



## **URBANDALE WATER UTILITY**

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### **Cloudy Water**

Drinking water often looks cloudy when first taken from a faucet and then clears up. This cloudiness can be caused by air in the water. After a while, the bubbles rise to the top and are gone. This type of cloudiness occurs more often in the winter, when the drinking water is cold.

#### **Possible Causes for cloudy water**

There are a number of ways in which air can become trapped in a water system. For instance, air can become trapped in the water main after there has been a main break in or draining of a water main.

#### **Cloudiness in a drinking glass**

##### **Effects of water pressure**

Water can absorb more air at higher water pressure. Water under a pressure of 40 psi is capable of absorbing about four times the amount of air it absorbs at normal atmospheric pressure. A reduction in pressure (for example, when a glass is filled with water) releases air bubbles and results in a milky appearance.

##### **Temperature changes**

Cold water can hold a greater amount of air in solution than warm water. Water at normal atmospheric pressure and a temperature of 40 degrees F can retain 60% more air than at 80 degrees F. Therefore, air is released upon the warming of cold water that is saturated with air. The air is released in the form of small air bubbles, which give the water a milky or carbonated appearance.

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#### **Private Plumbing Systems**

##### **Overheating of hot-water systems**

Complaints of air in water have been traced to the overheating of hot-water tanks. Water releases air bubbles when it is heated. For this reason, hot water usually contains some air bubbles. This condition is most noticeable during the winter months when the water normally contains the most air in solution. It is especially noticeable in the first water drawn from a hot-water tank after the tank has been idle overnight.

##### **Warming of cold-water lines**

Water releases air bubbles when it is warmed. It is not unusual for cold-water lines in basements, above the ground, or attached to the sides of buildings and exposed to the sun, to deliver milky water.