

#### 2.7.5.4b Ground Water Use, I and J Pits, including the PR-11 Expansion Area

Trapper's permit contains an updated inventory of water wells within one mile of the permit area. Design information for these wells is provided in Tables 2.7-22b and 2.7-22c. This inventory indicates a number of water wells are present in the area. Map M-31 shows the locations and permit numbers of the wells. Only wells completed in the First, Second and Third White Sandstone aquifers of the Upper Williams Fork formation and located within one mile of the I and J Pits area are believed to have any potential to be affected by these pits due to the very small permeabilities of the aquifers. Higher permeabilities (see Table 2-1 in the 1990 Trapper Annual Report) in the Second or Third White Sandstone, such as those observed in monitoring wells P-5 and P-8, could extend the potential of drawdowns in these aquifers to a slightly longer distance. The small measured permeability of 0.03 ft/day and transmissivity of 25 gal/day/ft for the First White Sandstone at well GLUX-1 will limit drawdowns to very near the highwall mining (HWM) mine area.

The Lux Well, 1 W1406-78 otherwise known as (153235), may be impacted by mining upgradient in the F coal seam which exists on the top of the Second White Sandstone. HWM may come within 1,900 feet of this well in the I West Pit. If the Lux Well is completed in only the First White Sandstone, it will likely not be impacted by the I pit mining but if its completion extends down into the Second White Sandstone some drawdown is possible during the I pit mining. Well 81159 is not anticipated to be impacted due to distance from highwall mining and its completion in the Third White Sandstone. Well 85775 is also not expected to be impacted in the Second White Sandstone due to a distance of 5,260 feet from disturbance and highwall mining in the F seam.

Wells 151991 and 93848 exist greater than one mile west of the western planned edge of the J West Pit 1 HWM in the G coal seams which exists on the top of the Third White Sandstone. HWM in the J pit will cause drawdowns in the Third White Sandstone aquifer but drawdowns greater than a few feet are not expected to extend to the two western permitted wells.

Backfill aquifers at Trapper can be characterized by higher major constituent concentrations such as TDS in some areas. These higher TDS concentrations might persist for an extended period of time. The higher concentrations from the backfill aquifers in the I and J Pits area may recharge the First, Second or Third White Sandstone aquifers and, therefore, eventually increase major constituent levels in these aquifers.