



To ensure continued transparency as we work to restore safe drinking water for all residents in University Park, Aqua Illinois is sharing its sampling results on [WaterFactsIL.com](http://WaterFactsIL.com) regularly to keep the community and other stakeholders informed of our progress.

### **Explaining compliance samples**

The U.S. Environmental Protection Agency, through its lead and copper rule, requires water utilities to work with their customers to collect regularly scheduled stagnation samples, or compliance samples. This rule is designed to gather samples of water that have remained in customers' pipes for six or more hours. Water that sits in pipes unused for six or more hours provides worst-case scenario data for lead exposure. The U.S. EPA deems water treatment effective when test results are less than 15 micrograms per liter (ug/L) across 90 percent of sample locations. Utilities must choose locations to sample representations of the highest inventory of lead— for example, Tier 1 locations include those with lead service lines or lead solder on copper pipes on homes constructed after 1982. The lead and copper rule does not set a health-based lead limit. It is a treatment-based rule. That means if 90 percent of compliance samples are less than 15 ug/L, treatment is deemed effective, and any samples over 15 ug/L are analyzed on an individual basis. Do not consume advisories can be issued to be proactively protective.

To complete compliance sampling, Aqua Illinois provides bottles and instructions to participating customers, who then collect the samples. We pick up the compliance samples when customers tell us the samples are ready, and then we send them to an independent lab for testing.

### **Water compliance sampling**

Illinois Environmental Protection Agency regulations require Aqua Illinois to work with at least 40 homes and businesses in the University Park, Green Garden and Monee Township service area to conduct water compliance sampling on a biannual basis. These locations must be approved by IEPA before compliance sampling can begin.

We collected samples in May 2019 as part of our biannual compliance testing schedule. On June 13, 2019, we began receiving those sampling results, some of which showed elevated lead levels. As a result, Aqua Illinois began working with the IEPA on a treatment plan, which includes conducting weekly compliance sampling as we resolve this issue.



We are committed to being fully transparent throughout our treatment process, and we will share these results at [WaterFactsIL.com](http://WaterFactsIL.com).

### How we're fixing it

We issued a do-not-consume advisory on June 14, 2019 for all customers in the service area after receiving compliance samples that showed elevated lead levels in 14 homes on June 13, 2019.

We immediately launched an investigation to identify the source of lead. We found tin in our sampling results, a strong indicator that lead solder in internal plumbing was the source. The U.S. EPA banned lead solder and pipe installation in 1986, and compliance testing results in post-1986 homes showed lead levels that met the U.S. EPA standards. We have since removed some areas from the do not consume advisory based on property age. Aqua Illinois still recommends residents in areas that have been lifted from the do not consume advisory flush their systems for two minutes before consuming tap water. (Click [here](#) for more details on how flushing your system affects lead levels in your water.)

On June 15, 2019, Aqua Illinois introduced a new treatment, orthophosphate, into the water system in the entire service area. This treatment is known for its ability to create a protective coating where lead is present, keeping it out of the water we consume. The treatment can take up to a few weeks or longer to become effective. This treatment is not harmful to humans or pets.

Please visit [WaterFactsIL.com](http://WaterFactsIL.com) for the most up-to-date information.

### A message from the IEPA

The Centers for Disease Control and Prevention indicates there is no safe blood lead level in children. Lead exposures come from a combination of environmental sources, which may include lead in water. U.S. EPA estimates that water can make up 20 percent or more of a person's total exposure to lead, and infants who consume mostly mixed formula can receive 40-60 percent of their exposure to lead from drinking water. The source of lead in water is most often from a building's plumbing system.

The IEPA and Illinois Department of Public Health support point-of-use (POU) filters as a short-term strategy for reducing lead in drinking water. (*Please note: Aqua Illinois is providing free faucet filters*)



*and pitcher filters to customers in University Park*). A POU system filters water at the point where water is being used and is installed at the water connection, typically under the sink in the kitchen or bathroom. Water pitchers with POU filters may also be used. POU filters are commercially available and can be effective at removing most lead. There are several POU cartridge filter units on the market. They can vary in price and effectiveness. Filters should routinely be replaced or maintained in accordance with manufacturers guidelines and recommendations to remain effective.

To select a lead-reducing POU filter, check with the manufacturer or a third-party website (such as [www.nsf.org](http://www.nsf.org)) to verify the product was tested and certified for lead removal (NSF/ANSI Standard 53). For additional protection for particulate lead, look for a POU filter that is also certified against NSF/ANSI Standard 42 (for class I particulate reduction, 0.5 micrometers to less than 1 micrometers). To be effective, the POU filters should be installed at locations used for drinking water or for food preparation according to the manufacturer's instructions. This includes kitchen water faucets and refrigerators with water dispensers and ice makers or in water pitchers.

POU filters should be considered an interim measure until the sources of lead have been removed and replaced with lead free plumbing materials. After replacement of lead plumbing materials or disturbance of a plumbing system, the plumbing system should be flushed for 30 minutes with aerators and screens removed from all faucets. Because you cannot see, smell, or taste lead in water, testing the water is the only way to determine if lead is present in drinking water.

To access additional information about lead in drinking water and a consumer tool for identifying POU filters certified to reduce lead, please visit U.S. EPA's website at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water> and <https://www.epa.gov/water-research/consumer-tool-identifying-pou-drinking-water-filters-certified-reduce-lead>.

Lead in homes can also come from sources other than water. To access more information about other sources of lead, please visit IDPH's website at: <http://www.dph.illinois.gov/illinoislead>. Consider contacting your doctor to have your children tested if you are concerned about lead exposure.



### **Data explanation:**

This bi-weekly data update measures the change in lead levels in water and includes five sample groups as of July 16, 2019.

Please note that the specific number of sites listed may differ in each sample group because we receive customer samples and results from the independent labs on different days. Also, through the cooperation of our customers, additional sample sites have been added.

Please know that establishing effective corrosion treatment can take weeks to become effective. This data set reflects 23 days with the current treatment in place.

### **Revised Sampling Criteria Beginning with Sample Group 4:**

The samples for Sample Groups 1 through 3 included homes built after 1990, or homes without lead solder in internal plumbing. Sample Groups 1 through 3 represent “Phase 1” of our water testing.

**Through our investigation, we believe that the source of elevated lead levels is from lead solder in homes built before 1990. Based on this information, we have coordinated with the IEPA to establish revised testing criteria to only include pre-1990 homes with lead solder in internal plumbing.** Aqua Illinois has also added more pre-1990 homes to our compliance sampling pool to advance our efforts to resolve the situation. The new sampling criteria represent “Phase 2” for the IEPA-approved water testing criteria.

Because Phase 2 represents only pre-1990 homes with lead solder, sample results for Sample Group 4 and subsequent sample groups created new outcomes that are not comparable to those in Sample Groups 1 through 3. This second phase of sampling criteria will enable us to conduct more targeted sampling based on the properties most likely to be impacted.



Sample Group 5 also includes an additional 15 pre-1990 homes beyond those included in Sample Group 4 to allow us to gather more accurate information. These additions to the sampling pool mean that results for Sample Groups 4 and 5 are not directly comparable.

It is important to know that the source of lead is not the actual water, or Aqua Illinois' water mains or service lines. Aqua Illinois is now treating the water to create a protective coating in internal plumbing to prevent lead in properties built before 1990 from dissolving into tap water.



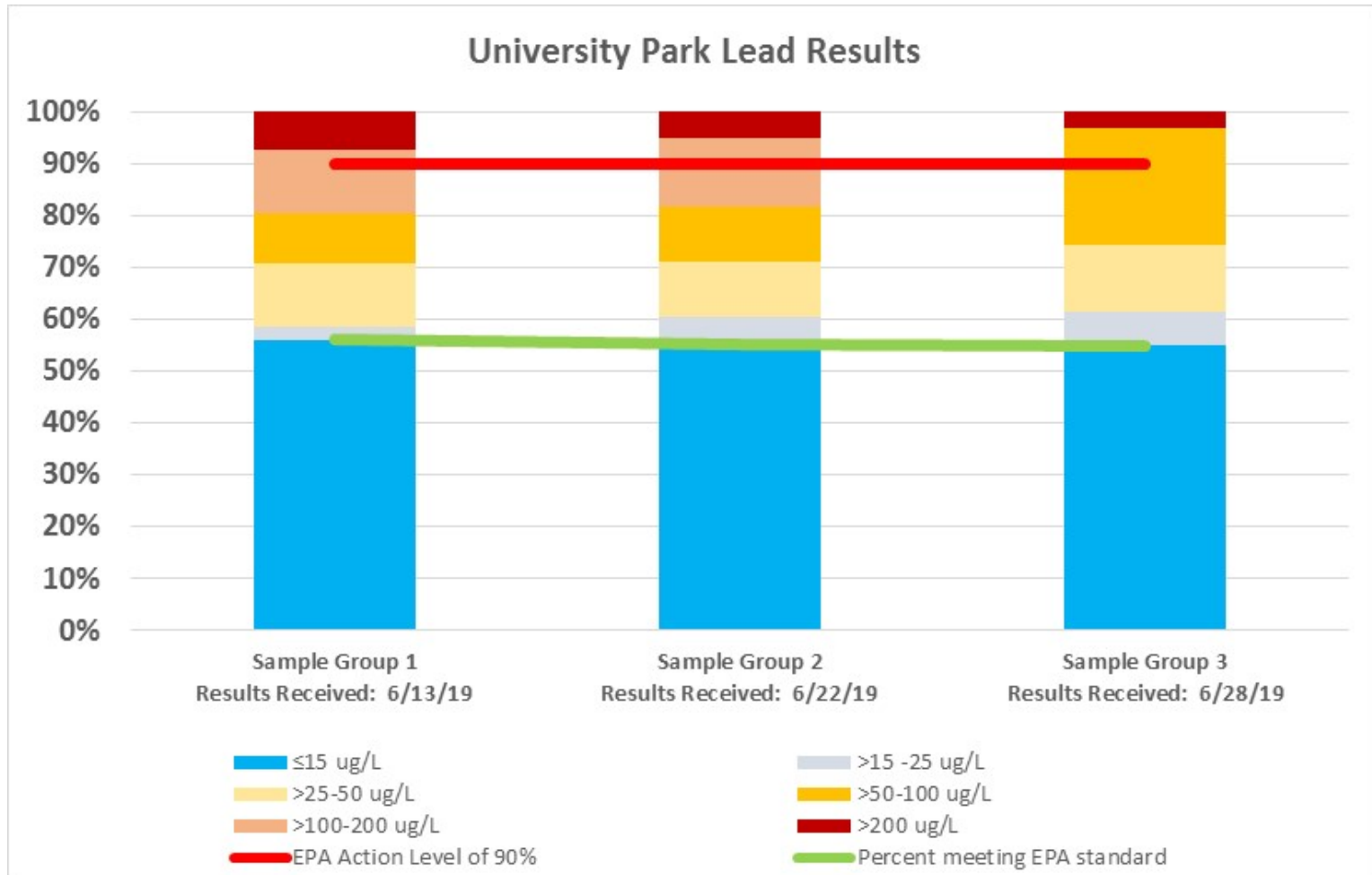
## Sampling Results for Lead in University Park

Sampling results below are provided from samples collected by customers at approximately 40 homes and businesses in the University Park area. These locations were identified by Aqua and submitted to the Illinois Environmental Protection Agency as official test sites. Samples are collected after the water sat in plumbing pipes for more than 6 hours to represent a worst-case scenario.

**The EPA standard states that 90% of the sample results should be below a lead concentration of 15 micrograms per liter (ug/L) in drinking water.**



Figure 1 - Original IEPA Compliance Samples including Post-1990 Homes





## Lead Sampling Results for University Park Sampling Groups

The table below represents lead sampling results from Sample Group 1 collected in May 2019 as part of our biannual required sampling, and subsequent sample groups. We are now conducting weekly testing because of the lead issue. As we receive additional weekly sample results, we will add them to the table. Please note, not all results may be available in the table below for each sample group, because we may receive samples back from customers or results from the lab on different days. The table will be updated weekly and will include results as they become available. To maintain privacy of individual owners, we have identified each sample with a Home ID rather than actual street address.

**Table 1 - Original IEPA Compliance Samples including Post-1990 Homes**

Home ID	Year Built	Lead Concentration (ug/L)		
		Sample Group 1 Results Received: 6/13/19	Sample Group 2 Results Received: 6/22/19	Sample Group 3 Results Received: 6/28/19
1	1970	110	150	41
2	1970	<1.0	*	*
3	1970	1.3	1.3	2.4
4	1970	<1.0	4.1	1.3
5	1970	1.3	<1.0	<1.0
6	1970	<1.0	<1.0	<1.0
7	1970	66	620	79
8	1970	14	2.5	2.4
9	1970	<1.0	<1.0	*
10	1970	92	480	59
11	1972	<1.0	1.4	<1.0





Home ID	Year Built	Lead Concentration (ug/L)		
		Sample Group 1 Results Received: 6/13/19	Sample Group 2 Results Received: 6/22/19	Sample Group 3 Results Received: 6/28/19
12	1972	<1.0	<1.0	*
13	1973	23	19	9.8
14	1973	31	38	*
15	1973	3.5	5.1	17
16	1973	670	140	240
17	1973	170	25	45
18	1970	140	160	63
19	1974	280	130	15
20	1974	88	35	24
21	1975	110	62	43
22	1975	2.8	40	*
23	NA	46	42	52
24	1975	180	130	100
25	1975	7.9	<1.0	*
26	1975	6.2	<1.0	*
27	1975	66	44	*
28	1975	41	3.2	83
29	1975	29	51	<1.0
30	1975	1	<1.0	<1.0
31	1975	9.7	9.2	5.2
32	1975	35	54	41
33	1975	1700	77	*
34	1979	1.9	<1.0	<1.0
35	1990	<1.0	1.3	1.6



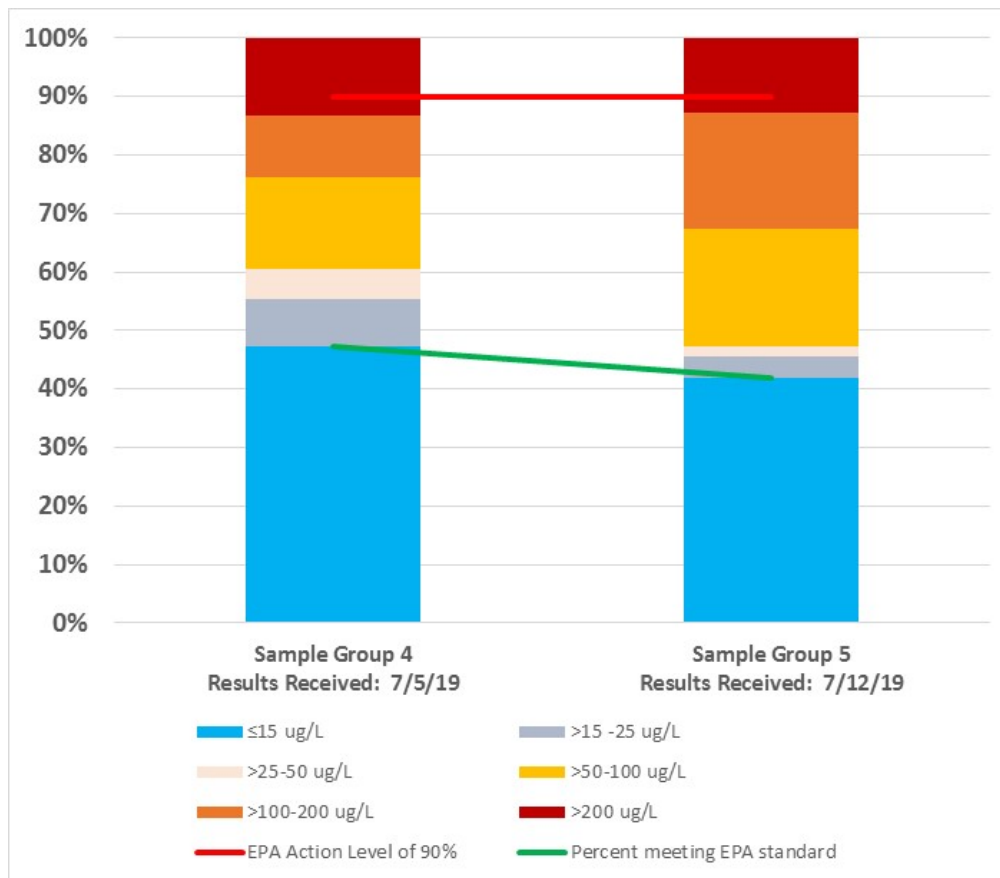
Home ID	Year Built	Lead Concentration (ug/L)		
		Sample Group 1 Results Received: 6/13/19	Sample Group 2 Results Received: 6/22/19	Sample Group 3 Results Received: 6/28/19
36	1996	<1.0	<1.0	<1.0
37	1998	1.7	<1.0	*
38	2002	<1.0	<1.0	<1.0
39	2006	<1.0	*	<1.0
40	2008	<1.0	<1.0	*
41	2007	<1.0	1.1	<1.0
42	1970	*	*	91

\* Property did not return sample

Concentration Statistics (ug/L)	Parameter	Sample Group 1 Results Received: 6/13/19	Sample Group 2 Results Received: 6/22/19	Sample Group 3 Results Received: 6/28/19
	minimum	<1.0	<1.0	<1.0
	maximum	1700	620	240
	median	7.9	5.1	9.8
	average	96.1	60.0	33.1



**Figure 2 – New IEPA Compliance Samples including Only Pre-1990 Homes with Lead Solder in Internal Plumbing**



\*Note: Sample Group 5 includes 15 additional pre-1990 homes beyond those included in Sample Group 4. These sample groups are not directly comparable.



**Table 2 - New IEPA Compliance Samples including Only Pre-1990 Homes with Lead Solder**

Home ID	Year Built	Sample Group 4 Results Received: 7/5/19	Sample Group 5 Results Received: 7/12/19
1	1970	130	370
2	1970	*	*
3	1970	<1.0	13
4	1970	<1.0	<1.0
5	1970	*	<1.0
6	1970	<1.0	180
7	1970	130	77
8	1970	3.4	7.5
9	1970	<1.0	*
10	1970	19	120
11	1972	<1.0	1.5
12	1972	<1.0	1.5
13	1973	18	76
14	1973	55	63
15	1973	8	12
16	1973	150	3900
17	1973	83	89
18	1970	**	**
19	1974	40	100
20	1974	*	*
21	1975	220	230



Home ID	Year Built	Sample Group 4 Results Received: 7/5/19	Sample Group 5 Results Received: 7/12/19
22	1975	*	*
23	1975	66	110
24	1975	92	*
25	1975	1.2	5.3
26	1975	*	*
27	1975	*	110
28	1975	5.4	200
29	1975	52	84
30	1975	*	*
31	1975	7.2	18
32	1975	22	81
33	1975	480	860
34	1979	<1.0	*
35	1990	**	**
36	1996	**	**
37	1998	**	**
38	2002	**	**
39	2006	**	**
40	2008	**	**
41	2007	**	**
42	1970	<1.0	<1.0
43	1975	3.3	7.3
44	1975	170	140
45	NA	240	140
46	1975	<1.0	<1.0



Home ID	Year Built	Sample Group 4 Results Received: 7/5/19	Sample Group 5 Results Received: 7/12/19
47	1973	<1.0	3.7
48	1975	5.2	5
49	1970	<1.0	*
50	1972	350	1800
51	1973	35	1.6
52	1974	52	55
53	1976	440	140
54	1975	*	7.1
55	1975	*	24
56	1975	*	110
57	1975	*	55
58	1979	*	2
59	1950	*	<1.0
60	1975	*	2.3
61	1972	*	210
62	1970	*	<1.0
63	1975	*	41
64	1975	*	12
65	1975	*	1.5
66	1970	*	1.4
67	1965	*	9.5
68	1972	*	85
69	1970	*	190
70	1970	*	130
71	1975	*	55



Home ID	Year Built	Sample Group 4 Results Received: 7/5/19	Sample Group 5 Results Received: 7/12/19
72	1975	*	460
73	1975	*	*

\* Property did not return sample

\*\* Property removed from compliance sampling poll

Concentration Statistics (ug/L)	Parameter	Sample Group 4 Results Received: 7/5/19	Sample Group 5 Results Received: 7/12/19
	minimum	<1.0	<1.0
	maximum	460	3900
	median	18.5	55
	average	76	189
	90th percentile	224	220