designed to ensure that field water supplies are safe. TB MED 577 provides officials with the internal controls necessary for proper quality control and recordkeeping.

TB MED 577 requires that water used for drinking, cooking, and medical facilities must be potable. U.S. forces use nonpotable water for other purposes including laundry and personal hygiene (bathing, showering, shaving, and cleaning). Because exposure to harmful contaminants in nonpotable water can occur through the eyes, nose, mouth, and open cuts and wounds, all nonpotable water used in personal hygiene units must meet certain minimum safety standards outlined in TB MED 577.[7] When those minimum standards are met, the Army refers to the water as "disinfected fresh (nonpotable)."

Contractor Water Operations

We visited three KBR water production sites and one Oasis site. Oasis produced bottled drinking water. KBR produced water in bulk (not bottled for individual use). Both of the contractors produced and maintained potable water for human consumption and generally met the standards as prescribed in the Army's field water standards.[8] However, on three separate occasions KBR did not meet the established requirements for quality monitoring and maintenance of nonpotable water.[9] Although the water KBR produced was originally potable, when it is distributed using trucks not certified for potable distribution, the water must be designated as nonpotable. All nonpotable water was distributed and stored in bulk. From November 2004 to February 2006, KBR did not perform water quality testing at point-of-use storage containers on Camp Victory. From October 13, 2004, to May 23, 2005, KBR did not monitor water quality at point-of-use storage containers on Camp Ar Ramadi. From March 14, 2004, to February 3, 2006, KBR inappropriately distributed chlorinated wastewater from its purification facility at Camp Q-West into personal hygiene facilities without informing preventive medicine personnel. As a result, water quality within those point-of-use storage containers may have degraded to the point of causing waterborne illnesses among U.S. forces.

Production of Bottled Drinking Water by Oasis. MNC-I Theater-Specific Requirements for Sanitary Control and Surveillance of Field Water Supplies (MNC-I Operations Order 06-02, September 4, 2006) states that only bottled water is authorized for drinking in Iraq. TB MED 577 requires Veterinary Services or Preventive Medicine to inspect and provide monthly monitoring of the bottling facilities and water quality to ensure that the bottled water is safe. Oasis operates six bottled-water facilities to produce drinking water for U.S. forces throughout Iraq. We visited the facility at Camp Liberty on the Victory Base Complex in

[7] Standards for water used during personal hygiene include chlorination to at least 1 mg/L chlorine residual (TB MED 577, Chapter 8, paragraph 8-13 b. and Table 3-1).
[8] TB MED 577, prescribes standards for drinking water as well as for water used for personal hygiene (Table B-2 and Chapter 8 paragraph 8-13, b, (1))
[9] Quality monitoring included testing water at all storage facilities for proper chlorination levels [LOGCAP contract quality control requirements; TB MED 577 Dec 05, paragraphs 8-7 a, 8-13 g., paragraphs 9-7 b., 9-8, Table B-3; and TB MED 577 Mar 86, paragraphs 1-4 g (4) (5), i (2), j (2), and 8-10 a (1)].