FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Alexis A. Lambert
Secretary

December 9, 2024

In the Matter of an
Application for Permit by:

Mr. Clement J. Hilton
Vice President, Mineral Business
The Chemours Company FC, LLC
Post Office Box 753
Starke, Florida 32091-0753
Phone: (904) 263 – 8592
Email: Clement.j.hilton@chemours.com

Permit Number: FL0000051 (Major)
File Number: FL0000051–015–IW3S
Bradford County
Chemours – Trail Ridge Plant

Enclosed is Permit Number FL0000051 to operate the Chemours – Trail Ridge Plant, which is an existing 40-MGD maximum daily flow industrial wastewater treatment facility. The final treated process water and stormwater is authorized to discharge either from the Outfall D-001 to Alligator Creek (Class III, fresh water, WBID 3603) or from the Outfall D-002 to the Southwest Quadrant Pond, which eventual flows into Blue Pond (Class III, fresh water, WBID 2509N). The facility is located at latitude 29° 54' 46.15" N, longitude -82° 01' 52.35" W at 4641 State Road 230, Starke, Florida 32091-9787 in Bradford County.

Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any.

NOTICE OF RIGHTS

Judicial Review
Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68, F.S., by the filing of a notice of appeal under Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days after this order is filed with the Clerk of the Department.

EXECUTION AND CLERKING
Executed in Jacksonville, Florida.
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Katie Sula Miller
Permitting Program Administrator

KM/dv/rm

Attachment(s):
1. Permit No. FL0000051
2. Fact Sheet
3. DMR

CERTIFICATE OF SERVICE
The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Connie Henderson, connie.henderson@chemours.com
Nathan C. DePriest, P.E., NDePriest@kleinfelder.com
Kristen Bell, kristen.bell@swca.com
Herschel Vinyard, Herschel.Vinyard@arlaw.com
Clay County Board of Commissioners, Betsy.Condon@claycountygov.com
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Katie Miller, FDEP

D. Anh Vo, PE, FDEP
Robert L. Martin, PG, FDEP
Shannon Taylor, FDEP
Herndon Sims, FDEP

FILING AND ACKNOWLEDGMENT

FILED, on **December 9, 2024,** pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Sori Frayler
Clerk

December 9, 2024
Date

FLORIDA DEPARTMENT OF
Environmental Protection

Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256-7577

STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMITTEE:

Chemours Company FC, LLC

RESPONSIBLE OFFICIAL:

Mr. Clement J. Hilton
Vice President, Mineral Business
The Chemours Company FC, LLC
Post Office Box 753
Starke, Florida 32091-0753
Phone: (904) 263 – 8592
Email: Clement.j.hilton@chemours.com

PERMIT NUMBER: FL0000051 (Major)
FILE NUMBER: FL0000051–IW3S
ISSUE DATE: December 09, 2024 (015/NR)
EFFECTIVE DATE: December 09, 2024
EXPIRATION DATE: December 08, 2029

FACILITY:

Chemours – Trail Ridge
5222 Treat Road
Starke, Florida 32091
Bradford County
Latitude: 29° 54' 46.15" N Longitude: 82° 1' 52.35" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above-named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

FACILITY DESCRIPTION:

The Chemours – Trail Ridge boundary is located in the lower St. Johns River basin and the Santa Fe River basin, which drains to the Suwannee River. The Chemours – Trail Ridge is an existing dry mill, which processes and separates the heavy mineral sands concentrate (i.e. ore deposit) from North Maxville and Maxville mining operation. The mineral sand products include ilmenite, zircon, and staurolite.

WASTEWATER TREATMENT:

This wastewater treatment system provides acidification with ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to a pH between 3.0 and 3.5 standard units for flocculation of colloidal material followed by settling in a series of

diked ponds, neutralization with hydrated lime to a pH between 6.0 to 8.5, and additional settling with final discharge to Alligator Creek. Upon Department approval, polymer addition may be provided after neutralization for aluminum reduction prior to final discharge to Alligator Creek at Outfall D-001, which flows west in Bradford County. Storm water and rainfall from an active reclamation area is also collected and treated as described above. The treatment train consists of the addition of barium chloride to the wastewater at the location where ferric chloride, aluminum sulfate, barium chloride, or ferric sulfate is added (prior to the humate settling ponds). A portion of the effluent is directed to the Southwest Quadrant Pond. The existing recycle line from Outfall D-001 was tapped and a pipeline was constructed to route approximately 400 gallons per minute (gpm) of the treated wastewater to an existing ditch, which then discharges into the Southwest Quadrant Pond (location Outfall D-002) with eventual discharge into Blue Pond, which is the portion of Alligator Creek that flows south in Clay County. This rerouting of final effluent is the result of an effort by The Keystone Stakeholders to help improve lake water levels in the Keystone Heights area.

The permittee is authorized to receive approximately 3.0 MGD maximum daily flow from Chemours Trail Ridge South for auxiliary treatment and discharging through the Outfall D–002 to the Southwest Quadrant Lake/ Blue Pond to Lake Brooklyn, as needed, on a temporary basis.

REUSE OR DISPOSAL:

Surface Water Discharge D-001: An existing 40.0 MGD maximum daily flow permitted capacity discharge at the Outfall D-001 (a Class III, fresh water, WBID 3606); the water then flows to Alligator Creek (a Class III, fresh water, WBID 3589C). The point of discharge is located approximately at latitude 29° 55’ 25” N, longitude 82° 03’ 43” W.

Surface Water Discharge D-002: An existing discharge at the Outfall D-002 to the Southwest Quadrant Pond, (a Class III, fresh water WBID 2501), then to Blue Pond, (a Class III, fresh water, WBID 2509N). The point of discharge is located approximately at latitude 29° 54’ 38” N, longitude 82° 02’ 12” W.

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in this Cover Sheet and Part I through Part IX on pages 1 through 31 of this permit.

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Surface Water Discharges (Outfall D–001)

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge process wastewater and stormwater from Outfalls D-001 or D-002. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow, From Outfall D-001	MGD	Max	40.0	Daily Maximum	Continuous	Recording Flow Meter with Totalizer	FLW–1	See I. A. 3
	MGD	Max	Report	Monthly Average				
	MGD	Max	Report	Annual Average				
Flow, From Outfall D-002	Mgal	Max	Report	Monthly Total	Continuous	Recording Flow Meter with Totalizer	FLW–2	
pH	s.u.	Min	6.0	Daily Minimum	Continuous	Meter	EFF–1	See I. A. 4
	s.u.	Max	8.5	Daily Maximum				
Solids, Total Suspended	mg/L	Max	20.0	Monthly Average	Weekly	24-hr FPC	EFF–1	
	mg/L	Max	30.0	Daily Maximum				
Iron, Total Recoverable	mg/L	Max	1.0	Daily Maximum	Weekly	24-hr FPC	EFF–1	
	mg/L	Max	1.0	Monthly average				
Radium 226 + Radium 228, Total	pCi/L	Max	5.0	Daily Maximum	Quarterly	24-hr FPC	EFF–1	
Zinc, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Quarterly	Grab	EFF–1	See I.A.5
Nickel, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Quarterly	Grab	EFF–1	See I.A.5
Hardness	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF–1	See I.A.5

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Chronic Whole Effluent Toxicity, 7-day IC25	percent	Min	100	Single Sample	Quarterly	Grab	EFF–1	See I.A.7
Acute Whole Effluent Toxicity, 96-hour LC50	Percent	Min	100	Single Sample	See I.A.8	Grab	EFF–1	See I.A.8
Mercury, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF–1	See I.A.9

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site	Description of Monitoring Site
FLW–1	Quantity of the final treated industrial wastewater discharge at the Outfall D-001 to Alligator Creek.
FLW–2	Quantity of the final treated industrial wastewater discharge at the Outfall D-002 to the Blue Pond.
EFF–1	Nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–001 or D–002

3. The discharge shall not contain components that, alone or in combination with other substances or in combination with other components of the discharge:
   a. Settle to form putrescent deposits or otherwise create a nuisance; or
   b. Float as debris, scum, oil, or other matter in such amounts as to form nuisances; or
   c. Produce color, odor, taste, turbidity, or other conditions in such degree as to create a nuisance; or
   d. Are acutely toxic; or
   e. Are present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant, locally occurring, wildlife or aquatic species, unless specific standards are established for such components in subsection 62-302.500(2) or Rule 62-302.530, F.A.C.; or
   f. Pose a serious danger to the public health, safety, or welfare.

   [62-302.500(1)(a)1-6]

4. The pH at EFF–1 shall be monitored continuously via a recorder. The pH values shall not deviate outside the range of 6.0 standard units to 8.5 standard units more than 1% of the time in any calendar month and no individual excursion shall exceed 60 minutes. An “excursion” is an unintentional and temporary incident in which the pH value of discharged wastewater exceeds the range set forth in the permit. *[40 CFR § 401.17]*

5. The limit for "Zinc, Total Recoverable" and "Nickel, Total Recoverable" shall be calculated using the following equation(s):

$$Zn \leq e^{(0.8473[\ln H]+0.884)}$$

$$Ni \leq e^{(0.846[\ln H]+0.0584)}$$

   Total hardness shall be measured at the time of the effluent sample. The "ln H" means the natural logarithm of total hardness expressed as mg/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is <25 mg/L and set at 400 mg/L if actual hardness is >400 mg/L.

The measured effluent value shall be recorded on the DMR in the parameter row for "(effluent)." The calculated effluent limit shall be recorded on the DMR in the parameter row for "(calculated limit)." Compliance with the effluent limitation is determined by calculating the difference between the measured effluent value and the calculated. The compliance value shall be recorded on the DMR in the parameter row for "(effluent minus calculated limit)." The compliance value shall not exceed 0.00. When there are enough data to demonstrate that the discharge has no reasonable potential to cause or contribute to exceedances of a water quality criterion for nickel or zinc, the permittee may submit a request for reducing sample frequency for the parameters.

[62-302.530(71) and 62-302.530(44)]

6. The Florida water quality criteria and standards shall not be violated as a result of the discharge. *[62-620.320(9)] & [62-302.530]*

7. **Chronic Whole Effluent Toxicity Monitoring:** When the discharge from the Outfall D–001 occurs more than five (5) consecutive days in a week or a total of fifteen (15) days in a month within six months' period (semi-annually), the permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.

   a. Effluent Limitation

      (1) In any routine or additional follow-up test for **chronic** whole effluent toxicity, the 25% inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]

      (2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]

   b. Monitoring Frequency

      (1) Routine toxicity tests shall be conducted quarterly (once every **three months)**, the first starting within three months of the most recent tests or the first discharge and lasting for the duration of this permit. Upon completion of four consecutive valid tests that demonstrate consistent compliance with the water quality standards, Chemours may submit a written request for a reduction in monitoring frequency.

      (2) Upon completion of four consecutive, valid routine tests that demonstrate compliance with the effluent limitation in 7.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in 7.a.(1) above.

      (3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test or at the next discharge, then the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency.

   c. Sampling Requirements

      (1) For each routine test or additional follow-up test conducted, a total of three grab samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.

(3) Samples for routine and additional follow-up tests shall not be collected on the same day.

d. Test Requirements

(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.

(2) The permittee shall conduct a daphnid, ***Ceriodaphnia dubia***, Survival and Reproduction Test, and a fathead minnow, ***Pimephales promelas***, Larval Survival and Growth Test, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

e. Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, then the organism supplier SRT data and the test laboratory monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the test acceptability criteria are not met, then the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (*Ceriodaphnia dubia*) and Section 11.11 (*Pimephales promelas*). The repeat test shall begin within 21 days after the last day of the invalid test or next discharge.

(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, then the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be entered on the Discharge Monitoring Report (DMR) as the calculated IC_{25} for each test species.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and **e-mailed** or mailed to the Department at the address below **within 30 days** after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed or **e-mailed within 30 days** after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be **e-mailed** or mailed to *Jacksonville* **only**:
Florida Department of Environmental Protection
Northeast District – Industrial Wastewater Section
8800 Baymeadows Way West, Suite 100
Jacksonville, FL 32256

g. Test Failures

(1) A test fails when the test results do not meet the limits in 7.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in 7.a.(1) above, then the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test or at the next time of discharge and conduct two additional follow-up tests on each species that failed the test in accordance with 7.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test or at the next time of discharge. The remaining additional follow-up tests shall be conducted weekly or at the next time of discharge thereafter until a total of two valid additional follow-up tests are completed.

(c) The additional follow-up tests shall be conducted using a control and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the additional follow-up tests to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.

(3) In the event of three valid test failures (whether acute or chronic toxicity tests and whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.

(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.

(b) The Department shall review and approve the plan before initiation.

(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.

(d) Progress reports shall be submitted quarterly to the Department at the address above.

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 7.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 7.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, then a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 7.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests.

(g) If a test within the sequence of the four is deemed invalid but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test or at the next discharge, then the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 7(a)(2), then the Department may revise this permit to require acute definitive whole effluent toxicity testing.

(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

8. **Acute Whole Effluent Toxicity Monitoring:** When the discharge from Outfall D–001 to the Creek does not meet the sampling criteria for evaluating chronic whole effluent toxicity listed in Condition I.A.7 above, the permittee shall comply with the following requirement to evaluate acute whole effluent toxicity. The permittee shall report MNR on the DMR for reporting purposes when acute whole effluent toxicity monitoring is not required.

a. Effluent Limitation

(1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(a), and 62-4.241, F.A.C.]

b. Monitoring Frequency

(1) Routine acute toxicity tests shall be conducted during the required quarterly reporting period in lieu of the chronic toxicity testing as described in Part IA.7.

c. Sampling Requirements

(1) All tests shall be conducted on a single grab sample of final effluent.

d. Test Requirements

(1) Routine Tests: All routine acute tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: **100%, 75%, 50%, 25%**, and **12.5%** effluent.

(2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, ***Ceriodaphnia dubia***, and the bannerfin shiner, ***Cyprinella leedsi***, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, EPA-821-R-02-012. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-012, Table 7.

e. Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly acute toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, then the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, then the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% at that time, then the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2., and included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required toxicity tests shall be reported on the Discharge Monitoring Report (DMR) as the calculated LC50 value for each test species.

(2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review, and mailed or **emailed** to the Department at the address below **within 30 days** after the last day of the test.

(3) For any two additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, and mailed or **emailed within 30 days** after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be mailed or **emailed** to *Jacksonville* **only**:

FDEP Northeast District - Industrial Wastewater Section
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

g. Test Failures

(1) A test fails when the test results do not meet the limits in 8.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the acute toxicity limitation in 8.a.(1) above, then the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 8.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test or at the next discharge. The remaining additional follow-up tests shall be conducted weekly thereafter at the next discharge until a total of two valid additional follow-up tests are completed.

(c) The additional follow-up tests shall be conducted using a control and a minimum of five dilutions: 100%, 75%, 50%, 25%, and 12.5% effluent. The permittee may modify the dilution series in the additional follow-up tests to more accurately bracket the

toxicity such that at least two dilutions above and two dilutions below the target concentration and a control are run. All test results shall be statistically analyzed according to the procedures in EPA-821-R-02-012.

(3) In the event of three valid test failures (whether acute or chronic toxicity tests and whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
   (a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
   (b) The Department shall review and approve the plan before initiation.
   (c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
   (d) Progress reports shall be submitted quarterly to the Department at the address above.
   (e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 8.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 8.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012, then a repeat test shall be initiated within 14 days after the last day of the invalid routine test.
   (f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 8.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests.
   (g) If a test within the sequence of the four is deemed invalid but is replaced by a repeat valid test initiated within 14 days after the last day of the invalid test, then the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) The additional follow-up testing and The Plan do not preclude the Department taking enforcement action for whole effluent toxicity failures. *[62-4.241, 62-620.620(3)]*

9. EPA Method 1631E shall be used to analyze for total recoverable mercury or other clean techniques approved for analysis such as Method 245.1 or Method 245.7 where the method detection limit is equal to or less than 12 ng/L. If the values detected are below the water quality standard, mercury is in compliance and does not trigger the need for a minimization plan. However, if testing results are above the water quality standard in the effluent, the permittee shall contact and discuss with the DEP NED wastewater section within 30 days of receipt of the results prior to submitting, preparing and implementing a mercury minimization plan addressing sources of mercury. Upon completion of four consecutive, valid tests that demonstrate consistent compliance with the water quality criterion of 12 ng/L for mercury, Chemours may submit a written request for a reduction in monitoring frequency. *[62-304.900, 62-302 FAC, 62-4 FAC]*

B. Surface Water Discharges (Outfall D–002) (Temporary)

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to temporarily receive water from Trail Ridge South for auxiliary treatment at Trail Ridge. The final treated effluent is discharged from the Outfall D-002 to Blue Pond (WBID 2509N). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Note**
Flow, From Chemours TR South	Mgal	Max	Report	Monthly Total	Continuous *(During Receiving WW from TRS)*	Recording Flow Meter with Totalizer	FLW–3	
pH	s.u.	Min	6.0	Daily Minimum	Daily *(During Receiving WW from TRS)*	Meter	EFF–2	See I. B. 4
	s.u.	Max	8.5	Daily Maximum				
Solids, Total Suspended	mg/L	Max	30.0	Daily Maximum	Weekly *(During Receiving WW from TRS)*	Grab	EFF–2	
	mg/L	Max	20.0	Monthly Average				
Iron, Total Recoverable	mg/L	Max	1.0	Daily Maximum	Weekly *(During Receiving WW from TRS)*	Grab	EFF–2	
	mg/L	Max	1.0	Monthly Average				
Radium 226 + Radium 228, Total	pCi/L	Max	5.0	Daily Maximum	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Note**
Zinc, Total Recoverable	µg/L	Max	See I.A.4	Daily Maximum	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	See I.A.5
Nickel, Total Recoverable	µg/L	Max	See I.A.4	Daily Maximum	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	See I.A.5
Hardness	mg/L	Max	Report	Daily Maximum	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	See I.A.5
Chronic Whole Effluent Toxicity, 7-day IC25	percent	Min	100	Single Sample	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	See I.A.7
Acute Whole Effluent Toxicity, 96-hour LC50	Percent	Min	100	Single Sample	See I.A.8 *((During Receiving WW from TRS)*	Grab	EFF–2	See I.A.8
Mercury, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly *(During Receiving WW from TRS)*	Grab	EFF–2	See I.A.9

2. Effluent flow monitoring shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
EFF–1	Nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–002 to the Blue Pond
FLW–3	Quantity of industrial wastewater is transferred from Chemours Trail Ridge South to Chemours Trail Ridge for treatment and final discharge at the Outfall D-002 to the Blue Pond.

3. The discharge shall not contain components that, alone or in combination with other substances or in combination with other components of the discharge:

   a. Settle to form putrescent deposits or otherwise create a nuisance; or

   b. Float as debris, scum, oil, or other matter in such amounts as to form nuisances; or

   c. Produce color, odor, taste, turbidity, or other conditions in such degree as to create a nuisance; or

   d. Are acutely toxic; or

   e. Are present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant, locally occurring, wildlife or aquatic species, unless specific standards are established for such components in subsection 62-302.500(2) or Rule 62-302.530, F.A.C.; or

   f. Pose a serious danger to the public health, safety, or welfare.

   [62-302.500(1)(a)1-6]

4. The pH at EFF-2 shall be monitored daily via handheld meter. The pH values shall not deviate outside the range of 6.0 standard units to 8.5 standard units more than 1% of the time in any calendar month and no individual excursion shall exceed 60 minutes. An "excursion" is an unintentional and temporary incident in which the pH value of discharged wastewater exceeds the range set forth in the permit. *[40 CFR § 401.17]*

5. Transferring of the wastewater from Chemours-Trail Ridge South to Chemours-Trail Ridge for auxiliary treatment and discharging from Outfall D-002 to Blue Pond is authorized only for emergency conditions. At least 48 hours prior to transferring of water from Trail Ridge South to Trail Ridge for auxiliary treatment, the Permittee, Chemours, shall notify the Northeast District office. The notification shall include the estimated length of time needed for auxiliary treatment. *[BPJ] [62-620.320(6)]*

6. The Florida water quality criteria and standards shall not be violated as a result of the discharge. *[62-620.320(9)] & [62-302.530]*

C. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-600, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (November 10, 2020)" is available at https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

   c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

   Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

2. The permittee shall provide safe access points for obtaining representative influent and effluent samples which are required by this permit. *[62-620.320(6)]*

3. Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, toxicity, quarterly, semi-annual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below.

REPORT Type on DMR	Monitoring Period	Due Date
Monthly	first day of month - last day of month	28th day of following month
Toxicity	first day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semi-annual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee shall use the electronic DMR system approved by the Department (EzDMR) and shall electronically submit the completed DMR forms using the DEP Business Portal at https://www.fldepportal.com/go/, unless the permittee has a waiver from the Department in accordance with 40 CFR 127.15. Reports shall be submitted to the Department by the twenty-eighth (28th) of the month following the month of operation.

[62-620.610(18)]

4. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the FDEP Northeast District office at the address specified below:

Florida Department of Environmental Protection – Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, FL 32256

Phone - (904) 256-1700; FAX - (904) 256-1590
(All FAX copies and e-mails shall be followed by original copies.)
[62-620.305]

5. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

6. If there is no discharge from the facility on a day when the facility would normally sample, the sample shall be collected on the day of the next discharge. *[62-620.320(6)]*

II. SLUDGE MANAGEMENT REQUIREMENTS

1. The method of disposal for humate sludge generated by the treatment of industrial wastewater by this facility is land application after drying, compacting, and covering with soil as part of the land reclamation process. *[62-620.320(6)]*
2. Humate sludge or other sludge not suitable for land application shall be disposed of in a solid waste management facility permitted by the Department in accordance with the requirements of Chapter 62-701, F.A.C.

3. The first time land application of sludge from the reaction/settling ponds for the removal of radium 226 plus 228 shall not occur until written approval is obtained from the Department. Thereafter, analytical testing of humate sludge generated by the treatment of industrial wastewater other than as described in this permit shall be required prior to land application. Results of any sludge or humate sludge monitoring shall be submitted to the district office. *[62-620.320(6)]*

III. GROUND WATER REQUIREMENTS

A. Construction Requirements

1. Within 90-days of the permit issuance date, the Permittee shall install the two new monitor wells shown in the table of permit condition III.B.5. and at the locations shown in the blow-up aerial photo below the table in permit condition III.B.5, see permit condition VI.1.e. Quarterly monitoring of these two new monitor wells for the parameters in permit condition III.B.6 shall begin during the next routine quarterly monitor period along with the other monitor wells. *[62-520.600]*

2. The Permittee shall give at least 72-hours notice to the Department's Northeast District Office, prior to the installation of any monitor wells. *[62-520.600(6)(h)]*

3. Before construction of new monitor wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, and size of screen slot and filter pack. *[62-520.600(6)(g)]*

4. Within 60-days after installation of a new monitoring well, the Permittee shall submit to the Department's Northeast District Office well completion reports and soil boring/lithologic logs on the attached DEP Form(s) 62-520.900(3), Monitoring Well Completion Report. *[62-520.600(6)(j) and .900(3)]*

5. All piezometers and monitoring wells not part of the approved ground water monitoring plan shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C., unless future use is intended. *[62-532.500(5)]*

B. Operational Requirements

1. All ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge, except the secondary drinking water standards unless otherwise determined by the Department. The zone of discharge for this project shall extend horizontally from the edge of a series of unlined wastewater ponds to the facility's property line and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.200(10)] [62-520.465] [62-520.310(14)] [62-520.520]*

2. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

3. If the concentration for any constituent listed in Permit Condition III.B.6 in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative background quality shall be the prevailing standard. *[62-520.420(2)]*

4. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Condition III.B.5. below in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C. *[62-520.600]*

5. The following monitoring wells around a series of unlined wastewater ponds shall be sampled at the indicated frequency and for the parameters shown in permit condition III.B.6, in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C.

Monitor Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude (N)	Longitude (W)	Depth (Feet)	Aquifer Monitored	Well Type	New or Existing
MWB-ERR	MWB-ERr	29°54' 44"	82°1' 52"	22	Surficial	Background	Existing
MWI-7	TR-7	29° 55’ 50”	82° 03’ 21”	18	Surficial	Intermediate	Existing
MWI-7A	TR-7A	29°55' 50"	82°3' 21"	40	Surficial	Intermediate	Existing
MWI-7B(1)	TR-7B	TBD	TBD	TBD	Surficial	Intermediate	New
MWI-12(2)	TR-12	29°55' 31"	82°2' 50"	15	Surficial	Intermediate	Existing
MWI-12A	TR-12A	29°55' 31"	82°2' 50"	40	Surficial	Intermediate	Existing
MWI-12B(1)	TR-12B	TBD	TBD	TBD	Surficial	Intermediate	New
MWC-15	TR-15	29°54' 52"	82°3' 25"	54	Surficial	Compliance	Existing
MWI-14R	TR-14R	29°55' 34"	82°3' 56"	27	Surficial	Intermediate	Existing
MWC-30	TR-30	29°55' 52"	82°3' 48"	20	Surficial	Compliance	Existing

(1) See permit conditions III.A.1 – 4 and VI.c. – f.

(2) See permit condition III.B.7 for additional monitoring requirements on this well.

TBD = To Be Determined

Monitor Well Location Map of Existing Monitor Wells:

Blow-up of Monitor Well Location Map Where the Two New Monitor Wells will be Located:

[62-520.600]

6. The following parameters shall be sampled and analyzed at the indicated frequency for each monitor well identified in Permit Condition III.B.5.

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Specific Conductance	Report	umhos/cm	In Situ	Quarterly
pH	Report	s.u.	In Situ	Quarterly
Turbidity	Report	NTU	In Situ	Quarterly
Color	Report	PCU	Grab	Quarterly
Sodium, Total Recoverable	160	mg/L	Grab	Quarterly
Barium, Total Recoverable	2000	ug/L	Grab	Quarterly
Alpha, Gross Particle Activity	15	pCi/L	Grab	Quarterly

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Radium 226 + Radium 228, Total	5	pCi/L	Grab	Quarterly
Iron, Total Recoverable	Report	ug/L	Grab	Quarterly
Chloride (as Cl)	Report	mg/L	Grab	Quarterly
Sulfate, Total	Report	mg/L	Grab	Quarterly

[62-520.600(11)(b)]

7. The Permittee shall sample monitor well MWI-12 for the primary and secondary drinking water parameters included in Rules 62-550.310 and 62-550.320, F.A.C., including all parameters in Table 1 (excluding asbestos), Table 4, Table 5 (excluding Di(2-ethylhexyl) adipate and Di(2-ethylhexyl) phthalate), and Table 6, plus Gross Alpha (excluding Radon and Uranium), Radium 226+228, and Turbidity. This sampling shall occur no sooner than 180 days before submittal of the next renewal application. Results of this sampling shall be submitted to the Department's Northeast District Office with the application for permit renewal. *[62-520.600(5)(b)]*

8. Water levels shall be recorded before evacuating each monitor well for sample collection. Elevation references shall include the top of the well casing at each monitor well site (NAVD allowable) at a precision of plus or minus 0.01 foot. *[62-520.600(11)(c)]*

9. Ground water monitor wells shall be purged prior to sampling to obtain representative samples. *[62-160.210]*

10. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Northeast District Office as being more representative of ground water conditions. *[62-520.310(5)]*

11. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.C.3. *[62-520.600(11)(b)]*

12. If any monitor well becomes inoperable or damaged to the extent that the sampling or well integrity may be affected, the Permittee shall notify the Department's Northeast District Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitor well. All monitor well designs and replacements shall be approved by the Department's Northeast District Office before installation. *[62-520.600(6)(l)]*

IV. ADDITIONAL LAND APPLICATION REQUIREMENTS

1. Section IV is not applicable to this facility.

V. OPERATION AND MAINTENANCE REQUIREMENTS

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control. *[62-620.320(6)]*

2. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

d. A copy of the current permit;

e. A copy of any required record drawings; and

f. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules.
[62-620.350]

3. The permittee will inspect the open ditch conveyance system that conveys water from north of SR16 to the water treatment area monthly when operating and after a significant rain event, until the ditch has been reclaimed.

VI. SCHEDULES

1. The following activities shall be completed according to the schedule below, unless an application for a minor revision to the permit is filed to change the schedule:

<table>
<tr><th>Activities</th><th>Completion Date</th></tr>
<tr><td>a. The water level results for the background well MWB-ERR was the highest in elevation when it was first installed in 2004, but the reported water level results had a steep drop in the first quarter 2009, and the results in this well continue to be reported as the lowest water level of all monitor wells. Since this well is supposed to be the background well, it should have the highest water level results with regards to the elevation, assuming it is on the upgradient ground water flow direction of the site. The facility may now be reporting the measured field depth to water in the monitor wells, instead of the correctly calculated water level results by subtracting the field measured depth to water from the surveyed top of casing (TOC) elevations, see the table below for the originally surveyed TOC elevations above NGVD. The permittee is requested to evaluate how the water level results are being reported and submit a report to the Wastewater Permitting Section of the NED Office by the Completion Date. If the previous water level results are found to be incorrect, this should be mentioned in the report and future results should be correctly calculated and reported. If the laboratory is provided with the TOC elevations below for each monitor well, the lab may provide the correctly calculated water level results to the facility for each quarter.
<table>
<tr><th colspan="8">Top of Well Casing Elevations in Monitor Wells (Feet-NGVD)</th></tr>
<tr><th>MWB-ERR</th><th>MWI-7</th><th>MWI-7A</th><th>MWI-12</th><th>MWI-12A</th><th>MWI-14R</th><th>MWC-15</th><th>MWC-30</th></tr>
<tr><td>205.92</td><td>181.80</td><td>182.70</td><td>197.00</td><td>197.30</td><td>185.00</td><td>187.60</td><td>176.40</td></tr>
</table>
</td><td>Within 180 days of the permit issuance date</td></tr>
</table>

Activities	Completion Date
b. If the current background well MWB-ERR is not determined to be upgradient of the ground water flow direction on the site, the Permittee shall propose a new background well location that is closer to the ponds and install it, after DEP approval of the proposal.	Within 90-days of DEP approval of the proposed new background well
c. The Permittee shall give a minimum notice time to the Department's Northeast District Office, prior to the installation of any new monitor wells.	72-hours
d. A soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, size of screen slot and filter pack.	Before construction of new monitor wells
e. The Permittee shall install the two new monitor wells shown in the table of permit condition III.B.5. and at the locations shown in the blow-up aerial photo below the table in permit condition III.B.5. Quarterly monitoring of these two new monitor wells for the parameters in permit condition III.B.6 shall begin during the next routine quarterly monitor period along with the other monitor wells.	Within 90-days of the permit issuance date
f. The Permittee shall submit to the Department's Northeast District Office well completion reports and soil boring/lithologic logs on DEP Form 62-520.900(3), Monitoring Well Completion Report.	Within 60-days after the new monitor wells are installed

[62-620.320(6)]

2. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:

   a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or

   b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

   [62-620.335(1)-(4)]

VII. BEST MANAGEMENT PRACTICES/STORMWATER POLLUTION PREVENTION PLANS

1. **General Conditions**

In accordance with Section 304(e) and 402(a)(2) of the Clean Water Act (CWA) as amended, 33 U.S.C. §§ 1251 et seq., and the Pollution Prevention Act of 1990, 42 U.S.C. §§ 13101-13109, the permittee must develop and implement a plan for utilizing practices incorporating pollution prevention measures. References to be considered in developing the plan are, "Criteria and Standards for Best

Management Practices Authorized Under Section 304(e) of the Act," found at 40 CFR 122.44 Subpart K.

a. Definitions

(1) The term "pollutants" refers to conventional, non-conventional and toxic pollutants.

(2) Conventional pollutants are biochemical oxygen demand (BOD), suspended solids, pH, fecal coliform bacteria and oil & grease.

(3) Non-conventional pollutants are those which are not defined as conventional or toxic.

(4) Toxic pollutants include, but are not limited to: (a) any toxic substance listed in Section 307(a)(1) of the CWA, any hazardous substance listed in Section 311 of the CWA, or chemical listed in Section 313(c) of the Superfund Amendments and Reauthorization Act of 1986; and (b) any substance (that is not also a conventional or non-conventional pollutant except ammonia) for which EPA has published an acute or chronic toxicity criterion.

(5) "Pollution prevention" and "waste minimization" refer to the first two categories of EPA's preferred hazardous waste management strategy: first, source reduction and then, recycling.

(6) "Recycle/Reuse" is defined as the minimization of waste generation by recovering and reprocessing usable products that might otherwise become waste; or the reuse or reprocessing of usable waste products in place of the original stock, or for other purposes such as material recovery, material regeneration or energy production.

(7) "Source reduction" means any practice which reduces: (a) reduces the amount of any pollutant entering a waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment or disposal; and (b) reduces the hazards to public health and the environment associated with the release of such pollutant. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control. It does not include any practice which alters the physical, chemical, or biological characteristics or the volume of a pollutant through a process or activity which itself is not integral to, or previously considered necessary for, the production of a product or the providing of a service.

(8) "BMP3" means a Best Management Plan incorporating the requirements of 40 CFR § 122.44, Subpart K, plus pollution prevention techniques associated with a Waste Minimization Assessment.

2. **Best Management Practices/Pollution Prevention Plan**

The permittee shall develop and implement a BMP3 plan for the facility which is the source of wastewater and storm water discharges covered by this permit. The plan shall be directed toward reducing those pollutants of concern which discharge to surface waters and shall be prepared in accordance with good engineering and good housekeeping practices. For the purposes of this permit, pollutants of concern shall be limited to toxic pollutants, as defined above, known to the discharger. The plan shall address all activities which could or do contribute these pollutants to the surface water discharge, including process, treatment, and ancillary activities. The BMP3 plan shall contain the following components:

a. Signatory Authority & Management Responsibilities

The BMP3 plan shall be signed by the permittee or their duly authorized representative in accordance with Rule 62-620.305(2)(a) and (b), F.A.C. The BMP3 plan shall be reviewed by the plant environmental/engineering staff and plant manager. Where required by Chapter 471 (P.E.)

or Chapter 492 (P.G.) Florida Statutes, applicable portions of the BMP3 plan shall be signed and sealed by the professional(s) who prepared them.

A copy of the plan shall be retained at the facility and shall be made available to the Department upon request.

The BMP3 plan shall contain a written statement from corporate or plant management indicating management's commitment to the goals of the BMP3 program. Such statements shall be publicized or made known to all facility employees. Management shall also provide training for the individuals responsible for implementing the BMP3 plan.

b. BMP3 Plan Requirements

(1) Name & description of facility, a map illustrating the location of the facility & adjacent receiving waters, and other maps, plot plans or drawings, as necessary;

(2) Overall objectives (both short-term and long-term) and scope of the plan, specific reduction goals for pollutants, anticipated dates of achievement of reduction, and a description of means for achieving each reduction goal;

(3) A description of procedures relative to spill prevention, control & countermeasures and a description of measures employed to prevent storm water contamination;

(4) A description of practices involving preventive maintenance, housekeeping, recordkeeping, inspections, and plant security; and

c. The permittee shall maintain the plan and subsequent reports at the facility and shall make the plan available to the Department upon request.

d. Plan Review & Modification

If following review by the Department, the BMP3 plan is determined insufficient, the permittee will be notified that the BMP3 plan does not meet one or more of the minimum requirements of this Part. Upon such notification from the Department, the permittee shall amend the plan and shall submit to the Department a written certification that the requested changes have been made. Unless otherwise provided by the Department, the permittee shall have 30 days after such notification to make the changes necessary.

The permittee shall modify the BMP3 plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to waters of the State or if the plan proves to be ineffective in achieving the general objectives of reducing pollutants in wastewater or storm water discharges. Modifications to the plan may be reviewed by the Department in the same manner as described above.

VIII. OTHER SPECIFIC CONDITIONS

1. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

2. The permittee shall provide verbal notice to the FDEP Northeast District office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, or wastewater sludges. The Permittee shall immediately implement measures appropriate to control the entry of contaminants and shall detail these measures to the Department's Northeast District in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

3. Existing manufacturing, commercial, mining, and silvicultural wastewater facilities or activities that discharge into surface waters shall notify the Department as soon as they know or have reason to believe:

   a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
      (1) One hundred micrograms per liter,
      (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2, 4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony, or
      (3) Five times the maximum concentration value reported for that pollutant in the permit application; or

   b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
      (1) Five hundred micrograms per liter,
      (2) One milligram per liter for antimony, or
      (3) Ten times the maximum concentration value reported for that pollutant in the permit application.*[62-620.625(1)]*

4. **Reopener Clause -**The permit may be reopened to adjust effluent limitations or monitoring requirements should future Water Quality Based Effluent Limitation determinations, water quality studies, DEP approved changes in water quality standards, DEP adopted Basin Management Action Plan, applicable Numeric Nutrient Criteria or other information show a need for a different limitation or monitoring requirement.

5. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications or conditions of this permit constitute grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or

regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

    a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

    b. Have access to and copy any records that shall be kept under the conditions of this permit;

    c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

    d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

    [62-620.610(9)]

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;
    b. The period of the anticipated noncompliance, including dates and times; and
    c. Steps being taken to prevent future occurrence of the noncompliance.*[62-620.610(17)]*

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-601, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C. *[62-620.610(18)]*

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean up actions taken and status; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. For noncompliance events related to sanitary sewer overflows, bypass events, or unauthorized discharges, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (e.g., sanitary sewer overflow, bypass, unauthorized discharge); type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow, bypass event, or unauthorized discharge (e.g., beach closure); whether the noncompliance was caused by a third party; and whether the noncompliance was related to wet weather. The written submission may be provided electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification"). Notice required for public notice of pollution under paragraph (d) may be provided together with the written submission using the Business Portal. All noncompliance events related to sanitary sewer overflows or bypass events submitted after September 14, 2021, shall be submitted electronically.

a. The following shall be included as information which must be reported within 24 hours under this condition:

(1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,

(2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,

(3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and

(4) Any unauthorized discharge to surface or ground waters.

b. Oral reports as required by this subsection shall be provided as follows:

(1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4., that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WATCH OFFICE TOLL FREE NUMBER (800)320-0519, as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:

(a) Name, address, and telephone number of person reporting;

(b) Name, address, and telephone number of permittee or responsible person for the discharge;

(c) Date and time of the discharge and status of discharge (ongoing or ceased);

(d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);

(e) Estimated amount of the discharge;

(f) Location or address of the discharge;

(g) Source and cause of the discharge;

(h) Whether the discharge was contained on-site, and cleanup actions taken to date;

(i) Description of area affected by the discharge, including name of water body affected, if any; and

(j) Other persons or agencies contacted.

(2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Northeast District within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Northeast District shall waive the written report.

d. In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office pursuant to subparagraph (b)1. above shall also be reported to the Department within 24 hours from the time the permittee becomes aware of the discharge. The permittee shall provide to the Department information reported to the State Watch Office. Notice of unauthorized releases or spills may be provided to the Department through the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice or by reporting electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification").

(1) If, after providing notice pursuant to paragraph (d) above, the permittee determines that a reportable unauthorized release or spill did not occur or that an amendment to the

notice is warranted, the permittee may submit a letter to the Department documenting such determination at pollution.notice@floridadep.gov.

(2) If, after providing notice pursuant to paragraph (d) above, the permittee discovers that a reportable unauthorized release or spill has migrated outside the property boundaries of the installation, the permittee must provide an additional notice to the Department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

e. Unless discharged to surface waters, a spill, release, discharge, upset or bypass involving reclaimed water meeting Part III or Part V treatment standards under Chapter 62-610, F.A.C., shall not be considered to endanger health or the environment and shall be reported under subsection (21) of this permit.

[62-620.610(20)] [62-620.100(3)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX. 17, 18 or 19 of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20 of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Permit Condition IX. 22. c. of this permit.

c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX. 20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX. 22. b. 1 through 3 of this permit.

e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX. 22. b. through d. of this permit. *[62-620.610(22)]*

23. Upset Provisions.

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
   (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
   (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in Permit Condition IX.5. of this permit; and
   (4) The permittee complied with any remedial measures required under Permit Condition IX. 5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Katie Sula Miller

Katie Sula Miller
Permitting Program Administrator

DATE: December 9, 2024

Attachment(s):
Discharge Monitoring Report

AMENDMENT TO FACT SHEET
FOR
STATE OF FLORIDA INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMIT NUMBER:	FL0000051 – 015
FACILITY NAME:	The Chemours Company FC LLC
FACILITY LOCATION:	5222 Treat Road, Starke, FL 32091-9787 Bradford County
NAME OF PERMITTEE:	Chemours – Trail Ridge
RESPONSIBLE OFFICIAL	Mr. Clement J. Hilton Vice President, Mineral Business Post Office Box 753 Starke, Florida 32091 Telephone: (904) 263–8592 Email: Clement.j.hilton@chemours.com
PERMIT WRITER:	D. Anh Vo, P.E. & Robert L. Martin, P.G.
OFFICE:	FDEP/NED – Permitting Program

1. PUBLIC NOTICE AND PUBLIC COMMENTS:

A. Public Notice of Draft Permit to The Application, Public and EPA

a. Notice of draft permit and associated document including notice of publication, draft permit, fact sheet, and draft DMR were issued on June 27, 2023.

b. Notice of draft permit was published in the legal add section of the Branford County Telegraph (City of Starke, Brandford County, Florida) on July 07, 2023. The 30 days public comments period ended on August 06, 2023.

B. Public Comments and Responses

a. During the public comment's period, the Department received comments via emails from Mr. Paul Still (July 25, 2023), Ms. Amy Morie (August 02, 2023), and Ms. Carol Mosley (August 03, 2023). On August 23, 2023, the Department sent responses via email to Mr. Mr. Paul Still, Ms. Amy Morie, and Ms. Carol Mosley (Please see APPENDIX II).

The comments and DEP's responses could be found in the links below:

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264685.1]&[profile=Permitting_Authorization]
https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264691.1]&[profile=Permitting_Authorization]
https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264690.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264696.1]&[profile=Permitting_Authorization]

C. Public Meeting:

On August 1, 2024, Department staff met with Mr. Paul Still and Ms. Amy Morie to address their comments/concerns on the draft permit documents.

Follow-up responses were sent via email to Mr. Paul Still and Ms. Amy Morie on October 17, 2024, and documented in OCULUS.

D. EPA Comments and Responses

a. Notice of draft permit and associated document including notice of publication, draft permit, fact sheet, and draft DMR were sent to EPA – Region IV for review and comment on June 27, 2023.

b. On September 26, 2023, the Department received EPA's comments on the draft permit.

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264695.1]&[profile=Permitting_Authorization]

c. On February 5, 2024, the Department sent responses to the EPA's comments. (Please see APPENDIX III)

2. CHANGES TO THE PROPOSED PERMIT

a. Add average monthly limit of 1.0 mg/L for iron, total recoverable, in accordance with the 40 CFR § 122.45(d)(1) requirement (i.e. the discharge is required to have both maximum daily limits (MDL) and average monthly limits (AML)).

b. Change the sample frequency for Radium 226 plus Radium 228 from semi-annual basis to quarterly basis for the D-001 and D-002 outfall monitoring points corresponding to EPA's comment.

c. Change the sample frequency for zinc, nickel, and hardness from an annual basis to quarterly basis for the D-001 and D-002 outfall monitoring points corresponding to EPA's comment.

d. Change the sample frequency for mercury from an annual basis to quarterly basis for the D-001 and D-002 outfall monitoring points corresponding to EPA's comment.

e. Change the sample frequency for the chronic whole effluent toxicity test from semi-annual basis to quarterly basis for the D-001 and D-002 outfall monitoring points corresponding to EPA's comment.

f. Per the Permittee's October 13, 2022, RAI response, two new intermediate monitor wells MWI-7B and MWI-12B were added to the permit and required to be installed.

3. PROPOSE PERMIT TO EPA – RECEIVE CONCURRENCE OR OBJECTION

DEP proposes permit to EPA on February 6, 2024 *(Proposed permit document which included draft permit and fact sheet was sent with DEP's responses to EPA's comments.)*.

4. NOTICE OF INTENT TO ISSUE PERMIT

Notice of Intent to issue permit and associated documents include notice of publication, draft permit, fact sheet, and draft DMR.

5. CHANGES TO THE INTENT PERMIT

a. In permit condition III.B.5, the main Monitor Well Location Map was altered by deleting ponds A, B, C, D, E, F, and H, because of the facility's comment indicating these ponds are already reclaimed and are no longer in use.

b. In permit conditions III.A.1., III.B.5, VI.1.c, VI.1.e, and VI.1.f., requirements included to install two additional monitor wells MWI-7B and MWI-12B, because of the facility's proposal in the October 13, 2022, RAI response. A Blow-up Monitor Well Location Map was added to permit condition III.B.5, which shows the proposed locations of these two new monitor wells. These two new monitor wells were also added to the DMRs.

c. Permit condition VI.1.b. was added to require installation of a new background well, if the current background well MWB-ERR is not determined to be the most upgradient of the ground water flow direction of the site.

FACT SHEET
FOR
STATE OF FLORIDA INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMIT NUMBER:	FL0000051
FACILITY NAME:	The Chemours Company FC LLC
FACILITY LOCATION:	5222 Treat Road, Starke, FL 32091-9787 Bradford County
NAME OF PERMITTEE: RESPONSIBLE OFFICIAL	Chemours – Trail Ridge Mr. Clement J. Hilton Vice President, Mineral Business Post Office Box 753 Starke, Florida 32091 Telephone: (904) 263–8592 Email: Clement.j.hilton@chemours.com
PERMIT WRITER:	D. Anh Vo, P.E. & Robert L. Martin, P.G.

The Federal Clean Water Act [FCWA, 1972 (Federal Water Pollution Control Act), and later modifications] established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized Florida to administer the NPDES permit program. Chapter 403 of F.S. defines the Florida Department of Environmental Protection Department's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the state include procedures for issuing permits (Chapters 62-4, 62-620, 62-302, 62-303, 62-304, 62-650, and other applicable rules of the Florida Administrative Code) These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet is a companion document to the NPDES permit. It explains the nature of the proposed discharge, the Department Environmental Protection's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions.

1. SUMMARY OF APPLICATION

a. Chronology of Application

Application Number:	FL0000051 – 015 – IW3S
Application Submittal Date:	December 21, 2021
Application Processing Fee Submitted Date:	January 20, 2022
Request for Additional Information:	January 31, 2022
Received Responses RAI:	September 26, 2022
Application Deemed Complete:	September 26, 2022
Determine Agency Action:	December 26, 2022

b. Type of Facility

Mineral Mining

SIC Code: 1099 - All Other Metal Ore Mining

c. Facility Capacity

	Outfall D–001	**Outfall D–002**
Existing Permitted Capacity:	40.0 MGD Max Daily	Report MGD Max Daily
Proposed increase Permitted Capacity:	0.00 MGD Max Daily	0.00 MGD Max Daily
Proposed Permitted Capacity:	40.0 MGD Max Daily	Report MGD Max Daily

d. Description of Wastewater Treatment

The Florida Mine–Trail Ridge boundary is located in the lower St. Johns River basin and the Santa Fe River basin, which drains to the Suwannee River. The Florida Mine– rail Ridge is an existing dry mill which processes/separates heavy mineral sands concentrate (i.e. ore deposit) from North Maxville and Maxville mining operation. The mineral sand products include ilmenite, zircon and staurolite.

This heavy minerals mining wastewater treatment system provides acidification with ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to a pH between 3.0 and 3.5 standard units for flocculation of colloidal material followed by settling in a series of diked ponds, neutralization with hydrated lime to a pH between 6.0 to 8.5, and additional settling with final discharge to Alligator Creek. Upon Department approval, polymer addition may be provided after neutralization for aluminum reduction prior to final discharge to Alligator Creek. Storm water and rainfall from the mined areas are also collected and treated as described above. The treatment train consists of the addition of barium chloride to the wastewater at the location where ferric chloride, aluminum sulfate and or ferric sulfate is added (prior to the humate settling ponds). A substantial revision was issued in April 2005 to redirect a portion of the effluent to the Southwest Quadrant Pond. The existing recycle line from D-001 was tapped and a pipeline was constructed to route approximately 400 gallons per minute (gpm) of the wastewater to an existing ditch which then discharges into the Southwest Quadrant Pond with eventual discharge into Blue Pond. This rerouting of final effluent is part of an effort of The Keystone Stakeholders I to help improve lake water levels in the Keystone Heights area.

Figure 1: Chemours – Trail Ridge Mine Location

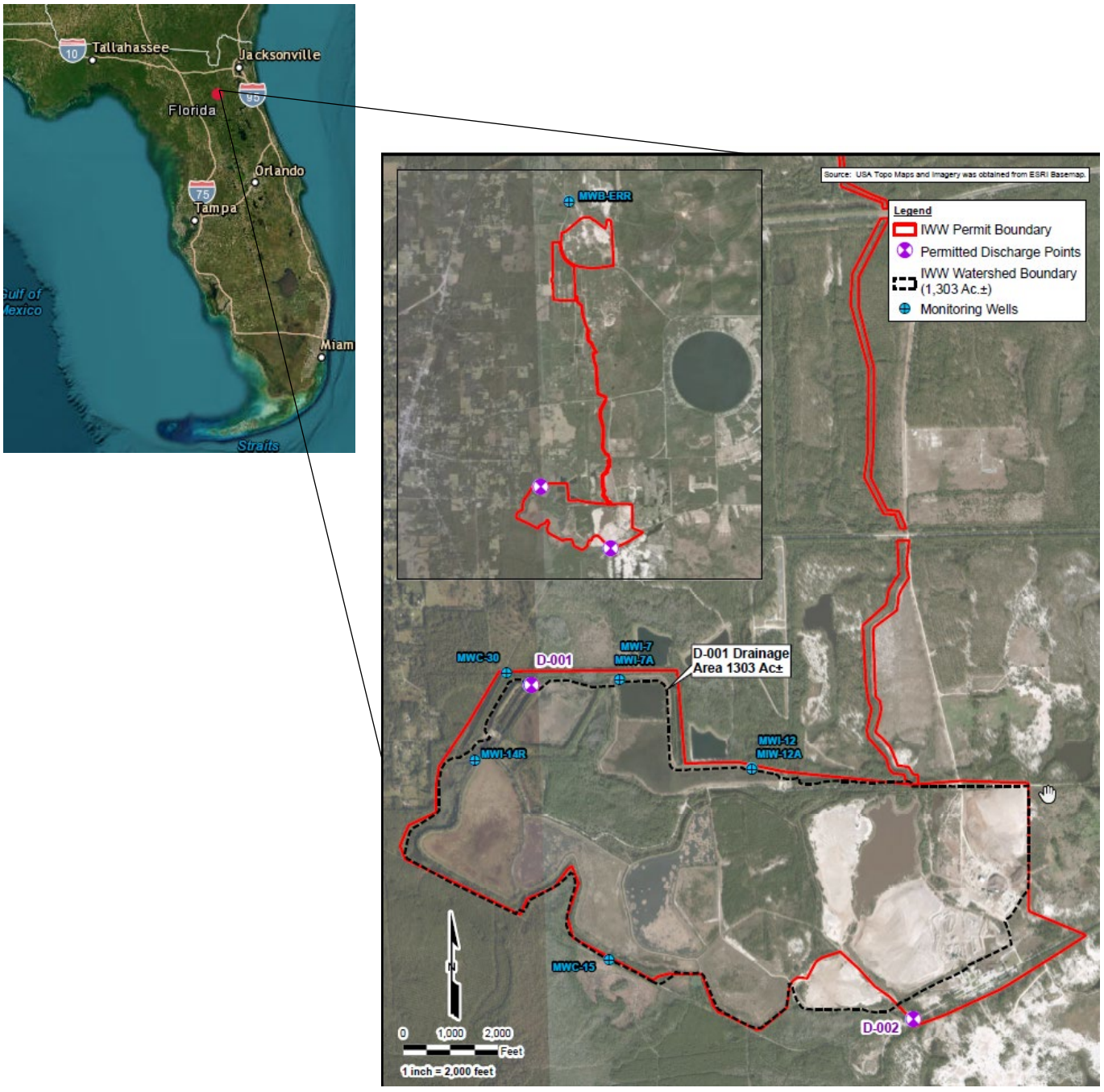


Figure 2: Water Balance Map:

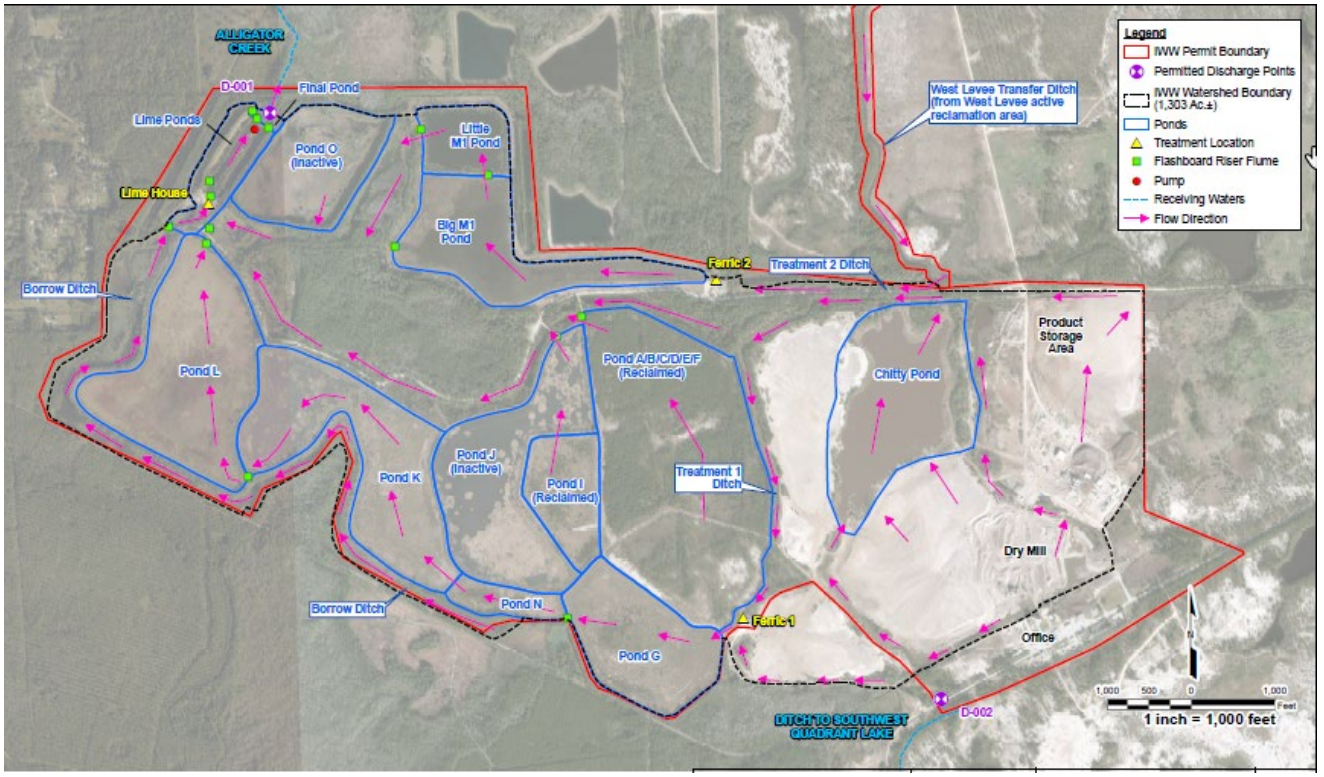
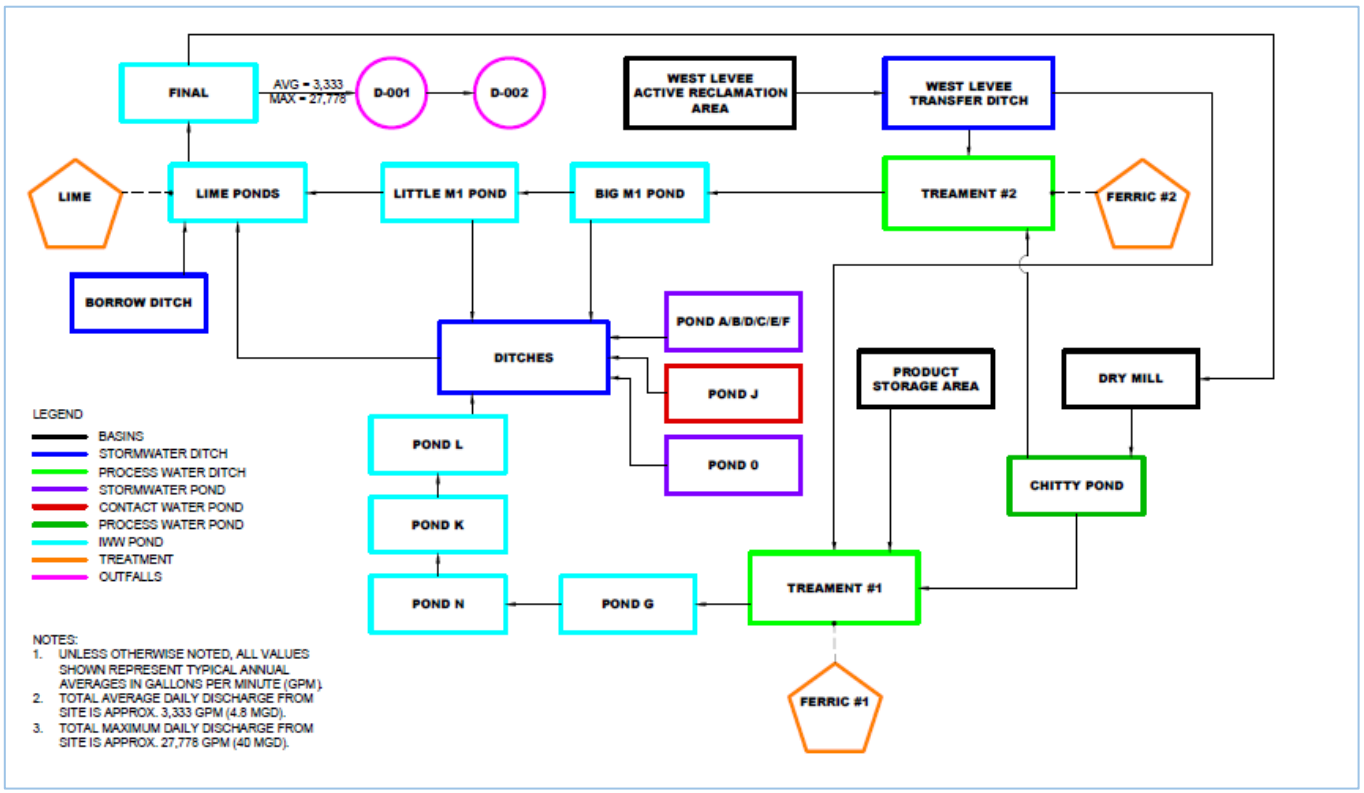
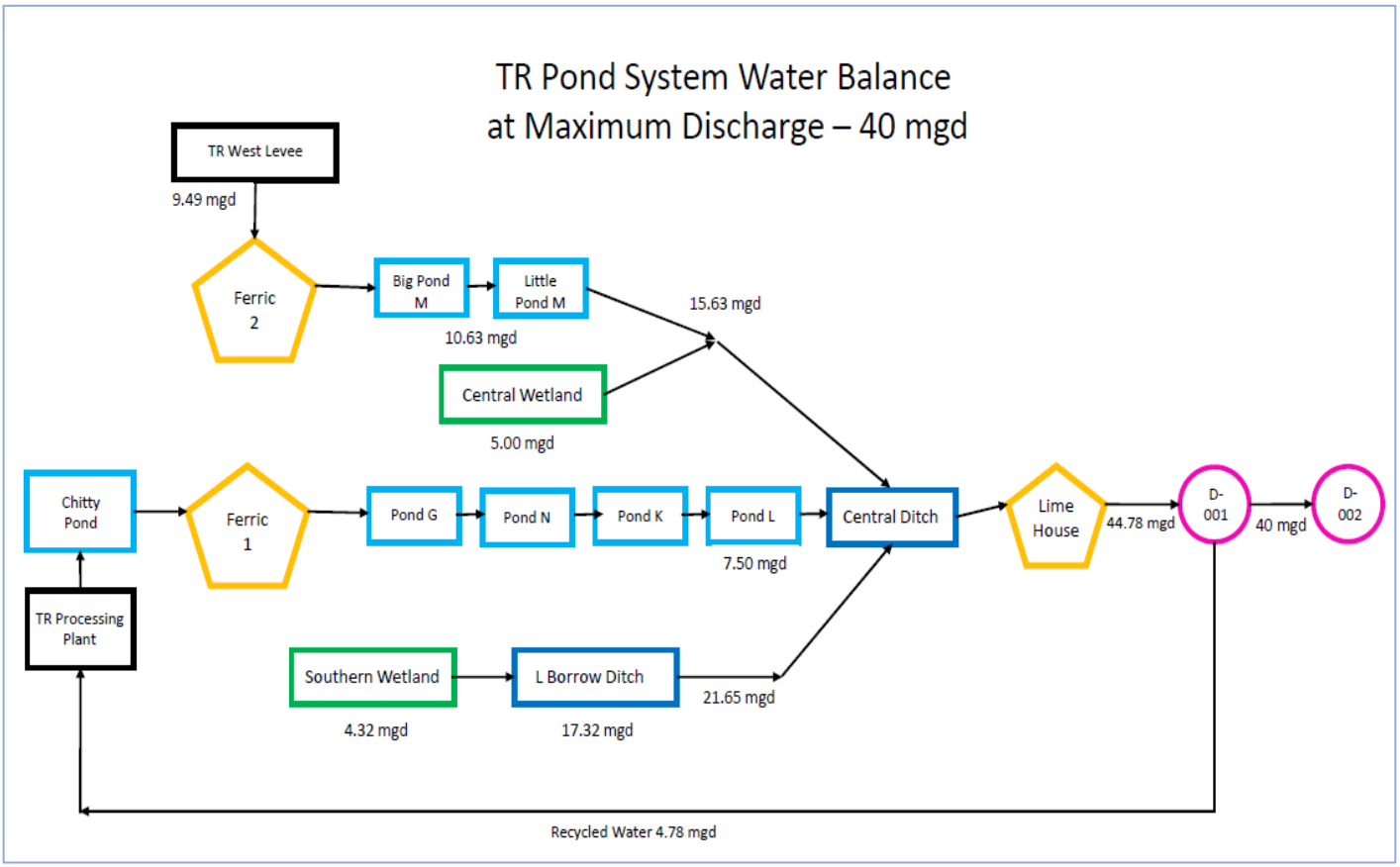


Figure 3: Process Flow Diagram



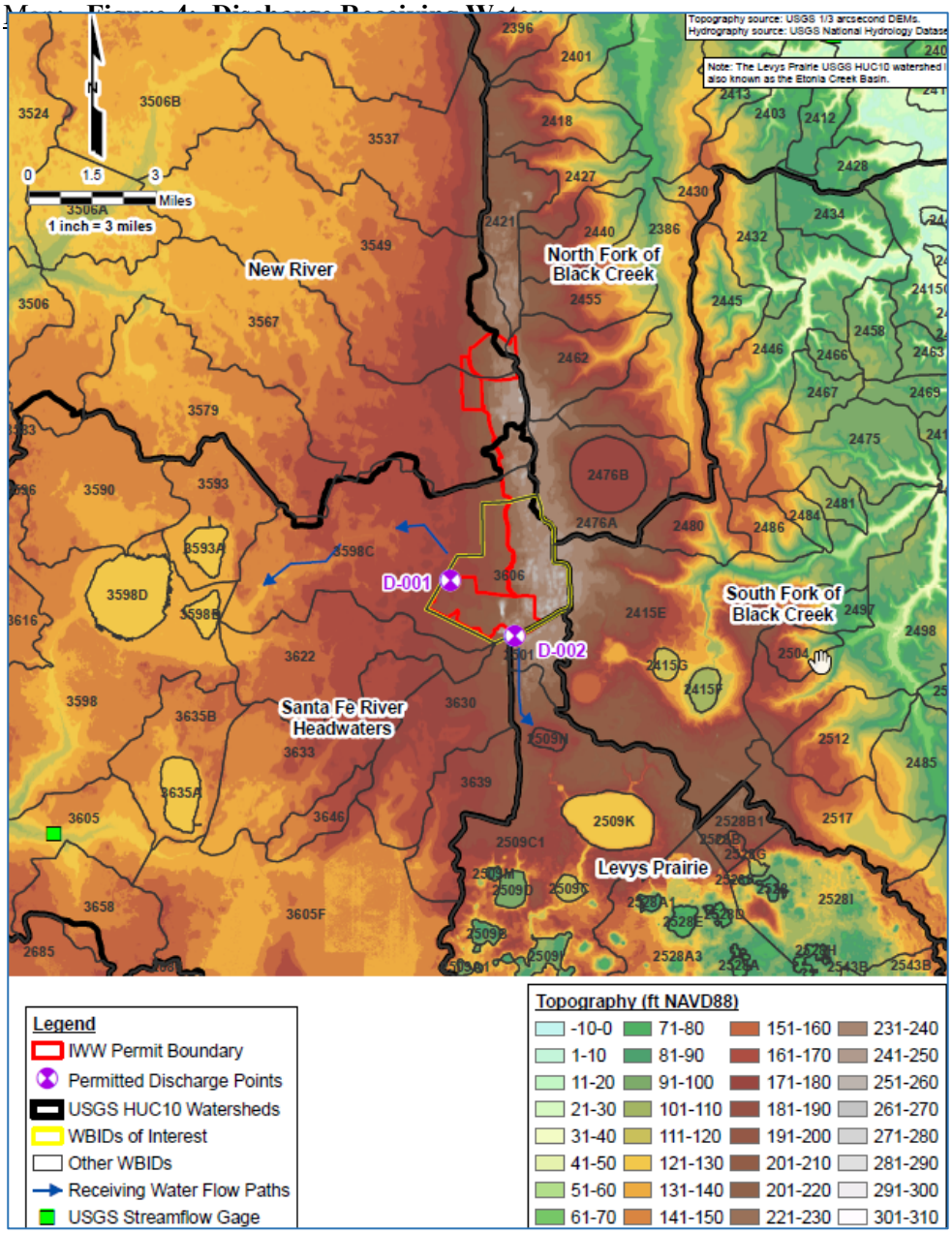


1. Description of Effluent Disposal and Land Application Sites (as reported by applicant)

i. Description:

- Outfall D-001: An existing 40.0 MGD daily permitted maximum at Outfall D-001 to Alligator Creek (WBID 3606), a Class III fresh surface water. The point of discharge is located approximately at latitude 29° 55' 25" N, longitude 82° 03' 43" W.
- Outfall D-002: An existing discharge at Outfall D-002 to the Southwest Quadrant Pond then to Blue Pond (WBID 2501), a Class III fresh surface water. The point of discharge is located approximately at latitude 29° 54' 38" N, longitude 82° 02' 12" W

ii. Maps – Figure 4: Discharge Receiving Waters



iii. Pollutants of Concerns

(1) Monitoring Group D-001: Alligator Creek, Class III Fresh Waters

Pollutants which are present in significant quantities or which are subject to permit limitations are as follows:

Parameter	Units	Max/Min	Reported Value	Statistical Basis
Whole Effluent Toxicity	percent	-	-	-
Flow	MGD	Max	79.2*	Max Daily Value
Solids, Total Suspended	mg/L	Max	15.0	Max Daily Value
Iron, Total Recoverable	mg/L	Max	1.84	Max Daily Value
Radium 226 + Radium 228, Total	pCi/L	Max	1.4	Max Daily Value
pH	s.u.	Max	6.58 min – 8.23 max	Max Daily Value
Zinc, Total Recoverable	mg/L	Max	-	Max Daily Value
Nickel, Total Recoverable	mg/L	Max	-	Max Daily Value

Note(*): *Maximum daily flow in response to Hurricane Irma, September 11, 2017 to September 13, 2017*

(2) Monitoring Group D-002: Blue Pond, Class III Fresh Waters

Pollutants which are present in significant quantities or which are subject to permit limitations are as follows:

Parameter	Units	Max/Min	Reported Value	Statistical Basis
Flow	MGD	Max	-	Max Daily Value
Solids, Total Suspended	mg/L	Max	15.0	Max Daily Value
Iron, Total Recoverable	mg/L	Max	1.84	Max Daily Value
Radium 226 + Radium 228, Total	pCi/L	Max	1.4	Max Daily Value
pH	s.u.	Max	6.58 min – 8.23 max	Max Daily Value

2. BACKGROUND INFORMATION – FILE REVIEW

- Chemours – Trail Ridge Mine

i. Facility History:

- Mining and ore processing at the Chemours – Trail Ridge began in the early 1990s. There are active mining and reclamation activities ongoing at the site. The mine site is located on the drainage basin divide between the St. Johns River Basin and Santa Fe Basin. The site is located in Clay and Bradford counties. Several management and storage of surface waters permits were issued for portions of the mine site over the years; these permits were consolidated and incorporated into later permit authorizations.

ii. Facility Compliance History: The facility historical record of the last five years of the permit cycle is listed in the Table below:

Date	Activity	Compliance Indication
5/17/2023	Compliance Evaluation Inspection	Out-of-Compliance
5/17/2021	Compliance Biomonitoring Inspection	Informational Only
5/17/2021	Toxics Sampling Inspection	Informational Only
5/17/2021	Office File Inspection	Out-of-Compliance
5/17/2021	Compliance Sampling Inspection	Significant Out-of-Compliance

Date	Activity	Compliance Indication
9/25/2020	Compliance Evaluation Inspection	Out-of-Compliance
10/24/2017	Compliance Evaluation Inspection	Out-of-Compliance
4/10/2016	Compliance WOE	-
4/8/2016	Compliance Evaluation Inspection	Out-of-Compliance

The Department conducted sampling inspection including CBI (Compliance Biomonitoring Inspection), XSI (Toxics Sampling Inspection), and CSI (Compliance Sampling Inspection) of the facility on May 17, 2021. The results of each of the five components are summarized below.

- The compliance sampling inspection (CSI) found that the facility site and operation and maintenance were in compliance:
  - Test result shows that the effluent sample had a low bacteria (Fecal Coliform = 2.0 #/100 mL, Escherichia coli (E.coli) = 6.2 MPN/100 mL)
  - The pH (Standard Units), dissolved oxygen (mg/L and % saturation), and specific conductance of the effluent sample were in compliance with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or effluent permit limits.
  - Test result shows that the effluent sample had low nutrients (TN = 0.22 mg/L, TP 0.003 mg/L, TAN = 0.004 mg/L, TKN = 0.22 mg/L). Orthophosphate and nitrate-nitrite were not detected in the effluent sample.
  - The effluent grab sample AGP result of 0.300 U mg wt/L is below the AGP range (6.10 to 20.0 mg dry wt/L) suggested to the representative of moderate productivity for freshwater.
- Toxics Sampling Inspection (XSI)
  - Metals which include aluminum, cadmium, arsenic, chromium, copper, nickel, silver, etc.) detected in the effluent grab sample were present in amounts that complied with Class III Freshwater Quality Criteria (62-302.530, F.A.C.). The effluent iron exceeded the Class III Water Quality Criterion for freshwater (Subsection 62-302.530(38), FAC). Effluent iron was in compliance with interim permit limit of 2.0 mg/L.
- Compliance Biomonitoring Inspection (CBI):

  Sample of the chronic whole effluent toxicity test were performed May 18 through May 25, 2021.
  - EPA 821-R-02-013, method 1000: The 25% Inhibition Concentration (IC25) for growth in the Pimephales promelas bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.
  - EPA 821-R-02-013, method 1002.0: The no observed effluent concentration (NOEC) for C. dubia. Was 50% which may suggest low levels of toxicity in the effluent. There was an effect on the reproduction of the C. dubia organisms, but did not exceed the IC25 threshold.

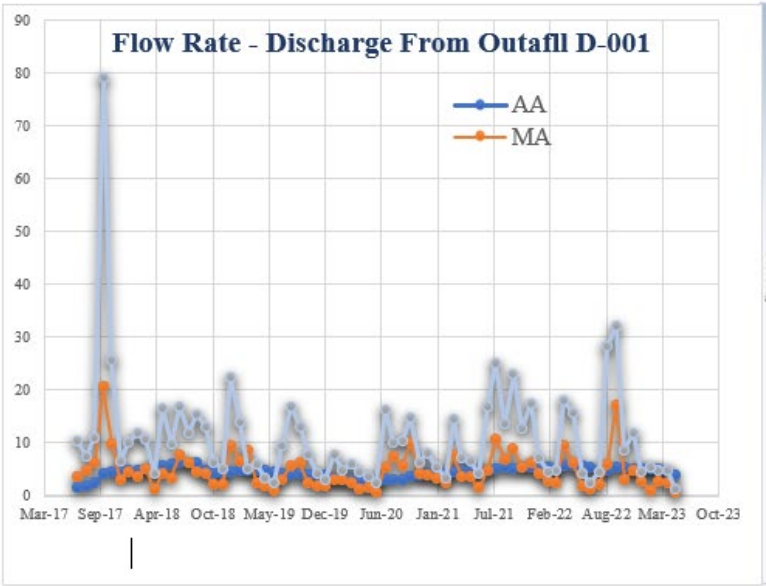
iii. Effluent characteristics:

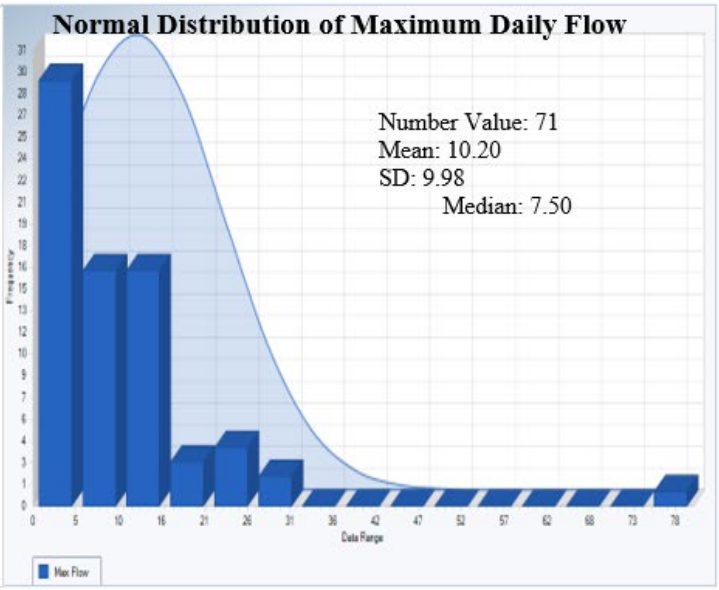
- DMR Data (January 01, 20217 to June 30, 2023)

- Outfall D-001

Parameter	Permit Limit	Limit	Avg	Mod	Med.	95th Per.	Max	Skew	Stand Dev.
Flow (MGD)	AA	Report	4.15	4.00	4.40	5.70	6.30	-0.46	1.14
	MA	Report	4.18	3.10	3.20	9.58	20.60	2.23	3.37
	Max	40.0	10.20	4.20	7.50	24.62	79.20	4.20	9.98
Total Suspended Solid (mg/L)	Max	Report	6.35	5.00	5.00	11.00	33.00	4.13	4.19
	MA	Report	4.68	5.00	5.00	6.90	12.80	1.08	1.75
Iron, Total Recoverable, mg/L	Max	1.00	0.95	0.90	0.90	1.80	3.10	1.03	0.54
Nickel, Total Recoverable, µg/L	Max	H.B.	0.007	0.003	0.003	0.025	0.080	4.093	0.017
Zinc, Total Recoverable, µg/L	Max	H.B.	0.014	0.010	0.010	0.050	0.052	2.975	0.012
Mercury, Total Recoverable, µg/L	Max	0.012	0.050	0.025	0.025	0.093	0.100	1.732	0.035
Radium 226 + Radium 228, Total *(pCi/L)*	Max	5.0	2.543	2.700	2.700	2.970	3.000	-1.156	0.456

A review of the discharge flow through D–001 indicates that the 95th percentile and maximum value of the annual average daily flow are 5.70 MGD and 6.30 MGD, respectively; the 95th percentile and maximum value of the maximum daily flow are 24.62 MGD and 79.20 MGD, respectively. One time exceeding the permit limit is 40 MGD maximum daily flow, with the value of 79.20 MGD during Hurricane Irma (September 2017). Because of the impacts of Hurricane Irma (i.e. Category 5 hurricane), Governor Rick Scott on September 9, 2017 signed Executive Order 17-235, declaring a statewide state of emergency. DEP issued an emergency authorization for Repairs, Replacement, Restoration and Certain Other Measures made Necessary by Hurricane Irma, OGC No. 17-0989 dated September 10, 2017. Within the Emergency Area (Bradford, Clay and other counties) the requirements and effects of statutes and rules which conflict with the provisions of the Order were suspended to the extent necessary to implement this Order.





- Outfall D-002

Parameter		Permit Limit	Avg	Mod	Med.	95th Per.	Max	Skew	Stand Dev.
Flow (MGD)	AA	Report	–	–	–	–	–	–	–
	Mon Total	Report	15.20	0.00	7.60	41.50	66.40	0.96	16.91
	Max	Report	–	–	–	–	–	–	–
Total Suspended Solid (mg/L)	MA	Report	–	–	–	–	–	–	–
	Max	Report	–	–	–	–	–	–	–
Iron, Total Recoverable, µg/L	Max	1000.0	–	–	–	–	–	–	–
Gross Alpha, *(pCi/L)*	Max	15.0	–	–	–	–	–	–	–
Radium 226 + Radium 228, Total *(pCi/L)*	Max	5.0	–	–	–	–	–	–	–

- Receiving Water Characteristics

i. Outfall D–001

(1) Point of Discharge: An existing 40.0 MGD maximum daily flow permitted capacity discharge at the Outfall D-001, Mined Area, Class III fresh water (WBID 3606); the water then flows to Alligator Creek, a Class III fresh water (WBID 3589C). The point of discharge is located approximately at latitude 29° 55’ 25” N, longitude 82° 03’ 43” W.

(2) Background:

- Alligator Creek is classified as Class III fresh waters (WBID 3598C), with a designated use classification for recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Alligator Creek drains into Lake Rowell and, ultimately, into the Santa Fe River via the Sampson River.
- Prior to the development of the City of Starke, Alligator Creek was a small, intermittent stream, which received seepage and overland flow from the area’s mixed pine and hardwood forests. Over many decades, Alligator Creek was dredged several times prior to environmental regulation to improve the drainage within the City of Starke. These dredging events have caused hydrologic impacts to the floodplain wetlands and destabilized the stream in many locations causing continued erosion and water quality problems. Stream restoration is needed to improve wetland functions within the Alligator Creek floodplain and protect this system from continued erosion and degradation, but the funding of such a restoration has been cost prohibitive. In order to improve hydrologic conditions within the floodplain and reduce some of the sediment load from going to Lake Rowell down Alligator Creek, Suwannee River Water Management District (SRWMD) in cooperation with the Florida Fish & Wildlife Conservation Commission (FWC) and the City of Starke, plan to conduct a floodplain restoration project which will re-establish the flow connection from the a portion of the altered creek to a 47-acre floodplain parcel known as the Edwards Bottomlands. The restoration project will improve water quality, fish and wildlife habitat and the hydrology within the altered wetlands. SRWMD is also evaluating the potential acquisition of a 14-acre tract of historic floodplain, adjacent to the 47 acre parcel, as part of this project.

- Alligator Creek has a contributing drainage area of 19.4 square miles. Low-flow frequency of the creek is following: $_{7}Q_{2}$ = 3.2 ft^3/s, $_{7}Q_{10}$ = 0.3 ft^3/s, $_{30}Q_{2}$ = 8.0 ft^3/s; $_{30}Q_{10}$ = 1.1 ft3/s. There is a SRWMD and USGS stage station at Alligator Creek below US 301 in Starke, **Station ID:** 02320734 (reference document: USGS Drainage Areas of Selected Surface water sites in Florida, Report 81-482, 1981).
- The contribution to the watershed for Alligator Creek (waterbody ID # 3598c) was reviewed for a 25 year-24 hour rainfall event and a 100 year 24 hour rainfall event and considered the discharge from the Trailridge mine outfall, D-001. The Chemours TrailRidge mine percent contribution ranged from 0% at no outfall discharge to 2.30 % for the 79.20 MGD during Hurricane Irma (September 2017). During Hurricane Irma (September 2017) the rainfall was well beyond the 100-year storm event and thus the Chemours discharge as a percentage of total would be even less than 2.30 %.

Discharge from D-001		Flow from Outfall D-001 as Percentage of Total Flow	
MGD	Volume	Storm Event 24-hr/25-yr = 7.75 in 3.49 x 10^8 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 4.51 x 10^8 gallons Stormwater
0.0	0.0	0.00 %	0.00 %
20.0	2.67 x 10^6	0.76 %	0.59 %
30.0	4.01 x 10^6	1.13 %	0.88 %
40.0	5.35 x 10^6	1.51 %	1.17 %
50.0	7.39 x 10^6	2.07 %	1.61 %
70.0	9.35 x 10^6	2.61 %	2.03 %
80.0	10.68 x 10^6	2.96 %	2.30 %

(3) Impairment Parameter – 303(d) List

Basin	WBID #3606 (Alligator Creek) (Basin Immediate to *Outfall)*		WBID # 3598c (Lake Crosby, Lake Simpson), #3605 (Santa Fe River) *(Downstream Basin from Outfall)*	
303(d) List	EPA 303(d)*	FDEP 303(d)**	EPA 303(d)*	FDEP 303(d)**
Impaired Parameter	DO, Mercury	None	Fecal coliform(3598) Chl a, mercury(3605)	Mercury

- Alligator Creek – WBID 3598C: Fecal coliform was listed as a water quality parameter of concern. (Florida Section 303(d) List (September 2, 2009)). A Fecal Coliform TMDL was adopted; therefore, fecal coliform was delisted.

- Lake Rowell – WBID 3598B: Nutrients and dissolved oxygen were listed concerned parameters *[Florida Section 303(d) List (September 2, 2009)]*. However, recent document (FDEP - Statewide Comprehensive Delist List

(http://www.dep.state.fl.us/water/watersheds/assessment/a-lists.htm) indicates that nutrients is not impaired based on the TSI (Tropic State Index which is a classification system designed to "rate" individual lakes/ponds/reservoirs based on the amount of biological productivity occurring in the water.) not impaired. Annual TSI averages for 2002 = 42.2 and 2006 = 37.3 did not exceed the threshold of 60. TSI also did not exceed historic minimum (50.5) by 10 or more units.

- Lake Sampson – WBID 3598D: The water quality parameter of concern at Lake Sampson was mercury (based on fish consumption advisory). Mercury is being delisted from the Verified List because there is a DEP Adopted TMDL for this parameter.

- Sampson River – WBID 3598: The water quality parameters of concern at Sampson River is dissolved oxygen (Florida Section 303(d) List (2010)).

- The Department adopted the Santa Fe River Basin Management Action Plan (BMAP) on June 2018, approach to restore and protect Florida's water quality.

ii. Outfall D–002

(1) Point of Discharge: An existing discharge at the Outfall D-002 to the Southwest Quadrant Pond, Class III, fresh water (WBID 2501), then to Blue Pond, a Class III fresh water, WBID 2509N. The point of discharge is located approximately at latitude 29° 54' 38" N, longitude 82° 02' 12" W.

(2) Background: Blue Pond, which is approximately 198 square acres, is classified as Class III fresh waters, with a designated use classification for recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

(3) Impairment – 303(d) List

Basin	WBID # 2501 (Mined Area) (Basin Immediate to *Outfall)*		WBID # 2509N (Blue Pond), # 2501C1 (Lake Brooklyn Outlet) *(Downstream Basin from Outfall)*	
303(d) List	EPA 303(d)*	FDEP 303(d)**	EPA 303(d)*	FDEP 303(d)**
Impaired Parameter	No	No	No	No

3. SUMMARY OF SURFACE WATER DISCHARGE

This facility does not have a new or expanded discharge to surface waters.

Sampling is conducted for the effluent discharge for The Outfall Group D-001. The same discharge can be directed to the Outfall Monitoring Group D-002; Therefore, sampling for D-001 represents the discharge for D-002. (i.e. The water quality of the effluent discharge from the Outfall D-002 to the Blue Pond is the same as the water quality of the effluent from the Outfall D-001 to Alligator Creek.)

The Department does not anticipate adverse impacts on threatened or endangered species as a result of permit issuance.

3. BASIS FOR PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

- Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based. Section 301(b)(1)(C) of the Clean Water Act (Act) requires that NPDES permits contain effluent limits more stringent than technology-based limits when necessary to meet water quality standards. Florida water quality standards (WQS) are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as water aquatic life, contact recreation, etc.) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the Department to support the beneficial use classification of each water body. The anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

- The limits in this permit are based in part on information received in the application, the wastewater characterization reported by the Applicant, and the receiving water body characterization. The effluent constituents in the application were evaluated based on technology-based and water quality-basis. The limits necessary to meet the rules and regulations of the State of Florida were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants either are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, or do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, the Permittee is required to notify the Department.

  a. Rules Basis: This facility is authorized to discharge process wastewater and stormwater from Outfall D-001 and Outfall D-002 to Alligator Creek and Blue Pond, respectively, based on the following:

Parameter	Units	Max /Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	40.0	Daily Maximum	62-620, FAC
Flow	MGD	Max	Report	Monthly Average	
Flow	MGD	Max	Report	Annual Average	
pH	s.u.	Min	6.0	Daily Minimum	62-302.530, FAC
pH	s.u.	Max	8.5	Daily Maximum	62-302.530, FAC
Solids, Total Suspended	mg/L	Max	30	Daily Maximum	62-302.530, FAC
Solids, Total Suspended	mg/L	Max	20	Monthly Average	62-302.530, FAC
Iron, Total Recoverable	mg/L	Max	1.0	Daily Maximum	62-302.530, FAC
Zinc, Total Recoverable	UG/L	Max	-	Single Sample	
Hardness, Total (as CaCO3)	MG/L	Max	Report	Single Sample	
Nickel, Total Recoverable	UG/L	Max	-	Single Sample	

Parameter	Units	Max /Min	Limit	Statistical Basis	Rationale
Mercury, Total Recoverable	ug/L	Max	Report	Daily Maximum	62-302.530, FAC
Radium 226 + Radium 228, Total	pCi/L	Max	5.0	Daily Maximum	62-302.530, FAC
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	62-302.530(20) & (62) FAC and 62-4.241(1)(b)
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	62-302.530(20) & (62) FAC and 62-4.241(1)(b)

a. **Discussion:**

i. Technology – Based Effluent Limits (TBELs)

- State of Florida imposes a requirement to provide all know available and reasonable methods of treatment.
- The effluent limits for Chemours – Trail Ridge Mine are based on Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), Best Practicable Control Technology Currently Available (BPT), and on New Source Performance Standards (NSPS) as developed by EPA.
- The Chemours – Trail Ridge Mine generates wastewater from the production class identified in 40 CFR Part 440 – ORE MINERAL MINING AND PROCESSING POINT SOURCE CATEGORY, Subpart E (§§440.50-440.55) – Titanium Ore Subcategory.
    - Apply Subpart E for Permit Limits of Chemours – Trail Ridge Mine

	Allowable Limits		Permit Limits	
	Daily Max	Monthly Max	Daily Max	Monthly Max
Total Suspended Solids (mg/L)	30.0	20.0	30.0	20.0
Iron (Fe) (mg/L)	2.0	1.0	1.0	-
pH (S.U)	6.0 to 9.0		6.0* to 8.5	

Note: (*)The pH limitations will be discussed in the Water Quality Based Effluent Limitation below

ii. Water Quality Based Effluent Limitation (WQBEL)

- Water quality based effluent limitations (WQBELs) are effluent limitations, which may be more stringent than a technology based effluent limitation, that have been determined necessary by the Department to ensure that water quality standards in a receiving body of water will not be violated. WQBELs are developed in accordance with Chapter 62-650, F.A.C., and are based on the characteristics of the discharge, the receiving water characteristics, and the criteria and standards in Chapters 62-4, 62-302, and the 62-600 series, F.A.C.; they may also be developed based on Total Maximum Daily Load (TMDL) allocations adopted in Chapter 62-304, F.A.C., or allocations developed as part of a Basin Management Action Plan (BMAP) or a Reasonable Assurance Plan (RAP). WQBELs are included in the permit for the following pollutants of concern:

Parameter	Units	Monitoring Location	Monitoring Group
pH	s.u.	EFF-1	D-001/D-002
Solids, Total Suspended	mg/L	EFF-1	D-001/D-002
Iron, Total Recoverable	mg/L	EFF-1	D-001/D-002
Mercury, Total Recoverable	ug/L	EFF-1	D-001/D-002
Radium 226 + Radium 228, Total	pCi/L	EFF-1	D-001/D-002

- Chemours – Trail Ridge Mine, industrial treatment facility (SIC code of 1099 - Metal Ore Mining,), is a category of discharger for which Water Quality Based Effluent Limitations (WQBEL) have been promulgated by federal and state regulations. These regulations are performance standards that constitute all known available and reasonable assurance of prevention, control, and treatment for municipal wastewater.

- Pollutants of concern were identified for WQBEL development based on an evaluation of all available information, including a characterization of the pollutants that may be discharged, fifth year inspection data, the sources of pollutants, existing controls on pollutants, available dilution, background pollutant levels in the receiving waters, and the toxicity of pollutants.

- Unless otherwise noted, effluent limitations were developed by applying water quality criteria at the end of pipe

(1) Facility-Specific Water Quality-Based Limits

(a) pH:

The technology based effluent limits for pH are 6.0 – 9.0 standard units. The Florida Water Quality Standards (62-302.530(52)(c), FAC) require surface waters of the State to have a pH value within the range of 6.0 – 8.5 standard units. pH value shall not vary more than one unit above or below natural background of predominantly fresh waters or more than two-tenths unit above or below natural background of open waters as defined in paragraph 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6 units or raised above 8.5 units. If natural background is less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit above natural background of open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural

background of predominantly fresh waters and coastal waters, or more than two-tenths unit below natural background of open waters.

(b) Carbonaceous Biochemical Demand:

Due to the nature of the project activity without domestic wastewater, the proposed discharge often contains a low Carbonaceous Biochemical Oxygen Demand (CBOD) concentration, that would not impact to the oxygen dissolved concentration of the receiving water. Monitoring for CBOD is not required in the proposed permit.

(c) Bacteriological Quality (i.e. (Fecal Coliform Bacteria, Enterococci, Escherichia Coli):

Due to the nature of the project activity and without domestic wastewater connection, the proposed discharge often contains bacteria that was below the water quality standards. Department sampling inspection conducted on May 17, 2021. Test result shows that the effluent sample had a low bacteria (Fecal Coliform = 2.0 #/100 mL, Escherichia coli (E.coli) = 6.2 MPN/100 mL). Monitoring for bacteria is not required in the proposed permit.

(d) Dissolved Oxygen:

Based on 62-302.533 FAC subpart (1)(a)2, the criteria for Dissolved Oxygen is 38% saturation because the site is located in the Peninsular Florida bioregion.
The proposed discharge contains a low carbonaceous biochemical oxygen demand (CBOD) concentration and low nitrogenous biochemical oxygen demand (NBOD) (or BOD = CBOD + NBOD), that would not negatively impact to the oxygen dissolved concentration of the receiving water. In addition, the received waterbody WBID 3630 is neither on the Verified Impaired List nor the WNAS list. Analysis of the DO data for the Black Creek, FL gage (02246000 NORTH FORK BLACK CREEK) indicates that the average DO concentration is 52.6 % (5.35 mg/L), which is well above the 38% criteria.
Since the D-001 discharge will be roughly the same as background conditions and will not impart any additional oxygen demand to the system, this stricter criterion would likely also be satisfied. Thus, monitoring for dissolved oxygen is not required in the proposed permit.

(e) Nutrients – Narrative Nutrient Criterion:

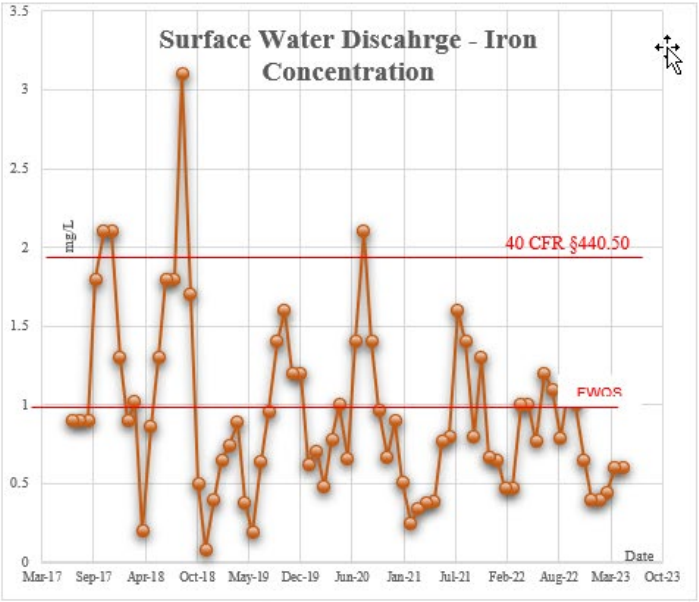
- A Total Maximum Daily Load (TMDL) for the St. Johns River Basin has been established Chapter 62-304.405, FAC. The Wasteload Allocation (WLA) for wastewater sources is not applicable.
- The Lower St. Johns River Basin Management Action Plan (BMAP) (FDEP, October 2008) has identified that Chemours – Trail Ridge Mine was a plant above head of tide in the Lower St. Johns River Basin (Table 18 of the BMAP).
  Note: The facilities in the LSJR Basin above head of tide will not be allowed to increase their current loading, which is based on the facility's permitted flow and the current nutrient limit. Expansions of these facilities or new facilities constructed above head of tide will need to purchase credits or use an allocation from another facility.
- Conclusion: A hierarchy 1 interpretation is available (i.e. Nutrients TMDL has been established for Lower St. Johns River.). The narrative water quality criterion

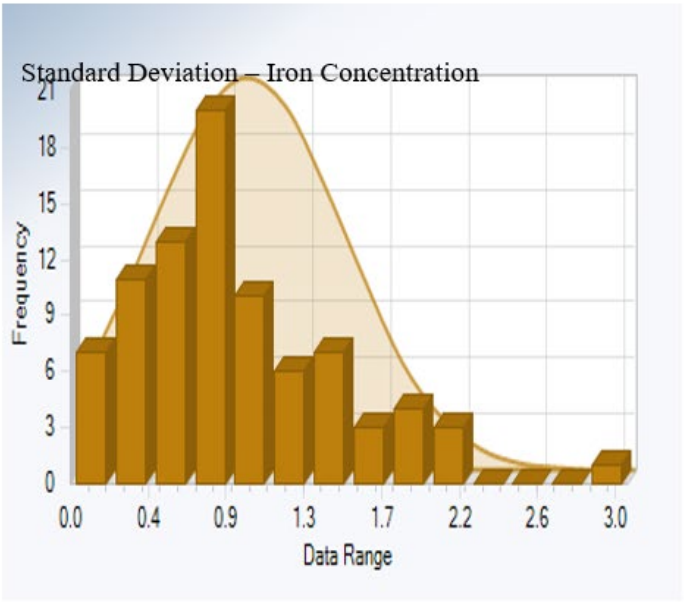
for nutrients in paragraph 62-302.530(47)(b), F.A.C., is numerically interpreted for both nutrients and nutrient response variables in a hierarchy 1.

(f) Iron:

- The technology-based effluent limitations (40 CFR Part 440, Subpart E (§§440.50-440.55)) recommends effluent limit of 2.0 mg/L (maximum single sample) and 1.0 mg/L (30 days average) for iron. Whereas, the Florida Water Quality Criteria, Chapter 62-302.530(38), FAC. has been required the discharge with the maximum limit of 1.0 mg/L for iron. Monitoring for iron with the limit of 1.0 mg/L (single sample), which is the most stringent, is required in the permit.
- The Permittee has monitored for concentration of iron in the effluent prior to discharge for the last five years of the permit cycle. The analytical sample results (in mg/L) for iron were summarized below:

# Ob.	Mean	Geo-mean	Stand Dev	CV	75th Per	80th Per	95th Per	99th Per	Max
85	0.93	0.76	0.54	0.58	1.20	1.40	1.66	2.26	3.10





data shows that 31.76 % samples/observations having iron concentration exceeded the Florida WQS of 1.0 mg/L but below 2.0 mg/L, which is a daily maximum iron concentration allowable based on EPA – TBEL (40 CFR Part 440 – Ore Mineral Mining And Processing Point Source Category, Subpart E (§§440.50-440.55)); Monitoring data shows also that 4.70 % (i.e. 4 out of 85) samples/observations have iron concentration exceeded 2.0 mg/L. Chemours shall continue to monitor for iron and require to demonstrate that the discharge would the Department regulations of iron.

(g) Nickel and Zinc:

(i) Maximum Daily Limit (MDL):

The MDL(s) for "Zinc, Total Recoverable; and Nickel, Total Recoverable" shall be calculated using the following equation(s):

$Zn \leq e^{(0.8473[lnH]+0.884)}$ ug/L
$Ni \leq e^{(0.846[lnH]+0.0584)}$ ug/L

Total hardness shall be measured at the time of the effluent sample. The "ln H" means the natural logarithm of total hardness expressed as mg/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is <25 mg/L and set at 400 mg/L if actual hardness is >400 mg/L. *[62-302.530(71), 62-302.530(44)]*

(ii) Average Weekly Limit (AWL) and Average Monthly Limit (AML):

FDEP believes that a maximum daily permit limit [MDL] for Zn or Ni can be directly used to express average weekly limits or average monthly limits for the parameters. This is appropriate for at least the reasons below:

- First, a 7-day average or, 30-day average which could comprise up to seven or thirty daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.
- Second, the Florida water quality standard for either zinc or nickel is based on the maximum daily value; it is not on an average value. It is not appropriate if 7-day average or 30-day average are calculated based on the average values of zinc or nickel
- Third, it is impractical to use 7-day average or 30-day average limitation, because it is not as protective of beneficial uses as daily maximum limitation.

(iii) Conclusion:

Based on the above discussion, we believe that maximum daily limit is appropriate

(h) Radium 226 + Radimum 228

(i) Maximum Daily Limit (MDL):

The maximum daily limit of 5.0 picocuries/L is estimated based on Rule 62-302.530(58)(b) and also 40 CFR § 141.66(b). MCL for combined radium-226 and -228 is 5 pCi/L. The permittee is required to monitor for Radium 226 + Radium 228. Results of the five years monitoring show average, mode, median, 95th percentile, and maximum concentrations of the parameter in the effluent samples were 2.54 pCi/L, 2.70 pCi/L, 2.70 pCi/L, 2.97 pCi/L and 3.00 pCi/L, respectively. Data indicates that the effluent has been in compliance with the permit limit of 5.0 pCi/L for the parameter.

(ii) Maximum Daily Limit (MDL):

FDEP believes that a maximum daily permit limit [MDL] for combined radium 226 and 228 can be directly used to express average weekly limits or average monthly limits for the parameters. This is appropriate for at least the reasons below:

- First, the basis for the 7-day average or 30-day average for the discharge derives from secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards.
- Second, a 7-day average or, 30-day average which could comprise up to seven or thirty daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.
- Third, the Florida water quality standard for combined radium 226 and 228 is based on the maximum daily value; it is not on an average value.
- Four, it is impractical to use 7-day average or 30-day average limitation, because it is not as protective of beneficial uses as daily maximum limitation.

(iii) The permittee shall continue monitor for Radium 226 + Radium 228.

(j) Conclusion:
This facility is an ore mine as defined in the Code of Federal Regulation Title 40, part 440, Subpart E. No beneficiation is performed onsite. The effluent has limitations stated in the CFR for iron, pH, and total suspended solids. The above permit limitations reflect those requirements. For iron and pH, the more stringent water quality standards described in FAC 62.302.530 apply.

Effluent limitations were determined based on an evaluation of the impact of the discharge from Outfalls D-001/D-002 on the receiving body. This evaluation was conducted in accordance with the Level I WQBEL process described in Rule 62-650.400, F.A.C. For each effluent limitation included in the permit, technology and water quality based limitations were compared and the most stringent limitation was selected.

ii. Numerical Criteria for Protection of Human Health

The U.S. EPA has published 94 numeric water quality criteria for the protection of human health that are applicable to dischargers in Florida State (EPA, June 2015) (Appendix IV). These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface

waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Data shows that the discharge does not expect to exceed the water quality criteria for the protection of human health. Therefore, effluent limits are not required for these parameters

iii. Numerical Criteria for Protection of Aquatic Life and Recreation

Numerical water quality criteria are listed in the water quality standards for surface waters (Chapter 62-302.530, FAC). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. The Department uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

iv. Narrative Criteria

(1) Floating, Suspended or Submerged Matter/Oil and Grease:

The Florida Water Quality Standards (Chapter 62-302.500(1), FAC) require surface waters of the State to be free from floating, suspended or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. A narrative condition is proposed for the permit that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

(2) Whole Effluent Toxicity Test:

- Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Florida Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria: All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

- In order to provide reasonable assurance that the discharge will not adversely affect the designated use of the receiving water, whole effluent toxicity testing is required. In accordance with requirement of Rule 62-620.620(3)(b), FAC, the facility is required to conduct chronic definitive tests starting with 100% effluent using a minimum of five dilution concentrations.

- This facility is required to conduct chronic toxicity testing for this discharge, and results of the chronic whole effluent toxicity test of the last three years are summary below:

Date	Activity	Sample Result
03/31/2023	IC25 Statre 7day Chr Ceriodaphnia	100 %
03/31/2023	IC25 Statre 7Day Chr Pimephales	100 %
02/28/2023	IC25 Statre 7day Chr Ceriodaphnia	60.3 %
02/28/2023	IC25 Statre 7Day Chr Pimephales	100 %
11/30/2022	IC25 Statre 7day Chr Ceriodaphnia	100 %

Date	Activity	Sample Result
11/30/2022	IC25 Statre 7Day Chr Pimephales	100 %
04/30/2022	IC25 Statre 7day Chr Ceriodaphnia	100 %
04/30/2022	IC25 Statre 7Day Chr Pimephales	100 %
02/28/2022	IC25 Statre 7day Chr Ceriodaphnia	100 %
02/28/2022	IC25 Statre 7Day Chr Pimephales	100 %
11/30/2021	IC25 Statre 7day Chr Ceriodaphnia	100 %
11/30/2021	IC25 Statre 7Day Chr Pimephales	100 %
09/30/2021	IC25 Statre 7day Chr Ceriodaphnia	100 %
09/30/2021	IC25 Statre 7Day Chr Pimephales	100 %
07/31/2021	IC25 Statre 7day Chr Ceriodaphnia	100 %
07/31/2021	IC25 Statre 7Day Chr Pimephales	100 %
06/30/2021	IC25 Statre 7day Chr Ceriodaphnia	100 %
06/30/2021	IC25 Statre 7Day Chr Pimephales	100 %
03/31/2021	IC25 Statre 7day Chr Ceriodaphnia	36.7 %
03/31/2021	IC25 Statre 7Day Chr Pimephales	80.9 %
02/28/2021	IC25 Statre 7day Chr Ceriodaphnia	24.5 %
02/28/2021	IC25 Statre 7Day Chr Pimephales	46.1 %
12/31/2020	IC25 Statre 7day Chr Ceriodaphnia	100 %
12/31/2020	IC25 Statre 7Day Chr Pimephales	100 %
07/31/2020	IC25 Statre 7day Chr Ceriodaphnia	100 %
07/31/2020	IC25 Statre 7Day Chr Pimephales	100 %
05/31/2020	IC25 Statre 7day Chr Ceriodaphnia	100 %
05/31/2020	IC25 Statre 7Day Chr Pimephales	100 %
04/30/2020	IC25 Statre 7day Chr Ceriodaphnia	100 %
01/31/2020	IC25 Statre 7day Chr Ceriodaphnia	100 %
01/31/2020	IC25 Statre 7Day Chr Pimephales	100 %

- The permittee shall continue to conduct the whole effluent toxicity test and shall comply with the permit requirements for the discharge from outfalls **D-001 and D-002.**

v. **Water Quality Impairments:**

(1) Mercury: In 1996, the Department placed the water of State including Alligator Creek and Blue Pond on the 303(d) list for mercury (Hg) in fish tissue. Water quality impairments in Florida are made when total mercury in fish tissue exceeds Florida Department of Health (FDOH) advisory thresholds. In 1999, EPA entered into a consent decree (CD) to develop TMDLs for impaired waters. The Department submitted a total maximum daily load (TMDL) to EPA for approval. EPA approved the TMDL on October 18, 2013. The TMDL set a wasteload allocation (WLA) for the amount of mercury that the water of state.

For the Chemours – Trail Ridge, mercury level in the discharge stream is believed "absent." However, due to the Hg-TMDL, the permittee is required to monitor for

mercury. EPA Method 1631E shall be used to analyze for mercury or other clean techniques approved for analysis such as Method 245.1 or Method 245.7 where the method detection limit is equal to or less than 12 ng/L. If the values detected are below the water quality standard the mercury is in compliance and does not trigger the need for a minimization plan. However, if testing results are above the water quality standard in the effluent, the permittee shall contact and discuss with the DEP NED wastewater section within 30 days of receipt of the results prior to submitting, preparing and implementing a mercury minimization plan addressing sources of mercury.

(2) Fecal Coliform: Fecal coliform was listed as a water quality parameter of concern in Alligator Creek – WBID 3598C:. (Florida Section 303(d) List (September 2, 2009)). A Fecal Coliform TMDL was adopted; therefore, fecal coliform was delisted.

(3) Nutrient and DO: Nutrients and dissolved oxygen were listed concerned parameters in Lake Rowell – WBID 3598B: *[Florida Section 303(d) List (September 2, 2009)]*. However, recent document (FDEP - Statewide Comprehensive Delist List (http://www.dep.state.fl.us/water/watersheds/assessment/a-lists.htm) indicates that nutrients is not impaired based on the TSI (Tropic State Index which is a classification system designed to "rate" individual lakes/ponds/reservoirs based on the amount of biological productivity occurring in the water.) not impaired. Annual TSI averages for 2002 = 42.2 and 2006 = 37.3 did not exceed the threshold of 60. TSI also did not exceed historic minimum (50.5) by 10 or more units.

vi. **Reasonable Potential Analysis**:

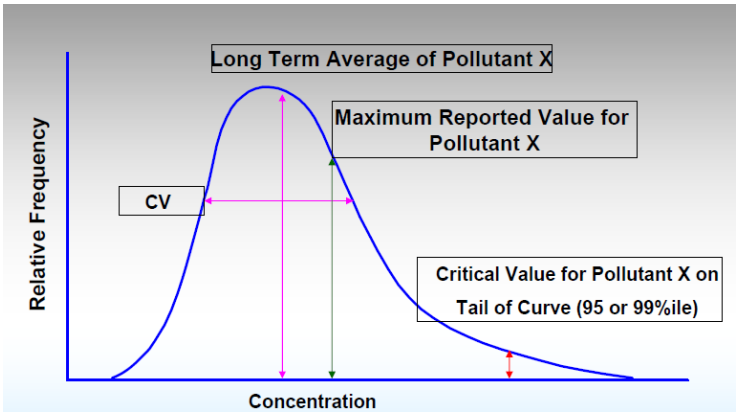
(a) Introduction:

The Department performed a reasonable potential (RP) analysis for the parameters of concern using the Technical Support Document for Water Quality-based Toxics Control (TSD) approach. For pollutants for which the RP analysis shows the potential to exceed in-stream water quality values, WQBELs must be calculated as required at 40 C.F.R. § 122.44(d).
The data that the Department used for the RP analyses were obtained from the 2023 application and historical DMR data. However, not all of these data were used to evaluate RP.

(b) Procedure to Conduct Reasonable Potential Analysis:

- Determine the total number of effluent data values for the pollutant of interest (n) and identify the Highest Effluent Concentration (HEC), which is the highest value of the dataset for that parameter.

- Determine the coefficient of variation (CV) of the dataset. The CV is equal to the standard of deviation divided by the long-term average, rounded to one decimal place. The default CV for fewer than 10 data values is 0.6, as specified in Box 3-2 of the TSD.



- Determine the appropriate confidence level for the RP analysis (for this permit, the Department used the 99th confidence level, recommended by the TSD in section 5.5.4) and determine the Reasonable Potential Multiplier (RPM), using Table 3-1 of the TSD. If n is greater than 20, the TSD states to use the multiplier assigned to 20 samples as identified on Table 3-1 of the TSD.
- Calculate the Adjusted Effluent Concentration (AEC): AEC = HEC x RPM.
- Determine if the AEC is greater than the Water Quality Criterion (WQC). For those parameters where the AEC > WQC, continue with the RP analysis.
- Calculate the Dilution Factor.
- Calculate the Maximum Receiving Water Concentration (MRWC), using the AEC, the Instream Background Concentration, and the Dilution Factor.
- Compare the MRWC to the WQC. If MRWC > WQC, then RP is found.

(c) Data Summary (DMR data from January 01, 2018 to June 30, 2024)

Parameter	# Ob.	Mean	Geo-mean	Stand Dev	CV	50th Per	95th Per	Max
Fe, Total Recoverable, mg/L	80	0.877	0.756	0.48	0.548	0.795	1.705	3.1
Ni, Total Recoverable, mg/L	6	0.109	0.106	0.0212	0.195	0.111	0.128	0.128
Ni, Total Recoverable, mg/L	6	-148.8	N/A	363.6	-2.443	-0.506	-0.036	-0.024
Hg, total recoverable , µg/L	6	0.0917	0.0731	0.0516	0.563	0.125	0.125	0.125
Zn, total recoverable , mg/L	6	0.0842	0.0836	0.011	0.131	0.083	0.0995	0.104
Zn, total recoverable , mg/L	6	-0.629	N/A	0.446	-0.71	-0.907	-0.0415	-0.03
Radium 226 + 228 (pCi/L)	6	2.85	2.847	0.138	0.0484	2.85	3	3

(d) Results of RP Analysis:

<u>99% Probability Basis and 95 % Confidence Level</u>

	# of Ob/Sample	Coefficient Variation	Max Value	Reasonable Potential Factor	The Highest Possible Effluent Value	Water Quality Criterion or Permit Limit	RP (Yes or NO)
Fe, Total Recoverable, mg/L	80	0.548	3.1	2.2	6.82	1.0	No
Ni, Total Recoverable, mg/L	6	0.195	0.128	1.6	0.2048	–	–
Ni, Total Recoverable, mg/L	6	-2.443	-0.024	–	–	≤0.0	–
Hg, total recoverable , µg/L	6	0.563	0.125	3.5	0.4375	0.012	Yes
Zn, total recoverable , mg/L	6	0.131	0.104	1.4	0.1456	–	–
Zn, total recoverable , mg/L	6	-0.71	-0.03	–	–	≤0.0	–
Radium 226 + 228 (pCi/L)	6	0.0484	3	1.3	3.9	5.0	No

(e) Conclusion: The permit is proposed continuing to monitor for the parameters listed in the permit.

vii. **Anti-Backsliding:**

(1) Overview: Section 402(o) of the Clean Water Act and federal regulations at 40 CFR §122.44 (l) generally prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions or standards that are less stringent than those established in the previous permit (i.e., anti-backsliding) but provides limited exceptions. Section 402(o)(1) of the CWA states that a permit may not be reissued with less-stringent limits established based on Sections 301(b)(1)(C), 303(d) or 303(e) (i.e. water quality-based limits or limits established in accordance with State treatment standards) except in compliance with Section 303(d)(4). Section 402(o)(1) also prohibits backsliding on technology-based effluent limits established using best professional judgment (i.e. based on Section 402(a)(1)(B)), but in this case, the effluent limits being revised are water quality-based effluent limits (WQBELs).

(2) Anti-backsliding analysis was done for each parameter below:

(a) For TSS, the effluent limitation TSS are unchanged from the last permit. therefore, the proposed permit is in compliance with anti-backsliding provisions for TSS.

(b) For pH, the effluent limits are unchanged from the previous permit; therefore, the proposed permit is in compliance with anti-backsliding provisions for pH.

(c) For Iron, the effluent limit is unchanged from the previous permit; therefore, the proposed permit is in compliance with anti-backsliding provisions for the metals.

(d) For Radium 226 + Radium 228, the effluent limit is unchanged from the previous permit; therefore, the proposed permit is in compliance with anti-backsliding provisions for the metals.

(e) For nickel and zinc, the effluent limits are unchanged from the previous permit; therefore, the proposed permit is in compliance with anti-backsliding provisions for the metals.

(f) For Whole Effluent Toxicity Testing, the WET testing limits are unchanged from the previous permit; therefore, the proposed permit is in compliance with anti-backsliding provisions for the WET.

viii. **Antidegradation:**

(1) Overview

EPA is required under Section 301(b)(1)(C) of the Clean Water Act (CWA) and implementing regulations (40 CFR 122.4(d) and 122.44(d)) to establish conditions in NPDES permits that ensure compliance with State water quality standards, including anti-degradation requirements.

The permit contains limits as stringent as necessary to ensure compliance with all applicable water quality standards, including Florida's anti-degradation policy (Chapter 62-4.242(1), FAC). As explained in detail below, the reissued permit ensures that "the existing in stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected" consistent with the requirements of 40 CFR 131.12(a)(1) and 62-302.300(14), FAC. Relative to the prior permit issued in November 2010, the reissued permit does not allow lower water quality for those parameters where the receiving water quality "exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water," therefore, the reissued permit maintains and protects the existing level of water quality, consistent with 40 CFR 131.12(a)(2) and (Chapter 62-4.242(1), FAC). Finally, the anti-degradation policy for outstanding resource waters is inapplicable in this reissued permit because no waters of the State of Florida are designated as "outstanding resource waters".

(2) The draft reissued permit ensures compliance with the State of Florida's anti-degradation policy and CWA regulations because the permit conditions ensure protection of existing uses and do not allow lower water quality relative to the prior permit.

(a) Protection of Existing Uses (40 CFR 131. 12(a)(l) and Chapter 62-4.242, FAC)

The segment of the waterbodies that receives the discharge have the following designated beneficial uses: fresh water aquatic life; primary contact recreation; aesthetics; wildlife habitats; etc. The effluent limits in the draft permit ensure compliance with applicable numeric and narrative water quality criteria. The numeric and narrative water quality criteria are set at levels that ensure protection of the designated uses. As there is no information indicating the presence of existing beneficial uses other than those that are designated the draft permit ensures a level of water quality necessary to protect the designated and protect existing uses.

(b) High Quality Waters (40 CFR 13 1. 12(a)(2) and Chapter 62-4.242, FAC)

The effluent discharges to a segment of the Alligator Creek/Santa Fe River Basin or Blue Pond/St. Johns River Basin that is considered high quality for all of the pollutants of concern. As such, the quality of the waterbodies must be maintained and protected.

All of the effluent limits in the reissued permit are as stringent as or more stringent than the corresponding limits in the prior (2016) permit. Because the limits are as stringent as or more stringent than the corresponding limits in the

prior permit, the reissued permit will not allow lower water quality for pollutants that were limited in the prior permit.
As to those pollutants present in the discharge without effluent limits in both the reissued permit and the prior permit, there is no factual basis to expect that those pollutants will be discharged in greater amounts under the reissued permit than were authorized in the prior permit. Similarly. There is no factual basis to expect that the effluent contains any new pollutants that have not been discharged previously.

(c) Public Interest:

Discharge from the Outfalls D-001 or/and D-002 are only disposal option at the current time. The discharge would allow the Chemours to continue mining, which brings economic and social benefits to the region. These benefits may include, but are not limited to, increases in employment, increases in local or regional income or purchasing power, increases in the community tax base, etc.

ix. Endangered Species Act:

(1) Outfall D–001 (Alligator Creek, Lake Rowell, Suwannee River Basin– Brandford County)

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Information for Planning and Consultation (IPaC), https://ipac.ecosphere.fws.gov/, Brandford County, Florida has seven candidate, threatened, or endangered species listed. The Eastern Black Rail (Laterallus jamaicensis ssp. jamaicensis) is listed as threatened species for this county; Everglade snail kite (Rostrhamus sociabilis plumbeus) is listed as endangered species; Red-cockaded Woodpecker (Picoides borealis) is listed as endangered species in Brandford County. Eastern Indigo Snake (Drymarchon couperi) and Suwannee Alligator Snapping Turtle (Macrochelys suwanniensis) are species listed as threatened species for this county. Oval Pigtoe (Pleurobema pyriforme) is listed as endangered species in Brandford County. The Monarch Butterfly (Danaus plexippus) is a species under consideration for official listing for which there is sufficient information to support listing for this county.
In accordance with requirements under section 7(a)(2) of the Endangered Species Act, DEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, DEP has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. DEP makes this determination based on the following:

(a) The Eastern Black Rail inhabits hardwood and coniferous forest habitats, nesting in trees and bushes and feeding with aquatic beetles, spiders, snails, small crustaceans. The permitted discharge is not anticipated to affect its critical habitat.
(b) The Everglades Snail Kite inhabits shallow freshwater marshes and shallow grassy shorelines of lakes. Everglades snail kite feeds almost exclusively on apple snails (Pomacea), which are captured at or near the water's surface. The permitted discharge is not anticipated to affect its critical habitat. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

(c) The Red-cockaded Woodpecker inhabits in riparian systems, or areas located near rivers and streams, and associated pine woods in northern Florida; in the Big Cypress swamp; and in swamp forests associated with rivers/waterways. Red-cockaded woodpecker feeds mainly on insects and other arthropods, especially ants and beetles, also termites, roaches, centipedes, and others such as wild fruits and pine seeds. The permitted discharge is not anticipated to affect its critical habitat.

(d) Eastern Indigo Snake inhabits pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. They can be found throughout Peninsular Florida and southeastern Georgia. The Eastern indigo snake's diet primarily consists of a variety of species, including small mammals, birds, toads, frogs, turtles and their eggs, lizards, and small alligators. The permitted discharge is not anticipated to affect its critical habitat.

(e) The alligator snapping turtle habits rivers, lakes, backwater swamps, and periodically in brackish water systems (mixture of fresh and salt water). They eat fish and other aquatic animals. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.. The permitted discharge is not anticipated to affect its critical habitat.

(f) Monarch Butterfly habitats prairies, meadows, grasslands and along roadsides and feeds on the nectar from flowers. The permitted discharge is not anticipated to affect its critical habitat.

(g) Oval Pigtoe inhabits mid-sized rivers and small creeks with a slow to moderate current and a sandy silt to gravel floor. The oval pigtoe is a filter feeder (filters food out of water) that feeds on plankton and detritus (dead organic matter). Oval Pigtoe is listed as endangered invertebrates in Santa Fe River. The main threat to fresh water mussels is land use changes (i.e. the development around the river has released runoff and sedimentation) the impoundment of waterways for fresh water supply, flood control, etc. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

Based on information described above, FDEP has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Brandford County, Florida. In accordance with requirements under section 7(a)(2) of the Endangered Species Act, FDEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat.
After review, FDEP has determined that the reissuance of this permit will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. FDEP makes this determination based on the following:

(a) No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.
(b) FDEP has received no additional information since the previous permit issuance which would lead to revision of its determinations.
(c) FDEP determines that Items (a) and (b) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have “no effect” on listed species and designated critical habitat.

(d) Draft permit has been sent to US Fish and Wildlife (Jacksonville Branch office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256-7517, phone number (352) 448-9151) for review and comments.

FDEP determines that Items (a) thru (d) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

(2) Outfall D–002 (WBID 2509C1, Lake Brooklyn Outlet, Lower St. Johns River Basin)

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Information for Planning and Consultation (IPaC), https://ipac.ecosphere.fws.gov/, Clay County, Florida has seven candidate, threatened, or endangered species listed. The Eastern Black Rail (Laterallus jamaicensis ssp. jamaicensis) and Florida Scrub-jay (Apelocoma coerulescens) are listed as threatened species for this county; Everglade snail kite (Rostrhamus sociabilis plumbeus) is listed as endangered species; Red-cockaded Woodpecker (Picoides borealis) is listed as endangered species in Clay County. Eastern Indigo Snake (Drymarchon couperi) and Suwannee Alligator Snapping Turtle (Macrochelys suwanniensis) are species listed as threatened species for this county. Oval Pigtoe (Pleurobema pyriforme) is listed as endangered species in Clay County. The Monarch Butterfly (Danaus plexippus) is a species under consideration for official listing for which there is sufficient information to support listing for this county.
In accordance with requirements under section 7(a)(2) of the Endangered Species Act, DEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, DEP has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. DEP makes this determination based on the following:

(a) The Eastern Black Rail inhabits hardwood and coniferous forest habitats, nesting in trees and bushes and feeding with aquatic beetles, spiders, snails, small crustaceans. The permitted discharge is not anticipated to affect its critical habitat.

(b) Florida Scrub-jays inhabit sand pine and xeric oak scrub, and scrubby flatwoods. Florida scrub-jays live in family groups that consist of a breeding pair and young helpers, which are usually the offspring of the pair. The diet of the Florida scrub-jay primarily consists of insects, frogs, toads, lizards, mice, bird eggs, and acorns. The permitted discharge is not anticipated to affect its critical habitat.

(c) The Everglades Snail Kite inhabits shallow freshwater marshes and shallow grassy shorelines of lakes. Everglades snail kite feeds almost exclusively on apple snails (Pomacea), which are captured at or near the water's surface. The permitted discharge is not anticipated to affect its critical habitat. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

(d) The Red-cockaded Woodpecker inhabits in riparian systems, or areas located near rivers and streams, and associated pine woods in northern Florida; in the Big Cypress swamp; and in swamp forests associated with rivers/waterways. Red-

cockaded woodpecker feeds mainly on insects and other arthropods, especially ants and beetles, also termites, roaches, centipedes, and others such as wild fruits and pine seeds. The permitted discharge is not anticipated to affect its critical habitat.

(e) Eastern Indigo Snake inhabits pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. They can be found throughout Peninsular Florida and southeastern Georgia. The Eastern indigo snake's diet primarily consists of a variety of species, including small mammals, birds, toads, frogs, turtles and their eggs, lizards, and small alligators. The permitted discharge is not anticipated to affect its critical habitat.

(f) The alligator snapping turtle habits rivers, lakes, backwater swamps, and periodically in brackish water systems (mixture of fresh and salt water). They eat fish and other aquatic animals. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.. The permitted discharge is not anticipated to affect its critical habitat.

(g) Monarch Butterfly habitats prairies, meadows, grasslands and along roadsides and feeds on the nectar from flowers. The permitted discharge is not anticipated to affect its critical habitat.

(h) Oval Pigtoe inhabits mid-sized rivers and small creeks with a slow to moderate current and a sandy silt to gravel floor. The oval pigtoe is a filter feeder (filters food out of water) that feeds on plankton and detritus (dead organic matter). Oval Pigtoe is listed as endangered invertebrates in Santa Fe River. The main threat to fresh water mussels is land use changes (i.e. the development around the river has released runoff and sedimentation) the impoundment of waterways for fresh water supply, flood control, etc. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

Based on information described above, FDEP has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Clay County, Florida. In accordance with requirements under section 7(a)(2) of the Endangered Species Act, FDEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat.
After review, FDEP has determined that the reissuance of this permit will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. FDEP makes this determination based on the following:

(e) No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.
(f) FDEP has received no additional information since the previous permit issuance which would lead to revision of its determinations.
(g) FDEP determines that Items (a) and (b) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have “no effect” on listed species and designated critical habitat.
(h) Draft permit has been sent to US Fish and Wildlife (Jacksonville Branch office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256-7517, phone number (352) 448-9151) for review and comments.

FDEP determines that Items (a) thru (d) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

c. **Conclusion**: This facility has provided reasonable assurance that the discharge will not adversely affect the designated use of the receiving water. Effluent characterization of the discharge, historical discharge monitoring results, inspection sampling data, flow information and effluent characterizations of existing discharges to the receiving body, water quality data for the receiving body, etc. have been evaluated in accordance with the Department's reasonable assurance procedures to ensure that no limits other than those included in this permit are needed to maintain Florida water quality standards. The technical and scientific work that was conducted in developing the final effluent permit limits is included in the administrative record/attached to this fact sheet.

4. IMPAIRMENT STATUS OF RECEIVING WATERS

Under Section 303(d) of the Clean Water Act, the Department is required to submit lists of impaired waters to EPA. The direct and downstream receiving water bodies for this facility's discharge to surface waters are not listed on the 303(d) list.

5. DISCUSSION OF CHANGES TO PERMIT LIMITATIONS

The current wastewater permit for this facility FL0000051-015-IW3S expires on "pending date". There were no changes to the permit limitations.

7. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements are established in accordance with the approved ground water monitoring plan prepared in accordance with Chapters 62-520, 532, 620, and 660, F.A.C. Part III of the permit requires quarterly monitoring for 12 industrial wastewater parameters at eight existing monitoring wells around a series of unlined wastewater ponds. The land application sites are considered existing with a zone of discharge extending horizontally from the edge of a series of unlined wastewater ponds to the facility's property line and vertically to the base of the surficial aquifer.

Other than updating the permit conditions to today's requirements, and changing the barium and iron units from mg/L to ug/L, because the ug/L is more widely used for these metals and older permits required ug/L, except for the previous permit, there were no changes to Part III in this 2023 renewal permit. Plus, per the Permittee's October 13, 2022 RAI response, two new intermediate monitor wells MWI-7B and MWI-12B were added to permit conditions III.A.1, III.B.5, and VI.1.e and required to be installed. A new permit condition was included in the permit schedule Part VI concerning potentially reporting incorrect water level results for the monitor wells, and some additional specific conditions for the two new monitor wells.

8. PERMIT SCHEDULES

1. The following activities shall be completed according to the schedule below, unless an application for a minor revision to the permit is filed to change the schedule:

<table>
<tr><th>Activities</th><th>Completion Date</th></tr>
<tr><td>a. The water level results for the background well MWB-ERR was the highest in elevation when it was first installed in 2004, but the reported water level results had a steep drop in the first quarter 2009, and the results in this well continue to be reported as the lowest water level of all monitor wells. Since this well is suppose to be the background well, it should have the highest water level results with regards to the elevation, assuming it is on the upgradient ground water flow direction of the site. The facility may now be reporting the measured field depth to water in the monitor wells, instead of the correctly calculated water level results by subtracting the field measured depth to water from the surveyed top of casing (TOC) elevations, see the table below for the originally surveyed TOC elevations above NGVD. The permittee is requested to evaluate how the water level results are being reported and submit a report to the Wastewater Permitting Section of the NED Office by the Completion Date. If the previous water level results are found to be incorrect, this should be mentioned in the report and future results should be correctly calculated and reported. If the laboratory is provided with the TOC elevations below for each monitor well, the lab may provide the correctly calculated water level results to the facility for each quarter.
<table>
<tr><th colspan="8">Top of Well Casing Elevations in Monitor Wells (Feet-NGVD)</th></tr>
<tr><th>MWB-ERR</th><th>MWI-7</th><th>MWI-7A</th><th>MWI-12</th><th>MWI-12A</th><th>MWI-14R</th><th>MWC-15</th><th>MWC-30</th></tr>
<tr><td>205.92</td><td>181.80</td><td>182.70</td><td>197.00</td><td>197.30</td><td>185.00</td><td>187.60</td><td>176.40</td></tr>
</table></td><td>Within 180 days of the permit issuance date</td></tr>
<tr><td>b. If the current background well MWB-ERR is not determined to be upgradient of the ground water flow direction on the site, the Permittee shall propose a new background well location that is closer to the ponds and install it, after DEP approval of the proposal.</td><td>Within 90-days of DEP approval of the proposed new background well</td></tr>
<tr><td>c. The Permittee shall give a minimum notice time to the Department's Northeast District Office, prior to the installation of any new monitor wells.</td><td>72-hours</td></tr>
<tr><td>d. A soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, size of screen slot and filter pack.</td><td>Before construction of new monitor wells</td></tr>
<tr><td>e. The Permittee shall install the two new monitor wells shown in the table of permit condition III.B.5. and at the locations shown in the blow-up aerial photo below the table in permit condition III.B.5. Quarterly monitoring of these two new monitor wells for the parameters in permit condition III.B.6 shall begin during the next routine quarterly monitor period along with the other monitor wells.</td><td>Within 90-days of the permit issuance date</td></tr>
</table>

f. The Permittee shall submit to the Department's Northeast District Office well completion reports and soil boring/lithologic logs on DEP Form 62-520.900(3), Monitoring Well Completion Report.	Within 60-days after the new monitor wells are installed

[62-620.320(6)]

9. BEST MANAGEMENT PRACTICES/STORMWATER POLLUTION PREVENTION PLANS

A Best Management Practices (BMP) Plan is required for the facility, pursuant to Rule 62-620.100(m), F.A.C., and 40 CFR Part 122.44(k) as stated in Section VII of the permit. The plan provides a facility-specific approach for the minimizing of pollutant discharge from ancillary activities. The facility has an existing BMP which shall continue being implemented through the next permit cycle. The BMP is submitted on an annual basis.

10. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is not accompanied by an AO and has a consent order, 03-0390 with the Department. The CO amendment was prepared and replaced by order 16-1402 was reviewed by OGC and executed. Interim monitoring DMRs will be effective beginning April 2017.

11. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

No variances were requested for this facility.

12. THE ADMINISTRATIVE RECORD

The administrative record including application, draft permit, fact sheet, public notice (after release), comments received and additional information is available for public inspection during normal business hours at the location specified in item 14. Copies will be provided at a minimal charge per page.

13. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Draft Permit and Public Notice to Applicant and EPA June 27, 2023

Public Comment Period	Beginning: June 27, 2023 Ending: July 27, 2023
Proposed Permit to EPA	August 1, 2023
Notice of Intent to Issue	October 18, 2024
Notice of Permit Issuance	November 15, 2024

14. DEP CONTACT

Additional information concerning the permit and proposed schedule for permit issuance may be obtained during normal business hours from:

D. Anh Vo, P.E.
Professional Engineer III
W/W Permitting Coordinator
Permitting Program
FDEP Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Telephone: (904) 256-1700

15. PUBLIC COMMENT PERIOD

The Department of Environmental Protection proposes to issue a wastewater facility permit to this applicant subject to the aforementioned reclaimed water or effluent limitations and conditions. This decision is tentative and open to comment from the public.

Interested persons are invited to submit written comments regarding permit issuance on the draft permit limitations and conditions to the following address:

Department of Environmental Protection
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256
Attn: D. Anh Vo

All comments received within 30 days following the date of public notice, pursuant to Rule 62-620.550, F.A.C., will be considered in the formulation of the final decision with regard to permit issuance.

Any interested person may submit written comments on the Department's proposed permitting decision or may submit a written request for a public meeting to the address specified above, in accordance with Rule 62-620.555, F.A.C. The comments or request for a public meeting must contain the information set forth below and must be received in the above named District office of the Department within 30 days of receipt or publication of the public notice. Failure to submit comments or request a public meeting within this time period will constitute a waiver of any right such person may have to submit comments or request a public meeting under Rule 62-620.555, F.A.C.

The comments or request for a public meeting shall contain the following information:

1) The commenter's name, address and telephone number, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
2) A statement of how and when notice of the draft permit was received;
3) A description of any changes the commenter proposes for the draft permit;
4) A full explanation of the factual and legal reasons for each proposed change to the draft permit; and

A request that a public meeting be scheduled (if applicable) including a statement of the nature of the issues proposed to be raised at the meeting.

a. Public Meeting

The Department will hold a public meeting if there is a significant degree of public interest in the draft permit or if it determines that useful information and data may be obtained thereby. Public notice of such a meeting shall be published by the applicant at least 30 days prior to the meeting.

If a public meeting is scheduled the public comment period is extended until the close of the public meeting. If a public meeting is held any person may submit oral or written statements and data at the meeting on the Department's proposed action.

b. Issuance of the Permit

The Department will make its decision regarding permit issuance after consideration of all written comments, including comments from the United States Environmental Protection Agency on surface water discharge aspects of the draft or a proposed permit; the requirements of Chapter 403, F.S. and appropriate rules; and, if a public meeting is held, after consideration of all comments, statements and data presented at the public meeting. The Department will respond to all significant comments in writing. The Department's response to significant comments will be included in the administrative record of the permit and will be available for public inspection at the above named District office of the Department.

Unless a request for an administrative hearing, or an extension of time to file a petition for an administrative hearing, as indicated in d. below, is granted, the Department will take final agency action by issuing the permit or denying the permit application. If an administrative hearing is convened, final agency action will be based on the outcome of the hearing.

c. Administrative Hearing

A person whose substantial interests are affected by the Department's proposed permitting decision has the opportunity to petition for an administrative hearing to challenge the Department's decision in accordance with Section 120.57, F.S.

An administrative hearing is an evidentiary proceeding in which evidence is presented by testimony and exhibits before an independent hearing officer. The result of an administrative hearing is the issuance of the hearing officer's recommended order to the Department, including the hearing officers findings of fact, based on the evidence presented at the hearing. The Department will issue a final order, granting or denying the permit, based on the hearing officer's recommended order.

The petition for an administrative hearing must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of notice of agency action or within 14 days of personal receipt of notice of agency action, whichever occurs first. The petitioner is to mail a copy of the petition to the applicant at the time of filing. Failure to file a petition within this time period will constitute a waiver of any right such person may have to request an administrative determination (hearing) under section 120.57, F.S. The petition is to contain the following information:

1) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

2) A statement of how and when each petitioner received notice of the Department's action or proposed action;

3) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

4) A statement of the material facts which the petitioner contends warrant reversal or modification of the Department's action or proposed action;

5) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

6) A statement of the relief sought by the petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in the notice of agency action. Persons whose substantial interests will be affected by any decision of the Department on the application have the right to petition to become a party to the proceeding, regardless of their agreement or disagreement with the Department's proposed action indicated in the notice of agency action.

16. ACRONYMS:

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three
30Q10	30 day, 10 year low flow
AML	Average Monthly Limit
BA	Biological Assessment
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BE	Biological Evaluation
BO or BiOp	Biological Opinion
BOD5	Biochemical oxygen demand, five-day
BMP	Best Management Practices
BPT	Best Practicable
°C	Degrees Celsius
CCC	Criterion Continuous Concentration
CDT	Coeur d'Alene Tribe
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CMC	Criterion Maximum Concentration
COD	Chemical Oxygen Demand
CV	Coefficient of Variation
CWA	Clean Water Act

DMR	Discharge Monitoring Report
DO	Dissolved oxygen
DOC	Dissolved organic carbon
EA	Environmental Assessment
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
GPD	Gallons per day
HUC	Hydrologic Unit Code
IC	Inhibition Concentration
ICIS	Integrated Compliance Information System
IDEQ	Idaho Department of Environmental Quality
I/I	Infiltration and Inflow
LA	Load Allocation
lbs/day	Pounds per day
LC	Lethal Concentration
LTA	Long Term Average
mg/L	Milligrams per liter
mL	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
N	Nitrogen
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observable Effect Concentration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
O&M	Operations and maintenance
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
SPCC	Spill Prevention and Control and Countermeasure
SS	Suspended Solids
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon

TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
TUa	Toxic Units, Acute
TUc	Toxic Units, Chronic
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WD	Water Division
WET	Whole Effluent Toxicity
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater treatment plant

APPENDIX I
THE DEPARTMENT 'S SAMPLING INSPECTION RESULT

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264900.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264904.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264906.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264907.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264905.1]&[profile=Permitting_Authorization]

APPENDIX II

RESPONSES TO PUBLIC COMMENT

A. Public Comments

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264685.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264691.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264690.1]&[profile=Permitting_Authorization]

B. Responses to Public Comments – OCULUS Links

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264696.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1332460.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1332457.1]&[profile=Permitting_Authorization]

C. Responses to Public Comments

Note: Color Codes used: **Black:** Public/Mr. Paul Still Comments.
Blue: DEP fist Reponses;
Green: DEP follow-up Responses

Mr. Paul Still Comment # : Florida Mine-Trail Ridge area

Draft Permit page 1

Facility Description:
The Florida Mine–Trail Ridge boundary is located in the lower St. Johns River basin and the Santa Fe River basin, which drains to the Suwannee River. The Florida Mine– Trail

Ridge is an existing dry mill which processes and separates the heavy mineral sands concentrate (i.e. ore deposit) from North Maxville and Maxville mining operation. The mineral sand products include ilmenite, zircon, and staurolite.

The above wording is misleading. The Florida Mine–Trail Ridge boundary encompasses much more than the dry mill. A map with the boundary can be found in Fact Sheet on page 3 of 28.

The wording also fails to acknowledge the addition of industrial wastewater from Trail Ridge South Mine that is included in this Draft Permit. The Trail Ridge South Mine needs to be added to the two mines listed.

The wording fails to acknowledge that the IWW Treatment system treats stormwater from mined areas that have not met the requirements used by DEP to designate that a mined area has been reclaimed.

DEP Reponses: Please see Appendix A for the Chemours Trail Ridge boundary which includes entire Chemours – Trail Ridge. This section provides a description of the Chemours – Trail Ridge location. The wastewater treatment system, which includes stormwater and wastewater from the Chemours Trail Ridge South, is described in the **Wastewater Treatment Section**.

Mr. Paul Still's follow-up comment: Appendix A does not show the drainage ditch that carries high humate water from CR 225 south of Lawtey and the current area that flows to the pumps that lift the water to that drainage ditch.

***DEP Responses: Figures** 1 & 2 of the Fact Sheet has included the drainage ditch. The Appendix A has also been updated to include the drainage ditch.*

Mr. Paul Still Comment # 2: Use of ferric chloride, ferric sulfate and barium sulfate

Draft Permit pages 1 & 2

WASTEWATER TREATMENT:

This wastewater treatment system provides acidification with ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to a pH between 3.0 and 3.5 standard units for flocculation of colloidal material followed by settling in a series of diked ponds, neutralization with hydrated lime to a pH between 6.0 to 8.5, and additional settling with final discharge to Alligator Creek. Upon Department approval, polymer addition may be provided after neutralization for aluminum reduction prior to final discharge to Alligator Creek at D-001, which flows west in Bradford County. Storm water and rainfall from an

active reclamation area is also collected and treated as described above. The treatment train consists of the addition of barium chloride to the wastewater at the location where ferric chloride, aluminum sulfate, or ferric sulfate is added (prior to the humate settling ponds).

Given the history of this facility's exceedance of the maximum daily discharge limit of 1 mg/L for iron and the May, 2023, reported maximum daily level of 1mg/L for iron it would seem reasonable to remove ferric chloride and ferric sulfate from the list above. Adding iron when iron levels are still near or above the 1 mg/L limit could result in iron levels above the 1mg/L limit.

Is barium chloride always added to the wastewater? If not, wording should be changed to barium chloride "can be" added.

DEP Response: Chemours has the option to use ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to provide acidification for flocculation of colloidal material. Currently, alum (aluminum sulfate) is the primary additive in the treatment process and was introduced into the Trail Ridge Ferric No. 2 location in Oct. 2016. Alum has been the primary additive in the treatment process at Ferric No. 1 since June 2017 as discussed in the December 19, 2017 Status Report.

As discussed above, Chemours has been permitted to use ferric chloride or ferric sulfate as an option should they not be able to secure aluminum sulfate as referenced in their June 2017 permit renewal.

Barium (Ba^{2+}), such as $BaCl_2$ solution is not always used in the wastewater treatment; however, Chemours is permitted to use Barium when needed.

Mr. Paul Still's follow-up comment: The potential for exceedance of the 1mg/L iron still exists for Trailridge discharges. Allowing iron salts as a treatment option should be removed from the permit.

DEP Responses: *A Consent Order (OGC File No. 23-1066), which regards iron exceedance, has been executed.*

Please note that alum (e.g. aluminum sulfate) has been used as a primary approved flocculant/coagulant in the treatment process at the Chemours Trail Ridge since 2016 up to the current time. Different flocculants, such as ferric chloride or ferric sulfate, are to be used as an alternative/additional option should Chemours not be able to secure alum sulfate.

Regardless of chemicals that are utilized for flocculation or coagulations in the wastewater treatment, the final treated effluent is required to comply with the Florida water quality standards and permitted limitations.

Mr. Paul Still Comment # 3. Location of the intake pump for D-002 discharges and the impacts on water quality associated with flow from D-002 through areas mined in the early 1950s that have not been reclaimed require a new sampling location for D-002 discharges

Draft Permit page 2

> *A portion of the effluent is directed to the Southwest Quadrant Pond. The existing recycle line from D-001 was tapped and a pipeline was constructed to route approximately 400 gallons per minute (gpm) of the treated wastewater to an existing ditch, which then discharges into the Southwest Quadrant Pond (location D-002) with eventual discharge into Blue Pond, which is the portion of Alligator Creek that flows south in Clay County. This rerouting of final effluent is the result of an effort by The Keystone Stakeholders to help improve lake water levels in the Keystone Heights area.*

Draft Permit page 5

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site	Description of Monitoring Site
FLW–1	Quantity of the final treated industrial wastewater discharge at the Outfall D-001 to Alligator Creek.
FLW–2	Quantity of the final treated industrial wastewater discharge at the Outfall D-002 to the Blue Pond.
EFF–1	Nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–001 or D–002

Fact Sheet page 11

> *Sampling is conducted for the effluent discharge for The Outfall Group D-001. The same discharge can be directed to the Outfall Monitoring Group D-002; Therefore, sampling for D-001 represents the discharge for D-002. (i.e. The water quality of the effluent discharge from the Outfall D-002 to the Blue Pond is the same as the water quality of the effluent from the Outfall D-001 to Alligator Creek.)*

The wording *"with eventual discharge into Blue Pond"* is neither clear nor precise. Is the travel time days, weeks, or months? What is the flow path to Blue Pond?

The use of the word "*portion*" in the phrase "*which is the portion of Alligator Creek which flows south in Clay County."* is misleading because it makes it appear that the Alligator Creek that receives the discharges from D-001 and the Alligator Creek that receives the D-002 discharge are the same creek. The Alligator Creek that receives water from D- 001 flows to the Santa Fe River in the SRWMD while the Alligator Creek referenced for D-002 flows to the St Johns River and is in the SJRWMD. The two creeks have no physical connection. There is a third Alligator Creek that flows from Lawtey to the New River that also has no physical connection.

Satellite imagery seems to show the pumps for the recycle line are upstream of D- 001and may be taking in water that is not the same quality as the water sampled at D- 001.Data is needed to support the claim, "*The water quality of the effluent discharge from the Outfall D-002 to the Blue Pond is the same as the water quality of the effluent from the Outfall D-001 to Alligator Creek."*

It is also important to note that the Southwest Quadrant Pond was created by mining activities in the early 1950s. It is reported that Camp Blanding used the site for receiving artillery fire and contains unexploded shells. The Southwest Quadrant Pond also received water discharged by DuPont and Chemours via D-002 that exceeded the 1mg/L limit for discharge to surface water. The human created changes to the flow path of the water currently discharged at D-002 could add pollutants.

The addition for iron, radium, substances that could cause Whole Effluent Toxicity and regulated materials leached from military ordinance could increase the levels of these materials in water entering Blue Pond.

The D-002 sampling point should be moved to the end of the pipe discharging water to Blue Pond. No reasonable assurance was provided that Chemours discharges via D-001 represent the actual levels of parameters discharged at D-002 and thus that these parameters will not be exceeded.

DEP Response: The review for redirecting a portion of the effluent to the Southwest Quadrant Pond was conducted and approved in May 2005, which was at the time of the original agreement with the Keystone Stakeholders Committee to send water to Keystone Heights area. The existing recycle line from the Outfall D-001 was tapped and a pipeline was constructed to route approximately 400 gallon per minute of the wastewater to an existing ditch which then discharges into the Southwest Quadrant Pond with eventual discharge into Blue Pond. As mentioned, this rerouting of final effluent is part of an effort of the Keystone Stakeholders Committee to help improve lake water levels in the Keystone Heights area.

Please find attached a substantial permit revision which was issued on May 4, 2005. Pursuant to the permit revision, the Permittee conducted routine monitoring for the water qualities of the effluent at the sample point EFF-1 (i.e. a nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–001 to Alligator Creek) and the sample point EFF-2 (i.e., at the discharge point into the unnamed ditch which discharges into the Southwest Quadrant Pont). The permit revision also indicated that, upon completion of six months of sampling at monitoring locations EFF-1 and EFF-2, if there was a statistically non-significant difference in the suspended solids and iron levels in the effluent, monitoring of the water qualities of effluent discharge from D-002 might not be required. With the permit renewal application submitted in March 2009, data was provided to illustrate that there was no significant difference and with issuance of the permit no additional monitoring other than flow was required at the Outfall D-002.

Mr. Paul Still's follow-up comment: The above fails to address the concern that the flow of water through the old mined area could impact Blue Pond water quality by the addition of substances that would cause the water entering Blue Pond to meet regulatory standards.

DEP Response: *Chemours has monitored the water quality before discharging from Outfall D-002, and due to the high elevation of the trip mines (i.e. "the old mined area"), water discharging from the Outfall D-002, would not flow through the old mined area. The water discharging from the Outfall D-002 should mostly flow through a drainage ditch running along the side of the Treat Road to the Blue Pond (Please see Figures 1 and 2 below).*

In addition, FDEP and SJRWMD have monitored the water quality of the pond (please see Figure 3 for the monitoring location) and attached Appendix D for the analytical sample results.

Figure 1:

Figure 2

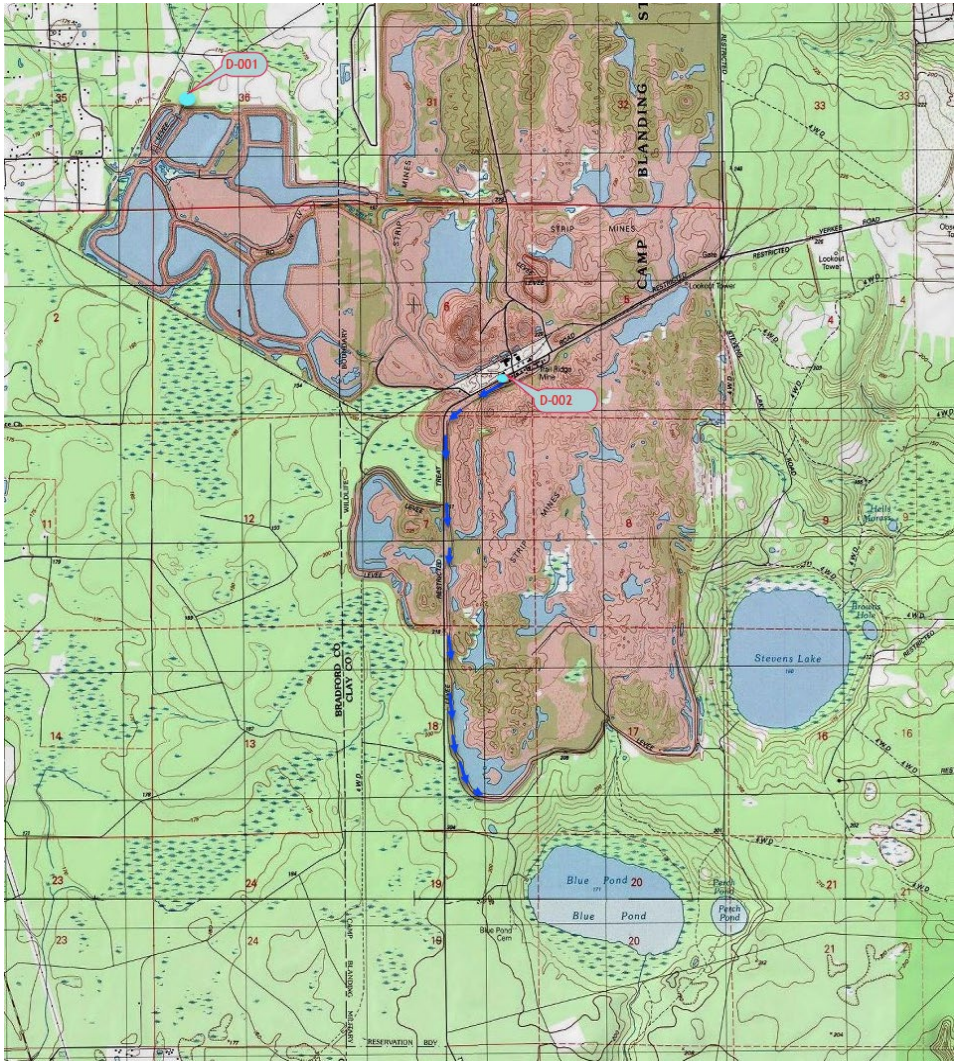
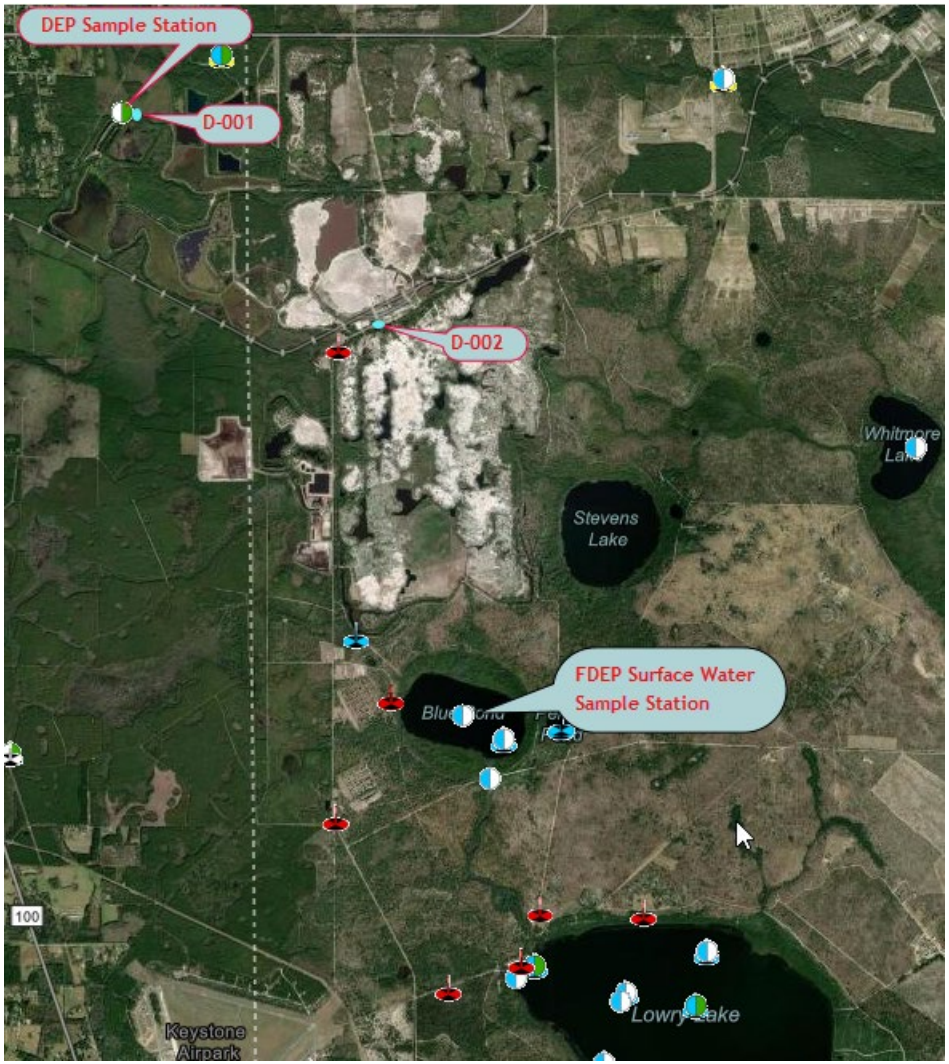


Figure 3



Mr. Paul Still Comment # 4: Receiving industrial wastewater from the Trail Ridge South Mine

Draft Permit page 2

> *The permittee is authorized to receive approximately 3.0 MGD maximum daily flow from Chemours Trail Ridge South for auxiliary treatment and discharging through the Outfall D–002 to the Southwest Quadrant Lake/ Blue Pond to Lake Brooklyn, as needed, on a temporary basis.*

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> *B. Surface Water Discharges (Outfall D–002) (Temporary)*
>
> *1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized temporary to receive water from Trail Ridge South for auxiliary treatment at Trail Ridge. The final treated effluent is discharged from the Outfall D-002 to Blue Pond (WBID 2509N). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:*

The words "*approximately 3.0 MGD"* and "t*emporary*" are vague and misleading. What is considered "*approximately 3.0 MGD"?* A discharge that is permitted for 5 years does not appear to be "t*emporary*".

The draft permit language fails to identify the point where water will be withdrawn from the Trail Ridge South IWW treatment system to be pumped to the facility covered by this Draft Permit.

The Draft Permit language fails to identify what auxiliary treatment will occur at the treatment system covered by this Draft Permit.

The Draft Permit fails to state how the 3 MGD will be pumped to the D-002 outfall.

Draft Permit page 14

> *4. Transferring of the wastewater from Chemours-Trail Ridge South to Chemours-Trail Ridge for auxiliary treatment and discharging from Outfall D-002 to Blue Pond is authorized only for emergency conditions. At least 48 hours prior to transferring of water from Trail Ridge South to Trail Ridge for auxiliary treatment, the Permittee, Chemours, shall notify the Northeast District office. The notification shall include the estimated length of time needed for auxiliary treatment. [BPJ] [62-620.320(6)]*

The meaning of [BPJ] in not clear.

It is not clear what emergency conditions would allow for this option. The option should not be used simply to avoid installing the required infrastructure at Trail Ridge South Mine to avoid emergency conditions.

No reasonable assurance was provided that Chemours discharges would not exceed the levels listed in the Draft Permit if Trail Ridge South industrial wastewater is added to the Florida Mine-Trail Ridge system.

DEP Response: Emergency conditions would be defined on a case-by-case basis.

Please note that Chemours – Trail Ridge South is authorized to convey its wastewater to Chemours – Trail Ridge only during emergency situations to allow Chemours time to repair and/or replace any failed components.

If this were to occur, the wastewater from Chemours Trail Ridge South will be treated at Chemours Trail Ridge before discharging through Outfall D-002 to the Southwest Quadrant Lake to Blue Pond. Discharge from Chemours Trail Ridge South shall be monitored and required to comply with the permit requirements. Please see Appendix B for a process diagram.

Additionally, the flow permit limits at D-001 and D-002 have not changed with this permit renewal.

Mr. Paul Still's follow-up comment: "Emergency conditions would be defined on a case-by-case basis." *is still vague. Chemours has the option to shut down operations as they did on January 31, 2024, when there was an offsite release of process water. The risk posed by the potential addition of water from Trailridge South process water with radium levels above the 5piC/L limit creates to great of a risk for residents of Stake whose property would be impacted during flooding events.*

DEP Response: *The water that discharges from the Outfall D-001 is required to comply with the Water Quality Limit of 5 piC/L for Radium 226+228. The historical data including the latest sample result which was collected in December 2023 shows that the total Radium 226+228 was below the WQS of 5.0 piC/L for the parameter. The new permit will increase the sample frequency for Radium 226+228 from an annual (1/year) basis to quarterly (1/quarter or 4/year) basis. Increasing monitoring frequency will help better characterize the effluent quality and help to detect events of noncompliance.*

Mr. Paul Still Comment # 5: Radium levels in wastewater from the Trail Ridge South Mine

A clarification of the Trail Ridge South Mine water transfer details noted in item 5 is critical because on May 17. 2023, Chemours verbally reported to DEP that a water sample taken on April 19, 2023, from Trail Ridge South IWW facility contained 9.3 piC/L of radium 226+228 which is above the permit limit of 5 piC/L of radium 226+228. Chemours also reported it was adding barium to treat the radium 226+228.

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(h) Radium 226 + Radium 228

The permittee is required to monitor for Radium 226 + Radium 228. Results of the five years monitoring show average, mode, median, 95th percentile, and maximum concentrations of the parameter in the effluent samples were 2.54 pCi/L, 2.70 pCi/L, 2.70 pCi/L, 2.97 pCi/L and 3.00 pCi/L, respectively. Data indicates that the effluent has been in compliance with the permit limit of 5.0 pCi/L for the parameter. The permittee shall continue monitor for Radium 226 + Radium 228.

(The spelling of Radium should be corrected.)

Adding water from Trail Ridge South that has higher radium 226+228 levels is not addressed in the Draft Permit Fact Sheet.

The presence of radium 226+228 in excess of the discharge limit may require weekly sampling to avoid discharging radium 226+228 in excess of the permit limit.

The Starke Alligator Creek flows through the Starke Golf Course and residential neighborhoods which increases the chances of human contact with discharged radium 226+228.

It should also be noted that adding barium does not destroy the radium 226+228. It allows the radium to settle out of the water but the radium/barium complex remains in the sludge in the settling ponds. During major rain events the barium bound radium 226+228 can be moved out of the treatment system as a suspended solid.

No reasonable assurance was provided that the Chemours discharges would not exceed the radium 226+228 limit if Trail Ridge South industrial wastewater is added to the Florida Mine-Trail Ridge system.

DEP Response: The typographical error of the word “radium” has been corrected.

In response to your concerns, sample frequency for the total radium 226+228 is proposed to change from “Annually” to “Bi-Monthly”.
History of data analytics for the Total Radium 226+228 monitored at Trail Ridge and Trail Ridges South are listed below:

Total Radium 226+228			
Monitored at Trail Ridge		Monitored at Trail Ridge South	
Date	Results (pCi/L)	Date	Results (pCi/L)
12/31/2022	2.9	06/30/2023	9.3

Total Radium 226+228				
12/31/2021	2.7		03/31/2023	No discharge
12/31/2020	2.8		12/31/2022	4.3
12/31/2019	3		–	–
12/31/2018	2.7		–	–
12/31/2017	1.7		–	–
12/31/2016	2		–	–

- Estimate concentration of total radium 226+228 discharging in the ***worst-case scenario***:

For Trail Ridge: Flow = 30.0 MGD (Average Flow)
Total Radium 226+228 = 2.9 pCi/L (Max value)

For the Trail Ridge South: Flow = 3.0 MGD (Maximum Flow)
Total Radium 226+228 = 9.3 pCi/L (Max value)

In the Combined Discharge:

$$\text{Radium } 226 + 228 = \frac{\left(30.0\ MGD \times 2.9\ \frac{pCi}{L}\right) + (3.0\ MGD \times 9.3 \frac{pCi}{L})}{(30.0\ MGD + 3.0\ MGD)} = 3.48\ \frac{pCi}{L} < 5.0 \frac{pCi}{L}$$

It is important to note that the effluent discharging from Trail Ridge is required to comply with both the groundwater and surface water quality criteria.

Mr. Paul Still's follow-up comment: *What is the source of "* Flow = 30.0 MGD (Average Flow)*"? The annual average flow in the December 2023 DMR was 3.8 MGD. If 3.8 MGD is used in the equation above the 5 pCi/L limit would be exceeded.*

DEP Response: *The calculation demonstrates the worst-case scenario. The water that discharges from the Outfall D-001, is required to comply with the Water Quality Limit of 5 piC/L for Radium 226+228.*

The December 2023 sample result shows that the Radium 226+228 was 3 piC/L which was below the WQS. As discussed above, the new permit will increase the sample frequency of the parameter, which would help to confirm the water quality of the discharge.

Mr. Paul Still Comment # 6: The need to reduce permitted flows

Draft Permit page 2.

REUSE OR DISPOSAL:

Surface Water Discharge D-001:

An existing 40.0 MGD maximum daily flow permitted capacity discharge at the Outfall D-001 (a Class III fresh water, WBID 3606); the water then flows to Alligator Creek (a Class III fresh water, WBID 3589C). The point of discharge is located approximately at latitude 29° 55' 25" N, longitude 82° 03' 43" W.

The Applicant has failed to establish that the Alligator Creek Canal has the capacity to receive "*40.0 MGD maximum daily flow"* without flooding homes, apartments, and infrastructure. The current permit application must be examined in the light of the following:

1. Flooding upstream of the 301 Bridge over Alligator Creek from Hurricane Irma in September 2017 and other major rain events.
2. Sediment accumulation in the Alligator Creek Canal
3. Changes to the Alligator Creek Canal installed by the Suwannee River Water Management District as part of the Edwards Bottomlands Project which is approximately 150 yards downstream of the 301 Bridge over Alligator Creek in Starke. The information included in the Fact Sheet for this Draft Permit indicates DEP may not have been fully informed about critical issues associated with the impacts of the Chemours discharges.

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Prior to the development of the City of Starke, Alligator Creek was a small, intermittent stream, which received seepage and overland flow from the area's mixed pine and hardwood forests. Over many decades, Alligator Creek was dredged several times prior to environmental regulation to improve the drainage within the City of Starke. These dredging events have caused hydrologic impacts to the floodplain wetlands and destabilized the stream in many locations causing continued erosion and water quality problems. Stream restoration is needed to improve wetland functions within the Alligator Creek floodplain and protect this system from continued erosion and degradation, but the funding of such a restoration has been cost prohibitive. In order to improve hydrologic conditions within the floodplain and reduce some of the sediment load from going to Lake Rowell down Alligator Creek, Suwannee River Water Management District (SRWMD) in cooperation with the Florida Fish & Wildlife Conservation Commission (FWC) and the City of Starke, plan to conduct a floodplain restoration project which will re-establish the flow connection from the portion of the altered creek to a 47-acre floodplain parcel known as the Edwards Bottomlands. The restoration project will improve water quality, fish and wildlife habitat and the hydrology within the altered wetlands. SRWMD is also evaluating the potential acquisition of a 14-acre tract of historic floodplain, adjacent to the 47 acre parcel, as part of this project.

The above statement has several errors and should be revised.

Alligator Creek itself was never dredged. Around 1914 a drainage canal system was dug east of Starke in the floodplain of Alligator Creek and in some parts outside of the Alligator Creek floodplain. When the canal that runs from Starke to Lake Rowell was dug is not known but was likely dug before the drainage work done around 1914.

Maintenance dredging of parts of the Alligator Creek Canal have been done.

Observations made from 1998 to the present would indicate the banks of Alligator Creek Canal were stable except when large trees on the canal banks fell into the canal. Based on the accumulation of sediment at the Laura Street bridge after the sediment was removed in late 2012 early 2013 significant sediment loading appears to be coming from areas upstream of Laura Street which could include discharges from DuPont/Chemours during significant flow events.

Observations made at the Edwards Bottomlands Project site indicate that erosion from the site is also occurring.

The Edwards Bottomlands Project has been constructed by the SRWMD using wetland mitigation funding from FDOT. The 14-acre tract referenced in the Fact Sheet has been purchased and is part of the Edwards Bottomlands Project. The Edwards Bottomlands Project design included creating 4 ox bows to replace sections of the original straight canal. The ox bows decrease the in-channel flow capacity of the original straight canal. The plan also added a secondary channel to help offset this reduced flow. The secondary channel has been colonized by invasive and other plants that reduce the flow in the secondary channel. A pipe line that carries Starke's treated wastewater to its spray field also restricts flows. There appears to have been no flow measurements done to determine the current capacity of the Alligator Creek canal and floodplain upstream of the treated wastewater pipeline.

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Alligator Creek has a contributing drainage area of 19.4 square miles. Low-flow frequency of the creek is following: $_{7}Q_{2} = 3.2\ ft^3/s$, $_{7}Q_{10} = 0.3\ ft^3/s$, $_{30}Q_{2} = 8.0\ ft^3/s$; $_{30}Q_{10}$

= 1.1 ft3/s. There is a SRWMD and USGS stage station at Alligator Creek below US 301

in Starke, ***Station ID:*** *02320734 (reference document: USGS Drainage Areas of Selected Surface water sites in Florida, Report 81-482, 1981). The contribution to the watershed for Alligator Creek (waterbody ID # 3598c) was reviewed for a 25 year-24 hour rainfall event and a 100 year 24 hour rainfall event and considered the discharge from the Trailridge (sic) mine outfall, D-001. The Chemours TrailRidge (sic) mine percent contribution ranged from 0% at no outfall discharge to 2.30*

% for the 79.20 MGD during Hurricane Irma (September 2017). During Hurricane Irma (September 2017) the rainfall was well beyond the 100-year storm event and thus the Chemours discharge as a percentage of total would be even less than 2.30 %.

(Correct spelling of Trail Ridge.)

The gage referenced by the words "*There is a SRWMD and USGS stage station at Alligator Creek below US 301 in Starke."* was moved upstream of the US 301 bridge.

Discharge from D-001		Flow from Outfall D-001 as Percentage of Total Flow	
MGD	Volume	Storm Event 24-hr/25-yr = 7.75 in 3.49 x 10^8 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 4.51 x 10^8 gallons Stormwater
0.0	0.0	0.00 %	0.00 %
20.0	2.67 x 10^6	0.76 %	0.59 %
30.0	4.01 x 10^6	1.13 %	0.88 %
40.0	5.35 x 10^6	1.51 %	1.17 %
50.0	7.39 x 10^6	2.07 %	1.61 %
70.0	9.35 x 10^6	2.61 %	2.03 %
80.0	10.68 x 10^6	2.96 %	2.30 %

Data is needed to support the claim "*During Hurricane Irma (September 2017) the rainfall was well beyond the 100-year storm event".*

It is important to distinguish the difference between using MGD as a flow rate and using MGD as a measure of *maximum daily flow*. A flow rate can be for any period of time and could go up and down during any 24-hour period. The 79.2 flow reported by Chemours was a flow rate and not a 24-hour maximum daily flow.

There appears to be an error in the data in the above Table, caused by the failure to acknowledge where flooding occurs in Starke. During Irma flooding in homes and apartments along Alligator Creek occurred upstream of the US 301 bridge over Alligator Creek. Other major rain events have also caused flooding of homes upstream of the US 301 bridge over Alligator Creek. The drainage area for the flooded homes and apartments would be lower than the 19.4 square miles used to calculate the percentages in the above Table. As you move upstream the drainage area decreases. To understand the impacts of the discharges from D-001 the information presented in a Table should include estimates of the percentage of flow from each flooded area along Alligator Creek using the drainage area for Alligator Creek upstream from the flooded homes and apartments. This would require calculations for at least Orangewood Apartments, Waters Street, Bradford Court, and Country Club Estates. The homes

flooded in Country Club Estates would have the smallest drainage area and thus the highest percentage of total flow from D-001.

It is also important to note that during Irma there were likely discharges from Chemours that bypassed D-001. An image of the flume structure at D-001 during a DEP site inspection shows erosion at the structure which may indicate flows were topping the road and thus not being measured. The same DEP inspection has images of an overflow pipe in the Pond L dam that would carry water to the borrow pit system below and outside of the pond dams. The flow out of the borrow pit system moves to a railroad ditch and under the tracks through a culvert and over the railroad tracks during high flows to the North Florida Land Trust (NFLT) property to the south of the railroad. The water flows west and then north through 4 culverts to a drainage system that carries it to Alligator Creek between Bradford Court and Country Club estates. This flow is not measured. This flow has been observed during other rain events and should be addressed with respect to water quality and water flows in this draft permit.

One issue that needs to be considered is that canal capacity can be significantly decreased during major rain and wind events by trees falling across canals and trapping both trash and vegetative debris. Post Irma evaluation of the Alligator Creek Canal just downstream of the US 301 bridge revealed such a blockage that was made worse by debris trapped on the chain link fences on both sides of the Alligator Creek Canal. The blockage was partially removed when the force of the water pushed over the chain link fence on the south side of the Alligator Creek Canal. This provided a new flow path allowing higher flows and reducing flood levels in a few hours.

While flooding and flow are not referenced directly in the permitting process, flooding and flows have major implication associated with the mass of discharged material10000000000s. When the concentration of the element of concern is the same in high and low flows, more of the element is released to the environment during high than would occur at low flows. During low flows the element of concern would likely be retained in channel. If high flows cause flooding the area of exposure to the element of concern increases.
The element of most concern is radium 226+228. In the case of discharges from D-001 flooding could put radium 226+228 into homes and apartments.

Without knowing the capacity of the Alligator Creek Canal, the following actions should be taken:

1. The discharge limit for the Chemours IWW permit should be reduced to no more than 30 MGD.
2. Chemours should be required to evaluate its settling pond system to determine if the ponds have sufficient capacity to meet the 40 MGD limit in the Draft Permit.
3. The exterior dams of the Chemours pond system should be evaluated to make sure they can contain the required volume without failing.

While flooding is not directly addressed in the rules related to the Draft Permit, flooding must be considered because flooding would expose people to regulated materials in the water discharged by Chemours. It should be noted that iron levels can be higher during flooding events.

If Trail Ridge South water is added to the Florida Mine-Trail Ridge facility Radium 226+228 could be an element of concern.

Chemours has failed to provide reasonable assurance that its discharges will not cause downstream flooding of homes, apartments, yards, playgrounds, and streets that would create a possible exposure to materials in its discharged water.

DEP Response: The stormwater management system at Chemours Trail Ridge was designed based on the Water Management Districts stormwater guidebooks. Currently, the Department has no rule basis or guideline to request a wastewater treatment system to be designed with a hurricane rainfall event.

Permitted discharge capacity of 40.0 MGD maximum daily flow through the Outfall D-001 (a Class III fresh water, WBID 3606) has been granted since June 2010 permit issuance. This permit renewal does not propose to increase in discharge capacity.

Rainfall events and antecedent conditions drive daily maximum flows and annual average flows. When intense rainfall events saturate the ground, they produce higher rates of run-off and reduce storage in treatment ponds. During these conditions, the treatment rate must be maintained to preserve the safety surge capacity of the ponds from being filled. Based on historical data during previous wet periods (i.e.100-year, 24-hour storm rain event) that resulted in the discharge rates, the treatment system has proven to handle the flow rates, meet water quality standards, and not cause downstream flooding.

Mining at Trail Ridge has ceased, but reclamation and operations at the dry mill are continuing. Chemours is actively working to reclaim mined lands so that runoff can be returned to the natural watershed and removed from the water treatment system. Due to the historical location of the treatment system ponds and stormwater conveyance ditches, runoff from much of the reclaimed land cannot be returned to natural watersheds until the entire area has been reclaimed and stormwater conveyance ditches have been removed. The majority of the land between the water treatment pond system to the south and the active reclamation further to the north has been reclaimed - but the connection between these two areas continues to collect stormwater via a stormwater conveyance ditch that connects the two areas.

Alligator Creek, which is approximately 6.5 miles long, 20 feet average wide, and from 6 inches to 18 inches deep, is basically a drainage ditch that flows into Lake Rowell. The drainage area is approximately 19 square miles. City of Starke area receives 51 inches of rain on average per year. The 25-year, 24hour storm event is 7.7 inches rainfall; and 10-year, 24-hour storm event is 10.0 inches rainfall. Alligator Creek can handle the runoff water and amount of water discharge from the Outfall D-001 of Chemours Trail Ridge without flooding issues. However, during hurricane events, stormwater water is unpredictable; for example, during Hurricane Irma, the City received 12.4 inches of rain in a short period time. The SRWMD's Hydrologic Data Services team has gathered periodic flow information on Alligator Creek, as well as high water information after significant rainfall or drought events. Since 2015, flows in Alligator Creek have ranged from 0.53 cubic feet per second (cfs) (June 11, 2015) to 860 cfs (September 12, 2017) after Hurricane Irma. The creek also went dry on May 09, 2017 with only puddles visible**.** Therefore, it can conclude that the flooding which occurred in September 2017, was caused by Hurricane Irma.

Calculations

- **Alligator Creek:**
  - Flow in the Creek: Q = A * V
    Where: Q = Flow rate (cubic feet per second (cfs))
    A = Cross Section Area of the Creek (square feet (ft^2))
    V = velocity of the water flow (feet per second (fps)
  - Drainage area = 19 mi^2
  - Low-flow Frequency: 2Q7 = 3.2 cfs; 7Q10 = 0.3 cfs ; 2Q30 = 8.0 cfs ; 10Q30 = 1.1 cfs
    o Maximum Flow Recorded: Q = 860 cfs (September 12, 2017 – Hurricane Irma)

Mr. Paul Still's follow-up comment: *What information did DEP use to support the claim "*Based on historical data during previous wet periods (i.e.100-year, 24-hour storm rain event) that resulted in the discharge rates, the treatment system has proven to handle the flow rates, meet water quality standards, and not cause downstream flooding.*"?*
***DEP Response**: Department staff used water balance calculations as discussed above and reviewed the USGS monitoring data (water elevation level in the creek from 11/13/2012 to 07/29/2024) at USGS Station 02320734 (Alligator Creek at Starke Florida), approximate at latitude 29° 56′ 10′′ N and longitude 82° 06′ 45′′ W.*
http://www.mysuwanneeriver.org/realtime/river-levels.php
http://www.mysuwanneeriver.org/realtime/river-30-day.php?id=02320734
And Station 02320732 (Alligator Creek at Starke Florida), approximate at latitude 29° 56′ 10.86792′′ N and longitude 82° 06′ 42.37844′′ W.
https://waterdata.usgs.gov/monitoring-location/02320732/#period=P1Y&showMedian=true
https://pubs.usgs.gov/wri/1993/4165/report.pdf
Mr. Paul Still's follow-up comment: What information did DEP use to support the claim "The stormwater management system at Chemours Trail Ridge was designed based on the Water Management Districts stormwater guidebooks."?
***DEP Response**: The stormwater management system was reviewed and approved in the previous permit cycles in accordance with the Applicants Handbook Volume II*
Mr. Paul Still's follow-up comment: The current Alligator Creek canal channel was significantly altered by the SRWMD Edwards Bottomlands Project. The current Alligator Creek canal channel may not have the same capacity as it had when the 2010 permit was issued with the 40 MGD limit.
***DEP Response**: Suwannee River Basin 2024 SWIM Plan, Project ID 0036, implements flood plain restoration on Edwards Bottomlands and Alligator Creek to re-establish flow in previously altered creek and improve nutrient attenuation.*
Mr. Paul Still's follow-up comment: What is DEP's estimate of the flow of Alligator Creek at bank full conditions at 301, SR 100, Laura Street, SR230, Bradford Court, and NE 17th Ave?
***DEP Response**: Department staff have not completed flow calculations at 301, SR 100, Laura Street, SR230, Bradford Court, and NE 17th Ave.*

*Mr. Paul Still's follow-up comment: What information did DEP use in making the following statement "*Alligator Creek, which is approximately 6.5 miles long, 20 feet average wide, and from 6 inches to 18 inches deep, is basically a drainage ditch that flows into Lake Rowell.*"?*
Where is the Alligator Creek channel only 18 inches deep?
DEP Response: *Information on Alligator Creek was obtained from the Suwannee Water Management District, USGS, Alligator Creek Preserve, Florida Paddle Notes, Department Sampling Inspection Report.*
https://www.floridapaddlenotes.com/alligator-creek/
https://www.floridapaddlenotes.com/alligator-creek/#:~:text=Between%20the%20cypress%20trees%20along,DuPont%20mined%20heavily%20for%20Titanium.
Mr. Paul Still's follow-up comment: What is the channel width at just downstream of NE 17th Ave and at Bradford Court? DEP failed to respond to
DEP Response: *We do not have specific information of the channel width of the Alligator Creek at just downstream of NE 17th Avenue and at Bradford Court. Please see above response regarding resources for information on characteristics of Alligator Creek.*
"2. Chemours should be required to evaluate its settling pond system to determine if the ponds have sufficient capacity to meet the 40 MGD limit in the Draft Permit.
3. The exterior dams of the Chemours pond system should be evaluated to make sure they can contain the required volume without failing."

- **Expanded Calculations**

Discharge from D-001		Flow from Outfall D-001 as % of Total Flow (2.59 square miles of drainage area of Chemours – Trail Ridge)		Flow from Outfall D-001 as % of Total Flow (19 square miles of drainage area of the whole Alligator Creek)		
MGD	Volume (gallon/day)	Storm Event 24-hr/25-yr = 7.75 in 3.49×10^8 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 4.51×10^8 gallons Stormwater	Storm Event 24-hr/25-yr = 7.75 in 2.26×10^9 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 3.30×10^9 gallons Stormwater	Storm Event Hurricane Irma = 12.4 in 4.09×10^9 gallons Stormwater
0.0	0.0	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
20.0	2.67×10^6	0.76 %	0.59 %	0.12%	0.08%	0.07%
30.0	4.01×10^6	1.13 %	0.88 %	0.18%	0.12%	0.10%
40.0	5.35×10^6	1.51 %	1.17 %	0.24%	0.16%	0.13%
50.0	7.39×10^6	2.07 %	1.61 %	0.33%	0.22%	0.18%
70.0	9.35×10^6	2.61 %	2.03 %	0.41%	0.28%	0.23%
80.0	10.68×10^6	2.96 %	2.30 %	0.47%	0.34%	0.26%

During Hurricane Irma Trail Ridge received 559.24 million gallons of water.

Please note, the above calculations do not show significant effects of the 40 MGD of water discharge compare to 30 MGD water discharge to the overall stormwater.

Mr. Paul Still's follow-up comment: *The above table and conclusions are not valid because they only represent the percentage of flow at Lake Rowell. As you move upstream the percentage of flow from Chemours would increase. Calculations should be done for the segments of Alligator Creek upstream from the following 301, SR 100, Laura Street, SR230, Bradford Court, and NE 17th Ave.*

DEP Response: *The calculations of stormwater runoff from 2.59 square miles of drainage area of Chemours – Trail Ridge and different discharging capacity from the Outfall D-001.*

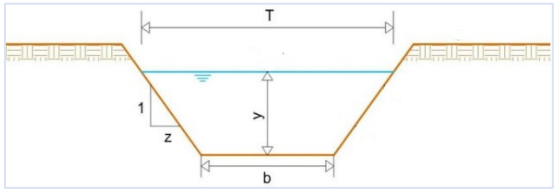
Additional calculations*: Estimate water level of the creek when increasing the flow rate.*

- *Mining Manning equation for open channel flow:* $Q = \frac{CA}{n} R^{\frac{2}{3}} S^{\frac{1}{2}}$

Where:

Q	=	*Flow rate (m^3/s, MGD or cfs)*
C	=	*Conversion unit (C = 1.0 for SI unit, C = 1.49 for English unit*
A	=	*Cross-sectional area of flow (m^2 or ft^2)*
n	=	*The Manning roughness coefficient*
R	=	*The hydraulic radius (meter or feet) ($R = \frac{A}{P}$)*
P	=	*The wetted perimeter of the cross-sectional area of flow (m or ft)*
S	=	*The bottom slope of the channel (m/m or ft/ft)*

- *Assume Alligator is a trapezoid channel:*



Then

Bottom Width (b)	=	$\frac{2\sqrt{3}}{3}y$
Top Width (T)	=	$\frac{4\sqrt{3}}{3}y$
Area (A)	=	$\sqrt{3}y^2$

$$\textit{Wetted Perimeter (p)} = 2\sqrt{3}y$$

$$\textit{Hydraulic Radius (R)} = \frac{y}{s}$$

- *Comparation of the water in the creek when the flow rate of the effluent discharge is changing from 30 MGD to 40 MGD*

Q_1 = *30.0 MGD, and* y_1 *is corresponding water level in the creek.*
Q_2 = *40.0 MGD, and* y_2 *is corresponding water level in the creek.*

Apply Manning equation for open channel flow:

$$\frac{Q_2}{Q_1} = \frac{(\frac{C}{n}\, A_2\, \sqrt[3]{R_2^2}\sqrt{S}\,)}{(\frac{C}{n}\, A_1\, \sqrt[3]{R_1^2}\,\sqrt{S})}$$

$$\frac{40.0\ MGD}{30.0\ MGD} = \frac{(A_2\, \sqrt[3]{R_2^2})}{(A_1\, \sqrt[3]{R_1^2}}$$

$$\frac{4}{3} = \frac{\sqrt{3}\, y_2^2\, (\sqrt[3]{(2\sqrt{3}y_2)^2})}{\sqrt{3}\, y_1^2\, (\sqrt[3]{(2\sqrt{3}y_1)^2})}$$

$$\frac{4}{3} = \frac{y_2^2\, (\sqrt[3]{(y_2)^2})}{y_1^2\, (\sqrt[3]{(y_1)^2})}$$

$$\frac{4}{3} = \frac{\sqrt[7]{y_2^2}}{\sqrt[7]{y_1^2}}$$

$$\frac{y_2}{y_1} = 1.085$$

$$y_2 = 1.085 y_1$$

- *Conclusions: The above calculations indicate that the water level of the creek may increase 8.5% when the flow rate increases from 30.0 MGD to 40.0 MGD.*

Mr. Paul Still Comment # 7: Additional sampling schedule for iron and radium 226+228

Draft permit page 9

Surface Water Discharges (Outfall D–001)

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge process wastewater and stormwater from Outfalls D-001 or D-002. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow, From Outfall D-001	MGD	Max	40.0	Daily Maximum	Continuous	Recording Flow Meter with Totalizer	FLW–1	See I. A. 3
		Max	Report	Monthly Average				
		Max	Report	Annual Average				
Flow, From Outfall D-002	Mgal	Max	Report	Monthly Total	Continuous	Recording Flow Meter with Totalizer	FLW–2	
pH	s.u.	Min	6.0	Daily Minimum	Continuous	Meter	EFF–1	See I. A. 4
		Max	8.5	Daily Maximum				
Solids, Total Suspended	mg/L	Max	20.0	Monthly Average	Weekly	24-hr FPC	EFF–1	
		Max	30.0	Daily Maximum				
Iron, Total Recoverable	mg/L	Max	1.0	Daily Maximum	Weekly	24-hr FPC	EFF–1	
Radium 226 + Radium 228, Total	pCi/L	Max	5.0	Daily Maximum	Annually	24-hr FPC	EFF–1	
Zinc, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Nickel, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Hardness	mg/L	Max	Report	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Chronic Whole Effluent Toxicity, 7-day IC25	percent	Min	100	Single Sample	Semi-annual	Grab	EFF–1	See I.A.7

The Administrative Order associated with the expired IWW Permit had the provision "When the previous 24-hour flow proportional composite sample for which results have been obtained is above 0.8 mg/L, 24-hour flow proportional composite sampling will be undertaken every third day until results indicate the level is below 0.8 mg/L." That provision should be added to the language of the Draft Permit.

Based on the exceedance of the radium 226+228 limit noted on page 4 of this Comments document the radium 226+228 Frequency of Analysis should be increased from Annually to Weekly if Trail Ridge South industrial wastewater is pumped to the Florida Mine-Trail Ridge treatment system.

DEP Response: There is no rule basis to include the above condition in the draft permit.

The effluent/water discharging through the Outfall D-001 into Alligator Creek or through the Outfall D-002 into the Southwest Quadrant Pond is required to meet the water quality criterion

of 1.0 mg/L for iron (total recoverable) or obtain the Department approved regulatory relief (i.e., mixing zone, variance, etc.,).

DMR data show that the effluent has complied with the water quality standard for radium 226 and radium 228 as shown below:

Date	Results	Limit	Unit	Statistical Basis
12/31/2022	2.9	5	pCi/L	DD - Daily Maximum
12/31/2021	2.7	5	pCi/L	DD - Daily Maximum
12/31/2020	2.8	5	pCi/L	DD - Daily Maximum
12/31/2019	3	5	pCi/L	DD - Daily Maximum
12/31/2018	2.7	5	pCi/L	DD - Daily Maximum
12/31/2017	1.7	5	pCi/L	DD - Daily Maximum
12/31/2016	2	5	pCi/L	DD - Daily Maximum

Please see previous response referring to increased frequency of analysis.
Mr. Paul Still's follow-up comment: *What is the basis for this claim, "*There is no rule basis to include the above condition in the draft permit.*"*?
The 1mg/l iron limit was exceeded in June and July 2023.
As noted above if the correct average flow is used Radium limits would also be exceeded.

DEP Response: *If the proposed permit is issued, sample frequency for the total Radium 226+228 will be increased from an annually to quarterly basis.*

Please find attached excel spreadsheets which include water quality of Alligator Creek, Lake Rowell and Lake Sampson. Additional information on the water qualities of these waterbodies could be provided upon request.

Mr. Paul Still Comment # 8: Delete or edit *B. Surface Water Discharges (Outfall D–002) (Temporary)*

Draft Permit page 12

> *B. Surface Water Discharges (Outfall D–002) (Temporary)*
>
> *1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized temporary to receive water from Trail Ridge South for auxiliary treatment at Trail Ridge. The final treated effluent is discharged from the Outfall D-002 to Blue Pond (WBID 2509N). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:*

There would appear to be no method to isolate the 3 MGD of wastewater from the Trail Ridge South Mine from other water in the Florida Mine-Trail Ridge treatment system.

Water from the Trail Ridge South Mine should be monitored either at the point it is withdrawn or the point it enters the Florida Mine-Trail Ridge IWW. *B. Surface*

WaterDischarges (Outfall D–002) (Temporary) could be written to make it apply to the water from the Trail Ridge South Mine.

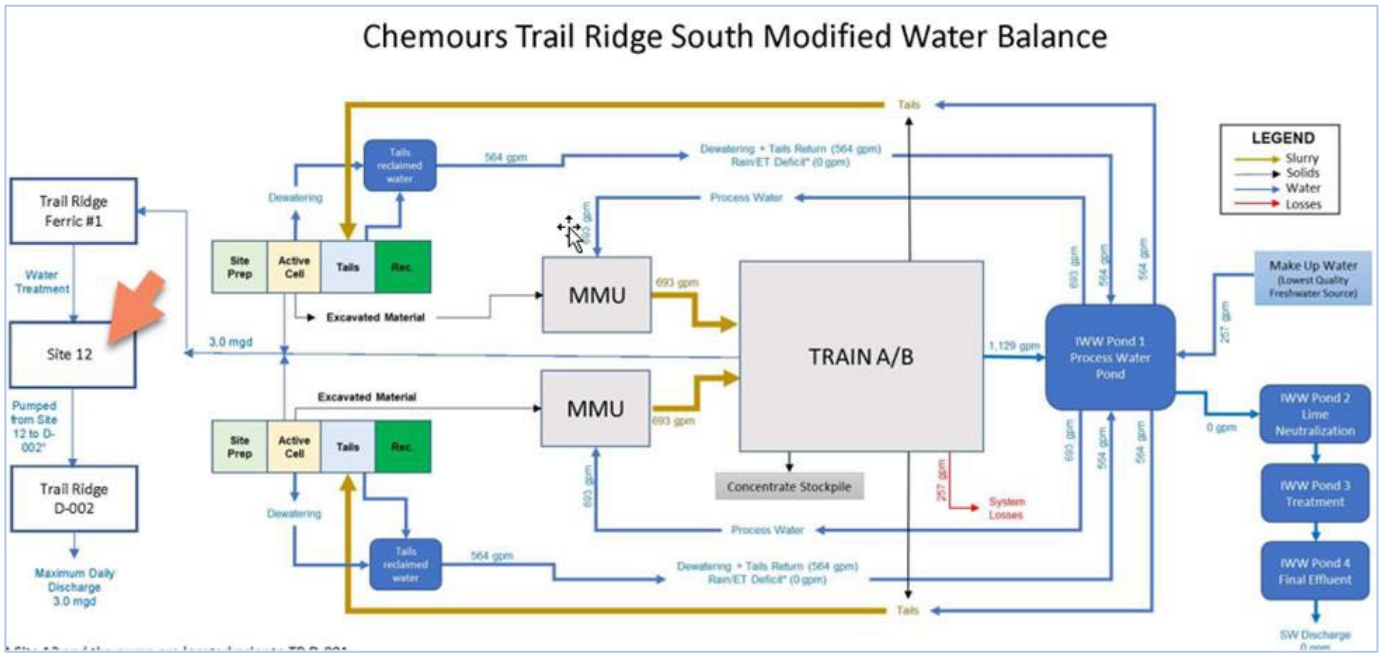
If B.1. is deleted all of B. would also be deleted.

DEP Response: Trail Ridge South has an approved outfall at D-001 to Double Run tributary**.** This is the preferred discharge outfall, as transfer to Trail Ridge requires active pumping.

In the event of an emergency, as defined above, the wastewater from Chemours Trail Ridge South can be sent to Trail Ridge Ferric No. 1 treatment system. The water can be combined with other water being treated from the reclamation area and/or mill area. Water from Ferric No. 1 travels through the various ponds prior to entering the lime treatment area where it is mixed with water from Trail Ridge Ferric No. 2. Water is treated with lime and then flows through the lime neutralization ponds. At the end of the lime neutralization pond are pumps that pump the treated water to the mill for reuse or for discharge to D-002. Please see Appendix B and Appendix C.

Mr. Paul Still's follow-up comment: The DEP response is misleading in that it implies the Trailridge South water can be keep separate from other water in the treatment system and that the only discharge point is the D-002 Trialridge location.

DEP Response: *Water is pumped from the Trail Ridge South process pond to the Trail Ridge Ferric #1 treatment system. Water is/can be combined with other water being treated from the reclamation area and/or mill area. Water from Ferric #1 travels through the various ponds prior to entering the lime treatment area where it is mixed with water from TR Ferric #2 (water from reclamation area and mill area). Water is treated with lime and flows through the lime neutralization ponds. At the end of the lime neutralization pond are pumps that pump the treated water to the mill for reuse or for discharge to D002. Remaining water, which is not pumped, flows to the discharge pond.*



Mr. Paul Still Comment # 9: Need to clarify sludge management requirement

II. SLUDGE MANAGEMENT REQUIREMENTS

1. *The method of disposal for humate sludge generated by the treatment of industrial wastewater by this facility is land application after drying, compacting, and covering with soil as part of the land reclamation process. [62-620.320(6)]*
2. *Humate sludge or other sludge not suitable for land application shall be disposed of in a solid waste management facility permitted by the Department in accordance with the requirements of Chapter 62-701, F.A.C.*

Leaving humate sludges in the settling ponds as DuPont did and Chemours may be continuing to do does not appear to be an option in the permit. Leaving the iron humate sludge in place has likely contributed to the high iron content of the groundwater around the settling ponds.

The inactive ponds fill with water and the iron sludges become rehydrated and can release iron. There are images from the 2018 DEP inspections that show the humate smoldering after a fire and areas where the humate was burned leaving iron oxide on the surface.

Another major concern is the potential for sludge flows should any of the exterior dams of the settling ponds fail during or after a major rain event.

The iron humate sludges need to be removed from the settling ponds to restore their holding capacity and prevent further leaching of iron to ground and surface water. Specific sludge management requirements should be added to the Draft Permit.

Chemours has failed to meet the requirements of 62-620.320(6) for sludge management in its inactive settling ponds.

DEP Response: There are management procedures in place for the handling of humate sludge collected from the treatment ponds.

Please note that sludge production has significantly decreased since the active dredging ceased at Trail Ridge in 2007. The method of disposal for humate sludge generated from the treatment of industrial wastewater is to dry the first 2 – 3 feet and then cap in place by mixing with old tailings. Humate sludge or other sludge not suitable for land application is to be tested and disposed in a solids waste landfill permitted by DEP in accordance with the requirements of Chapter 62-701, FAC.

Please find a copy of their Best Management Practices Plan (BMP), which includes the Humate Sludge Management.

Mr. Paul Still's follow-up comment: *How has DEP verified that DuPount (Chemours) has and is using Best Management Practices for its humate sludges?*

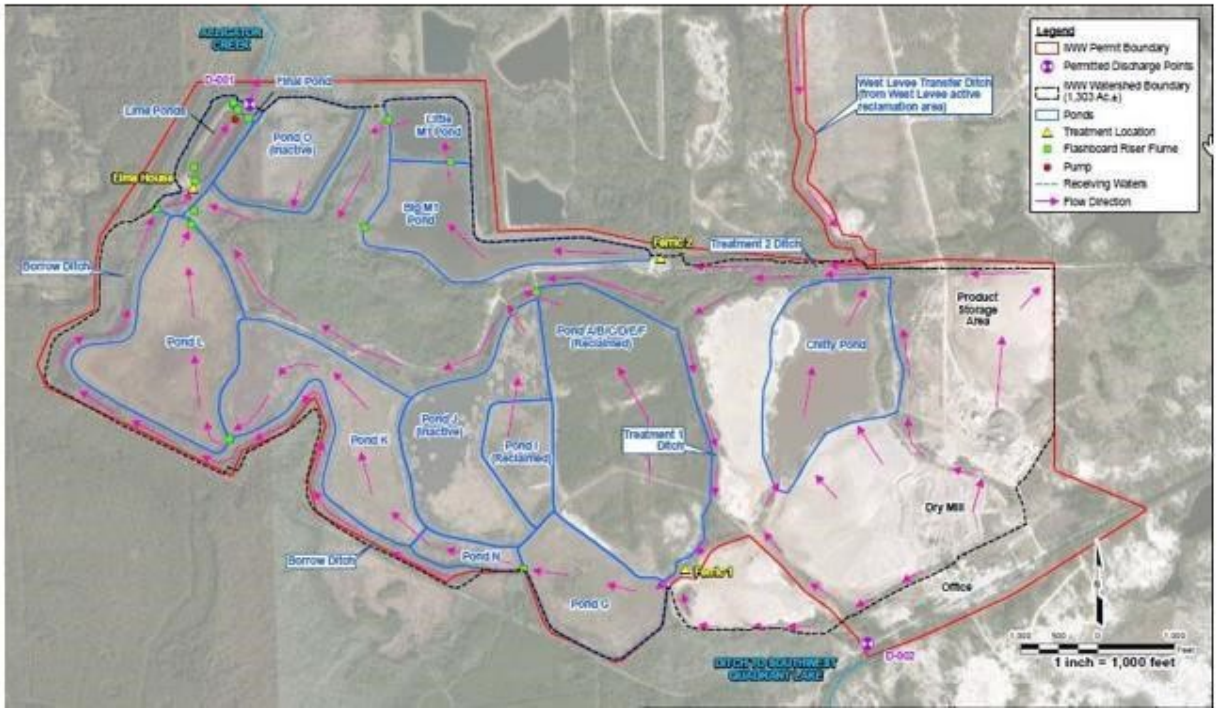
DEP Response: *In accordance with Section 304(e) and 402(a)(2) of the Clean Water Act (CWA) as amended, 33 U.S.C. §§ 1251 et seq., and the Pollution Prevention Act of 1990, 42 U.S.C. §§ 13101 13109, the permittee must develop and implement a plan for utilizing practices incorporating pollution prevention measures. References to be considered in developing the plan are, "Criteria and Standards for Best Management Practices Authorized Under Section 304(e) of the Act," found at 40 CFR 122.44 Subpart K.*
Please see Permit Condition VII. for criteria requirements of a best management practices/stormwater pollution prevention plans.

Mr. Paul Still's follow-up comment: *What data is DEP using to support the claim that "*sludge production has significantly decreased since the active dredging ceased at Trail Ridge in 2007.*"?*

DEP Response: *Sludge production information is available in the facility records.*

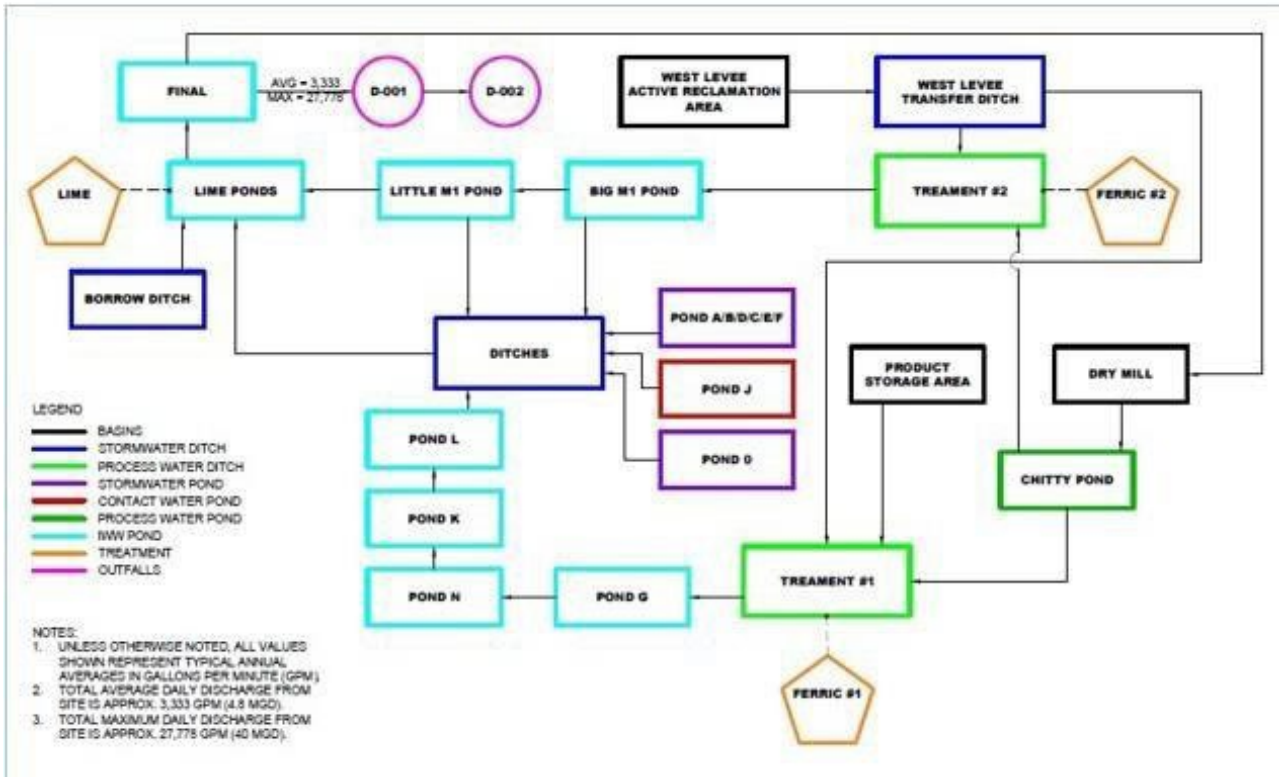
Mr. Paul Still Comment # 10: Offsite discharges from Borrow Ditch

Fact Sheet page 4 of 28
Figure 2: Water Balance Map:



The IWW Permit Boundary in red should be expanded to the Chemours Bradford County property lines on the west and south of the ponds. The current location of the pump (red dot) needs to be verified.

Figure 3: Process Flow Diagram



The Process Flow Diagram does not show offsite flows from the Borrow Ditch (dark blue box upper left) to the south west under and over the railroad tracks and onto adjacent property owned by the NFLT. The flow of water with high iron content from the eastern part of the Borrow Ditch appears to be impacting wetlands on the NFLT property to the south of the Chemours and railroad properties. After water flows from the central portion of the Borrow Pit it flows over and under the railroad onto the NFLT property. It then flows west and then north to pass under the railroad and enter a drainage system that flows to Alligator Creek between Bradford Court and Country Club Estates. At times the water flowing offsite has had levels of iron that exceeded the 1 mg/L limit for iron levels. Samples of water from the drainage feature that carries water to Alligator Creek also have had iron levels above the 1 mg/L limit.

The discharges from the Borrow Ditch were included as part of Consent Order OGC 18- 1240 filed by DEP on 2/7/2019 and referenced on pages 18 & 19 of this Comments document.

Chemours provided a letter 11/1/2019 from Jerry Owen to satisfy the requirement that:

> "f) Within ninety (90) of the effective date of this Order, Respondent shall have a qualified third-party professional engineer provide the following:
>
> 1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where

water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;" The Owen letter stated:

> "As ordered under item 6(f)1 of the referenced consent order, on November 6, 2018, I oversaw the evaluation of the borrow pits at the toe of the Trail Ridge treatment ponds for places along the railroad tracks where water has the potential to flow out of the permit boundary and/or bypass the National Pollutant Discharge Elimination System (NPDES) outfall."

It should be noted that the Owen site visit was on November 6, 2018, and was 3 months before the Consent Order was signed on 2/7/2019.

The Owen letter further states:

> "Staff from The Chemours Company FC, LLC, Kleinfelder, Inc., and Water and Air Research, Inc. aided in the evaluation. Site reconnaissance identified nine (9) culverts at eight (8) locations along the railroad track. Four (4) of the culverted locations had visible flow and passed under the railroad tracks and discharge off-site during times of high water (Railroad 6, 5, 2/3 and 1). Locations Railroad 7 and 8 are within the ditch that runs parallel to the railroad track at internal road crossings. Location Railroad 4 is also located in the ditch on the north side of the railroad track and water was observed flowing northwest. Location Railroad 9 (farthest west) had visible flow into the borrow pits from offsite."

The Owen letter lacks critical details including:

1. images of the culverts,
2. the size of the culverts,
3. the condition of the culverts (i.e. plugged, free flowing, partially blocked),
4. the GPS location of the culverts,
5. surface elevation data to show locations where flow would go from the Borrow Ditch area to the railroad ditch.

The Owen report failed to identify:

1. several culverts to the west of Culvert 9 that are critical in evaluating the offsite impacts of the discharges from the Borrow Ditch,
2. the area where water flows out of the Borrow Ditch into the railroad ditch west of Culvert 9,
3. the location where water flows over the railroad,
4. the location where a culvert carries water under the railroad and onto NFLT property.

The Owen letter does not seem to meet the requirement in the Consent Order which states:

> "1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where

> water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;"

The Owen does clearly document that water flows offsite from the Borrow Ditch onto railroad property.

If Trail Ridge South industrial wastewater is transferred to the Florida Mine -Trail Ridge facility, unmonitored discharges from the Borrow Ditch of Radium 226+228 would be an added concern.

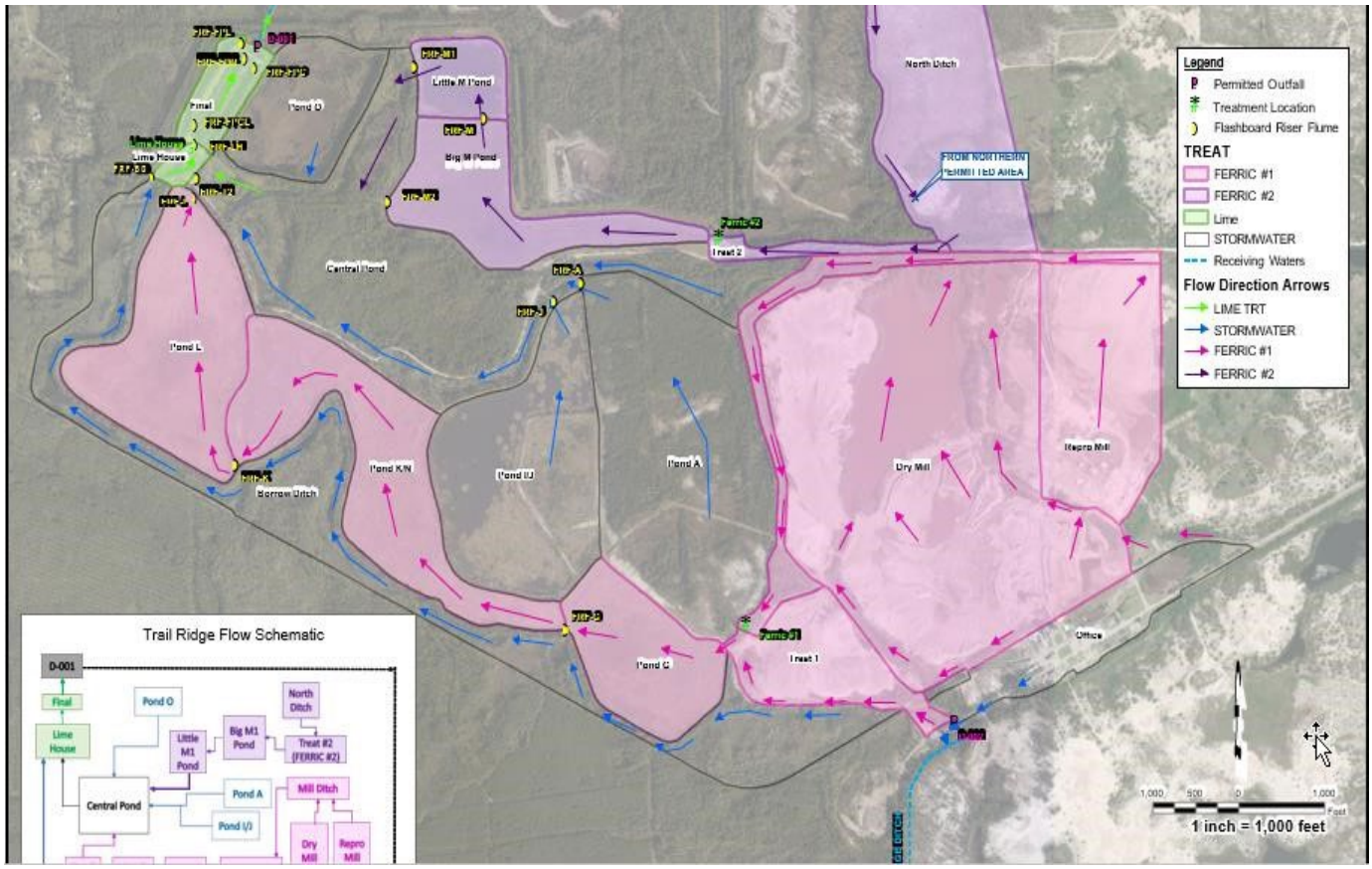
Actions to address the discharges from the Borrow Pit system need to be made a part of the Draft Permit.

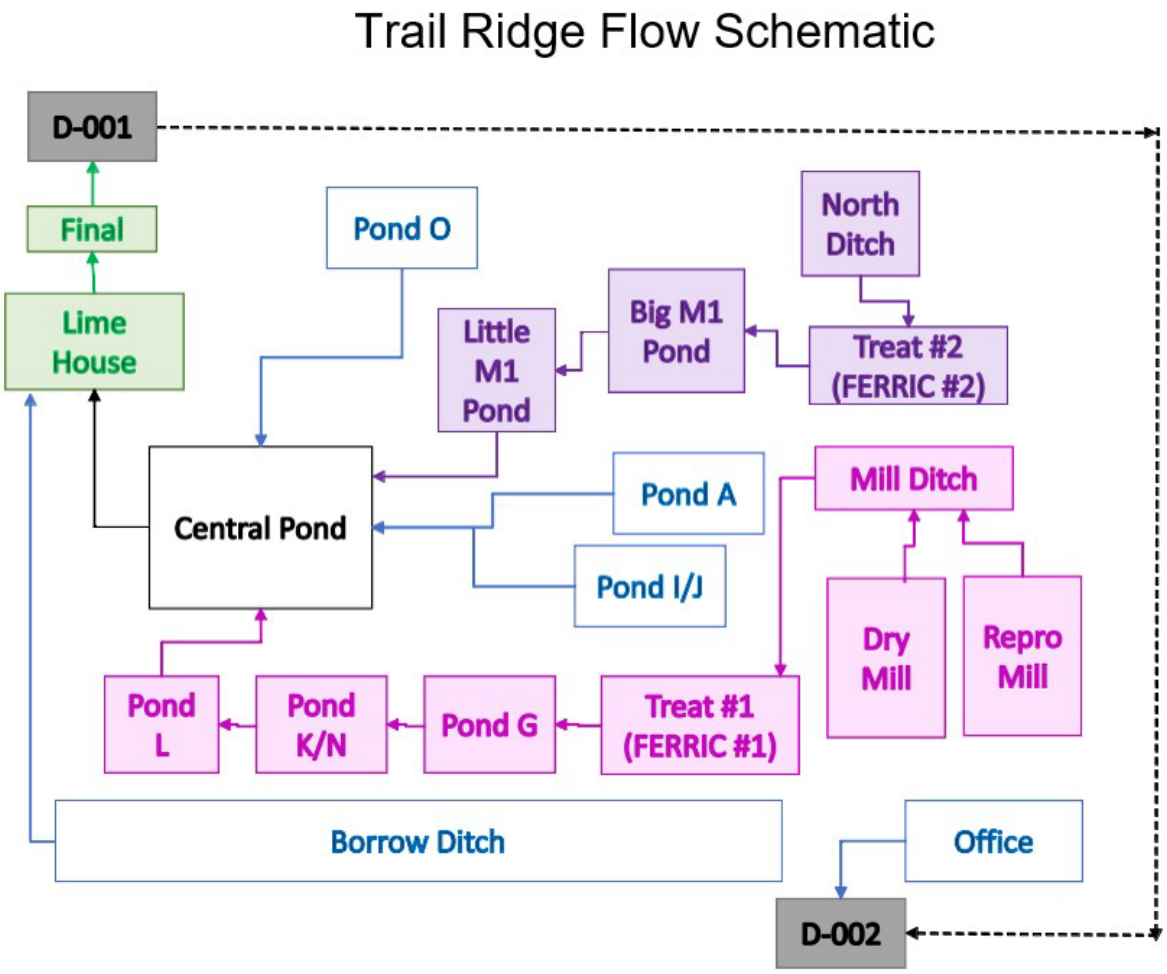
Chemours has failed to provide reasonable assurance that it is not discharging industrial wastewater offsite from the Borrow Ditch to the railroad and NFLT properties that then flows through neighborhoods to Alligator Creek upstream of Bradford Court.

DEP Response:

Responding to Consent Oder (OGC File No. 18-1240, dated January 2, 2020), Chemours/Kleinfelder conducted a Plan of Study of Active Wastewater Treatment Pond Seepage Evaluation Trail Ridge and a Pond Seepage Evaluation was submitted. Based on the results of Kleinfelder's treatment pond seepage evaluation conducted between August 2020 and July 2021, dye introduced into the toe/borrow ditch manifested only temporarily with the toe/borrow ditch and did not migrate to downgradient groundwater or surface waters; no Rhodamine Water Tracer (RWT) dye tracing was detected in the adjacent offsite flow way ditch or in groundwater of the exterior berm walls downgradient from the insertion point.

Please find updated the Water Balance and Process Flow Diagram, which will include in the Fact Sheet:


Legend
Permitted Outfall
Treatment Location
Flashboard Riser Plume
TREAT
FERRIC #1
FERRIC #2
Lime
STORMWATER
Receiving Waters
Flow Direction Arrows
LIME TRT
STORMWATER
FERRIC #1
FERRIC #2
North Ditch
Little M Pond
Big M Pond
Pond D
Lime House
Central Pond
Pond L
Pond K/N
Pond I/J
Pond A
Pond C
Dry Mill
Repro Mill
Office
Borrow Ditch
Trail Ridge Flow Schematic
D-001
Final
Lime House
Pond O
Little M1 Pond
Big M1 Pond
North Ditch
Treat #2 (FERRIC #2)
Central Pond
Pond A
Mill Ditch
Pond I/J
Dry Mill
Repro Mill
1 inch = 1,000 feet



In the above the black dotted line from D-001 to D-002 should start after "Final" not D-001.

Response: *While the Department agrees with the above statement, the schematic shown above does not depict a significant change in water quality. Schematics in Appendix B depict the flow of the effluent.*

Mr. Paul Still's follow-up comment: *The above fails to show the overflow pipe that allows flow from Pond L to flow into the Barrow Ditch. Has Chemours permanently blocked any water from flowing through the overflow pipe?*

DEP Response: *There is no flow from Pond L to the Borrow Ditch.*

Mr. Paul Still's follow-up comment: *The above fails to show the flow out of the Borrow Ditch over and under the rail line. That flow is not monitored for quality or volume and enters Alligator Creek downstream of NE 17th Ave and upstream of Bradford Court.*

DEP Response*: Please see the Pond Seepage Evaluation for additional information.*

Mr. Paul Still Comment # 11: Change the reference to Maxville Mine to Florida Mine-Trail Ridge in the Fact Sheet on page 15 and verify that the information in this section is for the Florida Mine-Trail Ridge

Fact Sheet page 15

> *i. Technology – Based Effluent Limits (TBELs)*
>
> *State of Florida imposes a requirement to provide all know available and reasonable methods of treatment.*
>
> *The effluent limits for Chemours – Maxville Mine are based on Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), Best Practicable Control Technology Currently Available (BPT), and on New Source Performance Standards (NSPS) as developed by EPA.*
>
> *The Chemours – Maxville Mine generates wastewater from the production class identified in 40 CFR Part 440 – ORE MINERAL MINING AND PROCESSING POINT SOURCE CATEGORY, Subpart E (§§440.50-440.55) – Titanium Ore Subcategory.*

Most inspections in the table on pages 15 & 16 indicate out-of-compliance. If these inspections are for Florida Mine Trail Ridge, facility compliance should be considered in evaluating if Chemours has provided reasonable assurance it can meet the discharge standards in the Draft Permit.

Response: The typographical error has been corrected.

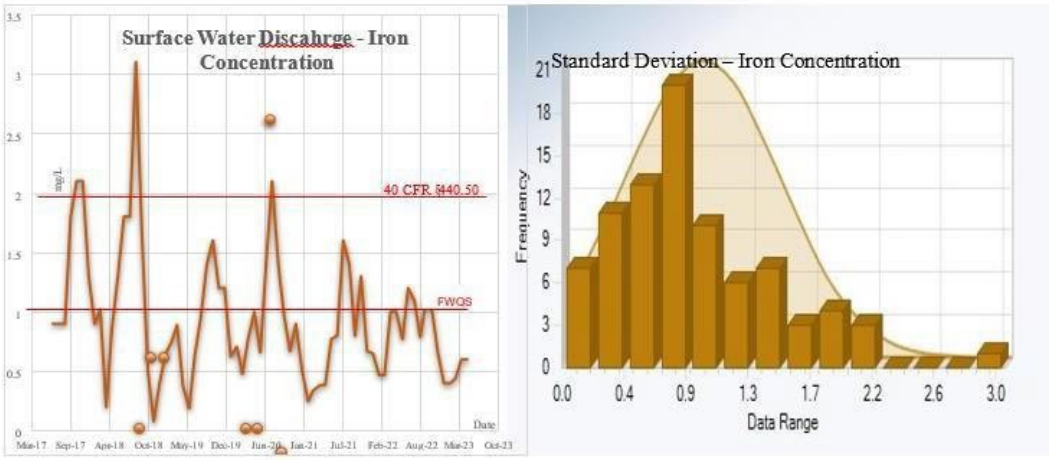
Mr. Paul Still Comment # 12: The DEP discussion of iron levels in discharged water fails to address all the Chemours available data on iron levels in water discharged at D-001

Fact Sheet page 16

> *(f) Iron:*
>
> *The technology-based effluent limitations (40 CFR Part 440, Subpart E (§§440.50-440.55)) recommends effluent limit of 2.0 mg/L (maximum single sample) and 1.0 mg/L (30 days average) for iron. Whereas, the Florida Water Quality Criteria, Chapter 62-302.530(38), FAC. has been required the discharge with the maximum limit of 1.0 mg/L for iron. Monitoring for iron with the limit of 1.0 mg/L (single sample), which is the most stringent, is required in the permit.*

The Permittee has monitored for concentration of iron in the effluent prior to discharge for the last five years of the permit cycle. The analytical sample results (in mg/L) for iron were summarized below:

# Ob.	Mean	Geomean	Stand Dev	CV	75th Per	80th Per	95th Per	99th Per	Max
85	0.93	0.76	0.54	0.58	1.20	1.40	1.66	2.26	3.10



data shows that 31.76 % samples/observations having iron concentration exceeded the Florida WQS of 1.0 mg/L but below 2.0 mg/L, which is a daily maximum iron concentration allowable based on EPA – TBEL (40 CFR Part 440 – Ore Mineral Mining And Processing Point Source Category, Subpart E (§§440.50-440.55)); Monitoring data shows also that 4.70 % (i.e. 4 out of 85) samples/observations have iron concentration exceeded 2.0 mg/L. Chemours shall continue to monitor for iron and require to demonstrate that the discharge would the Department regulations of iron.

(Correct spelling of Discharge in the graph on the left.)

There appears to be points on the graph Surface Water Discharge – Iron Concentrations that are not associated with the lines on the graph.

The graph shows iron concentration tends to increase after May. The May data should be added to the graph as should the June data when it becomes available.

The expired IWW permit had a Variance that raised the iron discharge level to 2 mg/L. This should be noted in the text and on the graph on the left.

The Administrative Order associated with the expired IWW Permit had the provision "When the previous 24-hour flow proportional composite sample for which results have been obtained is above 0.8 mg/L, 24-hour flow proportional composite sampling will be undertaken every third day until results indicate the level is below 0.8 mg/L." The iron data presented in the Fact Sheet does not appear to contain the results from the extra sampling reported by Chemours in the AO 185 NE-Status Report. The data from the 2021 AO 185 NE-Status Report is copied on the next page. All the iron level data collected by Chemours should be included in the graph of Surface Water Discharge - Iron Concentration.

By using flows and all the Chemours iron level data it should be possible to calculate the amount of iron discharged via D-002 into the Southwest Quadrant Pond on or around any date. Knowing the mass of iron added to the Southwest Quadrant Pond is important in determining the potential impact of that iron on Blue Pond and other downstream lakes in Clay County.

The data indicates that replacing iron salts with alum has reduced the levels of iron in the Chemours discharges. The level of 1mg/L of iron in water sampled in May, 2023, strongly indicates that the legacy iron in the settling ponds will have to be addressed by Chemours in order to meet the 1mg/L limit during the summer months.

Addressing the legacy iron in the settling ponds should also help reduce the mass of iron moving into groundwater.

A plan for the closing of inactive settling pond could be developed that would reduce the risk of exterior dam failure.
Chemours Florida Mine-Trail Ridge 2021 AO 185 NE-Status Report

Weekly Sampling 2021 (DMR)

Date	FE (mg/L)
6-Jan	0.20
13-Jan	0.24
20-Jan	0.17
27-Jan	0.25
3-Feb	0.28
10-Feb	0.34
17-Feb	0.31
24-Feb	0.24
3-Mar	0.38
10-Mar	0.26
17-Mar	0.20 U
24-Mar	0.21
31-Mar	0.20 U
7-Apr	0.20 U
14-Apr	0.30
21-Apr	0.32
29-Apr	0.39
5-May	0.65
12-May	0.77
19-May	1.2
26-May	No Flow
2-Jun	No Flow
9-Jun	0.78
16-Jun	0.59
23-Jun	0.20 U
30-Jun	0.84
7-Jul	1.0
14-Jul	1.2
21-Jul	1.4
28-Jul	1.2
4-Aug	0.99
11-Aug	0.97
18-Aug	0.95
25-Aug	1.4
1-Sep	0.83
8-Sep	0.70
15-Sep	0.70
22-Sep	0.84
29-Sep	0.82
6-Oct	0.63
13-Oct	0.47
20-Oct	1.1

Date	FE (mg/L)
27-Oct	0.63
3-Nov	0.46
10-Nov	0.28
17-Nov	0.38
23-Nov	0.33
1-Dec	0.20 U
8-Dec	0.20 U
15-Dec	0.20 U
22-Dec	0.65
29-Dec	0.25

Supplemental Sampling 2021

Date	FE (mg/L)
21-Jul	1.40
24-Jul	1.60
27-Jul	1.40
2-Aug	1.3
3-Aug	0.90
4-Aug	0.99
6-Aug	1.1
7-Aug	1.2
8-Aug	1.1
9-Aug	1.1
10-Aug	1.0
11-Aug	0.97
12-Aug	1.5
13-Aug	1.1
14-Aug	1.0
15-Aug	0.97
16-Aug	1.0
17-Aug	0.99
18-Aug	0.95
19-Aug	0.95
20-Aug	0.92
21-Aug	1.0
22-Aug	0.88
23-Aug	0.72
24-Aug	1.4
25-Aug	1.4
26-Aug	1.5
27-Aug	1.4
28-Aug	1.2
29-Aug	0.90
30-Aug	0.78
31-Aug	0.80
4-Sep	0.58
5-Sep	0.63
6-Sep	0.65
8-Sep	0.70
4-Oct	0.62
5-Oct	0.59
6-Oct	0.63
7-Oct	0.83
8-Oct	1.2
9-Oct	0.72

Date	FE (mg/L)
12-Oct	0.73
13-Oct	0.47
14-Oct	0.86
17-Oct	0.98
18-Oct	1.1
19-Oct	1.3
20-Oct	1.1
21-Oct	0.68
22-Oct	0.59
23-Oct	0.51
24-Oct	0.50
25-Oct	0.50
26-Oct	0.48
27-Oct	0.63
28-Oct	0.54
29-Oct	0.57
30-Oct	0.63
31-Oct	0.57
1-Nov	0.67
2-Nov	0.51
3-Nov	0.46
10-Nov	0.28
17-Nov	0.38
23-Nov	0.33

When all the iron discharge data is evaluated, Chemours has failed to provide assurance that the Chemours discharges would not exceed the 1mg/L limit for iron.

DEP Response: Since the expiration of the administrative order (AO 185 NE), which accompanied the past permit, the facility has reported iron exceedances at their D-001 outfall.

Currently, Department compliance staff are working to resolve the exceedances through compliance and/or enforcement activities, which could include a consent agreement or issuance of an iron variance.

Mr. Paul Still Comment # 13: Effluent toxicity testing

Fact Sheet page 20 of 28

> *In order to provide reasonable assurance that the discharge will not adversely affect the designated use of the receiving water, whole effluent toxicity testing is required. In accordance with requirement of Rule 62-620.620(3)(b), FAC, the facility is required to conduct chronic definitive tests starting with 100% effluent using a minimum of five dilution concentrations.*
>
> Fact Sheet 8 of 28
> *Compliance Biomonitoring Inspection (CBI):*
>
> *Sample of the chronic whole effluent toxicity test were performed May 18 through May 25, 2021.*
>
> *EPA 821-R-02-013, method 1000: The 25% Inhibition Concentration (IC25) for growth in the Pimephales promelas bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.*
>
> *EPA 821-R-02-013, method 1002.0: The no observed effluent concentration (NOEC) for C. dubia. Was 50% which may suggest low levels of toxicity in the effluent. There was an effect on the reproduction of the C. dubia organisms, but did not exceed the IC25 threshold.*

The toxicity monitoring results found in the Fact Sheet on pages 18 & 19 show that some of the samples were toxic to the test organisms.

No assurance was provided that the Chemours discharges would not fail toxicity tests.

DEP Response:

Per the permit requirement, when the toxicity test results do not meet the limits, additional follow-up tests are required. Please reference Condition 1.A.7 of the June 2017 permit.

The toxicity tests results showed that the effluent sample collected on March or May 2021 were below permit requirements. Chemours conducted additional follow-up tests on June 2021, July 2021; test results showed that:

- The 25% Inhibition Concentration (IC25) for growth in the Pimephales promelas bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.
- The 25% Inhibition Concentration (IC25) for growth in the Ceriodaphnia dubia bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.

Conclusion: Reasonable assurance has been provided.

If the permit allows Chemours to use iron salts the claim that " Conclusion: Reasonable assurance has been provided***." may not be supported.***

DEP Response: *Consent Order (OGC File No. 23-1066) would address the concerns.*

How many times have samples failed the toxicity test since 2017?

DEP Responses: Please see the Fact Sheet (Item 3.a.iv(2) for this information. Also, please note that if the proposed permit is issued, Chemours will be required to conduct effluent toxicity testing quarterly, instead of annually.

Mr. Paul Still Comment # 14: DEP has failed to address Chemours past violations

Fact Sheet page 6

2. BACKGROUND INFORMATION – FILE REVIEW Chemours – Maxville Mine

i. Facility History:

Mining and ore processing at the Chemours – Trail Ridge began in the early 1990s. There are active mining and reclamation activities ongoing at the site. The mine site is located on the drainage basin divide between the St. Johns River Basin and Santa Fe Basin. The site is located in Clay and Bradford counties. Several management and storage of surface waters permits were issued for portions of the mine site over the years; these permits were consolidated and incorporated into later permit authorizations.

ii. Facility Compliance History: The facility historical record of the last five years of the permit cycle is listed in the Table below:

The information provided appears to be for the Chemours -Maxville Mine not the Florida Mine- Trail Ridge.

The compliance history for the Florida Mine-Trail Ridge is a significant concern.

The expired permit had a variance and an Administrative Order. The Chemours response to the requirements of the Administrative Order should be addressed in the Fact Sheet.

Fact Sheet page 23 of 28

10. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is not accompanied by an AO and has a consent order, 03- 0390 with the Department. The CO amendment was prepared and replaced by order 16-1402 was reviewed by OGC and executed. Interim monitoring DMRs will be effective beginning April 2017.

The Fact Sheet fails to address the 2019 Chemours Consent Order OGC 18-1240 filed by DEP on 2/7/2019 that states on page 3

> "4. Based on information in the Department's files and Department and EPA inspections conducted at the Facilities during 2017 and 2018 (the "Inspections"), the Department issued a Warning Letter to Respondent on March 23, 2018. The Warning Letter set out a listing of possible violations of Florida Statutes and Florida Administrative Code provisions and requested that Respondent address each matter raised. Respondent met with the Department on May 24, 2018 and, on May 31, 2018, provided a written response to the Warning Letter. Subsequent to that time, the Department and Respondent have been in discussions over actions that could be taken by Respondent to address the matters raised in the Warning Letter and the Department has again visited different locations at the Facilities pertinent to the matters under discussion. In light of the Inspections, subsequent visits, and matters in the Department's files, and taking into consideration information provided by the Respondent in its response to the Warning Letter, the Department finds the following violations of Department rules have occurred, as more specifically set forth in paragraphs a) and b) below: Rules 62-4.160(6) and 62-620.610(7), failure to properly operate and maintain the facility; 62-330.020(2)(a), impacting wetlands without a permit;" Page 9 of the Consent Order states:
>
> f) Within ninety (90) of the effective date of this Order, Respondent shall have a qualified third-party professional engineer provide the following:
>
> > 1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;

As noted on page 15 of this Comments document Chemours may not have met the requirement in f)1). Draft Permit page 24 of 28

DEP Response: The iron exceedances will be addressed as noted in our previous response. Consent Order 18-1240 was closed Aug. 7, 2023.

Based on your comments, the fact sheet will be updated to exclude reference of the Consent 16-1402.

Mr. Paul Still Comment # 15: Correct Public Comments dates

13. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Draft Permit and Public Notice to Applicant and EPA	*June 27, 2023*
Public Comment Period	*Beginning: June 27, 2023* *Ending: July 27, 2023*

The dates for Public Comment should be corrected to account for the newspaper publication on July 6, 2023.

DEP Response: The proposed schedule will be revised when the final permit is issued.

(d) A statement of which rules or statutes require reversal or modification of the Department's action or proposed action.

Items 1., 12., and 16. Are offered to improve clarity of the Draft Permit.

Mr. Paul Still Comment # 16: Change the reference to Maxville Mine to Florida Mine-Trail Ridge in the Fact Sheet on page 15 and verify that the information in this section is for the Florida Mine- Trail Ridge.

DEP Response: Typographical error in the fact sheet has been corrected.

Mr. Paul Still Comment # 17: Correct Public Comments dates

The remaining items address the applicant's failure to meet the requirements of 62- 620.320 Standards for Issuing or Denying Permits.

62-620.320 Standards for Issuing or Denying Permits.

(1) A permit shall be issued only if the applicant affirmatively provides the Department with reasonable assurance, based on a preliminary design report, plans, test results, installation of pollution control equipment, or other information, that the construction, modification, or operation of the wastewater facility or activity will not discharge or cause pollution in contravention of chapter 403, F.S., and applicable Department rules.

DEP Response: The above statement is true. Please see Response to your comment #15 for clarification.

(e) A request that a public meeting be scheduled, including a statement of the nature of the issues proposed to be raised at the meeting

This is a request for a public meeting to allow for a discussion of the items included in this document. The public meeting should also allow other members of the community to make comments.

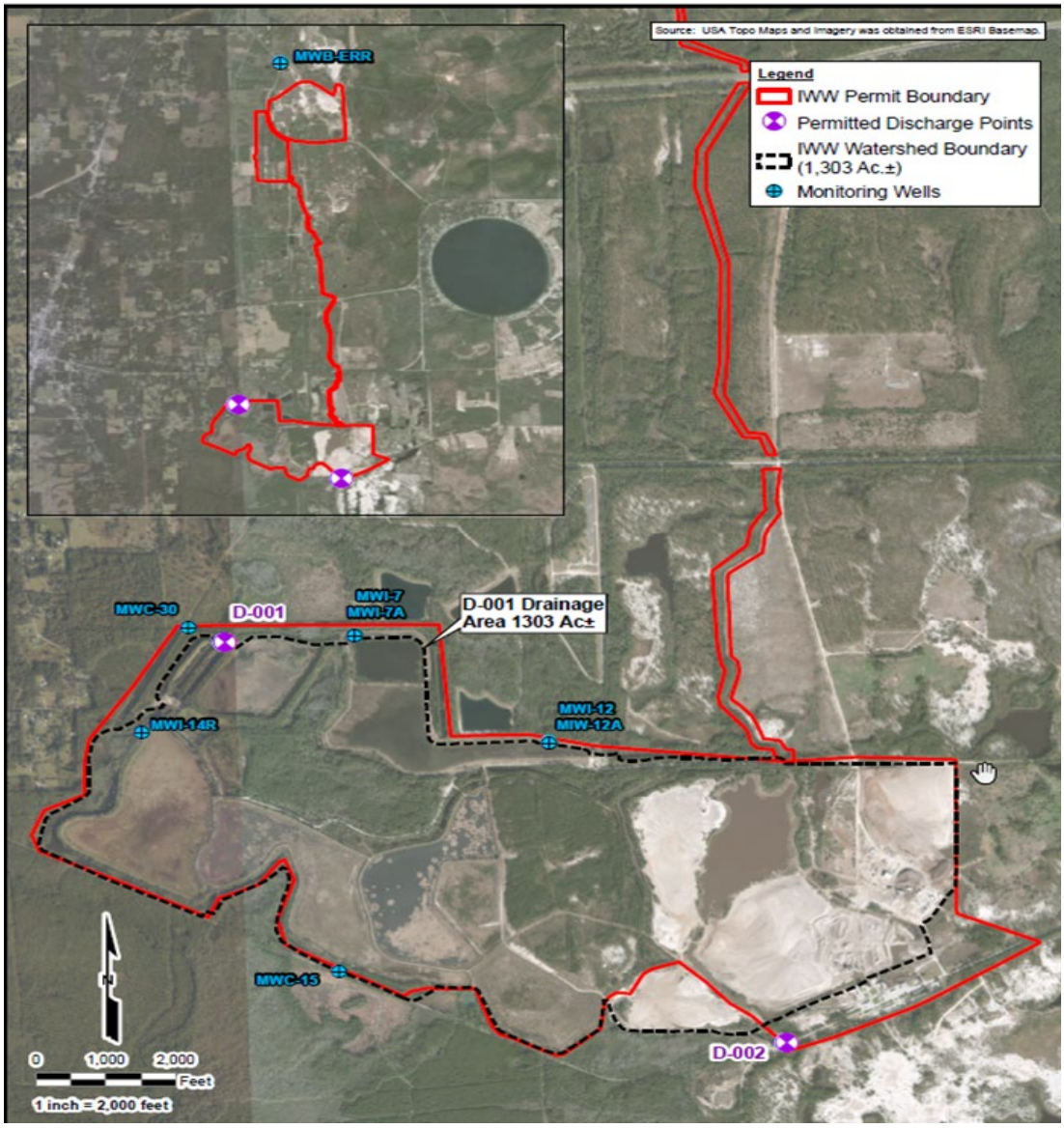
Response: A meeting will be scheduled.

All comments have been addressed above.

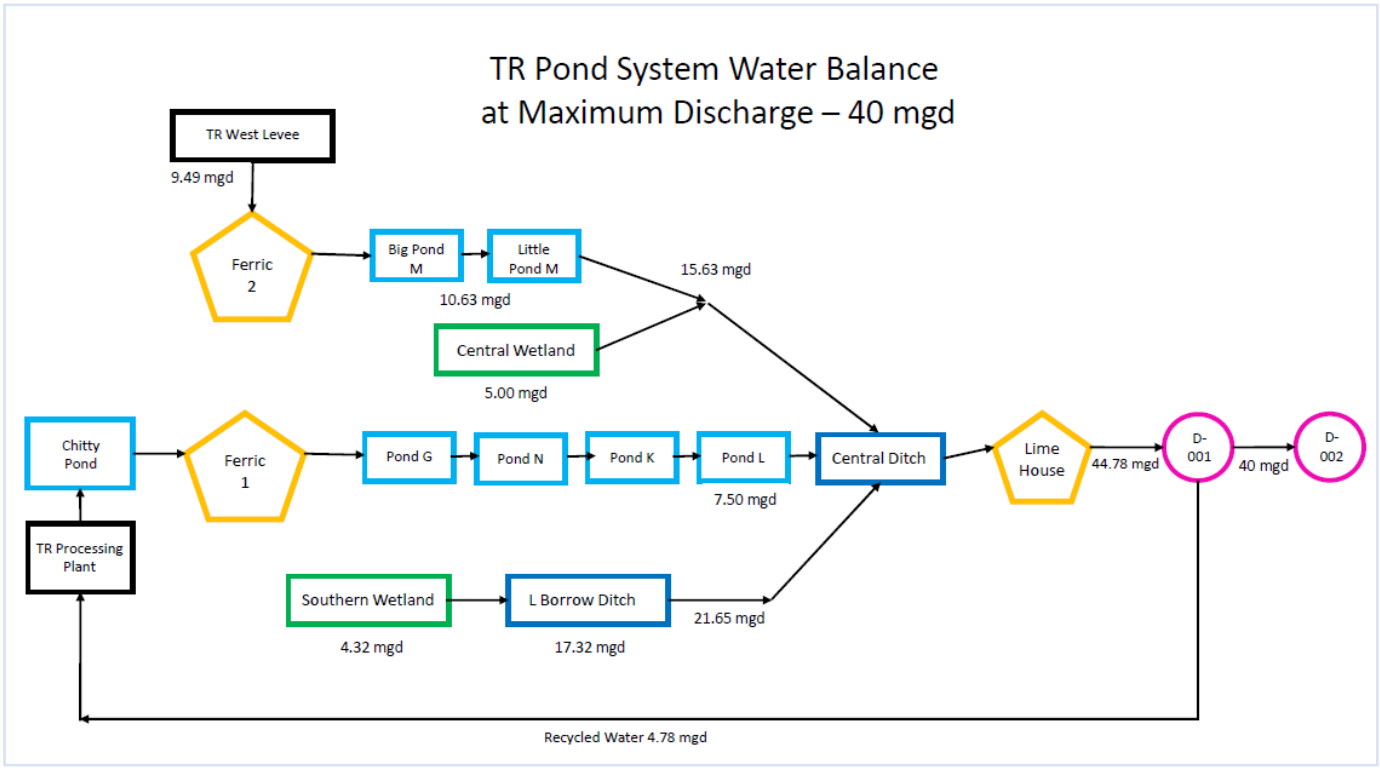
1. Use of ferric chloride, ferric sulfate, and barium chloride
2. Location of the intake pump for D-002 discharges and the impacts on water quality associated with flow from D-002 through areas mined in the early 1950s that have not been reclaimed require a new sampling location for D-002 discharges.
3. Receiving industrial wastewater from the Trail Ridge South Mine
4. Radium levels in wastewater from the Trail Ridge South Mine
5. The need to reduce permitted flows
6. Additional sampling schedule for iron and radium
7. Delete or edit *B. Surface Water Discharges (Outfall D–002) (Temporary)*
8. Need to clarify sludge management requirement
9. Offsite discharges from Borrow Ditch
10. The DEP discussion of iron levels in discharged water fails to address all the Chemours available data on iron levels in water discharged at D-001.
11. Effluent toxicity testing
12. DEP has failed to address Chemours past violations

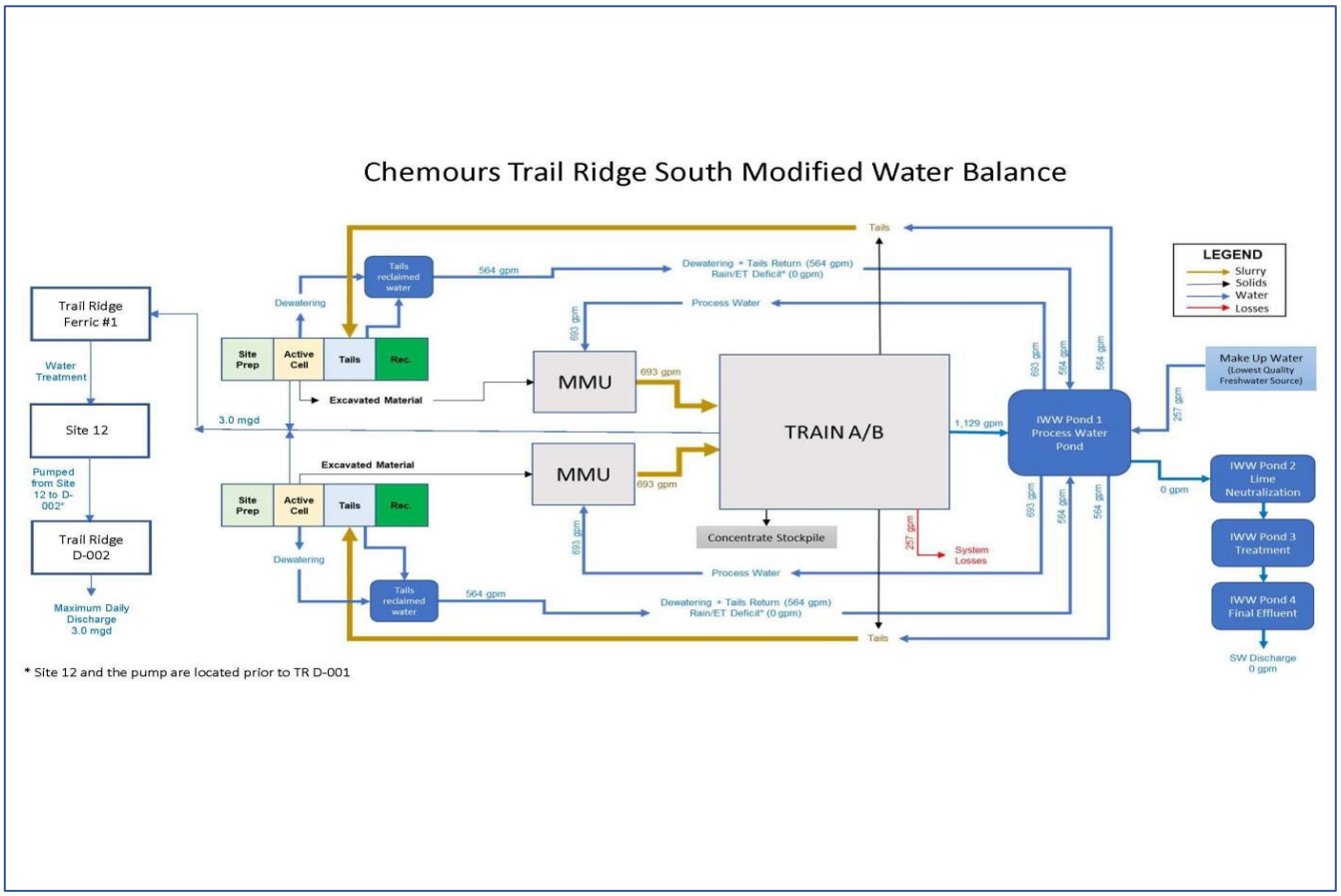
Paul Still /s/ 7/25/2023

Appendix A:


Source: USA Topo Maps and Imagery was obtained from ESRI Basemap.
Legend
IWW Permit Boundary
Permitted Discharge Points
IWW Watershed Boundary (1,303 Ac.±)
Monitoring Wells
MWB-ERR
MWC-30
D-001
MWI-7
MWI-7A
D-001 Drainage Area 1303 Ac±
MWI-14R
MWI-12
MIW-12A
MWC-13
D-002
0
1,000
2,000
Feet
1 inch = 2,000 feet

Appendix B:


TR Pond System Water Balance
at Maximum Discharge – 40 mgd
TR West Levee
9.49 mgd
Ferric 2
Big Pond M
Little Pond M
10.63 mgd
15.63 mgd
Central Wetland
5.00 mgd
Chitty Pond
Ferric 1
Pond G
Pond N
Pond K
Pond L
7.50 mgd
Central Ditch
Lime House
44.78 mgd
D-001
40 mgd
D-002
TR Processing Plant
Southern Wetland
4.32 mgd
L Borrow Ditch
17.32 mgd
21.65 mgd
Recycled Water 4.78 mgd


Chemours Trail Ridge South Modified Water Balance
Trail Ridge Ferric #1
Water Treatment
Site 12
Pumped from Site 12 to D-002*
Trail Ridge D-002
Maximum Daily Discharge 3.0 mgd
3.0 mgd
Dewatering
Tails reclaimed water
564 gpm
Dewatering + Tails Return (564 gpm) Rain/ET Deficit* (0 gpm)
Process Water
693 gpm
Site Prep
Active Cell
Tails
Rec.
Excavated Material
MMU
TRAIN A/B
1,129 gpm
IWW Pond 1 Process Water Pond
Concentrate Stockpile
257 gpm
System Losses
Tails
LEGEND
Slurry
Solids
Water
Losses
Make Up Water (Lowest Quality Freshwater Source)
0 gpm
IWW Pond 2 Lime Neutralization
IWW Pond 3 Treatment
IWW Pond 4 Final Effluent
SW Discharge 0 gpm
* Site 12 and the pump are located prior to TR D-001

1. Florida Mine-Trail Ridge area

Draft Permit page 1

> *Facility Description:*
> *The Florida Mine–Trail Ridge boundary is located in the lower St. Johns River basin and the Santa Fe River basin, which drains to the Suwannee River. The Florida Mine– Trail Ridge is an existing dry mill which processes and separates the heavy mineral sands concentrate (i.e. ore deposit) from North Maxville and Maxville mining operation. The mineral sand products include ilmenite, zircon, and staurolite.*

The above wording is misleading. The Florida Mine–Trail Ridge boundary encompasses much more than the dry mill. A map with the boundary can be found in Fact Sheet on page 3 of 28.

The wording also fails to acknowledge the addition of industrial wastewater from Trail Ridge South Mine that is included in this Draft Permit. The Trail Ridge South Mine needs to be added to the two mines listed.

The wording fails to acknowledge that the IWW Treatment system treats stormwater from mined areas that have not met the requirements used by DEP to designate that a mined area has been reclaimed.

DEP Reponses: Please see Appendix A for the Chemours Trail Ridge boundary which includes entire Chemours – Trail Ridge. This section provides a description of the Chemours – Trail Ridge location. The wastewater treatment system, which includes stormwater and wastewater from the Chemours Trail Ridge South, is described in the **Wastewater Treatment Section**.

2. Use of ferric chloride, ferric sulfate and barium sulfate

Draft Permit pages 1 & 2

> *WASTEWATER TREATMENT:*
>
> *This wastewater treatment system provides acidification with ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to a pH between 3.0 and 3.5 standard units for flocculation of colloidal material followed by settling in a series of diked ponds, neutralization with hydrated lime to a pH between 6.0 to 8.5, and additional settling with final discharge to Alligator Creek. Upon Department approval, polymer addition may be provided after neutralization for aluminum reduction prior to final discharge to Alligator Creek at D-001, which flows west in Bradford County. Storm water and rainfall from an active reclamation area is also collected and treated as described above. The treatment train consists of the addition of barium chloride to the wastewater at the location where ferric chloride, aluminum sulfate, or ferric sulfate is added (prior to the humate settling ponds).*

Given the history of this facility's exceedance of the maximum daily discharge limit of 1 mg/L for iron and the May, 2023, reported maximum daily level of 1mg/L for iron it would seem reasonable to remove ferric chloride and ferric sulfate from the list above. Adding iron when iron levels are still near or above the 1 mg/L limit could result in iron levels above the 1mg/L limit.

Is barium chloride always added to the wastewater? If not, wording should be changed to barium chloride "can be" added.

DEP Response: Chemours has the option to use ferric chloride, sulfuric acid, aluminum sulfate, or ferric sulfate to provide acidification for flocculation of colloidal material. Currently, alum (aluminum sulfate) is the primary additive in the treatment process and was introduced into the Trail Ridge Ferric No. 2 location in Oct. 2016. Alum has been the primary additive in the treatment process at Ferric No. 1 since June 2017 as discussed in the December 19, 2017 Status Report.

As discussed above, Chemours has been permitted to use ferric chloride or ferric sulfate as an option should they not be able to secure aluminum sulfate as referenced in their June 2017 permit renewal.

Barium (Ba^{2+}), such as $BaCl_2$ solution is not always used in the wastewater treatment; however, Chemours is permitted to use Barium when needed.

3. Location of the intake pump for D-002 discharges and the impacts on water quality associated with flow from D-002 through areas mined in the early 1950s that have not been reclaimed require a new sampling location for D-002 discharges

Draft Permit page 2

> *A portion of the effluent is directed to the Southwest Quadrant Pond. The existing recycle line from D-001 was tapped and a pipeline was constructed to route approximately 400 gallons per minute (gpm) of the treated wastewater to an existing ditch, which then discharges into the Southwest Quadrant Pond (location D-002) with eventual discharge into Blue Pond, which is the portion of Alligator Creek that flows south in Clay County. This rerouting of final effluent is the result of an effort by The Keystone Stakeholders to help improve lake water levels in the Keystone Heights area.*

Draft Permit page 5

2. *Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:*

Monitoring Site	Description of Monitoring Site
FLW–1	Quantity of the final treated industrial wastewater discharge at the Outfall D-001 to Alligator Creek.
FLW–2	Quantity of the final treated industrial wastewater discharge at the Outfall D-002 to the Blue Pond.
EFF–1	Nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–001 or D–002

Fact Sheet page 11

> *Sampling is conducted for the effluent discharge for The Outfall Group D-001. The same discharge can be directed to the Outfall Monitoring Group D-002; Therefore, sampling for D-001 represents the discharge for D-002. (i.e. The water quality of the effluent discharge from the Outfall D-002 to the Blue Pond is the same as the water quality of the effluent from the Outfall D-001 to Alligator Creek.)*

The wording *"with eventual discharge into Blue Pond"* is neither clear nor precise. Is the travel time days, weeks, or months? What is the flow path to Blue Pond?

The use of the word "*portion*" in the phrase "*which is the portion of Alligator Creek which flows south in Clay County."* is misleading because it makes it appear that the Alligator Creek that receives the discharges from D-001 and the Alligator Creek that receives the D-002 discharge are the same creek. The Alligator Creek that receives water from D- 001 flows to the Santa Fe River in the SRWMD while the Alligator Creek referenced for D-002 flows to the St Johns River and is in the SJRWMD. The two creeks have no physical connection. There is a third Alligator Creek that flows from Lawtey to the New River that also has no physical connection.

Satellite imagery seems to show the pumps for the recycle line are upstream of D- 001and may be taking in water that is not the same quality as the water sampled at D-001.Data is needed to support the claim, "*The water quality of the effluent discharge from the Outfall D-002 to the Blue Pond is the same as the water quality of the effluent from the Outfall D-001 to Alligator Creek."*

It is also important to note that the Southwest Quadrant Pond was created by mining activities in the early 1950s. It is reported that Camp Blanding used the site for receiving artillery fire and contains unexploded shells. The Southwest Quadrant Pond also received water discharged by DuPont and Chemours via D-002 that exceeded the 1mg/L limit for discharge to surface water. The human created changes to the flow path of the water currently discharged at D-002 could add pollutants.

The addition for iron, radium, substances that could cause Whole Effluent Toxicity and regulated materials leached from military ordinance could increase the levels of these materials in water entering Blue Pond.

The D-002 sampling point should be moved to the end of the pipe discharging water to Blue Pond.

No reasonable assurance was provided that Chemours discharges via D-001 represent the actual levels of parameters discharged at D-002 and thus that these parameters will not be exceeded.

DEP Response: The review for redirecting a portion of the effluent to the Southwest Quadrant Pond was conducted and approved in May 2005, which was at the time of the original agreement with the Keystone Stakeholders Committee to send water to Keystone Heights area. The existing recycle line from the Outfall D-001 was tapped and a pipeline was constructed to route approximately 400 gallon per minute of the wastewater to an existing ditch which then discharges into the Southwest Quadrant Pond with eventual discharge into Blue Pond. As mentioned, this rerouting of final effluent is part of an effort of the Keystone Stakeholders Committee to help improve lake water levels in the Keystone Heights area.

Please find attached a substantial permit revision which was issued on May 4, 2005. Pursuant to the permit revision, the Permittee conducted routine monitoring for the water qualities of the effluent at the sample

point EFF-1 (i.e. a nearest accessible point after final treatment but prior to actual discharge to the surface water from the Outfall D–001 to Alligator Creek) and the sample point EFF-2 (i.e., at the discharge point into the unnamed ditch which discharges into the Southwest Quadrant Pont). The permit revision also indicated that, upon completion of six months of sampling at monitoring locations EFF-1 and EFF-2, if there was a statistically non-significant difference in the suspended solids and iron levels in the effluent, monitoring of the water qualities of effluent discharge from D-002 might not be required. With the permit renewal application submitted in March 2009, data was provided to illustrate that there was no significant difference and with issuance of the permit no additional monitoring other than flow was required at the Outfall D-002.

Receiving industrial wastewater from the Trail Ridge South Mine

Draft Permit page 2

> *The permittee is authorized to receive approximately 3.0 MGD maximum daily flow from Chemours Trail Ridge South for auxiliary treatment and discharging through the Outfall D–002 to the Southwest Quadrant Lake/ Blue Pond to Lake Brooklyn, as needed, on a temporary basis.*

Draft Permit page 13

> *B. Surface Water Discharges (Outfall D–002) (Temporary)*
>
> *1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized temporary to receive water from Trail Ridge South for auxiliary treatment at Trail Ridge. The final treated effluent is discharged from the Outfall D-002 to Blue Pond (WBID 2509N). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:*

The words "*approximately 3.0 MGD"* and "t*emporary*" are vague and misleading. What is considered "*approximately 3.0 MGD"?* A discharge that is permitted for 5 years does not appear to be "t*emporary*".

The draft permit language fails to identify the point where water will be withdrawn from the Trail Ridge South IWW treatment system to be pumped to the facility covered by this Draft Permit.

The Draft Permit language fails to identify what auxiliary treatment will occur at the treatment system covered by this Draft Permit.

The Draft Permit fails to state how the 3 MGD will be pumped to the D-002 outfall. Draft Permit page

14

> *4. Transferring of the wastewater from Chemours-Trail Ridge South to Chemours-Trail Ridge for auxiliary treatment and discharging from Outfall D-002 to Blue Pond is authorized only for emergency conditions. At least 48 hours prior to transferring of water from Trail Ridge South to Trail Ridge for auxiliary treatment, the Permittee, Chemours, shall notify the Northeast District office. The notification shall include the estimated length of time needed for auxiliary treatment. [BPJ] [62-620.320(6)]*

The meaning of [BPJ] in not clear.

It is not clear what emergency conditions would allow for this option. The option should not be used

simply to avoid installing the required infrastructure at Trail Ridge South Mine to avoid emergency conditions.

No reasonable assurance was provided that Chemours discharges would not exceed the levels listed in the Draft Permit if Trail Ridge South industrial wastewater is added to the Florida Mine-Trail Ridge system.

DEP Response: Emergency conditions would be defined on a case-by-case basis.

Please note that Chemours – Trail Ridge South is authorized to convey its wastewater to Chemours – Trail Ridge only during emergency situations to allow Chemours time to repair and/or replace any failed components.

If this were to occur, the wastewater from Chemours Trail Ridge South will be treated at Chemours Trail Ridge before discharging through Outfall D-002 to the Southwest Quadrant Lake to Blue Pond. Discharge from Chemours Trail Ridge South shall be monitored and required to comply with the permit requirements. Please see Appendix B for a process diagram.

Additionally, the flow permit limits at D-001 and D-002 have not changed with this permit renewal.

5. Radium levels in wastewater from the Trail Ridge South Mine

A clarification of the Trail Ridge South Mine water transfer details noted in item 5 is critical because on May 17. 2023, Chemours verbally reported to DEP that a water sample taken on April 19, 2023, from Trail Ridge South IWW facility contained 9.3 piC/L of radium 226+228
which is above the permit limit of 5 piC/L of radium 226+228. Chemours also reported it was adding barium to treat the radium 226+228.

Fact Sheet page 19 of 28

> *(h) Radium 226 + Radium 228*
>
> *The permittee is required to monitor for Radium 226 + Radium 228. Results of the five years monitoring show average, mode, median, 95th percentile, and maximum concentrations of the parameter in the effluent samples were 2.54 pCi/L, 2.70 pCi/L, 2.70 pCi/L, 2.97 pCi/L and 3.00 pCi/L, respectively. Data indicates that the effluent has been*
>
> *in compliance with the permit limit of 5.0 pCi/L for the parameter. The permittee shall continue monitor for Radium 226 + Radium 228.*

(The spelling of Radium should be corrected.)

Adding water from Trail Ridge South that has higher radium 226+228 levels is not addressed in the Draft Permit Fact Sheet.

The presence of radium 226+228 in excess of the discharge limit may require weekly sampling to avoid discharging radium 226+228 in excess of the permit limit.

The Starke Alligator Creek flows through the Starke Golf Course and residential neighborhoods which increases the chances of human contact with discharged radium 226+228.

It should also be noted that adding barium does not destroy the radium 226+228. It allows the radium to

settle out of the water but the radium/barium complex remains in the sludge in the settling ponds. During major rain events the barium bound radium 226+228 can be moved out of the treatment system as a suspended solid.

No reasonable assurance was provided that the Chemours discharges would not exceed the radium 226+228 limit if Trail Ridge South industrial wastewater is added to the Florida Mine-Trail Ridge system.

DEP Response: The typographical error of the word "radium" has been corrected.

In response to your concerns, sample frequency for the total radium 226+228 is proposed to change from "Annually" to "Bi-Monthly".

History of data analytics for the Total Radium 226+228 monitored at Trail Ridge and Trail Ridges South are listed below:

Total Radium 226+228			
Monitored at Trail Ridge		Monitored at Trail Ridge South	
Date	Results (pCi/L)	Date	Results (pCi/L)
12/31/2022	2.9	06/30/2023	9.3
12/31/2021	2.7	03/31/2023	No discharge
12/31/2020	2.8	12/31/2022	4.3
12/31/2019	3	–	–
12/31/2018	2.7	–	–
12/31/2017	1.7	–	–
12/31/2016	2	–	–

- Estimate concentration of total radium 226+228 discharging in the ***worst-case scenario***:

For Trail Ridge: Flow = 30.0 MGD (Average Flow)
Total Radium 226+228 = 2.9 pCi/L (Max value)

For the Trail Ridge South: Flow = 3.0 MGD (Maximum Flow)
Total Radium 226+228 = 9.3 pCi/L (Max value)

In the Combined Discharge:

$$\text{Radium } 226 + 228 = \frac{\left(30.0\ MGD\ x\ 2.9\frac{\text{pCi}}{\text{L}}\right)+\left(3.0\ MGD\ x\ 9.3\frac{\text{pCi}}{\text{L}}\right)}{(30.0\ MGD+3.0\ MGD)} = 3.48\ \text{pCi/L} < 5.0\ \text{pCi/L}$$

It is important to note that the effluent discharging from Trail Ridge is required to comply with both the groundwater and surface water quality criteria.

6. The need to reduce permitted flows

Draft Permit page 2.

REUSE OR DISPOSAL:

Surface Water Discharge D-001:

> *An existing 40.0 MGD maximum daily flow permitted capacity discharge at the Outfall D-001 (a Class III fresh water, WBID 3606); the water then flows to Alligator Creek (a Class III fresh water, WBID 3589C). The point of discharge is located approximately at latitude 29° 55' 25" N, longitude 82° 03' 43" W.*

The Applicant has failed to establish that the Alligator Creek Canal has the capacity to receive "*40.0 MGD maximum daily flow"* without flooding homes, apartments, and infrastructure. The current permit application must be examined in the light of the following:

1. Flooding upstream of the 301 Bridge over Alligator Creek from Hurricane Irma in September 2017 and other major rain events.

2. Sediment accumulation in the Alligator Creek Canal

3. Changes to the Alligator Creek Canal installed by the Suwannee River Water Management District as part of the Edwards Bottomlands Project which is approximately 150 yards downstream of the 301 Bridge over Alligator Creek in Starke. The information included in the Fact Sheet for this Draft Permit indicates DEP may not have been fully informed about critical issues associated with the impacts of the Chemours discharges.

Fact Sheet page 9 of 28

> *Prior to the development of the City of Starke, Alligator Creek was a small, intermittent stream, which received seepage and overland flow from the area's mixed pine and hardwood forests. Over many decades, Alligator Creek was dredged several times prior to environmental regulation to improve the drainage within the City of Starke. These dredging events have caused hydrologic impacts to the floodplain wetlands and destabilized the stream in many locations causing continued erosion and water quality problems. Stream restoration is needed to improve wetland functions within the Alligator Creek floodplain and protect this system from continued erosion and degradation, but the funding of such a restoration has been cost prohibitive. In order to improve hydrologic conditions within the floodplain and reduce some of the sediment load from going to Lake Rowell down Alligator Creek, Suwannee River Water Management District (SRWMD) in cooperation with the Florida Fish & Wildlife Conservation Commission (FWC) and the City of Starke, plan to conduct a floodplain restoration project which will re-establish the flow connection from the portion of the altered creek to a 47-acre floodplain parcel known as the Edwards Bottomlands. The restoration project will improve water quality, fish and wildlife habitat and the hydrology within the altered wetlands. SRWMD is also evaluating the potential acquisition of a 14-acre tract of historic floodplain, adjacent to the 47 acre parcel, as part of this project.*

The above statement has several errors and should be revised.

Alligator Creek itself was never dredged. Around 1914 a drainage canal system was dug east of Starke in the floodplain of Alligator Creek and in some parts outside of the Alligator Creek floodplain. When the canal that runs from Starke to Lake Rowell was dug is not known but was likely dug before the drainage work done around 1914.

Maintenance dredging of parts of the Alligator Creek Canal have been done. Observations made from 1998 to

the present would indicate the banks of Alligator

Creek Canal were stable except when large trees on the canal banks fell into the canal.

Based on the accumulation of sediment at the Laura Street bridge after the sediment was removed in late 2012 early 2013 significant sediment loading appears to be coming from areas upstream of Laura Street which could include discharges from

DuPont/Chemours during significant flow events.

Observations made at the Edwards Bottomlands Project site indicate that erosion from the site is also occurring.

The Edwards Bottomlands Project has been constructed by the SRWMD using wetland mitigation funding from FDOT. The 14-acre tract referenced in the Fact Sheet has been purchased and is part of the Edwards Bottomlands Project. The Edwards Bottomlands

Project design included creating 4 ox bows to replace sections of the original straight canal. The ox bows decrease the in-channel flow capacity of the original straight canal. The plan also added a secondary channel to help offset this reduced flow. The secondary channel has been colonized by invasive and other plants that reduce the flow in the secondary channel. A pipe line that carries Starke's treated wastewater to its spray field also restricts flows. There appears to have been no flow measurements done to determine the current capacity of the Alligator Creek canal and floodplain upstream of the treated wastewater pipeline.

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Alligator Creek has a contributing drainage area of 19.4 square miles. Low-flow frequency of the creek is following: 7Q2 = 3.2 ft^3/s, 7Q10 = 0.3 ft^3/s, 30Q2 = 8.0 ft^3/s; 30Q10

= 1.1 ft3/s. There is a SRWMD and USGS stage station at Alligator Creek below US 301

in Starke, ***Station ID:*** *02320734 (reference document: USGS Drainage Areas of Selected Surface water sites in Florida, Report 81-482, 1981). The contribution to the watershed for Alligator Creek (waterbody ID # 3598c) was reviewed for a 25 year-24 hour rainfall event and a 100 year 24 hour rainfall event and considered the discharge from the Trailridge (sic) mine outfall, D-001. The Chemours TrailRidge (sic) mine percent contribution ranged from 0% at no outfall discharge to 2.30 % for the 79.20 MGD during Hurricane Irma (September 2017). During Hurricane Irma (September 2017) the rainfall was well beyond the 100-year storm event and thus the Chemours discharge as a percentage of total would be even less than 2.30 %.*

(Correct spelling of Trail Ridge.)

The gage referenced by the words "*There is a SRWMD and USGS stage station at Alligator Creek below US 301 in Starke."* was moved upstream of the US 301 bridge.

Discharge from D-001		Flow from Outfall D-001 as Percentage of Total Flow	
MGD	Volume	Storm Event 24-hr/25-yr = 7.75 in 3.49 x 10^8 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 4.51 x 10^8 gallons Stormwater
0.0	0.0	0.00 %	0.00 %
20.0	2.67 x 10^6	0.76 %	0.59 %
30.0	4.01 x 10^6	1.13 %	0.88 %
40.0	5.35 x 10^6	1.51 %	1.17 %
50.0	7.39 x 10^6	2.07 %	1.61 %
70.0	9.35 x 10^6	2.61 %	2.03 %
80.0	10.68 x 10^6	2.96 %	2.30 %

Data is needed to support the claim "*During Hurricane Irma (September 2017) the rainfall was well beyond the 100-year storm event".*

It is important to distinguish the difference between using MGD as a flow rate and using MGD as a measure of *maximum daily flow*. A flow rate can be for any period of time and could go up and down during any 24-hour period. The 79.2 flow reported by Chemours was a flow rate and not a 24-hour maximum daily flow.

There appears to be an error in the data in the above Table, caused by the failure to acknowledge where flooding occurs in Starke. During Irma flooding in homes and apartments along Alligator Creek occurred upstream of the US 301 bridge over Alligator Creek. Other major rain events have also caused flooding of homes upstream of the US 301 bridge over Alligator Creek. The drainage area for the flooded homes and apartments would be lower than the 19.4 square miles used to calculate the percentages in the above Table. As you move upstream the drainage area decreases. To understand the impacts of the discharges from D-001 the information presented in a Table should include estimates of the percentage of flow from each flooded area along Alligator Creek using the drainage area for Alligator Creek upstream from the flooded homes and apartments. This would require calculations for at least Orangewood Apartments, Waters Street, Bradford Court, and Country Club Estates. The homes flooded in Country Club Estates would have the smallest drainage area and thus the highest percentage of total flow from D-001.

It is also important to note that during Irma there were likely discharges from Chemours that bypassed D-001. An image of the flume structure at D-001 during a DEP site inspection shows erosion at the structure which may indicate flows were topping the road and thus not being measured. The same DEP inspection has images of an overflow pipe in the Pond L dam that would carry water to the borrow pit system below and outside of the pond dams. The flow out of the borrow pit system moves to a railroad ditch and under the tracks through a culvert and over the railroad tracks during high flows to the North Florida Land Trust (NFLT) property to the south of the railroad. The water flows west and then north through 4 culverts to a drainage system that carries it to Alligator Creek between Bradford Court and Country Club estates. This flow is not measured. This flow has been observed during other rain events and should be addressed with respect to water quality and water flows in

this draft permit.

One issue that needs to be considered is that canal capacity can be significantly decreased during major rain and wind events by trees falling across canals and trapping both trash and vegetative debris. Post Irma evaluation of the Alligator Creek Canal just downstream of the US 301 bridge revealed such a blockage that was made worse by debris trapped on the chain link fences on both sides of the Alligator Creek Canal. The blockage was partially removed when the force of the water pushed over the chain link fence on the south side of the Alligator Creek Canal. This provided a new flow path allowing higher flows and reducing flood levels in a few hours.

While flooding and flow are not referenced directly in the permitting process, flooding and flows have major implication associated with the mass of discharged materials. When the concentration of the element of concern is the same in high and low flows, more of the element is released to the environment during high than would occur at low flows. During low flows the element of concern would likely be retained in channel. If high flows cause flooding the area of exposure to the element of concern increases.
The element of most concern is radium 226+228. In the case of discharges from D-001 flooding could put radium 226+228 into homes and apartments.

Without knowing the capacity of the Alligator Creek Canal, the following actions should be taken:

1. The discharge limit for the Chemours IWW permit should be reduced to no more than 30 MGD.
2. Chemours should be required to evaluate its settling pond system to determine if the ponds have sufficient capacity to meet the 40 MGD limit in the Draft Permit.
3. The exterior dams of the Chemours pond system should be evaluated to make sure they can contain the required volume without failing.

While flooding is not directly addressed in the rules related to the Draft Permit, flooding must be considered because flooding would expose people to regulated materials in the water discharged by Chemours. It should be noted that iron levels can be higher during flooding events.

If Trail Ridge South water is added to the Florida Mine-Trail Ridge facility Radium 226+228 could be an element of concern.

Chemours has failed to provide reasonable assurance that its discharges will not cause downstream flooding of homes, apartments, yards, playgrounds, and streets that would create a possible exposure to materials in its discharged water.

DEP Response: The stormwater management system at Chemours Trail Ridge was designed based on the Water Management Districts stormwater guidebooks. Currently, the Department has no rule basis or guideline to request a wastewater treatment system to be designed with a hurricane rainfall event.

Permitted discharge capacity of 40.0 MGD maximum daily flow through the Outfall D-001 (a Class III fresh water, WBID 3606) has been granted since June 2010 permit issuance. This permit renewal does not propose to increase in discharge capacity.

Rainfall events and antecedent conditions drive daily maximum flows and annual average flows. When intense rainfall events saturate the ground, they produce higher rates of run-off and reduce storage in treatment ponds. During these conditions, the treatment rate must be maintained to preserve the safety surge capacity of the ponds from being filled. Based on historical data during previous wet periods (i.e.100-year, 24-hour storm rain event) that resulted in the discharge rates, the treatment system has proven to handle the flow rates, meet water quality standards, and not cause downstream flooding.

Mining at Trail Ridge has ceased, but reclamation and operations at the dry mill are continuing. Chemours is actively working to reclaim mined lands so that runoff can be returned to the natural watershed and removed from the water treatment system. Due to the historical location of the treatment system ponds and stormwater conveyance ditches, runoff from much of the reclaimed land cannot be returned to natural watersheds until the

entire area has been reclaimed and stormwater conveyance ditches have been removed. The majority of the land between the water treatment pond system to the south and the active reclamation further to the north has been reclaimed - but the connection between these two areas continues to collect stormwater via a stormwater conveyance ditch that connects the two areas.

Alligator Creek, which is approximately 6.5 miles long, 20 feet average wide, and from 6 inches to 18 inches deep, is basically a drainage ditch that flows into Lake Rowell. The drainage area is approximately 19 square miles. City of Starke area receives 51 inches of rain on average per year. The 25-year, 24-hour storm event is 7.7 inches rainfall; and 10-year, 24-hour storm event is 10.0 inches rainfall. Alligator Creek can handle the runoff water and amount of water discharge from the Outfall D-001 of Chemours-Trail Ridge without flooding issues. However, during hurricane event, stormwater water is unpredictable; for example, during Hurricane Irma, the City received 12.4 inches of rain in a short period time. The SRWMD's Hydrologic Data Services team has gathered periodic flow information on Alligator Creek, as well as high water information after significant rainfall or drought events. Since 2015, flows in Alligator Creek have ranged from 0.53 cubic feet per second (cfs) (June 11, 2015) to 860 cfs (September 12, 2017) after Hurricane Irma. The creek also went dry on May 09, 2017 with only puddles visible**.** Therefore, it can conclude that the flooding which occurred in September 2017, was caused by Hurricane Irma.

Calculations

- **Alligator Creek:**
  - Flow in the Creek: $Q = A * V$

Where: Q = Flow rate (cubic feet per second (cfs))

A = Cross Section Area of the Creek (square feet (ft^2))

V = velocity of the water flow (feet per second (fps)

  - Drainage area = 19 mi^2
  - Low-flow Frequency: 2Q7 = 3.2 cfs; 7Q10 = 0.3 cfs ; 2Q30 = 8.0 cfs ; 10Q30 = 1.1 cfs
  - Maximum Flow Recorded: Q = 860 cfs (September 12, 2017 – Hurricane Irma)

- **Expanded Calculations**

Discharge from D-001		Flow from Outfall D-001 as % of Total Flow (2.59 square miles of drainage area of Chemours – Trail Ridge)		Flow from Outfall D-001 as % of Total Flow (19 square miles of drainage area of the whole Alligator Creek)		
MGD	Volume (gallon/day)	Storm Event 24-hr/25-yr = 7.75 in 3.49×10^8 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 4.51×10^8 gallons Stormwater	Storm Event 24-hr/25-yr = 7.75 in 2.26×10^9 gallons Stormwater	Storm Event 24-hr/100 yr = 10.0 in 3.30×10^9 gallons Stormwater	Storm Event Hurricane Irma = 12.4 in 4.09×10^9 gallons Stormwater
0.0	0.0	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
20.0	2.67×10^6	0.76 %	0.59 %	0.12%	0.08%	0.07%
30.0	4.01×10^6	1.13 %	0.88 %	0.18%	0.12%	0.10%
40.0	5.35×10^6	1.51 %	1.17 %	0.24%	0.16%	0.13%
50.0	7.39×10^6	2.07 %	1.61 %	0.33%	0.22%	0.18%
70.0	9.35×10^6	2.61 %	2.03 %	0.41%	0.28%	0.23%
80.0	10.68×10^6	2.96 %	2.30 %	0.47%	0.34%	0.26%

Please note, the above calculations do not show significant effects of the 40 MGD of water discharge compare to 30 MGD water discharge to the overall stormwater.

7. Additional sampling schedule for iron and radium 226+228

Draft permit page 9

Surface Water Discharges (Outfall D–001)

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge process wastewater and stormwater from Outfalls D-001 or D-002. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow, From Outfall D-001	MGD	Max	40.0	Daily Maximum	Continuous	Recording Flow Meter with Totalizer	FLW–1	See I. A. 3
		Max	Report	Monthly Average				
		Max	Report	Annual Average				
Flow, From Outfall D-002	Mgal	Max	Report	Monthly Total	Continuous	Recording Flow Meter with Totalizer	FLW–2	
pH	s.u.	Min	6.0	Daily Minimum	Continuous	Meter	EFF–1	See I. A. 4
		Max	8.5	Daily Maximum				
Solids, Total Suspended	mg/L	Max	20.0	Monthly Average	Weekly	24-hr FPC	EFF–1	
		Max	30.0	Daily Maximum				
Iron, Total Recoverable	mg/L	Max	1.0	Daily Maximum	Weekly	24-hr FPC	EFF–1	
Radium 226 + Radium 228, Total	pCi/L	Max	5.0	Daily Maximum	Annually	24-hr FPC	EFF–1	
Zinc, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Nickel, Total Recoverable	mg/L	Max	See I.A.5	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Hardness	mg/L	Max	Report	Daily Maximum	Annually	Grab	EFF–1	See I.A.5
Chronic Whole Effluent Toxicity, 7-day IC25	percent	Min	100	Single Sample	Semi-annual	Grab	EFF–1	See I.A.7

The Administrative Order associated with the expired IWW Permit had the provision "When the previous 24-hour flow proportional composite sample for which results have been obtained is above 0.8 mg/L, 24-hour flow proportional composite sampling will be undertaken every third day until results indicate the level is below 0.8 mg/L." That provision should be added to the language of the Draft Permit.

Based on the exceedance of the radium 226+228 limit noted on page 4 of this Comments document the radium 226+228 Frequency of Analysis should be increased from Annually to Weekly if Trail Ridge South industrial wastewater is pumped to the Florida Mine-Trail Ridge treatment system.

DEP Response: There is no rule basis to include the above condition in the draft permit.

The effluent/water discharging through the Outfall D-001 into Alligator Creek or through the Outfall D-002 into the Southwest Quadrant Pond is required to meet the water quality criterion of 1.0 mg/L for iron (total recoverable) or obtain the Department approved regulatory relief (i.e., mixing zone, variance, etc.,).

DMR data show that the effluent has complied with the water quality standard for radium 226 and radium 228 as shown below:

Date	Results	Limit	Unit	Statistical Basis

12/31/2022	2.9	5	pCi/L	DD - Daily Maximum
12/31/2021	2.7	5	pCi/L	DD - Daily Maximum
12/31/2020	2.8	5	pCi/L	DD - Daily Maximum
12/31/2019	3	5	pCi/L	DD - Daily Maximum
12/31/2018	2.7	5	pCi/L	DD - Daily Maximum
12/31/2017	1.7	5	pCi/L	DD - Daily Maximum
12/31/2016	2	5	pCi/L	DD - Daily Maximum

Please see previous response referring to increased frequency of analysis.

8. Delete or edit *B. Surface Water Discharges (Outfall D–002) (Temporary)*
Draft Permit page 12

B. Surface Water Discharges (Outfall D–002) (Temporary)

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized temporary to receive water from Trail Ridge South for auxiliary treatment at Trail Ridge. The final treated effluent is discharged from the Outfall D-002 to Blue Pond (WBID 2509N). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

There would appear to be no method to isolate the 3 MGD of wastewater from the Trail Ridge South Mine from other water in the Florida Mine-Trail Ridge treatment system.

Water from the Trail Ridge South Mine should be monitored either at the point it is withdrawn or the point it enters the Florida Mine-Trail Ridge IWW. *B. Surface WaterDischarges (Outfall D–002) (Temporary)* could be written to make it apply to the water from the Trail Ridge South Mine.

If B.1. is deleted all of B. would also be deleted.

DEP Response: Trail Ridge South has an approved outfall at D-001 to Double Run tributary**.** This is the preferred discharge outfall, as transfer to Trail Ridge requires active pumping.

In the event of an emergency, as defined above, the wastewater from Chemours Trail Ridge South can be sent to Trail Ridge Ferric No. 1 treatment system. The water can be combined with other water being treated from the reclamation area and/or mill area. Water from Ferric No. 1 travels through the various ponds prior to entering the lime treatment area where it is mixed with water from Trail Ridge Ferric No. 2. Water is treated with lime and then flows through the lime neutralization ponds. At the end of the lime neutralization pond are pumps that pump the treated water to the mill for reuse or for discharge to D-002. Please see Appendix B and Appendix C.

9. Need to clarify sludge management requirement

II. SLUDGE MANAGEMENT REQUIREMENTS

1. The method of disposal for humate sludge generated by the treatment of industrial wastewater by this facility is land application after drying, compacting, and covering with soil as part of the land reclamation process. [62-620.320(6)]

2. Humate sludge or other sludge not suitable for land application shall be disposed of in a solid waste management facility permitted by the Department in accordance with the requirements of Chapter 62-701, F.A.C.

Leaving humate sludges in the settling ponds as DuPont did and Chemours may be continuing to do does not appear to be an option in the permit. Leaving the iron humate sludge in place has likely contributed to the high iron content of the groundwater around the settling ponds.

The inactive ponds fill with water and the iron sludges become rehydrated and can release iron. There are images from the 2018 DEP inspections that show the humate smoldering after a fire and areas where the humate was burned leaving iron oxide on the surface.

Another major concern is the potential for sludge flows should any of the exterior dams of the settling ponds fail during or after a major rain event.

The iron humate sludges need to be removed from the settling ponds to restore their holding capacity and prevent further leaching of iron to ground and surface water.

Specific sludge management requirements should be added to the Draft Permit.

Chemours has failed to meet the requirements of 62-620.320(6) for sludge management in its inactive settling ponds.

DEP Response: There are management procedures in place for the handling of humate sludge collected from the treatment ponds.

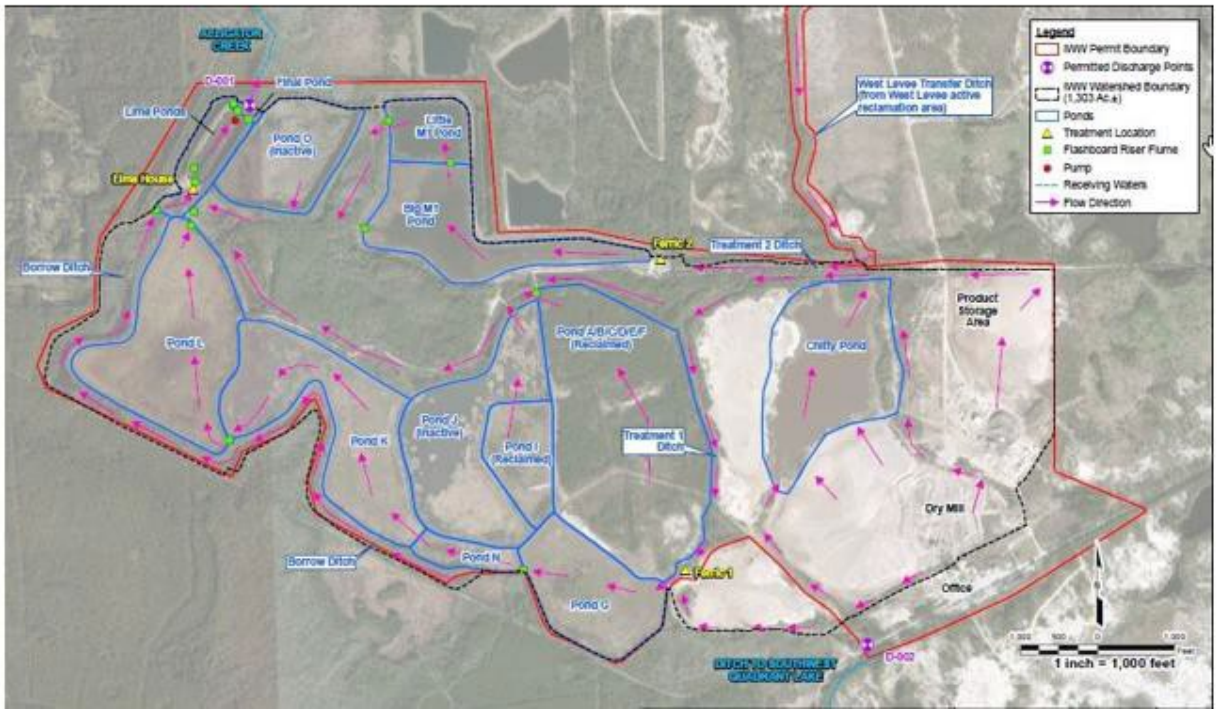
Please note that sludge production has significantly decreased since the active dredging ceased at Trail Ridge in 2007. The method of disposal for humate sludge generated from the treatment of industrial wastewater is to dry the first 2 – 3 feet and then cap in place by mixing with old tailings. Humate sludge or other sludge not suitable for land application is to be tested and disposed in a solids waste landfill permitted by DEP in accordance with the requirements of Chapter 62-701, FAC.

Please find a copy of their Best Management Practices Plan (BMP), which includes the Humate Sludge Management.

10. Offsite discharges from Borrow Ditch

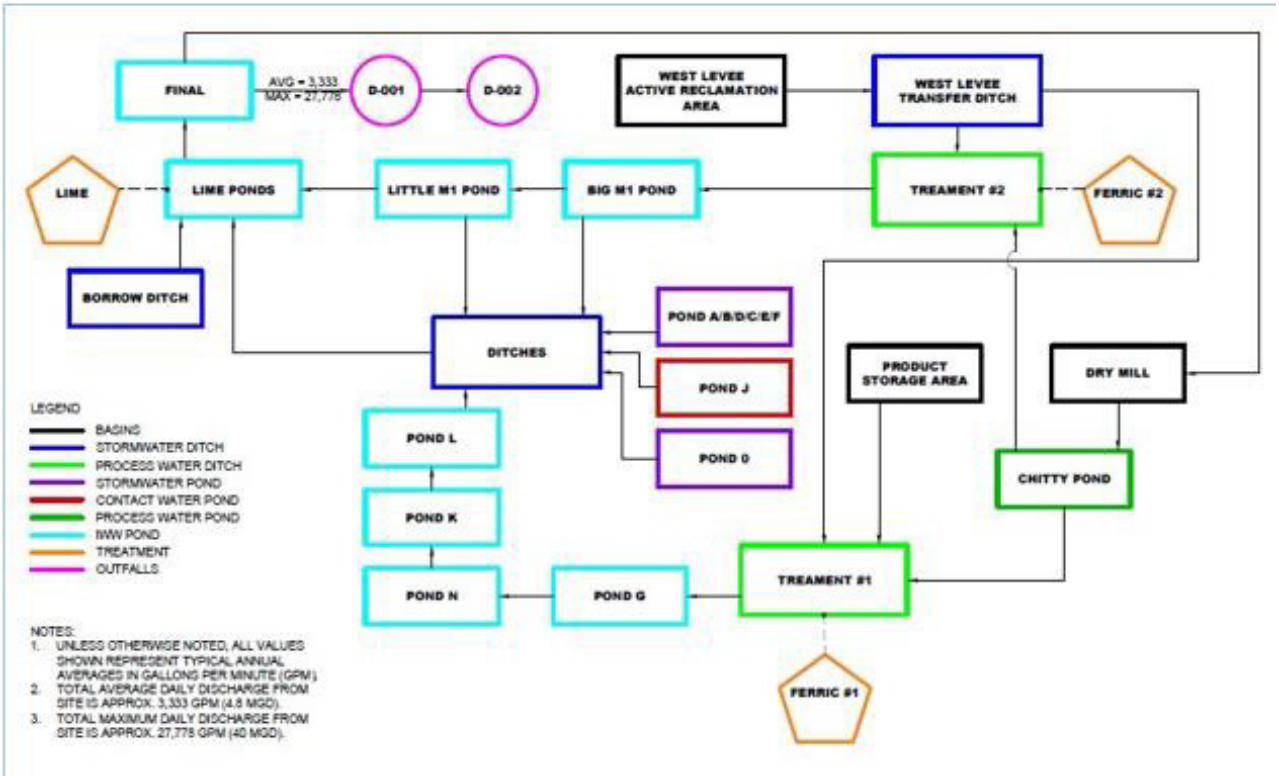
Fact Sheet page 4 of 28

Figure 2: Water Balance Map:



The IWW Permit Boundary in red should be expanded to the Chemours Bradford County property lines on the west and south of the ponds. The current location of the pump (red dot) needs to be verified.

Figure 3: Process Flow Diagram



The Process Flow Diagram does not show offsite flows from the Borrow Ditch (dark blue box upper left) to the south west under and over the railroad tracks and onto adjacent property owned by the NFLT. The flow of water with high iron content from the eastern part of the Borrow Ditch appears to be impacting wetlands on the NFLT property to the south of the Chemours and railroad properties. After water flows from the central portion of the Borrow Pit it flows over and under the railroad onto the NFLT property. It then flows west and then north to pass under the railroad and enter a drainage system that flows to Alligator Creek between Bradford Court and Country Club Estates. At times the water flowing offsite has had levels of iron that exceeded the 1 mg/L limit for iron levels. Samples of water from the drainage feature that carries water to Alligator Creek also have had iron levels above the 1 mg/L limit.

The discharges from the Borrow Ditch were included as part of Consent Order OGC 18- 1240 filed by DEP on 2/7/2019 and referenced on pages 18 & 19 of this Comments document.

Chemours provided a letter 11/1/2019 from Jerry Owen to satisfy the requirement that:

> "f) Within ninety (90) of the effective date of this Order, Respondent shall have a qualified third-party professional engineer provide the following:
>
> 1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where

water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;"

The Owen letter stated:

> "As ordered under item 6(f)1 of the referenced consent order, on November 6, 2018, I oversaw the evaluation of the borrow pits at the toe of the Trail Ridge treatment ponds for places along the railroad tracks where water has the potential to flow out of the permit boundary and/or bypass the National Pollutant Discharge Elimination System (NPDES) outfall."

It should be noted that the Owen site visit was on November 6, 2018, and was 3 months before the Consent Order was signed on 2/7/2019.

The Owen letter further states:

> "Staff from The Chemours Company FC, LLC, Kleinfelder, Inc., and Water and Air Research, Inc. aided in the evaluation. Site reconnaissance identified nine (9) culverts at eight (8) locations along the railroad track. Four (4) of the culverted locations had visible flow and passed under the railroad tracks and discharge off-site during times of high water (Railroad 6, 5, 2/3 and 1). Locations Railroad 7 and 8 are within the ditch that runs parallel to the railroad track at internal road crossings. Location Railroad 4 is also located in the ditch on the north side of the railroad track and water was observed flowing northwest. Location Railroad 9 (farthest west) had visible flow into the borrow pits from offsite."

The Owen letter lacks critical details including:
1. images of the culverts,
2. the size of the culverts,
3. the condition of the culverts (i.e. plugged, free flowing, partially blocked),
4. the GPS location of the culverts,
5. surface elevation data to show locations where flow would go from the Borrow Ditch area to the railroad ditch.

The Owen report failed to identify:

1. several culverts to the west of Culvert 9 that are critical in evaluating the offsite impacts of the discharges from the Borrow Ditch,
2. the area where water flows out of the Borrow Ditch into the railroad ditch west of Culvert 9,
3. the location where water flows over the railroad,
4. the location where a culvert carries water under the railroad and onto NFLT property.

The Owen letter does not seem to meet the requirement in the Consent Order which states:

> "1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;"

The Owen does clearly document that water flows offsite from the Borrow Ditch onto railroad property.

If Trail Ridge South industrial wastewater is transferred to the Florida Mine -Trail Ridge facility, unmonitored discharges from the Borrow Ditch of Radium 226+228 would be an added concern.

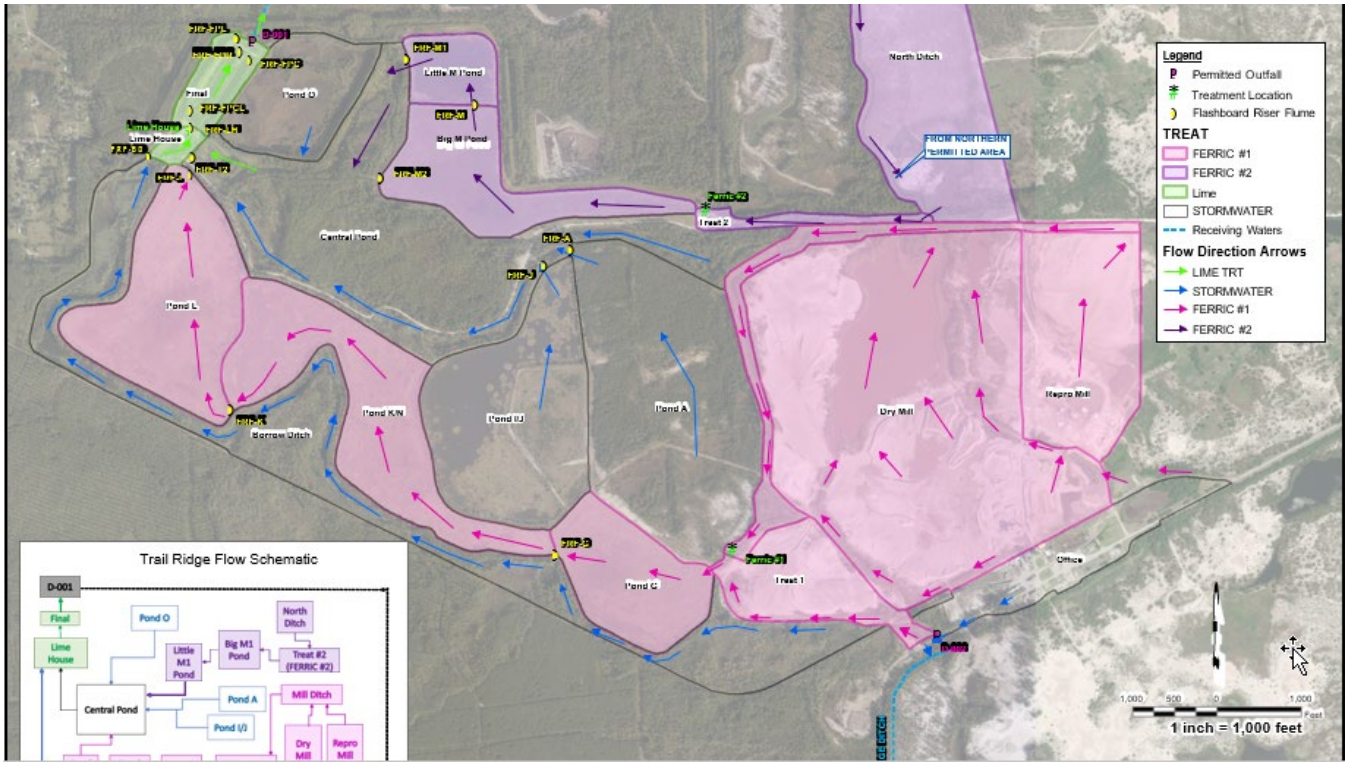
Actions to address the discharges from the Borrow Pit system need to be made a part of the Draft Permit.

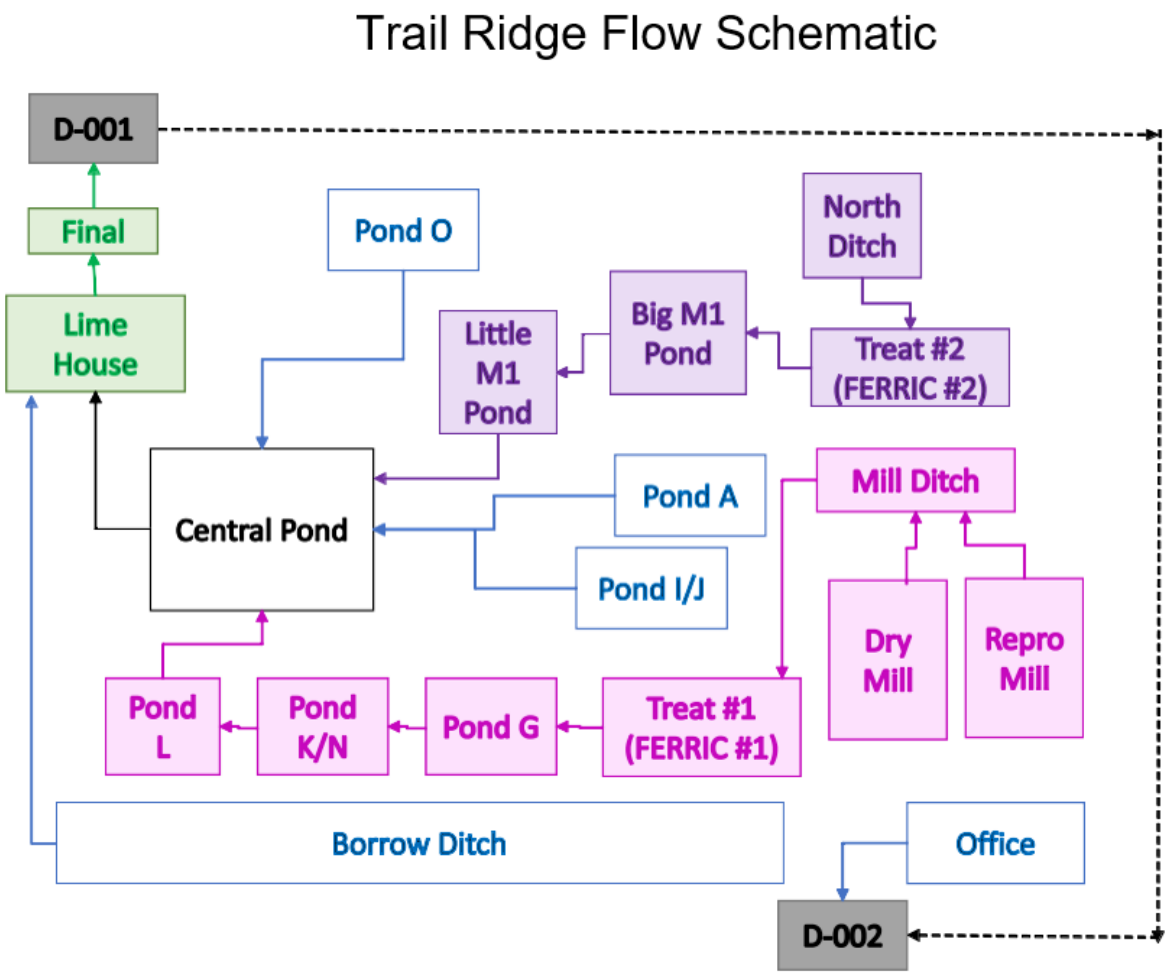
Chemours has failed to provide reasonable assurance that it is not discharging industrial wastewater offsite from the Borrow Ditch to the railroad and NFLT properties that then flows through neighborhoods to Alligator Creek upstream of Bradford Court.

DEP Response:

Responding to Consent Oder (OGC File No. 18-1240, dated January 2, 2020), Chemours/Kleinfelder conducted a Plan of Study of Active Wastewater Treatment Pond Seepage Evaluation Trail Ridge and a Pond Seepage Evaluation was submitted. Based on the results of Kleinfelder's treatment pond seepage evaluation conducted between August 2020 and July 2021, dye introduced into the toe/borrow ditch manifested only temporarily with the toe/borrow ditch and did not migrate to downgradient groundwater or surface waters; no Rhodamine Water Tracer (RWT) dye tracing was detected in the adjacent offsite flow way ditch or in groundwater of the exterior berm walls downgradient from the insertion point.

Please find updated the Water Balance and Process Flow Diagram, which will include in the Fact Sheet:


Legend
Permitted Outfall
Treatment Location
Flashboard Riser Plume
TREAT
FERRIC #1
FERRIC #2
Lime
STORMWATER
Receiving Waters
Flow Direction Arrows
LIME TRT
STORMWATER
FERRIC #1
FERRIC #2
Trail Ridge Flow Schematic
D-001
Final
Lime House
Pond O
Little M1 Pond
Big M1 Pond
North Ditch
Treat #2 (FERRIC #2)
Central Pond
Pond A
Mill Ditch
Pond I/J
Dry Mill
Repro Mill
1 inch = 1,000 feet



11. Change the reference to Maxville Mine to Florida Mine-Trail Ridge in the Fact Sheet on page 15 and verify that the information in this section is for the Florida Mine-Trail Ridge

Fact Sheet page 15

> *i. Technology – Based Effluent Limits (TBELs)*
>
> *State of Florida imposes a requirement to provide all know available and reasonable methods of treatment.*
>
> *The effluent limits for Chemours – Maxville Mine are based on Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), Best Practicable Control Technology Currently Available (BPT), and on New Source Performance Standards (NSPS) as developed by EPA.*
>
> *The Chemours – Maxville Mine generates wastewater from the production class identified in 40 CFR Part 440 – ORE MINERAL MINING AND PROCESSING POINT SOURCE CATEGORY, Subpart E (§§440.50-440.55) – Titanium Ore Subcategory.*

Most inspections in the table on pages 15 & 16 indicate out-of-compliance. If these inspections are for Florida Mine Trail Ridge, facility compliance should be considered in evaluating if Chemours has

provided reasonable assurance it can meet the discharge standards in the Draft Permit.

Response: The typographical error has been corrected.

12. The DEP discussion of iron levels in discharged water fails to address all the Chemours available data on iron levels in water discharged at D-001

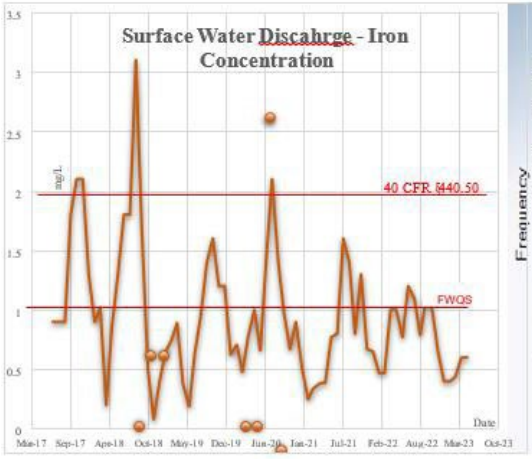
Fact Sheet page 16

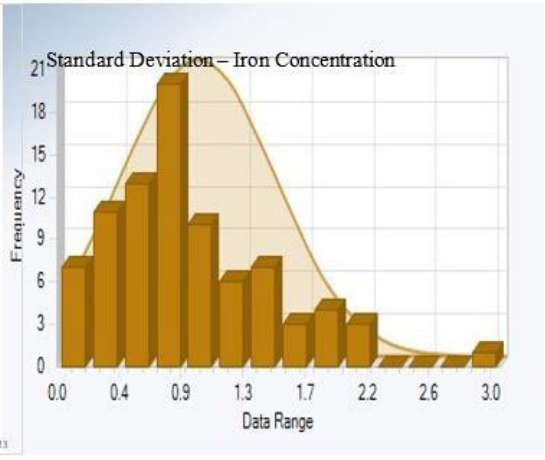
(f) Iron:

The technology-based effluent limitations (40 CFR Part 440, Subpart E (§§440.50-440.55)) recommends effluent limit of 2.0 mg/L (maximum single sample) and 1.0 mg/L (30 days average) for iron. Whereas, the Florida Water Quality Criteria, Chapter 62-302.530(38), FAC. has been required the discharge with the maximum limit of 1.0 mg/L for iron. Monitoring for iron with the limit of 1.0 mg/L (single sample), which is the most stringent, is required in the permit.

The Permittee has monitored for concentration of iron in the effluent prior to discharge for the last five years of the permit cycle. The analytical sample results (in mg/L) for iron were summarized below:

# Ob.	Mean	Geomean	Stand Dev	CV	75th Per	80th Per	95th Per	99th Per	Max
85	0.93	0.76	0.54	0.58	1.20	1.40	1.66	2.26	3.10





data shows that 31.76 % samples/observations having iron concentration exceeded the Florida WQS of 1.0 mg/L but below 2.0 mg/L, which is a daily maximum iron concentration allowable based on EPA – TBEL (40 CFR Part 440 – Ore Mineral Mining And Processing Point Source Category, Subpart E (§§440.50-440.55)); Monitoring data shows also that 4.70 % (i.e. 4 out of 85) samples/observations have iron concentration exceeded 2.0 mg/L. Chemours shall continue

to monitor for iron and require to demonstrate that the discharge would the Department regulations of iron.

(Correct spelling of Discharge in the graph on the left.)

There appears to be points on the graph Surface Water Discharge – Iron Concentrations that are not associated with the lines on the graph.

The graph shows iron concentration tends to increase after May. The May data should be added to the graph as should the June data when it becomes available.

The expired IWW permit had a Variance that raised the iron discharge level to 2 mg/L. This should be noted in the text and on the graph on the left.

The Administrative Order associated with the expired IWW Permit had the provision "When the previous 24-hour flow proportional composite sample for which results have been obtained is above 0.8 mg/L, 24-hour flow proportional composite sampling will be undertaken every third day until results indicate the level is below 0.8 mg/L." The iron data presented in the Fact Sheet does not appear to contain the results from the extra sampling reported by Chemours in the AO 185 NE-Status Report. The data from the 2021 AO 185 NE-Status Report is copied on the next page. All the iron level data collected by Chemours should be included in the graph of Surface Water Discharge - Iron Concentration.

By using flows and all the Chemours iron level data it should be possible to calculate the amount of iron discharged via D-002 into the Southwest Quadrant Pond on or around any date. Knowing the mass of iron added to the Southwest Quadrant Pond is important in determining the potential impact of that iron on Blue Pond and other
downstream lakes in Clay County.

The data indicates that replacing iron salts with alum has reduced the levels of iron in the Chemours discharges. The level of 1mg/L of iron in water sampled in May, 2023, strongly indicates that the legacy iron in the settling ponds will have to be addressed by Chemours in order to meet the 1mg/L limit during the summer months.

Addressing the legacy iron in the settling ponds should also help reduce the mass of iron moving into groundwater.

A plan for the closing of inactive settling pond could be developed that would reduce the risk of exterior dam failure.

Chemours Florida Mine-Trail Ridge 2021 AO 185 NE-Status Report

Weekly Sampling 2021 (DMR)

Date	FE (mg/L)
6-Jan	0.20
13-Jan	0.24
20-Jan	0.17
27-Jan	0.25
3-Feb	0.28
10-Feb	0.34
17-Feb	0.31
24-Feb	0.24
3-Mar	0.38
10-Mar	0.26
17-Mar	0.20 U
24-Mar	0.21
31-Mar	0.20 U
7-Apr	0.20 U
14-Apr	0.30
21-Apr	0.32
29-Apr	0.39
5-May	0.65
12-May	0.77
19-May	1.2
26-May	No Flow
2-Jun	No Flow
9-Jun	0.78
16-Jun	0.59
23-Jun	0.20 U
30-Jun	0.84
7-Jul	1.0
14-Jul	1.2
21-Jul	1.4
28-Jul	1.2
4-Aug	0.99
11-Aug	0.97
18-Aug	0.95
25-Aug	1.4
1-Sep	0.83
8-Sep	0.70
15-Sep	0.70
22-Sep	0.84
29-Sep	0.82
6-Oct	0.63
13-Oct	0.47
20-Oct	1.1

Date	FE (mg/L)
27-Oct	0.63
3-Nov	0.46
10-Nov	0.28
17-Nov	0.38
23-Nov	0.33
1-Dec	0.20 U
8-Dec	0.20 U
15-Dec	0.20 U
22-Dec	0.65
29-Dec	0.25

Supplemental Sampling 2021

Date	FE (mg/L)
21-Jul	1.40
24-Jul	1.60
27-Jul	1.40
2-Aug	1.3
3-Aug	0.90
4-Aug	0.99
6-Aug	1.1
7-Aug	1.2
8-Aug	1.1
9-Aug	1.1
10-Aug	1.0
11-Aug	0.97
12-Aug	1.5
13-Aug	1.1
14-Aug	1.0
15-Aug	0.97
16-Aug	1.0
17-Aug	0.99
18-Aug	0.95
19-Aug	0.95
20-Aug	0.92
21-Aug	1.0
22-Aug	0.88
23-Aug	0.72
24-Aug	1.4
25-Aug	1.4
26-Aug	1.5
27-Aug	1.4
28-Aug	1.2
29-Aug	0.90
30-Aug	0.78
31-Aug	0.80
4-Sep	0.58
5-Sep	0.63
6-Sep	0.65
8-Sep	0.70
4-Oct	0.62
5-Oct	0.59
6-Oct	0.63
7-Oct	0.83
8-Oct	1.2
9-Oct	0.72

Date	FE (mg/L)
12-Oct	0.73
13-Oct	0.47
14-Oct	0.86
17-Oct	0.98
18-Oct	1.1
19-Oct	1.3
20-Oct	1.1
21-Oct	0.68
22-Oct	0.59
23-Oct	0.51
24-Oct	0.50
25-Oct	0.50
26-Oct	0.48
27-Oct	0.63
28-Oct	0.54
29-Oct	0.57
30-Oct	0.63
31-Oct	0.57
1-Nov	0.67
2-Nov	0.51
3-Nov	0.46
10-Nov	0.28
17-Nov	0.38
23-Nov	0.33

When all the iron discharge data is evaluated, Chemours has failed to provide assurance that the Chemours discharges would not exceed the 1mg/L limit for iron.

DEP Response: Since the expiration of the administrative order (AO 185 NE), which accompanied the past permit, the facility has reported iron exceedances at their D-001 outfall.

Currently, Department compliance staff are working to resolve the exceedances through compliance and/or enforcement activities, which could include a consent agreement or issuance of an iron variance.

13. Effluent toxicity testing

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> *In order to provide reasonable assurance that the discharge will not adversely affect the designated use of the receiving water, whole effluent toxicity testing is required. In accordance with requirement of Rule 62-620.620(3)(b), FAC, the facility is required to conduct chronic definitive tests starting with 100% effluent using a minimum of five dilution concentrations.*
>
> Fact Sheet 8 of 28
>
> *Compliance Biomonitoring Inspection (CBI):*
>
> *Sample of the chronic whole effluent toxicity test were performed May 18 through May 25, 2021.*
>
> *EPA 821-R-02-013, method 1000: The 25% Inhibition Concentration (IC25) for growth in the Pimephales promelas bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.*
>
> *EPA 821-R-02-013, method 1002.0: The no observed effluent concentration (NOEC) for C. dubia. Was 50% which may suggest low levels of toxicity in the effluent. There was an effect on the reproduction of the C. dubia organisms, but did not exceed the IC25 threshold.*

The toxicity monitoring results found in the Fact Sheet on pages 18 & 19 show that some of the samples were toxic to the test organisms.

No assurance was provided that the Chemours discharges would not fail toxicity tests.

DEP Response:

Per the permit requirement, when the toxicity test results do not meet the limits, additional follow-up tests are required. Please reference Condition 1.A.7 of the June 2017 permit.

The toxicity tests results showed that the effluent sample collected on March or May 2021 were below permit requirements. Chemours conducted additional follow-up tests on June 2021, July 2021; test results showed that:

- The 25% Inhibition Concentration (IC25) for growth in the Pimephales promelas bioassay was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.
- The 25% Inhibition Concentration (IC25) for growth in the Ceriodaphnia dubia bioassay

was > 100% effluent. The No Observed Effluent Concentration (NOEC) for survival and growth was 100% effluent.

Conclusion: Reasonable assurance has been provided.

14. DEP has failed to address Chemours past violations

Fact Sheet page 6

2. BACKGROUND INFORMATION – FILE REVIEW <u>Chemours – Maxville Mine</u>

i. Facility History:

Mining and ore processing at the Chemours – Trail Ridge began in the early 1990s. There are active mining and reclamation activities ongoing at the site. The mine site is located on the drainage basin divide between the St. Johns River Basin and Santa Fe Basin. The site is located in Clay and Bradford counties. Several management and storage of surface waters permits were issued for portions of the mine site over the years; these permits were consolidated and incorporated into later permit authorizations.

ii. Facility Compliance History: The facility historical record of the last five years of the permit cycle is listed in the Table below:

The information provided appears to be for the Chemours -Maxville Mine not the Florida Mine-Trail Ridge.

The compliance history for the Florida Mine-Trail Ridge is a significant concern.

The expired permit had a variance and an Administrative Order. The Chemours response to the requirements of the Administrative Order should be addressed in the Fact Sheet.

Fact Sheet page 23 of 28

10. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is not accompanied by an AO and has a consent order, 03- 0390 with the Department. The CO amendment was prepared and replaced by order 16-1402 was reviewed by OGC and executed. Interim monitoring DMRs will be effective beginning April 2017.

The Fact Sheet fails to address the 2019 Chemours Consent Order OGC 18-1240 filed by DEP on 2/7/2019 that states on page 3

"4. Based on information in the Department's files and Department and EPA inspections conducted at the Facilities during 2017 and 2018 (the "Inspections"), the Department issued a Warning Letter to Respondent on March 23, 2018. The Warning Letter set out a listing of possible violations of Florida Statutes and Florida Administrative Code provisions and

requested that Respondent address each matter raised. Respondent met with the Department on May 24, 2018 and, on May 31, 2018, provided a written response to the Warning Letter. Subsequent to that time, the Department and Respondent have been in discussions over actions that could be taken by Respondent to address the matters raised in the Warning Letter and the Department has again visited different locations at the Facilities pertinent to the matters under discussion. In light of the Inspections, subsequent visits, and matters in the Department's files, and taking into consideration information provided by the Respondent in its response to the Warning Letter, the Department finds the following violations of Department rules have
occurred, as more specifically set forth in paragraphs a) and b) below: Rules 62-4.160(6) and 62-620.610(7), failure to properly operate and maintain the facility; 62-330.020(2)(a),
impacting wetlands without a permit;"

Page 9 of the Consent Order states:

f) Within ninety (90) of the effective date of this Order, Respondent shall have a qualified third-party professional engineer provide the following:

1) an evaluation of the borrow pit treatment system at the toe of the Trailridge treatment ponds for places along the railroad tracks where water has the potential to flow out of the permit boundary and/or bypass the NPDES outfall;

As noted on page 15 of this Comments document Chemours may not have met the requirement in f)1).

Draft Permit page 24 of 28

DEP Response: The iron exceedances will be addressed as noted in our previous response. Consent Order 18-1240 was closed Aug. 7, 2023.

Based on your comments, the fact sheet will be updated to exclude reference of the Consent 16-1402.

15. Correct Public Comments dates

13. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Draft Permit and Public Notice to Applicant and EPA	*June 27, 2023*
Public Comment Period	*Beginning: June 27, 2023 Ending: July 27, 2023*

The dates for Public Comment should be corrected to account for the newspaper publication on July 6, 2023.

DEP Response: The proposed schedule will be revised when the final permit is issued.

(a) A statement of which rules or statutes require reversal or modification of the

Department's action or proposed action.

Items 1., 12., and 16. Are offered to improve clarity of the Draft Permit.

16. Change the reference to Maxville Mine to Florida Mine-Trail Ridge in the Fact Sheet on page 15 and verify that the information in this section is for the Florida Mine- Trail Ridge.

DEP Response: Typographical error in the fact sheet has been corrected.

17. Correct Public Comments dates

The remaining items address the applicant's failure to meet the requirements of 62-620.320 Standards for Issuing or Denying Permits.

62-620.320 Standards for Issuing or Denying Permits.

(1) A permit shall be issued only if the applicant affirmatively provides the Department with reasonable assurance, based on a preliminary design report, plans, test results, installation of pollution control equipment, or other information, that the construction, modification, or operation of the wastewater facility or activity will not discharge or cause pollution in contravention of chapter 403, F.S., and applicable Department rules.

DEP Response: The above statement is true. Please see Response to your comment #15 for clarification.

(b) A request that a public meeting be scheduled, including a statement of the nature of the issues proposed to be raised at the meeting

This is a request for a public meeting to allow for a discussion of the items included in this document. The public meeting should also allow other members of the community to make comments.

Response: A meeting will be scheduled.

All comments have been addressed above.

1. Use of ferric chloride, ferric sulfate, and barium chloride

2. Location of the intake pump for D-002 discharges and the impacts on water quality associated with flow from D-002 through areas mined in the early 1950s that have not been reclaimed require a new sampling location for D-002 discharges.

3. Receiving industrial wastewater from the Trail Ridge South Mine

4. Radium levels in wastewater from the Trail Ridge South Mine

5. The need to reduce permitted flows

6. Additional sampling schedule for iron and radium

7. Delete or edit *B. Surface Water Discharges (Outfall D–002) (Temporary)*

8. Need to clarify sludge management requirement

9. Offsite discharges from Borrow Ditch

10. The DEP discussion of iron levels in discharged water fails to address all the Chemours available data on iron levels in water discharged at D-001.

11. Effluent toxicity testing

12. DEP has failed to address Chemours past violations

APPENDIX III
RESPONSES TO EPA'S COMMENTS

A. EPA's Comments

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264695.1]&[profile=Permitting_Authorization]

B. DEP's Responses:

EPA Comment # 1: The sampling frequency for the WQBELs is not appropriate for this facility based on 40 CFR § 122.48(b) and a performance-based evaluation**.**

FDEP Response:

A. Responding to EPA's comments on sample frequencies for total recoverable iron; total suspended solids; total radium 226+228; total recoverable zinc, total recoverable nickel; the water hardness.

1. Regarding sample frequency for total suspended solids and total recoverable Iron: The sample frequency for the two parameters is proposed to be kept on **weekly** basis which was believed to comply with requirements of the 40 CFR § 122.48(b).
2. Regarding sample frequency for total radium 226+228; total recoverable zinc, total recoverable nickel; the water hardness:

- Under 5-year permit cycle from September 2011 to September 2016, radium 226+228, zinc, nickel; and hardness were monitored **monthly**. During the permit renewal process in 2016, Chemours requested to change the sample frequencies for the parameters from monthly to quarterly. Based on the monitoring results *(i.e. all the sample results showed that the discharge was in compliance with the water quality standards/permit limits for the parameters.)*
- Under 5-year permit cycle from June 2017 to June 2022, based on the monitoring results of the parameters in the previous permit cycle *(i.e. all the sample results showed that the discharge was in compliance with the water quality standards/permit limits for the parameters.)*, sample frequencies of the parameters were on an annually basis. Please note that change of the frequency sample was briefly discussed in the Fact Sheet of permit cycle 2017-2022.
- During this permit renewal processing, since the history sampling results indicate that the discharge has been in compliance with the water quality standards for Radium 226+228, Iron, and Zinc, sample frequency for these parameters were initially proposed to be remained on annually basis as required in the previous permit. However, further review, we found that although the sample results showed that the discharge was in compliance with the water quality standards for the parameters; the reasonable potential

analysis shows that potentially the parameters may exceed the limits (Please see the summarized RP analysis in the table below.). Therefore, the sample frequency of the parameters is proposed to change from annually to quarterly basis. With the additional data, if the reasonable potential analysis shows that the parameters have no potential to exceed the permit limits. The permittee may request to reduce the sample frequency.

Parameter	# of Ob/ Sample	Coefficient Variation	Max Value	Reasonable Potential Factor[(a)]	The Highest Possible Effluent Value[(a)]	Water Quality Criterion or Permit Limit	RP (Yes or NO)
Nickel (mg/L)	55	2.502	0.08	2.0	0.16	0.05*	Yes
Zinc (mg/L)	55	0.685	0.052	1.4	0.073	0.33**	Yes
Radium 226 + 228 (pCi/L)	9	0.23	3.8	1.4	5.32	5.0	Yes
Water Hardness (mg/L)	55	0.304	130.0	-	-	-	-

Note [(a)]: *The reasonable potential multiplying factors were selected based on the 95% confidence level and 95% probability basis.*

Water Hardness:

Num Obs	Minimum	Mean	Geo-Mean	SD	SEM	Skewness	CV
55	16.8	69.2	65.25	21.02	2.835	-0.198	0.304
	10^{th} Percentile	25^{th} Percentile	50^{th} Percentile	75^{th} Percentile	80^{th} Percentile	95^{th} Percentile	99^{th} Percentile
	40.68	61.7	72	79.4	82.22	94.64	120.8

Note [(*)]: Water quality criterion for Nickel was calculated based on Rule 62-302.530(44), FAC which was $Ni \leq e^{(0.846[lnH]+0.0584)}$, where ln H" means the natural logarithm of total hardness expressed as mg/L of CaCO3. The hardness was set at 25.0 mg/L which is the worst-case scenario.

Note [(**)]: Water quality criterion for Zinc was calculated based on Rule 62-302.530(44), FAC which was $Zn \leq e^{(0.8473[lnH]+0.884)}$, where ln H" means the natural logarithm of total hardness expressed as mg/L of CaCO3. The hardness was set at 25.0 mg/L which is the worst-case scenario.

B. Responding to EPA's comment on sample frequency for total recoverable mercury:
A Mercury TMDL for the State of Florida has been developed since October 2013. Based on the TMDL requirements, the NPDES permit request Chemours monitors for mercury using EPA Method 1631E or other clean approved techniques such as Method 245.1 or Method 245.7 where the method detection limit is equal to or less than 12 ng/L. the permit

also includes a statement to say that " If the values detected are below the water quality standard, mercury is in compliance and does not trigger the need for a minimization plan. However, if testing results are above the water quality standard in the effluent, the permittee shall contact and discuss with the DEP NED wastewater section within 30 days of receipt of the results prior to submitting, preparing and implementing a mercury minimization plan addressing sources of mercury".
As required by the existing permit, effluent discharge from the Outfall D-001 has been monitored for mercury on the annually basis. The analytical result indicates that concentration of mercury was not detectable; however, the method detection limit (MDL) was above the water quality criterion of 12.0 ng/L for mercury *[62.302.530(41), FAC].*
To address EPA's concerns, the sample frequency for mercury is changed from annually to **quarterly**, and Chemours is required to use EPA Method 1631E to analyze for mercury. Upon completion of four consecutive, valid tests that demonstrate consistent compliance with the water quality criterion of 12 ng/L for mercury, Chemours may submit a written request for a reduction in monitoring frequency.

C. Sample frequency for the chronic whole effluent toxicity test.
- The existing permit and proposed permit request:
  - Sample Frequency: S**emi-annually** (every six months)
  - Type of WET Test: Either chronic WET (IC25) or acute WET (LC50).
  - Compliance: Either IC25 or LC50 shall not be less than 100% effluent.
  - When a toxicity test results do not meet the limits (i.e. a test fails), additional fallow-up tests are required as following:
    - The permittee shall notify the Department within 21 days after the last day of the failed routine test and conduct **two additional follow-up tests on each species that failed.**
    - The first test shall be initiated within 28 days after the last day of the failed routine test or at the next discharge. The remaining additional follow-up tests shall be conducted weekly thereafter at the next discharge until a total of two valid additional follow-up tests are completed.
    - The additional follow-up tests shall be conducted using a control and a minimum of five dilutions: 100%, 75%, 50%, 25%, and 12.5% effluent.
- History of WET Testing Results:
  - History data of the last ten years indicates that the chronic WET testing has been failed in Feb 2203, March 2021, June 2019, April 2018, July 2027, November 2016, and January 2015. Per permit, the permittee has conducted two additional follow-up tests on each species that failed. (The first test shall be initiated within 28 days after the last day of the failed routine test, and the remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.).

- Chemours has conducted all the follow-up WET tests as required. There were no failed in the event of the follow-up WET tests.

- Proposed Change
  - To address EPA's concerns, the WET test frequency is proposed to be changed from semi-annually to **quarterly**. Upon completion of four quarterly consecutive valid routine tests that demonstrate compliance with the effluent limitation for chronic WET, the permittee may submit a written request to the Department for a reduction in monitoring frequency.
    - Reasons to monitor for chronic WET test in **quarterly** basis:
      - Accordance with Rule 62-620.620(3)(g).1, FAC, "routine" toxicity tests shall be conducted at regularly scheduled intervals once every three months (quarterly).
        - Additional reasons for not requesting Chronic WET testing to be conducted bimonthly or twice a month:
          * Sampling Requirements: In accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8. (Paragraph 8.3.2, a minimum three samples must be collected. If these samples are collected on Test Days 1, 3, and 5, the first sample would be used for test initiation, and test solution renewal on Day 2. The second sample would be used for test solution renewal on Days 3 and 4. The third sample would be used for test solution renewal on Days 5 and 7.
          * Time period for conducting a chronic WET Test: The tests, which are designed to encompass the entire life cycle or most sensitive life stage of the organisms, are normally last 4-7.
          * Additional Follow-up Tests: In accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 4 (Paragraph 4.7.5), if the routine test fail to meet the chronic toxicity test criteria, then the test must be repeated. In accordance with the permit condition, the permittee shall notify the Department within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test. The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

      With the above reasons, we propose a sample frequency of once every three months (quarterly) is for chronic WET test.

EPA's Comment # 2: Continuous discharges are required to have both maximum daily limits (MDL) and average monthly limits (AML) in accordance with 40 CFR § 122.45(d)(1) unless impracticable.
DEP Response:

- Regarding Total Suspended Solid: The proposed permit includes daily maximum (30.0 mg/L) and Monthly average (20.0 mg/L) for TSS.
- Regarding Total Recoverable Iron: The 40 CFR § 440, Subpart E (§§440.50-440.55), allows daily maximum limit of 2.0 mg/L and monthly average limit of 1.0 mg/L for Iron. The Florida Administrative Code, Chapter 62-302 (Rule 62-302.530(38), sets the daily maximum limit of 1.0 mg/L and no monthly average limit for Iron.
  To comply with the 40 CFR § 122.45(d)(1) and the FAC, Rule 62-302.530(38), the proposed permit requests the effluent/discharge to meet the daily maximum limit of 1.0 mg/L and monthly average limit of 1.0 mg/L for Iron.
- Regarding Zinc, Total Recoverable and Nickel, Total Recoverable: The Florida Administrative Code Chapter 62-302.530(44) & 71 established the maximum daily limits for Nickle and Zinc based on the hardness which is more stringent than EAP's criterion (i.e. 47 µg/L as 24-hr average and not be exceeded $e^{(0.83(\ln(hardness))+1.95)}$ $at\ any\ time$) to protect freshwater aquatic life.

  FDEP believes that a maximum daily permit limit [MDL] for Zn or Ni can be directly used to express average weekly limits or average monthly limits for the parameters. This is appropriate for at least the reasons below:

  - First, a 7-day average or, 30-day average which could comprise up to seven or thirty daily samples, could average out peak toxic concentrations and; therefore, the discharge's potential for causing acute toxic effects would be missed.
  - Second, the Florida water quality standard for either zinc or nickel is based on the maximum daily value; it is not on an average value. It is not appropriate if 7-day average or 30-day average are calculated based on the average values of zinc or nickel with a quarterly sample frequency.
  - Third, it is impractical to use 7-day average or 30-day average limitation, because it is not as protective of beneficial uses as daily maximum limitation.
- Regarding Total Radium 226 + Radium 228: Both 40 CFR § 141.66 (b) and FAC 62-302.530(58)(a), sets the maximum daily limit of 5 pCi/L for combined Radium 226 + Radium 228. The rules do not request monthly average limit for Radium 226 + Radium 228. In addition, with the quarterly of analysis, monthly average for the parameter may not be applicable. In addition, it is impractical to use 7-day average or 30-day average limitation, because it is not as protective of beneficial uses as daily maximum limitation.
- Regarding Total Recoverable Mercury: The Florida Administrative Code, Chapter 62-302 (Rule 62-302.530(41), sets the daily maximum limit of 12.0 ng/L and no monthly average limit for Mercury, total recoverable. In addition, with the quarterly of analysis, monthly average for the parameter may not be applicable.

EPA's Comment # 3: The fact sheet should include a discussion on the hydrologic connection between Blue Pond and the Santa Fe River, including a critical habitat discussion for the Oval Pigtoe.

DEP Response:

The fact sheet has been revised to include a discussion that is not hydrologic connection between the Blue Pond (in **St. Johns River Basin**) and Santa Fe River (in **Santa Fe River Basin**).

Endangered Species Act:

(3) Outfall D–001 (Alligator Creek, Lake Rowell, Suwannee River Basin– Brandford County)

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Information for Planning and Consultation (IPaC), https://ipac.ecosphere.fws.gov/, Brandford County, Florida has seven candidate, threatened, or endangered species listed. The Eastern Black Rail (Laterallus jamaicensis ssp. jamaicensis) is listed as threatened species for this county; Everglade snail kite (Rostrhamus sociabilis plumbeus) is listed as endangered species; Red-cockaded Woodpecker (Picoides borealis) is listed as endangered species in Brandford County. Eastern Indigo Snake (Drymarchon couperi) and Suwannee Alligator Snapping Turtle (Macrochelys suwanniensis) are species listed as threatened species for this county. Oval Pigtoe (Pleurobema pyriforme) is listed as endangered species in Brandford County. The Monarch Butterfly (Danaus plexippus) is a species under consideration for official listing for which there is sufficient information to support listing for this county.
In accordance with requirements under section 7(a)(2) of the Endangered Species Act, DEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, DEP has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. DEP makes this determination based on the following:

(h) The Eastern Black Rail inhabits hardwood and coniferous forest habitats, nesting in trees and bushes and feeding with aquatic beetles, spiders, snails, small crustaceans. The permitted discharge is not anticipated to affect its critical habitat.

(i) The Everglades Snail Kite inhabits shallow freshwater marshes and shallow grassy shorelines of lakes. Everglades snail kite feeds almost exclusively on apple snails (Pomacea), which are captured at or near the water's surface. The permitted discharge is not anticipated to affect its critical habitat. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

(j) The Red-cockaded Woodpecker inhabits in riparian systems, or areas located near rivers and streams, and associated pine woods in northern Florida; in the Big Cypress swamp; and in swamp forests associated with rivers/waterways. Red-cockaded woodpecker feeds mainly on insects and other arthropods,

especially ants and beetles, also termites, roaches, centipedes, and others such as wild fruits and pine seeds. The permitted discharge is not anticipated to affect its critical habitat.

(k) Eastern Indigo Snake inhabits pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. They can be found throughout Peninsular Florida and southeastern Georgia. The Eastern indigo snake's diet primarily consists of a variety of species, including small mammals, birds, toads, frogs, turtles and their eggs, lizards, and small alligators. The permitted discharge is not anticipated to affect its critical habitat.

(l) The alligator snapping turtle habits rivers, lakes, backwater swamps, and periodically in brackish water systems (mixture of fresh and salt water). They eat fish and other aquatic animals. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.. The permitted discharge is not anticipated to affect its critical habitat.

(m) Monarch Butterfly habitats prairies, meadows, grasslands and along roadsides and feeds on the nectar from flowers. The permitted discharge is not anticipated to affect its critical habitat.

(n) Oval Pigtoe inhabits mid-sized rivers and small creeks with a slow to moderate current and a sandy silt to gravel floor. The oval pigtoe is a filter feeder (filters food out of water) that feeds on plankton and detritus (dead organic matter). Oval Pigtoe is listed as endangered invertebrates in Santa Fe River. The main threat to fresh water mussels is land use changes (i.e. the development around the river has released runoff and sedimentation) the impoundment of waterways for fresh water supply, flood control, etc. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

Based on information described above, FDEP has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Brandford County, Florida. In accordance with requirements under section 7(a)(2) of the Endangered Species Act, FDEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat.

After review, FDEP has determined that the reissuance of this permit will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. FDEP makes this determination based on the following:

(i) No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.

(j) FDEP has received no additional information since the previous permit issuance which would lead to revision of its determinations.

(k) FDEP determines that Items (a) and (b) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

(l) Draft permit has been sent to US Fish and Wildlife (Jacksonville Branch office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256-7517, phone number (352) 448-9151) for review and comments.

FDEP determines that Items (a) thru (d) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

(4) Outfall D–002 (WBID 2509C1, Lake Brooklyn Outlet, Lower St. Johns River Basin)

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Information for Planning and Consultation (IPaC), https://ipac.ecosphere.fws.gov/, Clay County, Florida has seven candidate, threatened, or endangered species listed. The Eastern Black Rail (Laterallus jamaicensis ssp. jamaicensis) and Florida Scrub-jay (Apelocoma coerulescens) are listed as threatened species for this county; Everglade snail kite (Rostrhamus sociabilis plumbeus) is listed as endangered species; Red-cockaded Woodpecker (Picoides borealis) is listed as endangered species in Clay County. Eastern Indigo Snake (Drymarchon couperi) and Suwannee Alligator Snapping Turtle (Macrochelys suwanniensis) are species listed as threatened species for this county. Oval Pigtoe (Pleurobema pyriforme) is listed as endangered species in Clay County. The Monarch Butterfly (Danaus plexippus) is a species under consideration for official listing for which there is sufficient information to support listing for this county.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, DEP has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, DEP has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. DEP makes this determination based on the following:

(i) The Eastern Black Rail inhabits hardwood and coniferous forest habitats, nesting in trees and bushes and feeding with aquatic beetles, spiders, snails, small crustaceans. The permitted discharge is not anticipated to affect its critical habitat.

(j) Florida Scrub-jays inhabit sand pine and xeric oak scrub, and scrubby flatwoods. Florida scrub-jays live in family groups that consist of a breeding pair and young helpers, which are usually the offspring of the pair. The diet of the Florida scrub-jay primarily consists of insects, frogs, toads, lizards, mice, bird eggs, and acorns. The permitted discharge is not anticipated to affect its critical habitat.

(k) The Everglades Snail Kite inhabits shallow freshwater marshes and shallow grassy shorelines of lakes. Everglades snail kite feeds almost exclusively on apple snails (Pomacea), which are captured at or near the water's surface. The permitted discharge is not anticipated to affect its critical habitat. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

(l) The Red-cockaded Woodpecker inhabits in riparian systems, or areas located near rivers and streams, and associated pine woods in northern Florida; in the Big Cypress swamp; and in swamp forests associated with rivers/waterways. Red-cockaded woodpecker feeds mainly on insects and other arthropods, especially ants and beetles, also termites, roaches, centipedes, and others such as wild fruits and pine seeds. The permitted discharge is not anticipated to affect its critical habitat.

(m) Eastern Indigo Snake inhabits pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. They can be found throughout Peninsular Florida and southeastern Georgia. The Eastern indigo snake's diet primarily consists of a variety of species, including small mammals, birds, toads, frogs, turtles and their eggs, lizards, and small alligators. The permitted discharge is not anticipated to affect its critical habitat.

(n) The alligator snapping turtle habits rivers, lakes, backwater swamps, and periodically in brackish water systems (mixture of fresh and salt water). They eat fish and other aquatic animals. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.. The permitted discharge is not anticipated to affect its critical habitat.

(o) Monarch Butterfly habitats prairies, meadows, grasslands and along roadsides and feeds on the nectar from flowers. The permitted discharge is not anticipated to affect its critical habitat.

(p) Oval Pigtoe inhabits mid-sized rivers and small creeks with a slow to moderate current and a sandy silt to gravel floor. The oval pigtoe is a filter feeder (filters food out of water) that feeds on plankton and detritus (dead organic matter). Oval Pigtoe is listed as endangered invertebrates in Santa Fe River. The main threat to fresh water mussels is land use changes (i.e. the development around the river has released runoff and sedimentation) the impoundment of waterways for fresh water supply, flood control, etc. Effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

Based on information described above, FDEP has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Clay County, Florida. In accordance with requirements under section 7(a)(2) of the Endangered Species Act, FDEP has reviewed this permit

for its effect on listed threatened and endangered species and designated critical habitat.
After review, FDEP has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. FDEP makes this determination based on the following:

(a) No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.
(b) FDEP has received no additional information since the previous permit issuance which would lead to revision of its determinations.
(c) FDEP determines that Items (a) and (b) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.
(d) Draft permit has been sent to US Fish and Wildlife (Jacksonville Branch office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256-7517, phone number (352) 448-9151) for review and comments.

FDEP determines that Items (a) through (d) results in no change to the environmental baseline established by the previous permit, therefore, FDEP concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

EPA' s Comment # 4: There is a minor typo on page 9 of the permit, it should read "in I.A.7 above" not I.A.8.

DEP Response: Typo error has been corrected.

EPA's Comment # 5: The permittee is required to submit certain effluent characteristic information pursuant to 40 CFR § 122.

DEP Response:

1. **Please see the responses below from Chemours:**

- Chemours – Trail Ridge (FL0000051) is regulated under 40 CFR Part 440 regulations – Ore Mining and Dressing Point Source Category, Subpart E – Titanium Ore Subcategory "(c) mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, and other heavy metals, and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods)". However, Chemours believes that the Chemours – Trail-Ridge (FL0000051) is not an 'Ore Mine'. Therefore, it should not have to fall under the additional testing in 40 CFR Part 122.21 (g)(7)(v)(A)and (B).
- **Per 40 CFR Part 122.21 (g)(7)(v)(A)and (B):**

"(v) Each applicant with processes in one or more primary industry category (see appendix A of this part) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

(A) The organic toxic pollutants in the fractions designated in table I of appendix D of this part for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (g)(8) of this section. Table II of appendix D of this part lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromatography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes. See Notes 2, 3, and 4 of this section.

(B) The pollutants listed in table III of appendix D of this part (the toxic metals, cyanide, and total phenols)."

[**Note 2**: At 46 FR 22585, Apr. 20, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(v)(A) and the corresponding portions of Item V-C of the NPDES application Form 2C as they apply to:

a. Testing and reporting for all four organic fractions in the Greige Mills Subcategory of the Textile Mills industry (subpart C - Low water use processing of 40 CFR part 410), and testing and reporting for the pesticide fraction in all other subcategories of this industrial category.

b. Testing and reporting for the volatile, base/neutral and pesticide fractions in the Base and Precious Metals Subcategory of the Ore Mining and Dressing industry (subpart B of 40 CFR part 440), and testing and reporting for all four fractions in all other subcategories of this industrial category.

c. Testing and reporting for all four GC/MS fractions in the Porcelain Enameling industry.

This revision continues that suspension.] 1

Since (v)(A) requirements have been suspended for the Ore Mining and Dressing industry, only table III would apply 122.21(g)(7)(v)(B)

2. **Additional Response:**
In June 2021, FDEP conducted a Third-Year Inspection including CBI (Compliance Biomonitoring Inspection), XSI (Toxics Sampling Inspection), and CSI (Compliance Sampling Inspection).
The available data could provide quantitative and qualitative characteristics of the effluent discharge.

Sample results are attached for your information.

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264905.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264906.1]&[profile=Permitting_Authorization]

https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.1264907.1]&[profile=Permitting_Authorization]

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: https://www.fldepportal.com/go/

PERMITTEE NAME: The Chemours Company FC LLC
MAILING ADDRESS: Post Office Box 753
Starke, Florida 32091- 0753

FACILITY: Florida Mine - Trail Ridge
LOCATION: 4641 State Road 230
Starke, FL 32091-9787

COUNTY: Bradford
OFFICE: Northeast District

PERMIT NUMBER: FL0000051-015-IW3S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESCRIPTION: Outfall D0-01 to Alligator Creek
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Outfall D-001))	Sample Measurement										
PARM Code 50050 Y Mon. Site No. EFF-1	Permit Requirement		Report (An.Avg.)	MGD					0	Continuous	Flow Totalizer
Flow (Outfall D-001))	Sample Measurement										
PARM Code 50050 1 Mon. Site No. EFF-1	Permit Requirement	40.0 (Day.Max.)	Report (Mo.Avg.)	MGD						Continuous	Flow Totalizer
Flow (Outfall D-002)	Sample Measurement										
PARM Code 50050 P Mon. Site No. EFF-1	Permit Requirement		Report (Mo.Total)	MGD					0	Continuous	Flow Totalizer
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-1	Permit Requirement				6.0 (Day.Min.)		8.5 (Day.Max.)	s.u.		Continuous	Meter
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 1 Mon. Site No. EFF-1	Permit Requirement					30.0 (Day.Max.)	20.0 (Mo.Avg.)	mg/L		Weekly	24-hr FPC
Iron, Total Recoverable	Sample Measurement										
PARM Code 00980 1 Mon. Site No. EFF-1	Permit Requirement					1.0 (Day.Max.)	1.0 (Mo.Avg.)	mg/L		Weekly	24-hr FPC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Florida Mine - Trail Ridge MONITORING GROUP NUMBER: D-001 PERMIT NUMBER: FL0000051-015-IW3S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Routine)	Sample Measurement										
PARM Code TRP3B P Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		Quarterly	Grab
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Additional)	Sample Measurement										
PARM Code TRP3B Q Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Additional)	Sample Measurement										
PARM Code TRP3B R Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
7-DAY CHRONIC STATRE Pimephales promelas (Routine)	Sample Measurement										
PARM Code T6P6C P Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		Quarterly	Grab
7-DAY CHRONIC STATRE Pimephales promelas (Additional)	Sample Measurement										
PARM Code T6P6C Q Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
7-DAY CHRONIC STATRE Pimephales promelas (Additional)	Sample Measurement										
PARM Code T6P6C R Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit

ISSUANCE/REISSUANCE DATE: December 4, 2024

DMR EFFECTIVE DATE: 1st day of the 2nd month following effective date of permit - Permit expiration

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: https://www.fldepportal.com/go/

PERMITTEE NAME: The Chemours Company FC LLC
MAILING ADDRESS: Post Office Box 753
Starke, Florida 32091- 0753

FACILITY: Florida Mine - Trail Ridge
LOCATION: 4641 State Road 230
Starke, FL 32091-9787

COUNTY: Bradford
OFFICE: Northeast District

PERMIT NUMBER: FL0000051-015-IW3S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESCRIPTION: Outfall D0-01 to Alligator Creek
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Quarterly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Zinc, Total Recoverable (effluent)	Sample Measurement										
PARM Code 01094 1 Mon. Site No. EFF-1	Permit Requirement						- (Max.)	UG/L		Quarterly	Grab
Zinc, Total Recoverable (calculated limit)	Sample Measurement										
PARM Code 01094 P Mon. Site No. EFF-1	Permit Requirement						- (Max.)	UG/L		Quarterly	Calculated
Zinc, Total Recoverable (effluent minus calculated limit)	Sample Measurement										
PARM Code 01094 Q Mon. Site No. EFF-1	Permit Requirement						0.0 (Max.)	UG/L		Quarterly	Calculated
Hardness, Total (as CaCO3)	Sample Measurement										
PARM Code 00900 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	MG/L	0	Quarterly	Grab
Nickel, Total Recoverable (effluent)	Sample Measurement										
PARM Code 01074 1 Mon. Site No. EFF-1	Permit Requirement						- (Max.)	UG/L		Quarterly	Grab
Nickel, Total Recoverable (calculated limit)	Sample Measurement										
PARM Code 01074 P Mon. Site No. EFF-1	Permit Requirement						- (Max.)	UG/L		Quarterly	Calculated

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Florida Mine - Trail Ridge MONITORING GROUP NUMBER: D-001 PERMIT NUMBER: FL0000051-015-IW3S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Nickel, Total Recoverable (effluent minus calculated limit)	Sample Measurement										
PARM Code 01074 Q Mon. Site No. EFF-1	Permit Requirement						0.0 (Max.)	UG/L		Quarterly	Calculated
Mercury, Total Recoverable	Sample Measurement										
PARM Code 71901 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	ug/L	0	Quarterly	Grab
Radium 226 + Radium 228, Total	Sample Measurement										
PARM Code 11503 1 Mon. Site No. EFF-1	Permit Requirement						5.0 (Day.Max.)	pCi/L		Quarterly	24-hr FPC

ISSUANCE/REISSUANCE DATE: December 4, 2024

DMR EFFECTIVE DATE: 1st day of the 2nd month following effective date of permit - Permit expiration

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: https://www.fldepportal.com/go/

PERMITTEE NAME: The Chemours Company FC LLC
MAILING ADDRESS: Post Office Box 753
Starke, Florida 32091- 0753

FACILITY: Florida Mine - Trail Ridge
LOCATION: 4641 State Road 230
Starke, FL 32091-9787

COUNTY: Bradford
OFFICE: Northeast District

PERMIT NUMBER: FL0000051-015-IW3S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-002
MONITORING GROUP DESCRIPTION: Discharge to Blue Pond
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (from TRS)	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-3	Permit Requirement		Report (Mo.Total)	Mgal					0	Continuous	Flow Totalizer
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-2	Permit Requirement				6.0 (Day.Min.)		8.5 (Day.Max.)	s.u.		Daily, when discharging	Meter
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 1 Mon. Site No. EFF-2	Permit Requirement					30.0 (Mo.Avg.)	20.0 (Day.Max.)	mg/L		Weekly, when discharging	Grab
Iron, Total Recoverable	Sample Measurement										
PARM Code 00980 1 Mon. Site No. EFF-2	Permit Requirement					1.0 (Day.Max.)	1.0 (Mo.Avg.)	mg/L		Weekly, when discharging	Grab
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Routine)	Sample Measurement										
PARM Code TRP3B P Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		Quarterly	Grab
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Additional)	Sample Measurement										
PARM Code TRP3B Q Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Florida Mine - Trail Ridge

MONITORING GROUP NUMBER: D-002

PERMIT NUMBER: FL0000051-015-IW3S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
7-DAY CHRONIC STATRE Ceriodaphnia dubia (Additional)	Sample Measurement										
PARM Code TRP3B R Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
7-DAY CHRONIC STATRE Pimephales promelas (Routine)	Sample Measurement										
PARM Code T6P6C P Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		Quarterly	Grab
7-DAY CHRONIC STATRE Pimephales promelas (Additional)	Sample Measurement										
PARM Code T6P6C Q Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
7-DAY CHRONIC STATRE Pimephales promelas (Additional)	Sample Measurement										
PARM Code T6P6C R Mon. Site No. EFF-2	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit

ISSUANCE/REISSUANCE DATE: December 4, 2024

DMR EFFECTIVE DATE: 1st day of the 2nd month following effective date of permit - Permit expiration

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

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Starke, Florida 32091- 0753

FACILITY: Florida Mine - Trail Ridge
LOCATION: 4641 State Road 230
Starke, FL 32091-9787

COUNTY: Bradford
OFFICE: Northeast District

PERMIT NUMBER: FL0000051-015-IW3S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-002
MONITORING GROUP DESCRIPTION: Discharge to Blue Pond
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Quarterly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Radium 226 + Radium 228, Total	Sample Measurement										
PARM Code 11503 1 Mon. Site No. EFF-2	Permit Requirement						5.0 (Day.Max.)	pCi/L		Quarterly, when discharging	Grab
Zinc, Total Recoverable (effluent)	Sample Measurement										
PARM Code 01094 1 Mon. Site No. EFF-2	Permit Requirement						5.0 (Day.Max.)	UG/L		Quarterly, when discharging	Grab
Zinc, Total Recoverable (calculated limit)	Sample Measurement										
PARM Code 01094 P Mon. Site No. EFF-2	Permit Requirement						5.0 (Day.Max.)	UG/L		Quarterly, when discharging	Calculated
Zinc, Total Recoverable (effluent minus calculated limit)	Sample Measurement										
PARM Code 01094 Q Mon. Site No. EFF-2	Permit Requirement						0.0 (Day.Max.)	UG/L		Quarterly, when discharging	Calculated
Hardness, Total (as CaCO3)	Sample Measurement										
PARM Code 00900 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	MG/L	0	Quarterly, when discharging	Grab
Nickel, Total Recoverable (effluent)	Sample Measurement										
PARM Code 01074 1 Mon. Site No. EFF-2	Permit Requirement						- (Max.)	UG/L		Quarterly, when discharging	Grab

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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Florida Mine - Trail Ridge MONITORING GROUP NUMBER: D-002 PERMIT NUMBER: FL0000051-015-IW3S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Nickel, Total Recoverable (calculated limit)	Sample Measurement										
PARM Code 01074 P Mon. Site No. EFF-2	Permit Requirement						- (Max.)	UG/L		Quarterly, when discharging	Calculated
Nickel, Total Recoverable (effluent minus calculated limit)	Sample Measurement										
PARM Code 01074 Q Mon. Site No. EFF-2	Permit Requirement						0.0 (Max.)	UG/L		Quarterly, when discharging	Calculated
Mercury, Total Recoverable	Sample Measurement										
PARM Code 71901 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L	0	Quarterly, when discharging	Grab

ISSUANCE/REISSUANCE DATE: December 4, 2024

DMR EFFECTIVE DATE: 1st day of the 2nd month following effective date of permit - Permit expiration

DAILY SAMPLE RESULTS - PART B

Permit Number: FL0000051-015-IW3S Facility: Florida Mine - Trail Ridge
Monitoring Period From: _____ To: _____

	Flow (Outfall D-001)) MGD	Flow (Outfall D-002) MGD	Flow (from TRS) Mgal	Iron, Total Recoverable mg/L	Iron, Total Recoverable mg/L	Solids, Total Suspended mg/L	Solids, Total Suspended mg/L	pH (Min) s.u.	pH (Max) s.u.	pH s.u.	
Code	50050	50050	50050	00980	00980	00530	00530	00400	00400	00400	
Mon. Site	EFF-1	EFF-1	FLW-3	EFF-1	EFF-2	EFF-1	EFF-2	EFF-1	EFF-1	EFF-2	
1											
2											
3											
4											
5											
6											
7											
8											
9											
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11											
12											
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16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Total											
Mo. Avg.											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWB-ERR
Well Type: Background
Description: MWB-ERr
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWC-15
Well Type: Compliance
Description: TR-15
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		2000	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		15	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		5	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWC-30
Well Type: Compliance
Description: TR-30
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		2000	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		15	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		5	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-12
Well Type: Intermediate
Description: TR-12
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-12A
Well Type: Intermediate
Description: TR-12A
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-12B
Well Type: Intermediate
Description: TR-12B
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-14R
Well Type: Intermediate
Description: TR-14R
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-7
Well Type: Intermediate
Description: TR-7
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-7A
Well Type: Intermediate
Description: TR-7A
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Florida Mine - Trail Ridge
Permit Number: FL0000051-015-IW3S
County: Bradford
Office: Northeast District

Monitoring Well ID: MWI-7B
Well Type: Intermediate
Description: TR-7B
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Turbidity	00070		Report	NTU	In Situ	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Barium, Total Recoverable	01009		Report	ug/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
Radium 226 + Radium 228, Total	11503		Report	pCi/L	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. Facilities who submit their DMR(s) electronically through eDMR do not need to submit a hardcopy DMR. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used, unless indicated otherwise in the permit or on the DMR:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)
No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units. Data qualifier codes are not to be reported on Part A.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that. Data qualifier codes are not to be reported on Part D.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.