(3) Alternative water Supply Information

Well records from CDWR indicate that there are 19 permitted wells in the Raton Formation within a one mile radius of the permit boundary. The wells vary in depth from 30 to 750 feet, and have completion water levels ranging from 5 to 598 feet bgs. A study by Watts (reference 2006b in exhibit 8(4)) evaluated the potential for groundwater pumping from coal seams in Las Animas county to impact water levels in wells that are used for water supply. He noted that because the permeability of stratified sedimentary rocks generally is greater parallel to bedding than across bedding, the drawdown of water levels in coal seams would have the greatest potential for interfering with nearby water-supply wells in areas where there is little vertical separation between the coal seam and the well production intervals. The analysis assumed that a vertical separation of 100 feet between coal seam and water supply wells would be protective of water supplies, but it was careful to note that the required separation would depend on local geologic conditions. Mining related subsidence will increase vertical permeability for up to 195 feet above the highest mined coal. Wells that produce from 100 feet or higher above the zone of increased vertical permeability are not likely to be adversely impacted by mining.

Two bedrock wells are located near the planned mining area in the Allen Seam. The wells are in the northeast half of Section 24, T33E, R68W. Well number 284213 is a monitoring well owned by NECC and is completed in the Allen Seam. The well is 442 feet deep and is designated as NE-1-10 for the monitoring program. The other bedrock well (permit number 264440) is 200 feet deep and is completed in an unidentified coal bed. The owner of record for the well is Helen Armstrong. Four shallow alluvial wells (12, 13, 14 and PAW-9 on Map 8) are also are also located in northeast half of Section 24, T33E, R68W. Wells 12, 13, and 14 are on land owned by J.I. Vialpando. Well PAW-9 is a monitoring well owned by NECC. Mining of the Allen Seam has the potential to reduce water levels and impact water quality in the Armstrong well. Impacts to other wells that are used for water supply are not expected. In the event that water in the Armstrong well is impacted by mining, the water supply will be replaced with water from the city of Trinidad (city water). NECC is currently planning to construct a six-inch diameter water line to supply city water to the mine. The six-inch line would also be used to supply water to properties with impacted wells. If any gap in time occurs between the disruption of a well water supply and connection to city water, the mine will provide potable water to the property owner by truck and temporary storage tanks as needed.

2.04.8 Climatological Information

The climatological information for the New Elk Mine has been taken from the US Department of Commerce, Trinidad and North Lake reporting stations. These two locations have collected data which are representative of the New Elk permit area. The Trinidad station is 6,030 feet above mean sea level at latitude 37°10', longitude 104°29'. The North Lake station is approximately 8,800 feet above sea level at latitude 37°13', longitude 105°03'. In addition, data from the FAA weather station located at the Trinidad, Colorado Airport have been used.

The mean monthly precipitation for both the Trinidad and North Lake reporting stations are shown on Table 13, Climatological Data-Trinidad, and Table 14, Climatological Data-North Lake. The average direction and velocity of the prevailing wind is ten knots per hour from the