

## ARE ALL SOILS ALIKE?

Each soil has unique physical and chemical properties. By studying the interaction of these properties soil scientists can predict how a soil will respond to specific land uses. More than 25 soil properties are used in determining the suitability of the soil for your home, septic tank absorption system, play areas, lawn and landscaping.

*Local consultant conducting an onsite investigation.*



## IS THE SOIL STABLE?

You have probably seen or heard about houses that have serious structural damage due to permafrost, flooding, frost heaves or other soil-related problems.

Permafrost and massive underground ice is a serious problem in Interior Alaska. If permafrost or ice is suspected on your home site, precautions such as a special foundation design should be taken to keep the ground frozen.

Frost heaves also can be a severe problem on the Interior's silty soils. Foundations should be designed to withstand the extra stress.

Organic soils also require a special foundation. Otherwise, if the soil fails, the structure may remain intact, but the soil may settle away from the foundation.

## IS THERE PERMAFROST OR ICE WEDGES?

Many homes have been damaged by melting permafrost or ice wedges. The damage may range from uneven settling to massive failure. When permafrost melts, it causes uneven settling. When large ice wedges melt, they cause large pits called "thermokarsts".

Permafrost soils often occur in flat areas. Soils with ice wedges occur on gently sloping areas. Both of these areas may appear ideal for building but could cost thousands of dollars for repair or relocation if the soil fails. Insurance does not cover permafrost damage.

Before you buy, find out the permafrost and ice wedge hazard. Soil surveys show areas of permafrost and indicate areas that have the potential for thermokarsts to form.



*Thermokarst pit in farm field near Fairbanks gives perspective to damage that melting ice lenses can do.*



Photo courtesy of Soils Alaska, PC

## WHERE IS SOIL INFORMATION AVAILABLE?

**Natural Resources Conservation Service**

**590 University Avenue, Suite B**

**Fairbanks, AK 99709**

**Phone: (907) 479-2657**

Soil survey information can be accessed online at  
<http://websoilsurvey.nrcs.usda.gov>.

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# Fairbanks Homebuyers!

What you don't know about Fairbanks soils could hurt you!



Developed in cooperation with



**Fairbanks Soil and Water Conservation District**

and



**NRCS Natural Resources Conservation Service**

