UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 1 2 2019

Colonel Daniel H. Hibner
District Engineer
Attn: Ms. Holly Ross
U.S. Army Corps of Engineers
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3640

Subject: SAS-2018-00554, Twin Pines Minerals LLC heavy mineral sands mine in Charlton County, Georgia

Dear Colonel Hibner:

The U.S. Environmental Protection Agency has reviewed the Joint Public Notice SAS-2018-00554 announcing a Clean Water Act (CWA) Section 404 permit application submitted by Twin Pines Minerals, LLC to mine heavy mineral sands on a 2,414-acre property near St. George, Georgia in Charlton County. After issuing the initial public notice on July 12, 2019, the U.S. Army Corps of Engineers, Savannah District (Corps) issued a second public notice on July 19, 2019, that included the complete permit application and extended the comment period to September 12, 2019.

Twin Pines Minerals, LLC anticipates its heavy mineral sands mine will be 12,000 acres mined in approximately 1,000-acre parcels over 30 years. The public notice describes the proposed work in Charlton County as Phase 1. The PN indicates that the discharge of dredged or fill materials associated with the Phase 1 project as proposed would directly impact 587 acres of wetlands and 7,112 linear feet of streams.

The western boundary of the 12,000-acre total mine area abuts the Okefenokee National Wildlife Refuge (NWR), which is managed by the U.S. Fish and Wildlife Service (U.S. FWS). The Okefenokee NWR was established in 1937 and encompasses over 90 percent of the 438,000-acre Okefenokee Swamp. According to the U.S. FWS, the Okefenokee Swamp includes eight different habitat types: shrub swamp, mixed cypress forest, prairies, pure cypress forest, swamp islands, blackgum forest and bay forest. Within the Okefenokee NWR itself, 233 species of birds (including three federal endangered species) have been identified, as well as 49 species of mammals, 64 species of reptiles, 37 species of amphibians and 39 species of fish.

The Okefenokee NWR is the largest NWR in the eastern United States, and over 350,000 acres of the Okefenokee NWR is National Wilderness Area. It is one of fewer than 600 National Natural Landmarks designated by the U.S. Secretary of the Interior nationwide, is designated a Wetland of International Importance per the Ramsar Convention and has been placed on the U.S.

World Heritage Tentative List, which means it may be nominated for consideration as a World Heritage Site. The EPA considers the Okefenokee NWR an Aquatic Resource of National Importance.

The 2,414-acre Phase 1 project area lies as close as 1.7 miles from the border of the Okefenokee NWR, and the proposed mining footprint within Phase 1 will lie as close as 2.7 miles from the NWR (measured via georeferenced aerial photography). The depth of mining across the Phase 1 project area will vary from approximately 25 feet below land surface in the west to an average of 50 feet below land surface in the central and eastern mine area. The Phase 1 project mining will include excavation of the geologic formation known as Trail Ridge. The U.S. Geological Survey has described Trail Ridge as impounding the Okefenokee Swamp,[1] and the U.S. FWS has referred to Trail Ridge as a "geomorphological 'dam' on the east side of the swamp maintaining the hydrology of the swamp."[2] The effects of mining through Trail Ridge on local and regional groundwater levels in and affecting the NWR are uncertain at this time.

The applicant proposes to replace 522 acres of wetlands and 2,454 linear feet of streams during mine reclamation. However, detailed wetland and stream reclamation / restoration plans have not been provided. The EPA recommends that additional detailed information be provided on the reclamation / restoration plans for our review in order to evaluate the feasibility of restoring the underlying soil and hydrologic conditions that presently support existing wetlands and streams in the Phase 1 project area and thereby ensure that all impacts to waters of the United States are appropriately avoided, minimized and compensated for, consistent with the CWA 404(b)(1) Guidelines.

Regulations at 40 CFR Section 230.10(c) prohibit discharges that will cause or contribute to significant degradation of waters of the United States, and 40 CFR Section 230.11 requirements include the consideration of secondary and cumulative impacts from proposed discharges. Based on the limited available information, the applicant has not demonstrated that the proposed project will not result in significant degradation, including individual or cumulative effects to fish and wildlife; ecosystem diversity, productivity and stability; and recreational, aesthetic and economic values. Excavation and reclamation of the proposed mine area may alter local or regional groundwater hydrology. Changes in water table elevations and the rate and direction of shallow ground water movement as a result of mining and reclamation may alter hydrologic conditions in the Okefenokee NWR. Regulations at 40 CFR Section 230.40 specifically state the permitting authority should consider potential impacts to sanctuaries and refuges designated under State and Federal laws or local ordinances when making the factual determinations under 40 CFR Section 230.11 and the findings of compliance or non-compliance with the restrictions on discharge at 40 CFR Section 230.12.

Appendix F of the permit application introduces hydrogeologic investigations undertaken or in the process of being completed on and adjacent to the proposed mine area. However, no technical information pertaining to any of these efforts is included. The need to evaluate

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[1] Force, E.R. and F.J. Rich. 1989. Geologic evolution of Trail Ridge eolian heavy-mineral sand and underlying peat, northern Florida. U.S. Geological Survey Professional Paper 1499. Washington, D.C.

[2] Letter from Donald W. Imm, U.S. Fish and Wildlife Service, to Colonel Daniel Hibner, U.S. Army Corps of Engineers, Savannah District. February 20, 2019.

cumulative effects of the proposed project are particularly relevant considering the applicant has expressed the intent to mine up to an additional 9,600 acres north of Phase 1. The EPA requests that the applicant provide a detailed analysis of the potential individual, cumulative and secondary effects set forth in 40 CFR Sections 230.l0(c) and 230.11, including but not limited to hydrologic effects on the NWR, pursuant to 40 CFR Section 230.40, and the St. Marys River.

Due to the potential for the proposed Twin Pines Minerals mine to adversely affect the hydrology of the Okefenokee NWR, the EPA believes that there is the potential for this project as proposed to cause adverse effects to water quality and the life stages of aquatic life or other wildlife dependent on aquatic systems. The EPA finds that this project, as proposed, may result in substantial and unacceptable impacts to aquatic resources of national importance, as covered in Part IV, paragraph 3(a) of the August 1992 Memorandum of Agreement between the EPA and the Department of the Army regarding CWA Section 404(q).

Thank you for the opportunity to review the permit application submitted by Twin Pines Minerals, LLC. We look forward to working with your staff and the permit applicant. If you have any questions, please do not hesitate to contact me at gettle.jeaneanne@epa.gov or (404) 562-8979 or have a member of your staff contact Mr. Eric Somerville at somerville.eric@epa.gov or (706) 355-8514.

Sincerely,

Jeaneanne M. Gettle, Director
Water Division

cc: Mr. Don Imm, U.S. Fish and Wildlife Service

Mr. Steve Wiedl, Georgia Environmental Protection Division