

### 3.4.2 Pit Backfilling

Waste rock material will be placed in the WRSF and coarse gangue material in the coarse gangue stockpile as described in Sections 3.4 and 3.8. By approximately 2026, pit development will have advanced enough to accommodate a portion of the waste rock material to be placed as backfill, with coarse gangue material being used as backfill by 2035. Backfill placement would be completed by approximately 2067. Backfill volumes will steadily increase until pit advancement eventually allows all waste rock and coarse gangue material to be placed back in the pit concurrently with mining operations throughout the remainder of the mine life. Approximately 144.3 M CY of waste rock and 75.2 M CY of coarse gangue material will be placed in the open pit as backfill throughout the operational phase of the Project.

The open pit backfill plan and partial backfill cross-sections are presented in Figure 9. At closure, a slight depression will occur in the pit area as a portion of the highwall will remain exposed. The backfill plan was optimized by contouring the remaining highwall at closure to blend with surrounding topography, promote proper drainage, and avoid ponding.

The proposed backfill approach reduces the interim exposed pit area where impounded waters could form a temporary lake. Final topography of the backfilled pit will induce positive surface water drainage from the west, at an elevation of 5,366 feet amsl, toward the east where the backfill would reach an elevation of approximately 4,880 feet amsl. Planned backfill material will be, on average, approximately 200 feet thick, with the thickest portions of material placed in the central pit area.

Composition of bulk backfill material would be approximately 65 percent waste rock and 35 percent coarse gangue. Waste rock is classified at a lithium **cutoff grade of 2,000** ppm and is comprised mainly of Claystone and Ash geochemical units, although small fractions of Basalt, Tuff, and Hot Pot Zone (HPZ) materials will be included. Coarse gangue is separated during the attrition scrubbing process, which mechanically rinses and breaks down claystone ore (further described in Section 3.8). The process of physical scrubbing results in a sand and gravel gangue material which has been double rinsed by water. No leaching or chemical rinsing occurs to gangue material.

Waste rock material has undergone a comprehensive geochemical characterization program in accordance with BLM and NDEP guidance (BLM 2013 and NDEP-BMRR 2018) as described in Section 3.5.1 below. As part of this evaluation, total sulfur and calcium were used to assign an acid generation potential (AGP) and acid neutralization potential (ANP) value as well as a neutralization Potential Ratio (NPR) value to each mine block within the geological block model. From the block model, the bulk geochemical nature of waste rock to be used in backfill was estimated to have an