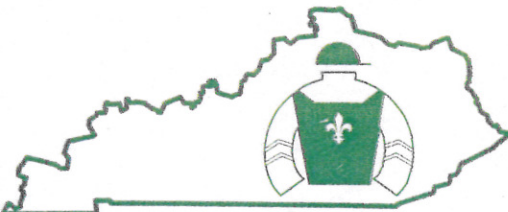
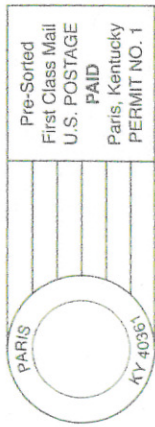


The City of Paris  
Combined Utilities  
525 High Street  
Paris KY 40361



*The City of Paris*  
**COMBINED UTILITIES**  
*"Over 80 Years of Dependable Service"*

**WATER QUALITY  
REPORT FOR  
2016**

PWSID# KY0090343

### WHY ARE THERE CONTAMINANTS (cont'd.)

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, agriculture livestock operations and wildlife. Example: Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Example: Some people who drink water containing barium in excess of the maximum contaminant level over many years could experience and increase in their blood pressure. Organic 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 residential uses. Example: Some people who drink water containing atrazine well in excess of the maximum contaminant level over many years could experience problems with their cardiovascular system or reproductive difficulties.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. Example: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the maximum contaminant level over many years may have an increased risk of getting cancer.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses. This is included in synthetic organic contaminants and the unregulated contaminants.

### SHOULD I TAKE SPECIAL PRECAUTIONS?

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 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).

### GENERAL SYSTEM INFORMATION

The plant is staffed by six full time operators who hold treatment licenses and four also have distribution license with the State of Kentucky. There is also a full time laboratory technician to perform microbiological analysis in the plant as well as the distribution system. The laboratory is certified with the State Division of Water for microbiological analysis. Additional duties of the operators are; collecting distribution samples and servicing all valves and related equipment at the standpipe and the elevated tanks as well as in-plant maintenance. Paris has approximately 5,111 water meters with an estimated total population served of 15,333 as of December, 2016. With two elevated storage tanks and one standpipe, our distribution system has a total storage of 2.45 million gallons of water. There is approximately 150 miles of pipe in the distribution system. The system employs five full time distribution operators, one is State certified. Average use is 2.163 million gallons per day and the plant's total treatment capacity is 3.0 million gallons per day. We are operating at 72% of our total treatment capacity. A risk management plan, as required by law, was created in 1999 and updated in 2014 for the water treatment plant in the event that a chlorine leak should occur. The City of Paris Combined Utilities is a member of the American Water Works Association and its operators are members of the Kentucky Water and Wastewater Operators Association. Paris is also a member of the Bluegrass Water Supply Commission, a group consisting of regional municipalities that are working to resolve central Kentucky's water supply deficit.

### HOW CAN I BECOME MORE INVOLVED?

The water system is municipally owned which means that it is owned by the City of Paris. It is managed by the plant superintendent who reports to the city manager who in turn reports to the Mayor and city commissioners. If you have billing or service questions, help can be obtained by calling the city office at (859)987-2110. Technical questions about water treatment can be directed to the plant superintendent by calling (859)987-2118. If you need emergency service after hours or on weekends or holidays, call central communications at (859)987-2100. The city commission meetings are held every second and fourth Tuesdays of the month unless otherwise announced.

The meetings begin at 9:00 a.m. and are held at the commission chambers of the Paris Municipal Center, 525 High Street. For additional information about the City of Paris and the Combined Utilities, please visit our website at [www.paris.ky.gov](http://www.paris.ky.gov).

**Este informe contiene informacion muy importante. Traduzcalo o hable con alguien que lo entienda bien.**

### CRYPTOSPORIDIUM

Cryptosporidium is an intestinal parasite that is sometimes found in surface water sources such as Stoner Creek. It can cause intestinal flu-like symptoms that could possibly be a severe health risk to immuno-compromised individuals. Healthy individuals should recover from this infection with no problems. Paris began monthly testing of Stoner Creek for cryptosporidium in June of 2005 with no detections occurring in 2005, 2006 or 2007. Testing was not required for 2016.

### 2015 and 2016 NOTICES OF VIOLATION

Important information about your drinking water... Our water system recently violated drinking water standards. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct the situation.

(1) The City of Paris Combined Utilities had levels of Total Organic Carbon (TOC) above drinking water standards. We routinely monitor for the presence of drinking water contaminants. Testing results that we received for 12/1/2015 – 12/31/2015 shows that our system did not meet the treatment technique requirement for Total Organic Carbon (TOC). TOC is based on a monthly ratio of the treatment percent TOC removal achieved to the percent TOC removal required. Annual average of the monthly ratios must be 1.0 or greater for compliance to be achieved. Our calculated average for TOC for 12/1/2015 – 12/31/2015 was .82. What should I do? You do not need to use an alternative (e.g., bottled) water supply. However, if you have specific health concerns, consult your doctor. What does this mean? This is not an immediate risk. If it has been, you would have been notified immediately. Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfectant byproducts. These byproducts include trihalomethanes (THM's), and Haloacetic acids (HAA's). Drinking water containing these byproducts in

In accordance with administrative regulation 401 KAR Chapter 8, the following table represents the most recent sampling data from 2016 unless testing is required less than once a year, which is noted in the table.

Substance	MCL	MCLG	High-Low Range Detected	Highest Level Detected	Violations	Source	Sample Date
Chloramines (ppm)	MRDL - 4	MRDLG - 4	3.10 - 0.60	3.10	NONE	Water additive used to control microbes	Daily
Chlorine (ppm)	MRDL - 4	MRDLG - 4	3.0 - 0.50	3.0	NONE	Water additive used to control microbes	Daily
Fluoride (ppm)	4	4	n/a	0.60	NONE	Erosion of natural deposits, water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	March 3, 2016
Total Trihalomethanes (ppb) Stage II	80	n/a	10.0 - 61.3	43.1 (Highest LRAA)	NONE	By-product of drinking water disinfection	January 26, 2016 April 27, 2016 July 28, 2016 October 26, 2016
Halocacetic Acids (ppb) Stage II	60	n/a	7 - 73	50.8 (Highest LRAA)	NONE	By-product of drinking water disinfection	January 26, 2016 April 27, 2016 July 28, 2016 October 26, 2016
Nitrate (ppm)	10	10	n/a	1.6	NONE	Run off from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits	March 3, 2016
Barium (ppm)	2	2	n/a	0.02	NONE	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	March 3, 2016
TOC** (Total Organic Carbon)	TT	n/a	0.4 - 1.5	1.0	NONE	Naturally present in the environment	Monthly
Revised Total Coliform Rule	No MCL for Total Coliforms	No MCLG for Total Coliforms	0	0	Yes*	Naturally present in the environment	20 per month
Turbidity (NTU)	TT (95% of monthly readings <0.3)	n/a	0.04 - 0.94	98 (Lowest monthly % < 0.3)	NONE	Soil runoff	Daily

\*Monitoring and Reporting violation - failure to submit an adequate number of routine samples, see NOV section  
 \*\*TOC's are calculated figuring a ratio of actual percentage removed divided by the required percentage removed  
 To be in compliance the RAA ratio must be greater than or equal to 1.0

Substance	MCL	MCLG	90th Percentile	Number of samples above Action Level	High - Low Range Detected	Violations	Source	Sample Date
Lead (ppb)	15AL	0	3	1	2 - 16	NONE	Corrosion of household plumbing systems, erosion of natural deposits	August 2015
Copper (ppm)	1.3AL	1.3	0.14	0	0.006 - 0.53	NONE	Corrosion of household plumbing systems, erosion of natural deposits	August 2015

The Unregulated Contaminant Monitoring Rule 3 (UCMR3) is a program instituted by the Environmental Protection Agency (EPA) to collect occurrence data for contaminants suspected to be present in drinking water but that do not have health-based standards set under the Safe Drinking Water Act (SDWA).  
 Results are not used for compliance.

Substance	High-Low Range Detected in ppb	Source	Sample Dates
Chromium, Hexavalent	0.031 - 0.095	Naturally-occurring element, used in making steel and other alloys.	
Chromium, Total	0.23 - 0.24	Naturally-occurring element, used in making steel and other alloys.	
Molybdenum	2.4 - 14	Naturally-occurring element found in ores and present in plants, animals and bacteria	December 18, 2013 March 19, 2014 June 18, 2014
Strontium	100 - 150	Naturally-occurring element, historically, commercial use has been in the facsplate glass of cathode-ray televisions	September 17, 2014
Vanadium	0.29 - 0.98	Naturally-occurring elemental metal, used as vanadium pentoxide which is a chemical intermediate and a catalyst	

**ABBREVIATIONS**

PPB - Parts Per Billion  
 CaCO3 - Calcium Carbonate  
 S.U. - Standard Units  
 TT - Treatment Technique  
 > - Greater Than  
 PPM - Parts Per Million  
 pCi/L - Picocuries Per Liter  
 NTU - Nephelometric Turbidity Units  
 = - equal to  
 < - Less Than  
 TON - Threshold Odor Number  
 MCL - Maximum Contaminant Level  
 MCLG - Maximum Contaminant Level Goal  
 NOV - Notice of Violation  
 LRAA - Locational running annual average

**DEFINITIONS**

MCLG - Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health.  
 MCL - Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.  
 MRDL - Maximum Residual Disinfectant Level. 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.  
 MRDLG - Maximum Residual Disinfectant Level Goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.  
 AL - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.  
 TT - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.  
 pCi/L - Picocuries per Liter, a measure of radiation.  
 NOV - Violations issued by the Division of Water.  
 RAA - Running Annual Average is figured quarterly using the average of the most recent quarter added with the three (3) previous quarters and divided by four (4).  
 LRAA - is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Most samples are the most recent results through 12/31/2016 and in accordance with administrative regulation 401 KAR Chapter 8. Testing compliance periods are in three(3) years periods and are part of a nine(9) year cycle which runs 1/1/2011 to 12/31/2019.

**SOURCE WATER ASSESSMENT AND PROTECTION PLAN (SWAPP)**

Following is a summary of the Paris system's susceptibility to contamination, which is part of the completed Source Water Assessment Protection Plan (SWAPP). The completed plan is available for inspection. Please call Chad Smart at the Paris Water Plant at (859)987-2118 to make arrangements. An analysis of the susceptibility of the Paris Water Supply to contamination indicates that this susceptibility is generally moderate. However there are a few areas of high concern. Several highway bridges in the immediate vicinity of the intake may pose a potential threat to the water supply. An accidental release of contaminants from any of these sites could reach the intake. The same is true for railroads that occur between KY 627 and KY 1678 near Kennedy Creek. In addition, areas of row crops, municipal sewer lines, A KPDES permitted discharger and a waste generator and/or transporter are causes for concern. Finally, there are numerous permitted operations and activities and other potential contaminant sources of moderate concern within the greater watershed that cumulatively increase the potential for the release of contaminants with in the area. These potential contaminant sources include everything from septic systems, to major roads to hazardous chemical use.

### **WHERE DOES OUR WATER COME FROM?**

The City of Paris uses Stoner Creek, a surface water, as its sole source of drinking water. Stoner Creek originates in Clark County as does Strodes Creek which is a major tributary of Stoner Creek. Both are part of the Licking River drainage basin. Our raw water supply is relatively good compared to some supplies as there is not a lot of industrial pollution. However, we are plagued by runoff from farm land. The fertilizers from the runoff can cause heavy algae bloom which in turn creates treatment problems. There are four dams on our raw water source with a total gross storage of 378 million gallons. Plant personnel maintain the dams that the City of Paris controls on Stoner Creek. There have not been any major problems with drought since two of our dams were raised in the 1950's.

### **IS THERE LEAD IN OUR WATER?**

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. The City of Paris Combined Utilities 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>. The City of Paris is in compliance with all regulations related to lead and copper in it's drinking water.

### **IS OUR DRINKING WATER SAFE?**

Yes. To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Our drinking water is monitored daily at the plant and in the distribution system to ensure proper treatment. We also send water samples to our contracted certified lab to check for over 100 possible contaminants. Those detected are listed with their results in this brochure.

### **WHAT IS THE REASON FOR THIS REPORT?**

The 1996 Safe Drinking Water Act Amendments require that, beginning in October 1999, all community water systems provide customers with an annual report on the quality of their drinking water.

### **HOW IS OUR WATER TREATED?**

Water from Stoner Creek is pumped into the rapid mix by the raw water (low service) pumps. It is pumped in at a rate of 2,100 to 2,400 gallons per minute. This flow rate is important in that all detention times throughout the treatment process are based on this flow rate. Here poly aluminum chloride or alum, lime, and sodium permanganate are added and thoroughly mixed with the creek water. Dosages will vary depending on the water conditions. Detention time in this basin is one (1) minute.

It then flows into the coagulation basin where it is slowly mixed by two (2) mechanical paddles. As the water flows through, the chemicals reacting with the particulate matter starts to form what is known as floc particles. These particles continue to grow in size and mass as they continue through this basin. Carbon is added when needed in this basin for taste and odor control. Also, the sodium permanganate is reacting during this time to oxidize any metals (example: iron, manganese) that may be dissolved in the water as well as oxidizing other organic materials present. The detention time for this basin is forty (40) minutes. Chlorine is added for disinfection at the effluent (exit) of this basin.

The water then flows into the settling basins where the floc particles settle to the bottom of these basins. The settled water flows to the filters. The detention time of the settling basins is approximately four (4) hours.

There are four (4) filters that are called dual media rapid sand filters. They utilize both sand and anthracite as the filtering medium. The filters are equipped with rate of flow gauges and controllers that maintain a constant and balanced flow through each filter. These filters retain any particles that may not have been removed in the settling basins. They filter at a rate of two (2) gallons per square foot per minute. Chemicals added in the filter effluent are fluoride, ammonia and chlorine. Caustic soda is added to help control the pH (pH indicates whether the water is an acid or a base).

When the water leaves the filters, it enters the clearwells where it is stored on site. The treatment process is complete other than the contact time with the

post chlorine or chloramines which is added after the filters. By the time the finished water reaches the high service pumps, the chlorine contact time is complete and the water is then pumped into the distribution system where it reaches the City of Paris customers. Water is stored in a standpipe and the two (2) elevated tanks that are part of the distribution system. Samples are taken daily and tested in our lab to help ensure the quality of the end product.

### **CHEMICALS USED**

**Chlorine** - This is used to disinfect the water by inactivating harmful bacteria.  
**Sodium Permanganate** - This is used to oxidize metals such as iron and/or manganese and other organics. It also helps control taste and odor problems.  
**Powdered Carbon** - Also called PAC. (powdered activated carbon) This is added in slurry form to help reduce taste and odor problems through adsorption.  
**Caustic Soda** - The chemical name is sodium hydroxide. This is used occasionally for pH control.  
**Fluoride** - The chemical name is hydrofluosilicic acid. Its sole purpose is to prevent tooth decay.  
**Ammonia** - Also called anhydrous ammonia. This combines with chlorine to form chloramines.  
**Poly Aluminum Chloride** - The chemical name is aluminum chloride hydroxide sulfate. This is used to help form floc which helps settle the particulate matter out of the water.

### **WHY ARE THERE CONTAMINANTS IN THE WATER?**

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. To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health. 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) The sources of drinking water (both tap and bottled water) includes 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

**2015 and 2016 NOTICE OF VIOLATION (cont'd.)**

excess of the Maximum Contaminant Level (MCL) may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer. What happened? What is being done? We feel that TOC levels in Stoner Creek, our water source, were elevated. We have enhanced and increased our treatment processes with additional activated carbon and sodium permanganate to try to remedy this situation.

(2) The City of Paris Combined Utilities failed to submit the required number of routine bacteriological sampling results for the compliance periods of 08/01/2016 through 12/31/2016. We routinely monitor for the presence of drinking water contaminants. What should I do? You do not need to use an alternative (e.g., bottled) water supply.

What does this mean? This is not an immediate risk. If it had been, you would have been notified immediately. This has no health effects since this was an administrative error and does not affect water quality. What happened? Two situations occurred that caused this NOV. First, there was an error in the sample numbering protocol and several samples were assigned duplicate numbers thus making it appear that not enough samples were tested when in fact for the first compliance period (08/01/2016 to 08/31/2016), there were adequate samples tested. Second, for the remaining compliance periods, the lab technician was on medical leave and a contract lab was employed to run the bacteriological testing. The contract lab performed the required number of samples according to the water system size and Division of Water regulations. However, our lab is required to do 20 samples since it is certified. The contract lab was going by what the regulation stated which was that 15 were required but we are still required to run 20 samples and that did not happen. What is being done? The City of Paris Combined Utilities will make sure that it complies with all Drinking water regulations that are required by the Kentucky Division of Water and Federal EPA's Code of Federal Regulations.

Please share this information with all 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. For more information contact Chad Smart at 859-987-2118 during normal business hours or check our website at [paris.ky.gov](http://paris.ky.gov). This notice is being sent to you by the City of Paris Combined Utilities. Water system ID # KY0090343