Areas effected by reductions in ET resulting from production well(s) induced drawdown are expected to recover after pumping ceases and groundwater levels rebound to pre-development conditions.

Mitigation for potential effects to water rights would be addressed as outlined in mitigation measure WR4 in Section 4.3.2

Potential Pit Lake Development

Under the Proposed Action, the open pit would be backfilled and would preclude the development of pit lakes. Therefore, there would be no evaporative loss from pit lakes over the closure and post-closure period.

4.3.1.1.2 Water Quality

Pit Backfill Outflow to Groundwater

Under the Proposed Action the backfilled pit would preclude the formation of a pit lake in any of the sub pits. Backfill comprised of 65 percent waste rock and 35 percent gangue would be placed in the open pit. The final backfill elevation would be at least 50 feet above post-closure water levels in each sub-pit (Piteau 2020a). The largest contribution to flow in the backfilled pit is groundwater inflow followed by infiltration. There is no contribution from pit wall runoff or precipitation owing to the backfill placement final elevation being above pit wall grade. The backfilled pit was subdivided into three areas for the purpose of analysis that are referred to as the North sub-pit, West sub-pit, and South sub-pit. The predicted groundwater outflow for each of the sub-pit areas at equilibrium is 8.0 gpm for the North sub-pit area, 14.7 gpm for the West sub-pit area, and 11.0 gpm for the South sub-pit area (Piteau 2020a).

The water quality within the backfill (and therefore, groundwater outflow water quality) was evaluated using a predictive geochemical model to predict water quality within the backfill in each of the sub-pit areas over a 300-year post-closure period. The results of the geochemistry modeling are provided in Piteau 2020a, included in **Appendix P** of this EIS. The modeling results predict that the groundwater quality would be moderately alkaline (pH 7.6-7.8) with concentrations of antimony, arsenic, sulfate, and total dissolved solid (TDS) that would exceed the NDEP Profile I reference values (based on the Nevada Primary and Secondary Drinking Water Standards) in one or more of the sub-pit areas. Sulfate is predicted to exceed the Profile I reference values for approximately 50 years, and TDS for 140 years post-closure (Piteau 2020a). Concentration of both constituents (sulfate, TDS) gradually declines as the backfill is subsequently rinsed by groundwater. The concentrations of arsenic and antimony in the pit backfill pore water are predicted to exceed drinking water standards over the entire 300 years post-closure simulation period in each sub-pit area. The source of arsenic and antimony is waste rock (claystone/ash and ash) placed in the backfill (Piteau 2020a).

Potential effects to downgradient groundwater quality was assessed using two methods: (1) a simple mass mixing analysis to evaluate the changes in sulfate, antimony and arsenic that would likely occur as the groundwater within the backfill migrates downgradient from the pit and mixes