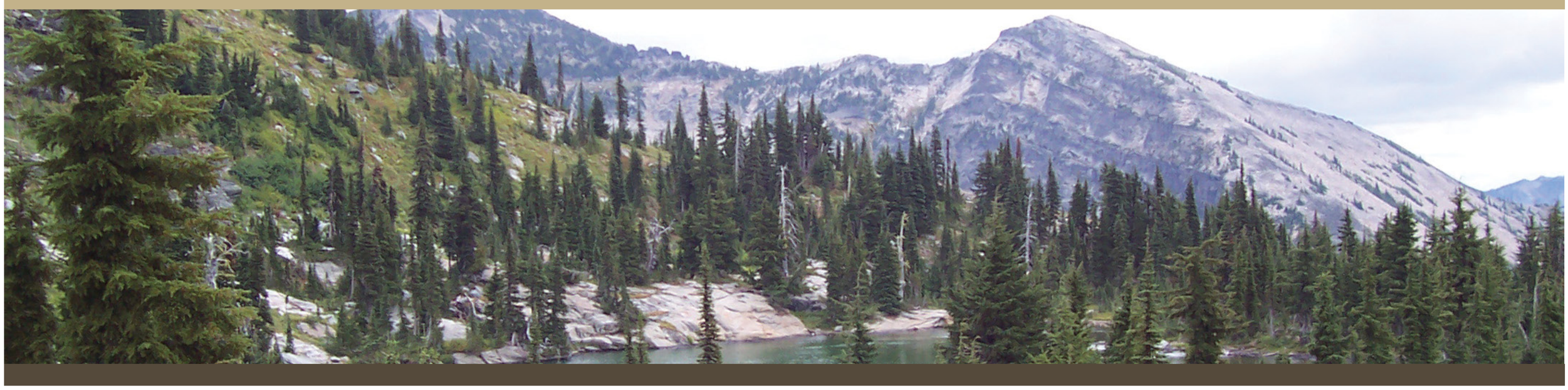


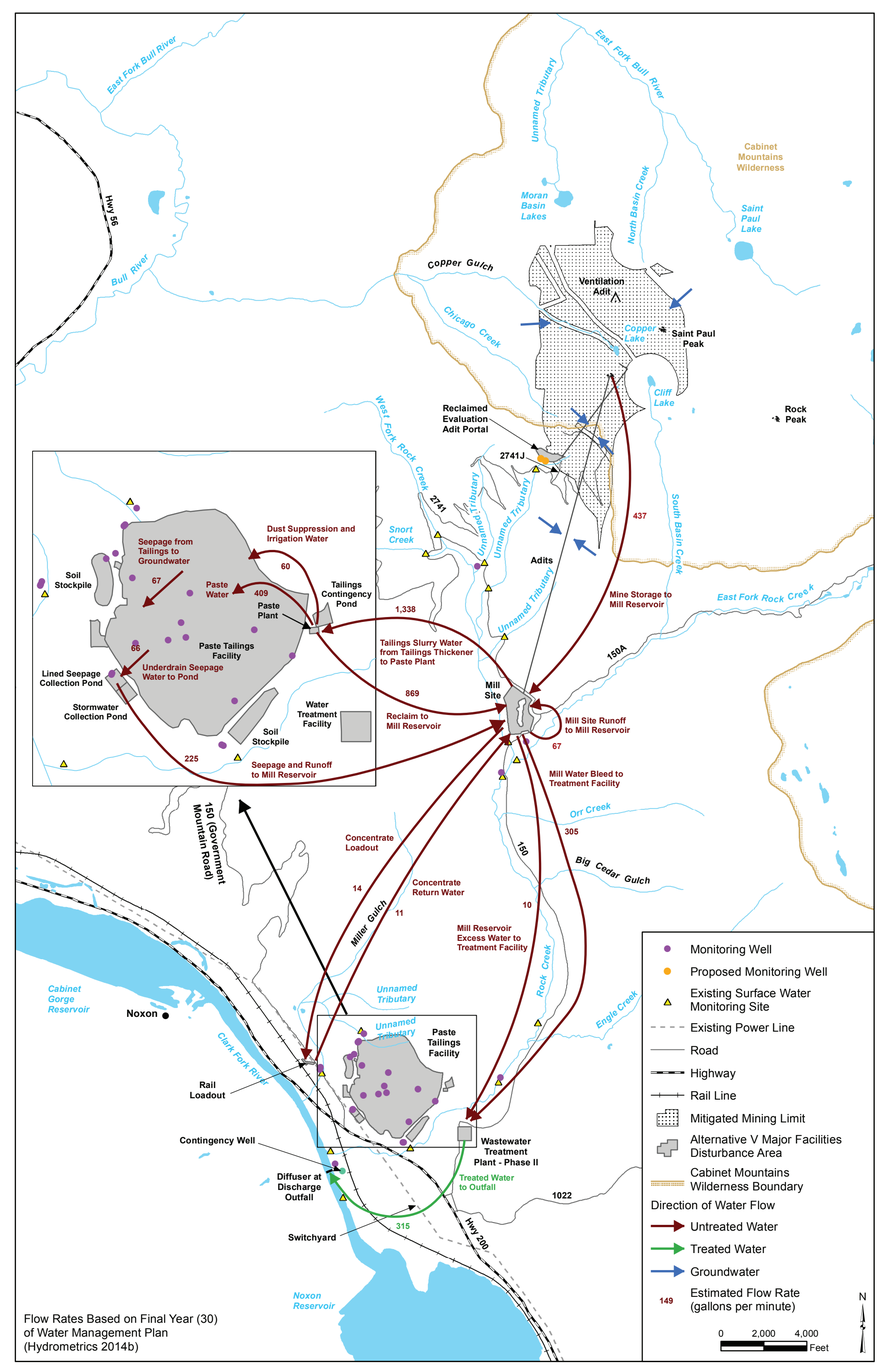
Groundwater and Surface Water Quality

Potential Water Quality Effects:

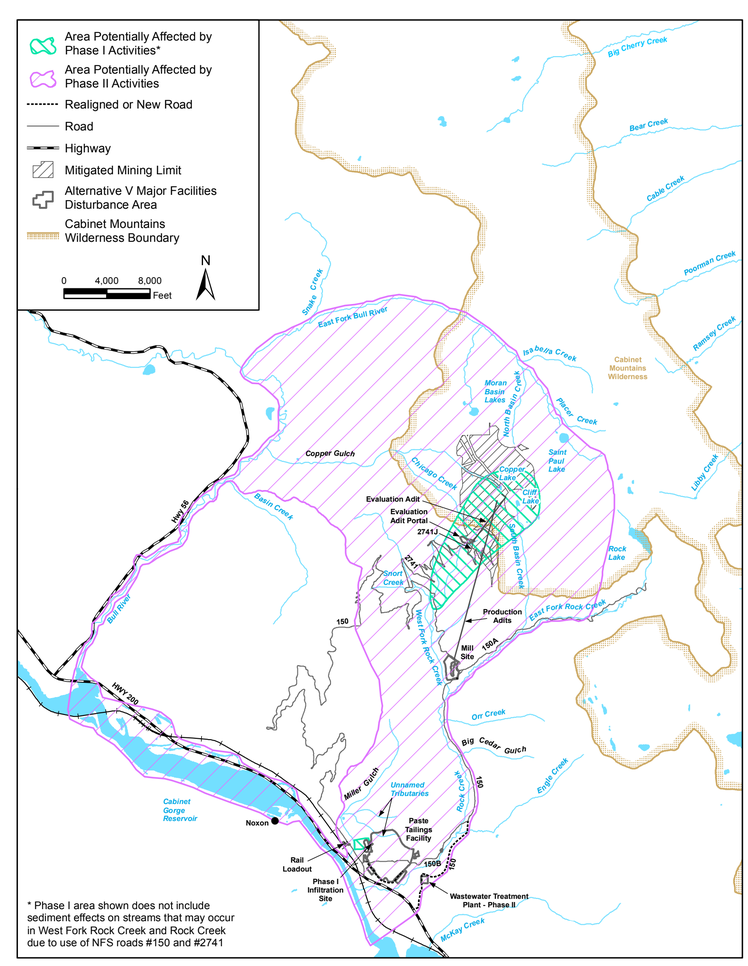
- During Phase I, nitrate may be detected in groundwater in the talus below the portal pad as a result of blasting, but expected concentrations would be well below the nitrate groundwater standard.
- An estimated 305 to 364 gpm of wastewater would be treated and discharged to the Clark Fork River during mine operations.
- Any treated water discharge to surface water would be in accordance with MPDES permitted effluent limits and would not exceed surface water quality standards and applicable nondegradation criteria outside of an approved mixing zone.
- For the tailings facility, most seepage would be collected by a seepage collection system. The mass load model predicted that the groundwater quality of any seepage water not collected by the underdrains would not exceed standards. Monitoring wells located along the perimeter and downgradient from the paste tailings facility would be installed at locations approved by DEQ for water quality compliance. A pumpback well system, if needed to prevent water quality degradation, would be designed to capture all affected groundwater for treatment or reuse.
- There would be no uncontrolled, untreated discharges to surface water during exploration, construction, or production.
- Best Management Practices to minimize erosion and reduce sediment loads to streams would be implemented. The proposed Alternative V sediment mitigation for roads and mine facilities would reduce sediment yield to streams to less than existing conditions.
- The Forest Service's locatable mineral regulations require operators to comply with applicable federal and state water quality standards, including Clean Water Act regulations.
- DEQ is responsible for ensuring all mine operations comply with the Montana Water Quality Act and its implementing rules.

Monitoring and Mitigation

- The agency-approved monitoring plan would:
  - Supplement the original data collection and provide long-term monitoring for the project
  - Characterize pre-mining water quality conditions
  - Collect sufficient data to quantify any measurable environmental impacts of the project
  - Require continuous suspended sediment monitoring
  - Provide information to determine required mitigation measures
- Groundwater and surface water monitoring downgradient of the Phase I treated water infiltration ponds would be conducted, and contingency actions implemented, if needed, to prevent water quality degradation.
- Sediment mitigation
  - Implementation of sediment mitigation would reduce sediment production by more than is occurring under existing conditions and would improve aquatic life habitat. The measures would ensure there would be no stream degradation because sediment production would not increase during Phase I or Phase II.
  - Sediment and runoff from all disturbed areas would be minimized through the use of BMPs developed in accordance with the Forest Service's *National Best Management Practices for Water Quality Management on National Forest System Lands*.



Alternative V Conceptual Site Model: Facilities and Water Balance Phase II - Operations



Areas Potentially Affected by Phase I and Phase II Activities