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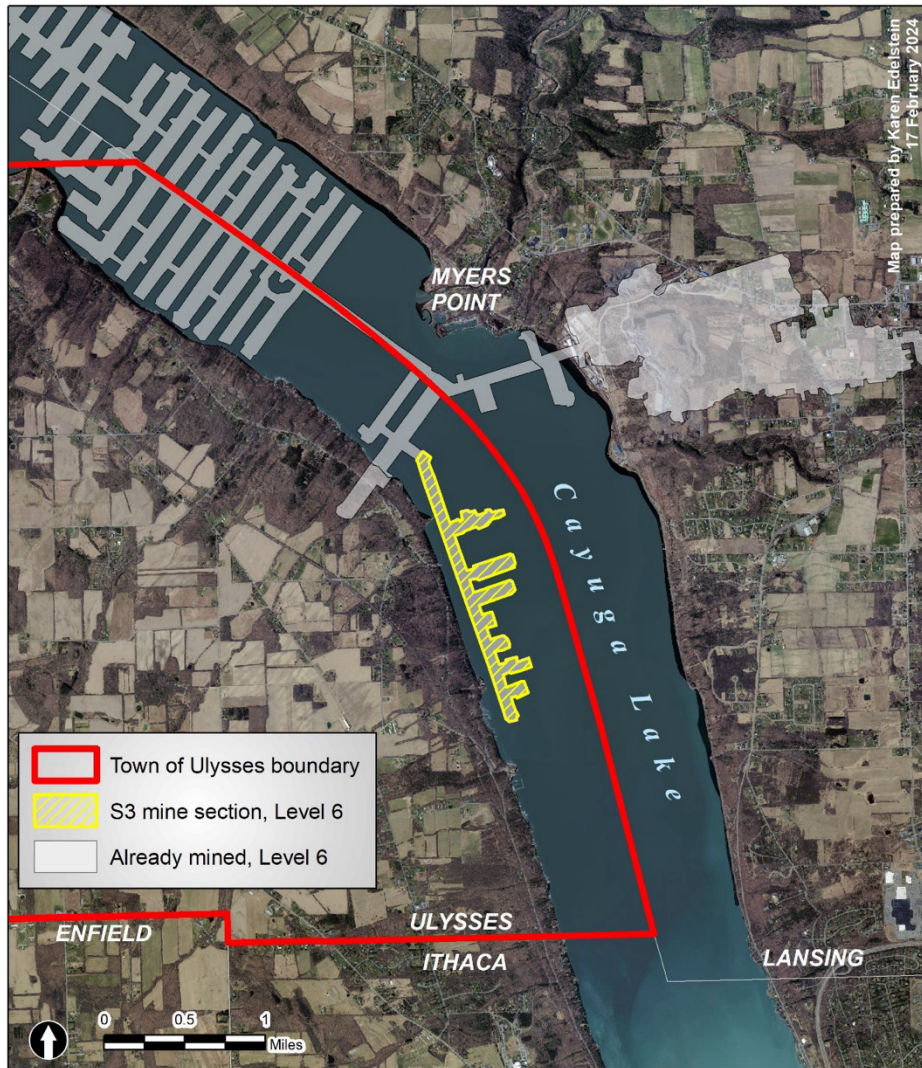
Re: CLEAN's Request for Public Hearing and Comments on Cargill's Application (0-9999-00075/00001) to Renew and Modify its Mined Land Reclamation Permit for the Cayuga Salt Mine

Dear Mr. Stercho,

The following are written comments prepared by Cayuga Lake Environmental Action Now ("CLEAN") concerning the Notice of Complete Application by Cargill Incorporated ("Cargill") relating to its permit application 0-9999-00075/00001 (the "Application") to renew and modify its Mined Land Reclamation Permit (the "Permit") for the Cayuga Salt Mine (the "Mine").

Cargill seeks to renew and modify its Permit to receive a new five-year permit term and to amend its permit in order to dispose of up to 360 million gallons of wastewater (brine) in the 6-level region of the Mine beneath Cayuga Lake. If approved as proposed, Cargill's activities would completely flood the abandoned S3 Zone of the mine underneath the Lake with under-saturated wastewaters, degrading the stability of the area in the process. After the flooding is completed, which is expected to occur over 15+ years based upon current inflow rates, the inundated area of the mine will no longer be accessible for any other use or purpose, nor will it be accessible for ongoing monitoring for stability as is currently required of every portion of the subsurface mine.

A map depicting the location of the S3 Zone in the Mine beneath Cayuga Lake is included below.



The Department of Environmental Conservation (“DEC”) has declared itself lead agency under the State Environmental Quality Review Act (“SEQR”) and identified the proposed action as a Type I action, but nonetheless issued a Negative Declaration.

For the following reasons, we respectfully request that DEC deny the Permit. In the alternative, we request that the Negative Declaration be rescinded and an Environmental Impact Statement (“EIS”) be prepared for the entire mine that also addresses issues specific to the flooding of the S3 Zone, and that a public hearing be held to address the numerous substantive and significant issues presented by Cargill’s Application as well as long-standing issues of concern elsewhere in the Mine and in Cayuga Lake.

PRELIMINARY STATEMENT

CLEAN is an independent environmental advocacy group based in the Village of Lansing that was formed in 2017 for the purpose of protecting Cayuga Lake's water quality from the potential negative environmental impacts of industrial and commercial operations. The Lake is an invaluable natural resource for the people of this State that will only increase in importance over time as the Nation's freshwater resources are jeopardized by climate change, groundwater depletion, and pollution.

DEC has correctly determined that Cargill's proposal to dispose of millions of gallons of brine beneath Cayuga Lake is a major modification to its existing permit, and therefore, must be scrutinized the same as an application for a new permit. Under the Mined Land Reclamation Law, ECL Art. 23, Title 27 ("Mining Law") and its implementing regulations, DEC "shall" ensure that a permit applicant's mining and reclamation plan "prevent[s] pollution" and protects "the health, safety and general welfare of the people" and the natural beauty and aesthetic values of the State. 6 NYCRR §§ 422.1(b), 420.2(a). This mandate is in addition to that under SEQR, which requires DEC to direct a permit applicant to prepare an EIS whenever the applicant's proposed activities *may* result in one or more significant adverse environmental impacts. 6 NYCRR § 617.7(a)(1).

DEC must exercise this broad statutory and regulatory authority to protect the public's interest in Cayuga Lake. The Lake and the lands beneath it are "held by the State in its sovereign capacity in trust for the people of the State." *N.Y. State Water Res. Comm'n v. Liberman*, 37 A.D.2d 484, 488 (3d Dept. 1971). Under the public trust doctrine, the "public holds inviolable rights" in this critical natural resource, and it is the State's responsibility to ensure that these rights are protected. *Landmark West! v. City of New York*, 9 Misc. 3d 563, 572 (Supr. Ct. 2005). Therefore, Cargill's proposed uses of State-owned lands beneath the Lake "*must comport with the best public use and not be injurious to the public good.*" *Smith v. State*, 153 A.D.2d 737, 740 (2d Dept. 1989) (emphasis added).

Unfortunately, Cargill's activities at the Cayuga Salt Mine have not historically received the scrutiny as is necessary for upholding the public's trust in Cayuga Lake and the lands beneath it. Cargill's existing Reclamation Plan, last updated in 2002, incorrectly states that the Mining Law "does not regulate or require the reclamation of the subsurface workings of underground mines,"¹ such as those areas beneath Cayuga Lake where Cargill now proposes to dispose of its wastes. Cargill's Reclamation Plan, therefore, does not identify long-term closure and reclamation measures for the thousands of subsurface acres that have been and will be mined, including those beneath the Lake. Further, Cargill has only been required to post a reclamation

¹ Cargill Cayuga Mine, Mined Land Use Plan Dec. 2000 ("Mined Land Use Plan") at 78.

bond of \$3.5 million, an amount that ignores the potentially catastrophic and irreparable harm that could be caused by a rapid collapse of the Mine.

Not only has Cayuga Lake not received the protection befitting a public resource held in trust by the State, but Cargill's operations at the Cayuga Salt Mine have also not even received the same scrutiny as other similar mining operations occurring elsewhere in the State. Although EISs are often prepared in connection with mining activities, and even though Cargill has been operating the Mine since 1970 (about five years before SEQR was enacted), Cargill has *never* been required to prepare an EIS under SEQR in connection with its activities at the Mine. We are aware of at least 16 opportunities during this time when, because of a permit renewal or significant change to ongoing operations in the Mine, DEC should have but chose not to require an EIS.² The most recent occasion of course being DEC's issuance of a Negative Declaration for the proposed flooding of the S3 Zone, which unless rescinded, will continue the disturbing and anomalous trend of giving Cargill a pass under SEQR. Meanwhile, DEC has issued two positive declarations under SEQR for the newer room and pillar salt mine in New York, American Rock Salt's Hampton Corners Salt Mine in Livingston County. Hampton Corners Salt Mine is not located under and putting at risk an invaluable freshwater lake.

Indeed, although SEQR requires an agency to "make every reasonable effort"³ to *include the public* in the SEQR process, and even though Cayuga Lake is held by the State *in trust for the benefit of the public*, the State has so far unheeded a successive and ongoing flood of demands from the public to, at a minimum, require an EIS for the Mine. Since the 1994 collapse of the Retsof Salt Mine in Livingston County, and the Assembly's Joint Public Hearing on Underground Mining in NYS in 1995, many local municipalities and nonprofits whose missions are to preserve Cayuga Lake have called for an independent third-party scientific review of the relevant data facilitated by an EIS to provide a more comprehensive public assessment of the long-term threats to the Lake from the ongoing salt mining operations beneath the Lake. In the intervening years, numerous towns and villages in the surrounding area, as well as the City of Ithaca, and Tompkins County have adopted formal Resolutions calling upon DEC to require an EIS. Many other local water quality advisory bodies have filed resolutions in support of requiring an EIS.

The public has also been continuously denied access to much of the relevant geological and seismic data needed to assess the risk of the Mine's operations, including an unfortunate 2005 administrative ruling in which DEC's Assistant Commissioner overruled a Senior Administrative Law Judge's ("ALJ") earlier determination that had finally granted public access to many critical Mine records. There, the ALJ's underlying decision had wisely acknowledged that "shielding from public scrutiny the very information to assess the potential environmental

² See attached table entitled "Missed Opportunities for EISes at CSM," prepared by CLEAN.

³ 6 NYCRR § 617.3(d).

impact and safety issues associated with a proposed mine (Permit) is inimical to the process.” These words remain ever relevant to Cargill’s current proposal to flood the S3 Zone, as CLEAN has received to date very few responsive records from DEC in response to its Freedom of Information Law (“FOIL”) requests concerning Cargill’s Application submitted to the agency in November and December 2024. Despite multiple follow-up requests, nearly all of the requested records have not been provided to CLEAN to date. CLEAN and other members of the public therefore continue to be deprived of the very records they need to adequately understand and assess the environmental and safety risks associated with Cargill’s request for a major modification and permit renewal.

Nonetheless, the information that has been provided to the public to date about Cargill’s need for and plan to flood the S3 Zone with its mining wastes paints a disturbing picture. As described herein, Cargill’s mining inflows have steadily increased over time, while its measures to reduce such inflows have been discontinued. Rather than address the underlying issue of increasing inflows, Cargill proposes instead to turn the Mine into a depository for these wastes by flooding the S3 Zone beneath Cayuga Lake, a process that is expected to occur over a number of years. Alternatively, Cargill could pump this waste brine to the surface where it could be made available free-of-charge to the Town of Lansing for the deicing of the town’s roads. Brine deicing of roads requires >30% less salt than when road salt is used and thus harmful impacts on local water resources could be reduced.

Cargill’s proposal to flood the S3 portion of the mine rather than bringing the brine to be used at the surface needlessly puts the stability of the Mine beneath Cayuga Lake at risk and creates more opportunities for a hydraulic connection to form between the Lake and the Mine, a worst-case scenario that must be prevented at all costs. The S3 Zone had previously been abandoned by Cargill for mining because of instability concerns, and Cargill’s disposal of under-saturated brines in this area will eat away at existing small pillars, further eroding the S3 Zone’s stability. Further, while Cargill has previously stored some brines in ponds elsewhere in the Mine, Cargill’s proposal to completely inundate the S3 Zone will prevent the flooded area from being monitored for stability, in contrast to everywhere else in the Mine. These serious risks to mine instability in the S3 Zone have not yet been appropriately vetted, as the only stability analysis that Cargill has supplied to date is incomplete and admittedly reflects neither real world “mining experience” or “the hydrogeology of the Cayuga Mine,” as explained in the accompanying technical review memoranda prepared by Raymond C. Vaughan,⁴ Ph.D., PG, and Dr. Andrew Michalski, Ph.D., CGWP, PG,⁵ respectively.

⁴ Technical Review of Cargill’s application for permit renewal and modification, Cayuga Salt Mine, 0-9999-00075/00001 dated January 17, 2025 (Vaughan Memo), attached hereto.

⁵ Technical Comments prepared by Andrew Michalski Ph.D., CGWP, PG on Cayuga Salt Mine, Mined Land Reclamation Permit Modification, dated January 15, 2025 (Michalski Memo), attached hereto.

Fortunately, there is still time and opportunity for DEC to take necessary action to fulfill its fiduciary responsibility to the people of this State by protecting Cayuga Lake and the lands beneath it. First, DEC must scrutinize for compliance with the Mining Law and its regulations not just Cargill's current proposal to flood the S3 Zone (which as proposed does not pass muster), but also its existing Mining and Reclamation plans, and impose new or updated permit conditions as necessary. Second, DEC must finally require Cargill to prepare an EIS, which should also evaluate Cargill's entire mining operations and not just its proposal to flood the S3 Zone. In each case, Cargill may try to argue that it has some vested right to continue its ongoing operations as previously approved, but DEC is free to course correct when necessary to "protect a public interest," here upholding the public trust in the Lake and State-owned lands beneath it. *See Capruso v. Village of Kings Point*, 23 N.Y.3d 631, 642 (2014). Finally, before any decision is made on the permit request, DEC must hold a public hearing (after full and complete disclosure of the materials relevant to the Application) in order to give the public a complete opportunity to provide input on the Application.

Our requests are addressed below in turn in more detail.

I. The Application does not satisfy the criteria for the renewal and major modification of a Mined Land Reclamation Law Permit.

As noted above, DEC has correctly determined that Cargill is seeking a major modification of its existing permit under the Mining Law. A request for a major modification is treated the same as a new permit application under the Uniform Procedures Act, and therefore, must be subject to and satisfy the criteria for a new permit. *See* UPA § 70-0115(b)(2). Unlike a standard permit renewal request, Cargill's Application is subject to "full environmental review" for compliance with the Mining Law and its implementing regulations. *See Guptill Holding Corp. v. Williams*, 140 A.D.2d 12, 20 (3d Dept. 1988).

An application for a new Mined Land Reclamation Permit requires the submission of a Mined Land Use Plan, including both a Mining Plan and Reclamation Plan. ECL § 23-2711. Before approving any major modification to Cargill's permit, DEC must ensure that the proposed modifications and the existing Mining Plan and Reclamation Plan are "consistent with the purposes and policies" of the Mining Law and its implementing regulations, 6 NYCRR § 422.1(b), which include, among other things, the prevention of pollution and the protection of the health, safety and general welfare of the people and the natural beauty and aesthetic values of the State. *See* 6 NYCRR § 420.2(a)

Under the Mining Law, DEC has broad authority to require a permit applicant to supply additional information, explanation, or documents "where deemed necessary or appropriate to achieve the policies, objectives or requirements" of the Mining Law and its implementing regulations. 6 NYCRR § 422.1(e).

a. Cargill’s Application proposes modifications to its Permit that do not comply with DEC’s Mining Law regulations and which are inconsistent with the existing Mining Plan.

i. DEC must require the mandatory treatment of wastes stored in the S3 Zone in accordance with DEC’s Mining Law regulations and Cargill’s existing Mining Plan.

DEC’s Mining Law regulations applicable to Mining Plans are set forth at 6 NYCRR Part 422. DEC’s regulations state that the written portion of a Mining Plan must include “a description of the...disposition of materials other than through sale, exchange, commercial, industrial or municipal use.” 6 NYCRR § 422.2(c)(3). DEC’s regulations identify two options for the “disposition of all materials ... resulting from mining”: either the wastes are to be disposed of off-site in accordance with DEC’s solid waste management rules, or the materials are to be stored for disposal during reclamation. *Id.* § 422.2(c)(3)(v). In the latter case, which is what Cargill is proposing as part of its Application, the regulations state that the materials “*shall be temporarily treated* to prevent their becoming unstable, hazardous, a source of pollution of the environment, or damaging to other property.” *Id.* § 422.2(c)(3)(v)(b) (emphasis added).

Cargill’s current Application fails to satisfy this mandatory treatment standard. Under basic principles of solution chemistry, a fully saturated solution is a mixture that contains the maximum amount of solute that can dissolve in a given amount of solvent at a specific temperature. An under-saturated brine, however, will continue to dissolve salt, thus eroding the stability of small yielding salt pillars, abutment walls, and notches.

DEC correctly acknowledges that “[b]rine at 26.6% salt is fully saturated.”⁶ And yet Cargill proposes to activate its brine making system only “[i]f the brine were to drop below a 22% salinity action level.”⁷ Cargill is thus proposing to store brine beneath Cayuga Lake that is not fully treated (*i.e.* brines between 22-26% salinity), and which could result in pollution or mine instability in violation of 6 NYCRR § 422.2(c)(3)(v)(b).

As described by Dr. Michalski, a simple calculation shows that the dissolution effects on the small pillars are likely to be significant. Assuming 30 gpm (16,000,000 gal per year) of shaft leakage is disposed in the S3 Zone, a 4% difference to full brine saturation (26% minus 22%) indicates potential yearly dissolution of ~630,000 gal (or ~84,000 cubic ft) of salt. Assuming small pillar dimensions of 18’x20’x11’, a single pillar volume would be ~3,960 cubic ft. It follows that the leakage would be capable of dissolving an equivalent of ~21 small pillars per year. According to a 2011 Cargill mining plan, Panel E9, which would be part of the first-

⁶ DEC’s Negative Declaration Part 3 Continued, dated Nov. 19, 2024 (“Negative Declaration”), pg. 3.

⁷ Cargill’s Addendum to its Notice of Incomplete Application response, dated May 3, 2024 (“May 3, 2024 Addendum”), pg. 2.

flooded portion of the S3 Zone, contains 62 small yielding pillars. Assuming a brine under-saturation value at 4.6% (26.6% - 22%), approximately one-third of the pillars volume in the E9 panels would potentially be dissolved within the first year of Cargill's proposed 15-year flooding period.⁸

Cargill's proposal to store under-saturated brines is also inconsistent with Cargill's existing Mining Plan, which addresses subsurface disposal of runoff within the Level 4 workings. There, Cargill states that "runoff is conditioned to *maximize its saturation*" before disposal.⁹ Maximizing its saturation means fully saturated. Other inflows besides runoff that are stored in the S3 Zone should be treated the same. Accordingly, the Permit must require that brines will be treated to full saturation levels before storage in the S3 Zone. Otherwise, Cargill must be made to demonstrate with an independent technical analysis (subject to public review and input) that storing under-saturated brines will not present any risk of instability, pollution to the environment, or damage to property in line with 6 NYCRR § 422.2(c)(3)(v)(b). This has not been done to date. As Dr. Michalski explains, Cargill's consultants grossly underestimated the effects of pillar dissolution in their stability analysis. DEC would therefore be acting well within its regulatory authority under the Mining Law to require such necessary study. *See* 6 NYCRR § 422.1(e).¹⁰

For example, in the context of future salinity releases to the Lake resulting from brine storage, we note at least three distinct categories of pollution to the environment that need attention: 1) lakewide or localized effects of increased salinity on human health, 2) lakewide or localized effects of increased salinity on the environment, including impacts on aquatic organisms, as illustrated by Lawson and Jackson, "Salty summertime streams—road salt contaminated watersheds and estimates of the proportion of impacted species," FACETS 6, 317-33, Fig. 4 (2021), and 3) lakewide or localized effects in which increased salinity impedes or prevents the normal seasonal turnover of a healthy lake. This third category of effects occurs because salt solutions and brines become denser (heavier) with increasing salinity and can thus stratify based on salinity rather than seasonal temperature changes. Onondaga Lake has suffered such stratification due to salt. Green Lake in Fayetteville is an example of more permanent stratification, albeit by other solutes rather than salt.

Cargill has also failed to identify measures for monitoring and treating the subsurface water inflows for hazardous constituents besides salt that may pose a risk of pollution, instability, property damage, etc. Cargill is not simply proposing the disposal of salty water beneath the

⁸ Michalski Memo.

⁹ Mined Land Use Plan at 74 (emphasis added).

¹⁰ Unfortunately, we do not expect this undersaturation problem to be readily avoidable because Cargill's pumps cannot handle fully saturated brine, according to a statement made by Cargill's Mine Manager at the Town of Lansing on January 15, 2025. Halting the proposed flooding of the S3 Zone may be the only realistic solution to remedying the issue.

subsurface. The waters are in all likelihood contaminated with other regulated pollutants. Cargill's existing Mining Plan states that those waters that are "not treated for discharge to the outfalls *or with treatment still cannot meet SPDES permit standards* is discharged to the subsurface for disposal."¹¹ Again, treatment for safe subsurface disposal is *mandatory* under 6 NYCRR § 422.2(c)(3)(v)(b), and therefore, these waters must be monitored and treated for other constituents. Further, Cargill should be made to demonstrate that any waters that cannot be adequately treated for surface disposal in compliance with Cargill's SPDES permit are nevertheless safe for subsurface disposal beneath Cayuga Lake.

ii. In violation of its current Mining Plan, and in contrast to historical practice, Cargill will not be able to monitor the stability of the S3 Zone after it is flooded.

Under the Mining Law's regulations, a Mining Plan must include methods "for preventing pollution...and minimizing the effect of mining on the people of the State." 6 NYCRR § 422.2(c)(4); *id.* § 422.2(a). In its existing Mining Plan, Cargill commits to several critical practices to minimize the effect of its mining on the environment and on the people of the State including especially monitoring mine closure rates, subsidence amounts, and microseismic events throughout the mine "to ensure that the mine remains stable."¹² Cargill has, for example, stated in support of its Application that "convergence data is extensively monitored throughout the mine."¹³

This statement will not be accurate, however, as it relates to the S3 Zone that Cargill proposes to flood. Cargill has admitted that it "is not aware of any practical methods to maintain active monitoring stations within the inundated area" to be flooded as proposed.¹⁴ Cargill's Application is therefore inconsistent with standard practice in the Mine and Cargill's existing Mining Plan, and it has failed to identify adequate measures "for minimizing the effect of mining on the environment and on the property, health, safety and general welfare of the people of the State" in accordance with 6 NYCRR § 422.2(a) and (c)(4).

In its Negative Declaration, DEC states that DEC and its outside consultant Boyd regularly monitor closure rates and subsidence data in the 4-Level storage area where Cargill disposed of waste brine until February 2023. This is "required," DEC states, because "the natural movement of unmined rock salt within the mineral deposit will eventually cause mine openings to close. The rate of closure is monitored via convergence stations and surface subsidence data by LIDAR." While LIDAR monitoring will continue, it is far less useful than convergence stations in providing *early warning* of abnormal closure rates, and it is also limited

¹¹ Mined Land Use Plan at 71 (emphasis added).

¹² Mined Land Use Plan at 73.

¹³ Cayuga Mine S3 Monitoring Plan, June 13, 2023, pg. 3.

¹⁴ May 3, 2024 Addendum at pg. 2.

in detecting closure-rate changes under the Lake, as Dr. Vaughan explains.¹⁵ Notably, continued monitoring is possible in the 4-Level storage area because the brine is stored in ponds, not to the ceiling as is proposed in the S3 Zone after it is flooded.

Accordingly, the proposed subsurface disposal in the S3 Zone is not consistent with Cargill's existing mining operations, which call for active monitoring throughout all areas of the Mine. If it is not possible to monitor the stability of the S3 Zone long-term, the Permit must require Cargill to take necessary measures to minimize the potential for pollution and mine instability, including evaluating whether an alternative disposal option is appropriate to eliminate any long-term risks to groundwater resources. As described above, DEC is obligated under the public trust doctrine to consider whether Cargill's proposal to dispose of wastes beneath Cayuga Lake is the "best public use" of these lands and "not... injurious to the public good," *Smith*, 153 A.D.2d at 740, an analysis that does not appear to have been performed to date. The long-term stability of the Mine and the protection of Cayuga Lake must take precedence over the selection of the most convenient waste disposal solution.

iii. Cargill has not identified any measures for reducing inflows into the Mine to reduce the need for additional subsurface disposal capacity.

Leakage of waters from Shaft No. 1 into the Mine has increased significantly over the past two decades, which has correspondingly increased the need for additional waste disposal areas in the Mine. By way of example, between 2018 and 2023, inflows to Shaft No. 1 increased from 23 to 29 gpm.¹⁶

Cargill has not taken sufficient measures to reduce these inflows, and the measures it has taken to date have been either discontinued or incomplete. In 2016, for example, Cargill performed grouting work in Shaft No. 1 that appeared to have reduced the rates for a time but they have once again increased. Cargill's 2016 Annual Report to the DEC mentions that grouting reduced Shaft No. 1 leakage by 10 gpm and that "Plans are being made for further grouting of the #1 shaft during 2017." However, the 2017 Annual Report to DEC makes no mention of grouting in 2017.

In addition, in its Annual Report to DEC for 2011, Cargill informed the DEC that it planned to install piping in Shaft No. 1 for pumping shaft leakage waters to the surface. In its Annual Report to DEC for 2013, Cargill informed the DEC that the requisite piping for pumping Shaft No. 1 leakage waters to the surface was operational and being "optimized." However, subsequent Annual Reports never mention this pumping system again despite Shaft No. 1

¹⁵ Vaughan Memo.

¹⁶ A summary of Mine inflow data from Cargill's annual reports for the Mine from 2003-2023, compiled by CLEAN, is attached hereto.

leakage making up the bulk¹⁷ of water inflows into the mine from then until the present. We do not know why Cargill abandoned this option which would have likely reduced the need for the flooding of the S3 Zone and provided a ready supply of road deicing brine to the Town of Lansing.

Under the Mining Law and its regulations, a Mining Plan must be “compatible with [] sound environmental management practices.” 6 NYCRR §§ 422.1(b), 420.2(a). Further, in accordance with § 422.2(a) and (c)(4) relating to minimizing the effect of mining on people of the State, Cargill must be required under any Permit to identify measures to minimize leakage waters necessitating disposal, including in Shaft No. 1. Unnecessary shaft leakage requires either more surface discharges if the waters are pumped to the surface or more subsurface disposal capacity, which necessitated the need for Cargill’s current Application. Both increase the potential for pollution to surface or groundwater resources and potentially harm the people of the State in violation of DEC’s Mining Law regulations.

Indeed, although Cargill claims without evidence that “sudden changes in saturation are not anticipated,”¹⁸ Dr. Michalski states the opposite.¹⁹ In his view, it is reasonable to expect that future shaft inflow will include a larger component of fresh water and larger inflow rates, posing significantly higher dissolution and closure impacts during the treatment and disposal of the inflow, which is yet another reason why mandatory treatment of the stored brines is necessary.²⁰ In addition, as Dr. Michalski explains, the ongoing shaft inflow has likely had far reaching environmental impacts beyond the Mine, as it may have already caused dewatering and lowering of groundwater levels in bedrock aquifers over a large area. Yet Cargill has apparently failed to consider, let alone monitor, this impact of its mining operations.

The Permit must therefore include conditions that require Cargill to minimize the need for any waste disposal and to monitor saturation rates of these new and increasing inflows.

b. Cargill’s current Reclamation Plan and Reclamation Bond do not satisfy DEC’s Mining Law regulations and must be revised and supplemented.

Under DEC’s Mining Law regulations, the goal of any Reclamation Plan is to restore any lands affected by mining “to a condition or physical state which is similar to and compatible with that which existed prior to any mining or which encourages the future productive use of the

¹⁷ Between 16 and 30 gpm for the period 2013 to 2023 which amounts to 8.4M gallons to 15.8M gallons per year. See Mine inflow data summary.

¹⁸ May 3, 2024 Addendum at pg. 2.

¹⁹ Michalski Memo.

²⁰ The permit should require real-time monitoring of shaft inflows and “other inflows,” as well as at the transport pipe to the S3 Zone (and at SPDES Outfalls 001 and 002), and display at the DEC website of these real-time data for key parameters such as temperature, pH, specific conductance, sodium, and chloride and quarterly reporting to the DEC of isotopic analysis and an array of possible contaminants including PFAS compounds, total cyanide and free cyanide. The public needs to be able to monitor these evolving data.

land.” 6 NYCRR § 422.3(b). Reclamation “shall” include, among other things, “disposal of refuse or spoil,” and “proposals for the prevention of pollution, the protection of the environment ... and the protection of the property, health, safety and general welfare of the people of the State.” *Id.*

Cargill’s existing Reclamation Plan was last amended in 2002. There are several material developments that have occurred in the intervening 22 years that necessitate renewed and exacting scrutiny of Cargill’s Reclamation Plan for current compliance with the law, including the following:

- Cargill’s new proposed flooding of the S3 Zone with waste from mining operations beneath Cayuga Lake represents a significant, new permanent waste disposal and resource management decision;
- Cargill recently explored a possible sale of the Mine, as it reportedly hired Deutsche Bank, which calls into question its commitment and accountability for long-term best practices and full reclamation of the Mine;
- DEC is now responsible for implementing the Climate Leadership and Community Protection Act (“CLCPA”), and Cargill’s decision to flood portions of the Mine forecloses the use of these areas of the Mine for more beneficial uses, such as carbon sequestration or pumped storage; and
- DEC is now subject to a constitutional obligation to ensure that each person in the State, including those who rely upon Cayuga Lake for drinking water, recreation, and fishing, and other uses, has access to “clean air and water, and a healthful environment,” N.Y. State Const. Art. I, § 19.

DEC must therefore ensure that Cargill’s existing Reclamation Plan complies with the Mining Law and is consistent with the activities Cargill proposes in its Application.

Cargill’s decision to flood, and thus foreclose the use of part of the Mine cavity for more beneficial uses such as carbon sequestration or pumped storage, involves two important issues. *First*, a decision to flood, whether it be Cargill’s decision or DEC’s, constitutes an adoption of a plan or policy that may have a significant effect on the environment. See, for example, the words of mining experts Pierre Bérest et al. (2004) as quoted on page 2 of Dr. Raymond Vaughan’s 2016 letter to DEC: “...salt-mine abandonment must be planned thoroughly... The long-term stability of the mine must be discussed—a problem common to all mines, even if it must be kept in mind that, in the case of salt mines, a slow mine closure cannot be avoided.” Bérest et al. emphasize the need for careful planning and discussion. The commercial closure or abandonment of a mine without meaningful planning or discussion is essentially a plan or policy adopted by default. Such adoption of a plan or policy would apparently lack a rational basis and would likely be subject to the procedures of SEQR.

Second, there is an urgent current need for technologies such as carbon sequestration and pumped storage.²¹ While CLEAN makes no claim that such technologies could or should be used in a deep salt mine after its commercial closure, the idea of keeping a mine dry for such uses cannot be readily dismissed and should be evaluated both as an alternative under SEQR and by the State in upholding the public trust doctrine. *See Smith*, 153 A.D.2d at 740 (holding that the contemplated use by a private grantee for lands held in the public trust “must comport with the best public use...”). Such a re-use of the Cayuga Salt Mine cavity, whether for research or pilot demonstration or grid-connected commercial use, may be limited to two or three decades as a result of the ongoing geologic subsidence—but the need for such technologies is both urgent and current, with a reasonable expectation that technological progress will provide ample and better answers in time for a planned retirement of any facilities in the Cayuga mine within a few decades. In summary, to the extent that the mine has sufficient global stability for its current salt-related uses, its stability for purposes of beneficial re-use cannot be readily dismissed. Such re-use needs to be evaluated under both SEQR and the public trust doctrine, not blindly foreclosed by flooding.

i. Cargill limited the scope of its Reclamation Plan to surface activities based upon an inaccurate reading of the Mining Law.

Cargill’s Reclamation Plan claims that “[t]he New York State Mined Land Reclamation Law (MLRL) does not regulate or require the reclamation of the subsurface workings of underground mines.”²² This is not an accurate statement of the law. Nothing in the Mining Law excludes from regulation underground mining or underground reclamation activities. Under the Mining Law, a permittee must prepare a Reclamation Plan identifying its proposed methods for reclaiming “land affected by mining,” which includes surface lands as well as “*land under water*,” such as those subsurface lands beneath Cayuga Lake at issue in the current Application. *See* ECL § 23-2705(2) (emphasis added). The phrase “land under water” is also used in the Public Lands Law § 75 to describe those State-owned lands that may be granted or leased by the Office of General Services (“OGS”), including that “parcel of land under Cayuga Lake” granted to Cargill.²³ If the phrase “land under water” did not include the areas of the Mine beneath Cayuga Lake, then Cargill would not have a right to mine such lands in the first place, which cannot possibly be Cargill’s position.

²¹ In general, see sources such as https://www.uml.edu/docs/complete-the%20state%20of%20grid%20energy%20storage%20in%20massachusetts-final_tcm18-321989.pdf. For the Northfield Mountain pumped storage facility in Massachusetts, see [https://en.wikipedia.org/wiki/Northfield_Mountain_\(hydroelectricity_facility\)](https://en.wikipedia.org/wiki/Northfield_Mountain_(hydroelectricity_facility)); https://www.youtube.com/watch?v=jxzNvI_Vzjw.

²² Mined Land Use Plan at 78.

²³ Consent Order dated Dec. 19, 1994 between Cargill and OGS, as amended.

Further, the phrase “affected by mining” contemplates a broad consideration of both direct and indirect impacts to surface lands or waters from mining activities. A Reclamation Plan must therefore also address any subsurface mining activities that, for one reason or another, may “affect” surface lands or surface waters after mining is completed. This reading is confirmed by DEC’s Mining Law regulations. There, DEC states that “[a]ny cut or excavation within the permit area, whether it is for the purpose of gaining access to a mineral, mining a mineral, or of transporting a mineral shall be considered to affect the reclamation plan....Shafts, drifts, adits, tunnels, lifts, and inclines shall be considered types of cuts and excavations.” 6 NYCRR § 422.2(c)(3)(ii).

Finally, under the public trust doctrine, DEC is not only authorized but obligated to consider whether Cargill’s long-term closure plan for the areas beneath Cayuga Lake comport with the “best public use” for these lands and will not be “injurious to the public good.” *Smith*, 153 A.D.2d at 740; *see also Long Sault Dev. Co. v. Kennedy*, 212 N.Y. 1, 10 (1914) (“The State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties...”) (quotation omitted) .

Accordingly, Cargill must be made to supplement its existing Reclamation Plan to address any subsurface mining activities that may affect surface lands or waters, or which affect lands under waters like those beneath Cayuga Lake, including subsidence. On page 38 of Cargill’s Mined Land Use Plan, it is stated that “The maximum subsidence occurs under Cayuga Lake and would ultimately become 5.5 feet when the mine is completely closed, assuming no further mining.”

There is no denying that, when rock is removed from the subsurface through mining, the ground surface naturally subsides. And yet, Cargill has not addressed in its Reclamation Plan the potential range of impacts associated with subsidence from its mining activities performed under Cayuga Lake, including those associated with the present Application. Specifically, Cargill has not addressed in its Reclamation Plan the potential for subsidence to enlarge existing bedding plane separations and open new fracture pathways in the layers of rock above the Mine that could result in new hydraulic connections between the Mine and the Lake or between the Mine and an aquifer below the lake.

The potential environmental harms associated with subsidence are magnified by Cargill’s present proposal to dispose brine beneath the Lake. The flooding of mine cavities under the Lake with under-saturated brine elevates the risk of catastrophic mine collapse leading to a large and rapidly developing hydraulic connections between the Mine, overlying bedrock, buried valley sediments and the Lake. Such hydraulic connections—if similar to the Retsof Mine collapse in 1994—could result in decreased water levels within the confined aquifer beneath a portion of Ithaca.

Cargill should therefore be required to update its Reclamation Plan with information and analysis about the larger potential impacts of subsidence to both surface lands, surface waters, and groundwater dewatering within the bedrock and artesian unconsolidated aquifer under the City of Ithaca. Further, Cargill’s Reclamation Plan states only that the mine shafts would be plugged post-closure, without further explanation. The Reclamation Plan does not indicate whether the Mine would be flooded or kept dry or even whether the entire depth of the shafts would be filled or what equipment, materials, and mine floor areas contaminated by chemical spills Cargill would be required to remove or remediate. DEC must direct Cargill to address of each these issues in a supplemented Reclamation Plan.

ii. Cargill must confirm whether the waste proposed to be stored in the S3 Zone will be disposed offsite during reclamation or left there permanently.

In its current Reclamation Plan, Cargill states that, “[p]rior to final closure of the shafts, Cargill will remove any remaining fuels, oils, solvents, blasting agents and any other potential liquid pollutants from the mine.”²⁴ This appears to mean that Cargill intends to eventually remove any wastewaters deposited into the S3 Zone at the time of reclamation, but DEC must confirm that this is the case before taking further action on the Application. *See Guptill*, 140 A.D.2d at 18 (stating that reclamation necessarily involves review of the permittee’s long-term plans).

To the extent that Cargill intends to permanently store subsurface wastes post-reclamation, before DEC takes any further action on the Application, DEC must first evaluate whether this proposed use of these State-owned lands is their “*best public use.*” *Smith*, 153 A.D.2d at 740. Further, Cargill must be directed to evaluate the impact of this revised reclamation proposal on the potential for groundwater pollution, mine stability, and the overall impact on the people of this State, in accordance with § 422.3(b). Finally, all Reclamation Plans must undertake “[e]very reasonable effort . . . to minimize the disturbance of the prevailing hydrologic balance at and adjacent to the mine.” 6 NYCRR § 422.3(d)(2)(iii). Before the Permit is issued, Cargill must be made to demonstrate that any permanent disposal of wastewaters in the flooded portions of the S3 Zone aligns with this mandatory requirement for Reclamation Plans.

iii. Cargill must be required to post additional security as a condition of any renewed or modified Permit.

Under the Mining Law and its regulations, an applicant for a permit “shall furnish a reclamation bond . . . which is conditioned upon conformance with the applicant's mined land-use plan.” 6 NYCRR § 423.1(a). DEC is responsible for setting the amount of the bond, which is to be determined based upon the following factors:

²⁴ Mined Land Use Plan at 78.

- the type of mine;
- the number of acres of affected land;
- the geographic location of the mine;
- the proposed land-use objective and basic reclamation requirements;
- the length of the permit period;
- the proposed method and schedule of reclamation; and
- other criteria which may be considered relevant to the estimate.

6 NYCRR § 423.1(c).

Under Cargill’s current permit, the bond is only \$3.5 million. This amount does not appear to have been derived based on a consideration of each of the requisite factors enumerated above. Rather, the current permit states that this amount is only for “purposes of reclamation of all affected surface areas within the mine and proper closure of all shafts,” without factoring in subsurface closure or the long-term environmental risks associated with Cargill’s mining activities, including the permanent subsurface disposal of wastes or the long-term risks associated with subsidence.

In this case, the geographic location of the mine, the schedule of reclamation, and the basic reclamation requirements (including the protection of the environment and general welfare of the public) necessitate a significant increase to the amount of Cargill’s Reclamation Bond. A substantial portion of Cargill’s mining activities are occurring beneath Cayuga Lake on State-owned lands. The flooding of mine cavities under the Lake with under-saturated brine elevates the risk of long-term salinity impacts on Cayuga Lake and aquifers by increasing the erosion of small yielding pillars, abutment walls, and notches such that catastrophic mine collapse becomes more likely. Further, the mine voids of the Mine may take as long as 500 years to close²⁵, meaning that the subsidence impacts of the Mine on Cayuga Lake and its shoreline may not be fully discernable until well into the future. Cargill should be required to post adequate security to protect the people of the State against any long-term harm to the Lake from the Mine’s closure.

We therefore request that the bond be increased to \$10 billion.

²⁵ See Leo Van Sambeek. July 2013. Expected subsidence of the Cayuga Mine amended area. Topical Report RSI-2361. The second sentence in paragraph 2 on page 15 reads, “The subsidence will accumulate for the next 500 years at steadily diminishing rate---”

II. The Negative Declaration must be rescinded and an Environmental Impact Statement prepared.

Before taking further action on the Permit, DEC must also require the preparation of an EIS under SEQR. DEC has correctly acknowledged that Cargill's proposed activities are a Type I action under SEQR. A Type I action under SEQR is one that is presumed to require the preparation of an EIS, and which is likely to result in one or more significant adverse environmental impacts. 6 NYCRR § 617.4. "It is well settled that, where a Type I action is involved, there is a relatively low threshold that must be met to require the issuance of a positive declaration under SEQRA." *Scenic Hudson, Inc. v. Town of Fishkill Town Board*, 258 A.D.2d 654, 656 (2d Dept. 1999).

SEQR is "designed to protect the environment by requiring parties to identify possible environmental changes before they have reached ecological points of no return." *Meschi v. NYSDEC*, 114 Misc. 2d 877, 878 (Alb. Cnty. Supr. Ct. 1982) (internal citation and quotation marks omitted). To require an EIS, the lead agency need determine only "that the action may include the potential for at least one significant adverse environmental impact." 6 NYCRR § 617.7(a)(1). "[T]he key word" in this analysis "is the word 'may.' At issue is not whether the [project] will have a significant effect on the environment..." *Meschi*, 114 Misc.2d at 878 (cleaned up).

Although DEC has already issued a Negative Declaration, finding that the action would not result in one or more significant adverse environmental impacts, the agency "must" rescind a Negative Declaration at any time prior to its underlying decision on Cargill's Application if any one of the following is found to occur:

- (i) *Changes are proposed for the project;*
- (ii) *New information is discovered; or*
- (iii) *Changes in circumstances related to the project arise...*

...that were not previously considered and the lead agency determines that a significant adverse environmental impact may result. 6 NYCRR § 617.7(f).

For this Application, DEC did not solicit public input or comment before issuing the Negative Declaration. Therefore, the agency will be faced with new information in these and others' public comments on the Application that it had not previously considered. If, based on any of this new information, the agency determines that a significant adverse environmental consequence may arise, then the Negative Declaration must be rescinded and an EIS prepared.

a. The preparation of an Environmental Impact Statement for Cargill’s activities at the Mine is long overdue and necessitated by this proposed major permit modification and renewal.

As discussed above, a request for a major modification to a permit is subject to the same requirements as a completed application for a new permit. In *Guptill*, the Third Department stated that this requirement “includes, where appropriate, the filing of an environmental impact statement” in accordance with SEQR. 140 A.D.2d at 20.

“Environmental Impact Statements are commonly prepared for mining projects,” including by DEC as lead agency. 1 Env’tl. Impact Review in N.Y. § 4.13 (collecting cases). In *Demers v. N.Y. State Dep’t of Env’tl. Cons.*, for example, DEC had issued a positive declaration as lead agency relating to the proposed expansion of mining operations on two parcels contiguous to an ongoing mine. 3 A.D.3d 744 (3d Dept. 2004). Similarly, in *Ten Mile River Holding, Ltd. v. Jorling*, DEC issued a positive declaration in connection with the proposed resumption of a previously permitted sand and gravel mine. 150 A.D.2d 927 (3d Dept. 1989). More recently, DEC Region 7 issued a positive declaration for the proposed Cortlandville Sand and Gravel Mine in 2021. DEC has also issued two positive declarations under SEQR for the other room and pillar salt mine in New York, American Rock Salt’s Hampton Corners Salt Mine in Livingston County. One was required prior to the mine receiving its mining permit and the second when American Rock Salt proposed expanding the footprint of the mine toward the west. Cargill, meanwhile, has never been required to prepare an EIS in connection with its activities at the Mine.

Under both the Mining Law and SEQR, it is “entirely consistent” to require “comprehensive review of the cumulative effect, over time, of the incremental steps of the progressive exploitation of mining property subsumed in the periodic permit renewal process of [the Mining Law].” *Guptill*, 140 A.D.2d at 18. The “very concept of ‘reclamation,’” after all, “assumes review of the long-term plans for the exploitation of mining property” in terms of “conservation and protection of the environment.” *Id.* at 18.

With these principles in mind, Cargill’s Application for renewal and major modification of the Permit necessitates the preparation of an EIS for the reasons that follow. The Negative Declaration must therefore be rescinded.

i. The potential magnitude and location of environmental harm associated with mine instability above the S3 Zone under Cayuga Lake necessitates an Environmental Impact Statement.

Under SEQR, in determining the “significance” of a potential environmental harm, context is everything. *Meschi*, 114 Misc. 2d at 878 (stating that it was the sensitive location of a new proposed transfer station that necessitated the preparation of an environmental impact statement). A potentially catastrophic event with a low probability of occurrence may necessitate

the preparation of an EIS depending on its potential magnitude, setting, irreversibility, geographic scope, and the number of people potentially affected. *See* 6 NYCRR § 617.7(c)(3).

A mine collapse in the S3 Zone would occur under the Lake. The consequences of a mine collapse and subsequent flooding of the salt mine would be catastrophic. Even a minor roof collapse in this area could lead to a rubble chimney, creating a hydraulic connection between the Mine and Cayuga Lake. A collapse event would threaten the drinking supply for more than 100,000 people as the lake water would possibly become more saline, potentially indefinitely. A similar event occurred when Lake Peigneur flooded a salt mine in 1980. USGS data²⁶ indicate that Lake Peigneur's water has been too saline to drink since the event occurred.²⁷

Had DEC required an EIS prior to allowing Cargill to begin extending the 6-level mine under Cayuga Lake in the early 1980s using small yielding pillar technology, that EIS might have concluded that small-yielding pillar technology, which is a lucrative mining technology with an extraction ratio of about 90%, is singularly inappropriate in a center of the valley location under a large lake. The Retsof Salt Mine—then the largest salt mine in North America—collapsed in 1994 at precisely the location where mining consultant Gary Petersen was trying to implement small yield pillar technology at a center-of-the-valley location in the Retsof Mine.

In 2017, Mr. Petersen reportedly wrote to Cargill “that water from the Oriskany Formation has moved down linears and is increasing closure rates in the U12 and U40B panels [of Cayuga Mine]. This flow was due to the destressing caused by a yielding production pillar.” As Dr. Michalski explains, an EIS is urgently needed to determine whether the as-yet-undefined “other inflows” that Cargill has reported for the past five years include waters from the Oriskany Formation and whether this problem could have been avoided by the use of the lower-yielding Large Pillar Technology.²⁸ An EIS would need to evaluate the water chemistry of a) aquifers under Portland Point, b) the shaft leakage waters, and c) the borehole decompression fluids from above panel U12 and how these chemistries have changed over time.

DEC attempts to minimize the risk and harm associated with subsurface brine storage in its Negative Declaration with reference to the fact that Cargill has engaged in subsurface brine storage previously. However, we understand that the current 4-level storage/disposal areas are

²⁶ e.g. 1100 ppm sodium on Feb 7th, 2006; [EPA guidance is 20 ppm for people on low-sodium diets.] Chloride ranging between 1231 ppm and 2376 ppm between Jan 10 & July 23, 2006. Median Cl = 1,633 ppm; [EPA drinking water standard for chloride is 250 ppm.] https://mywaterway.epa.gov/monitoring-report/STORET/LADEQWPD_WQX/LADEQWPD_WQX-0688/

²⁷ This hydraulic connect between a lake and a salt mine is thought to have been caused by a Texaco Drilling rig. However, like Lake Peigneur, there is a significant volume of surface water (Cayuga Lake) directly above the Mine. Further, as USGS geologist Richard Yager has pointed out in his 2013 paper, the mine collapse at Retsof Salt Mine resulted in two rubble chimneys rapidly connecting the mine voids to three overlying aquifers and to the surface.

²⁸ Michalski Memo.

under land. We are aware that, during the construction of Shaft No. 4, Cargill converted the west ends of mining panels U58 and U60 in the 6-level mine for the temporary storage of process waters associated with the upboring of Shaft No. 4. The capacity of the base pond—which included a cutout between the two panels—was reportedly 5.5M gallons, but with possible expansion to the east to a maximum capacity of 29.5M gallons.

DEC did not require any modification of Cargill’s mining permit due to the understanding that these ponds would be temporary in nature. To our knowledge, neither Cargill nor Boyd has ever mentioned these ponds in an annual report to the DEC. To the extent that there are or have been storage areas under the Lake, we question whether this has been previously disclosed by Cargill to DEC, and whether the activity is authorized. Further, as noted above, the 4-level storage areas are ponds, which allow for continued stability monitoring in those areas of the Mine. The new proposed disposal area, however, will be completely flooded, and it will also be located completely beneath Cayuga Lake, which magnifies the potential environmental harm associated with this activity exponentially, necessitating the preparation of an EIS.²⁹ A Mine permanently flooded with wastewater also poses a long-term and ongoing risk of pollution to drinking water resources, potentially in violation of the Safe Drinking Water Act and other state and federal laws.

ii. Cargill’s modeling of rock stability upon which DEC relied is inadequate and incomplete because it failed to consider site-specific hydrogeologic and geologic information, including especially the potential impacts of pore water within the rock above the Mine.

DEC stated in its Negative Declaration that Cargill hired several consultants to evaluate geotechnical conditions associated with flooding the S3 Zone, including Agapito Associates, Inc., a firm with no reported prior experience at Cayuga Salt Mine. Agapito prepared a report entitled “Flac3D Stability Analysis of S3 Submains and E5 Panel, Cayuga Mine,” dated Apr. 12, 2022 (“Agapito Report”), which was made available to the public in redacted form. The Agapito Report and associated modeling is referenced in the Negative Declaration as support for DEC’s conclusion that “the storage of water in the S3 main and the adjacent panels will not impact global stability” in the mine.

As described in more detail in the accompanying technical review memoranda prepared by Dr. Vaughan and Dr. Michalski, respectively, the Agapito Report is incomplete, and a complete stability analysis must be performed as part of an EIS. According to Dr. Vaughan, the

²⁹ DEC notes in the Negative Declaration that the closest active production panel is at least 6 miles from the fill point in the S3 Zone, but the distance from the flooded area to the current mining face is irrelevant to the global stability of the S3 Zone beneath Cayuga Lake, which if it were to fail, would have the potential to create a hydraulic connection between the Lake and the Mine. Further, if the S3 Zone were to fail, it could also create a brine expulsion event that would put workers’ lives at risk in other areas of the Mine besides the current mining face.

Agapito Report does not appear to account for the impact of pore water and its negative effects on rock strength. Agapito acknowledged in the Report that it was “not familiar with the hydrogeology of the Cayuga Mine, and details of hydraulic potential and its implications were beyond the scope of [its] study.”³⁰ Based on the limited information made available by DEC on Agapito’s work, it appears that Agapito failed to account for the presence, variability of hydrogeologic characteristics, and effects of pore water within the many hundreds of feet of rock above the Mine. As Dr. Vaughan explains, the presence of pressurized water above the distressed zone in the mine roof has a substantial and widely recognized influence on rock properties and behavior, and therefore, the Agapito Report “does not serve its stated purpose of demonstrating global stability.”³¹

Dr. Michalski, for his part, identifies other site-specific hydrogeologic and geologic information that Agapito’s modeling fails to address. In Dr. Michalski’s view, “[the] oversimplifications in the Agapito modeling, coupled with unrealistically low pillar dissolution effects assumed in the model, result in a stability analysis that may grossly overstate the stability of the S3 area to be flooded.”³²

The Agapito Report and modeling must therefore be supplemented as part of an EIS for the reasons described by both Dr. Vaughan and Dr. Michalski, respectively

iii. DEC omitted reference to critical findings on mine instability identified by Cargill’s former consultant.

Before retaining Agapito, Cargill initially relied upon another one of its consultants, RESPEC—which has more than 20 years’ experience at Cayuga Salt Mine—to perform a mine stability analysis but neither RESPEC nor its stability analysis is referenced in DEC’s Negative Declaration. While RESPEC’s written analysis has never been made publicly available, its findings have been referenced in summaries and reports prepared by DEC’s outside consultant, Boyd. According to these excerpts, RESPEC identified serious concerns about the roof stability in the S3 Zone that must be evaluated as part of an EIS. Specifically, RESPEC opined that their model of flooding would assume that *the first 15 feet of claystone roof rock over the S3 Zone would lose 95% of its strength at the commencement of flooding.*³³ RESPEC’s written findings and report have never been made publicly available, apparently because Cargill replaced RESPEC with Agapito, who performed the incomplete stability analysis addressed above.

³⁰ Agapito Report at 38.

³¹ Vaughan Memo.

³² Michalski Memo.

³³ Revised Planned S3 Submain Sump, Boyd (Aug. 2023) at pg. 5.

Further, as described by Dr. Vaughan,³⁴ without access to the RESPEC report, it is difficult to fully assess the validity of the conclusions reached in the Agapito Report. Cargill had asked Agapito to design its study so that “the results of the Agapito and RESPEC work could be directly compared by Cargill.”³⁵ Yet only one of these reports (and only in redacted form no less) in this companion study has been made available by Cargill. Indeed, it does not appear that the Agapito Report was ever intended to stand on its own as a complete stability analysis. The Agapito Report identifies as one of its limitations as follows: “[t]he model inputs were specified by Cargill to provide easy comparison with [the] similar RESPEC model, and as such Agapito has not calibrated the model to mining experience.”³⁶ The Agapito Report by itself then is incomplete and admittedly does not reflect “mining experience.”

Under SEQR, “[t]he lead agency must have sufficient information to show that the impact will not be significant at the time it makes its negative declaration.” *O’Donnell v. Town Bd. Of Amherst*, 171 Misc.2d 968, 974 (Erie Cnty. Supr. Ct. 1997) (quoting SEQR Handbook at 45 (1992 Ed.)). Here, it does not appear that Cargill made RESPEC’s analysis available to DEC, nor is RESPEC’s analysis referenced in DEC’s Negative Declaration.³⁷ If DEC did not have the opportunity to review RESPEC’s analysis, then the agency was not able to reach an informed decision regarding the potential for mine instability from flooding the S3 Zone. While a lead agency is encouraged to consider the opinions of outside experts, a lead agency must ultimately “exercise[] its own judgment in determining whether a particular circumstance adversely impacts the environment.” *Matter of Boise v. City of Plattsburgh*, 219 A.D.3d 1050, 1057 (3d Dept 2023); see also *Coca-Cola Bottling Co. v. Board of Estimate*, 72 N.Y.2d 674, 682 (N.Y. 1988) (“[T]he final [SEQR] determination” “must remain with the lead agency.”)

Relatedly, the public has also been deprived of the opportunity to participate in the SEQR process because neither RESPEC’s analysis nor the complete Agapito report upon which DEC claims to have relied have been made publicly available. “[O]ppportunity for public participation and engagement is an essential and mandatory part of the SEQRA process.” *Matter of Boise*, 291 A.D.3d at 1057 (quoting *Matter of Friends of P.S. 163, Inc. v. Jewish Home Lifecare, Manhattan*, 30 NY3d at 426). In *Matter of Boise*, for example, the court would not allow the agency to rely upon a safety plan that had not been made available for public review as part of the agency’s SEQR determination. The court explained that the “public will not be able to comment on whether [the safety plan] is appropriate” and it is therefore “shielded from public scrutiny,” contrary to the purposes of SEQRA. *Id.* Similarly, Cargill has so far completely “shielded from public scrutiny” RESPEC’s troubling analysis, as well as various redacted

³⁴ Vaughan Memo.

³⁵ Agapito Report at 1, 38.

³⁶ Agapito Report at 50.

³⁷ CLEAN submitted a FOIL request to DEC seeking a copy of the RESPEC report on October 26, 2024, but thus far DEC has been unable or unwilling to provide a copy of the report, if it even has access to it.

portions of the Agapito Report. These and many other critical records have not been disclosed by DEC to date in response to CLEAN's timely FOIL requests, depriving the public of the opportunity to evaluate the Application and DEC's SEQR determination during the public comment period. At a minimum, both studies need to be made available to the public in non-redacted form for public digestion and input as mandated by SEQR for the Negative Declaration to ultimately withstand judicial scrutiny.

iv. Cargill does not propose to “maximize the saturation of chloride before being stored in the S3 mains,” as claimed in the Negative Declaration.

As described above, fully saturated brine is about 26.6% salt, and yet Cargill is proposing to flood the S3 Zone of the mine with brine that would be between 22% and 23% salt. This is inconsistent with Cargill's commitment in its Mining Plan to “maximize” the salt saturation in stored waters. As Dr. Michalski explains, the storage of under-saturated brines will dissolve pillars in the S3 Zone and reduce the area's stability, creating the risk of a major collapse with potential significant adverse environmental impacts on Cayuga Lake.³⁸ Cargill's consultants grossly underestimated the risk associated with pillar dissolution in their analysis. Thus, at a minimum, an EIS must evaluate the likelihood that pillar failures in the S3 Zone will trigger a) a mine collapse similar to the one that resulted in the 1994 collapse at the Retsof Mine and/or b) accelerated rates of ground subsidence along the 1.5 miles of west shore between the Ithaca Yacht Club and the Girl Scout Camp. DEC must therefore require an EIS to assess the potential impacts of storing under-saturated brines in the S3 Zone as Cargill proposes in the Application.

v. DEC did not address in the Negative Declaration the fact that the S3 Zone previously experienced “non-routine” microseismic events before it had been abandoned.

In 2011, Cargill suspended mining in the S3 Zone because at least 24 “pops” were heard by miners in the area. A short period after, Cargill ceased mining in the S3 Zone permanently. “Pops,” which are also known as acoustic emissions, are associated with stick-slip rock movement.³⁹ There is no discussion in the Negative Declaration of this previously detected risk factor in the S3 Zone. If the area was no longer deemed safe to mine, DEC must evaluate as part of an EIS how the area is nevertheless sufficiently safe for flooding with brine. DEC should

³⁸ Michalski Memo.

³⁹ Vaughan Memo.

require public disclosure of the circumstances and data surrounding the seismic events and a vetting of the associated risks and dangers.⁴⁰

vi. DEC did not coordinate or consult with the Office of General Services or the Town of Ulysses, both of which should have been identified as an “involved agencies” during the coordinated SEQR Review.

Under 6 NYCRR § 617.6(b)(3)(i), in a coordinated SEQR review, whenever an agency proposes to approve a Type I action (as was the case here), the agency must provide notice to “all involved agencies” before a lead agency may be designated. DEC was responsible in this case for conducting due diligence to identify any other potentially involved agencies, 6 NYCRR § 617.6(b)(3)(iii), which should have included both OGS and the Town of Ulysses.

First, we are not aware of Cargill having any right to dispose of its wastes within State-owned lands under its existing agreement with OGS, particularly on any permanent basis. The plain language of Cargill’s consent order with OGS authorizes Cargill only to “enter upon State land and to mine salt.”⁴¹ The permanent flooding of a mine with wastes, which would likely preclude future use of the lands for any other purpose, is not contemplated by this grant.⁴² Indeed, a person in lawful possession of real property is prohibited under the doctrine of waste from misusing or altering the premises to the prejudice of the interest in the real property of another. *Gilman v. Abagnale*, 235 A.D.2d 989, 991 (3d Dept. 1997). Accordingly, Cargill must first seek to modify its agreement with OGS in order to engage in the proposed flooding of the S3 Zone, which is a discretionary decision by OGS that will trigger SEQR review.

Second, in its Negative Declaration, DEC states that the Application “would not impact local land use,” but this is incorrect. The proposed brine disposal activities in the S3 Zone will occur beneath Cayuga Lake in an area within the Town of Ulysses’s Lake Shore Zone (“LS”). The Town Code specifies that the Town’s zoning boundaries extend to the center line of any applicable waterbody, here Cayuga Lake. Town Code § 212-11(D).

The Mining Law expressly permits municipalities to enact or enforce local zoning ordinances to determine permissible uses in zoning districts. ECL § 23-2703(2)(b). Here, under the Town of Ulysses Code, “[a]ny use not specifically set forth as a permitted use in any zone shall be expressly prohibited in that zone.” Town Code § 212-2(B). The conversion of the S3 Zone of the mine from a mining use to brine disposal use constitutes a new, non-conforming use,

⁴⁰ In 2019, Cornell University’s Earth Source Heat Project detected significant seismic activity in the region of Cayuga Salt Mine as shown at this site, <https://deepgeothermalheat.engineering.cornell.edu/cubo-science-intro/cornells-seismic-network/>.

⁴¹ Consent Order dated Dec. 19, 1994 between Cargill and OGS, as amended.

⁴² Any grant of state-owned lands is strictly construed against the grantee, here Cargill. *See In re New York*, 2 N.Y.2d 859, 860 (1957) (holding that there was a “complete absence of any words which could be considered to evidence any intent upon the part of [the State] to grant land under water.”); *see also People v. Foote*, 242 A.D. 162, 168 (2d Dept. 1934) (“A grant from a sovereign to a subject is strictly construed against the grantee.”).

and therefore requires a variance from the Town's Zoning Board of Appeals. This is a concern of several residents in the Town of Ulysses who have signed a petition asking the Town to rule upon their request that the Town's LS zone be enforced.

Neither mining, nor brine storage or flooding are permitted in the LS zone as of right, as an accessory use, or by special permit. Town Code §§ 212-43 to -46. Accordingly, before Cargill engages in any brine disposal beneath this portion of the Lake, it must first apply for and obtain a use variance from the Town of Ulysses. The Town of Ulysses should have therefore been identified as an involved agency and allowed to participate in the designation of the lead agency for the proposed action.

III. An Adjudicatory Hearing must be held, or at a minimum a public comment hearing, before DEC takes further action on the Application.

Under DEC's Uniform Procedure Act regulations, an adjudicatory hearing "must" be held when public comments "raise substantive and significant issues relating to the application, and resolution of any such issue may result in denial of the permit application, or the imposition of significant conditions thereon." 6 NYCRR § 621.8(b).

As described above, and incorporated herein, there are numerous substantive and significant issues raised by the Application that must be resolved in an adjudicatory hearing, and which may result in the denial of the Permit or the imposition of significant conditions, including but not limited to the following:

- The likelihood and potential consequences of catastrophic global mine or local mine instability associated with flooding the S3 Zone, including the adequacy of Cargill's stability analyses;
- The proposal to store under-saturated brines in the S3 Zone in violation of DEC's Mining Law regulations and the current Mining Plan;
- The potential long-term consequences associated with modifying Cargill's Reclamation Plan to allow for the permanent flooding of portions of the Mine with brine;
- Cargill's inability to monitor the stability of the flooded portions of the S3 Zone after inundation in violation of the Mining Law regulations and the current Mining Plan;
- The inadequacy of Cargill's Reclamation Plan and Reclamation Bond relative to DEC's Mining Law regulations and the public trust doctrine;
- The source, volume, increasing rate, and chemistry of the Mine's water inflows that contribute to the need for subsurface disposal and necessary measures to reduce said inflows;
- The extent to which safer, more beneficial, and less risky alternatives exist for the disposal of subsurface inflow waters in State-owned lands held in public trust; and
- The extent to which beneficial re-uses exist and need evaluation as SEQR alternatives for the State-owned lands held in public trust under Cayuga Lake.

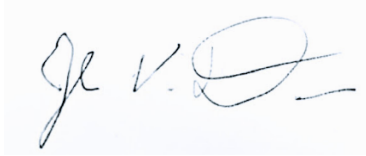
Finally, if DEC nevertheless decides that an adjudicatory hearing need not be held, at a minimum, a public comment hearing must be held. Whether a public comment hearing is needed is based solely upon whether there is “a significant degree of public interest” regarding a permit application for a major project. 6 NYCRR § 621.8(c)(1). In this case, there has been extensive public interest shown in this application by concerned citizens and environmental groups, concerned members of the public, and many interested local officials and municipalities. DEC cannot take further action on the Application until a public hearing is held.

Attachments

1. Missed Opportunities for Environmental Impact Statements at Cayuga Salt Mine, prepared by CLEAN
2. Vaughan, R., Ph.D., P.G., “Technical Review of Cargill’s application for permit renewal and modification, Cayuga Salt Mine, 0-9999-00075/00001” (Jan. 17, 2025), with curriculum vitae
3. Michalski, A., Ph.D., P.G., CGWP, “Technical Comments prepared by Andrew Michalski, Ph.D., CGWP, PG on Cayuga Salt Mine, Mined Land Reclamation Permit Modification” (Jan. 15, 2025), with curriculum vitae
4. Summary of Mine inflow data from Cargill’s annual reports for the Cayuga Salt Mine from 2003-2023, compiled by CLEAN

Respectfully Submitted,

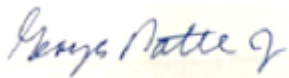
CLEAN Steering Committee:



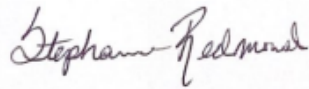
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