

2.7.5.3d Ground-Water Levels, I and J Pits, including the PR-11 Expansion Area

The ground water elevations in the area of the I and J Pits are depicted in the most current Annual Hydrology Report (AHR). The water level elevation contours in the I and J Pits area are well defined in the AHR. Future analysis of the area will define the changes in water level elevations and will be included in Annual Hydrology Reports.

Historic monitoring wells GLUX, GE3 and 81-03A were completed in the First, Second and Third White Sandstone aquifers, respectively, and demonstrated water elevations for the I and J Pit areas. More recent monitoring wells CYA, CY1, CY2 and CY3 were completed in 2020 and monitor alluvium, First, Second and Third White Sandstone aquifers, respectively.

Water levels in the I and J Pit backfill aquifers will decline due to the I and J Pit boxcut and subsequent highwall mining (HWM). These drawdowns are expected to extend outward in the First, Second and Third White sandstone aquifers for up to a mile in these relatively low permeability aquifers until water levels recover in the backfill and HWM aquifer areas. The recovery of groundwater to a higher level than baseline in the northern end of the HWM area will cause the levels in these three aquifers to eventually be higher than baseline to the north of this mining. This will limit the drawdowns to the north of the mining to several years with eventual recovery of water levels to above the baseline level. Water levels in the boxcut areas will not recover to their pre-mine levels due to the increase in transmitting ability in the HWM area.