

January 19, 2025

Re: Cargill's Application (0-9999-00075/00001) to Renew and Modify its Mined Land Reclamation Permit for the Cayuga Salt Mine

Dear Mr. Stercho,

I am a Professor of Civil & Environmental Engineering at Cornell University specializing in Environmental Fluid Mechanics. My research expertise lies in the area of high-accuracy/resolution computational modeling of transport and mixing processes in natural water bodies, both in the ocean and lakes. I have specifically been the lead Principal Investigator of a National-Science-Foundation collaborative project, involving field observations and computational modeling, of internal swash zones ("internal beaches") in the South Shelf of Cayuga Lake. Per this project, and my extended discussions with my colleague Prof. Edwin A. Cowen, I have an active interest in the hydrodynamics of Cayuga Lake and the potential associated impacts on the integrity of the subsurface region.

While I have not studied whether or not Cargill's flooding of the S3 Zone in the 6-level mine under the lake will weaken the yielding pillars due to the fact that Cargill's brine pumping system cannot handle fully-saturated brine, I believe this should be studied as part of any Environment Impact Statement for Cayuga Salt Mine and certainly before any permits are issued. In particular, as a concerned scientist, dedicated computational fluid dynamics modeler and community member, I strongly urge the DEC to require that a detailed modeling study of the situation be conducted, as part of a thorough Environmental Impact Statement. Such modeling would involve a study of all major failure pathways of Cargill's salt mines over the next 100 years. This study would need to be performed prior to any approval of Cargill's current application for a mining permit modification.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Diamessis', followed by a horizontal line extending to the right.

Pete Diamessis
Professor of Civil and Environmental Engineering
Cornell University