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WWALS is an IRS 501(c)(3) nonprofit charity est. June 2012.

WWALS advocates for conservation and stewardship of the surface waters and groundwater of the Suwannee River Basin and Estuary, in south Georgia and north Florida, among them the Withlacoochee, Willacoochee, Alapaha, Little, Santa Fe, and Suwannee River watersheds, through education, awareness, environmental monitoring, and citizen activities.

GEORGIA WATER COALITION
GEORGIA RIVER NETWORK
WATERKEEPERS® FLORIDA
FLORIDIANS AGAINST DIRTY ENERGY
river NETWORK connecting people saving rivers

April 9, 2024

To: Jeff Cown, Director
Georgia Environmental Protection Division
2 Martin Luther King, Jr. Drive SE
Suite 1456 East Tower
Atlanta, GA 30334
TwinPines.Comment@dnr.ga.gov

Re: WWALS comment on Twin Pines Minerals Permit Applications

Dear Director Cown,

Within the 60-day public comment period, Suwannee Riverkeeper for WWALS Watershed Coalition, Inc. (WWALS) files these comments in opposition to the permit applications by Twin Pines Minerals (TPM) for a "demonstration" mine for titanium dioxide (TiO2) within three miles of the Okefenokee Swamp, the headwaters of the Suwannee and St. Marys Rivers, and above the Floridan Aquifer from which we all drink in south Georgia and north Florida, for agriculture, industry, and personal use. Such mining also risks the Okefenokee National Wildlife Refuge (ONWR), an economic engine for the four surrounding counties in Georgia and Florida and far beyond.

I would particularly like to call your attention to deficiencies in the permit applications regarding water modeling, monitoring, and management, including mercury, spills, and slimes, as well as the omission of actual or potential effects on Florida from the draft permits.

The permit applicant, even with assistance from employees of the Georgia Environmental Protection Division (GA-EPD) and others, has not proven their proposed mine would not harm the Okefenokee Swamp, the St. Marys River, the Suwannee River, the surficial aquifer, or the Floridan Aquifer, in Georgia or Florida.

I ask you again to reject these permits, or at the very least to make the changes suggested herein and by other comments.

For the convenience of the reader, actionable questions in this document are boldfaced and bullet pointed.

Water Quality and Quantity Modeling and Monitoring

In the "GA-EPD Response to Comments Draft Mining Land Use Plan Twin Pines Minerals, LLC" on page 10 under "7. Public Comments - Gages Used in Modeling:"

> *"**EPD Response:***
>
> *"EPD modelers used a more direct and conservative approach in assessing the impact on the Okefenokee Swamp and, consequently, EPD did not need to use either gage for the purpose of assessing the impact on the swamp. See November 16, 2023, Memorandum pgs. 7-8 and Appendix 3 and 4 of Zeng's November 16, 2023, Memorandum."*

Yet page 7 of Dr. Zeng's Memorandum begins, "Assuming that the Okefenokee Swamp is a wide (at 438,000 acres in surface area), shallow (with an average depth of 2 feet), and well-connected surface water reservoir".

- **How can this be called a more direct approach, when it is more abstract than using river gauge data and is thus a more indirect approach?**

In Dr. Zeng's Appendix 3, Dr. Rhett Jackson notes,

> *"The swamp presents a very difficult hydrologic modeling challenge. First of all, the internal hydrologic divides within the swamp are dynamic. At very high water levels, the swamp becomes a well-connected reservoir, but at lower water levels the swamp is divided into approximately five compartments identified by Cynthia Loftin and the USFWS, with minimal interaction between compartments. In other words, hydrologic routing within the swamp depends on water levels. At very low water levels, the swamp likely becomes a patchwork of mostly disconnected small basins. Even at high water levels, the swamp has two outlets: the Suwannee River and the St Marys River, but there are multiple drains connecting the swamp to each major outlet."*

Indeed, two of those drains leading to the Suwannee River are Cypress Creek, exiting the Swamp almost due west, and Little Swannee Creek, drawing from the southwest part of the Swamp.[1]

Dr. Jackson continues,

> *"The hydrologic divide between the two river systems in the swamp can move based on differences in precipitation and tributary inputs on different sides of the swamp. The swamp covers enough area that there can be significant precipitation differences between one side and another."*

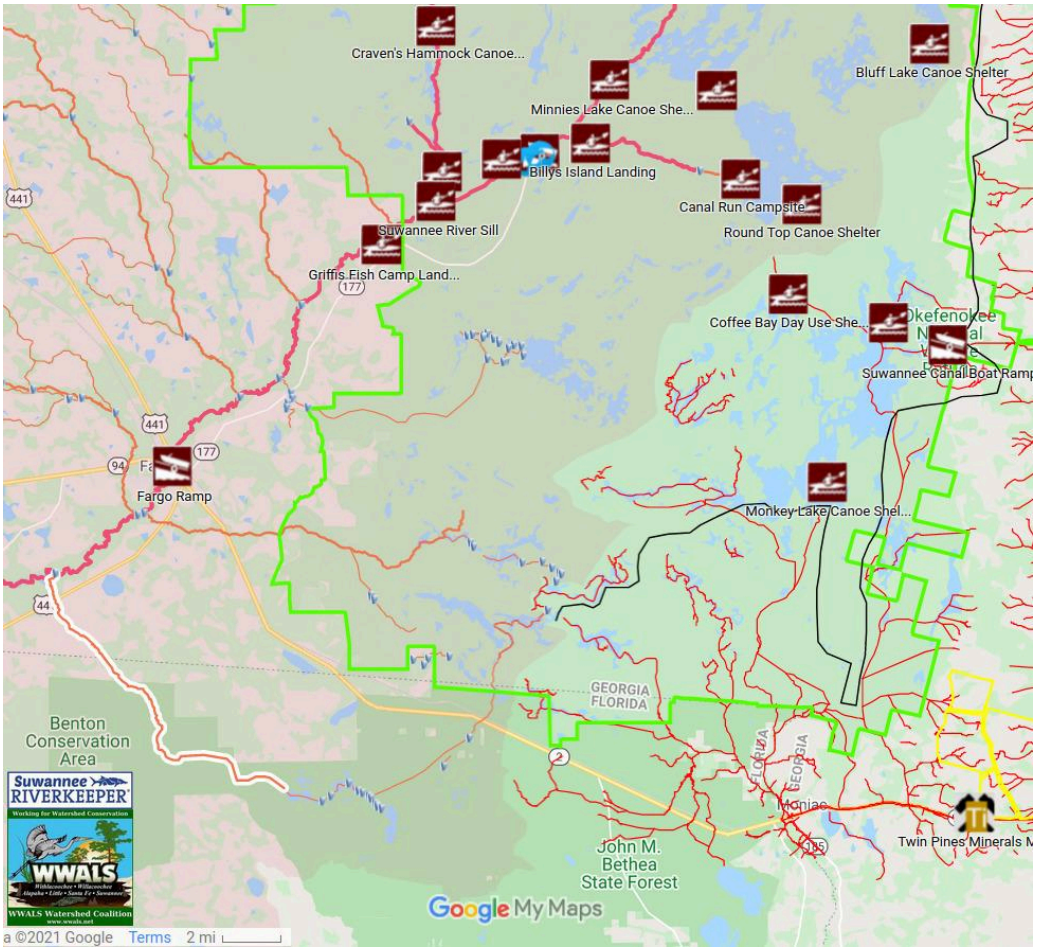
Dr. Jackson recommended,

> *"Any analysis of the mine's potential effects on the swamp needs to focus on drought conditions, and it needs to focus only on the southeastern compartment*

[1] Okefenokee Swamp south drains west to Suwannee River, WWALS, April 4, 2021, https://wwals.net/?p=55258

of the swamp. The swamp is too large and disconnected for the mine to affect swamp areas draining to the Suwannee River."

- **Since we do not know where that divide is, and it may move, how can this recommendation by Dr. Jackson be supported, especially considering Cypress Creek and Little Swannee Creek drain the southwest region of the Okefenokee Swamp into the Suwannee River?**



Little Swannee Creek highlighted drawing from the southwest of the Okefenokee Swamp and running into the Suwannee River, with Cypress Creek exiting the Swamp to the west, entering the Suwannee downstream from Fargo. The black line indicates one possibility for the divide between the Suwannee and St. Marys River basins in the Okefenokee Swamp.

Dr. Zeng on his page 9, "Hydrologic Impact to the Southeast Compartment of the Okefenokee Swamp":

> *"Following suggestions by Dr. Jackson, EPD conducted an additional technical analysis on hydrologic impact on the southeastern compartment of the Okefenokee Swamp, as if it is disconnected from the rest of the swamp during drought times. See Figure 1 for the location of the southeastern compartment of the Okefenokee Swamp relative to the rest of it. With this approach, we would need to assume that (a) the mining pit is hydraulically connected to the southeastern compartment of the swamp and that compartment is not connected to the rest of the swamp, and (b) the rest of the*

swamp (roughly 94% of the swamp's area) is disconnected and therefore not impacted."

As Dr. Jackson points out, "All hydrologic models are hopefully useful simplifications of reality." But this model that assumes disconnection of the southeastern region is too simplified.

- **When the southeast region of the Swamp is not completely compartmented from the southwest region, would there not be some effect on water level in the southwest region, which drains to the Suwannee River, and thus some effect on the Suwannee River?**

While the effect would probably be less than the maximum 0.58 inches (14.7 mm) Dr. Zeng estimates for the southeast region if completely compartmented, nonetheless it would be an effect.

And if there is interchange of water between the different regions of the Swamp, which apparently there is, since both Dr. Zeng and Dr. Jackson discuss modeling low water levels then there is at least some compartmentalization, then water levels are not the only concern. Any contaminants introduced into the Swamp from the mining could affect its southwest region and the Suwannee River.

Dr. Jackson further makes a good case that the data do not exist to do proper modeling,

"The swamp's hydrodynamics do not fit any of the simplifications used to model either rivers, groundwater, or reservoirs. To capture the stage-storage-discharge relationships used in hydrologic routing, a minimum necessity would be high-resolution high-quality LiDAR data shot at an extreme low water level, but this does not presently exist. Even if this did exist, much of the topography of the swamp is not created by soil but rather by buoyant mats of organic matter. The moisture holding and release characteristics of such peat mats are not understood. To accurately model evapotranspiration from the swamp, it would be helpful to have eddy covariance tower data spanning wet and dry periods, but this also does not exist."

- **While I applaud Dr. Zeng and Dr. Jackson for attempting to model with insufficient information, their models are also too simplified, so how can we depend on them to prove no harm by the mine?**
- **Why are the EPD and a UGA professor attempting to do the job the permit applicant should have already done: attempt to prove no harm?**
- **Will GA-EPD require the MLUP to be updated to include better models and modeling, as also requested by the U.S. Fish and Wildlife Service?[2]**
- **Will GA-EPD at the very least require the miners to include in their Mining Land Use Plan active monitoring of not only the Moniac and Macclenny gauges on the St. Marys River, but also the Fargo gauge on the Suwannee River and another location downstream of Little Swannee**

[2] Independent Technical Review of the Twin Pines Permit Application Hydrologic Modeling Kiren Bahm and Rajendra Paudel South Florida Natural Resources Center, National Park Service, Report Submitted to Fish and Wildlife Service February 2023, https://www.fws.gov/sites/default/files/documents/078450%2020230221_ONWR%20Final%20Report%20-%20SFNRC%20to%20FWS.pdf

Creek, and ideally on Cypress Creek and Little Swannee Creek where they cross US 441?

Water Management, Mercury, Spills, and Slimes

The last paragraph of Dr. Zeng's November 16, 2023, Memorandum says,

> *"EPD conducted modeling analysis of water management at Twin Pines' mining site utilizing its Water Management Pond System. Given the latest parameters of seepage into the mining pit, the subsequent need to dewater it, the storage within the Water Management Pond System, the demarcation of storage between the portion supporting the industrial process and the portion that handles high inflows, and the intended evaporation of wastewater at 1,000 gallons per minute (with 55 evaporators each at 40 gallons per minute capacity), we concluded that the water management as described is feasible and is without the need to discharge."*

Mercury

Even if the evaporators prevent discharge, they are concentrating sediments from the wastewater. As noted in our September 19, 2019, comment to the U.S. Army Corps of Engineers (USACE) on Application Number: **SAS-2018-00554**,[3] the Okefenokee Swamp and its environs is known to have air-deposited mercury originating from coal mines.

In the GA-EPD Response to Comments, page 16,

> *"**16.1 Public Comment – Mercury:***
>
> - *No mention of mercury and what to do if it is found during monitoring.*
>
> *"**EPD Response:***
>
> *"Natural low concentrations of mercury on the site have been found to be below the drinking water standard for groundwater. Additional details related to groundwater monitoring can be found on Sheet 11 of the MLUP."*

- **Why should anyone assume concentrations of mercury would remain low after concentration by evaporation of wastewater?**

Sheet 11 of the MLUP mentions Mercury in "TABLE 3.2-4. WATER QUALITY PARAMETERS AND COPCS TO BE MEASURED IN SURFACE WATER SAMPLES." as parameter "MERCURY, TOTAL," laboratory method "EPA 1631E".

Section 3.3 "SAMPLE COLLECTION AND DATA ANALYSIS PROCEDURES" says,

[3] WWALS to USACE and GA-DNR, September 12, 2019, "Applicant: **Twin Pines Minerals, LLC**, Application Number: **SAS-2018-00554",** https://wwals.net/?p=50140

"LOW-LEVEL MERCURY SAMPLING WILL BE PERFORMED IN ACCORDANCE WITH EPA METHOD 1669."

That's two different methods.

Table 2 in "WATER QUALITY AT TWIN PINES MINE" by Robert M. Holt, October 31, 2019, 2-MLUP-App-H-b-Water-Quality-10-31-2019-Figs-Tables-and-Apps.pdf, says the actual method of "Laboratory Analysis" for mercury was "SW-846 7470A".

So that's three different methods.

- **Why is the laboratory method specified for ongoing mercury analysis different from the method used in preliminary sampling?**
- **Since those methods are different, how can we depend on the low results for mercury from the preliminary sampling?**

Sheet 11 of the MLUP, Section 3.3.1 "PROCEDURES", paragraph F, "LABORATORY ANALYSIS" says,

"WATER QUALITY SAMPLES WILL BE ANALYZED FOR THE CONSTITUENTS SPECIFIED IN TABLES 3.3-2 AND 3.2-4."

Paragraph J says there will be trend analysis, and Section 3.3.2 "DATA ANALYSIS AND REPORTING" says,

"WATER CHEMISTRY DATA WILL BE REGULARLY COMPARED TO BACKGROUND CONCENTRATION AND APPLICABLE REGULATORY STANDARDS."

Section 3.3.2 further mentions there may be a statistical summary, before the section is cut off in the middle of a sentence.

- **What happens if the test data show measurements exceed applicable regulatory standards?**

For groundwater levels, Sheet 11 Section 2.5 "ADAPTIVE MANAGEMENT AND CONTINGENCY PLAN" says no further action will be required if certain specific conditions are not achieved but the problem can be attributed to factors unrelated to the mining. Which seems to apply otherwise action will be required. What action is not said ther than maybe increase the amount of bentonite. However,

"A CONTINGENCY PLAN WILL BE PREPARED AND SUBMITTED TO EPD FOR ITS REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION."

- **Why did EPD not require a water level contingency plan to be included in the MLUP?**
- **Will EPD require a water level contingency plan to be included in the MLUP?**
- **But for mercury not even that potential contingency plan level of clarification is mentioned in Sheet 11.**
- **What will the miners have to do if their sampling finds too much mercury?**

- **Why did EPD not require a COPC exceedance contingency plan to be included in the MLUP?**
- **Will EPD require a COPC exceedance contingency plan to be included in the MLUP?**
- **What are the applicable regulatory standards for mercury?**

EPA 1631E and EPA 1669 are sampling methods, not standards.

In EPA 1631E, Introduction, page iii,

> *"CWA Section 303 requires each State to set a water quality standard for each body of water within its boundaries. A State water quality standard consists of a designated use or uses of a water body or a segment of a water body, the water quality criteria that are necessary to protect the designated use or uses, and an antidegradation policy. CWA Section 304(a) requires EPA to publish water quality criteria that reflect the latest scientific knowledge concerning the physical fate of pollutants, the effects of pollutants on ecological and human health, and the effect of pollutants on biological community diversity, productivity, and stability. These water quality standards serve two purposes: (1) they establish the water quality goals for a specific water body, and (2) they are the basis for establishing water quality-based treatment controls and strategies beyond the technology-based controls required by CWA Sections 301(b) and 306.*
>
> *"In 1987, amendments to the CWA required States to adopt numeric criteria for toxic pollutants (designated in Section 307(a) of the Act) based on EPA Section 304(a) criteria or other scientific data, when the discharge or presence of those toxic pollutants could reasonably be expected to interfere with designated uses. Method 1631 was specifically developed to provide reliable measurements of mercury at EPA WQC levels."*

- **Does this boil down to Twin Pines has to abide by GA-EPD's TMDL for mercury?**
- **TMDLs are typically for water bodies, not for land. So, which TMDL are the miners required to use for regulatory standards for mercury?**
- **And what are the miners required to do if they exceed the TMDL, or whichever regulatory standard applies?**

Spills

During and just after Hurricane Irma in 2017, the only pollution spills reported in the Suwannee River Basin in Florida, other than a couple of diesel spills from military vehicle accidents, were from three Chemours TiO2 mine sites on Trail Ridge.[4] Here is an excerpt from the report for Chemours Maxville Mine near Starke, Bradford County, Florida,

[4] Spills in the Suwannee River Basin, in Florida Public Notice of Pollution, WWALS, 29 September 2017, https://wwals.net/?p=37541#basin, data from Florida Pollution Notices, http://prodenv.dep.state.fl.us/DepPNP/reports/viewIncidentDetails?page=1

"*Due to the significant rain event associated with Hurricane Irma, Stormwater and process water was released from the emergency spillways at 4 of the ponds on the site (turbid water – no hazardous materials or chemicals). Discharges from the emergency spillways ceased over the course of a few days. , , Additionally, turbid water was released from NPDES point (D001). Due to high winds, sediment was not able to be settled from the water column.*"

These are Chemours mine sites on which Twin Pines Minerals (TPM) was processing tailings.

- **Since rain and high winds from Hurricane Irma caused wastewater release for days and failure to settle sediment in these incidents on Trail Ridge in Florida, why should we expect the same problem not to happen during hurricanes on Trail Ridge in Georgia, near the Okefenokee Swamp?**

In 2019, the Florida Department of Environmental Protection (FDEP), issued a Consent Order on Chemours, involving TPM, because TPM was processing tailings on Chemours TiO2 mine sites on Trail Ridge.[5] The Consent Order cited wastewater releases, failure to collect required water quality samples, and failure to report wastewater quality. Here are some excerpts from that Consent Order:

6) A permit modification for Trailridge Facility to include Twin Pines in the Industrial Wastewater permit was not obtained prior to beginning operation.

3) Twin Pines silt fence was overwhelmed with sand; process water and tailings fill deposited in a wetland without permit authorization;

d) Twin Pines is currently included in the Trailridge permit by reference and is being inspected regularly;

e) Twin Pines Mitigation Plan: Within ninety (90) days of the effective date of this Order, Respondent shall provide mitigation to offset the relative functional wetland losses caused by the fill from the Twin Pines area that was deposited into the adjacent wetland without permit authorization.

- **Since a TPM silt fence was overwhelmed with sand in this case in Florida, why should we expect the same not to happen in Georgia, near the Okefenokee Swamp, especially during hurricanes?**
- **Since TPM did not collect or report water quality samples in this case in Florida, why should we expect them to do so in Georgia, near the Okefenokee Swamp?**

[5] Consent Order, FDEP v. Chemours involving Twin Pines Minerals 2019-02-07, https://wwals.net/?p=49898

Such wastewater spills from TiO2 mines on Trail Ridge in Florida still occur, as recently as the end of January 2024.[6] According to the report,

> *"Water from reclamation cell was not contained and turbid water left the permitted facility and entered adjacent wetland. This water does not contain any hazardous materials. upon discovery, dozers reinforced the berm to contain water. Monitoring and assessment ini"*

The report breaks off in the middle of a word, so we do not know more about the monitoring and assessment. However, we do know the pond drains into the Santa Fe River, which is a tributary of the Suwannee River. The pond is owned by North Florida Land Trust, whose website says, "North Florida Land Trust is a non-profit organization committed to protecting and preserving our region's irreplaceable natural beauty." To get to the pond from the mine site, the wastewater traversed land owned by the Suwannee River Water Management District, a Florida state agency.

Chemours operates five such mines in Florida and two in Georgia. Chemours has decades of experience in operating such mines. This January 2024 wastewater spill was from Chemours' newest Florida TiO2 mine, approved in 2019 by Bradford County, Florida.[7]

- **Since even a TiO2 mine operator with decades of experience in many mines on Trail Ridge still has wastewater spills, including one only a few months ago that traversed state-owned and private land, why should permits be issued to a company with no experience in such mining, which also proposes to use multiple untried techniques such as draglines?**

Slimes

In the WWALS 2019 comment to USACE and GA-EPD about this mine site,[8] we raised the issue of slimes, quoting from a USGS publication:[9]

> *"Mining and milling methods for heavy-mineral sand deposits involve physical separation of a bulk concentrate and quartz-rich tailings by mechanical means, typically magnetic or electrostatic methods or density separation. During further concentration, the mineral-bearing sand fraction is separated from finer textured slimes (clays, silts, very fine sand), which is mixed with a flocculent to aid settling, and then pumped back as a slurry into a reclamation pit (Daniels and others, 2003).*

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[6] Spill from Chemours Trail Ridge South TiO2 mine SE of Starke, FL 2024-01-30, WWALS, January 31, 2024, https://wwals.net/?p=64066 data from FDEP daily Pollution Notice https://prodenv.dep.state.fl.us/DepPNP/reports/viewIncidentDetails?page=1

[7] Videos: Chemours titanium mine expansion, Bradford BOCC 2019-10-17, WWALS, October 19, 2019, https://wwals.net/?p=50427

[8] Deny or EIS, titanium mining near Okefenokee Swamp –Suwannee Riverkeeper for WWALS 2019-09-12, WWALS, September 19, 2019, https://wwals.net/?p=50140

[9] **Titanium,** Professional Paper 1802- T, **By:** Laurel G. Woodruff, George M. Bedinger, and Nadine M. Piatak, **Edited by:** Klaus J. Schulz, John H. DeYoung, Jr., Robert R. Seal, and Dwight C. Bradley, https://doi.org/10.3133/pp1802T Chapter T of Critical mineral resources of the United States—Economic and environmental geology and prospects for future supply, USGS, Professional Paper 1802, **Edited by:** Klaus J. Schulz, John H. DeYoung, Jr., Robert R. Seal, and Dwight C. Bradley, 19 December 2017, https://doi.org/10.3133/pp1802

"The average grain size of heavy minerals and the percentage of slimes in a deposit are variable, which results in different amounts and types of waste material. For example, two mineral-sand blocks in India (Kuttam and Sattankulam) contain up to 10 percent heavy minerals and 15 percent slimes (Murty and others, 2007). The sands in these blocks are very homogeneous—85 percent of the sands range from <2 millimeters to 63 µm in size. Heavy-mineral sands on the northeastern coast of Sri Lanka (Pulmoddai sands) are very high grade; 71 percent of the beach sands are smaller than 355 µm, and more than 99 percent of the titanium content is in this size fraction (Premaratne and Rowson, 2003). The two blocks in India cover approximately 120 square kilometers (km2) and contain an estimated 400 million metric tons of raw sand and 30 million metric tons of ilmenite (Murty and others, 2007). Pulmoddai sands cover an area of only 3.2 km2 with an even thickness of 6 m (Premaratne and Rowson, 2003); thus, the amount and type of waste generated by the two deposits in India would be very different than the waste generated at Pulmoddai….

"Recent findings do suggest that TiO2 nanoparticles, commonly defined as particles smaller than 100 nanometers in at least two dimensions, may be toxic to some aquatic and terrestrial organisms (Federici and others, 2007; Wang and others, 2008; Sharma, 2009)."

- **Where is any study of the comparative percentage of slimes for this "demonstration" mine site compared to other mine sites, including the Chemours mines in north Florida that previously spilled?**
- **Perhaps slimes correspond to some categorization in the MLUP's "SUBSURFACE LITHOLOGY OF THE SURFICIAL AQUIFER AT TWIN PINES MINE," perhaps "silt" or the "silty sands" or the "silty-clayey sand unit." If so, which? And how does prevalence of slimes compare to sites of other TiO2 mines in south Georgia and north Florida?**
- **More generally, and without using the term slimes, how does prevalence of all the sand, clay, and soil designations in the "SUBSURFACE LITHOLOGY OF THE SURFICIAL AQUIFER AT TWIN PINES MINE" compare to prevalence of the same categories at other TiO2 mine sites in Georgia and Florida?**

Florida

In the "Updated Industrial Groundwater Withdrawal Permit Application" for the "Saunders Demonstration Mine", in "Figure 6. Drawdown (ft) in the Floridan Aquifer after 4 years of pumping," and similar figures, all the rings indicating levels of drawdown stop near the boundaries of an artificial square. They barely reach the southeast corner of ONWR, and they do not continue west to and across the state line into Florida.

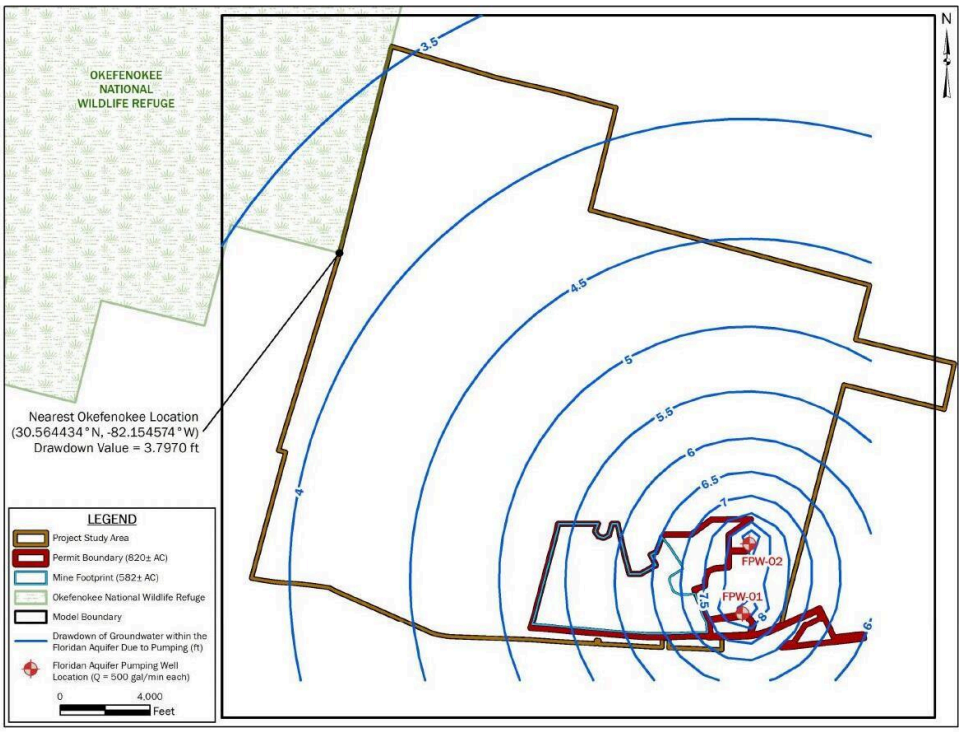

Figure 6. Drawdown (ft) in the Floridan Aquifer after 4 years of pumping.

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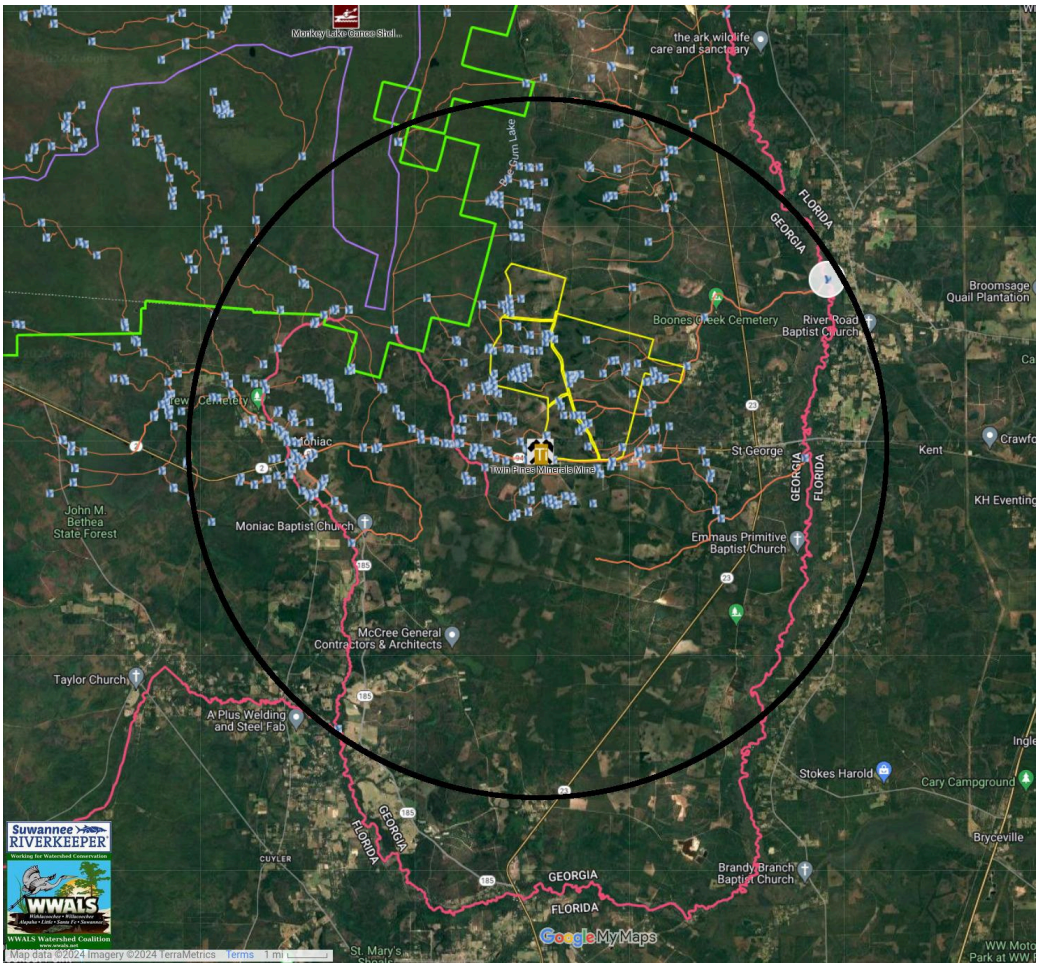
Figure 6. from "Updated Industrial Groundwater Withdrawal Permit Application" as supplied by GA-EPD on February 9, 2024.

On page 2, of that permit application, "Because no physical boundaries can be defined over reasonable distances in the Floridan Aquifer, we arbitrarily chose a radius of 44,608 ft, twice the distance between the boundary of the ONWR and the nearest pumping well."

A radius of 44,608 feet reaches all the way down the St. Marys River to the Middle Prong St. Marys River, up through Moccasin Bay and Moccassin Creek, to where Cross Branch crosses the state line back into Georgia, and back into the ONWR, in the southeast corner of Ware County, Georgia, and including Moniac in Charlton County, Georgia.

A radius of 44,608 feet also reaches east under the Cherokee of Georgia Tribal Grounds and St. George, across the state line into Nassau County, Florida, as well as downstream on the St. Marys River as far as Boone Creek.



A circle of radius approximately 44,608 feet around the TPM mine site reaches the Middle Prong of the St. Marys River to the southwest, Cross Creek to the Northwest, and Boone Creek to the northeast, with parts of two Florida counties and two Georgia counties inside it, as well as Moniac, the Cherokee of Georgia Tribal Grounds, and St. George.

- **Why was such a big chunk of Baker County, Florida, left out of the diagram, and presumably out of the model?**
- **Why was part of Nassau County, Florida, left out of the diagram, and presumably out of the model?**
- **Why were Moniac, the Cherokee of Georgia Tribal Grounds, St. George, and other parts of Charlton County, Georgia, within 44,608 feet, left out of the diagram, and presumably out of the model?**
- **Why was part of Ware County, Georgia, within 44,608 feet, left out of the diagram, and presumably out of the model?**
- **Why should the model assume there are no discontinuities in the Floridan Aquifer under the St. Marys River, the North Prong, Moccasin Bay, St. George, Boone Creek, etc.?**

The Okefenokee Swamp and its National Wildlife Refuge are important to Florida.

As former U.S. Rep. Al Lawson noted,[10]

> *While the mining would occur in Georgia, the Okefenokee Refuge sits in Baker County, Fla. — making it one of Florida's most valued resources. In addition to the pristine habitat for wildlife, the Refuge benefits small businesses and provides millions of dollars to the local economy. This area is unparalleled in natural beauty and biodiversity and is home to hundreds of species…. My constituents depend on a healthy Okefenokee Swamp, and it is unacceptable that such little consideration has been given to how the project will affect Florida's resources.*

The ONWR provides more economic benefit to each of Florida and Georgia than any other NWR.[11]

As previously mentioned, downstream from the ONWR on the St. Marys River is Nassau County, Florida, in addition to Baker County, Florida.

Little Swannee Creek, which runs out of the southwest part of the Okefenokee Swamp into the Suwannee River, flows through Columbia County, Florida, across the river from Hamilton County, Florida. Downstream on the Suwannee River are Suwannee, Madison, Lafayette, Gilchrist, Dixie, and Levy Counties, Florida. The Suwannee River is the subject of the state song of Florida.

The Hamilton County, Florida Board of County Commisisoners this February passed a resolution supporting the Okefenokee Swamp against the proposed TPM mine.[12] They joined thirteen Georgia counties or cities in passing such resolutions: the cities of Homeland, St. Marys, Kingsland, Waycross, Valdosta, and Savannah, and the counties of Ware, Echols, Clinch, Dekalb, Berrien, and Atkinson.[13] Among those resolutions are ones by four counties downstream on the Suwannee River from the Okefenokee Swamp: Ware, Clinch, Echols, and Hamilton.

Waterkeepers Florida, consisting of all the Waterkeepers of Florida, has four times filed comments with USACE or GA-EPD objecting to the proposed TPM mine.[14]

As you know by reading TwinPines.Comment@dnr.ga.gov, numerous other groups and individuals from Florida oppose this mine because they value the Okefenokee Swamp, the Suwannee and St. Marys Rivers, and the aquifers.

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[10] Reject or EIS: Twin Pines Minerals mine near Okefenokee –U.S. Rep. Al Lawson 2020-02-13, https://wwals.net/?p=51590

[11] Banking on Nature 2017, U.S. Fish and Wildlife Service, June 2019, https://www.fws.gov/sites/default/files/documents/USFWS_Banking_on_Nature_2017.pdf

[12] Hamilton County, Florida, resolution for the Okefenokee Swamp, against the strip mine 2024-02-20, WWALS, February 29, 2024, https://wwals.net/?p=64308

[13] Resolutions for Okefenokee Swamp, against strip mine, accessed April 9, 2024, https://wwals.net/pictures/2021-12-09--sgrc-okefenokee-tpm/

[14] Waterkeepers Florida passes resolution against titanium mine application near Okefenokee Swamp, WWALS, November 1, 2019, https://wwals.net/?p=50562 Waterkeepers Florida to Army Corps and EPA against strip mine near Okefenokee Swamp 2020-04-10, WWALS, April 13, 2020, https://wwals.net/?p=52164 Please stop a strip mine near the Okefenokee Swamp that threatens both Florida and Georgia –WKFL 2020-12-11, WWALS, December 23, 2020, https://wwals.net/?p=54375 Please stop a strip mine near the Okefenokee Swamp that threatens both Florida and Georgia –Waterkeepers Florida, WWALS, March 18, 2023, https://wwals.net/?p=61437

Given all this demonstrated importance of the Okefenokee Swamp to Florida:

- **Why do the draft permits not address actual and potential effects of the mine on Florida?**
- **Will GA-EPD require the miners to address actual and potential effects of the mine on Florida?**

Conclusion

I respectfully ask GA-EPD to address all of the above boldfaced and bulleted questions.

I further ask GA-EPD not to issue the permits until all such questions are addressed satisfactorily.

I further request GA-EPD to reject the permit applications.

The Okefenokee Swamp and the ONWR are too important to risk by mining for TiO2 for whiteners.

For the rivers and the aquifer,

John S. Quarterman
Suwannee Riverkeeper
229-560-4317