

MINE TAILINGS DISCLOSURE TABLE



OVERVIEW QUESTION:

PLEASE

- a) Provide an overview of your tailings management system, and how you manage risk.
- b) Confirm whether your approach to tailings management has changed or will change in light of the recent tailings disasters at Brumadinho, Mariana, Mt Polley and others. Have you, for example, reviewed all tailings storage facilities with upstream dam construction, and taken steps necessary to protect local communities and the environment e.g. buttressing, evacuation?

OVERVIEW ANSWER:

Potash Locations: (Allan, Cory, Cassidy Lake, Patience Lake, Lanigan, Rocanville, and Vanscoy)

a) Tailings management systems consist of engineered containment facilities that are designed to store solid tailings and brine. The facilities, which are licensed and approved by the Ministry of Environment, are equipped with instrumentation that allows key parameters to be monitored and measured to evaluate stable performance. At each operating facility there are environmental staff that manage the day to day compliance and surveillance needs of the tailings management systems. Beyond the site level, Nutrien has dedicated engineering groups, a Corporate Enterprise Risk Management and a Central Safety, Health & Environment group that are engaged in multiple aspects of tailings governance including risk assessment, strategic oversight and audit. Beyond our internal resources, we utilize third parties for specific subject matter expertise in engineering, construction and decommissioning activities to ensure we develop, implement and maintain our facilities safely.

b) As new data, expertise, and technology becomes available our approach to tailings management is routinely evaluated to ensure that local communities and the environment are protected. Our potash facilities are currently undergoing an independent third party review to ensure that facility designs and operations are safe and robust. This evaluation will cover all aspects of the tailings management facilities and will take into consideration best practices used globally in the mining industry and lessons learned from recent tailings facilities around the globe.

Phosphogypsum Location - Redwater, Alberta

a) Pond Dike Design and Construction: The maximum design elevation is 2,220 feet, or about 155 feet above the starting elevation of 2,065 feet. The maximum height is determined by geotechnical conditions beneath the site. The stack is made of phosphogypsum. Phosphoric acid manufacturing is not a mining operation, and phosphogypsum is not a mine tailings material. However, for the purpose of this limited response, we are detailing information on management of phosphogypsum. There is an average of 15 feet of pondwater in each of the ponds with the remaining 140 feet consisting of solid, stable phosphogypsum. Ardaman & Associates, an experienced engineering consulting firm experienced in phosphogypsum storage areas, designed the Nutrien Redwater gypsum stacks to meet a minimum of 1.2 safety factor for slope stability failure. In practice, the Nutrien Redwater facility builds dikes 25 feet wide at the top with an external slope of 2.5:1, and internal slope of 1.5:1. An external bench (offset) is put in to maintain the overall design slope of 4:1 from the toe ditch. Using the "Water Surface Control Line" design, bench widths (offsets) are set at specific distances from the toe ditch for a given elevation. This method automatically adjusts dike slopes to compensate for pond settlement. Internal slopes have been set at 1.5:1. Finally, the gypsum stacks and ponds are monitored 24/7 by site operations and inspected annually by Ardaman & Associates, our 3rd party experts.

b) No changes to our management of phosphogypsum are required. The phosphogypsum stacks are constructed from solid, stable phosphogypsum. In the unlikely event of a catastrophic failure there would be no "mud flow". Further, the gypsum stack at our Redwater facility consists of a series of nine ponds, therefore a failure would result in the limited release of pond water. This risk is mitigated by the design described above, ongoing operations monitoring and the annual inspections. The Redwater facility is in a remote area of Alberta, adjacent to no communities.

OVERVIEW ANSWER:

Phosphate Operations Locations: Aurora, NC

a) Nutrien Aurora (PCS Phosphate Company, Inc.) tailings streams consist of oversized pebble, sand, clay and gypsum. The oversized pebble and sand are utilized for construction projects. The clay and gypsum are combined to form "Blend" and used to backfill surface mine pits. Where elevated backfilling is required, the tailings sand is used to construct a dike above natural ground. The dike is constructed according to plans approved by North Carolina Department of Environmental Quality and an Approval to Impound is issued upon certification of the construction. Once filled, the blend consolidates and the dike is breached according to a State-approved breach design. Risk is managed by utilizing an independent geotechnical firm to review the piezometer readings and perform periodic visual inspections. Internal specialists attend the inspection, discuss the observations, ensure any follow up needed, review and file the reports.

b) In light of the recent tailings disasters in other parts of the world, Nutrien Aurora (PCS Phosphate Company, Inc.) discussed and confirmed the existing approach to tailings management.

Phosphogypsum Stacks - Aurora, NC

a) Phosphoric acid manufacturing is not a mining operation, and phosphogypsum is not a mine tailings material. However, for the purpose of this limited response, we are detailing information on management of phosphogypsum. Phosphogypsum is managed on site in phosphogypsum stacks, constructed and operated in accordance with the Gypsum Stack operating plan developed by an external engineering specialist. Phosphogypsum is calcium sulfate, with some impurities that are carried through the phosphoric acid manufacturing from the source phosphate rock.

b) We have not changed our approach to phosphogypsum

Phosphate Operations Location: White Springs, FL

a) "Tailings" are defined for purposes of this response as the material remaining from the processing of phosphate ore. For Nutrien's White Springs Florida phosphate operations, "tailings" are phosphatic clay and tailings sand. Both phosphatic clay and tailings sand are inert mineral materials.

Phosphatic clays are stored inside constructed above-grade impoundments. The impoundments are built to the standards specified in State of Florida rules at Chapter 62-672, Florida Administrative Code. These standards include certifications and inspections by third party professional engineers and documented routine inspections by owner personnel. There have been no failures and no findings of imminent danger from any inspection of phosphatic clay impoundments constructed to these standards by Nutrien or its predecessor companies at the White Springs operations. Tailings sand is returned to mined areas as fill material for land reclamation and is all managed below grade.

b) Confirmed existing approach to tailings management. We have not changed our approach to tailings management, and do not anticipate changes.

Phosphogypsum Stacks - White Springs, FL

a) Phosphoric acid manufacturing is not a mining operation, and phosphogypsum is not a mine tailings material. However, for the purpose of this limited response, we are detailing information on management of phosphogypsum. Phosphogypsum is managed on site in phosphogypsum stacks, constructed and operated in accordance with the rules of the Florida Department of Environmental Protection (FDEP) codified in Chapter 62-672, Florida Administrative Code (FAC). Closure of phosphogypsum stack systems, including the associated process water management system, is done in accordance with the rules of the FDEP codified in Chapter 62-673, FAC.

Phosphogypsum is calcium sulfate, with some impurities that are carried through the phosphoric acid manufacturing from the source phosphate rock.

From the White Springs operations, some phosphogypsum is sold for agricultural purposes in accordance with the rules of the US Environmental Protection Agency codified at 40 CFR Part 61, Subpart R.

b) We have not changed our approach to phosphogypsum management in response to these disasters, and do not anticipate changes. At White Springs, previous operations involving management of phosphogypsum in unlined stacks have been transitioned to operation on a single lined phosphogypsum stack in accordance with FDEP Rule 62-673.220 and 62-673.300, FAC.

MINE TAILINGS DISCLOSURE TABLE



OVERVIEW ANSWER:

Phosphogypsum Location - Geismar, LA

a) Prior to December 2018, the PCS Nitrogen Geismar Louisiana facility pumped gypsum in the form of a slurry into a impoundment equipped with an HDPE liner for dewatering. Phosphoric acid manufacturing is not a mining operation, and phosphogypsum is not a mine tailings material. However, for the purpose of this limited response, we are detailing information on management of phosphogypsum. A professionally licensed geotechnical engineering firm was continually under contract to assess and monitoring the stability of the gypsum management system using electronic instrumentation, routine measurement of water levels, and by completing routine inspections. The gypsum stack containment system was designed to exceed the requirements to withstand a 24 hour 25 year record rainfall. In August 2016 the Geismar Louisiana area experienced a 24 hour 200 year record rainfall and there was no release from the PCS gypsum stack management system in Geismar.

b) The PCS Geismar site permanently shut down the phosphoric acid manufacturing unit in December 2018. Recent changes at the gypsum stack management system include the closing and capping of gypsum stacks in accordance with applicable State and federal requirements. Approximately 23% of the closure work has been completed. Closure of the gypsum stacks is currently projected to be complete by 2022.

MINE TAILINGS DISCLOSURE TABLE



Redwater Fertilizer Operations Phosphogypsum Stack

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Redwater Fertilizer Operations Phosphogypsum Stack	Lat: 53.8565763 Long: -113.0896776	Owned by a subsidiary of Nutrien, LTD.	Inactive/Care & Maintenance. Ceased operations in April 2019.	1969	Yes	Upstream (Rim ditching).	Elevation: 669 m Height above base: 35 m	Approximately 55 million tonnes of phosphogypsum and approximately 11,000,000 m3 of pond water.	No addition. No change in Phosphogypsum but less water (~2,000,000 m3).
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
Alberta Environment and Parks (AEP) inspection May 2011. Ardaman and Associates conducts annual inspections. The inspection reports are forwarded to AEP.	Yes.	Significant	Table 2-1: Dam Classification of the 2007 Dam Safety Guidelines.	No	External	No.	a) Yes b) Yes	No, other than continue with the annual inspections conducted by Ardaman and Associates Inc.	Overflowed the Cooling Pond in the mid-1980's. This was a dyke height issue not a Phosphogypsum stack stability failure. The dyke was raised and there have been no issues since.

MINE TAILINGS DISCLOSURE TABLE



PCS Nitrogen Fertilizer, L.P. (Gesimar, LA)

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
PCS Nitrogen Fertilizer, L.P. (Gesimar, LA) has an inactive gypsum stack from a phosphoric acid process that was shutdown in December 2018. The gypsum stack consists of 9 cells, 4 of which have completed closure requirements/capping. There is an existing process water impoundment that is surrounded by a perimeter ditch. The perimeter ditch has associated secondary overflow structures.	Lat: 30°14'41.15 N, Long: 91° 02'27.29 W	Owned by a subsidiary of Nutrien, LTD.	Inactive, 4 of 9 cells closed, remaining gypsum stack closure scheduled to take over approximately the next 2 years	1969	Yes	N/A – Closed facility	51.8m – Stack 10	14,985,000 m3	Facility was permanently shutdown in 2018
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
12/11/2017	Yes	Low	FEMA	Not within the last 20 years of management	Both	No. Complies with US EPA and Louisiana Department of Environmental Quality Solid Waste Regulations regarding design and construction.	Yes. Long term monitoring is included	Gypsum Stacks are designed to withstand the effects of a 24-hour 25-year record rainfall. In August 2016, this area experienced a 24-hour 200-year record rainfall. There was no breach of containment or gypsum stack failure as a result of this event.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Aurora, NC (PCS Phosphate Company, Inc.)

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Aurora, NC (PCS Phosphate Company, Inc.) (R7) PCS R7 Blend Dam State ID BEAUF-010 (R9) PCS Phosphate R9 Dike, State Dam ID: BEAUF-021	R7 : 35°18'44.1"N 76°49'18.6"W R9 : 35°20'19.6"N 76°47'57.1"W	Owned by a subsidiary of Nutrien, LTD.	Active	R7 : March 2006 R9 : May 2017"	Yes	No raising past original construction and State Approval to Impound	R7 : 10.7 meters above natural grade) R9 : 15.2 meters above natural grade)	R7 : 15,500,000 m3 R9 : 26,600,000 m3	R7 : 18,400,000 m3 R9 : 29,600,000 m3
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
4/9/2019	Yes	High	North Carolina Definitions of Hazard Classifications (15A NCAC 2K .0105 CLASSIFICATION OF DAMS)	No	Both	Yes. For the Emergency Action Plan approved by NC-DENR prior to Approval to Impound	a. R7: a) End of life is designed breach of the dam and reversion to reclamation landform. b) No long term monitoring of the structure past breach certification. b. R9: a) End of life is designed breach of the dam and reversion to reclamation landform. b) No long term monitoring of the structure past breach certification.	Extreme weather events were included in designs. Recent extreme weather events were compared to design to confirm appropriateness	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Aurora, NC Phosphogypsum Stacks

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Aurora, NC Phosphogypsum Stacks Active: Gypsum Stack 4 Gypsum Stack 5 Gypsum Stack 6	Gypsum Stack 4 35°22'45.5"N 76°47'15.7"W Gypsum Stack 5 35°22'53.0"N 76°47'38.0"W Gypsum Stack 6 35°22'22.8"N 82°47'38.0"W	Owned by a subsidiary of Nutrien, LTD.	Gypsum Stack 4 Active Gypsum Stack 5 Active Gypsum Stack 6 Active The three Gypsum Stacks listed above are in a constant rotation. One building, one drying, one being reclaimed for blend with tailings clays for mine reclamation.	Gypsum Stack 4 1976 Gypsum Stack 5 1980 Gypsum Stack 6 1986"	Yes	The initial impoundment is constructed from phosphogypsum. Phosphogypsum is used for raising the impoundment in a modified upstream method.	Gypsum Stack 4 19 m current height Gypsum Stack 5 34 m current height Gypsum Stack 6 41 m current height	Gypsum Stack 4 3.4 MM m3 Gypsum Stack 5 6.9 MM m3 Gypsum Stack 6 10.0 MM m3	Gypsum Stack 4 9.7 MM m3 Gypsum Stack 5 7.8 MM m3 Gypsum Stack 6 3.1 MM m3
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
October 2019 U.S. Dept. of Labor Mine Safety and Health Administration (MSHA)	Yes	Low	North Carolina Definitions of Hazard Classifications (15A NCAC 2K .0105 CLASSIFICATION OF DAMS)	No. The Phosphogypsum Stack System at Aurora has been affected in three instances with no off-site impacts. In January 1983 Gypsum Stack 5 developed some voids in the foundation that caused subsidence and overtopping on the north side of the stack. Gypsum Stack 6 has since been excavated, the base area of the stack has been lined and the stack reconstructed. In October 1999 localized seepage was observed on the south wall of Gypsum Stack 4. The area was excavated and stabilized with a graded filter in accordance with a design developed in cooperation with Ardaman and Assoc. The stack has since been torn down to an elevation well below the remediated area and rebuilt. In August 2014 Gypsum Stack 6 experienced an unplanned release of water down the side of the stack due to maintenance activities. The damage to the stack as a result of the maintenance activities was repaired the same day and the SOP changed to prevent it from happening again. Gypsum Stack 6 has since been torn down and rebuilt. In all cases remedial measures were taken promptly, and no off-site environmental impacts occurred. All of the phosphogypsum stacks are now lined and the side slopes of the stacks have been flattened.	Both	Yes. 2015	Yes and Yes.	No.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien White Springs, FL Phosphate Operations (Multiple)

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien White Springs, FL Phosphate Operations (Multiple)	Lat: 30°24'40.7"N Long: 82°47'01.6"W	Owned by a subsidiary of Nutrien, LTD.	Active: 16 Closed: 4 Inactive: 3	1965	Yes	Constructed from materials other than those impounded	Varies	Estimated – Constructed: 495 million m3 Filled: 442 million m3 Available: 53 million m3	Estimated – Constructed: 588 million m3 Filled: 473 million m3 Available: 115 million m3
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
7/1/2019	Yes	Very Low	Compliance with construction, maintenance, and inspection standards, with oversight from highly qualified 3rd party engineers	No	Both	Yes. Contingency plans are required by State of Florida rules when each new impoundment is constructed. The last such analysis was done at White Springs in 2017.	Yes and Yes.	No	None. Please refer to Chapter 62-672, Florida Administrative Code for the standards applicable to tailings facilities in Florida.

MINE TAILINGS DISCLOSURE TABLE



Nutrien White Springs, FL Phosphogypsum Stacks

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien White Springs, FL Phosphogypsum Stacks Active: Swift Creek Chemical Lined Expansion Inactive: Swift Creek Chemical In closure: Suwannee River Chemical CTC Suwannee River Chemical Dorr-Oliver	Lat: 30°24'40.7"N Long: 82°47'01.6"W	Owned by a subsidiary of Nutrien, LTD.	Active: 1 Inactive: 1 In closure: 2	Swift Creek Chemical: 1979 Suwannee River Chemical: 1965	Yes	The initial impoundment is constructed from on-site materials other than phosphogypsum. Phosphogypsum is used for raising the impoundment in a modified upstream method.	Swift Creek Chemical Lined Expansion: 7 m Swift Creek Chemical Inactive: 85 m Suwannee River Chemical CTC: 47 m Suwannee River Chemical Dorr-Oliver: 31 m	Swift Creek Chemical Lined Expansion: 148,250 m3 Swift Creek Chemical Inactive: 54,873,756 m3 Suwannee River Chemical CTC: 47,609,028 m3 Suwannee River Chemical Dorr-Oliver: 12,608,333 m3	Swift Creek Chemical Lined Expansion: 9,226,250 m3 Swift Creek Chemical Inactive: 54,873,756 m3 Suwannee River Chemical CTC: 47,609,028 m3 Suwannee River Chemical Dorr-Oliver: 12,608,333 m3

11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
7/1/2019	Yes	Very Low	Compliance with construction, maintenance, and inspection standards, with oversight from highly qualified 3rd party engineers, including site suitability analysis	No. <small>Phosphogypsum stack systems at White Springs have been affected in two instances (2007 at Suwannee River Chemical CTC and 2009 at Swift Creek Chemical) of subsidence features related to the underlying limestone. These features were not related to the stability of the phosphogypsum stacks or to the integrity of the impoundments. Remedial measures were taken promptly and no off-site environmental impacts occurred. The risk of future occurrence was unchanged. No changes were made in the methods of construction or management as a result of these events.</small>	Both	Yes. Contingency plans are required by State of Florida rules when each new impoundment is constructed. The analysis is reviewed and updated as necessary annually in accordance with FDEP Rule 62-672.850, FAC.	Yes and Yes.	No	None. Please refer to Chapter 62-672 and 62-673, Florida Administrative Code for the standards applicable to phosphogypsum facilities in Florida.

MINE TAILINGS DISCLOSURE TABLE



Nutrien Cory Potash

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Cory Potash	Lat: 52,05,02 N Long: 106,51,17 W	Owned by a subsidiary of Nutrien, LTD.	Active	1968	Yes. Earth Dykes only, not a dam	Upstream raises on fine tailings cells.	Coarse tailings – 40 meters Fine tailings – 7 - 8 meters	Coarse Tailings: ~27,411,000 m3 Fine Tailings: ~3,630,000 m3 Brine Pond Normal Operating Range: ~50,000 m3 to 150,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Coarse Tailings: ~31,000,000 m3 Fine Tailings: ~5,130,000 m3 Brine Pond Normal Operating Range: ~50,000 m3 to 150,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
An Independent Expert Review is being undertaken in 2020. Annual Visual Dyke Inspections Conducted	Yes	High	Provincial Regulator has determined that we are to classify all external potash tailings dykes as 'High Classification' according to CDA Dam Safety Guidelines "as a minimum".	No	Both	Yes. In 2019 high level inundation studies of the most critical impoundments at the Allan, Cory, Patience Lake, and Lanigan TMA's were completed to simulate a dyke breach and identify potential risks in the floodway areas. No immediate/critical hazards were identified. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of Independent Expert Review in 2020, which will consider climate change effects in the design and operational practices review.	None.

MINE TAILINGS DISCLOSURE TABLE



Cassidy Lake, NB Potash Tailings and Bring Management Site

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Cassidy Lake, NB Potash Tailings and Bring Management Site	Lat: 45°33'51.72 N Long: 65°33'57.95 W	Owned by a subsidiary of Nutrien, LTD.	Active remediation site, coarse tailings pile will be dissolved in 2021. <ul style="list-style-type: none"> • Mine closed 1997, • PotashCorp acquired the inactive mine and tailings management area 1998 • Brine source from Penobsquis mine ceased 2017 • Currently a remediation site 	1985	Dam is operated, in accordance with current decommissioning plan. See Q20	1994 – TMA dam crest and liner raised 1m, Centerline 2005 – Crest and Liner of remediation dam section raised 1m, Downstream	Dam crest 138.85 masl (brine pond area) 140 masl (Tailings Storage Area) 17 meters	Coarse Tailings: ~345,350 m3 Brine Pond Normal Operating Range: ~850,000 m3 to 1,000,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	0 m3– the coarse tailings pile is planned to be dissolved by 2021 and TMA decommissioned by 2025
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation. Please state if you have omitted any other exposure to tailings facilities through any joint ventures you may have.
An Independent Expert Review is being undertaken in 2020. (DSR)-5 year Dam Safety Review completed 2019	Yes	Extreme	The dam classification was based on the results of a hydrotechnical assessment that was done by external engineer.	No	Both	No. There is no population at risk downstream and a breach of the TMA Dam is very unlikely given the current pond level.	Yes and Yes.	Yes. Planned as part of Independent Expert Review in 2020, which will consider climate change effects in the design and operational practices review.	The 5 year DSR found– “the TMA is considered reasonably safe in the context of the planned decommissioning of the dam, which is scheduled for 2025”

MINE TAILINGS DISCLOSURE TABLE



Nutrien Lanigan Potash

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Lanigan Potash	Lat: 51° 51'10.46 N Long: 105° 12'38.67 W	Owned by a subsidiary of Nutrien, LTD.	Active	1968	Yes	Upstream dyke raises in the Fine Tailings Storage Area.	Coarse Tailings: ~50m meters above original grade Fine Tailings: 10 & 15 meters above original grade	Coarse Tailings: ~65,000,000 m3 Fine Tailings: ~11,000,000 m3 Brine Pond Normal Operating Range: ~1,300,000 m3 to 11,230,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Coarse Tailings: ~90,000,000 m3 Fine Tailings: ~13,500,000 m3 Brine Pond Normal Operating Range: ~1,300,000 m3 to 11,230,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
An Independent Expert Review for the entire TMA began in 2019 and is scheduled to conclude in 2020. During design and construction of facilities in the TMA, third-party firms have been retained to review critical features (ie. slurry wall, dyke stability, seepage collection systems, borrow pits, pumping systems, etc.).	Yes	High	Provincial Regulator has determined that we are to classify all external potash tailings dykes as 'High Classification' according to CDA Dam Safety Guidelines "as a minimum".	Yes. Mitigations have been implemented in consultation with the Engineer on Record and Provincial Regulator.	External	Yes. In 2019 high level inundation studies of Lanigan TMA's were completed to simulate a dyke breach and identify potential risks in the floodway areas. No immediate/critical hazards were identified. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of the Independent Expert Review referred to in Q11, which will consider climate change effects in the design and operational practices review.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Patience Lake Potash Tailings Management Area

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Patience Lake Potash Tailings Management Area	Lat: 52.090055 Long: -106.377859	Owned by a subsidiary of Nutrien, LTD.	Active	1970	Yes	N/A	516.64 masl	Coarse Tailings: ~16,100,000 tonnes Brine Pond Normal Operating Range: ~5,180,000 m3 to 7,080,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Same as 9 – no additional tailings to be deposited due to production process.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
An Independent Expert Review is being undertaken in 2020.	No Stability analysis was performed on north dyke in 2016 and was found to have a FOS much greater than the required 1.5. There is an SOP detailing action levels for starting and stopping the disposal wells which are used to lower the elevation of the lake.	High	Provincial Regulator has determined that we are to classify all external potash tailings dykes as 'High Classification' according to CDA Dam Safety Guidelines "as a minimum".	No	Both	Yes. In 2019 high level inundation studies of the most critical impoundments at the Patience Lake TMA was completed to simulate a dyke breach and identify potential risks in the floodway areas. No immediate/critical hazards were identified. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of the Independent Expert Review referred to in Q11, which will consider climate change effects in the design and operational practices review.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Allan Potash

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Allan Potash	Lat: 51.925029 Long: -106.0887444	Owned by a subsidiary of Nutrien, LTD.	Active	1968	Yes	N/A	Stacked Coarse tailings – 45 m above grade Fine tailings – 8 m above grade	Coarse Tailings: ~48,000,000 m ³ Fine Tailings: ~2,230,000 m ³ Brine Pond Normal Operating Range: ~440,000 m ³ to 1,000,000 m ³ *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Coarse Tailings : ~62,000,000 m ³ Fine Tailings: ~3,980,000 m ³ Brine Pond Normal Operating Range: ~440,000 m ³ to 1,000,000 m ³ *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
An Independent Expert Review is being undertaken in 2020.	Yes, for Fine Tailings Cells 1 & 2. Documentation does not exist for the initial construction of the North Brine Pond containment dykes.	High	Provincial Regulatory requirement to use CDA Dam Safety Guidelines "as a minimum".	Yes – dyke settlement occurred in the northwest corner of Fine Tailings Cell 1. Upstream buttressing was used to stabilize dyke. A third party review of the settlement was conducted.	External	Yes. In 2019 high level inundation studies of the most critical impoundments at the Allan TMA was completed to simulate a dyke breach and identify potential risks in the floodway areas. No immediate/critical hazards were identified. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of Independent Expert Review in 2020, which will consider climate change effects in the design and operational practices review.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Rocanville Potash

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Rocanville Potash	Lat: 50.46130 Long: -101.53560	Owned by a subsidiary of Nutrien, LTD.	Active	1970	Yes	N/A	Coarse tailings - 65m	Coarse Tailings : ~81,072,000 m3 Brine Pond Normal Operating Range: ~1,340,000 m3 to 3,120,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Coarse Tailings: ~126,633,000 m3 Brine Pond Normal Operating Range: ~1,340,000 m3 to 3,120,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
An Independent Expert Review is being undertaken in 2020.	Yes	High	Provincial Regulatory requirement to use CDA Dam Safety Guidelines "as a minimum".	Yes. Mitigations have been implemented.	External	No formal analysis was completed. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of Independent Expert Review in 2020, which will consider climate change effects in the design and operational practices review.	None

MINE TAILINGS DISCLOSURE TABLE



Nutrien Vanscoy Potash

1. "Tailings Dam" Name/identifier	2. Location	3. Ownership	4. Status	5. Date of initial operation	6. Is the Dam currently operated or closed as per currently approved design?	7. Raising Method	8. Current Maximum Height	9. Current Tailings Storage Impoundment Volume	10. Planned Tailings Storage Impoundment Volume in 5 years time
Nutrien Vanscoy Potash	Lat: 52.008594 Long: -107.093081	Owned by a subsidiary of Nutrien, LTD.	Active	1969	Yes	N/A	Coarse Tailings pile (MS1) is approximately 553 masl (height approximately 51 meters). The top of dyke for the Fine Tailings Cell 3A is 508 masl (height approximately 6 meters).	Coarse Tailings: ~48,216,000 m3 Fine Tailings: ~5,837,000 m3 Brine Pond Normal Operating Range: ~130,000 m3 to 310,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.	Coarse Tailings: ~53,713,000 m3 Fine Tailings: ~7,315,000 m3 Brine Pond Normal Operating Range: ~130,000 m3 to 310,000 m3 *Tailings volumes are inclusive of solid tailings and pore fluid. *Brine volumes are liquid volumes.
11. Most recent Independent Expert Review	12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	13. What is your hazard categorisation of this facility, based on consequence of failure?	14. What guideline do you follow for the classification system?	15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	20. Any other relevant information and supporting documentation.
An Independent Expert Review is being undertaken in 2020.	Yes. There are reasonable records for recent construction including the Fine Tailings Cell 3A and the brine pond. Records of the original perimeter dykes may not exist.	High	Provincial Regulatory requirement to use CDA Dam Safety Guidelines	Yes, there have been documented failures over the years. The most notable is the Coarse Tailings Pile failure, which consisted of an isolated area of the pile sliding. The slide did not result in any uncontrolled releases of tailings or brine outside of the TMA, the area has since been stabilized with buttressing, and stability monitoring instrumentation has been installed. Additionally, modifications to the Coarse Tailings deposition methodology have been implemented in 2018 and 2019.	Both	No formal analysis was completed at the Vanscoy facility for downstream impact. All potash facilities will complete a detailed inundation and impact study prior to January 2023.	Yes and Yes.	Yes. Planned as part of Independent Expert Review in 2020, which will consider climate change effects in the design and operational practices review.	None