

# *Magoffin County Water District*

## *Water Quality Report 2015*

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Meeting Location and Time: Water District Office - 749 Parkway Dr. - First Thursday at 5:00 PM

Magoffin County Water District purchases drinking water from Salyersville Water Works. Salyersville withdraws surface water for treatment from the Licking River and groundwater from two wells as a supplemental supply. A susceptibility analysis evaluates the potential for contaminants to enter the water supply. Potential contaminant sources of concern include major roads, bridges and culverts, and commercial/industrial sites. These potential sources of contamination are rated high in the susceptibility analysis because of the contaminant type, their proximity to the intake, and the high chance of release. Activities and land use upstream of the water intake can pose potential risks to your drinking water. Under certain circumstances, contaminants could be released that would pose challenges to water treatment plants, or contaminate your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The complete source water assessment can be reviewed at the Big Sandy Area Development District office in Prestonsburg, KY.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

### **Information About Lead:**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your local public water system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

### **Some or all of these definitions may be found in this report:**

**Maximum Contaminant Level (MCL)** - the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG)** - the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL)** - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Below Detection Levels (BDL)** - laboratory analysis indicates that the contaminant is not present.

**Not Applicable (N/A)** - does not apply.

**Parts per million (ppm)** - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb)** - or micrograms per liter, ( $\mu\text{g/L}$ ). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - a measure of the radioactivity in water.

**Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.

**Million Fibers per Liter (MFL)** - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

**Variance & Exemptions (V&E)** - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.

**Treatment Technique (TT)** - a required process intended to reduce the level of a contaminant in drinking water.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old.

### Salyersville Test Results

|  | Allowable Levels   | Highest Single Measurement | Lowest Monthly % | Violation | Likely Source |
|--|--|----------------------------|------------------|-----------|---------------|
| Turbidity (NTU) TT<br>* Representative samples of filtered water | No more than 1 NTU*<br>Less than 0.3 NTU in 95% of monthly samples | 0.5                        | 93               | YES       | Soil runoff   |

### Regulated Contaminant Test Results

| Contaminant [code] (units)  | MCL | MCLG | Report Level          | Range of Detection            | Date of Sample | Violation | Likely Source of Contamination             |
|---|-----|------|-----------------------|-------------------------------|----------------|-----------|--|
| Combined radium (pCi/L)   | 5   | 0    | 1.72                  | 1.72 to 1.72                  | Jun-13         | No        | Erosion of natural deposits                |
| Fluoride [1025] (ppm)   | 4   | 4    | 0.8                   | 0.8 to 0.8                    | Mar-15         | No        | Water additive which promotes strong teeth |
| Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio) | TT* | N/A  | 1.16 (lowest average) | 0.83 to 1.74 (monthly ratios) | 2015           | No        | Naturally present in environment.          |

\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

### Magoffin County Water District Test Results

#### Regulated Contaminant Test Results

| Contaminant [code] (units)                         | MCL      | MCLG      | Report Level                        | Range of Detection                        | Date of Sample | Violation | Likely Source of Contamination            |
|--|----------|-----------|-------------------------------------|---|----------------|-----------|---|
| Copper [1022] (ppm) sites exceeding action level 0 | AL = 1.3 | 1.3       | 0.077 (90 <sup>th</sup> percentile) | 0 to 0.177                                | Jun-13         | No        | Corrosion of household plumbing systems   |
| Lead [1030] (ppb) sites exceeding action level 0   | AL = 15  | 0         | 0 (90 <sup>th</sup> percentile)     | 0 to 2.6                                  | Jun-13         | No        | Corrosion of household plumbing systems   |
| Chlorine (ppm)                                     | MRDL = 4 | MRDLG = 4 | 1.22 (highest average)              | 0.6 to 2                                  | 2015           | No        | Water additive used to control microbes.  |
| HAA (ppb) (Stage 2) [Haloacetic acids]             | 60       | N/A       | 76 (high site average)              | 43 to 123 (range of individual sites)     | 2015           | Yes       | Byproduct of drinking water disinfection  |
| TTHM (ppb) (Stage 2) [total trihalomethanes]       | 80       | N/A       | 93 (high site average)              | 26.9 to 152.8 (range of individual sites) | 2015           | Yes       | Byproduct of drinking water disinfection. |

#### Salyersville received a violation for turbidity and provided the following language:

We received a violation on 4/29/2015 for failing to meet the treatment technique requirement for turbidity by exceeding 0.3 NTU in over 5% of the combined filter effluent (CFE) samples collected in the compliance period 2/1/2015 – 2/28/2015. The requirement is to maintain CFE turbidity below 0.3 NTU in 95% of monthly measurements. We exceeded 0.3 NTU in 10 of the 166 samples collected due to snow melt that caused excessive runoff which increased turbidity in the river. We made chemical adjustments in the treatment process to better control turbidity. We were in compliance the following month.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

**Violations by Magoffin County Water District:**

During 2015 we exceeded the MCL for total trihalomethanes (THM) and haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L. This is determined by averaging all samples collected at each sampling location for the last 12 months. Listed below are the violations, time period, and results:

|              |                            |       |
|--------------|----------------------------|-------|
| 2016-7171115 | HAA 10/1/2015 – 12/31/2015 | 0.076 |
| 2016-7171116 | THM 10/1/2015 – 12/31/2015 | 0.093 |

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Public notices were distributed for each violation. We are currently working with state agencies and organizations and our recent test results indicate the problem is being resolved.

2016-7171117

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 10/1/2015 – 12/31/2015, we did not complete all monitoring by failing to report or correctly report testing for haloacetic acids in an Operational Evaluation Level Report (OEL). Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

The standard for HAA is 0.060 mg/L. A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the State in the required time frame is a violation and requires a public notification. We failed to submit an OEL. There is nothing you need to do.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.