

# Ground Water Modeling

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- ◆ A comprehensive groundwater model for areas A, B, C of the Rosebud Mine, and the proposed Area F, was developed by Nicklin Earth and Water. The results of the model are as follows:
  - A majority of the impacts will arise in the immediate vicinity of the mine.
  - Impacts to water levels in areas outside the mine boundary are projected to be much smaller.
  - The maximum drawdown predicted outside the mine is about 20 feet in the Rosebud coal within a few hundred feet of the Area F southern permit boundary (see Figure). The other aquifers are predicted to experience 15 ft or less in drawdown.
- ◆ The projected cumulative discharge over the period of mining is 84 gpm.
  - Some portion of this flow is actually water drawn from aquifer storage.
  - The relative impact on the watershed balance will diminish with time after the mining activity ceases and aquifer storage is replenished.

### Simulated Drawdown End of Mining Year 2039 - Area F Permit

