

Gas Well Workshop

The basics

Here are a few things that will help viewers of the videos.

Chemical measurements

ppm = parts per million

equivalent to 1 mg/l or 1 mg/kg

ppb = parts per billion

equivalent to 1 thousandth of a ppm

For example 30 ppm is equal to 30 mg/l

> = greater than

< = less than

For example >617 ppm is equal to greater than 617 mg/l (the upper limit of the Hach chloride test strip scale)

Water quality standards

MCL = Maximum Contamination Limit

SMCL = Secondary MCL

MCL and SMCL are terms for federal drinking water standards determined by the EPA. MCL (or primary) drinking water standard is the maximum concentration of a particular chemical to protect human health.

Secondary MCL are drinking water standards based on aesthetic or cosmetic reasons and not necessarily for health.

For example, manganese has a SMCL of 50 ppb because water with a higher concentration will have a bitter metallic taste and be discolored.

EPA Health Advisory standards are concentrations the EPA recommends

(but does not currently mandate) be the maximum concentration to protect health.

For example, manganese also has an EPA Health Advisory concentration of 300 ppb to protect neurological health, especially for children.

The oil and gas industry argues that since SMCLs and EPA Health Advisory standards are not federally mandated, they may ignore them.

Tanks

barrel = 42 gallons

A 50 barrel steel tank, about 8 feet in diameter and 5 feet high, contains up to 2100 gallons.

A 100 barrel steel tank, about 8 feet in diameter and 10 feet high, contains up to 4200 gallons.

A 200 barrel steel tank, about 8 feet in diameter and 20 feet long, contains up to 8400 gallons. Unlike smaller steel tanks, this size is horizontal rather than vertical.

Plastic tanks come in various sizes and shapes. Sometimes the maximum volume is indicated on the tank.