

The oversized organic material removed by the screen will be placed near the screen area for future deposit during the reclamation process. The pit/feed conveyor system feeds a mainline feed conveyor system. The mainline feed conveyor system will incline (or feed a stacker conveyor) and then feed the trommel (screen). The trommel feeds the Pre-Concentration Plant (PCP).

In the PCP, spiral centrifuges concentrate and separate the heavy mineral sands from the lighter clays and quartz sand and then feeds the Wet Concentration Plant. The Wet Concentration Plant (WCP) further reduces and separates the material for processing. The material from the WCP is transported to the Mineral Separation Plant (MSP). The MSP separates valuable and non-valuable mineral products such as zircon, staurolite, rutile, ilmenite, etc. After products have been separated, the final products will be containerized, bulk shipped or loaded on truck or rail dependent upon customer requirements.

The tailings from the PCP/WCP will be temporarily stockpiled. Tailings will then be loaded onto the mainline tails conveyor system. The mainline tails conveyor system will convey material onto a reclamation conveyor. The reclamation conveyor deposits the tailings back into the mined area for reclamation.

2.1.4.2 TIAA Mining Block

On the TIAA portion of the proposed mining area, the excavator/dozer trap mining method will be utilized due to the shallower depth, less than 30 feet below ground surface, of mineral resource. This method has a limited reach, depending on the machine. It also has a lower excavation and production rate. There is more frequent relocation of the machine which results in lost production due to the relocation time.

The mining process proceeds as follows: Once the topsoil is removed and placed in berms at the perimeter of the mining area. The mining unit (excavator/backhoe/dozer trap) will mine the material and feed a screen. The material is then transferred to a pit/feed conveyor system. The oversized organic material removed by the screen will be placed near the screen area for future deposit during the reclamation process. The pit/feed conveyor system feeds a mainline feed conveyor system. The mainline feed conveyor system will incline (or feed a stacker conveyor) and then feed the trommel (screen). The trommel feeds the Pre Concentration Plant (PCP). Once at the PCP, the process proceeds as described in Section 1.2.4.1.

2.1.5 Reclamation

As part of reclamation the tailings are transported from their stockpiles to the open mined area where they are deposited. The area will then be re-graded and contoured to mimic pre mining contours, based upon the pre-mining survey. After the tailings are contoured and levels reach approximate pre-mining topography, the topsoil will be replaced. The operation is a continuous process, while the dragline is operating, backfilling of the pit is occurring as well once the mining operation gets under way. A cross-section view of the dragline cut and backfill, perpendicular to direction of the dragging movement, is shown in Figure 6.

The topsoil contains native seeds, roots, and tubers which will be sufficient to re-establish vegetation and ground cover on the reclaimed land. Tree planting will be conducted during the winter months and the tree species and planting density will be based on landowner specifications (TIAA Block) or permit requirements, whichever takes precedence. Once planted, monitoring will be conducted according to