

to the east the land rises to 50 ft, and then further east to more than 100 ft. The elevations to the west of the site are generally 10 ft or less. A topographic survey is included in the mining permit application.

Geology

All of Citrus County is underlain by a vast thickness of limestone (Groundwater Resource Availability Inventory: Citrus County, FL, SFWWMD, 1987). The uppermost limestone unit in the county is the Suwannee Limestone, below which is the Ocala Limestone and then the Avon Park Limestone. In the central part of the county, there is a layer of clay atop the limestone and a layer of sand atop the clay. On the east and west edges of the county, the limestone is close to the surface. According to the Geologic Map of Citrus County prepared by the Florida Geological Survey (FGS), the uppermost geologic unit in the study area is the Quaternary dunes, described as thick sands with dune morphology. The onsite drilling program confirmed the occurrence of thick sand.

Hydrogeology

There are two aquifers in Citrus County—the Floridan that is county-wide and the overlying surficial aquifer that is only present in the central part of the county. The surficial aquifer occurs in the surficial sands and the Floridan aquifer in the deeper limestone units. The two aquifers may be separated by the low-permeability clays, though usually they are in direct hydraulic communication because the clays are discontinuous.

In the project area, the uppermost aquifer is the surficial. Water levels measured in onsite piezometers found the water table onsite varies from 8 to 25 ft-bls. The elevation of the water table varies from approximately 4 to 7 ft NAD88. Groundwater flow in the surficial aquifer is generally toward the southwest. A water table contour map is attached.

The elevation of the potentiometric surface of the Floridan aquifer in the project area is approximately 3 to 5 ft NAD88 based on the Potentiometric Surface Maps of the Upper Floridan Aquifer published 2017 and earlier by SFWWMD. These maps indicate that groundwater flow in the upper Floridan aquifer across the County is generally from east to west.