

STATE OF NEW YORK
SUPREME COURT : COUNTY OF TOMPKINS

In the Matter of the Application, CAYUGA LAKE ENVIRONMENTAL ACTION NOW (CLEAN), an Unincorporated Association by President JOHN V. DENNIS, and LOUISE BUCK, BURKE CARSON, JOHN V. DENNIS, WILLIAM HECHT, HILARY LAMBERT, ELIZABETH and ROBERT THOMAS, and KEN ZESERSON

Petitioners,

For a Judgment Pursuant to Article 78 of the New York Civil Practice Laws and Rules

vs.

**AFFIDAVIT
OF JOHN
V. DENNIS
IN SUPPORT
OF PETITION**

Index No.

THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, and CARGILL INCORPORATED

Respondents.

State of New York,
County of Tompkins, ss.:

John V. Dennis, being duly sworn, deposes and says:

1. I reside in the Village of Lansing at 893 Cayuga Heights Road, Ithaca, NY 14850 and I am a petitioner in the above-referenced Article 78.
2. The facts set forth in this Affidavit are true to my knowledge, except as to those matters alleged on information and belief and, as to those matters, I believe them to be true.
3. My home is situated half a mile east of the east shore of Cayuga Lake. It is supplied by Bolton Point Water, a facility which belongs to the Southern Cayuga

Lake Intermunicipal Water Commission and which provides water to about 35,000 homes in the Towns of Lansing, Ithaca, and Dryden as well as the Villages of Lansing and Cayuga Heights. Bolton Point Water draws its water from Cayuga Lake.

4. I am an active user of Cayuga Lake, swimming and kayaking in the lake regularly. I am a DEC-trained HABS Harrier, and as such I patrol in the summer and fall a 1-mile section of the east shore waters of Cayuga Lake in order to collect water samples whenever the presence of a Harmful Algal Bloom or HABS is suspected.
5. In 2017, I co-founded with several fellow citizens Cayuga Lake Environmental Action Now or CLEAN. CLEAN is an unincorporated association whose members seek to protect Cayuga Lake from industrial contamination and other sources of harm such as excessive nutrient concentrations in stormwater runoff.
6. I received a PhD from Cornell University in 1987 from what is now known as the Department of Global Development. In 1989-90, the Asian Development Bank employed me as a socioeconomist to help draft a master plan for national agricultural research in the Lao Peoples Democratic Republic. While subsequently working at Worldwide Fund for Nature International, I sent two German mining engineers to assess the environmental impacts of the Grasberg gold and copper mine in Papua, Indonesia. At that time, the mine was largely owned by Freeport-McMoran and was understood to have the largest gold reserves in the world and to employ almost 20,000 people. In my work as an international consultant, I have witnessed the adverse effects of the salination of farmland in the Mekong Delta of

Vietnam and in a 25-kilometer-wide coastal strip on either side of the mouth of the Indus River in Pakistan.

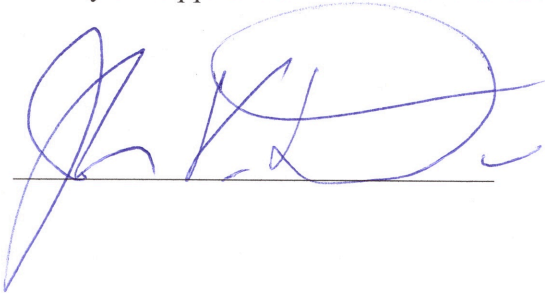
7. Cargill is reportedly the largest private corporation in North America and as such can be assumed to be in business to earn profits for the Cargill family and other shareholders. Cargill owns Cargill Deicing Technology which owns and manages Cayuga Salt Mine located in Lansing, NY. Cargill employs about 200 people at this mine and has mined salt from under Cayuga Lake since 1984. It is understood to be mining roughly 2.3-2.5 million tons of road salt annually. At an estimated sale price of \$57.84/ton, this would produce gross annual revenues of about \$133M to \$145M. It is not known what proportion of annual income is remitted to Cargill headquarters but in 2011 a Cargill office in Fargo, ND, paid mineral royalties to the NYS Office of General Services totaling <\$1.3M (see Exhibit A) or what might be roughly 1% of annual gross revenues.
8. Exhibit B is a map made by cartographer Karen Edelstein showing various mined mining panels (U58, U60, U62) and two active or planned mining panels (U78 & U78A). All five panels overlap the 1000'-setback from the linear version of the Frontenac Point Anomaly (hereafter FPA). The linear version of the FPA was shown in a 2016 map created by Cargill consultant RESPEC. On its own web site, www.respec.com, RESPEC describes itself as “a global leader in geoscience, engineering, data, and integrated technology solutions for major industry sectors.”
9. Exhibit C is a screen shot of a portion of an excel spreadsheet produced by CLEAN that contains estimates of A) the value of mineable salt likely to have been mined from those portions mining panels U58, U60 and U62 that overlie the

1000'-setback from RESPEC's version of the FPA, namely, \$91M to \$114M and B) the value of mineable salt located in those portions of mining panels U78 and U78A that overlie the 1000'-setback from RESPEC's version of the FPA, namely, \$27M-\$34M. *In summary, Cargill's use of a short oval to represent the FPA enables as much as \$147M of salt to be permissibly mined rather than being salt impermissibly mined from within the larger 1000-foot setback associated with RESPEC's map of the anomaly.*

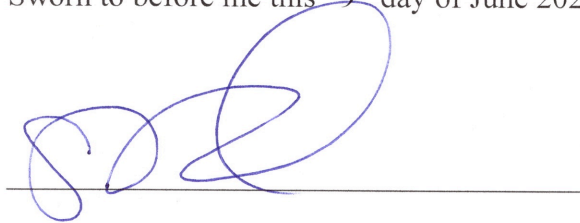
10. Exhibit D is a screen shot of a portion of an excel spreadsheet produced by CLEAN that contains an estimate of the range of the value of salt Cargill produced by mining under Anomaly E and its putative 1000-foot setback, namely, \$139M to \$173M. Based on data released by Cargill, it appears that mining in these three panels took place in 2004-2012 (U58), 2005-2012 (U60), and 2005-2014 (U62). The only Cargill Annual Report to DEC that has ever featured a mine map showing Anomalies A through E was Cargill's Annual Report for 2017. We know that a 2010 report authored by Cargill consultant, Richard Willott, included a map of Anomalies A through E, but we don't know when the DEC first learned of these anomalies. *It is possible that if the DEC had learned of Anomaly E in a more timely manner, mining under this anomaly might not have been permitted.*
11. As can be seen in Exhibit E, the blue oval is a reproduction of the oval that a mine map in Cargill's 2017 Annual Report to DEC displayed as the FPA. The yellow line, on the other hand, represents RESPEC's linear representation of FPA in 2016. *The RESPEC version is about 5.3 times the length of Cargill's 2017 oval version.*

12. We know from a FOILED e-mail [see page 3 of Exhibit F] that DEC's Steve Army e-mailed on February 2, 2016, to DEC's Simone Rodriguez and Christopher Lucidi that "We have requested a map of the [FPA] 1000' setback as it relates to existing and projected heading advancements. At that point, we will have a better idea how far [panel NW2] extends into the setback..." *Here again, DEC did not seem to be getting information from Cargill about anomalies and their setbacks in a manner that was sufficiently timely to enable the DEC to effectively regulate Cargill's underground mining operations.*

This affidavit is based on information available to me at this time. Should additional information become available, I reserve the right to determine the impact, if any, of the new information on my opinions and conclusions and to modify or supplement this affidavit if necessary.



Sworn to before me this 9th day of June 2021.



Notary Public

Tompkins County

State of New York

SERENNA L. MCCLOUD, ESQ.
Notary Public, State of New York
Registration No. 02MC6403734
Qualified in Tompkins County
Commission Expires February 3, 2024

Exhibit A

CARGILL INCORPORATED

4340 18th Ave SW
Fargo, ND 58103 PH: 1-800-513-1098

Five Hundred Nineteen Thousand Eight
Hundred Seventy-Two and 26/100 Dollars

Pay to **COMMISSIONER OF GENERAL SERVICES**
The order **DIVISION OF LAND UTILIZATION**
of **CORNING TOWER BLDG**
EMPIRE STATE PLAZA
ALBANY NY 12242

JPMorgan Chase Bank, N.A.
Columbus, OH

56-1544
441

MM/DD/YY 01/28/11	Number 105419306
Amount \$*****\$519,872.26	

Dayl L. Watson

⑈ 105419306 ⑈ ⑆ 044165443 ⑆

634867543⑈

REMITTANCE STATEMENT

000002
573391

Financial Service Center

VENDOR 50017341

DATE 01/28/11

PAYMENT # 105419306

Vendor Ref#/Invoice #	Purchase Location	PO#/Ref#	Voucher#	Invoice Amount	Discount	Sales Tax	Net Amount	Description
011711	DEICING TECHNOLOGY	000	ZR00034878	519,872.26			519,872.26	royalty due to the state

If you have any questions, please call the
Financial Service Center at 1-800-513-1098.

CARGILL INCORPORATED

4340 18th Ave SW

Fargo, ND 58103 PH: 1-800-513-1098

JPMorgan Chase Bank, N.A.
Columbus, OH

56-1544
441

MM/DD/YY 07/20/11	Number 105522107
Amount \$*****\$753,579.10	

Seven Hundred Fifty-Three Thousand Five
Hundred Seventy-Nine and 10/100 Dollars

Pay to The order of
COMMISSIONER OF GENERAL SERVICES
DIVISION OF LAND UTILIZATION
CORNING TOWER BLDG
EMPIRE STATE PLAZA
ALBANY NY 12242

Dayle L. Whitson

⑈ 105522107 ⑈ ⑆044115443⑆

634867543⑈

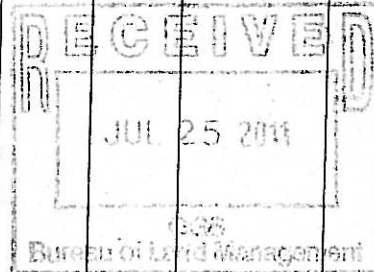
REMITTANCE STATEMENT

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Financial Service Center

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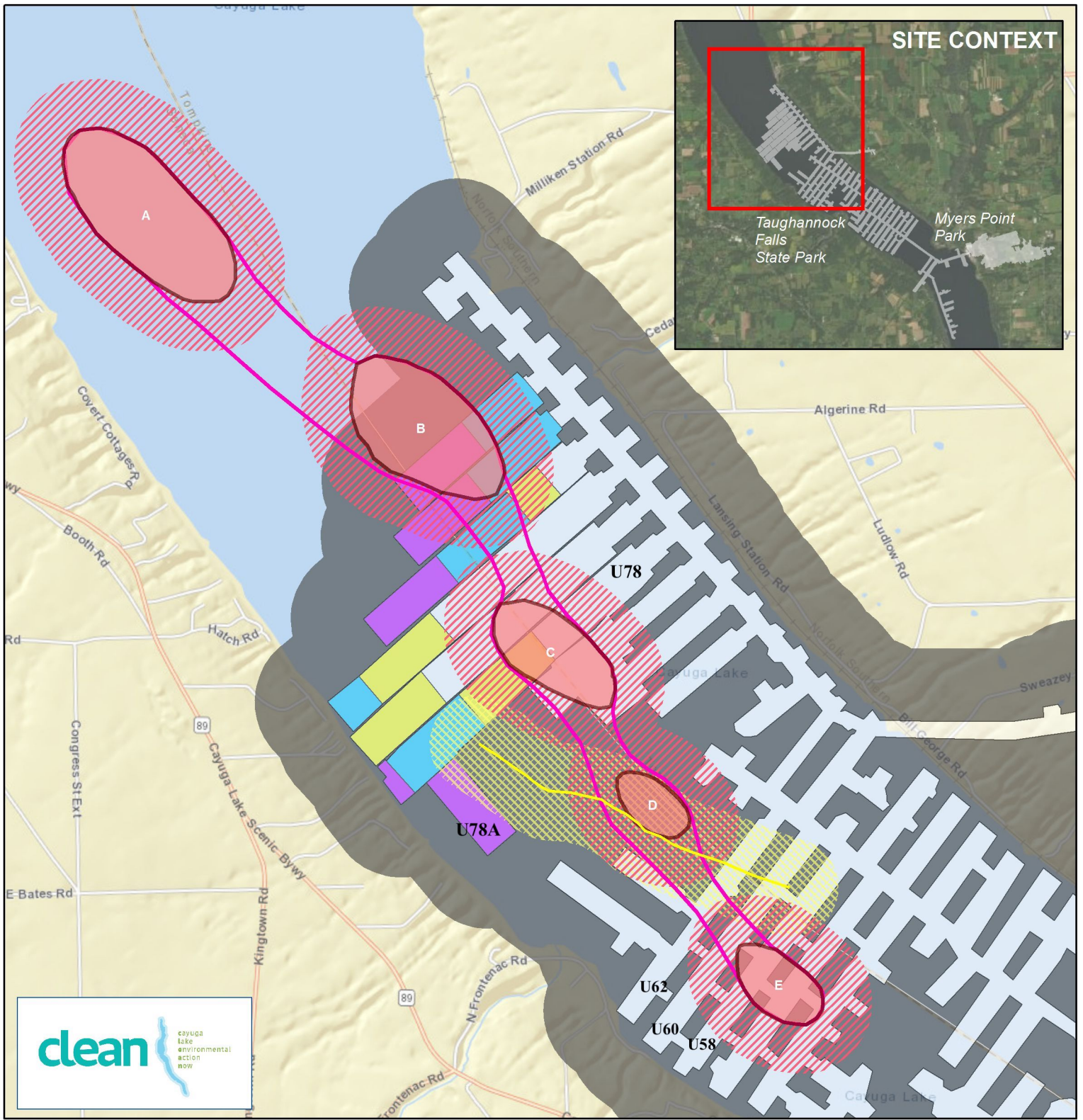
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071411	DEICING TECHNOLOGY	000	ZR00040408	753,579.10			753,579.10	royalty calculation



5 403484
12522
5

If you have any questions, please call the
Financial Service Center at 1-800-513-1098.

Exhibit B



0 0.25 0.5 1 Miles



Exhibit B. 2020-23 Mining plan plus Anomalies A-E and linear FPA with 1000' setback

Scour Anomalies A through E as Identified by Willott (in Willott, Richard, 2010, Geophysical Progress Report, Analysis of the Frontenac Point Anomaly, Cayuga Mine, for Cargill Salt Division, Boyd / PetroSearch Project #20101017, August 3, 2010), included in memo "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" dated February 22, 2018 from John T. Boyd Company, Mining and Geological Consultants, to NYS DEC, Division of Mineral Resources. Figure on p. 4. FOIL release from DEC Syracuse.

** FOIL release from DEC Syracuse.

Cargill Salt Mine	Frontenac Point Anomaly (yellow line)**
<ul style="list-style-type: none"> Already mined Mining plan 2020-21 Mining plan 2021-22 Mining plan 2022-23 Thinner limestone (Willott, 2010) Potential subsidence zone, ~35 deg. at base 	<ul style="list-style-type: none"> Anomalies A-E (Willott, FPA (line)+1000' Willot anomalous zones+1000'

Exhibit C

1 Parameter	Mining and Proposed Mining within 1000 ft of the linear Frontenac Point Anomaly						
2 Description	1. U78 - Within Setback	2. "U78A" Only - Within Setback	Totals of 1 & 2 Revenue Figures	3. U62 and U62A - Mined Within Setback	4. U60 - Mined Within Setback	5. U58 - Mined Within Setback	6. Total - Areas Already Mined within 1000 ft of FPA
3 Total Contained Area (actual) (sq ft)	1,425,884	364,987		1,585,930	1,009,121	879,128	3,474,179.00
4 Assumed Extraction Ratio	0.49	0.49		0.84	0.84	0.84	
5 Salt Thickness Removed (ft)	10.00	10.00		10.00	10.00	10.00	
6 Volume Salt Extracted (cu ft)	6,986,833.20	1,788,436.30		13,321,812.00	8,476,616.40	7,384,675.20	29,183,103.60
7 Salt Density (lbs/cu ft)	134.84	134.84		134.84	134.84	134.84	
8 Amount Salt Extracted (lbs)	942,104,589.00	241,152,750.69		1,796,313,130.08	1,142,986,955.38	995,749,603.97	3,935,049,689.42
9 Amount Salt Extracted (tons)	471,052	120,576		898,157	571,493	497,875	1,967,525
10 gross revenue if 80% mined salt is sold at \$57.84/ton	\$21,796,532	\$5,579,310	\$27,375,842	\$41,559,501	\$26,444,146	\$23,037,663	\$91,041,310
11 gross revenue if 85% mined salt is sold at \$57.84/ton	\$23,158,815	\$5,928,017	\$29,086,832	\$44,156,969	\$28,096,905	\$24,477,517	\$96,731,391
12 gross revenue if all mined salt is sold at \$57.84/ton	\$27,245,665	\$6,974,138	\$34,219,802	\$51,949,376	\$33,055,183	\$28,797,079	\$113,801,637

14 Anomaly boundary and mine layout plotted by Karen Edelstein. The 3 Year Mine Plan is dated Jan 2021.

15 In 2015, Cayuga Salt Mine production was ~2.5 MM short tons, and the weighted average price of Untreated and Treated Type I salt averaged \$57.84/ton for Cargill Deicing in NYS

The boundaries for columns E, F, and G trace the already-mined areas within 1000' of the linear FPA. These areas have been mined using small yielding pillars, thus the higher extraction ratio within the area being analyzed.

17	57.84	2500000	\$144,600,000
18	57.84	2300000	\$133,032,000

19 Key:

20 1. U78 - Within Setback: This estimates the quantity of salt that could potentially be mined and sold from areas of panel U78 (including "U78A") within 1000 ft of the linear Frontenac Point Anomaly.

21 2. "U78A" Only - Within Setback: This estimates the quantity of salt that could potentially be mined and sold from the areas of the extension of panel U78 ("U78A") located within 1000 ft of the linear Frontenac Point Anomaly.

22 3. U62 and U62A Mined Within Setback: Estimate of the areas of the aforementioned panels located within 1000 ft of the FPA, which have already been mined, as of 06/2021.

23 4. U60 - Mined Within Setback: Estimate of the areas of the aforementioned panel located within 1000 ft of the FPA, which has already been mined, as of 06/2021.

24 5. U58 - Mined Within Setback: Estimate of the areas of the aforementioned panel located within 1000 ft of the FPA, which has already been mined, as of 06/2021.

25 6. Total - Areas Mined within 1000 ft of FPA: Sum of columns E through G. Total amount mined within 1000 ft of linear FPA from U58, U60, and U62/U62A.

Exhibit D

1	Parameter	A	B	C	D	E	F	G
		Willot-Defined Anomalies						
2	Description	Scour Anomaly A	Anomaly B	Anomaly C	Anomaly D	Anomaly E (Already mined)	Anomaly E + hypothetical 1000 ft setback (Already mined)	
3	Total Contained Area (actual) (sq ft)	7,087,778		6,217,769	3,036,529	1,285,263	1,278,379	5,168,393
4	Assumed Extraction Ratio	0.49		0.49	0.49	0.49	0.86	0.86
5	Salt Thickness Removed (ft)	10.00		10.00	10.00	10.00	10.00	10.00
6	Volume Salt Extracted (cu ft)	34,730,112.20		30,467,068.10	14,878,992.10	6,297,788.70	10,994,059.40	44,448,179.80
7	Salt Density (lbs/cu ft)	134.84		134.84	134.84	134.84	134.84	134.84
8	Amount Salt Extracted (lbs)	4,683,008,329.05		4,108,179,462.60	2,006,283,294.76	849,193,828.31	1,482,438,969.50	5,993,392,564.23
9	Amount Salt Extracted (tons)	2,341,504.16		2,054,089.73	1,003,141.65	424,596.91	741,219.48	2,996,696.28
10	gross revenue if 80% mined salt is sold at \$57.84/ton	108,346,080.70		95,046,840.05	46,417,370.31	19,646,948.41	34,297,708.00	138,663,130.37
11	gross revenue if 85% mined salt is sold at \$57.84/ton	115,117,710.74		100,987,267.55	49,318,455.95	20,874,882.69	36,441,314.75	147,329,576.01
12	gross revenue if all mined salt is sold at \$57.84/ton	135,432,600.88		118,808,550.06	58,021,712.88	24,558,685.51	42,872,135.00	173,328,912.96

14 Anomaly boundaries plotted by Karen Edelstein

15 In 2015, Cayuga Salt Mine production was ~2.5 MM short tons, and the weighted average price of Untreated and Treated Type I salt averaged \$57.84/ton for Cargill Deicing in NYS

Because it was already mined, the boundaries for columns F and G trace the already-mined areas beneath the deeply-scoured ellipse (and a 1000' setback, in the case of column G). Therefore, the relevant total contained areas are equal only to the areas which have been mined using small yielding pillars,

16 and the extraction ratio reflects this as well

Exhibit E

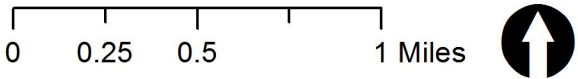
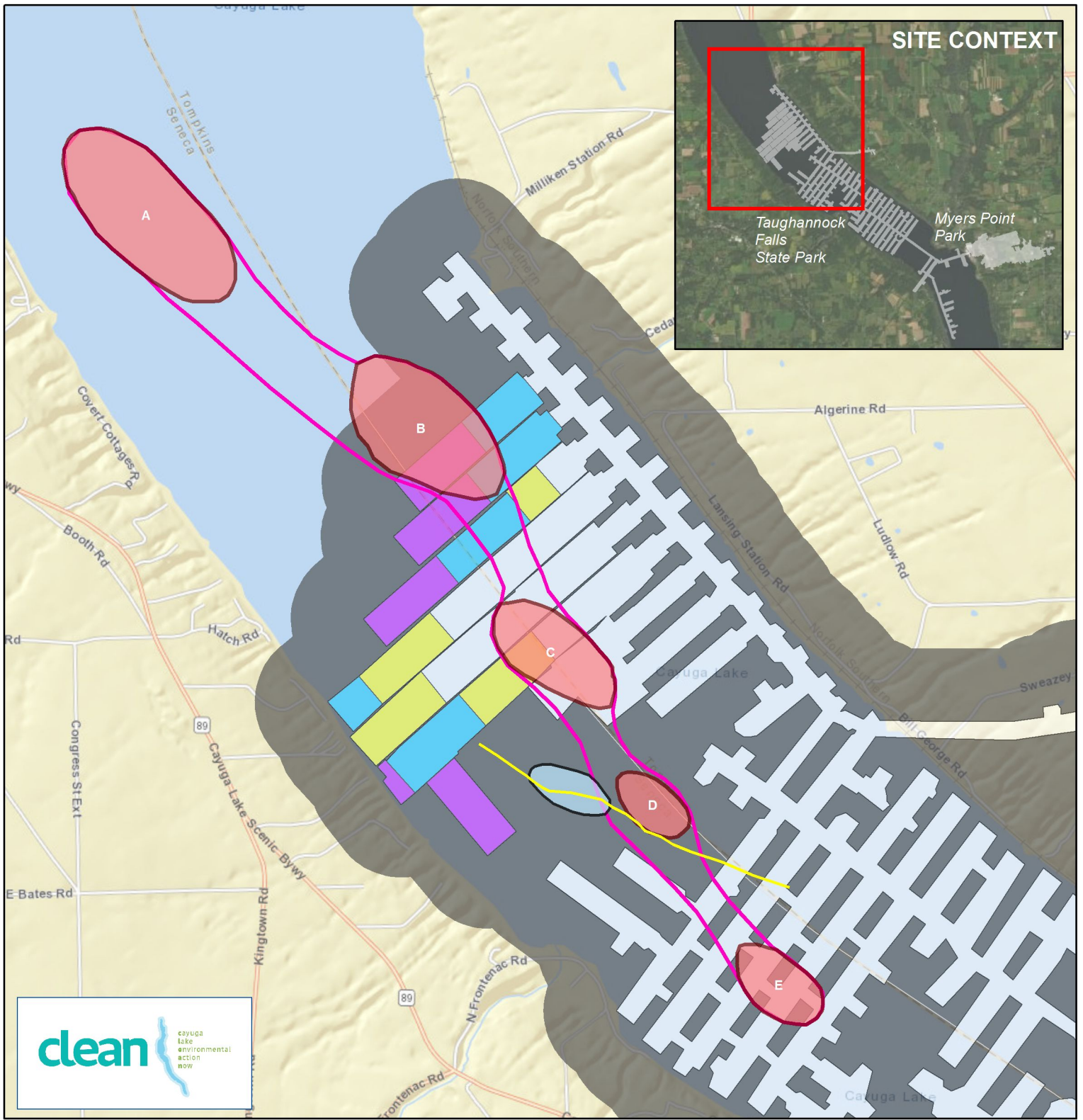


Exhibit A. 2020-23 Mining plan plus Anomalies A-E and linear FPA & oval FPA

Scour Anomalies A through E as Identified by Willott (in Willott, Richard, 2010, Geophysical Progress Report, Analysis of the Frontenac Point Anomaly, Cayuga Mine, for Cargill Salt Division, Boyd / PetroSearch Project #20101017, August 3, 2010), included in memo "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" dated February 22, 2018 from John T. Boyd Company, Mining and Geological Consultants, to NYS DEC, Division of Mineral Resources. Figure on p. 4. FOIL release from DEC Syracuse.

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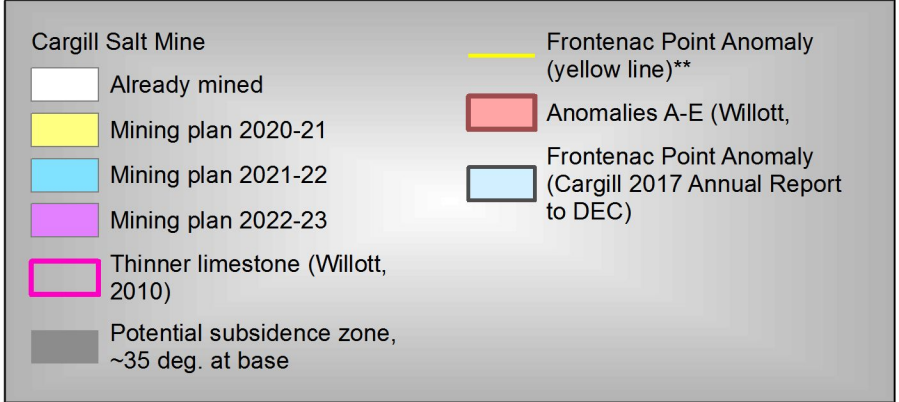


Exhibit F

Lucidi, Christopher M (DEC)

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
Office: 585-226-5372
Cell: 585-319-1012
Fax: 585-226-6323

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)

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: Podniesinski, Matthew J (DEC)
Sent: Monday, February 01, 2016 7:44 AM

To: Rodriguez, Simone S (DEC)
Subject: FW: Annual Report Review - 2015 (BOYD File: 2499.4)

From: [BOYD COMPANY]Beth M. Mills [<mailto:b-mills@jtboyd.com>]
Sent: Friday, January 29, 2016 4:00 PM
To: Podniesinski, Matthew J (DEC)
Cc: [BOYD COMPANY]Vincent A. Scovazzo
Subject: Annual Report Review - 2015 (BOYD File: 2499.4)

January 29, 2016
File: 2499.004

Mr. Matthew Podniesinski
New York State Department of Environmental Conservation

Please find attached the following letter:

Annual Report Review - 2015
Cayuga Mine, Cargill, Inc.
Seneca and Tompkins Counties, New York

Regards,
Vince

For
Vincent A. Scovazzo
Director of Geotechnical Services
JOHN T. BOYD COMPANY
4000 Town Center Boulevard, Suite 300
Canonsburg, PA 15317
Phone: 724-873-4400
Fax: 724-873-4401

Bethany M. Mills
Editorial and WP Support Services

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Regards,
Vince

For
Vincent A. Scovazzo
Director of Geotechnical Services
JOHN T. BOYD COMPANY
4000 Town Center Boulevard, Suite 300
Canonsburg, PA 15317
Phone: 724-873-4400
Fax: 724-873-4401

Bethany M. Mills
Editorial and WP Support Services

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Attachments: Annual Review 2015.pdf

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