

Quality Assurance Project Plan

Assessment of Ambient Groundwater Quality Conditions in the Surficial Unconsolidated Sedimentary Aquifer of the Moxee Valley, Yakima County, Washington

By

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Abstract

The Moxee Valley lies adjacent to the city of Yakima, in south-central Washington and has experienced considerable population growth in recent years. Much of this growth occurred in the unincorporated portions of the valley where residents rely on individual wells and on-site septic systems to meet their potable and wastewater disposal needs. The last published evaluation of area groundwater quality was conducted by Larson (1993), who sampled 11 Moxee Valley wells during a pesticide screening survey. At that time, groundwater nitrate+nitrite (N) concentrations within the central and lower Moxee Valley averaged approximately 3.61 mg/L. This study will build on Larson's work by providing an up-to-date assessment of ambient groundwater nutrient and bacteria concentrations within the unincorporated portions of the Moxee Valley.

Background

The Environmental Assessment (EA) Program was asked to conduct a screening-level assessment of groundwater nutrient and bacteria concentrations and distribution within the Moxee Valley, which lies adjacent to the city of Yakima, in south-central Washington (Figure 1). Growth in and around the city of Yakima has accelerated in recent years and portions of the Moxee Valley are rapidly transitioning from their traditional agricultural-based uses to residential and commercial development. The cities of Yakima and Moxee are served by public water and sanitary sewers. However, much of the recent growth within the Moxee Valley has occurred in unincorporated regions of the valley where individual wells and septic systems are the primary means of water supply and domestic wastewater disposal, respectively.

Larson (1993) sampled 11 Moxee Valley wells during a pesticide screening study of the greater Yakima area. Trace amounts of the herbicides Dacthal and Atrazine were identified in water from 3 of the 11 wells sampled; however, the concentrations were well below levels of concern for drinking water. Concentrations of nitrate+nitrite (N) ranged from <0.01 to 11.9 mg/L and averaged 3.61 mg/L. One well exceeded 10 mg/L, the federal drinking water standard for nitrate (as N), while nearly half the wells had concentrations greater than 4 mg/L.

This study is being undertaken to provide an up-to-date assessment of groundwater nutrient and bacteria concentrations and distribution within the rapidly-developing, non-sewered portions of the Moxee Valley.

