L. Mathewson said that each pile has its own sprinkler heads. He said sometimes the water spray is left on all day, it just depends on how dry and how windy it is that day. They keep daily records for each storage pile on how long the water spray was turned on for, specifying on their record sheet that they should spray at least 15 minutes/day, as required in the Fugitive Dust Plan. Water sprays were being operated at each sprinkler head per pile.

Front-end loader free fall heights are required to be 2' or less. I did not observe any front-end loader activity during the inspection to determine compliance with this requirement.

Roads and Truck Traffic

Cheney Limestone is required to have 10 mph speed limit signs posted throughout several locations in the plant yard. During the 2016 inspection, these signs were present, but were currently not present. I brought this to L. Mathewson's attention who said he will work and getting new 10 mph speed limit signs. He believes they were stolen.

Paved Customer Roads

The paved customer road into the plant is required to be paved, and in the absence of a sprinkler system, is required to be watered with a water truck. L. Mathewson verified that the water truck is used to control dust on all plant roadways. Throughout the plant yard I noted that the ground was considerably moist. L. Mathewson had just finished wetting the roadways with their water truck. He provided me records for water truck dust suppressant application for the month of August 2017, attached. Wet sweeping is required to be done weekly at the front gate where the plant access road meets the public road. L. Mathewson that the wet sweeping is conducted every Friday on all paved areas and the scales via the water truck.

Drilling Emissions

Cheney limestone is required to equip the rock drills with water controls to suppress dust. Although Cheney Limestone no longer conducts their own rock drilling, he said that Wampum Hardware Company, the contractor for doing the rock drilling, have equipped the drills with dust collectors, in addition to Cheney Limestone making water available to them when drilling.

The permit requires that no more than a maximum of 5 storage piles be present at any given time. The size of each storage pile shall not exceed the values listed in Table 2. The pile size constantly changes depending on production and the number of load-outs that Cheney conducts on a daily basis. Absolute compliance with these requirements is difficult to ascertain, as there is no compliance method proposed in the PTI. Even if Google Earth maps were used, this would only provide a rough estimate of the size and surface area of the piles.

Table 2. Storage piles and surface area

Pile	Permitted Size (ft x ft)	Permitted Size (ft ²)
Surge	85 x 55	4,675
Rip Rap	100 ft (diameter)	100 ft
Ag Lime	400 x 100	40,000
Fine Chip	400 x 100	40,000
Course Chip	400 x 100	40,000

Table 3 contains the equipment that have associated yearly production throughput rate limits. Cheney is required to keep production throughput records on a monthly basis for each of these pieces of equipment. Cheney Limestone keeps daily records of the tons processed through various pieces of equipment and allowed me to review the annual totals through July 2017.

Table 3. Compliance with Max Yearly Production Throughput Limits

Equipment	Max Yearly Production Throughput Rate Limits (tons)	Actual Throughput Rate through July 2017 (tons)	Compliance
Feeder/Hopper	275,000	117,056	Yes
Primary Impactor	275,000	117,056	Yes
Scalping Screen	275,000	117,056	Yes
Final Screen	250,000	117,056	Yes
Cage Mill	50,000	4,9581	Yes
Conveyor C-4	25,000	8,219	Yes

Visible emissions shall not exceed 10% opacity for the following equipment: feeder/hopper, primary impactor, scalping screen, final screen, and cage mill.

Visible emissions shall not exceed 5% opacity for the following equipment: conveyors, transfer points, drop points, storage piles, truck traffic, track shovels, and front-end loader traffic.

During the inspection, I observed no more than 5% opacity from any of the aforementioned equipment, nor the plant yard or plant roadways or mining quarry. Cheney is in compliance with all visible emission limits at this time.

The following conveyors are required to be equipped with covers: C1, C2, C6, C8, C9, C12, C15. L. Mathews and I looked at all 6 conveyors and verified that each once is enclosed/not open to the ambient air.

The following conveyors are required to be equipped with water sprays: C11, C10, C15. L. Mathews showed me that all of the conveyors, including the 3 listed here, are equipped with water sprays, even the conveyors that are enclosed. He said that all the watersprays are also fully automated: the control room has a program that will turn on all water sprays. He said this automated system has been in place for 4 years.

Drop chutes are required to be equipped at various transfer points across the equipment as specified in the permit. L. Mathewson and I identified each transfer point and verified that these transfer points are enclosed with tarps, preventing fugitive emissions.

The air pollution control equipment (water spray and structural dust controls) is required to be maintained according to the MAP/PMP in Appendix B.

Appendix B – MAP/PMP

Water sprays are required to be inspected at least monthly and repairs/maintenance are required to be conducted as needed. Cheney keeps record of any inspections and repairs that were done on the watersprays. He said that the control room staff walk the plant every day to ensure the water sprays are operating properly. If they are not, the inspection notes and repairs are made on the daily "Plant Control Form."

The structural dust controls are required to be inspected on a monthly basis. These inspections are conducted daily during the morning walk-through of the facility. This walkthrough is documented on their "Work Place Examination Record." L. Mathewson provided me with the records for the week-end date of 8/20/17. There were no repairs needed for that week, see attached.

Compliance Statement

Cheney Limestone appears to be in compliance with PTI 533-95 at this time. I will inform S. Cheney of the blast area exceedance and have future discussions on obtaining a General PTI, or to apply for a site-specific permit that would be more aligned with what newer crushing facilities are required to do.

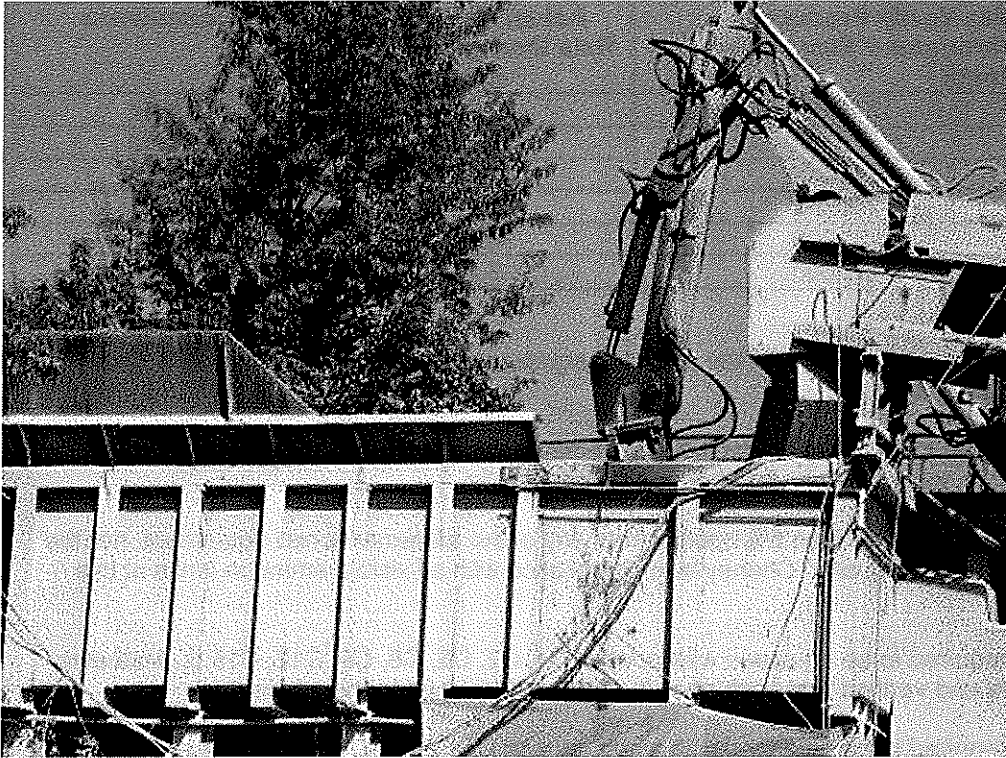


Image 1(Feeder Hopper) : Sideview of feeder hopper

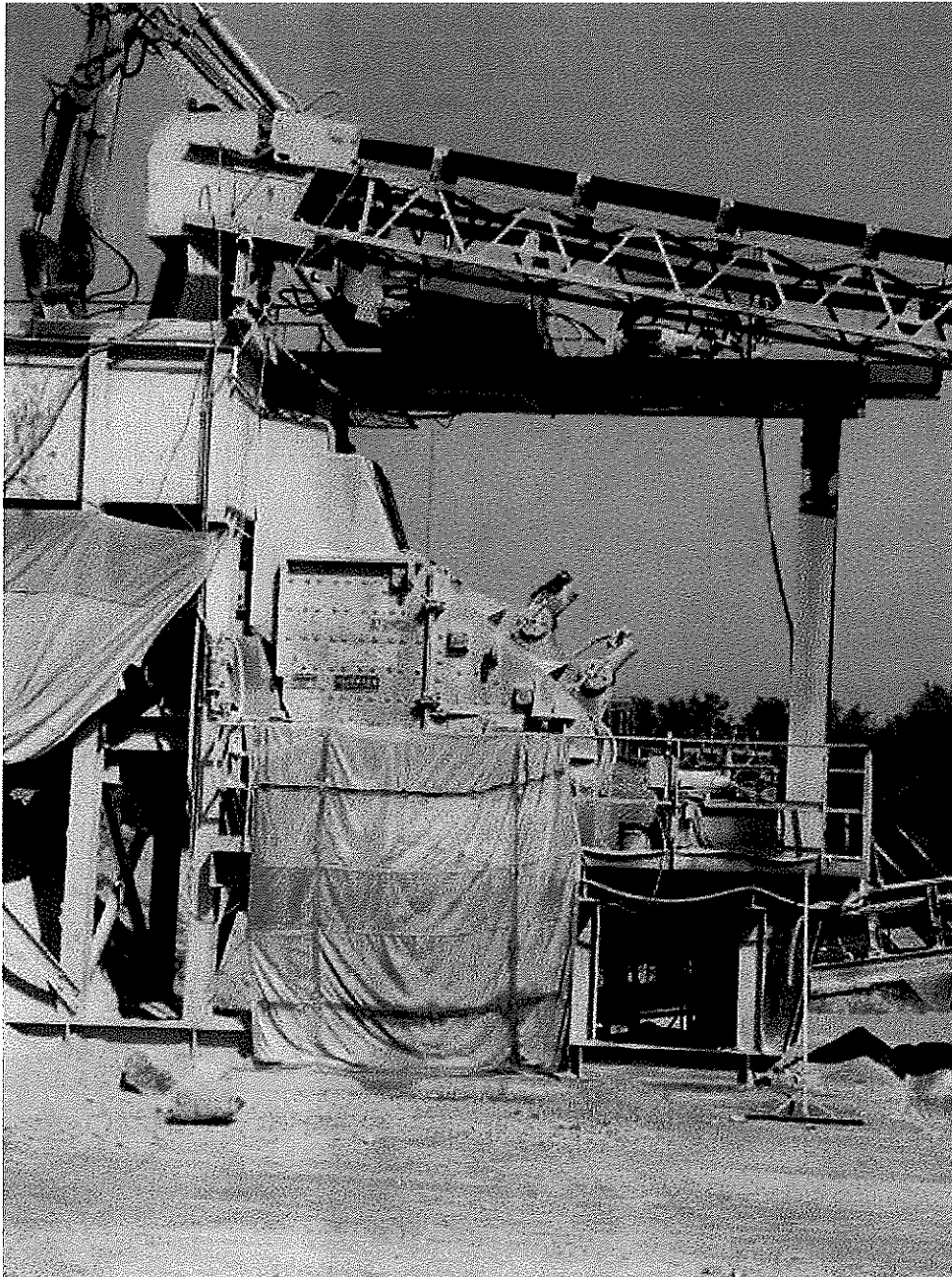


Image 2(Primary Impactor) : Sideview of primary impactor



Image 3(Conveyor System) : Feeder Hopper, Primary impactor, and Conveyors 1 and 2

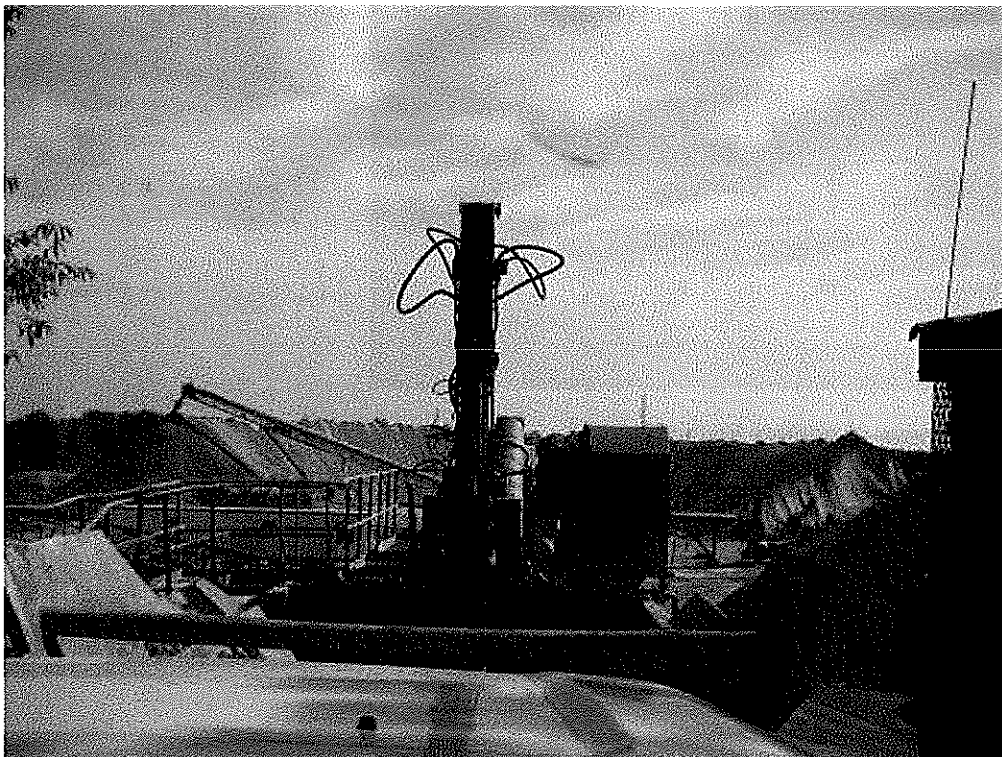


Image 4(Feeder Hopper) : View of plant from the top of feeder hopper



Image 5(Watersprays) : Conveyor watersprays

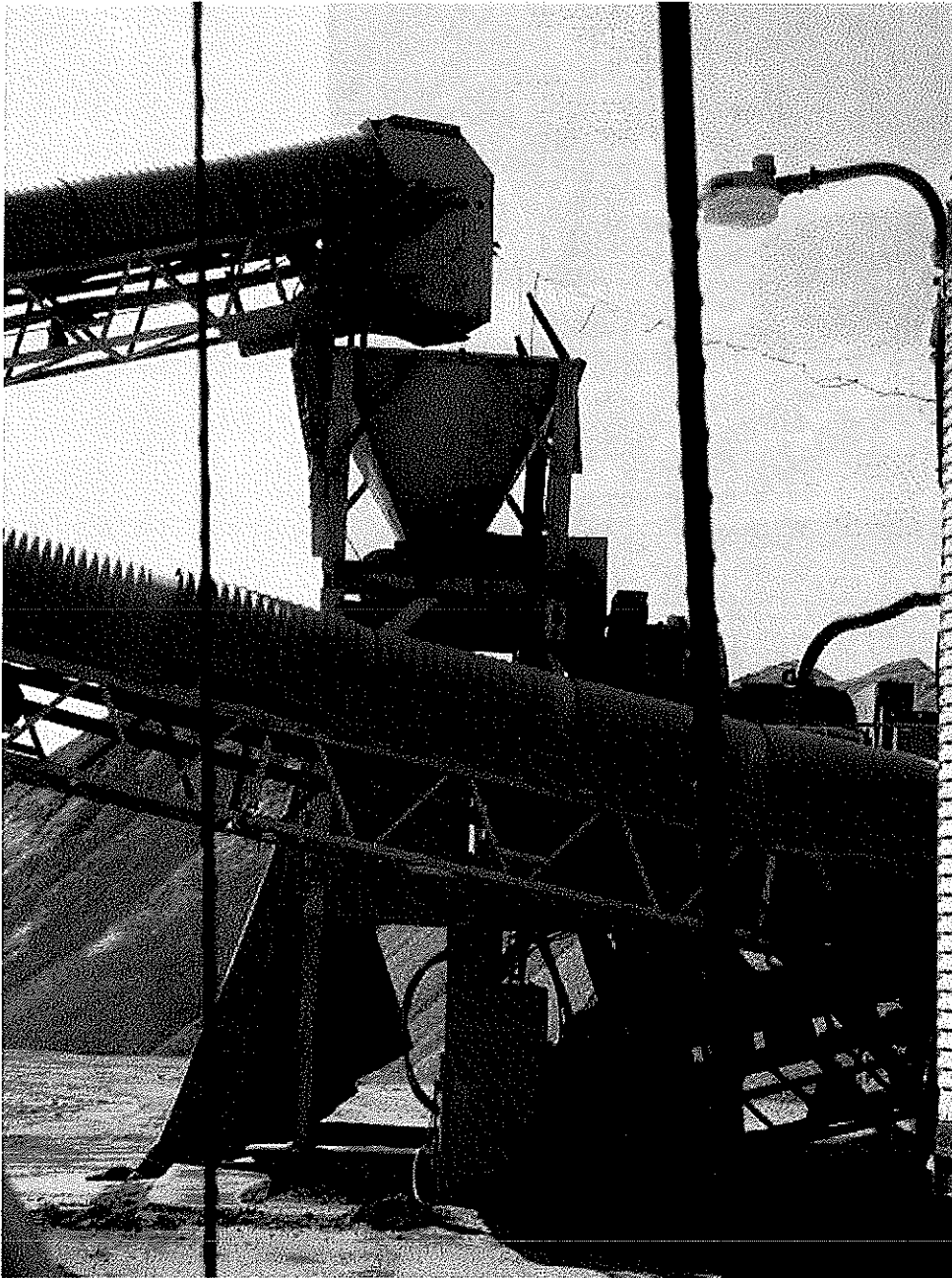


Image 6(Cage Mill) : Cage Mill/Secondary crusher

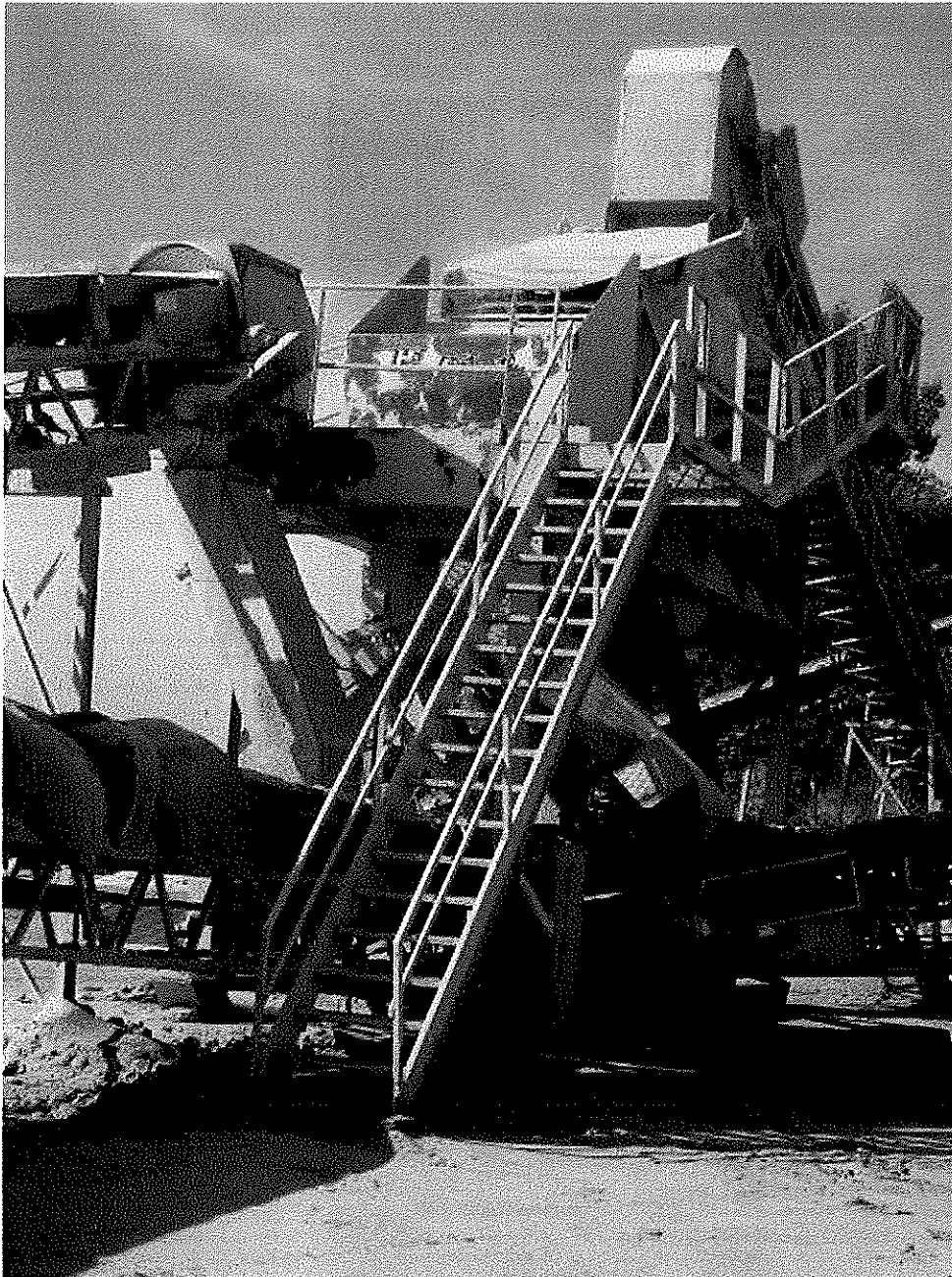


Image 7(Scalping Screen) : Scalping screen viewed from the west

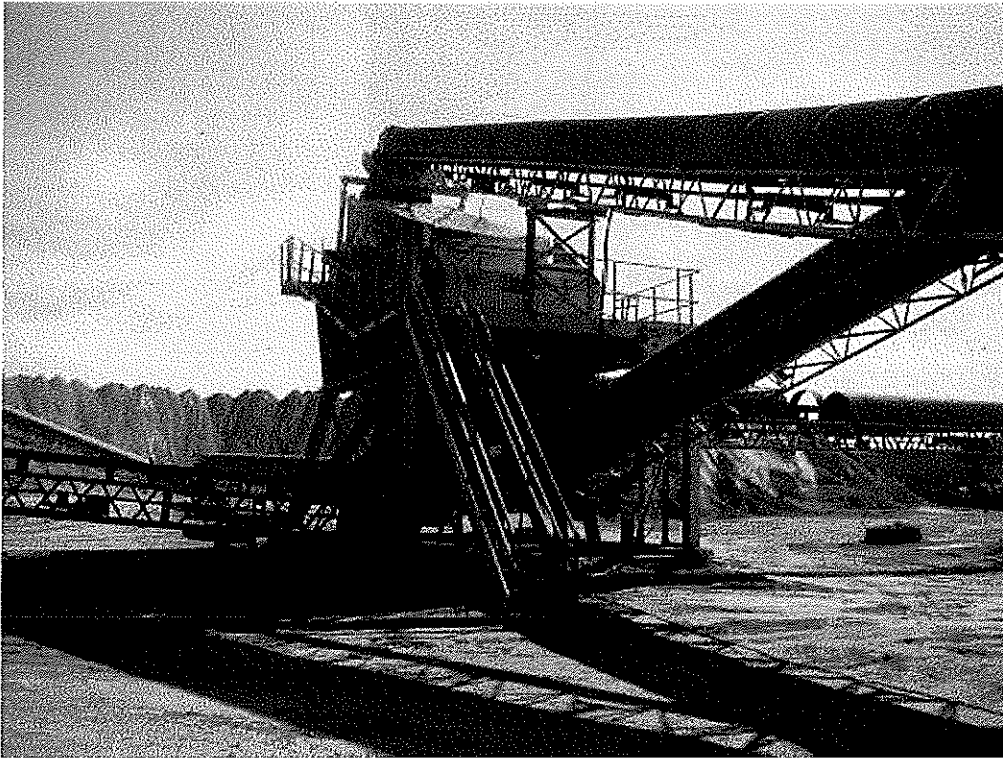


Image 8(Final Screen Tower) : Facing east



Image 9(Agg Lime Pile) : Equipped with boot at end of conveyor

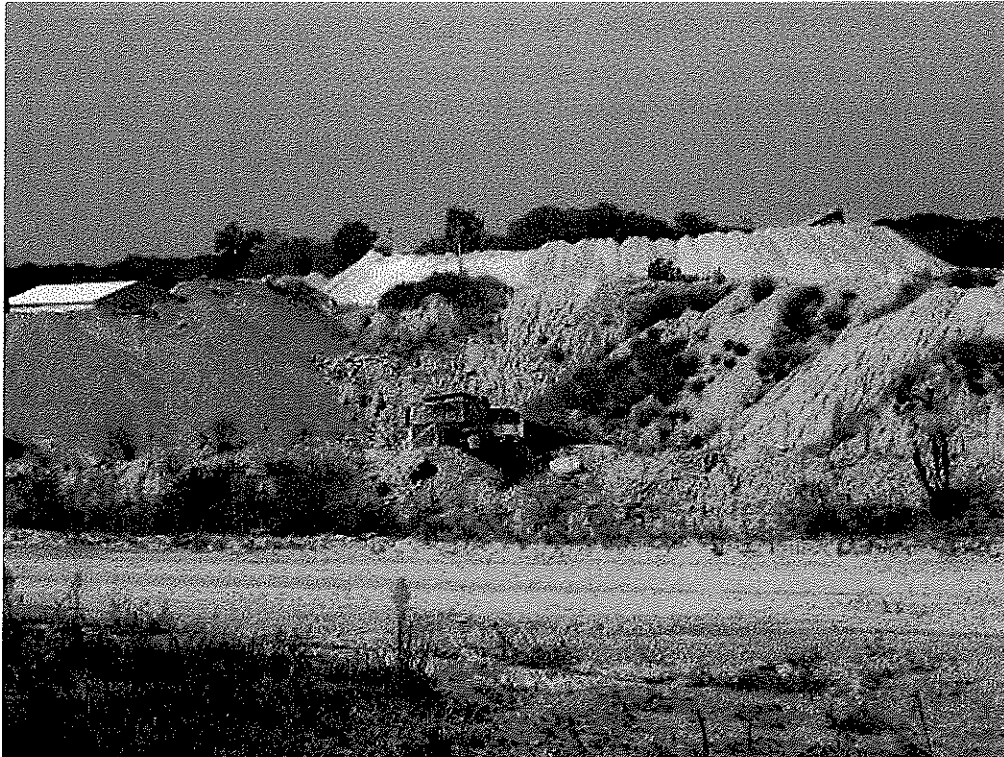


Image 10(Quarry) : Limestone Quarry with revegetated areas

NAME M. J. Smith

DATE 9/29/17

SUPERVISOR B. M.

