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CAGING THE EIGHT MILLION GALLON GORILLA - WATER UTILITY CONSIDERATIONS FOR DEALING WITH A LARGE-SCALE CONTAMINATION SOURCE FROM KAFB BULK FUEL FACILITY

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ABSTRACT: In 1999, the Kirtland Air Force Base (KAFB) in Albuquerque, New Mexico, discovered a leak from a fuel terminal that spilled a mix of an estimated 8 million gallons of aviation gasoline and jet fuel, 75% of the volume of the Exxon Valdez spill in the Prince William Sound. A plume of floating product and a much larger dissolved phase plume have impacted the aquifer adjacent to the Base and nearby residential community. Estimates of the floating fuel plume are half a mile, but the extent of the dissolved phase plume determined to be above the drinking water standards is a mile in length and a quarter mile in width. Historical groundwater pumping of the Middle Rio Grande Basin has shifted the gradient from the Rio Grande to the more productive zones of the regional aquifer, influencing the direction of the plume towards the Albuquerque Bernalillo County Water Utility Authority's (Water Authority's) most productive well field. KAFB has a \$50 million performance-based contract to investigate and start remediation of the vadose, saturated and vapor zones of the plume. The Air Force recognizes the seriousness and size of the affected water resources, and the New Mexico Environment Department (NMED) has elevated this cleanup to a cabinet-level priority. The Water Authority, being the largest public water utility in the Basin, faces critical decisions in the immediate and not so distant future. The Water Authority has begun implementing source water protection strategies to contend with this massive contamination of a major water resource, including 3rd party review of work plans, water quality and hydrogeological data, and educating the public about the spill and its monitoring of the situation. This ongoing scenario is requiring Water Authority to determine how to measure the full impact of the plume to the aquifer, what level of contamination is acceptable for consumer confidence after the cleanup is complete, how much of its financial resources should be allocated to a problem that may take 30 years or longer to resolve, and whether it must abandoned production wells within the near or distant future to protect drinking water supplies.

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