

NORTH DAKOTA ERIONITE UPDATE AND MEDICAL STUDY INFORMATIONAL SHEET

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NORTH DAKOTA
DEPARTMENT of HEALTH



Background

In 2006, the North Dakota Department of Health (NDDoH) and the North Dakota Geological Survey initiated an investigation of naturally-occurring erionite deposits located in rural areas near the Killdeer Mountains, Chalky Buttes and Little Badlands mountain areas in Dunn, Slope and Stark counties. The investigation was started because these areas have been used for gravel sources for rural county roads and other areas for several decades.

Erionite is a fibrous mineral with some properties similar to asbestos. It is not regulated as a form of asbestos fiber. Like asbestos, erionite may pose health risks to those who breathe in the fibers. Exposure appears to be associated with increased risk of fibrogenic lung disease (a condition in which mineral dusts cause thickening or scarring of lung tissue), lung cancer and mesothelioma (a rare type of respiratory cancer usually related to asbestos exposure). According to the World Health Organization, International Agency for Research on

Cancer, erionite is a known human carcinogen and has been associated with respiratory health effects in Turkey. NDDoH requested the U.S. Environmental Protection Agency's (EPA) assistance to investigate the situation and evaluate the possibility that erionite in the gravels may pose a health threat to residents in these areas.

This informational sheet provides an update of the investigation and information on a focused medical study.

Medical Study

The medical study will focus on a volunteer target audience designed to determine the prevalence of chest X-ray and chest CT scan changes in a population of workers potentially exposed to erionite contained in road gravel used in portions of western North Dakota. The target audience will be individuals who have the highest potential of exposure such as persons who have worked in gravel pits or road crews and possibly others exposed to these erionite containing gravels for an extended period. The study will consist of an occupational and medical

pulmonary questionnaire, chest X-rays and CT scans of voluntary applicants that meet specific criteria related to employment history, job responsibilities, exposure time, and other variables.

This study is not meant to provide medical assistance based on one's results but to provide clinical evidence that will assist North Dakota officials and EPA in deciding if there are potential health concerns with individuals with the highest exposure risk. Results from this study may determine whether or not additional study is needed. The individual results of the medical study will be shared with the individuals who participate, but it will be their responsibility to further discuss the results and any future medical needs with their primary health care provider, if necessary. The State of North Dakota intends to distribute the initial Screening Questionnaire for the medical study in spring, 2009.

Erionite Investigation Update

The current investigation of the gravels and potential exposures focuses in the Killdeer area of Dunn County. In October, 2006 EPA conducted a sampling program to evaluate the erionite mineralogy and to determine if gravels contained erionite fibers that could become airborne and available for inhalation. EPA met with the County Commissioners and county

road maintenance supervisors and hosted a public meeting in Killdeer in April, 2008 to present the preliminary information and concerns.

EPA conducted additional sampling in June, 2008 that evaluated more exposure scenarios to better understand potential exposure to people in the area. The results showed that erionite fibers can become airborne when disturbed, such as with driving, and that the fibers are of a size that can be easily inhaled. There have been no observed health-related impacts from erionite exposure in North Dakota to date. Nonetheless the EPA and the NDDoH plan to implement a focused medical study to get a better understanding of potential health impacts related to erionite exposure in western North Dakota.

For more information or questions regarding erionite, please contact one of the following:

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