

- vii. *Add a grass/tree symbol to the areas being vegetated. Please identify what type of vegetation will be used and include a schedule indicating planting, active growing season, stable, and mature growth.*

Response: Symbology has been adjusted on Sheet 9 to reflect that the mining area will be restored to a vegetated state.

**2. Soil Amendment Plan Comments by: Surface Mining Unit and James L. Kennedy, Ph.D., P.G**

- a. *The Soil Amendment Plan should not be a separate document. Please add this information to the Reclamation Plan.*

Response: Done – Sheet 8. The Soil Amendment Plan has been incorporated into the Reclamation Plan.

- b. *On Page 1 in Paragraph 4 Item 1: It is said that soil borings for conformation (sic) of the presence or absence of consolidated black sands will be drilled on a 250-foot (ft) by 250-ft grid. Each grid will be 250 ft x 250 ft = 62,500 ft<sup>2</sup>, or 62,500 ft<sup>2</sup>/43,560 ft<sup>2</sup>/acre = 1.43 acre. At least two samples should be collected from each 250 ft x 250 ft grid for a sample spacing of 1 sample for each 0.715 acre. As an alternative, the proposed mine site can be divided into a 200 ft x 200 ft grid and soil samples will be taken in the middle of each grid. This would be a sample spacing of 200 ft x 200 ft = 40,000 ft<sup>2</sup>, or 40,000 ft<sup>2</sup>/43,560 ft<sup>2</sup>/acre = 0.92 acre per sample.*

Response: The plan has been amended to implement the second option. It now states that the site will be divided into a 200 ft x 200 ft grid and that one soil sample will be taken in the middle of each grid (Sheet 8).

- c. *On Page 2 in Paragraph 1: The paragraph says that a soil amendment layer of 10 percent bentonite will be applied in a layer approximately 3 feet thick. Data Table 6 of the report of Laboratory Testing Data at Twin Pines Mine prepared by TTL on 26 November 2019 shows that a 10 percent bentonite to sand ratio will have a hydraulic conductivity of 10<sup>-7</sup> centimeters per second (cm/s). Paragraph 4 of the Subsurface Continuity of Humate-Bearing Sands in the Surficial Aquifer, Trail Ridge, Georgia in Supporting Document A to the 25 January 2021 submittal say the hydraulic conductivity of the consolidated black sand at the proposed mine site was 3.4 x 10<sup>-7</sup> to 2.7 x 10<sup>-8</sup> cm/s. Table 6 of the report of Laboratory Testing Data at Twin Pines Mine shows that a hydraulic conductivity of 10<sup>-8</sup> cm/s can be achieved with a 12.5 percent bentonite to sand ratio and therefore the bentonite to sand ratio in the Soil Amendment Plan needs to be changed to 12.5 percent.*

Response: Done – Sheet 8. Bentonite-to-sand ratio in the Soil Amendment Plan has been changed to 12.5 percent.

- d. *On Page 2 in Paragraph 2 Bullet 3: According to Page 5 Paragraph 3 of the 12 June 2020 Application for Industrial Groundwater Withdrawal Permit Twin Pines Minerals, LLC Saunders Demonstration Mine prepared by TTL, routine dewatering of the mine*