SUMMARY

This report provides the results of a limited military utility assessment (LMUA) of the Mixed Oxidant (MIOX) Disinfection Pen. The LMUA was conducted in two parts during May 2002. Part I took place at the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana, and Part II took place in Albuquerque, New Mexico. The LMUA was conducted as an integrated part of two field-training exercises (FTX).

The Defense Advanced Research Projects Agency (DARPA), with planning participation provided by United States Army Tank-automotive Command (TACOM), supported the assessment. Detachment 1 (Det 1) of the Air Force Operational Test and Evaluation Center (AFOTEC) conducted the assessment. The purpose of this assessment was to demonstrate the technical maturity, military utility, and suitability of the MIOX Disinfection Pen when deployed in support of the individual war fighter in austere operational environments.

Approved technologies used to provide individual war fighters with potable water in austere operational environments currently include iodine tablets, chlorine, and the Katadyn/PuR™ water filtration hand pump. Each of these methods for water purification for drinking is considered to have performance limitations or tactical drawbacks for the individual war fighter. The MIOX Disinfection Pen is an individual-use, water disinfection device designed to effectively inactivate or "treat" a broader range of microorganisms than these methods.

The MIOX Disinfection Pen is similar in shape to a large permanent marker. It is 6.75 inches long and weighs approximately 3.5 ounces (2.2 ounces without batteries or salt tablets). The MIOX Disinfection Pen is light, rugged, easy to use, and relatively inexpensive to produce and maintain.

Det 1 AFOTEC personnel developed an assessment plan that included critical operational issues (COI), measures of effectiveness (MOE), and measures of performance (MOP). These measures were developed in conjunction with AFMESA, DARPA, and TACOM personnel.

Two COIs were identified for the MIOX Disinfection Pen to address the operational effectiveness and suitability. Each is supported by MOEs and MOPs established to measure the maturity of the pen and its capability to reliably perform in the designated environment.

- Subjective data were collected during the LMUA, including the training program, via user surveys and direct interviews.
- On-site observations by Det 1 AFOTEC assessor personnel at both sites provided additional feedback regarding the maturity, suitability, and reliability of the MIOX Disinfection Pen.