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April 5, 2024

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Re: Comments Opposing Draft Surface Mining Permit for Twin Pine Minerals, LLC (TPM)

Director Jeff Cown:

On behalf of the Georgia Conservancy, we would like to thank the Georgia Environmental Protection Division (EPD) for their review and consideration of our comment letter, dated March 16, 2023, and for the opportunity to provide additional comments on the recently issued draft Surface Mining Permit. The conservation, protection, and enjoyment of the Okefenokee National Wildlife Refuge for the people of Georgia has been a top priority for the Georgia Conservancy throughout its entire 57-year history. We are a statewide conservation organization that works to develop solutions to protect Georgia's natural resources through advocacy, engagement, and collaboration on conservation issues.

The Okefenokee National Wildlife Refuge provides a safe haven for thousands of species of plants and animals, including many that are threatened and endangered. In addition, the Okefenokee National Wildlife Refuge functions as an international destination for outdoor recreation and serves as an unmatched location for wonder, spiritual renewal, and solitude. Boasting more than 700,000+ visits per year, the Okefenokee National Wildlife Refuge is an economic engine that contributes more than \$64 million to the local economies and supports an associated 750 long-term, sustainable jobs. Simultaneously, the Okefenokee provides invaluable ecosystem services such as water quality protection and carbon sequestration.

The concerns and issues expressed in this letter focus on three vital Georgia landscape features that are vulnerable to negative impacts from Twin Pine Mineral's (TPM) proposed mining operations.

Trail Ridge: This low, saturated sand ridge plays a significant role in the hydrogeology of this area of Georgia, acting as a sill for the eastern side of the vast Okefenokee Swamp. Trail Ridge is not only ecologically important in and of itself but also serves as scaffolding for the health of the Okefenokee.

Okefenokee National Wildlife Refuge: One-third of the mining site drains to streams in the Okefenokee Swamp, one of Georgia's most precious ecological sites, a United Nations Ramsar Convention "Wetland of International Importance", and the largest blackwater swamp in North America. The Okefenokee's biodiverse ecosystem is home to the headwaters of two notable rivers, the Suwannee and St. Marys, and contains nearly 400,000 acres of federally-designated wilderness. The Okefenokee National Wildlife Refuge has been nominated as a UNESCO World Heritage Site, and Stephen C. Foster State Park, located within the Okefenokee National Wildlife Refuge, is a Gold-Tier International Dark Sky Park and National Natural Landmark.

St. Marys River: The Twin Pines property is located between the river headwaters (River Styx drainage) in the Okefenokee and the main stem of the river to the west (Boone Creek drainage). The 120-mile-long St. Marys is a blackwater stream ecosystem and home to several threatened and endangered species. The North Prong of the St. Marys River (from the Headwaters to Cedar Creek) is listed as impaired for dissolved oxygen DO. The river could be impacted by changes in water quality and quantity caused by mining, including further reduction of DO levels, alterations to pH, and turbidity. In fact, the St. Marys River has been designated as one of "America's Most Endangered Rivers" by American Rivers specifically because of TPM's mining application.

The reasons for protecting the Okefenokee Swamp are abundant, and the desire to value and protect this unique natural resource against proposed mining has been clearly expressed through the 200,000+ comments received by the State and Federal government.

After review of the draft Mining Permit and revised Mining Land Use Plan, EPD's Response to Comments on the Draft Mining Land Use Plan, and two internal EPD memorandums, dated January 18, 2024 and November 16, 2023, Georgia Conservancy still has the following concerns regarding this proposed project's negative impact on the Okefenokee Swamp and St. Marys River:

1. The Surface Water Monitoring Plan is inadequate.

Concerns that were expressed in our March 16, 2023 comment letter regarding the Surface Water Monitoring Plan (found on pages 12 and 13 of the updated Mining Land Use Plan (MLUP)) have not been addressed. The Okefenokee Swamp is an internationally-important blackwater swamp that houses a multitude of threatened and endangered species. The St. Marys River is a 303(d) listed waterway with a DO impairment and is home to the spawning grounds of the federally-endangered Atlantic sturgeon. Yet, despite the sensitivity of these water bodies, to which the site of the proposed Twin Pines Mine drains, the Surface Water Monitoring Plan includes only three (3) surface water quality monitoring locations on tributaries draining east towards the St. Marys River and zero (0) surface water quality monitoring locations on any drainage west towards the Okefenokee Swamp. In addition, monitoring is proposed only quarterly during mining operations, with reporting due to EPD on an annual basis only after the first year of operation. The Surface Water Monitoring Plan also fails to describe how the data will be evaluated or against what specific standards data it will be compared as no water quality benchmarks are provided, the exceedance of which would result in suspension of mining operations.

This Surface Water Monitoring Plan is inconsistent with any other water quality monitoring protocol espoused by the EPD for other permits (including the NPDES IGP permit, under which this site will need to get coverage), and most certainly doesn't meet industry standards.

How does EPD propose to identify impacts and implement solutions in a reasonable timeframe to prevent water quality impairments to the St. Marys River and the Okefenokee Swamp with such a limited surface water sampling plan?

Has TPM provided any documents required for IGP compliance – notably an NOI and a Stormwater Pollution Prevention Plan, which requires surface water monitoring and good housekeeping procedures? If so, will these documents be made public prior to the start of land disturbing activities?

2. Irreversible impacts on groundwater hydrology will permanently damage the Okefenokee Swamp.

The EPD Memo, dated November 16, 2023, states, "The MLUP includes a Groundwater Monitoring Plan that will include the monitoring of groundwater levels post-mining to ensure that the bentonite layer is working as designed. If the groundwater level falls below expected levels, a contingency plan will be developed and implemented."

There is significant disagreement regarding the modeling performed to demonstrate that the proposed MLUP will not adversely impact water levels in the swamp. Because of this uncertainty, one would expect that there would be a robust groundwater monitoring and contingency plan in case impacts were detected after mining has commenced. However, the proposed Groundwater Monitoring Plan is unacceptably slow to react to impacts that are identified through monitoring. Furthermore, it is entirely unclear how and if impacts could be mitigated once identified, as the Plan only proposes to develop a contingency plan AFTER an impact has occurred. This would be like proposing to develop an Emergency Response Plan after a hurricane has hit, which incidentally may be the actual emergency that occurs.

What assurances can the EPD give the public that any impacts on swamp hydrology from mining will be quickly identified and can then be reversed if EPD has not seen a contingency plan and won't require one until after impacts are identified?

The same EPD memo recounts a trip to the Okefenokee that EPD undertook with the St Marys Riverkeeper where they had a discussion of surficial aquifer users. The memo states, "It is suggested that the applicant may hire a third party (e.g. the county) to investigate what private residential wells may exist within a certain distance of the mining site and their configurations. Then a technical assessment can be done to see if these wells may be impacted."

Don't EPD and Twin Pines have an obligation to determine the potential impact of mining operations on private residential wells prior to approval of the MLUP and Surface Mining Permit?

3. The proposed mine is inconsistent with local land use in violation of the Rules for Surface Mining.

While we understand that EPD's minimum standard to determine compliance with the Land Use component of the Georgia Rules for Surface Mining is a resolution and letter from the Charlton County Commission, we believe that using that metric to determine compliance with land use is misinformed. The November 2020 letter provided by the Charlton County Commission simply states that the simple absence of a Zoning Ordinance signifies that an industrial mining operation doesn't conflict with land use. Conflating this statement with a determination that mining does not conflict with local land uses is a serious misunderstanding of the difference between Zoning and Land Use. Zoning was created specifically to address the issue of conflicting land uses, and its absence often results in exactly the type of conflict that will occur here if this mine is approved.

More importantly, the use of only Charlton County's letter and resolution to meet the standard of the Rules for Surface Mining disenfranchises the community stakeholders who were engaged in the development of the county's Comprehensive Plan (Comp Plan). The Comp Plan is the legal policy document that identifies future desired land use and guides future land use decisions for local governments in Georgia. It was created through a stakeholder-driven process and included Charlton County as well as the Towns of Folkston and Homewood. It was adopted by Charlton County at a public meeting on October 15, 2020 (after the adoption of the August 2019 Resolution) and, as such, should be considered by EPD in review of the MLUP's compliance with the Rules for Surface Mining.

The Comp Plan clearly states that the desired future land use in the area of the proposed mine includes rural, agricultural, residential, and mixed-use land uses, which is clearly at odds with heavy industrial uses like mining. Additionally, the Comp Plan also specifically identifies a lack of coordination and cooperation between State and Federal agencies to market the Okefenokee National Wildlife Refuge. It is disappointing that, despite this clearly identified need for State and Federal assistance to support a local eco-tourism industry based around the Okefenokee Swamp, the State is now considering issuing a permit that would put the local eco-tourism economy at risk.

Lastly, the County's August 2019 Resolution states that the Commission's support for the mine is "subject to [the mine's] approval by any other authority having jurisdiction." This resolution clearly offers support for the mine only if EPD approves it.

Is it not then circular logic to reason that Charlton County supports the mine if EPD approves it, and therefore EPD can now approve it?

4. The proposed mine potentially conflicts with the Suwannee Satilla Regional Water Plan (RWP).

The RWP identifies low dissolved oxygen (DO) levels as a water quality issue in the St. Marys River, and specifically states that assimilative capacity within the St. Marys River is severely limited due to low DO levels.

How is Twin Pines going to address the discharge of oxygen demanding substances in its stormwater runoff?

The RWP also states that the agricultural industry is the largest user of surface water in the Suwannee Satilla Basin.

How has the EPD determined that agricultural users will not be impacted by the reduction of surface water availability due to mining activities, particularly during dry months?

Has EPD made a determination that issuance of the Surface Mining and Water Withdrawal Permits are consistent with the Suwannee Satilla RWP?

5. There could be discharge from the Water Management Pond System during severe storms.

The EPD Memo, dated November 16, 2023 states, "Modeling [of the Water Management Pond System] results indicate that (a) there is enough water to support the assumed loss of about 300 gallons per minute in the industrial process; (b) the capacity of storage space in the system can handle the 783 gallons per minute of mining pit dewatering; (c) the capacity of storage space in the system can handle historical precipitation events without the risk of discharging; and (d) given the assumption of the seepage rate and the associated mining pit dewatering, the long-term need for pumping from the Floridan Aquifer to refill the Water Management Pond System is minimal." The analysis covered precipitation events from 1948-2021 and average climate conditions for wind speeds and humidity.

As there were no direct major hurricane strikes to this area during the time frame considered, what was the most extreme event considered?

Is there evidence that the storage space can handle 783 gallons per minute of mining pit dewatering plus precipitation during a more extreme event, like a landfalling major hurricane or a 1000-year storm event during a particularly wet and humid season?

Can the berms of the storage ponds withstand the impact of a major hurricane?

There is a real risk that this scenario could occur, and the impact of a process wastewater discharge to the St. Marys River would be catastrophic, particularly since the St. Marys River is home to Atlantic sturgeon spawning habitat.

6. Reduction in flows in the St Marys River could potentially impact the Atlantic sturgeon spawning habitat.

The EPD Memo, dated January 18, 2024 states: "The precise impact on sturgeons' spawning habitat will only be determined after the bathymetric survey, sonar scan, and open-channel hydraulic model development are completed. However, based on best professional judgment it is reasonable to anticipate very little impact on either the reduction in the amount of habitat

available or water depth needed for fish passage, given the information developed and documented above.”

As Atlantic sturgeon are a federally-endangered species, why wouldn't EPD wait for the bathymetric survey, sonar scan, and open-channel hydraulic model development to be completed and assessed before making a determination regarding impacts of surface water flow reduction on the spawning grounds of the Atlantic sturgeon?

What is the purpose of completing that work if EPD is not going to use the results in assessing the mining permit application?

What will EPD do if model results indicate that there will be adverse impacts to the Atlantic sturgeon population after the permit is issued and the mine is operational?

7. There is a need for a third-party review.

There remains a significant amount of disagreement amongst respected scientists and industry professionals related to the potential catastrophic impacts of the proposed mine on the hydrology of Trail Ridge and the cascading and irreversible effect that would have on the Okefenokee Swamp, St. Marys River, the Suwanee River, and the communities that rely on those waterbodies. What makes this situation even more unique and precarious is that the U.S. Fish and Wildlife Service has asserted its Reserved Water Rights to the Okefenokee Swamp and stated that diverting water from the Okefenokee National Wildlife Refuge in quantities that would harm its function as a protective habitat for native animal and plant species would conflict with federal law.

As such, would the Georgia Environmental Protection Division consider seeking a third-party review of the MLUP, including the hydrologic analysis and the proposed ground and surface water monitoring plans?

A third-party review is considered an engineering industry best practice, as it ensures that the engineering design, calculations, and analysis have been thoroughly scrutinized by experts who were not directly involved in the project and do not have a stake in its outcome. Considering the stakes of this proposed project and the potential for catastrophic failure if the proposed MLUP doesn't work as expected, a third-party review seems warranted.

Closing

Due to Twin Pines' inability to demonstrate faithful compliance with the Rules for Surface Mining, and because of the obvious threat that mining poses to one of Georgia's most unique and valuable natural resources, Georgia Conservancy respectfully requests that the Georgia Environmental Protection Division reject the revised Mining Land Use Plan and deny the Surface Mining Permit. Should EPD move forward in issuing a final Surface Mining Permit for the TPM demonstration project despite the questions listed above, grave concerns will remain as to the outcome of these untested technologies and approaches. Therefore, EPD should include a permit condition that no further applications for additional acreage or project

expansion from TPM be considered until sufficient data and management observations have been collected to prove, in fact, the assumptions TPM and EPD have made are accurate, that TPM's management oversight commitments have been met, and that the mining operations did not have lasting and irreversible impact on the Okefenokee National Wildlife Refuge, the St. Marys River, the Suwanee River and the communities that surround these natural wonders. This permit condition should be long enough to cover the proposed timeframe of the mining operations, start to finish, plus at least 3 years to allow for observation of groundwater and surface water levels and quality. If this project is truly a "demonstration," then sufficient time must be allowed for the project to demonstrate that mining can safely occur on Trail Ridge, adjacent to the Okefenokee Swamp, before any other Surface Mining Permit applications are accepted or considered.

Georgians are rightfully proud of this international wonder in our own backyard, which is shortlisted to become a UNESCO World Heritage Site. A September 2022 poll conducted by Mason-Dixon Polling showed that more than 70% of Georgia voters, including 75% of South Georgia voters, oppose mining next to the Okefenokee Swamp. Local, state, and federal officials from both sides of the aisle, scientists and faith leaders, and citizens from all over the globe have provided more than 200,000 comments in support of the Okefenokee Swamp and expressing deep concern with the proposed mine. In a November 2022 letter to Governor Kemp, Secretary of the Interior Deb Haaland stated, "The proposed mining activity in this area poses an unacceptable risk to the long-term hydrology and future of the swamp ecosystem and these cultural values...I strongly recommend that the State of Georgia not move ahead with approval for this proposed mine in order to ensure that the swamp and refuge are appropriately protected." As a previous Secretary of the Interior Bruce Babbitt stated upon the withdrawal of an earlier DuPont mining proposal, "Titanium is a common mineral, but the Okefenokee is a very uncommon swamp."

We appreciate the opportunity to provide comments on the Mining Land Use Plan and Draft Surface Mining Permit and for your consideration of the information provided herein.

Respectfully,

GEORGIA CONSERVANCY



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