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February 9, 2017
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New York State Department of Environmental Conservation
Bureau of Resource Management & Development
Division of Mineral Resources
625 Broadway, Third Floor
Albany, NY 12233-6500

Attention: Mr. Matthew Podniesinski
Chief, Resource Development Section
Bureau of Resource Management & Development

Subject: Annual Report Review - 2016
Cayuga Mine, Cargill, Inc.
Seneca and Tompkins Counties, New York

Gentlemen:

John T. Boyd Company (BOYD) received a CD and cover letter[1] from Cargill Deicing Technology (Cargill) on January 25, 2017, at a site meeting at the Cargill Mine. An unsigned cover letter dated November 18, 2016 was included in the CD as Boyd MLRP submittal Jan '17 cover letter.docx last modified January 09, 2017. The CD included: the unsigned Annual Report[2] as DEC annual report for Oct 2015 - Sept 2016 V2.docx last modified November 21, 2016, maps as AutoCAD® or Adobe Acrobat® files, extensometer and closure readings as Excel® files, and consultant reports. Consultant reports included were from ESG, RESPEC, and Rocktec Solutions reports.

On February 15, 2006, Mr. Steven M. Potter, then the Director, Bureau of Resource Management & Development, New York State Department of Environmental Conservation

[1] Plumeau, David B., 2017, untitled letter from Cargill Deicing Technology to Vincent A. Scovazzo, John T. Boyd Company, January 9.

[2] Cargill Deicing Technology, 2016, "Annual Report for Mine File #709-3-29-0052; Cayuga Salt Mine Permit ID#0-9999-00075-00001," with cover letter from Shawn G. Wilczynskito to Matthew Podniesinski of New York State Department of Environmental Conservation, November 18.

(NYSDEC), requested that BOYD review all documents, digital data, and annual reports received by BOYD starting with the 2006 Annual Report.

The recently received documents were reviewed for their adherence to conditions of the revised Permit[3]. §12.8 of this revised permit limit cost for review of annual reports by Consulting Services to $15,000. For this annual review, BOYD is providing the Consulting Services. It is noted that "Funding relating to permit modifications or alterations requiring consultant review shall be not be capped due to the varying nature of potential future applications. Cargill shall fund the cost of the annual meeting/underground inspections, and will share the cost of joint inspections with American Rock Salt Co., LLC."

The Cargill 2016 Annual Report is nearly complete. BOYD requests Cargill provide any Level 5 data previously not submitted and a discussion of U62 backfill.

Discussion of Annual Report

The Permit has several conditions that affect the Annual Report and its review including:

Condition 3

Condition 3 requires all reports required by the permit to be submitted to Region 7.

Condition 9.a.

Condition 9.a. requires investigation into the disturbed salt zone and this investigation to be completed and submitted before mining proceeds into the area. Based upon the additional seismic survey and consultant reports, Cargill will maintain the planned 1,000 ft setback around the Frontenac Point Anomaly. Further investigation shall be completed and submitted to the Department for review and approval prior to mining within this 1,000 ft buffer.

Condition 9.b.

Condition 9.b. requires investigations and reports on the adequacy of the thin rock overburden where the solid rock overburden is thinner, the glacial till and lake sediments thicken, and lake depth increases. The thin rock overburden and Frontenac Point Anomaly may overlap. The required additional investigations and reports have not been performed, and mining in this area should be avoided until reviewed and approved by

[3] New York State Department of Environmental Conservation, Region 7, 2007, "Permit" DEC ID 0-9999-00075, expiration December 31, 2012, December 31, Modification # I Effective Date: November 8, 2013.

the NYSDEC. However, the following summarizes reports included with the annual report that addresses these anomalies.

The 2016 Annual Report notes the inclusion of reports by ESG Canada Inc. which were provided on the CD:

- ESG Solutions, 2015 and 2016, "Seismic Data Processing Results & Health Analysis Report for Cayuga Monitoring System," prepared for Cargill Salt Division, covering 13 months from December 2015 to December 2016.

  Cargill notes in the annual report that "The Cayuga Mine operates a micro-seismic monitoring network which now has over 65 geophones and covers over 5 square miles of mine workings. The data from this system is reviewed daily in-house and by Engineering Seismology Group (ESG), and is summarized in a monthly report by ESG. This data indicates the mine is behaving as expected."

- Petersen, Gary, 2016, Cayuga Mine, Thoughts on Mining the Northern Reserves, prepared for David Plumeau, Cargill Deicing Technology, RockTec Solutions, August 27. As 2016 Aug - Thoughts on mining the northern reserves.pdf last modified on August 27, 2016.

  Mr. Petersen notes that due to the theory "... that the abnormal closure in U12, U40B and perhaps U24 could be due to hydraulic pressure within the de-stressed zone of the yield pillar panel design, it was wisely decided not to use the YPP design to mine the northern reserves where the potential for high pressure/high volume aquiferic water in conjunction with large geological anomalies could bring water too close to the mining horizon. The concern being that the YPP design creates a low stress (destressed) zone above that panel that attracts higher pressure fluids in the rock strata, which given a geological conduit will flow into the de-stressed zone resulting in abnormal panel closure." Where YPP denotes yield pillar panel.

  Petersen continues "The big pillar design doesn't create a de-stressed zone above the panel, making it a much better design for potential water pressure situations." Thus "... the potential for developing a leak is much lower ..." and "We know from experience that the big pillar design is prone to shear the roof along the roof/pillar contact out over the room and in some cases results in a rather large roof fall. Roof falls in East-1 (big pillar design) went as high as 12 feet that went hundreds of feet in length in the worst case."

  In reference to a set of yield pillars that will result in the three entry access to the large pillar area Mr. Petersen notes "The load transfer from the YPP initially goes to the edge of the adjacent big pillar and creates a relatively high peak load along the edge of the pillar ... which can cause roof shears to develop rather quickly."

- Devries, Kerry, 2016, Large Pillar Design, RESPEC, September 15. As Large Pillar Design 9-19-16 V2.pdf last modified on September 20, 2016

  This slide show compares five mine layouts:

  - 140' by 178' pillars, 42' wide rooms, 11' tall rooms, [redacted]% extraction ratio,
  - 140' by 138' pillars, 42' wide rooms, 11' tall rooms, [redacted]% extraction ratio,
  - 120' by 120' pillars, 42' wide rooms, 11' tall rooms, [redacted]% extraction ratio,
  - 88' by 88' square pillars, 32' wide rooms, 9' tall rooms, and [redacted]% extraction ratio, and
  - 144' by 144' barrier pillar, 24' by 24' yield pillars, 32' wide rooms, 9' tall rooms, [redacted]% extraction ratio.

  RESPEC concluded that tunnel life expectancy for four of these layouts are:

  - 140' x 178' Pillars: [redacted] years
  - 140' x 138' Pillars: [redacted] years
  - 120' x 120' Pillars: [redacted] years
  - 88' x 88' Roof: [redacted] years

- E-mail discussion of Multi-Seam Modeling Final Report RESPEC, Evan Keffeler, as Comments and responses on Multi-Seam Modeling Final report Sept 2015.docx last modified December 17, 2015. This document offers clarifications on global and other stability subjects discussed in last year's annual review.

Also included in the documents supplied by Cargill were:

- Plumeau, Dave, 2016, Re-visiting the Northern Mine Design Modeling, Memorandum to Shawn, Ryan, Adam, Bill, and Russ, July 29. As MEMO 7-27-2016 Northern mine design modeling July 2015 large pillar results.docx last modified July 29, 2016.

  A review of previous RESPEC work completed on this subject.

- Plumeau, Dave, 2016, Summary of Results of "Large Pillar" mine design in U-74, Memorandum to Steve Army and Christopher Lucidi, November 4. Included as Memo re- Summary of U-74 large pillar mining.docx last modified October 24, 2016.

  A review of work on large pillar design.

Condition 12.a.

Condition 12.a. requires an Annual Report to be submitted by Cargill in response to 12.a. sub-conditions 1 through 8 and Condition 12.b through g. These conditions and Cargill's responses are summarized below.

Condition 12.a.1.

Condition 12.a.1. requires the inclusion of the Mine Manager's signed certification that "all mining related activities...were in conformance with this permit and the approved plans, or that variances have been reported and managed."

A certification was included on page 2 §12.a.(1) and the certification sent to NYSDEC was signed by Mr. Shawn G. Wilczynski, Mine Manager, on November 21, 2016. This certification notes "...that all mining activities, to the best of my knowledge, conducted during the reporting period from November 4, 2015 to present were in conformance with the DEC Permit # 0-9999-00075/00001 and the approved plans. No variances occurred and none were reported."

Condition 12.a.2.

Condition 12.a.2. requires "A summary of all non-routine mining incidents as defined in Special Conditions Part b. ..." Condition 13.b. defines non-routine as "incidents during mining, processing, or other mine related activities that may adversely affect mine stability, ground and surface water or other natural resources, or the health, safety, welfare or property of the general public." During a meeting held on August 17, 2004, with Cargill, NYSDEC, and BOYD, it was agreed that statements will be included in the Annual Report "to point out known, encountered, or discovered geologic and geotechnical anomalies and mine action to address such anomalies."

Cargill included a statement in the Annual Report page 2, Section 12.a.2. that "[t]he 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."

Condition 12.a.3.

Condition 12.a.3. requires "[a]n updated Mining Plan Map depicting the current extent of mining activities, and the proposed advancement of the working face for the subsequent three years." At the August 2004 meeting, it was agreed that in addition "[a] mine map

showing instrumentation location and type and shore line..." will be included in the Annual Report.

Cargill included a statement in the Annual Report, page 2, Section 12.a.3. that "[t]he Cayuga Mine is currently operating in the northern region of the mine. Active mining is located in panels U-63E to the east under the land, U-74 and U-76 to the west, and NW-3 to the northwest."

Mine maps as AutoCAD or Adobe Acrobat files were supplied by Cargill to fulfill this condition. All AutoCAD maps supplied were stand alone, overlays, and a base map. The base map was included as basemap with rock layer roof rock floor rock rolls(updated12-1-16).dwg, which was last modified December 29, 2016, and includes a map entitled "Cayuga Mine, 6 Level Workings," by Cargill Deicing Technology. Also included on this map are roof and floor rolls. Other maps provided are:

- The AutoCAD file, Complete Mine Overlay w Surface Subsidence(11-2016).dwg, last modified December 29, 2016, and containing untitled, undated map, which shows subsidence monument locations, shore line, and 6th Level workings.
- The AutoCAD file, ROYALTY.dwg, last modified December 29, 2016, and containing the Cargill Deicing Technology, 2016, "Cayuga Mine, Mine Royalty Map, 2016/2017 Fiscal Yr." July. Map shows fiscal year production areas from June 1, 1984 through November 30, 2016.
- The AutoCAD file, Baker update U38-36 Dust fill map.dwg, modified December 29, 2016, containing an undated map, "Intake Air for Dust Pit" and shows U38 areas filled.
- The AutoCAD file, Basemap planning for MLRP2016.dwg, modified November 22, 2016, and containing the map Cargill Deicing Technology, 2015, "Cayuga Mine, 3 Yr Mine Plan, 2015/2016 Fiscal Yr.", November. This map shows planned expansion through fiscal year 2018.
- The AutoCAD file, 4 Level Pond Map MLRP Version 21Nov16.Dwg, modified November 22, 2016, and containing the map, 2015, "Cayuga Mine, 4 Level Pond Map, Updated: 18 Nov 2015," January. This map shows filled levels to December, 2015, and remaining potential pond area.
- AutoCAD file 4 Level Convergence Map.dwg, modified December 29, 2016 and contains an untitled and undated map showing closure station locations.
- The AutoCAD file, 4A Level for JT Boyd.dwg, modified December 29, 2016 containing undated, "4A Level Instrumentation Map." This map shows closure station's locations.

- The AutoCAD file, undated and untitled, scale 1 in. = 50 ft and AutoCAD file, PAMELPASS.DWG, modified December 29, 2016, and contains the map "4 Level, Pamel Pass – 13 Belt." This map shows locations of extensometers along 13 belt.
- An untitled AutoCAD file, Screen Plant Horizontal Roof Ext.dwg, modified December 29, 2016, and showing map and cross-section view of installation locations of near horizontal extensometers in the roof of the screen plant gallery.
- The AutoCAD file, Screen Plant Instrumentation.dwg, modified December 23, 2014 and containing map undated, "Unit # 5 Screenplant," showing instrument locations in and around the screen plant gallery.
- The AutoCAD file, undated, "Surge Bin instrument Map to JT Boyd.dwg" and AutoCAD file, Surge Bin instrument Map to JT Boyd.dwg, modified December 29, 2016, and containing undated, "Current Surge Bin Instrumentation Map as of 9-09," showing instrument locations in and around the screen plant gallery.
- AutoCAD file, Convergence map with basemap 2016.dwg, modified December 29, 2016, and containing the map Cargill Deicing Technology, undated, "Cayuga Mine, 6 Level Workings, Convergence Stations" This map shows the locations of convergence stations.
- Adobe Acrobat file, 6 level instrumentation in U62 under 5 level mining(actual 2015-16).pdf, contains an untitled and undated map of U62 closure station and backfill.
- Adobe Acrobat file 2016 Cayuga Mine Contour Test Closure Dec-2016.pdf modified January 03, 2017 and containing the undated map "Cayuga Mine Closure (Inches) Dec-2016."
- Adobe Acrobat file 2016 Cayuga Mine Contour Test Rate Dec-2016.pdf modified January 03, 2017 and containing the undated map "Cayuga Mine Closure Rate (Inches/Year) Dec-2016."

The supplied maps show the extent of mining, proposed mine plan, subsidence monument locations, shorelines of both the 4 Level flooding and of Cayuga Lake, total closure, closure rate, and instrument locations.

Condition 12.a.4.

Condition 12.a.4. requires the annual report to include a "summary of in situ measurements of rock mechanics required by Part f. of this Special Condition." Condition 13.f. requires the measurement and collection of in situ rock mechanics data "in accordance with the approved Mined Land Use Plan." The data are to include "plots of relevant graphs. ..." Furthermore, "[e]xceptions to anticipated trends in rock behavior shall be noted and explained. ..."

At the August 2004 meeting, it was agreed that "[a]ll rock mechanics data" would be incorporated in the Annual Report, "including, but not limited to, all instrumentation

readings and observations from the initial readings to present. Data for subsidence, closure, and extensometers are to be provided electronically. These electronic files are to include raw and processed data, graphs, and explanations of any inconsistencies and anomalous readings including reasons for abandonment, reinstallation, etc., along with applicable observation in the vicinity of the instrument such as floor heave, water inflow, etc. Future reports are to contain comment on whether, in the opinion of Cargill, the instrument readings support or conflict with prior stability models especially in areas employing new mine, panel, or main configurations."

Cargill included a statement in the Annual Report on page 2, Section 12.a.4. that "Evaluations of the convergence data indicate that no unusual trends have been identified and the mine is behaving as expected. There continues to be two slight anomalies: the U-40B and U-12 areas. Since backfill placement in U-40B was completed the convergence rates have slowed and are trending back toward historical rates. The U-12 panel is also trending toward normal rates. These areas are being monitored more frequently as we try to understand why the rates were higher than expected. Roof sag and wall expansion, measured with extensometers, is also monitored as conditions warrant, and is reviewed internally and externally as well. This data indicates the mine is behaving as expected."

Closure measurements can be evaluated to indicate possible instability in three ways:

1. By studying the graphs of the rate of closure over time. The shape of these graphs indicates areas of instability, areas of concern, and areas of stability. Mr. Petersen of Rocktec Solutions (Cargill geotechnical consultant) evaluated the closure in this manner.
2. By establishing trigger values for total closure. This method is applicable in harder, less viscous rock but is not applicable for the Cayuga Mine, as stable closure in salt will continue until the openings are closed.
3. By establishing trigger values for long-term closure rates. Since this is not being completed by the other investigators, BOYD applied such trigger rates in its evaluation of the closure readings.

Closure rate data are significant because they offered insight into the collapses and the inundation of the Retsof Mine. Sustained closure rates of 15 in. per year or less were measured in stable areas of the Retsof Mine, while in the failure areas, closure was regularly measured with sustained rates over 230 in. per year with onset of failure around 600 in. per year. Although Retsof and Cayuga mines have different overburden

and material properties, in the general sense, a comparison seems warranted for a relative indicator of stability.

BOYD reviewed the 336 closure stations read in 2015 (328 in Level 6, five in Level 4A, and three in Level 4). This is fewer than 3 stations than last year, all on the 6 Level.

None of these 336 closure stations showed readings that exceeded 230 in. per year. Below is a list of the 10 highest measured closure rates in 2015 for areas of recent mining defined as areas within 1,000 ft of mining that occurred since October of 2015.

Top 10 Closure Rates in Areas of Recent Mining

Closure Station	Rate of Closure (in./yr)	Last Recorded Rate of Closure (in./yr)	Notes
U63EPIN#11	94.3264	10.8979	First Reading
U74PIN#11	83.3243	4.6327	First Reading
U63EPIN#7	83.2200	11.3758	First Reading
U63EPIN#12	74.8250	8.2907	First Reading
U63EPIN#8	74.4600	0.5992	-
U76PIN#2	62.8843	9.8063	First Reading
U63EPIN#15	58.7650	6.6308	First Reading
U74PIN#10	58.6086	2.6392	-
U63EPIN#14	56.2621	1.1589	First Reading
U76PIN#5	55.7407	5.7670	Second Reading

These rates are similar to the comparable rates for 2015. All of these rates substantially dropped over time showing that the ground is stable or stabilizing. All 10 of these stations are located in the most northern part of the mine where all production is located, with six stations located in U-63 East, two in U-74, and two in U-76.

Also determined are the top 10 closure rates away from recent mining activity as shown below:

Top 10 Closure Rates Away from Recent Mining

Closure Station	Rate of Closure (in./yr)	Last Recorded Rate of Closure (in./yr)	Notes
U62PIN#29	2.0857	0.3893	5 level
U62PIN#32	2.0857	0.3650	5 level
U62PIN#31	1.8336	0.4696	5 level
U62PIN#30	1.7866	0.7908	5 level
U62BPIN#15	1.3351	0.8669	

Top 10 Closure Rates Away from Recent Mining

Closure Station	Rate of Closure (in./yr)	Last Recorded Rate of Closure (in./yr)	Notes
U62BPIN#12	1.2919	0.9540	
U62BPIN#9	1.1766	0.8918	
U62BPIN#6	1.0566	0.8876	
U62BPIN#3	1.0134	0.6208	5 level
NW3PIN#14	1.0012	1.0012	Last reading

These rates are higher than the comparable rates for 2015 likely due to the proximity of 5th Level mining over U62. Nine of the readings occurred in U62 or U62B; five readings are within 1,000 ft of 5th Level mining. Rates dropped for nine of these stations over 2016. Rates did not drop in NW3PIN# station, this reading occurred close to the 1,000 ft limit for recent mining. The rate drop indicates the ground is stable.

Data from 33 extensometers were evaluated. Extensometers were installed in various manners including vertically into the roof, at low angle (near horizontal), an angle that resulted in the extensometer being installed over the pillars, vertically into the roof and horizontally into pillars. In addition, extensometers were installed in levels 4 and 6. Thus, four populations exist. These data are further complicated by the varying rod and bay lengths. (Bay length is the length difference between rods except for the first bay which is the length of the shortest rod.) Nevertheless, BOYD attempted to ascertain anomalies within these data.

A measurement of 0.00030 in. per day is often accepted as a convenient point in examining vertical extensometer data, as this value is close to, but normally less than the value required for bed separation (opening of bedding planes). Horizontal roof extensometers are installed at 5 degrees to 15 degrees from the horizontal as measured in the AutoCAD drawings. This angle would multiply any bed separation, thus the trigger used for horizontal extensometers is 0.02 in. per day. No extensometer readings were considered alarming.

A memorandum was included with the annual report that summarizes the 5 Level mine experience:

- Plumeau, Dave, 2016, Summary of Results of Experimental Mining of the #5 Salt Bed, Memorandum to Steve Army and Christopher Lucidi, November 4. As Memo re-Summary of 5 level mining experiment.docx last modified October 21, 2016.

Consultant Reports Concerning Conditions 12.a.4.

- Petersen, Gary, 2016, Cayuga Mine, Thoughts on Mining the Northern Reserves, prepared for David Plumeau, Cargill Deicing Technology, RockTec Solutions, August 27.
- Devries, Kerry, 2016, Large Pillar Design, RESPEC, September 15. As Large Pillar Design 9-19-16 V2.pdf last modified on September 20, 2016

Both are discussed in section Condition 9.b. above.

Condition 12.a.5.

Condition 12.a.5. requires the Annual Report include a "summary of subsidence monitoring data required by Part e. of this Special Condition." Condition 12.e. requires "[s]ubsidence monitoring shall be conducted in accordance with the approved subsidence monitoring plan contained within the approved Mine Land Use Plan." Furthermore, "[e]xceptions to the trends shall be noted and explained..." Points applicable to this condition were agreed upon at the August 2004 meeting and are noted above under Condition 12.a.4.

Cargill included a statement in the 2016 Annual Report page 3, Section 12.a.5 that "No subsidence surveys of the surface were completed during the year." Cargill includes a statement "The measurements indicate that the mine is behaving as expected with no anomalous subsidence zones."

Condition 12.a.6.

Condition 12.a.6. requires the inclusion of "[i]nformation regarding the source and volume of any water inflow into the mine, and the disposition of such water." At the August 2004 meeting, it was agreed that a discussion about water disposal in Level 4 would be included in the Annual Report, noting: "Updates of Level 4 filling including data on shore line advance." However in 2012 it was noted that "Access to view the pond is not possible due to ground conditions."

On page 3 of the Annual Report, Mr. Plumeau notes that "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 at the far east end of 4-level as well as to various areas of the active mine for dust control. Recent volume calculations indicated that at our current rate of storage (about 14,000,000 gallons per year) we have approximately 7.1 years of storage life remaining on 4-level." This is up from 2015 which noted about 16,000,000 gallons per year and 6.5 years of storage life and from 2013 which noted about 12,000,000 gallons per year and 13 years of storage life.

Cargill again notes that "Action plans are in place to continue to reduce the inflow into the mine. Better management of run-off water from the surface salt storage pads has reduced the volume of water that is processed at the ED plant. This in turn has reduced the volume of water sent to the mine for storage." Later stating "Over the past year inflows in the #1 shaft had slowly increased back to about 30 gpm, but during September grouting was completed achieving a reduction of inflow of 10 gpm. This brings the total mine inflow to about 27 gpm at this time. Plans are being made for further grouting of the #1 shaft during 2017. Dewatering wells were drilled adjacent to the #2 shaft collar to remove a primary source of inflow there. Investigations are under way to determine how to further reduce the inflows at the #2 shaft."

Cargill included Excel file; UG Pond Volume Calculation 16Nov16.xls last modified December 05, 2016. BOYD notes the inclusion of this information with the annual report but is not charged with its review.

Condition 12.a.7.

Condition 12.a.7. requires the inclusion of "[a] summary of all other monitoring data required under the terms of this permit or Department SPDES permit issued to Cargill." Cargill included a statement in the Annual Report page 3, Section 12.a.7. that "There was one exceedance of the SPDES limits for the storm water outfalls, and one exceedance for non-contact cooling water temperature at the brine water treatment plant. There were no exceedances for the Waste Water Treatment Plant to report during the past year." An included Excel spreadsheet, 2016 MLRP outfall summary of DMRs .xlsx last modified December 12, 2016, provides information on outfall water quality including cyanide, chloride, zinc, total dissolved solids, and cooling and treatment water.

SPDES data and a discussion of these data are included in the Annual Report. These data are to be reviewed by NYSDEC.

Condition 12.b. and c.

Condition 12.b and c. addresses Mine Safety and Health Administration (MSHA) reporting involving non-routine mining incidents as defined in Condition 12.b. Condition 12.c. requires Cargill to submit "all correspondence with the Mine Safety and Health Administration involving non-routine mining incidents..."

Cargill includes a statement on page 3 section 12.b. of the Annual Report that "[t] here were no incidents meeting the guidelines for notification as identified in section 12.a.(2)." and section 12.c. of the Annual Report that "[t]he Cayuga Mine has not received any citations or correspondence from MSHA regarding non-routine mining incidents as

identified in section 12.a.(2)." The Annual Report does not note reports or letters from MSHA concerning any non-routine mining incidents.

Condition 12.d.
Condition 12.d. addresses reporting requirements "Prior to undertaking any material change in the approved mining methods or techniques ... Cargill shall submit to the Department a description of such modification ..." This condition does not require the reporting to occur in the Annual Report.

Cargill notes on page 4 in section 12.d. that, "There have been two changes to the Cayuga Mine layout in the past year. The first involved an experiment to mine the #5 salt bed above a pre-existing panel in the #6 salt bed (in U-62). The #5 level mining experiment has been terminated prematurely until the northern reserves geology and the long term ground stability effects are better defined. Several reports and letters of explanation have been previously sent to both the DEC and their consultant. That experiment was conducted between December of 2015 and May of 2016 and a summary is attached to this report.

The second change is occurring in the U-74 mining panel. This change is necessitated by the potential for disturbed or thin rock overburden in the central portion of the Cayuga Lake valley. The panel has converted to a "large pillar" design which provides better support of the overburden with less changes in the stresses in the strata above the mine. Various progress reports and data regarding that change have been, and will be, sent to the DEC's consultant for his review. A summary of results to date is attached to this report."

Condition 13.g.
Condition 13.g. addresses the reporting and recording of citizen complaints.

Cargill includes a statement on page 4 section 13.g. of the Annual Report that "[n] o written complaints from citizens were received since the last report (November 2015)"

Site Visit

A site visit to discuss these findings among NYSDEC, Cargill, and BOYD should be arranged. Suggested areas to visit in the mine U62 closure station and backfill and the underground drill site.

Topics for discussion at the meeting should include:

- Progress of drilling.
- Developments in understanding anomalies.

Please contact us if you require additional information or if we may be of further service.

Respectfully submitted,

JOHN T. BOYD COMPANY
By:

Vincent A. Scovazzo
Director of Geotechnical Services

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