

Upper Makefield Township

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2016 ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: 1090122 NAME: Heritage Hills Water (Township of Upper Makefield)

This report presents a summary of the quality of public drinking water provided by Upper Makefield Township to the Heritage Hill Water System during 2016. During 2016, the water provided from the Township's three wells never exceeded the maximum contaminant levels set by the Pennsylvania Department of Environmental Protection (PADEP) and the Environmental Protection Agency (EPA) Safe Drinking Water Act. The Upper Makefield Township Board of Supervisors is committed to providing safe and reliable drinking water service to all of its valued customers and to inform them of the quality and safety of their drinking water.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

WATER SYSTEM INFORMATION:

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact Dan Scholl, (Certification #267152), Private Utility Enterprises, Inc., 6130 Kit Road, Unit 4, Pipersville, PA 18947 at 215-766-2626 or the Township Water and Wastewater Consulting Engineer, CKS Engineers, Inc., at 215-340-0600.

We want you to be informed about your water supply. If you want to learn more, you may attend any of the Township's Board of Supervisors scheduled meetings. They are typically held on the first and third Tuesday of each month, 7:30 PM at the Upper Makefield Township Municipal Building, 1076 Eagle Road, Newtown, PA 18940. Updated meeting information can be found on the Upper Makefield Township website.

SOURCE(S) OF WATER:

The Township water source is derived from three (3) wells isolated within Township easements located near Taylorsville Road. Two (2) wells are located within the Lakeside subdivision, one (1) well is located within the Traditions I subdivision. The system operates year-round, currently has 592 residential service connections and on average serves 1,690 people per day.

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).

MONITORING YOUR WATER:

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2016. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data is from prior years in accordance with the Safe Drinking Water Act. The date of most recent analysis is noted in the sampling results table.



DEFINITIONS:

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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

pCi/L = picocuries per liter (a measure of radioactivity)

ppb = parts per billion, or micrograms per liter (ug/L)

ppm = parts per million, or milligrams per liter (mg/L)

DETECTED SAMPLE RESULTS:

Chemical Contaminants								
Contaminant	MCL In CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	MRDL = 4	MRDLG = 4	1.25	0.87 – 1.77	ppm	2016	N	Water additive used to control microbes.
Nitrate	10	10	3.86	N/A 1 Sample	ppm	2016	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Arsenic	10	0	2.8	N/A 1 Sample	ppb	2015	N	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production waste.
Barium	2	2	0.163	N/A 1 Sample	ppm	2015	N	Discharge from drilling wastes; discharge from metals refineries; erosion of natural deposits.
Haloacetic Acids (HAA)	60	n/a	5.0	N/A 1 Sample	ppb	2016	N	By-product of drinking water disinfection.

Chemical Contaminants								
Contaminant	MCL In CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Trihalomethanes (TTHMs)	80	n/a	17.5	N/A 1 Sample	ppb	2016	N	By-product of drinking water disinfection.
Alpha Emitters	15	0	1.68	N/A 1 Sample	pCi/L	2015	N	Erosion of natural deposits.
Combined Radium	5	0	0.55	N/A 1 Sample	pCi/L	2015	N	Erosion of natural deposits.

Lead and Copper – 2016 Sampling							
Contaminant	Action Level (AL)	MCLG	90 TH Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	15	0	0	ppb	0 of 13	N	Corrosion of household plumbing, erosion of natural deposits.
Copper	1.3	1.3	1.21	ppm	0 of 13	N	Corrosion of household plumbing.

Microbial					
Contaminant	MCL	MCLG	Highest # of % of Positive Samples	Violation Y/N	Sources of Contamination
Total Coliform Bacteria	For systems that collect <40 samples/month: • More than 1 positive monthly sampling For systems that collect >40 samples/month: • 5% of monthly samples are positive	0	1	N	Naturally present in the environment

Early in 2012, a treatment system was installed to control the corrosion of copper pipes and reduce the levels of copper present in the drinking water. The results of this year's tests show copper levels have been reduced below the regulatory action level of 1.3 parts per million.

In addition to the required regulatory monitoring summarized above, during 2016 the Township conducted supplemental operational monitoring for Perfluorinated Compounds (PFCs) including Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS) of the Heritage Hills production wells. Due to the size of the Heritage Hills public water system, the supplemental PFC operations monitoring was not required by the EPA/PADEP regulations, but was performed in an abundance of caution in an effort to safeguard the users of the water system. A summary of the Heritage Hills production well PFC monitoring conducted during 2016 is provided below. All PFC testing results were significantly below the EPA Health Advisory Level of 70 PPT for combined PFOA and PFOS.

PFOA AND PFOS OPERATIONAL MONITORING 2016									
SAMPLE DATE	SAMPLE RESULTS (PPT)								
	HH Well No. 1			HH Well No. 3			HH Well No. 4		
	PFOA	PFOS	Total	PFOA	PFOS	Total	PFOA	PFOS	Total
7/14/2016	8.4	6.5	14.9	7.1	4.8	11.9	4.8	ND	4.8
10/12/2016	10	ND	10	8	ND	8	5	ND	5

Notes: (1) PPT – Parts Per Trillion
(2) ND – Non-Detect

EDUCATIONAL INFORMATION:

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 can 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 can be obtained by calling the Environmental Protection Agency's *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. Upper Makefield Township 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>.

OTHER INFORMATION:

If you witness any release of petroleum product or other hazardous substances into the environment, please call the Pennsylvania Department of Environmental Protection (PA DEP) emergency hotline at 484-250-5900.