

Cayuga Salt Mine: Concern Mounting...



CLEAN: Cayuga Lake Environmental Action Now

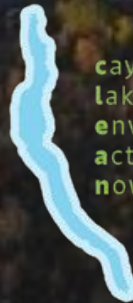
Clean the Lake.
Protect the Lake.

October 9, 2017



1. Review
2. Update

clean



cayuga
lake
environmental
action
now

Photo: Bill Hecht

A story in two parts:

1. TECHNICAL RISKS associated with salt mining
2. PROCESS: by which Salt Mining was created & managed

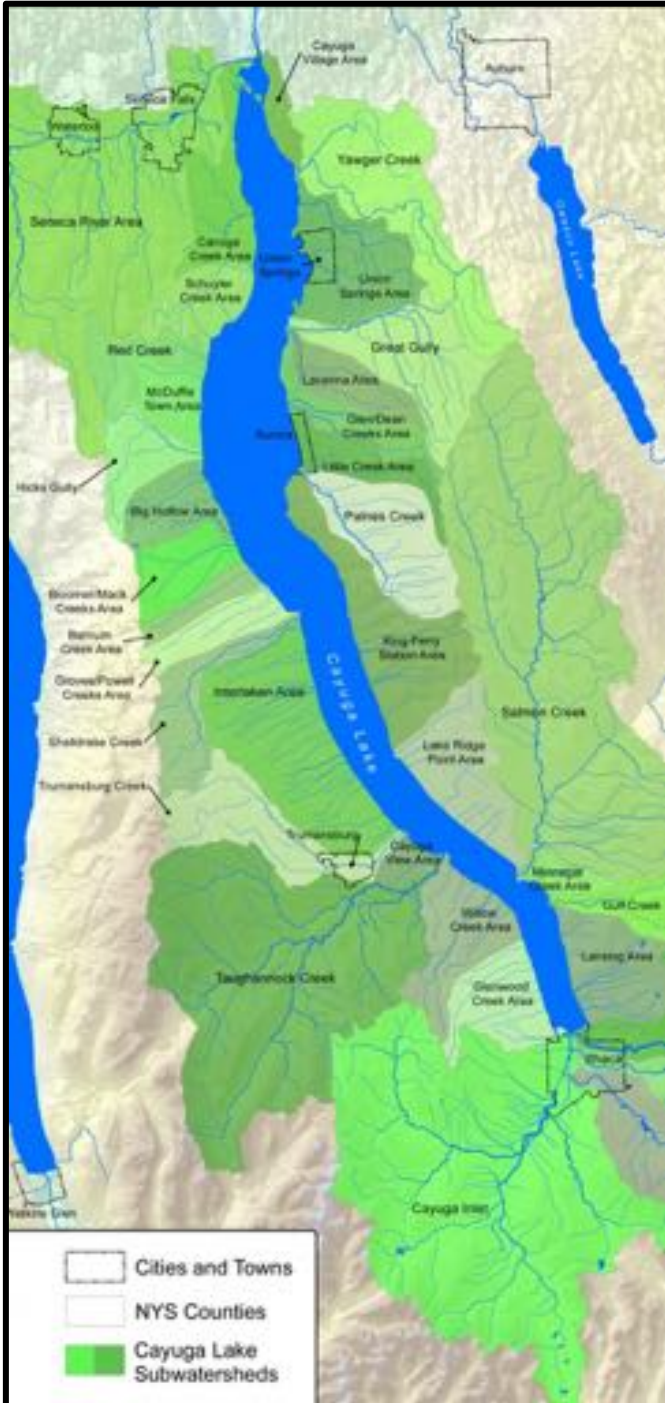
- *Why is process not assessing risks adequately?*
- *Why should we care?*
- *What can we do?*

Cayuga Lake Watershed

- Large Area
 - 6 counties
 - 45 municipalities
 - 136,000 people
- Lake undervaluation
 - \$1.076 Billion (2,804 riparian parcels) – property values
 - Missing – Water supply, businesses, tourism, fish and recreation, etc

Tompkins County

- 840K Visitors to TC (2009):
 - \$156M->2,300 jobs
- Cargill's 183 jobs is 0.4% of the 49,291 jobs in Tompkins County
- Cayuga pays ≈\$10M annual wages
 - 183 jobs = \$54,644/job
- Cornell pays >\$800M annual wages
 - 9,700 jobs = \$82,474/job

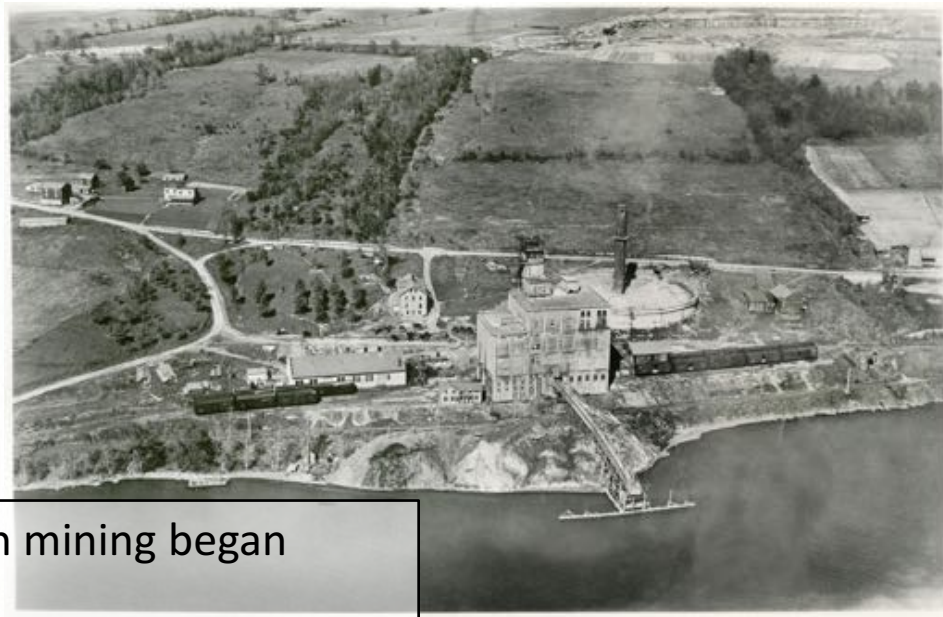




How did we get here?



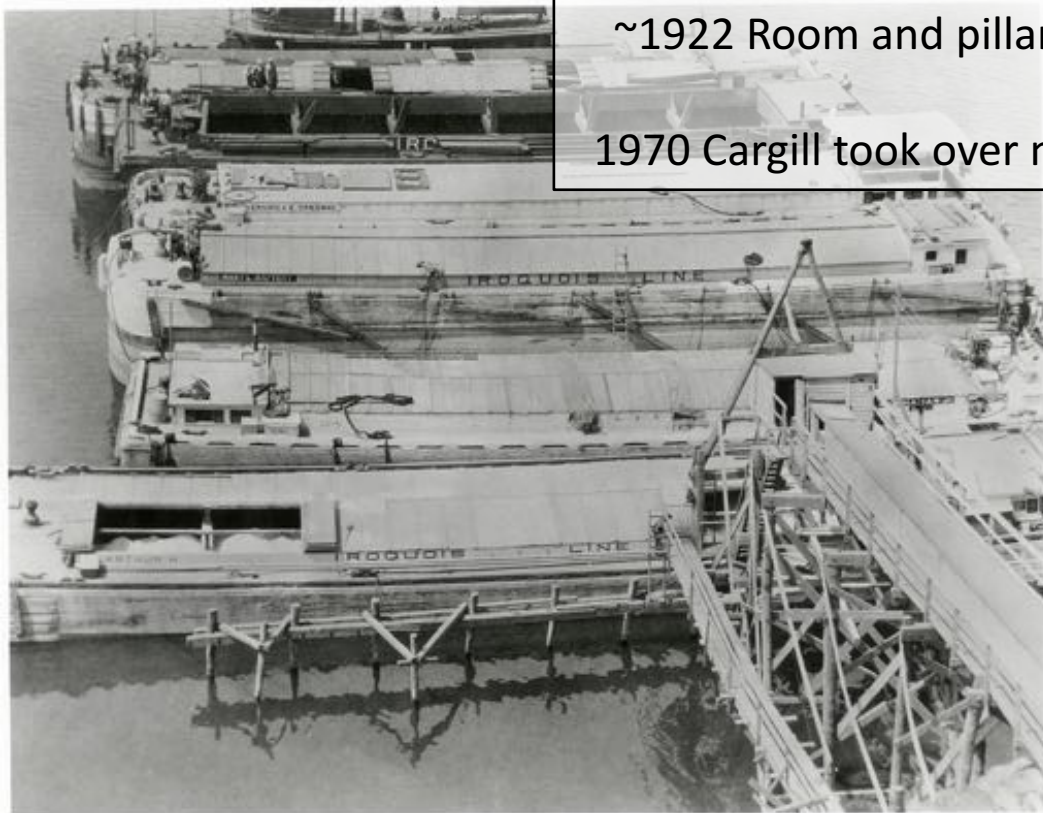
Photos: Bill Hecht

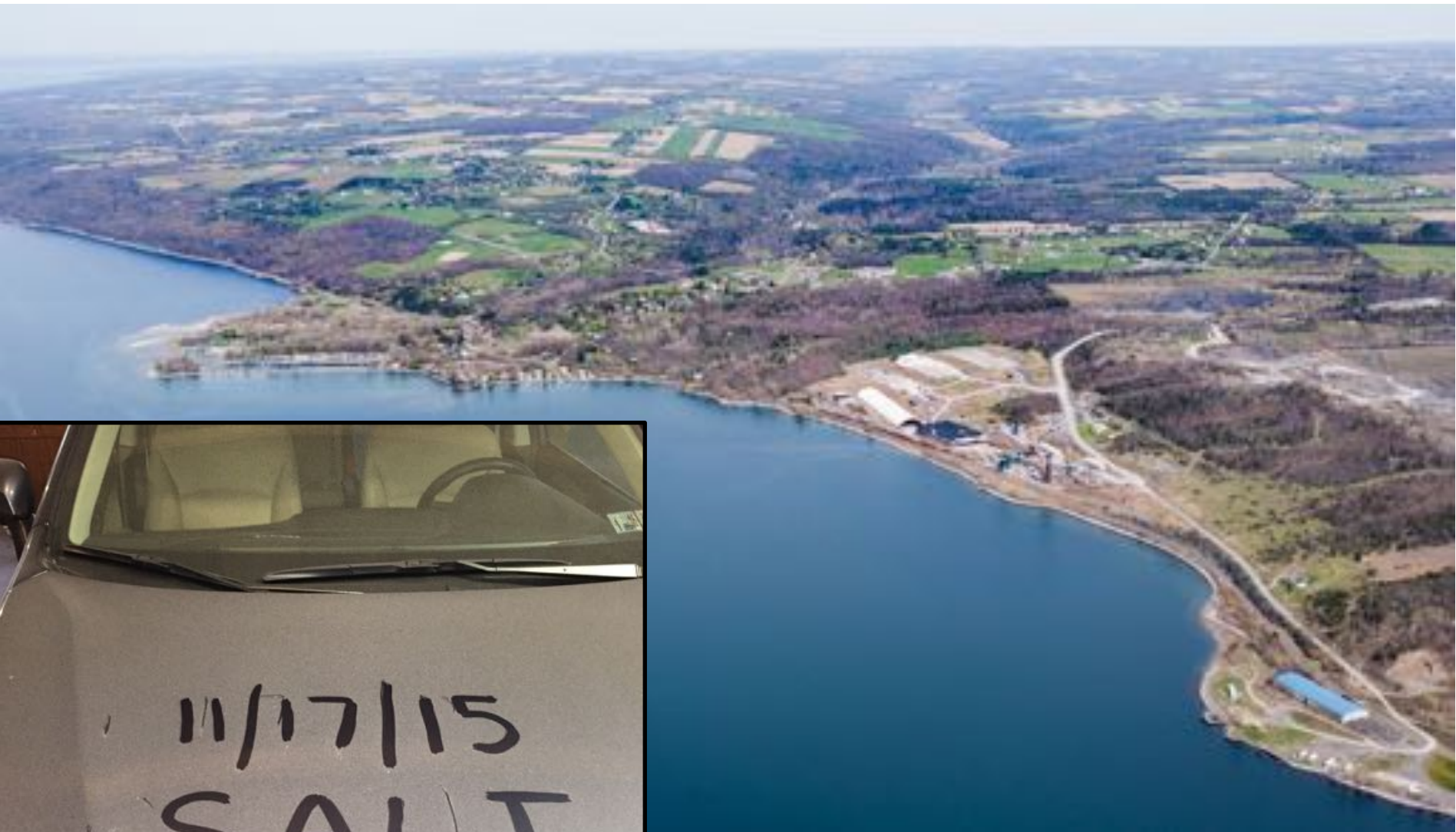


1890's Solution mining began

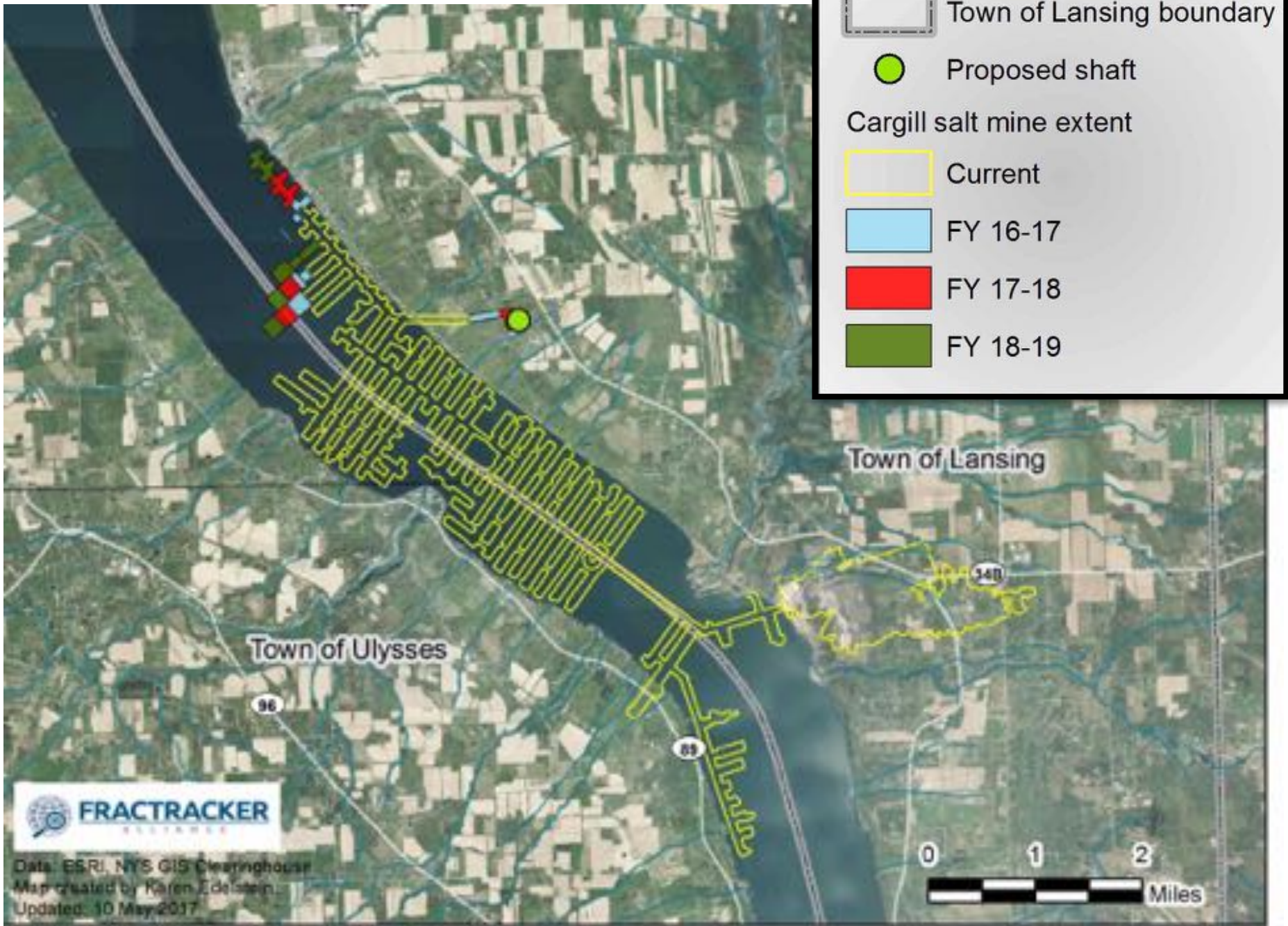
~1922 Room and pillar mining began






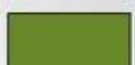
1970 Cargill took over mine operations







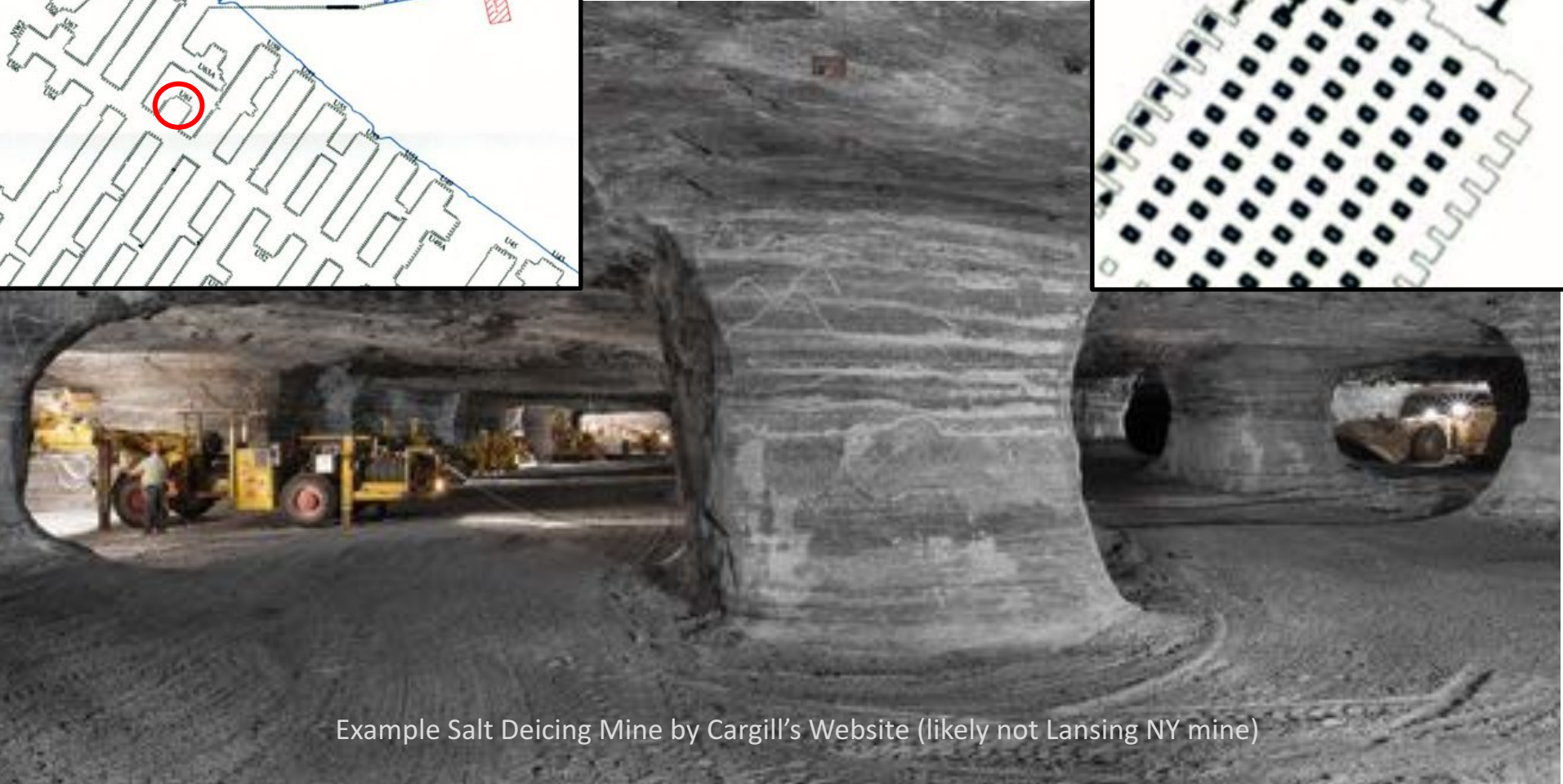
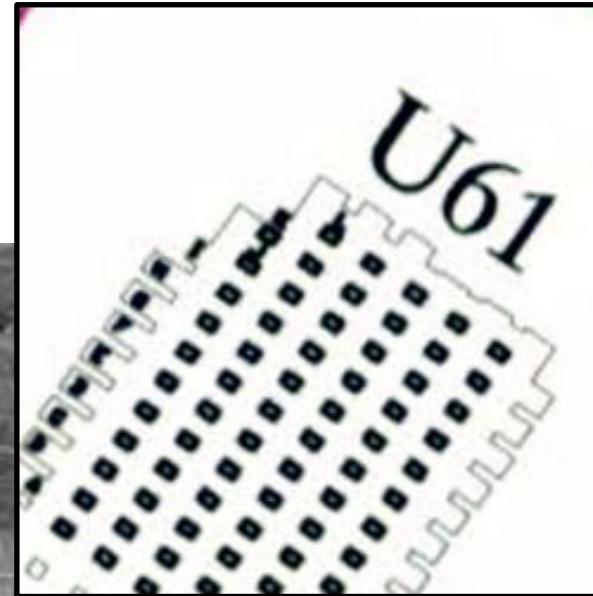
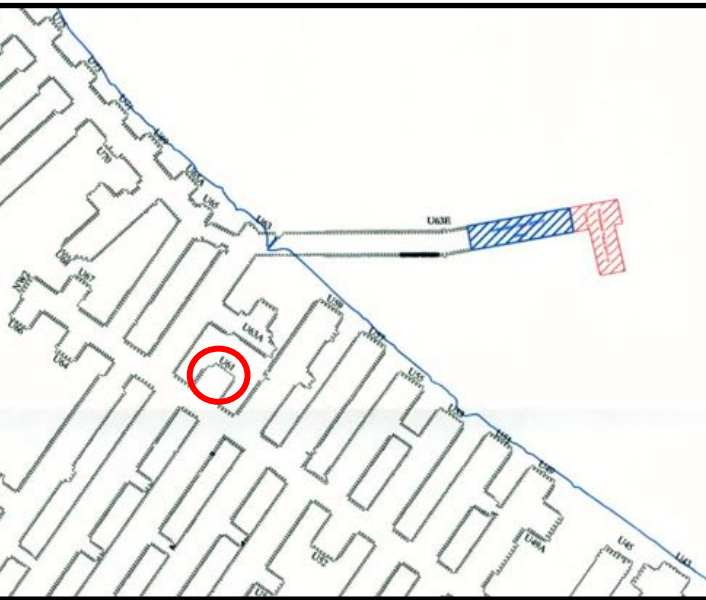


-  Town of Lansing boundary
-  Proposed shaft
- Cargill salt mine extent**
-  Current
-  FY 16-17
-  FY 17-18
-  FY 18-19



Data: ESRI, NY's GIS Clearinghouse
Map created by Karen Edelstein
Updated: 10 May 2017





Example Salt Deicing Mine by Cargill's Website (likely not Lansing NY mine)



A drilling machine at the Cargill salt mine in Lansing, N.Y.



Cargill Facility from Cargill's consultant Spectra



A low-profile front-end loader dumps salt onto a conveyor belt in Cargill's Lansing salt mine in 2002



Two large earth movers dump mined salt into a rock crusher in 1994 at the Cargill Salt Mine in Lansing

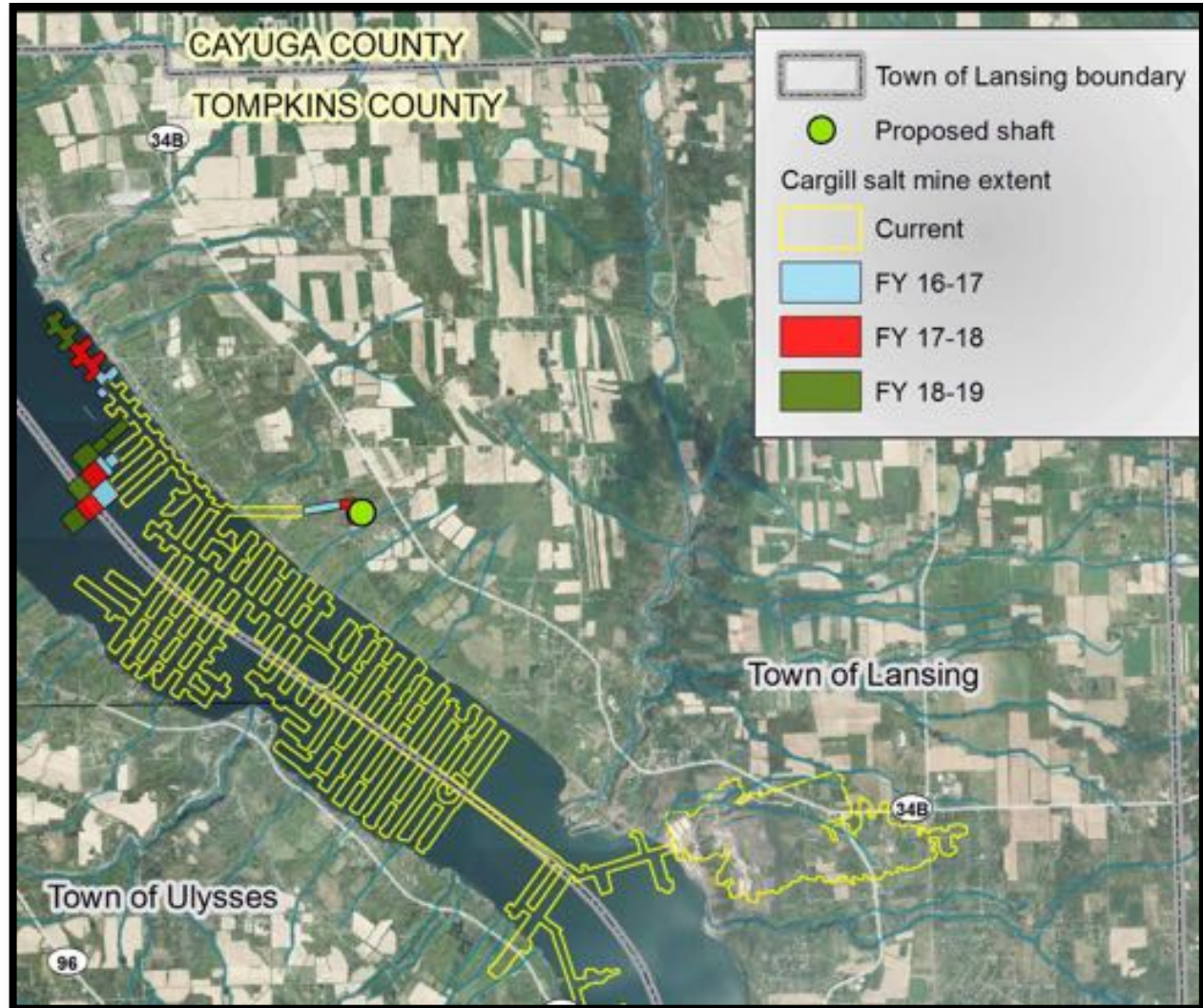




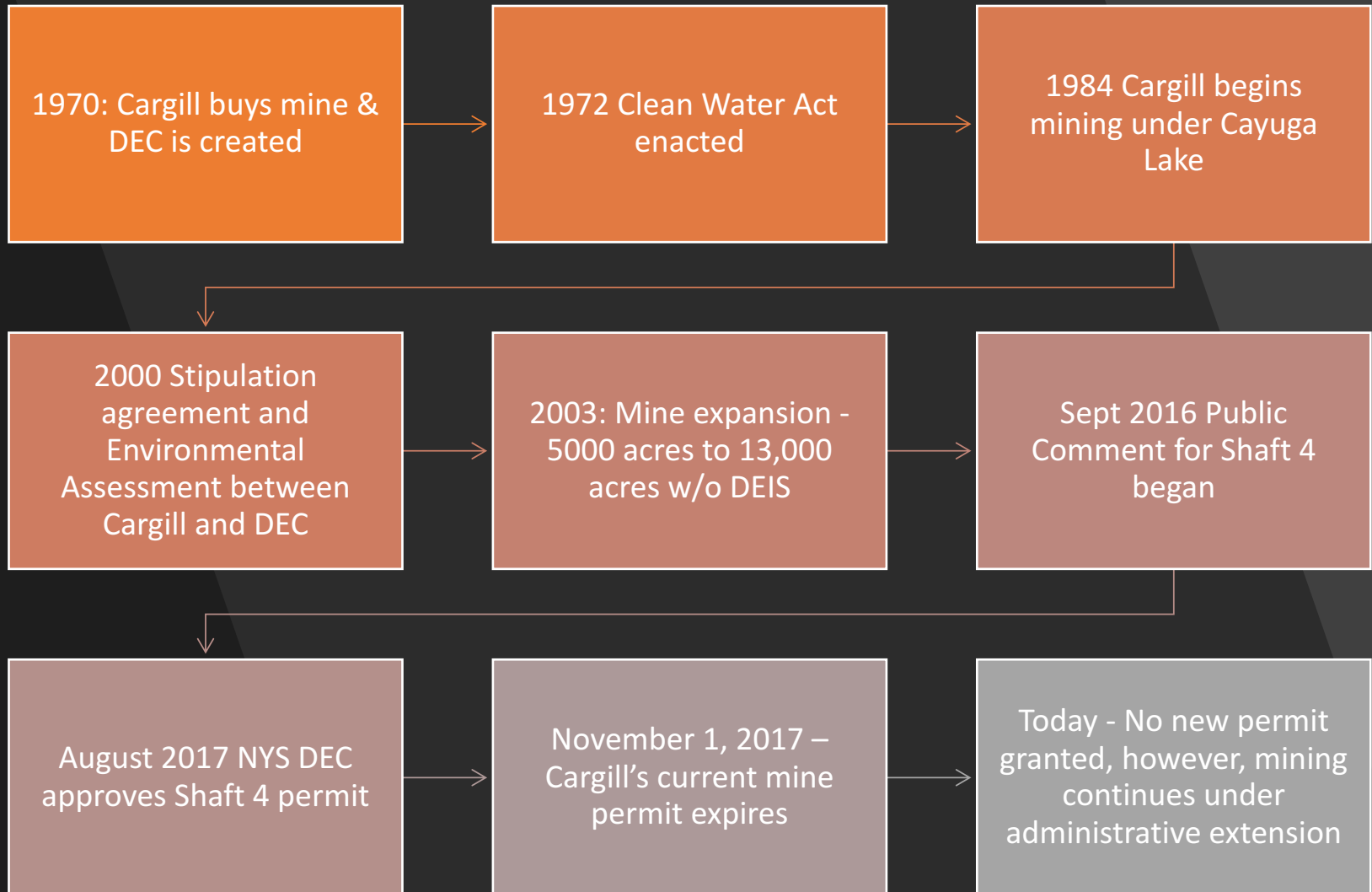


What makes mining under the lake attractive?

- higher extraction/ higher profits
- over-mine subsidence effects hidden by water
- only one owner, the State of New York

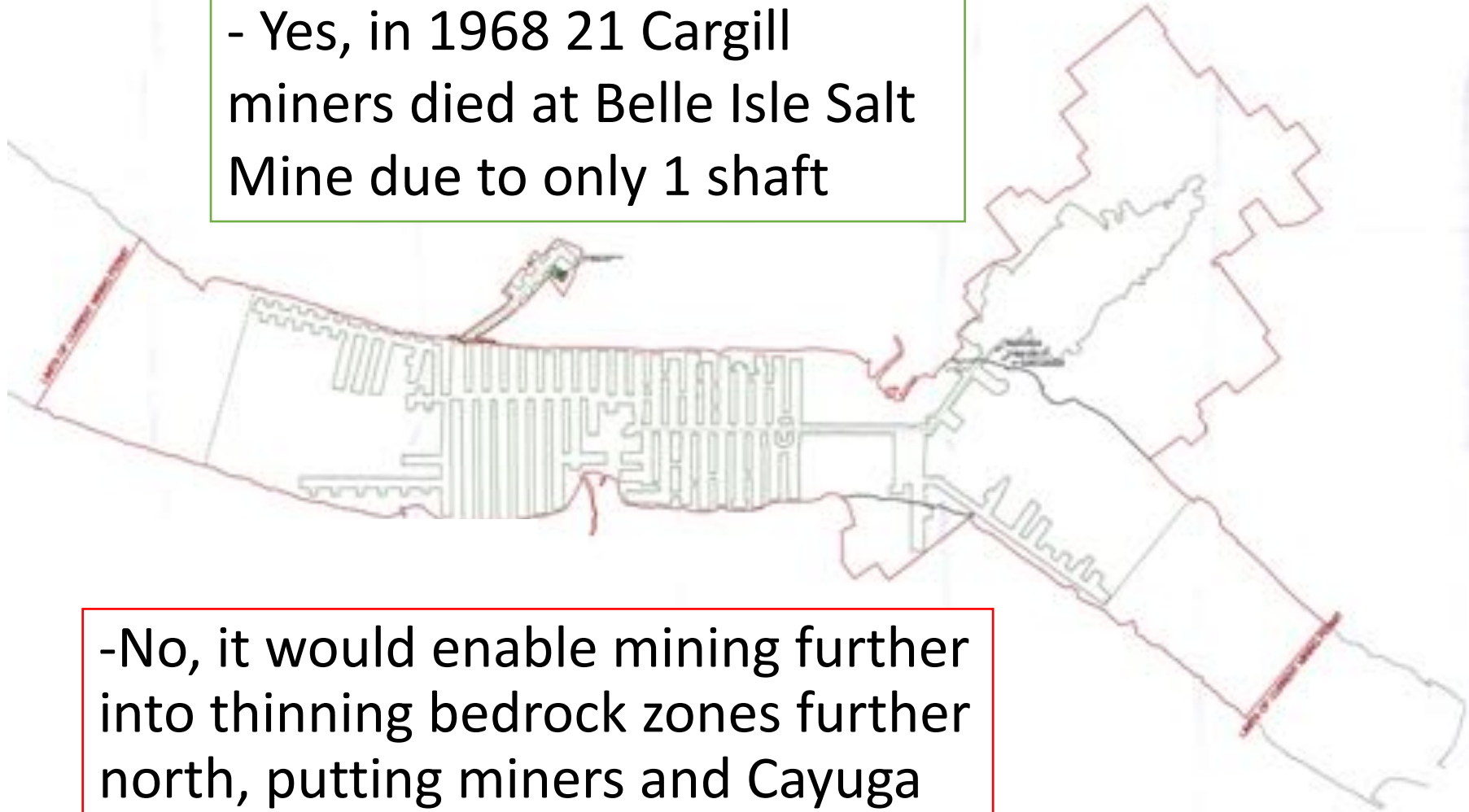


Chronology



Would Shaft 4 make the mine safer for miners?

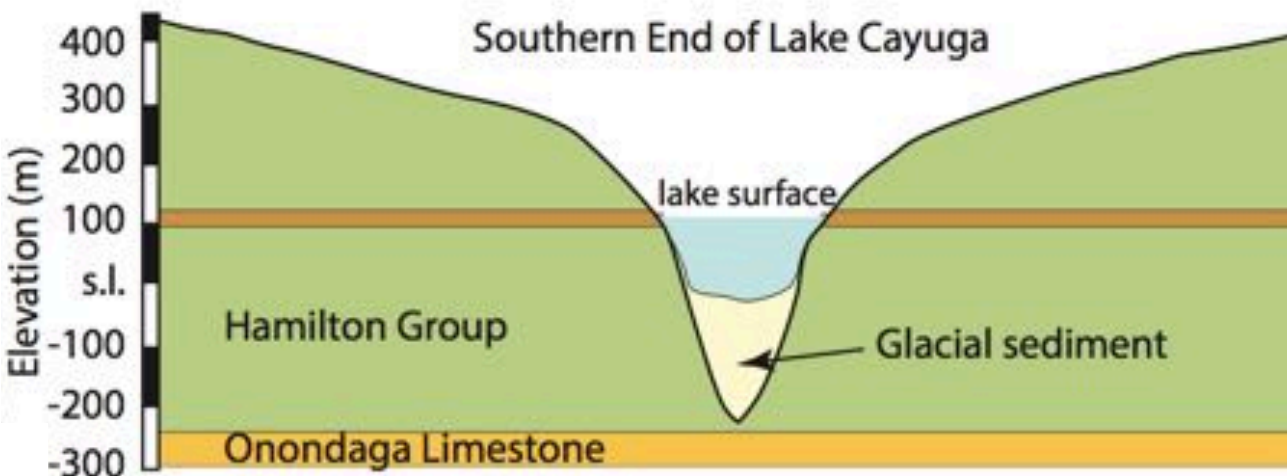
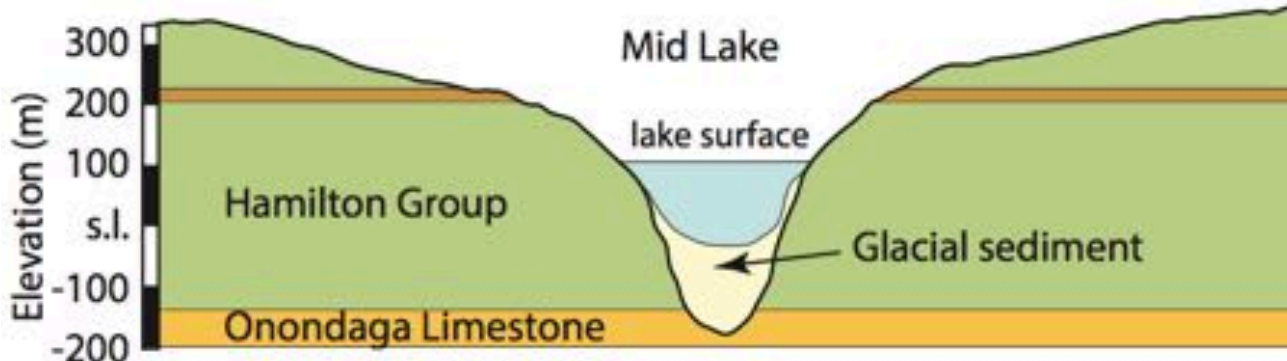
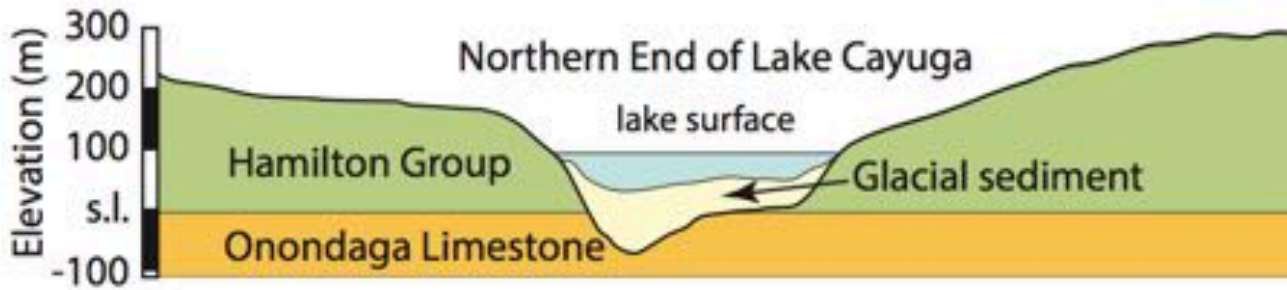
- Yes, in 1968 21 Cargill miners died at Belle Isle Salt Mine due to only 1 shaft



-No, it would enable mining further into thinning bedrock zones further north, putting miners and Cayuga Lake at increased risk

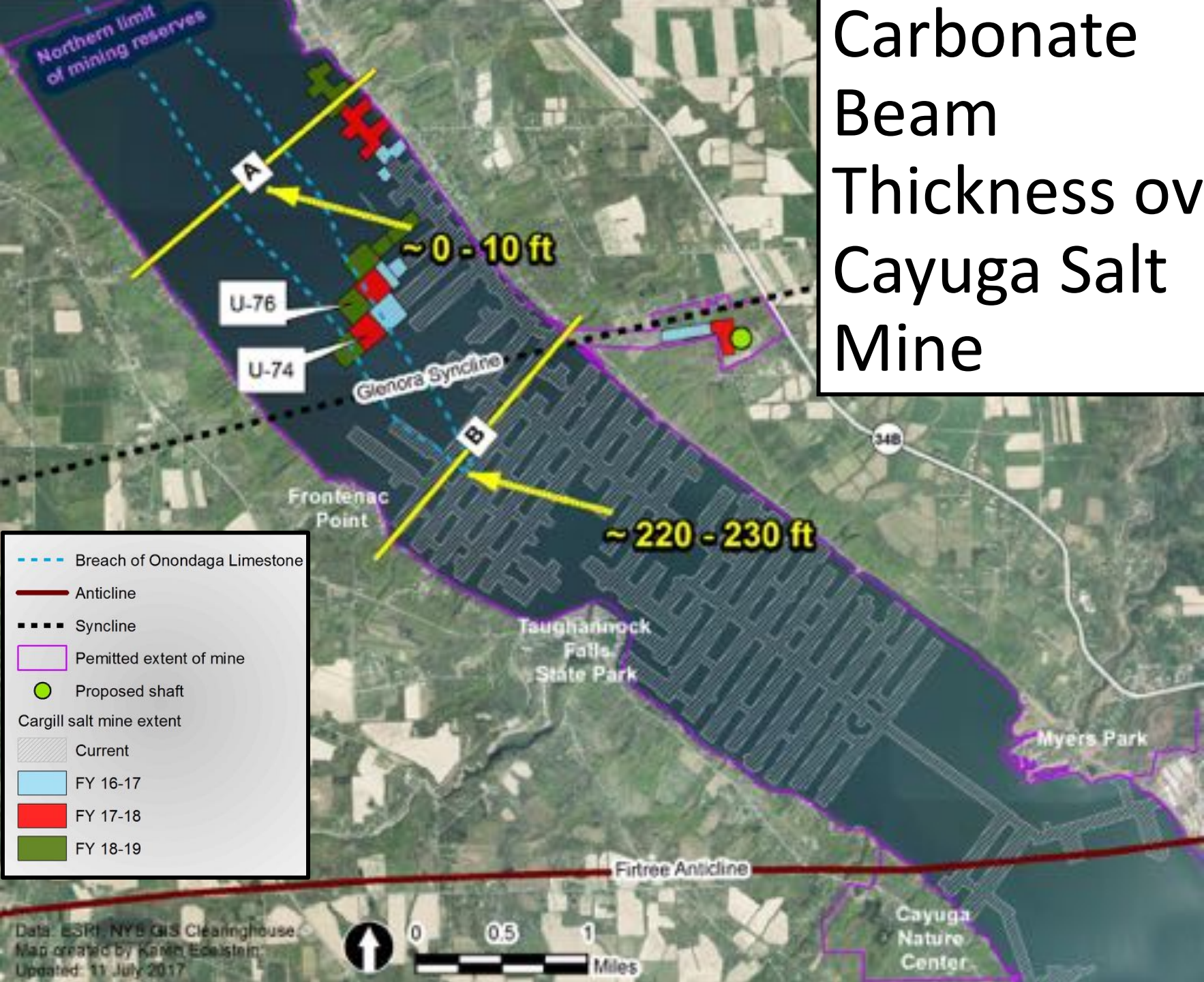
East-west Cayuga Lake sections

B.



WEST 5km V. E. 10x EAST

Carbonate Beam Thickness over Cayuga Salt Mine



Data: ESRI, NYS GIS Clearinghouse
Map created by Karin Edelstein
Updated: 11 July 2017

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Data: ESRI, NYS GIS Clearinghouse, "Update on the seismic evaluation of the plans for Shaft #4 in the Cayuga Salt Mine, New York State" (Warren and Feguson, 2017)¹, "Cargill Mine Big Pillar Design: Updated September 22, 2016"². Map updated: 25 October 2017

- Proposed shaft
- Downcutting into Onondaga Formation¹
- Carbonates Exposed to Lake Sediment²

Cargill mine, 3-yr plan (Feb 2017)

- "Current"
- Proposed 17-18
- Proposed 18-19



November 2015



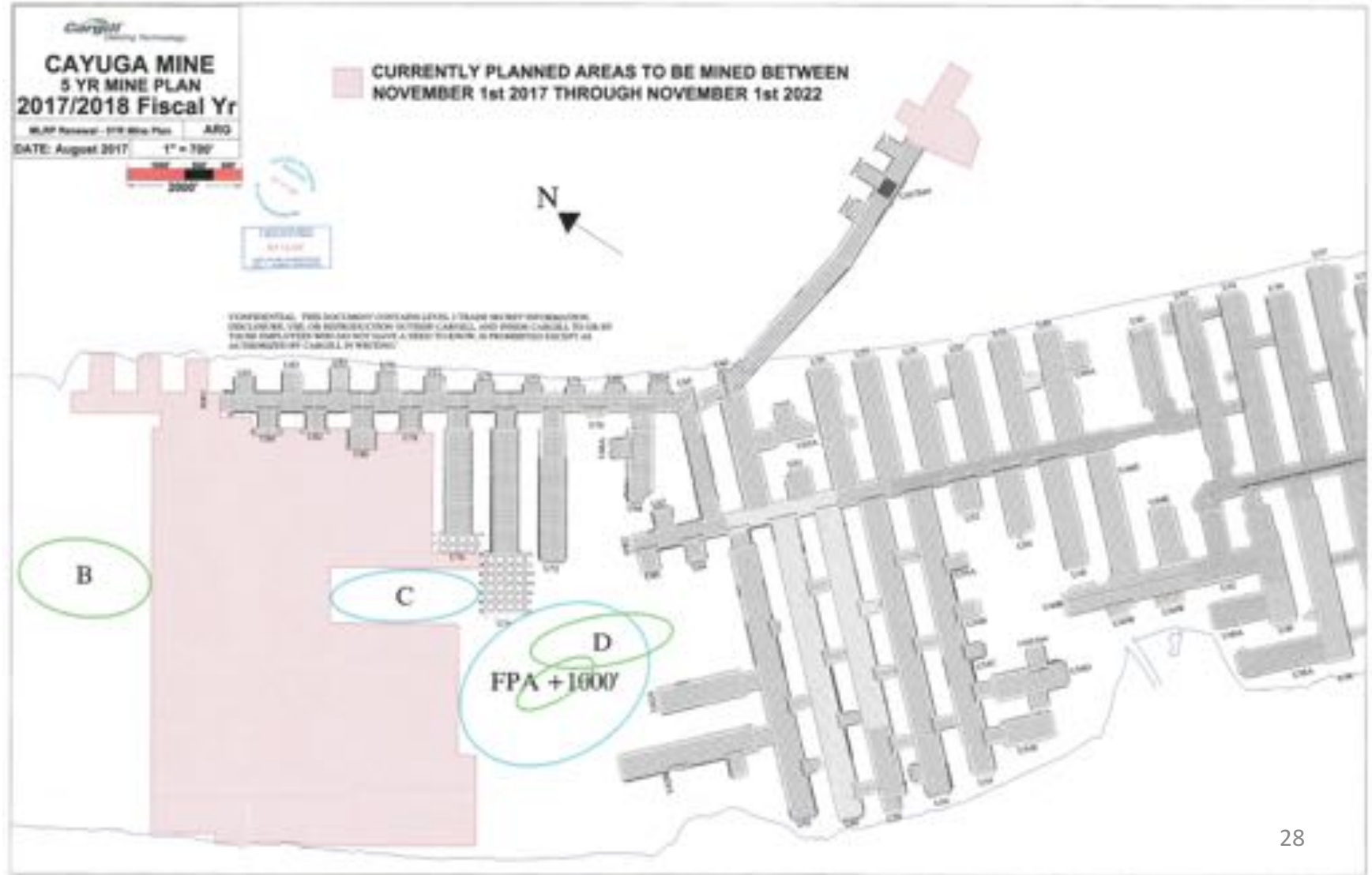
November 2016

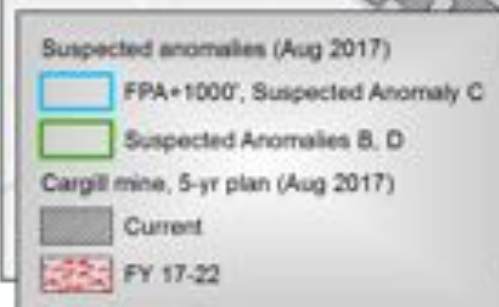
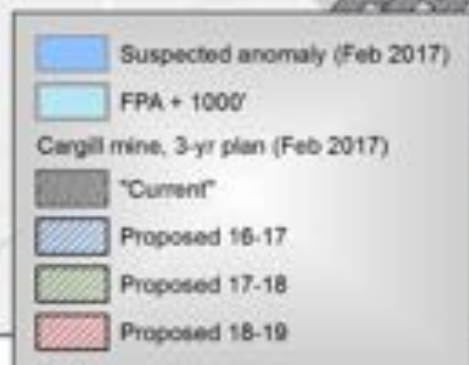
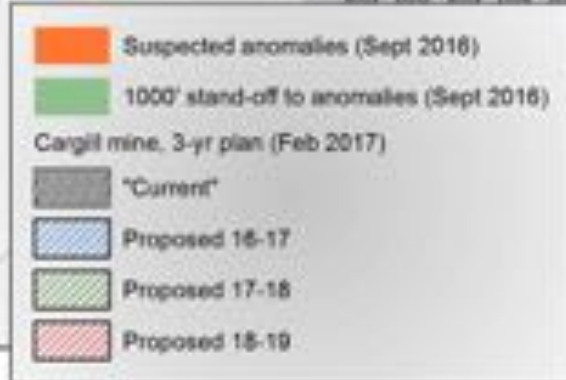
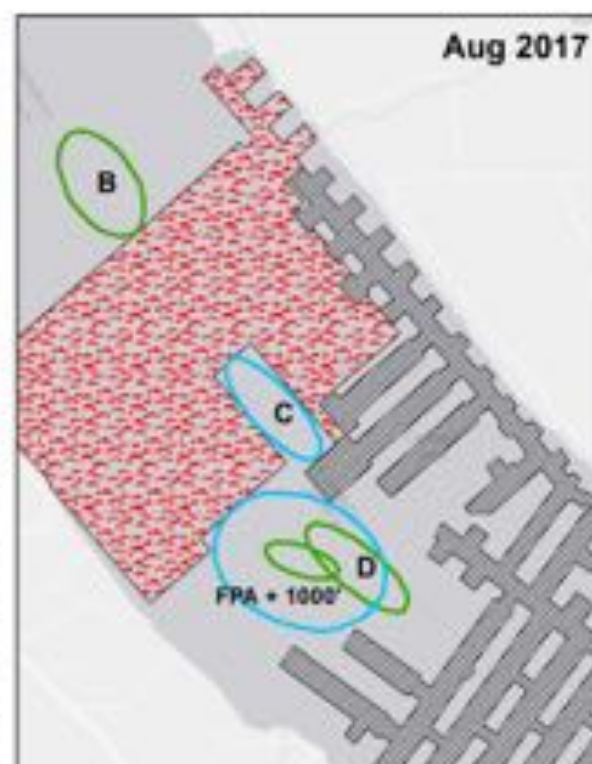
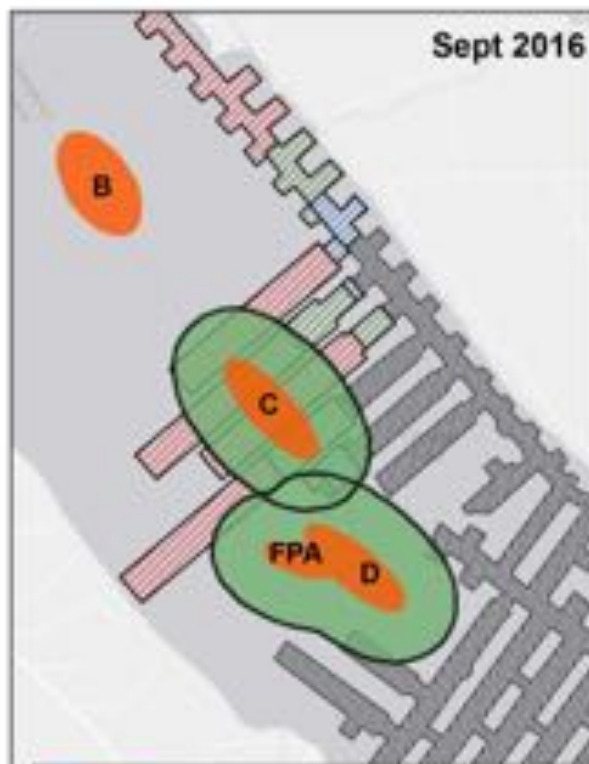


September 2016



August 2017





Data: ESR, NYS GIS Clearinghouse, Exhibit A: "Cargill Mine Big Pillar Design, Updated September 22, 2016", Exhibit B: "Cargill Mine, 3-yr Plan, 2016/2017 Fiscal Year", "Cargill Mine, 5-yr Plan, 2017/2018 Fiscal Year", Map updated: 3 November 2017

The current Permit is being violated. Especially worrisome around the known anomalies.

New York State Department of Environmental Conservation
Mr. Matthew Podniesinski

January 29, 2016
Page 11

Consultant Reports Concerning Conditions 12.a.4.

- Petersen, Gary, 2015, Draft, Cayuga Mine Rock Mechanics Evaluation, RockTec Solutions, prepared for Cargill Deicing Technology, February 23.

Reports on Mr. Petersen's visit to the Cayuga Mine on January 14 and 15, 2015. The anomalies north of mining were discussed and noted that "... not much is known about the severity of these anomalies." He suggested that "It may be prudent to mine beneath the anomalous zones and the 1000' standoffs with a relatively low extraction big pillar design, which is not nearly as susceptible to attracting fluid flow." He also notes that **NW2 Panel has mined beyond this 1,000 ft** "... with no apparent negative results so far."

From: Rodriguez, Simone S (DEC)
Sent: Tuesday, February 02, 2016 11:03 AM
To: Army, Steve (DEC); Lucidi, Christopher M (DEC)
Cc: Podniesinski, Matthew J (DEC)
Subject: FW: Annual Report Review - 2015 (BOYD File: 2499.4)
Attachments: Annual Review 2015.pdf

Steve/Chris –

Matt forwarded me a copy of the Annual Report Review.

While I was reading through the document, I came across a couple of paragraphs that I thought I mention to you for clarification since I don't know enough about the site.

On page 3, Permit Condition #9a is mentioned which contains the 1,000 ft setback from the Frontenac Point Anomaly. On page 11, the report summaries Mr. Petersen's report "Draft, Cayuga Mine Rock Mechanics Evaluation" and notes "He also notes that the NW2 Panel has mined beyond this 1,000 ft". This the 1,000 ft setback mentioned on page 11 the same setback identified in condition 9a? If that is the case, then NW2 probably shouldn't have been mined that far without further investigations completed and submitted to the department for review and approval prior to mining within this 1,000 ft buffer (SC9a).

Thanks,
Simone

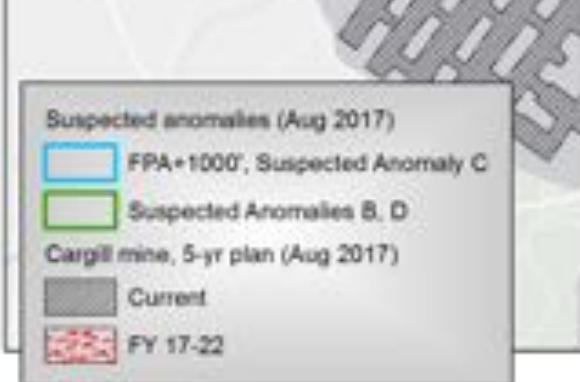
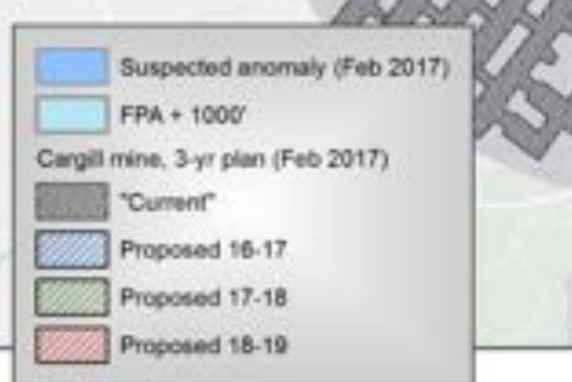
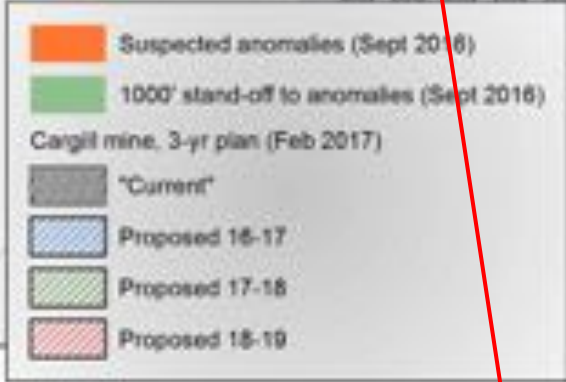
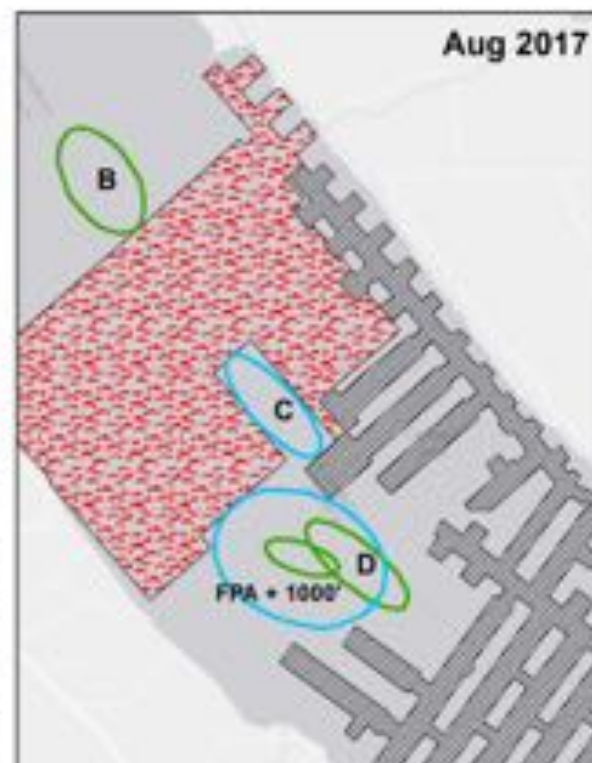
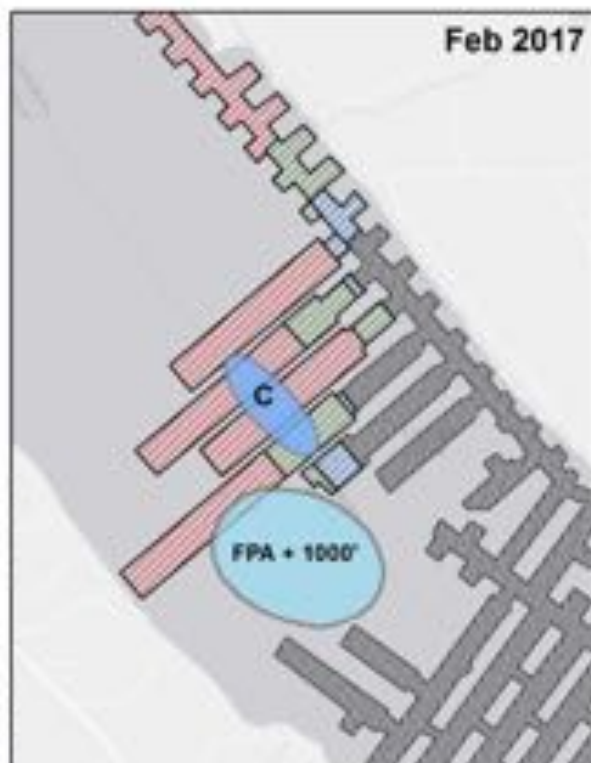
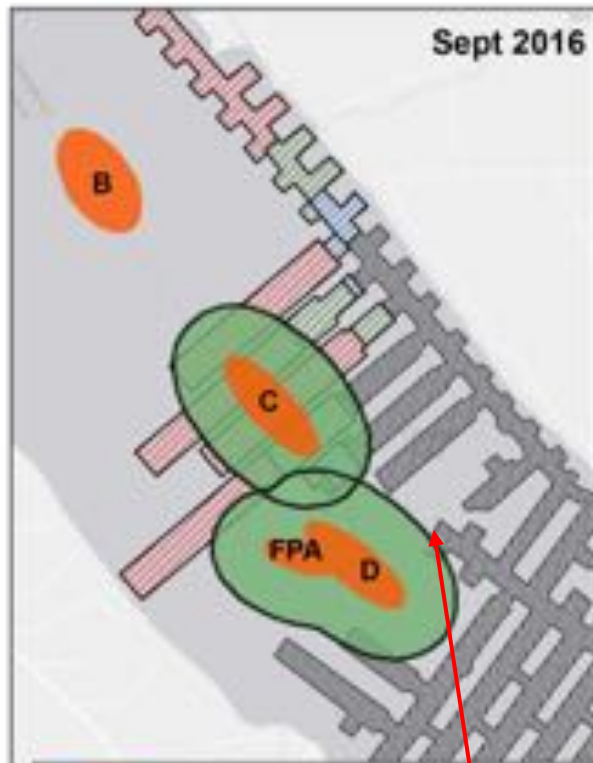
From: Army, Steve (DEC)
Sent: Tuesday, February 02, 2016 11:22 AM
To: Rodriguez, Simone S (DEC); Lucidi, Christopher M (DEC)
Cc: Podniesinski, Matthew J (DEC)
Subject: RE: Annual Report Review - 2015 (BOYD File: 2499.4)

Simone,

You are correct, NW2 was advanced into the 1000' setback, and yes, it is the same setback mentioned in the permit. After reviewing the annual report I discussed a few concerns with Vince, this being one. We have requested a map of the 1000' setback as it relates to existing and projected heading advancements. At that point we'll have a better idea how far the panel extends into the setback, and at what time the panel was advanced. Also, this will be an item for discussion at our annual meeting if we decide it's not something that needs to be addressed sooner.

Steve

Steven Army
Region 8 Mining Program Supervisor

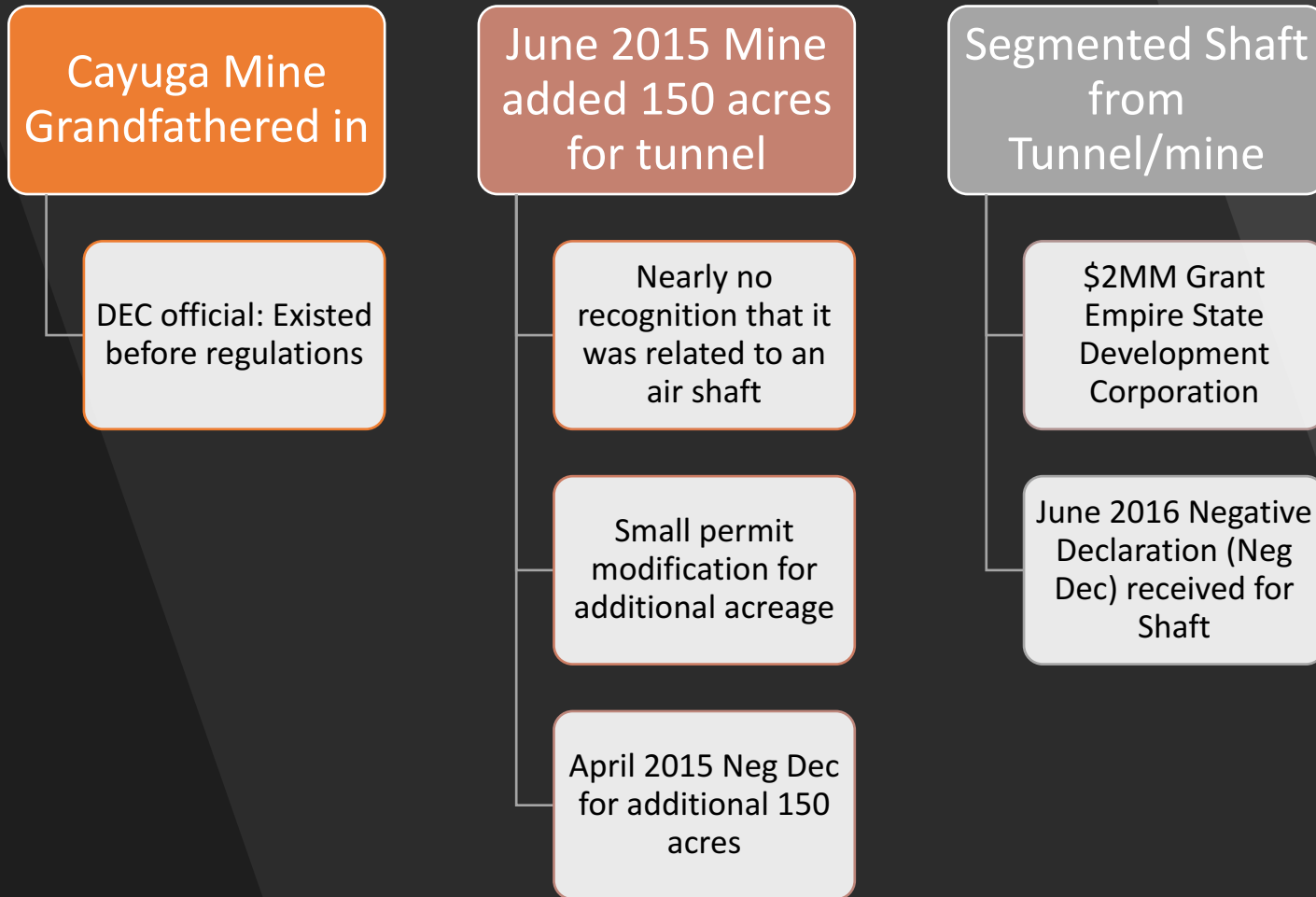


Panel NW2



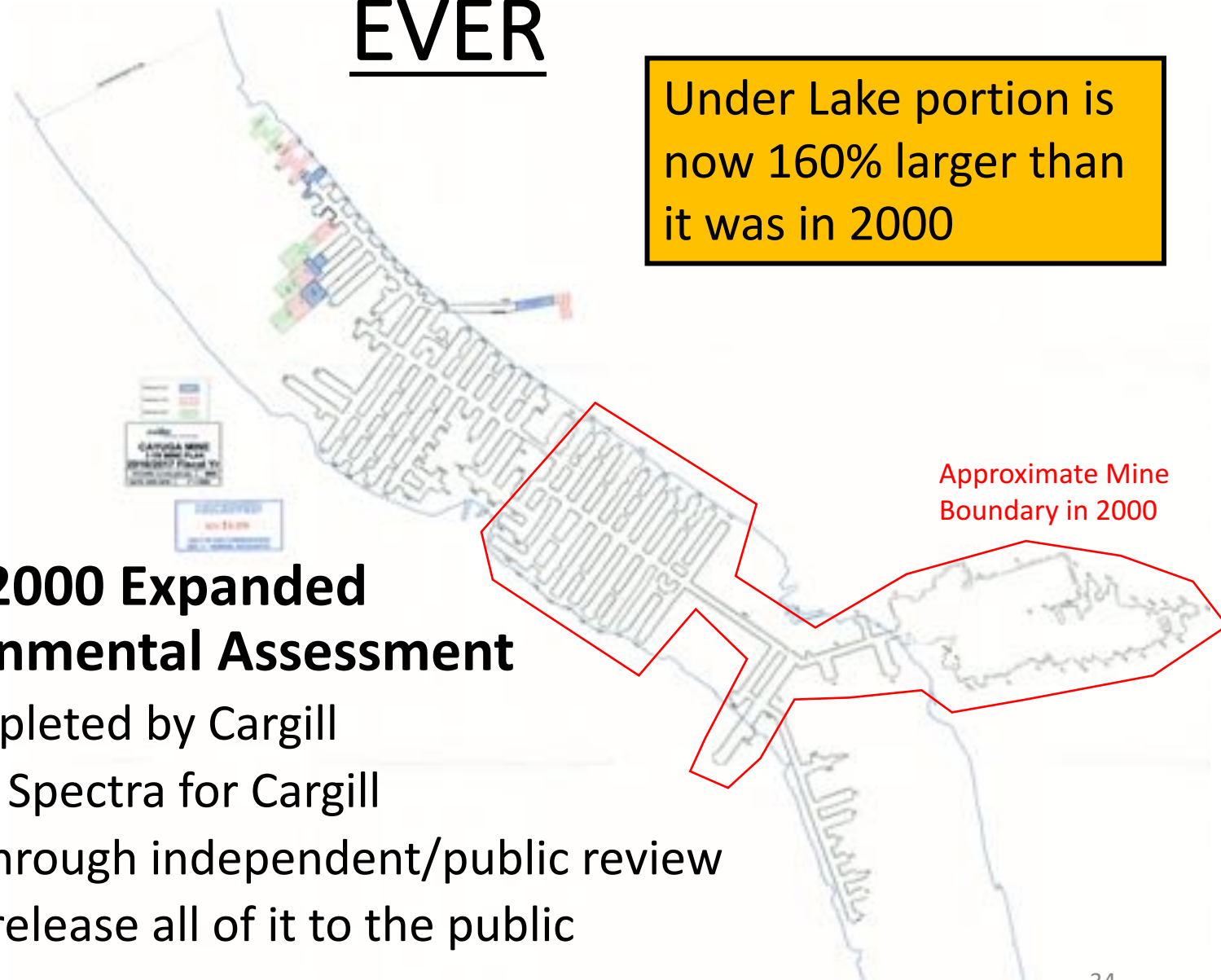
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SEQR Process and how it has been ignored



No Environmental Impact Statement EVER

Under Lake portion is
now 160% larger than
it was in 2000



2000 Expanded Environmental Assessment

- Scoping completed by Cargill
- Produced by Spectra for Cargill
- NEVER put through independent/public review
- Won't even release all of it to the public through FOIL

Correcting the Process

1

The Article 78s will reinstate a rigorous review process if a Judge orders DEC to require DEISes

2

A Clean Water Act Lawsuit is another means to address contamination to the lake at Portland Point

3

Environmental Law often not enforced until local stakeholders insist on it. Let's begin!

Where do we go from here?

Article 78 lawsuits against the DEC for not following SEQR.
Requiring a DEIS to be completed for the Shaft, Tunnel and Mine.

Municipalities joining 78-1 include

- Ulysses
- Trumansburg
- Danby
- Aurora
- Caroline
- City of Ithaca
- Union Springs

Where do we go from here?

Article 78-2 against the DEC for Mining permit renewal. Permit renewal application must be treated as a new application which is subject to a detailed environmental review.

Current permit already being violated.

- Changing Pillar technology without prior DEC approval
- Mining into anomaly setbacks

The Future of Cayuga Lake

What happens when Cargill stops mining?

- Purposefully flood the mine with water
- Leave open and risk continued degradation and collapse

Are there other alternatives?

- Salt Mine Museum tours as in Poland, Germany, Romania, Kansas
- Rails to trails pathway
- Cayuga Mine Marathon

An aerial photograph of Cayuga Lake, showing the water body winding through a landscape of trees with autumn foliage. Residential areas and roads are visible along the shoreline.

Thank you

Questions?

Email us: CLEAN.CayugaLake@gmail.com

Website: cleancayugalake.org

Facebook: www.facebook.com/CLEANCayugaLake

Photo: Bill Hecht