FACT sheet
Particulate Matter throughout Iraq, Afghanistan, and Djibouti

NOTICE TO VA EXAMINERS
VA Considers this Veteran Exposed to High Levels of Particulate Matter

"Particulate matter" (PM), is a complex mixture of extremely small particles and liquid droplets made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The PM levels in Southwest Asia are naturally higher than most of the world and may present a health risk to service members. There are two sizes of particles in the air that are a health concern—particles with a 10-micron (PM10) diameter or smaller, and those 2.5 microns (PM2.5) and smaller. The size is directly linked to potential for causing health problems. Once inhaled, 10-micron sized particles or smaller can affect the heart and lungs and cause serious health effects.

Primary sources of PM in Southwest Asia and Djibouti on the Horn of Africa include dust storms and emissions from local industries. The DoD conducted a year-long sampling survey to characterize the chemistry and mineralogy of the PM at 15 sites in OIF and OEF. These results were published by the Desert Research Institute in 2008 and are being reviewed by the National Academy of Sciences Committee on Toxicology. DoD stated in their 2008 Balad assessment, that emission from burns pits, among other things, "may increase localized concentration of 2.5 micrometer PM and other potentially toxic air pollutants."

Most studies relate PM exposure data to respiratory and cardiopulmonary health effects in specific susceptible general population subgroups to include young children, the elderly, and especially those with existing asthma or cardiopulmonary disease. Many variables influence the probability of health outcomes. The key variables are the size-fraction and chemical makeup of the PM, the concentration levels, the duration of exposures, and various human factors to include age, health status, existing medical conditions, and genetics. These variables combined with scientific data gaps limit the medical community's ability to estimate health impacts to relatively healthy troops. Another key factor is that most studies have been on older or less healthy groups. Several studies to determine potential health effects/outcomes are currently underway.

DoD collected approximately 60 air samples at Balad from January to April 2007 and assessed for PM. The samples were taken from five different locations around Balad. The heaviest measured concentration of PM was taken in April 2007—the concentration level was 299 ug/ m3 of PM10 sized particles. In total, 50 of the 60 samples registered above the military exposure guidelines.

This information is not meant to influence examiners rendering opinions concerning the etiology of any particular disability; but rather to ensure that such opinions are fully informed based on all known objective facts. Therefore, when rendering opinions requested by rating authorities for a disability potentially related to such exposure, please utilize this information objectively and together with the remaining evidence, including lay evidence, in the Veteran's record.

Adjudication Authority