Bradford County Flooding

I may not be able to attend the LMS meeting due to a doctor's appointment. The following addresses the items I wanted to address. I would suggest that a committee be created to address the flooding problems noted. My comments have not been reviewed by the Bradford Soil and Water Conservation District Supervisors so should be considered comments from a Bradford County resident.

With the prediction that this could be a very active hurricane season it is critical that Bradford County Emergency Management have a plan in place to address potential problems

Lake Sampson Drainage

Problem: Aquatic plants are reducing flow out of Lake Sampson when gates on CR 225 are open. This reduction can increase lake levels and cause unnecessary flooding risks for residents around Lakes Sampson and Crosby.

Action: Seek funding to remove aquatic vegetation that is reducing flows out of Lake Sampson. Have the aquatic vegetation removed before the risk of hurricanes increases this summer.

Suwannee River Water Management District (SRWMD) Edwards Bottomlands Project

Problem: The SRWMD Edwards Bottomlands Project design and maintenance appears to be causing high water levels along Alligator Creek upstream of the project

Action: Ask SRWMD to 1. mow or remove plants that are reducing flows, 2. remove trash and debris from the site and 3. if needed restore some straight channel flows.

Problem: Maintenance of the Alligator Creek channel and removal of trees across the channel.
Action: Seek USDA funds for Alligator Creek floodplain land purchase for easements to allow better access to the Alligator Creek channel from Laua Street to the bypass.

Seek SRWMD funding to remove invasive plants, sediment, and trash and debris.

Impacts from Chemours Mining and Reclamation Operations

Problem 1: Added discharges into Water Oak Creek Basin after reclamation along CR 225 south of Lawtey.

Solution: Tract the timing and design of the reclamation work and attempt to have stormwater retention included as part of the reclamation plans.

Problem 2: The Chemours Industrial Wastewater Treatment Facility East of Starke

With the prediction that this could be a very active hurricane season it is critical that Bradford County Emergency Management have a plan in place to address the impacts of potential failures of the containment structures associated with the Chemours Industrial Wastewater Treatment Facility East of Starke.

The Chemours Industrial Wastewater treatment system includes a series of raised settling ponds in Braford County east of Starke shown in the image on the next page.

Failure of the structure along the western side of the ponds that holds the water in the ponds could create significant flood risk for homes just west of the holding ponds.

During Irma in 2017 Chemours discharged Industrial Wastewater at rates higher than is permitted by its Industrial Wastewater Permit. These excess discharges could have contributed to flooding of homes and apartments along Alligator Creek upstream of 301.

Water flow from the Chemours operations over the rail line (double yellow lines in the above image) onto the triangular shaped parcel south of the Chemours holding ponds owned by the North Florida Land Trust has been evaluated. During major rain events water flows over the railroad tracks flows west and then flows north back under the Bradford Apartment complex that was flooded during Irma. The discharges over the railroad tracts would not have been included in the reported Industrial Wastewater discharge reports.

Solutions:

Seek assurance from DEP that the Chemours holding pond system has sufficient capacity to hold stormwater and process water from a significant rain event.

Request DEP not allow the discharges over and under the rail road tracts south of the Chemours ponds.

Request Chemours inform Emergency Management whenever its discharge rate exceeds 20 mgd.

Problem 3 Trail Ridge South Mine

Based on the information in the documents found in DEP OCULUS, Paul Still has several concerns about the operation of the Chemours Trail Ridge South (TRS) Mine on Suwannee River Water Management District (SRWMD) property in Bradford County. Paul Still believes that answers to the questions asked in this document will reduce the chances of environmental impacts from the operation of the Chemours TRS Mine in the future. The documents being referenced are in bold type.

Parts of the **2022 Annual Report** are copied below along with questions associated with the copied materials

Page 1 **2022 Annual Report**

c. Work Completed Calendar Year 2022 (MMR 38c and ST40437c)

Work was initiated on June 27, 2022, with the initial pre-dig pit. The pre-dig pit was excavated with the sand being stock-piled as the pit provides the space for the tailings upon start-up. The first HMS through the plant was October 26, 2022.

How deep was the pit?

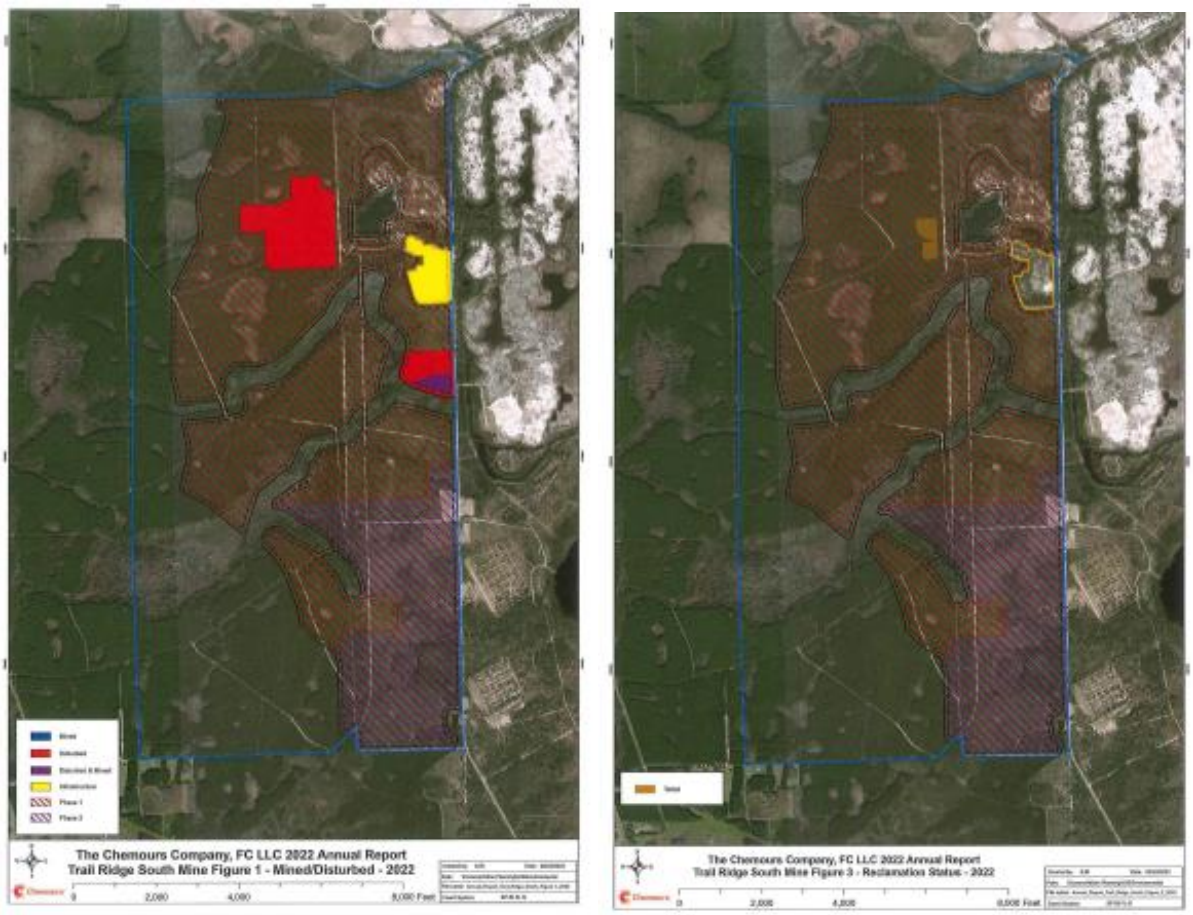
What is the area of the pit?

What is the status of the stockpiled sand?

Did the pit receive water with radium levels of 9.3 piC/L noted in the radium exceedance documents?

What was/is the radium levels of the tailings?

Should the pre-dig pit area be shown as mined?



Should the pre-dig pit area in tan in the image on the right be shown as mined in the image on the left?

Parts of the **March 23,2023, Wastewater Inspection Report** are copied below.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
WASTEWATER COMPLIANCE INSPECTION REPORT

Facility Details

Facility Name	Florida Mine – Trail Ridge South		**WAFR ID**	FL0A00014	
Physical Address	**5222 Treat Road**		**City, State, Zip**	Starke, Florida 32091	
County	Bradford and Clay County		**Facility Phone #**	**(904) 539 -7101**	
Permit Issued:	**8/12/2022**		**Permit Expiration:**	**8/11/2027**	
Facility Type	**Industrial Wastewater**		**Is the Facility NPDES (Y/N)**	Yes	
Latitude	**Degrees °** 29	**Minutes ‘** 54		**Seconds “**	46.15
Longitude	**Degrees °** 82	**Minutes ‘** 1		**Seconds “**	52.35

Inspection Details

Inspection Type	**Entry Date**	**Exit Date**	
CEI	**3/23/2023**	3/23/2023	
	Entry Time (HH:MM AM/PM)	**Exit Time (HH:MM AM/PM)**	
	10:30 AM	2:30 PM	
Sampling Taken (Y/N) No	**RQ #** N/A	**QA Conducted (Y/N)**	No
Name(s) and Title of Field Representatives(s)	**Operator Certification**	**Email**	**Phone Number**

Page 14

DMRs review period	10/1/2022 – 2/28/2023 **Yes**
Are the groundwater monitoring results sent to the Department on Discharge Monitoring Report, Form 62-620.910(10), F.A.C. or entered into EzDMR and submitted by the DMR due date?	**Yes**
procedures and treatment?	
Do the groundwater monitoring wells meet DEP requirements including; tamper-proof locks, unique well label(s), concrete well pad with protective bumpers not containing numerous cracks, and is free of clutter for sampling purposes.	**Yes**

Observations:
Groundwater wells have not been completed yet, due to unavailability of the drill rig team. Facility is required to sample groundwater semi-annual.

How can you have the 3 Yes responses if the groundwater wells had not been completed?

Why was the TRS Mine allowed to begin operation before the monitoring wells were installed?

The **May 23,2023, Chemours document regarding the April 2023 Radium Exceedance** is copied below.

> The following provides additional information pertaining to the radium 226/228 exceedance form the Trail Ridge South D001 outfall during the April 2023 release. Per the notification to the Department on May 17, 2023 (verbal) and email (May 18, 2023, the radium 226/228 was reported to be 9.3 piC/L and gross alpha was 6.2 piC/L (permit limits of 5.0 piC/I and 15.0 piC/L, respectively).
>
> A discharge was initiated on April 12 through 28, 2023. The monthly radium sample was taken on April 19. Results of the radium sample became available on May 16, 2023. No discharge has occurred since April 28, 2023.
>
> Two internal Ra-228 samples were taken prior to the discharge to estimate Ra- 226/228 values and did not contain elevated levels. Currently, barium chloride is being added to the treatment process, as a preventative measure, as it has been shown to remove radium from water.
>
> A complete Root Cause Analysis (RCA) will be conducted on this incident. Should you have any questions regarding the attached, please do not hesitate to contact me at 904.263.8592.

What are the results from the Root Cause Analysis?

What was/is the source of the radium?

How did Chemours alter its systems to avoid discharges from its IWW system?

How much barium chloride is being added and where in the treatment system is it being added?

Should barium be added to the monthly DMR?

Parts of the **2023 Annual Report** are copied below along with questions associated with the copied materials.

Page 2 **2023 Annual Report**

e. Work Completed Calendar Year 2023 (MMR 38c and ST40437c)

Mining occurred in approximately 84.8 acres within Cells B001, B002 and A001. Clearing and disturbance only accounted for approximately 54.1 (Figure 1 and Table 1). Wetland impacts for both the ST404 and MMR totaled approximately 72.0 and 73.6 acres respectively (Figures 2A and 2B).

Wetland ID	ST 404	MMR
W1	15.7	15.7
W5	22.4	22.4
W21	34.0	34.0
W4		0.7
W21		0.8
Total	**72.0**	**73.6**

Approximately 34.5 acres have been tailed and 24.1 acres were contoured in CY 2023 (Figure 3). The enhancement area was completed and planted in CY 2024.

Why was the expanded tailed area in Figure 3 adjacent to the 2022 pre-dig pit not referenced in Section e?

Figure 3 Reclamation Status 2023 Figure 3 Reclamation Status 2022

If there was a pit associated with the 2023 tailed area, how deep was the pit?

What is the area of the 2023 tailed area?

What is the status of the stockpiled sand?

Did the pit receive water with radium levels of 9.3 piC/L noted in the radium exceedance documents?

What was/is the radium levels of the tailings?

Should the pre-dig pit area be shown as mined?

Why is the Tailed area in the 2022 Annual Report not shown in the 2023 Annual report?

Page 3 **2023 Annual Report**

g. Problems Encountered, Solutions implemented/Proposed (MMR 38 e)

There was a malfunction with the thickener that caused solid overflow into the process pond. A dredge was leased to remove the solids from the pond. Work will continue into early 2024.

What is "the thickener"?

Why is there no reference to the radium exceedance in this section?

How was the holding volume of the process pond impacted by the excess solids?

Page 3 **2023 Annual Report**

i. Groundwater Report (MMR 38g (SC 31 and ST404 37f)

Piezometer and staff gauges were installed per the Undisturbed Wetland monitoring Program in August 2021. Two additional piezometers per the ST404 permit were installed in July 2022. The report was uploaded to the Department's FTP site on February 16, 2024.

Parts of the referenced report copied on the next page

The Chemours Company FC, LLC
Trail Ridge South Mine MMR_137482-018
Undisturbed Wetlands Monitoring Data
January 2023 – December 2023

As required by MMR_137482-018 and ST404_137482-022, the following provides a summary of the monitoring associated with the undisturbed wetlands adjacent to the Trail Ridge South Mine.

Enc. Permit Figure 17 – Undisturbed Wetland Monitoring Piezometer and Staff Gauges Location Map
Permit Figure 18 – Undisturbed Wetland Monitoring Piezometer and Staff Gauges Location Map
Table 1: Trail Ridge South Monitoring Piezometer Locations
Wetland Monitoring Data Sheets; (January 2023 to December 2023)
Hydrologic Data Graphs 1 - 15

Where can the enclosures be found on OCULUS?

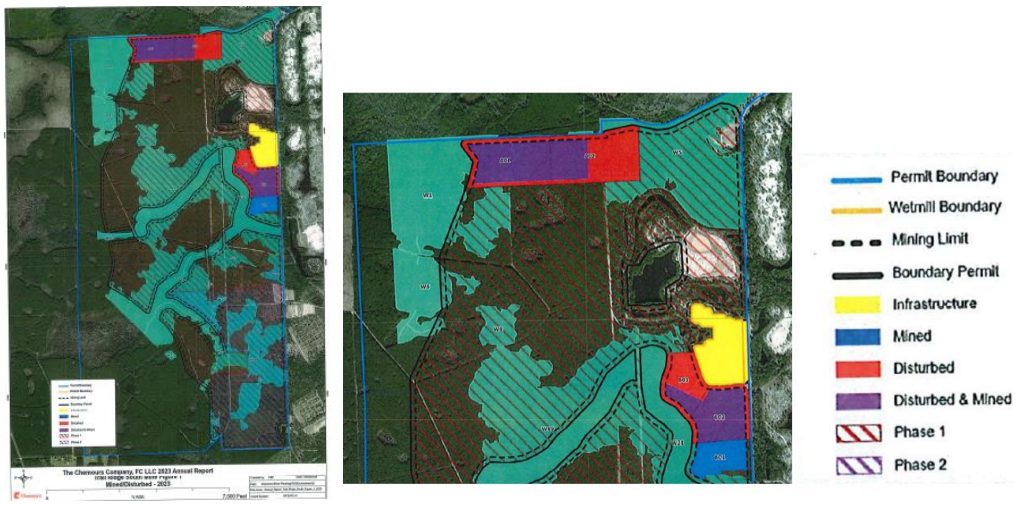
Page 4 **2023 Annual Report**

I. **Surface Water Quality Monitoring Reports (ST404 37g)**

Surface water quality monitoring reports have been submitted to the Department per the schedule in the MMR report, due monthly.

Where can the monthly MMR reports be found on OCULUS?

2023 Annual Report Attachments Figure 1



What is the diference between Permit Boundary, Boundary Permit, and Mining Limit?

What is the difference between Mined and Disturbed & Mined?

Trail Ridge South Release Incident NO. 20024-0997 5 day Report

The following provides additional information pertaining to the discharge of water from the Trail Ridge South facility on January 31, 2024.

Chemours initially notified the following entities of the release on January 31, 2024:

- State Warning Point – ID 2024-0997
- Public Notice of Pollution - 22971
- Department of Environmental Protection – Mining and Mitigation Program and Industrial Wastewater Section

Summary of Incident

As discussed with our original notification, cells are in various phases of mining activity (clearing, mining, tailing and reclamation). Reclamation is ongoing in the northwest corner of the mining boundary. A portion of the reclamation cell remains bermed (northern perimeter and portion of western perimeter). Topsoil was being returned in the southern portion of the reclamation cell. At 6:20 am, operators noticed water on the topsoiled area and also water flowing over the northwest berm. Operators immediately constructed a berm to contain the water from the topsoiled area and built up the northwest corner of the remaining berm. Supervision was notified and the operations were shut down. Review of the area

What is meant by "A portion of the reclamation cell remains bermed"?

Why was only a portion of the cell bermed?

Where was the "water on the topsoiled area"?

Where was "water flowing over the northwest berm"?

Is the berm shown in the image below the berm referenced by the words "Operators immediately constructed a berm" or is it the berm referenced by the words "A portion of the reclamation cell remains bermed"?

What was and is the depth of the water contained by the berm in the following image?

Northwest corner Reclamation cell
(January 31, 2024)

constructed a berm to contain the water from [illegible]
the remaining berm. Supervision was notified and the operations were shut down. Review of the area for source of water indicated a "washout" by the active tailings line which caused water to flow back toward the reclamation cell. From the topsoiled area, water left the site at an historic fire break and water from the northwest corner of the reclamation cell entered the adjacent offsite wetland. The water did not contain humate and there was not any breach of the reclamation cell structure. There was no deposition of sediment in the wetland.

Immediate actions taken upon discovery

- Area bermed
- Operations shut down

Page 2 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

- Supervision and Environmental notified
- Rain pump in cell started to reduce water levels
- Environmental Assessment of release area
- Silt fence repair

Refer to Exhibit A which provides a graphic of the area where water was released and the sampling locations. Additionally Exhibit B provides photo representation of the reclamation cell, Area 1 and Area 2 sampling locations, and perimeter sampling locations.

When were operations shut down?

What operations were shut down?

When were operations restated?

What was the location of the process water line discharge point at the time of the breach?

What was the location of the "washout" by the active tailings line"?

Is there an image of the "washout"?

Was the process water discharge point relocated after the incident?

Is the pump in the image on page 8 the "Rain pump"?

What was the time and date of each of the bulleted items?

Estimate of volume of water released

Upon the Department's request for volume released, a worst case scenario was provided to the Department on February 1, 2024. This estimate was based on pipe flow calculations over time. The operational area was inspected at 3:00 am indicated no issues and from the 6:20 am discovery of the water release from the site. Calculation:

Average Flow:	4,182	gpm
Total Minutes:	200	min
Total Volume:	**836,323**	**gal**

As discussed in our February 1 email, additional survey data was being conducted as some water was retained onsite within the northwest corner berm (Exhibit B).

- Total tailing pipe volume during event = **836,323 gal**
- Total volume contained within mine boundary = **642,128 gal**
- Total volume released = **194,195 gal**

How was the operational area inspected at 3:00 am?

How was it documented that the "washout" location was visited at 3:00 am?

How was the 200 min time determined?

Were there any other points where process pond water was being discharged?

What was the rate of water being pumped into the process pond?

Page 2 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Environmental Review

Water went offsite in two (2) areas; referred to as Area 1 (northwest corner of reclamation cell) and Area 2 (topsoiled portion of reclamation cell).

Area 1

Area 1 is located along the northern and portion of the western boundary of the reclamation cell. This is a mixed forested wetland system. There was little to no flow within the area around the reclamation cell at the time of review. Water had accumulated within and around the hummocks in the wetland. Water depths were approximately 3-6 inches throughout the area reviewed. Observations within the wetland showed some areas of "cloudy" water and areas of clear water.

Water samples taken on the morning of January 31, were at the point of entry and within the surrounding area (Sample Location Map) between 8:30 am and 11:00 am. Samples taken in Area

Page 3 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

1 include Sample 2, 3, 4 and 5. Sample 1 had no flow at the time of sampling and the nephelometric turbidity unit (NTU) was 57. The highest NTU was 77 at Sample location 3.

Four perimeter sample locations were identified, Samples 9, 10, 11 and 12, to monitor upstream flow from the wetland. Samples 9 and 10 were in the flow path. Samples 11 and 12 were south of the flow pattern.

Water samples were taken at the Sample 1 location in the PM on January 31 and on February 1, though there was no flow. The location dried so no additional samples were taken. Sample locations 2, 3, 4, 5 were not sampled after the initial sample as the majority of the water had soaked into the ground and there was either no water or very little ponded water.

Samples continued to be taken two times per day from January 31, 2024 – February 4, 2024 at the perimeter locations; Sample 9 and 10. One sample was taken February 5, 2024.

What was the turbidity level of the water that was retained behind the berm?

What was the depth of the water when the samples were taken at Sample 1?

Why were samples taken from Sample 9 and Sample 10?

What was the direction of flow from Sample 9 and Sample 10 when samples were taken?

Area 2

The water that flowed over the topsoil returned area exited the site within a fire break that borders the wetland. Three samples were taken at this point (Samples 6, 7 and 8). No additional samples were taken as the water was evaporating and soaking into the ground.

Were Samples 6, 7, and 8 dry at 1/31/2024 pm or were samples not taken?

Table 1: Sampling Data (NTU)

			Area 1				Area 2			Perimeter			
Sample Location		1	2	3	4	5	6	7	8	9	10	11	12
	1/31/2024 AM	57.1	22.6	76.9	25.6	53.3	46.2	70.0	31.7	7.5	8.0	4.7	5.8
	1/31/2024 PM	52.7	NS	NS	NS	NS	NS	NS	NS	5.7	5.8	NS	NS
	2/1/2024 AM	55.7	NS	NS	NS	NS	NS	NS	NS	7.6	7.6	NS	NS
	2/1/2024 PM	Dry	NS	NS	NS	NS	NS	NS	NS	7.6	13.4	NS	NS
	2/2/2024 AM	Dry	NS	NS	NS	NS	NS	NS	NS	5.8	15.0	NS	NS
	2/2/2024 PM	Dry	NS	NS	NS	NS	NS	NS	NS	7.3	14.5	NS	NS
	2/3/2024 AM	Dry	NS	NS	NS	NS	NS	NS	NS	6.4	11.8	NS	NS
	2/3/2024 PM	Dry	NS	NS	NS	NS	NS	NS	NS	5.4	7.6	NS	NS
	2/4/2024 AM	RW	NS	NS	NS	NS	NS	NS	NS	5.7	6.2	NS	NS
	2/4/2023 PM	RW	NS	NS	NS	NS	NS	NS	NS	6.1	7.0	NS	NS
	2/5/2024 AM	RW	NS	NS	NS	NS	NS	NS	NS	7.2	6.5	NS	NS

NS No Sample
RW Rainwater

What is the meaning of the term "Rainwater"?

Was the rainwater sampled at Sample 1 and if it was, what NTU value resulted?

Summary

A release of water from the active mining area over a reclamation cell occurred on January 31, 2024. The volume of release was estimated at approximately 194,195 gallons. The highest turbidity reading was 77 NTU within the Area 1 location immediately after the release. There was little to no flow in Area 1 subsequent to the initial event, so samples were not taken at locations 2, 3, 4 and 5. Water flow over the topsoiled area (Area 2) water exited within a fire break adjacent to a wetland. Sampling was conducted immediately after the event with the highest reading about 60 feet from the topsoiled area,

measuring a 70.0 NTU. By the PM sampling event the water within Area 2 had soaked into the ground, so no additional sampling was conducted.

What was the highest reading that was about 60 feet from the topsoiled area?

The perimeter sampling locations 9 and 10 were sampled through the morning of February 5, 2024. Turbidity within location 10 experienced an increase to 13.4 NTU on February 1, 2024 during the pm sampling event. This station increased to a 15 NTU on the morning of February 2, 2024 and decreased on subsequent sampling events. As indicated previously, there was no sediment deposition within the offsite wetlands.

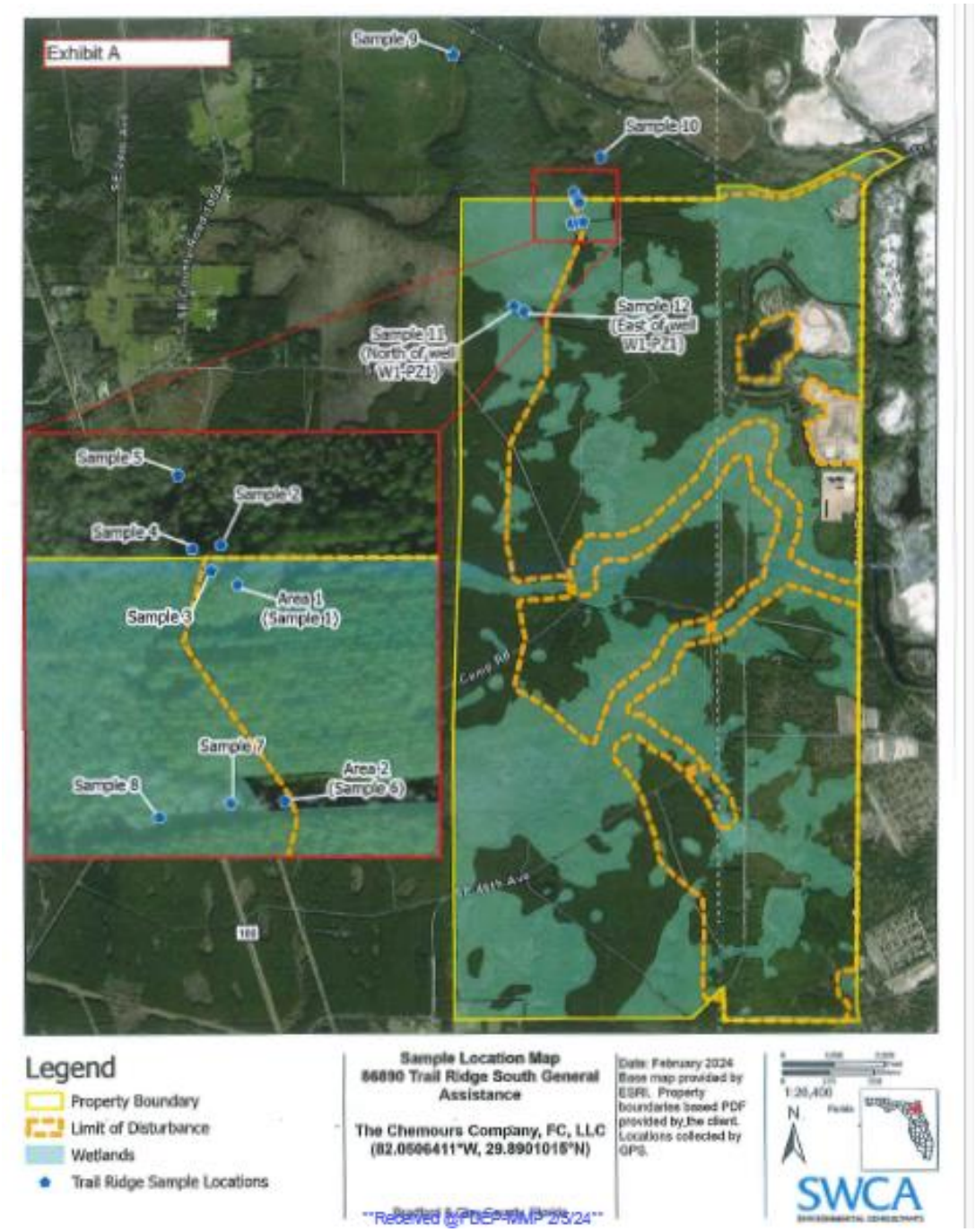
What data was used to establish that "there was no sediment deposition within the offsite wetlands"?

Page 8 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**?

Firebreak
(January 31, 2024)

What is the grey material seen under the water in the above image?

Page 5



Are Sample 2 and Sample 4 on NFLT property?

Why is the location of the berm breach not shown on the image?

Why is the location of the berm overtopping not shown on the image?

Where is the mine cell pit that was receiving the process pond water?

Did the process water contain tailings?

What was the concentration of the tailings in the process pond water?

Page 6 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Exhibit B – Photo-documentation

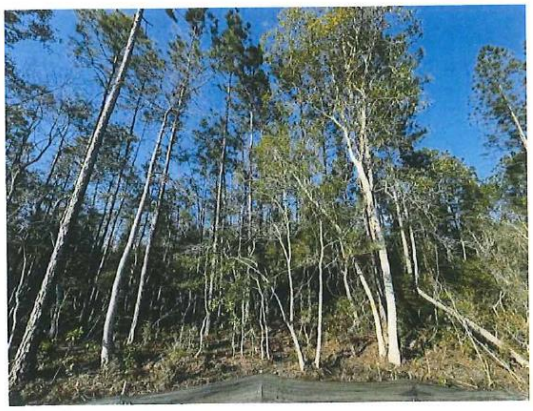
Northwest corner Reclamation cell
(January 31, 2024)

Northwest Corner Reclamation cell – Where water entered wetland
(January 31, 2024)

Page 7 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Representation of Wetland
Sample 5 (January 31, 2024)

Northwest corner Reclamation Cell
Representation of wetland (February 1, 2024)



Page 8 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Area 2
Water on Topsoil return area (January 31, 2024)

Firebreak
(January 31, 2024)

Page 9 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Perimeter Sample Location 9 (January 31, 2024)

Perimeter Sample Location 10 (January 31, 2024)

Page 10 **Trail Ridge South Release Incident NO. 20024-0997 5 day Report**

Silt Fence Repaired (January 31, 2024)

Why were GPS coordinates and direction not provided for the above images?

Incident 2024-0997 File No. MMR_137482 – Site Inspection Report

What was the direction of flow of the discharge from the berm breach (Area 1)?

What was the direction of flow from the berm overtopping (Area 2)

What was the direction of flow from the impacted area before site disturbance?

What drainage basin receives flow from the disturbed area?

Where is the berm that was to be installed around mined areas?

How many feet is the SRWMD property boundary from the cleared area and silt fences?

Why was there no inspection of Chemours analytical data that might provide information about the radium content of the discharged process water?

Should DEP or EPA require a full analysis of the water retained in the pond after the berm breach occurred?

Should DEP or EPA require a full analysis of the top sediments deposited on the North Florida Land Trust (NFLT) property?

Why is Chemours placing process water at land surface behind a shallow berm?

Is Chemours using the land surface process water storage as a method to avoid discharging process water via the permitted IWW system?

Why was the perimeter berm for the mined area removed before the mined area was reclaimed and released?

There appears to be a pump near the point where the berm was breached. What is the function of that pump?

Why were the GPS coordinates and directional arrow not provided for the images in the Inspection Report?

What data was used to determine that Area 1 and Area 2 had no evidence of sediment deposition?

Is the light grey material on soil surface and leaves in top image on page 3 from the Inspection Report copied on the next page sediment deposition?

Inundation in Area 1.

Area 1, showing double row of silt fence containing standing water.

Is the light grey material silt fence in the above image in the Inspection Report from sediment deposition?

Did the force of released water push the original silt fence down?

Why was the integrity of the silt fence not referenced in the Inspection Report?

Why were GPS coordinates and direction not provided for the images in **Incident 2024-0997 File No. MMR_137482 – Site Inspection Report**?

The significance of the questions about the discharge and storage of process water at land surface are of particular importance to flood response planning because the site is at the boundary of the Prevatt and Alligator Creek Basins. Part of the January 31 discharge appears to have flowed north. If this is the case the mining operations may have changed land elevations to a point that the boundaries of the two basins have changed and water discharged from a berm failure would enter the Alligator Creek Basin and flow through the City of Starke impacting homes and apartments. The risk of exposure of residents of flooded Starke homes and apartments to Radium contained in the Chemours process water needs to be evaluated.

Solution:

Seek answers to the questions raised from Chemours, DEP, SRWMD, and EPA.

Request Bradford County inspect TRS to determine if the conditions included in the Bradford County Special Permit for Mining are being met.

Paul Still

904 368-0291

stillpe@aol.com