

“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.