

January 4, 2008

Cargill Deicing Technology Cayuga Mine 191 Portland Point Road Lansing, NY 14882 Phone: (607) 533-4221

Mr. Steven M. Potter
Chief, Mined Land Reclamation Section
Bureau of Resource Management & Development
Division of Mineral Resources
New York State Department of Environmental Conservation
625 Broadway Third Floor
Albany, NY 12233-6500

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

Dear Mr. Potter:

Enclosed is an annual report required in accordance with the Special Conditions section (item numbers 7-13) of DEC permit number 0-9999-00075/00001. This report will address each reporting requirement separately (7a, 7b, etc.) and drawings are attached as required. As requested, all technical data associated with monitoring of mine stability will be sent to J.T. Boyd and Associates with attention to Dr. Vincent Scovazzo.

A second copy of the report is included here for you to distribute to the Region 7 office, or as you see fit.

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

With Best Regards,

Steve Horne

Mine Manager – Cargill Deicing Technology

Cargill Deicing Technology 191 Portland Point Road Lansing, New York 14882 Mail Address: PO Box B Lansing, New York 14882 DECEIVED

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## Reporting, Monitoring, and Notifications

7a. Cargill Cayuga Mine Manager Certification:

I, Steven J. Horne, Mine Manager – Cargill Deicing Technology, certify that all mining activities, to the best of my knowledge, conducted during the reporting period from January 6, 2007 to present were in conformance with the DEC Permit # 0-9999-00075/00001 and the approved plans

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No variances occurred and none were reported.

Signed: Date:

7b. Summary of all non-routine mining incidents:

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

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

On occasion, the underground production crews encounter rock structures that delay or hinder our mining plan. A small floor rock roll was encountered in the U-59 panel and it was successfully mined through. The E-3 panel encountered a rock roll that caused the mine to stop the mining there. As such, the S-3 panel was restarted.

## 7c. 3 Year Mining Plan

Attached are maps depicting the current and proposed mining for the next three years.

- Attachment 1A 3 Year Mine Plan for the Northern Region
- Attachment 1B 3 Year Mine Plan for the Southern Region
- Attachment 1C Large Mine map showing current extent of mining and three year mining plan

The Cayuga Mine is currently operating in two different sections of the mine. There is one development crew that is mining south (S-3) along the west shoreline of Cayuga Lake. The rest of the mining is located in the northern region of the mine where production crews continue mine panels (U-54, U-59, U-56) to the east and west. Upon completion of U-59, U-61 will be started. To improve operational efficiency, a fifth mining panel is being started in U-58.

## 7d. Summary of In-situ Measurements of Rock Mechanics:

The Cayuga Mine continues to collect mine convergence data in accordance with the guidelines previously established in the Mined Land Use Plan. Convergence stations are typically installed at the "face" of active tunnels in mining panels with a profile of three stations located in the center and edges of the panel. The convergence stations are usually read daily during the first week and then dropped to a weekly schedule until the next profile is installed. The initial profile will then be monitored on a monthly or quarterly schedule for the duration of mining of the panel. After abandonment of the panel, the convergence stations are monitored quarterly and annually. Currently, there are approximately 150 quarterly and 400 annual convergence stations being

monitored. Once all of the data from the annual convergence stations have been collected it is evaluated both internally and externally for trends to ensure that each panel and the mine is behaving properly.

Evaluation of weekly, quarterly, and annual convergence data indicate that no unusual trends have been identified and the mine is behaving as expected, with the exception of the U-40B area. It has been previously noted that this area is squeezing faster than other areas of the mine of similar layout and age. The closure data indicates that the area is stable, in that the closure rates continue to decrease, however those rates are higher than desired. Monitoring of this area continues at increased frequency of twice per month. The salt "fines" backfilling operation was relocated to U-40B in August to help further stabilize this region. The purpose of the backfill is to limit the total amount of closure that is possible, thus reducing the total possible surface subsidence.

## 7e. Summary of Subsidence Monitoring:

Surface subsidence measurements continue to be performed in accordance with the Mined Land Use Plan. Surveys of the east shore of Cayuga Lake and the Lansing area have been completed and the data is being analyzed. A survey is underway of the west lakeshore at this writing. The results are going to be presented to John T. Boyd's Vince Scovazzo as soon as they are completed.

7f. Source and Volume of Water Inflow Into the Mine and Disposition of Such Water: The following is a list of sources and associated flow rates of water into the Cayuga Mine:

- Production Shaft (#1 shaft) 13 gallons per minute
- Ventilation Shaft (#2 shaft) 4 gallons per minute
- ED Plant Concentrate discharge 7 gallons per minute
- Storm Water Run-off 0 gallons per minute (3 ED stacks now operational)
- Total Water Inflow = 24 gallons per minute

All of the water is directed to a settling pond located on the 4-level of the mine. The water is then pumped from the settling pond to abandoned areas on 4-level. Recent volume calculations indicated that at our current rate we have approximately 20 years of disposal life remaining on 4-level. See the attached water inflow table and the pond map. Action plans are in place to continue reduce the inflow into the mine over the next 3 years. The second expansion of the storm water ED treatment plant has been commissioned and is operational. This has reduced the storm water run-off that is entering the mine from about 18 gpm to near 0 gpm. A system for collecting the #1 shaft water inflow and pumping it to surface for processing through the ED plant has been designed and funds have been allocated. Construction should be complete by October of 2008, resulting in a reduction of an additional 8 gpm. The underground storage pond levels were checked in November to verify the predictions of remaining storage life.

## 7g. Summary of SPDES Monitoring Data:

The following is a summary of the past year's outfall results (November 2006-2007) and waste water treatment plant results (November 2006-2007). All outfall exceedances are reported to the DEC in two ways. Once an exceedance event has been identified the DEC is informed via telephone of the occurrence. Each event is also captured in the monthly Report of Non-Compliance, which also lists corrective action taken.

# Outfall results:

Exceedances are noted in red

# CHLORIDES

# OUTFALLS

001 ,000 ng/l	#002 10,000 mg/l	#003 10,000	#004 5,000	#005	#006	#007	#008	#012
	1119/1	mg/l	mg/l	5,000 mg/l	5,000 mg/l	5,000 mg/l	5,000 mg/l	5,000 mg/l
								0.400
								2,100
000	1300	920	5900	NF	890	310	NF	680
200	1,100	910			950	300	NF	1,600
,000	NF	730			1,100	820	NF	NF
,000	7,200	3,800	Combined w/3&5	Combined w/4&3	NF	NF	NF	NF
900	2,600	3,200			980	230	NF	810
,000	300	1,100			860	350	NF	650
500	1,800	900			1,400	410	Eliminated	3,200
,000	1,200	1,200			NF	NF	Eliminated	NF
,000	NF	1,800			2,100	990	Eliminated	4,650
900	2,300	810			NF	NF	Eliminated	3,600
,000	2,500	1,400			1,300	600	Eliminated	2,000
,000	6,200	1,100			1,200	570	Eliminated	3,200
, , ,	200 000 000 900 000 500 000 000 900	000 1300 200 1,100 000 NF 000 7,200 900 2,600 000 300 500 1,800 000 1,200 000 NF 900 2,300 000 2,500	000         1300         920           200         1,100         910           000         NF         730           000         7,200         3,800           900         2,600         3,200           000         300         1,100           500         1,800         900           ,000         1,200         1,200           ,000         NF         1,800           900         2,300         810           ,000         2,500         1,400	000 1300 920 5900  200 1,100 910  000 NF 730  000 7,200 3,800 Combined w/3&5  900 2,600 3,200  000 300 1,100  500 1,800 900  000 1,200 1,200  000 NF 1,800  900 2,300 810  0000 2,500 1,400	000 1300 920 5900 NF  200 1,100 910 000 NF 730 000 7,200 3,800 Combined w/385 W/483  900 2,600 3,200 000 300 1,100 500 1,800 900 000 1,200 1,200 000 NF 1,800 900 2,300 810 0000 2,500 1,400	000         1300         920         5900         NF         890           200         1,100         910         950           000         NF         730         1,100           000         7,200         3,800         Combined w/3&5         Combined w/4&3         NF           900         2,600         3,200         980         980           000         300         1,100         860           500         1,800         900         1,400           000         1,200         NF           000         NF         1,800         2,100           900         2,300         810         NF           000         2,500         1,400         1,300	000         1300         920         5900         NF         890         310           200         1,100         910         950         300           000         NF         730         1,100         820           000         7,200         3,800         Combined W/3&5         Combined W/4&3         NF         NF           900         2,600         3,200         980         230           000         300         1,100         860         350           500         1,800         900         1,400         410           000         NF         1,800         2,100         990           900         2,300         810         NF         NF           000         2,500         1,400         1,300         600	000         1300         920         5900         NF         890         310         NF           200         1,100         910         950         300         NF           000         NF         730         1,100         820         NF           000         7,200         3,800         Combined W/3&5         Combined W/4&3         NF         NF         NF           900         2,600         3,200         980         230         NF           900         300         1,100         860         350         NF           500         1,800         900         1,400         410         Eliminated           900         1,200         NF         NF         NF         Eliminated           900         2,300         810         NF         NF         NF         Eliminated           900         2,500         1,400         1,300         600         Eliminated

NF = NO FLOW

# WAD CYANIDE

OL	JTF	AL	LS

	#001	#002	#003	#004	#00E	4006	#007	4000	#042
	_	#002	#003	#004	#005	#006	#007	#008	#012
Permit Limit	1.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/l	0.1 mg/
Month/Year									
Nov 2006	0.12	<.01	<.01			<.01	<.01	NF	<.01
Dec	<.01	<.01	<.01	0.015	NF	<.01	<.01	NF	<.01
Jan 2007	0.19	<.01	<.01			0.01	<.01	NF	<.01
Feb	0.035	NF	<.01			0.01	<.01	NF	NF
March	0.09	0.011	<.01	Combined w/3&5	Combined w/4&3	NF	NF	NF	NF
April	0.11	0.048	0.058			<.01	<.01	NF	<.01
Мау	0.099	<.01	<.01			<.01	<.01	NF	<.01
June	<.01	<.01	<.01			<.01	<.01	Eliminated	<.01
July	0.04	<.01	<.01			NF	NF	Eliminated	NF
August	0.049	NF	<.01			<.01	<.01	Eliminated	<.01
Sept	0.013	<.01	<.01			NF	NF	Eliminated	<.01
Oct	0.31	<.01	<.01			0.011	<.01	Eliminated	<.01
Nov	0.14	<.01	<.01			<.01	<.01	Eliminated	<.01
NE = NO									

NF = NO FLOW

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# Outfall Results Continued:

# TOTAL DISSOLVED SOLIDS

# **OUTFALLS**

							T	
					#006	#007	#008	#012
80,000	40,000	40,000	10,000	10,000	10,000	10,000	10,000	10,000
mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
34,000	7,000	2,500			2,000	1,000	NF	4,400
42000	3200	2300	8900	NF	1900	940	NF	1400
17,000	3,000	2,500			2,000	960	NF	3,300
21,000	NF	1,900			2,500	2,000	NF	NF
37,000	11,000	6,300	Combined w/3&5	Combined w/4&3	NF	NF	NF	NF
11,000	5,100	6,400			2,400	1,100	NF	2,000
25,000	2,700	2,700			1,900	1,000	NF	1,600
11,000	2,800	2,600			2,600	1,400	Eliminated	6,500
26,000	2,500	2,900			NF	NF	Eliminated	NF
20,000	NF	4,000			4,200	2,300	Eliminated	8,050
14,000	4,000	2,200			NF	NF	Eliminated	7,000
43,000	4,900	3,400			3200	1700	Eliminated	4,300
55,000	10,000	2,600			2,700	1,400	Eliminated	5,800
	34,000 42000 17,000 21,000 37,000 11,000 25,000 11,000 26,000 20,000 14,000 43,000	80,000	80,000	80,000 mg/l 40,000 mg/l 10,000 mg/l 34,000 7,000 2,500 42000 3200 2300 8900  17,000 3,000 2,500 21,000 NF 1,900 37,000 11,000 6,300 W/3&5  11,000 5,100 6,400 25,000 2,700 2,700 11,000 2,800 2,600 26,000 2,500 2,900 20,000 NF 4,000 14,000 4,000 2,200 43,000 4,900 3,400	80,000	80,000 mg/l       40,000 mg/l       40,000 mg/l       10,000 mg/l       10,000 mg/l       10,000 mg/l         34,000 7,000 2,500 42000 3200 2300 8900 NF 1900       2,000 NF 1900       2,000 2,500 2,500       2,000 2,500 2,500         17,000 3,000 2,500 21,000 NF 1,900 37,000 11,000 6,300 37,000 11,000 6,300 4,000 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,600 2,500 2,900 NF 4,000 4,000 2,200 NF 4,000 4,000 2,200 NF 4,000 3,400 3200	80,000 mg/l         40,000 mg/l         10,000 mg/l	80,000 mg/l         40,000 mg/l         40,000 mg/l         10,000 mg/l         NF         2,000 mg/l         NF         10,000 mg/l         NF         NF

NF = NO FLOW

# Waste Water Treatment Plant. #009

Nov. '06 -	Nov. '07								Total Resid.		cal form
	Flow Rate		D	В	<u>'H.</u>	Tot. Su	sp. Solids	Settleable	Chlorine		100 ml
	Ave.	Ave.	Max. 7 Day Ave	Min.	Max.	Ave.	Max. 7 Day Ave	Solids  Daily Max.	Max. Daily Ave.	Ave. 30 Day	Max. 7 Day Ave
Permit Limit		30	45	6.0	9.0	30	45	0.3 mg/l	1.0 mg/l	Report	Report
Nov. '06	806	1.0	1.0	6.9	7.6	28.5	28.5	<0.1	1.0	1.0	1.0
Dec	903	1.2	1.2	7.3	8.1	12.0	12.0	<0.1	1.0	1.0	1.0
Jan.'07	882	7.8	7.8	6.0	8.0	25.0	25.0	<0.1	1.0	300.0	300.0
Feb.	1144	30.0	30.0	6.9	8.8	36.0	36.0	<0.1	1.0	1.0	1.0
March	649	25.8	25.8	7.5	9.0	58.5	58.5	<0.1	1.0	1.0	1.0
April	880	12.0	12.0	7.0	8.8	18.5	18.5	<0.1	1.0	235.0	235.0
May	888	15.0	15.0	7.8	8.9	14.0	14.0	<0.1	1.0	28.0	28.0
June	708	26.4	26.4	6.9	8.9	25.0	25.0	<0.1	1.0	1.0	1.0
July	7.8	4.2	4.2	7.8	9.0	2.0	2.0	<0.1	1.0	30.0	30.0
August	593	4.5	4.5	7.9	9.0	2.3	2.3	<0.1	0.4	4.0	4.0
Sept	826	1.2	1.2	7.6	8.6	6.0	6.0	<0.1	0.6	5.0	5.0
Oct	945	1.0	1.0	6.8	8.0	25.0	25.0	<0.1	1.2	4.0	4.0
Nov	1025	16.2	16.2	6.5	7.5	9.0	9.0	<0.1	1.0	195.0	195.0

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# Outfall Results Continued:

# ZINC

	Outfall #001
Permit Limit Month/Year	20mg/l
Nov 2006	0.17
Dec	0.012
Jan 2007	0.033
Feb.	0.081
March	0.19
April	0.012
Мау	0.092
June	0.011
July	0.04
August	0.069
Sept	0.065
Oct	0.023
Nov	0.9

# NON CONTACT COOLING WATER

Outfall #014

	Outian #014		
Permit Limit Month/Year	Min/Max Intake Water Temp. deg. F.	Min/75 Max Effluent Water Temp. deg. F.	500 Max Gpm. Flow Rate Effluent Gross
Nov 2006			
Dec			
Jan 2007			
Feb.			
March	Under constr		
April	Under constr		
May	Under constr		
June	Under constr		
July	Not operational		
August	Not operational		
Sept	Not operational		
Oct	Start up process		
Nov	Start up process		

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#### NON CONTACT COOLING WATER

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8. Notification of Non-routine Mining Incidents:

See section 7b.

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9. MSHA Correspondence Involving Non-routine Mining Incidents:

The Cayuga Mine has not received any citations from MSHA regarding non-routine mining Incidents.

10. Changes in Mining Method:

There have been no changes to the Cayuga Mine layout in the past year.

11. Surface Subsidence:

Surface subsidence surveys continue to be done in accordance with the Mined Land Use Plan. See section 7e of this report.

12. In-situ Rock Mechanics Measurements:

See section 7d of this report.

13. Written Citizen Complaints:

There have been no written citizen complaints received by Cargill concerning the Cayuga Mine.

