ASBESTOS AND FROST HEAVE

WHAT IS ASBESTOS?

Asbestos is a naturally occurring silicate mineral that contains long, thin fibrous crystals. Asbestos has long been used in fire-resistant, insulating materials, and building construction materials. Learn more about asbestos at: **http://www2.epa.gov/asbestos/learn-about-asbestos#asbestos**

HOW DID ASBESTOS CONTAMINATION END UP AT NORTH RIDGE ESTATES?

In the 1940's, military barracks and other buildings were constructed at the site that is now North Ridge Estates. More than an estimated 1,500 tons of asbestos was used in steam pipes, insulation and building construction materials, such as floor tiles, roofing materials, wallboard and concrete asbestos shingles.

While the use of asbestos is now much more limited, using asbestos in building materials was common practice at the time the construction occurred.

In 1979, the EPA ordered the residential developer to properly dispose of asbestos-contaminated material prior to building homes. That did not happen. Instead, the developer burned some material and bulldozed and spread the rest around the site, some as much as 15 feet below the ground. As annual freeze and thaw cycles occur, asbestos rises to the surface. Erosion and tree roots can also contribute to partially-buried asbestos appearing at the soil surface.

WHAT DOES ASBESTOS FOUND AT NORTH RIDGE ESTATES LOOK LIKE?

HOW DOES ASBESTOS AFFECT MY HEALTH?

When asbestos containing materials break down, asbestos fibers can be released. The fibers are very small and thin, and inhalation of these fibers is the primary cause of asbestos-related disease. They can be embedded in the lungs, causing asbestosis, lung cancer and mesothelioma.

The risk of lung cancer and mesothelioma increases with the number of fibers inhaled. The risk of lung cancer from inhaling asbestos fibers is greater for people who smoke. People who get asbestosis have usually been exposed to high levels of asbestos for a long time, although that is not always the case. The symptoms of these diseases do not usually appear until about 20 to 30 years after the first exposure to asbestos.

STAY INFORMED

Website: **www.epa.gov/superfund/north-ridge-estates**

E-mail: **NRESuperfund@gmail.com**

Information Hotline: **(541) 238-5640**

On-call Site Phone: **(541) 274-1613**

EPA will also distribute regular electronic updates so be sure to sign up on the website.

EPA understand the impacts this project may cause. We thank you for your patience and appreciate your support during this important clean-up of the North Ridge Estates Superfund Site.

WHAT IS FROST HEAVE AND WHY DOES IT MATTER AT NORTH RIDGE ESTATES?

Frost heave, also known as soil jacking, is the uplift of soil and materials in the soil due to annual freezing and thawing cycles. At North Ridge Estates, pieces of asbestos containing material are migrating to the ground surface because of frost heave. For several years, the EPA removed all visible asbestos containing material during the summer months, only to find the surface soils littered with more contaminated material the following spring. This upward migration of soils, and the asbestos contamination contained in it, is driven primarily by freeze/thaw cycles.

Frost heave can lift the soil several inches in a single freezing cycle. Buried items are lifted up by the frost heaving soil during the freezing part of the cycle. As the soil thaws from the ground surface downward, the ice lenses in the soil melt and the soil settles down and around the lifted item, so that it cannot settle back to its original position. The depth of ground freezing is reported to be approximately 24 inches below the ground surface in the Klamath Falls area.