Twin Pines mine and the Floridan Aquifer

October 27, 2019

John Quarterman, Suwannee RiverKeeper, has the following article about the Floridan aquifer and the proposed Twin Pines mine right upon the swamp. During the meetings held by mine personnel, it was claimed that the mine would not impact the aquifer, which we did/do not believe.

Read the original article at this link on the WWALS website.

Comments by OSFR historian Jim Tatum.
-A river is like a life: once taken, it cannot be brought back-

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Floridan Aquifer withdrawals affect the Okefenokee Swamp, so how could TPM's withdrawals not? 1995-04-11

Leave a reply

Water withdrawals from the Floridan Aquifer affect water levels and quality in the Okefenokee Swamp, a pair of researchers concluded 24 years before Twin Pines Minerals of Alabama

proposed to withdraw 2.4 million gallons per day from the Aquifer for a titanium mine within a few miles of the Swamp:

> *Abstract. A rapid response is observed between water level fluctuations in the Okefenokee Swamp and water levels in the underlying Floridan Aquifer. A lag of approximately one month is common, and a hydraulic diffusivity of 3.83 x 10^{-3} m^2 s^{-1} best matches the calculated aquifer response to the swamp water level perturbations. The magnitude of leakage between the swamp and the aquifer is uncertain because of a lack of knowledge about the specific storage coefficient in the aquitard separating the swamp and the aquifer which has not been explicitly measured. An intermediate value of specific storage within the likely range of values results in a down- ward vertical flow of 1.2 meters of water per year. This induced recharge can significantly alter the natural water balance within the swamp. Such a large loss of water from the swamp may be responsible for observed pH and water level changes, and increased beavy metal accumulations in aquatic organisms in the swamp.*

We cited that study[5] on page 4 of the Suwannee Riverkeeper comments to USACE about TPM, just after noting Twin Pines application to withdraw 4.32 million gallons per day (mgd) of Floridan Aquifer water much closer to the Swamp than any other permitted withdrawal. TPM's own hydrology study in that withdrawal application shows a cone of depression in the Floridan Aquifer extending under the Swamp:

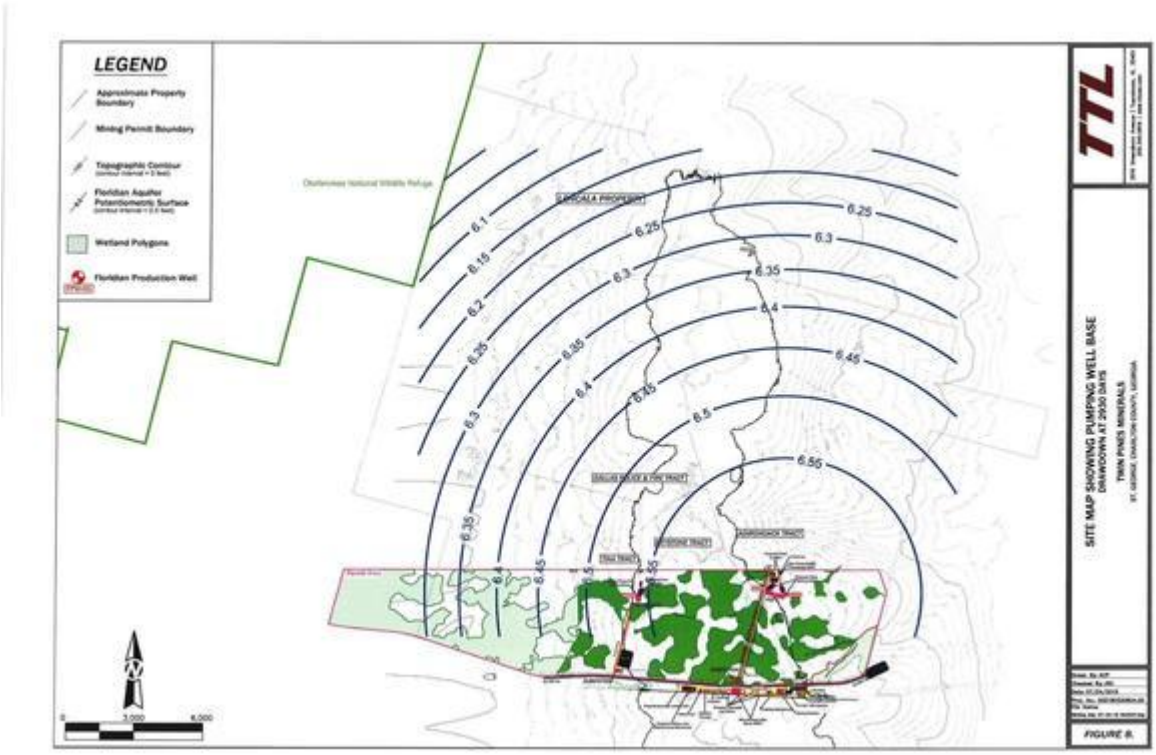

Figure 8. Drawdown 2930 days

How could that not affect Swamp water levels and content?

As pointed out to the Corps by Okefenokee Swamp Park (OSP), any change to the water level in the Swamp would affect the whole Swamp, as far as OSP on the north and Stephen C. Foster State Park on the west. The Swamp is the headwaters of the Suwannee and St. Mary's Rivers, so anything that affects the Swamp can affect those rivers.

As we noted in a later blog post, 4.32 mgd is twice as much as all the permitted withdrawals in Charlton County, 4.32 times as much as the county seat, Folkston, and almost four times as much as the notorious Nestlé withdrawal request for Ginnie Springs on the Santa Fe River in Florida.

You can still comment to the U.S. Army Corps of Engineers about the TPM mining application. Or to GA-EPD about this water withdrawal permit.

How to Comment

The nominal comment deadline was Thursday, September 12, 2019, but the Corps will not say it will not read comments sent in later, so you can still send in your comments, and post them on social media, as op-eds, etc.

To comment, or to request a public hearing, you can write to
Commander, U.S. Army Corps of Engineers, Savannah District,
Attention: Ms. Holly Ross, 1104 North Westover Boulevard, Suite 9, Albany, Georgia, 31707,
or by email to holly.a.ross@usace.army.mil.
In your comments please refer to:
Applicant: Twin Pines Minerals, LLC, Application Number: SAS-2018-00554.

For the requested state permit regarding Section 401 of the Clean Water Act, you can send a comment or request for public hearing to
Stephen Wiedl, Wetlands Unit, stephen.wiedl@dnr.ga.gov
Georgia Department of Natural Resources, Environmental Protection Division, Water Protection Branch, 7 Martin Luther King, Jr. Drive, Atlanta, Georgia 30334.

[5] Kitchens, S and Rasmussen, TC. Hydraulic Evidence for Vertical Flow From Okefenokee Swamp To The Underlying Floridan Aquifer In Southeast Georgia. Proceedings of the 1995 Georgia Water Resources Conference, held April 11 and 12, 1995, at The University of Georgia, Kathryn J. Hatcher, Editor, Carl Vinson Institute of Government, The University of Georgia, Athens, Georgia. https://smartech.gatech.edu/handle/1853/44003, http://wwals.net/issues/titanium-mining/#docs

-jsq, John S. Quarterman, Suwannee RIVERKEEPER®

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