

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

A624063759

FACILITY: CARGILL SALT - ST. CLAIR		SRN / ID: A6240
LOCATION: 916 S. RIVERSIDE AVE., SAINT CLAIR		DISTRICT: Warren
CITY: SAINT CLAIR		COUNTY: SAINT CLAIR
CONTACT: Neil Byers , EHS Management Supervisor		ACTIVITY DATE: 08/04/2022
STAFF: Robert Elmouchi	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled inspection.		
RESOLVED COMPLAINTS:		

On August 4, 2022, I conducted a scheduled inspection of Cargill Salt, Inc. (Cargill) located at 916 South Riverside Avenue, Saint Clair, Michigan. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules, and Permit to Install (PTI) Nos. 94-20, 56-21, and 167-14B.

This facility is uniquely identified with the State Registration Number (SRN) of A6240.

This Cargill Salt facility uses two salt production methods to manufacture salt; evaporation, and a proprietary method of evaporation production, called the Alberger process, which creates unique, food-grade salt crystals with superior functionality. The salt's structure impacts its adherence to food and solubility, which, in turn, can reduce the amount of salt needed to get the desired flavor.

Cargill Salt manufactures granular and Alberger salt primarily for food-grade applications. Cargill also produces a compacted salt product for water softener applications. Cargill Salt uses a solution mining process to dissolve underground salt deposits and then uses steam to concentrate the solution, which causes salt to precipitate.

I entered the facility and met with Neil Byers, EHS Management Supervisor; Eric Kaufman, EHS Specialist II; Sebastien Cournoyer, Plant Manager; and John McArthur, Processing Supervisor. We held an opening meeting in which I explained the purpose of this inspection. Sebastien and John departed our group after the opening meeting. Neil and Eric escorted me throughout the site inspection and provided the requested records. Sebastien rejoined the group for the closing meeting.

TEMPORARY BOILERS

PERMITS TO INSTALL NUMBERS 94-20 and 56-21

NOTE: All the temporary boilers are natural gas-fired and are rated at 98.4 MMBTU/hr. heat input.

PTI No. 94-20 was approved on August 12, 2020, for two temporary boilers. Per FGTEMPBOILERS, VI.1, I received records of the monthly and total hours of operation. The records indicate a total of 1,493 hours, which complies with the III.1 permitted limit of 4,320 hours. I inspected this facility and have determined that this flexible group has been removed from the site.

PTI No. 56-21 was approved on August 13, 2021, for two temporary boilers. Per FGTEMPBOILERS, VI.1, I received records of the monthly and total hours of operation. The records indicate a total of 2,559 hours, which complies with the III.1 permitted limit of 4,320 hours. I inspected this facility and have determined that this flexible group has been removed from the site.

Per R 336.1201(5), "Upon issuance of a permit to install, the emissions from the process or process equipment allowed by the permit to install shall be included in the potential to emit of the stationary source. Upon the physical removal of the process or process equipment, or upon a determination by the department that the process or process equipment has been permanently shut down, the permit to install shall become void and the emissions allowed by the permit to install shall no longer be included in the potential to emit of the stationary source." Per R 336.1201(5), I shall ask the AQD permit section to void PTI Nos. 94-20 and 56-21.

PERMIT TO INSTALL APPLICATION NO. APP-2022-0204

Cargill applied for PTI Nos. 94-20 and 56-21 due to premature failures of EUBOILER15, which is a natural gas-fired boiler, rated at 248.5 MMBtu per hour heat input. Cargill is experiencing premature failures again, which have forced Cargill to reduce steam output and cease generating electricity. Currently, EUBOILER15 is only used to generate steam for salt manufacturing. Cargill management expressed concern that EUBOILER15 may have a catastrophic failure soon.

Cargill has decided to replace EUBOILER15. Cargill applied for a third temporary boiler In August 2022. Because the lead time to build and install the replacement boiler may be longer than one year, this temporary boiler permit will contain additional conditions to demonstrate compliance with regulations that become applicable if boiler operation exceeds a regulatory time limit. A waiver of approval

was submitted by Cargill and was approved by the AQD district supervisor. The permit application is currently under review by the AQD permit section.

PERMIT TO INSTALL NUMBER 167-14B

PTI No. 167-14B

Permit to Install (PTI) No. 167-14B was approved on March 15, 2022. This permit authorized the installation of EUMOONSHOT, which is designed to increase throughput. EUMOONSHOT is under construction. EUMOONSHOT consists of a salt crusher, weight belts, slide gates, conveyors, sifters, screeners, and storage bins housed in the Moonshot Building. It is important to note that even though construction has started for the EUMOONSHOT building foundation, progress has paused due to recent economic developments.

To prevent an unintentional violation, I informed Sebastien, Neil, and Eric, that PTI No. 167-14B, General Condition No. 2 states, "If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install."

EUBOILER15

SC I.2 and VI. 2

This emission unit is designed to provide steam to two steam turbine electric generators, and process steam for manufacturing Alberger salt and granular salt. Records for February 1, 2022, indicate compliance with the NOx limits of 8.95 pph, and 0.20 lb./MMBtu heat input. Continuous emission and parametric monitoring records indicate NOx emission rates of 2.1 pph and 0.025 lb./MMBtu heat input. The O2 percent content of the exhaust gas averaged 8.3 percent.

SC III

I reviewed the malfunction abatement program. The latest update deleted sections for EUBOILER5 and EUBOILER10, added EUBOILER15, and updated language to align with the new version of the permit to install. NOTE: This MAP also includes EUSCREENING and PRETZEL, EUDURACUBE, and the Venturi Wet Scrubber.

SC III.2

As noted in the previous inspection report, EUBOILER5 and EUBOILER10 have been permanently removed. All remaining coal fuel had been shipped off-site. EUBOILER5 was shut down on April 7, 2015, and EUBOILER10 was permanently shut down on October 15, 2015.

SC IV.1

The nameplate indicated a maximum heat input rate of 248.5 MMBtu.

SC VI.3

I was provided with records of daily natural gas usage.

SC VI.5

EUBOILER5 was shut down on April 7, 2015.

EUBOILER10 was shut down on October 15, 2015.

Cargill conducts relative accuracy test audits on a scheduled basis. CEMS operations are verified each operating day with a calibration gas check.

EUDURACUBE**SC VI.1, VI.2, and VI.3.**

I received records of non-certified 1-minute Method 22 visible emission observations, pressure drop measurements across the wet scrubber, and scrubber liquid flow rates. The water flow rate ranged from 49 to 50 GPM, which complies with the permitted minimum of 37 GPM. The pressure drop ranged from 3.0 to 3.5 inches of water, which complies with the permitted range of 2.4 to 4.2 inches of water.

EUDRYER

This dryer is used to dry only Alberger salt.

II.1 and VI.2

Throughput records indicate the permittee has not processed more than 30 tons of Alberger salt per hour on a daily basis. Records indicate that the routine maximum is less than 18 tons per hour.

IV. 1

I observed the cyclone. I observed zero percent opacity from the exhaust stack during operation, and I did not observe fallout in the vicinity of the exhaust stack. The cyclone appeared to be installed, maintained, and operated in a satisfactory manner.

IV. 2

I observed the wet scrubber. The records required per special conditions VI.5, VI.6, VI.7, and VI.8 indicate a pressure drop between 5.4 and 5.5 inches of water and a water flow rate of 200 GPM, which are in compliance with the parameters established in the Malfunction Abatement Plan. The wet scrubber appeared to be installed, maintained, and operated in a satisfactory manner.

VI.5, VI.6, VI.7, and VI.8

Records indicate a pressure drop between 5.4 and 5.5 inches of water. The flow rate records indicate a consistent rate of 200 GPM.

FG000

This flexible group consists of EUPRETZEL and EUSCREENING. The material limit is 245,000 tons of salt through each emission unit per a 12-month rolling time period. Records of the 12-month rolling total salt production from January 2020 through July 2022 were provided. The highest 12-month rolling total was 201,281 tons per year, which appears to demonstrate compliance with the material throughput limit during the reported period.

Records of the wet scrubber pressure drop, and water flow rate appear to demonstrate compliance with the permitted process and operational restrictions. Visible emission records appear to indicate continued compliance.

CONCLUSION

Cargill Salt is in compliance with all evaluated permit conditions.

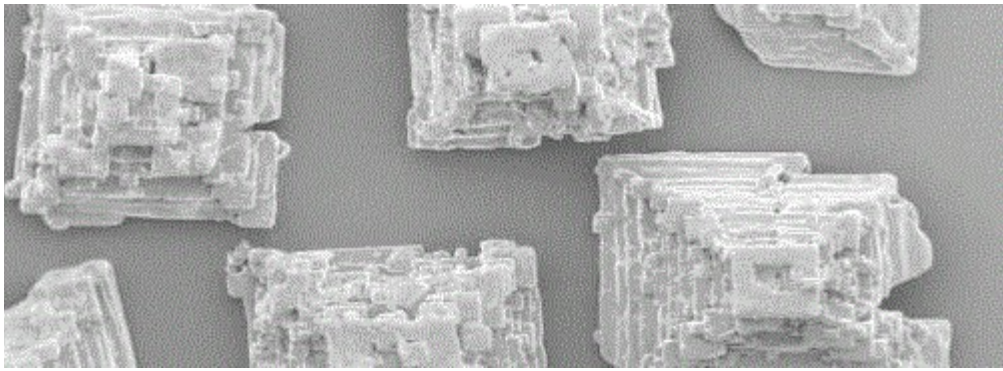


Image 1(Alberger Salt) : Alberger salt crystals are shaped like hollow pyramids, which provide more surface area than the cubic crystals in regular table salt. Alberger salt adheres to food products better than table salt.

NAME Robert Elmarche

DATE 9/29/2022

SUPERVISOR Joyce Z