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August 24, 2001

Steve Pullen NMED Santa Fe, NM

Steve,

There were four issues we talked about in Roswell last month. This letter will clarify two of those and I will send you a write-up this morning that will address the remaining two issues.

1. USGS Groundwater Quality wells (particularly the Windsor Well) - This took some time because I wanted to confirm the data before I gave you a contact. I put in another data request and it was identical to the information included in the Part B Application.

I got this information from the New Mexico District Office of the U.S. Geological Survey. This office is located at 5338 Montgomery Blvd. NE in Albuquerque. Their telephone number is (505) 830-7900. Robert Gold is responsible for conducting the searches for groundwater information.

2. Information on the Railroad Mountain and Camino del Diablo dikes - A literature research of the Centennial Science and Engineering Library at the University of New Mexico turned up the following references on the Railroad Mountain dike and the Camino del Diablo dike:

A. There is a relatively new U.S. Geological Survey Bulletin 2063, published in 1995. The title is *Mineral and Energy Resources of the Roswell Resource Area, East-Central New Mexico*. Authors are Susan Bartsch-Winkler and Alessandro J. Donatich.

There is a brief description of both dikes and they are located on a couple of plates within the document. The Camino del Diablo dike is described as having a negative topographic expression and is 20 miles long and 50 feet wide. It is a Tertiary intrusive consisting of surficially altered andesite to basaltic diabase. All documentation on the dikes referenced Kelley, so it didn't appear that they did any field work on these features.

This publication gives summary descriptions of stratigraphic units in the Roswell area (including Permian and Triassic sediments). It talks about structure, karst features, collapse features, etc. There were no descriptions of dissolution features in the vicinity of the Triassic Park Disposal Facility. The geologic descriptions in the area of the Gandy Marley site as presented in the Part B Application are very similar to those presented in this publication. B. One of the most definitive publications on the structure in the Roswell area was done by Vincent C. Kelley in 1971 in a publication entitled *Geology of the Pecos country, southeaster New Mexico*. This document described the structural setting of the 'Pecos Slope'' - the large portion of southeastern New Mexico that gently dips eastward toward the center of the Permian Basin in Texas.

In this publication he has a brief description of the Railroad Mountain and Camino del Diablo dikes. He also maps three smaller east-west dikes between these two longer dikes (Figure 1). Near Ruidoso he also mapped swarms of dikes associated with the Sierra Blanca intrusive. He does not connect these dike systems and offers no explanation for a source of the intrusive dikes in Chaves County.

He provides some general stratigraphic descriptions of the units present at the Triassic Park Disposal Facility. These descriptions present no new information on the geology of the area. He also describes a couple of 'sink holes', but these are not in Chaves County.

C. A Study of the Roswell Artesian Basin by the Roswell Geological Society published in 1968 is the document you showed me that referenced the two dikes.

All these publications mention the dikes but do not go into any particular detail. They are somewhat of a curiosity but do not appear to exercise any geologic control over sedimentation, groundwater, etc. None of these publications present information that would change any existing geologic interpretations of the Gandy Marley site.

