



Deicing Technology
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November 27, 2018



Mr. Matthew Podniesinski
Chief, Resource Development Section
Bureau of Resource Management & Development
Division of Mineral Resources
New York State Department of Environmental Conservation
625 Broadway, Third Floor
Albany, New York 12233-6500

RE: Annual Report for Mine File #709-3-29-0052; Cayuga Salt Mine
Permit ID#0-9999-00075-00001
Towns of Lansing and Ulysses, County of Tompkins
Town of Covert, County of Seneca

Dear Mr. Podniesinski:

Enclosed is an annual report required in accordance with the Special Conditions section (item numbers 15.a through 15.g) of DEC permit number 0-9999-00075/00001. This report will address each reporting requirement separately (15.a.(1), 15.a.(2), etc.) and drawings are attached as required. As requested, all technical data associated with monitoring of mine stability will be sent to the John T. Boyd Company with attention to Dr. Vincent Scovazzo. A copy of this report is in the mail to Christopher Lucidi, the Region 7 Mined Land Reclamation Specialist and to Steven Army, the Region 8 Mining Program Supervisor.

If any questions arise please bring them to my attention at your earliest convenience.

With Best Regards,

Shawn G. Wilczynski
Mine Manager – Cargill Deicing Technology

Annual Reporting, Monitoring, and Notifications

15.a.(1) - Cargill Cayuga Mine Manager Certification:

I, Shawn G. Wilczynski, Mine Manager – Cargill Deicing Technology, certify that all mining activities, to the best of my knowledge, conducted during the reporting period from November 1, 2017 to present were in conformance with the DEC Permit # 0-9999-00075/00001 and the approved plans. No variances occurred and none were reported.

Signed: Shawn G. Wilczynski Date: 11/27/18

15.a.(2) - Summary of all non-routine mining incidents:

The Cayuga Mine is not aware of any non-routine incidents associated with the mining, processing, or other mine related activities that would have adversely affected any of the following;

- Mine stability
- Ground and surface water
- Natural resources
- Health, safety, welfare or property of the general public

15.a.(3) - 3 Year Mining Plan

A map is attached depicting the current and proposed mining for the next three years.

The Cayuga Mine is currently operating in the northern region of the mine. Active mining is located in panels U-76, U-78, U-80, U-82 to the southwest, and NW-3 to the northwest.

15.a.(4) - Summary of In-situ Measurements of Rock Mechanics:

The Cayuga Mine continues to collect mine convergence data in accordance with the guidelines previously established in the Mined Land Use Plan. Convergence stations are typically installed at the "face" of active tunnels in mining panels with a profile of three stations located in the center and edges of the yield pillar panels. The convergence stations are usually read daily during the first week and then shifted to a weekly schedule until the next profile is installed. The initial profile will then be monitored on a monthly or quarterly schedule for the duration of mining of the panel. After abandonment of the panel, specific convergence stations are monitored quarterly. Currently, there are over 300 convergence stations being monitored. Once the data from the convergence stations has been collected it is evaluated both internally and externally for trends to ensure that each panel and the mine are behaving properly.

Evaluations of the convergence data indicate that overall no unusual trends have been identified and the mine is behaving as expected. There continues to be a few slight anomalies, which while showing elevated closure rates, are not elevated enough to be of a concern to global stability. These areas are being monitored more closely and areas are being outfitted with additional electronic instrumentation to help gather more data.

Roof sag and wall expansion, measured with extensometers, is also monitored as conditions warrant, and is reviewed internally and externally as well. This data indicates the mine is behaving as expected. The Cayuga Mine operates a micro-seismic monitoring network which now has over 70 geophones and covers over 5 square miles of mine workings. The data from this system is reviewed daily in-house, by

Engineering Seismology Group (ESG), and is reviewed weekly by RESPEC. This data indicates the mine is behaving as expected and is stable.

15.a.(5) - Summary of Subsidence Monitoring:

Surface subsidence measurements continue to be performed in accordance with the Mined Land Use Plan. The surface subsidence survey began during the spring of 2018, while the full data-set has not yet been received, previous surveys indicate that the mine is behaving as expected with no anomalous subsidence zones.

15.a.(6) Source and Volume of Water Inflow Into the Mine and Disposition of Such Water:

The following is a list of sources and associated flow rates of water into the Cayuga Mine:

- Production Shaft (#1 shaft) – 25 gallons per minute (gpm)
- Ventilation Shaft (#2 shaft) – Less than 1 gpm
- Service Shaft (#3 shaft) - 1 gpm
- ED Plant Concentrate discharge – 3 gpm

- Total Water Inflow = 30 gpm

All of the water is directed to a settling pond located on the 4-level of the mine. The water is then pumped from the settling pond to abandoned areas at the far east end of 4-level as well as to various areas of the active mine for dust control.

15.a.(7) - Summary of SPDES Monitoring Data:

There was no exceedance of the SPDES limits for the storm water outfalls, and two exceedance for non-contact cooling water temperature at the brine water treatment plant. These were due primarily to the warm summer weather resulting in the intake water being at or above 75 degrees F, which is above the permitted discharge temperature. There were three exceedances for the Waste Water Treatment Plant during the past year.

15.b - Notification of Non-routine Mining Incidents:

There were no incidents meeting the guidelines for notification as identified in section 15.a.(2).

15.c - MSHA Correspondence Involving Non-routine Mining Incidents:

The Cayuga Mine has not received any citations or correspondence from MSHA regarding non-routine mining incidents as identified in section 15.a.(2).

15.d. - Changes in Mining Method:

The mining methods used at the Cayuga Mine have not been changed in the last year.

15.e. - Surface Subsidence:

Surface subsidence surveys continue to be done in accordance with the Mined Land Use Plan. See section 15.a.(5) of this report.

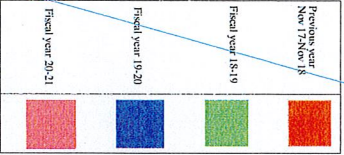
15.f. - In-situ Rock Mechanics Measurements:

See section 15.a.(4) of this report.

15.g. - Written Citizen Complaints:

No written complaints from citizens were received since the last report (November 2017).

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CAYUGA MINE 3-YR MINE PLAN

DRAFTED BY: Brandon Michalski
DATE: 11/15/18

