

Perry Manor Neighborhood Groundwater Assessment Summary

Background

In the summer of 2016, the Marion County Public Health Department conducted a groundwater assessment of this area. Previous testing of wells in this area revealed elevated levels of Arsenic at levels above 90 parts per billion (ppb). The Environmental Protection Agency has set the Maximum Contaminant Level (MCL) for Arsenic in drinking water at 10 ppb. The area covered was bordered by Edgewood Ave to the north, McFarland Rd. to the west, Bryan Dr. to the east, and Payne Rd. to the south.

Survey Results

Postcards were sent out in July 2016 and a neighborhood meeting was attended in October to promote the survey and answer questions about well testing. 41 properties were included in the survey, with two being vacant. Of the remaining 39 residences, seven were sampled resulting in an 18% response rate.

Sampling Results

Bacteria

Of the seven samples taken, there were Coliform bacteria present in one well. No *E.coli* bacteria were detected in any of the samples. Well sample results with either Total coliform or *E. coli* bacteria are unsatisfactory for drinking purposes. Chlorination instructions were sent to the well operator with unsatisfactory bacteria results and retesting was offered after the completion of a well chlorination or other bacteriological treatment.

VOCs

No volatile organic compounds were detected in any of the samples.

Anions

Well samples were tested for the following anions: Chloride, Fluoride, Nitrates, Nitrites, Phosphates, and Sulfates. All anions tested were below the MCLs established for each contaminant.

Metals

Samples were analyzed for the following metals: Arsenic, Barium, Boron, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Selenium, Thallium, and Zinc. Arsenic results for five wells, or 71 percent of the samples taken, were below the MCL of 10 ppb. Two wells on separate properties had Arsenic levels averaging 98 ppb for raw unfiltered samples; both well operators maintained treatment systems to lower the Arsenic. Beyond Arsenic, no other metals were detected above the MCLs. The Boron levels ranged from 43 – 348 ppb, which is consistent with other areas of the county.

Conclusions

In conclusion, Arsenic levels in the Perry Manor neighborhood wells were above the MCL at a rate of 29%, however only a limited number of samples were taken during the 2016 survey. Well testing completed throughout Marion County has revealed approximately 16% of wells have Arsenic levels above 10 ppb. With effective chemical treatment (includes periodic maintenance of the treatment system), post filtration well test results have revealed the lowering of Arsenic from over 90 ppb to less than 6 ppb. The unsatisfactory rate for Coliform bacteria was 14%, which is consistent with other well surveys. Besides the low response rate, limitations include lack of data on well depth and characteristics; only one well log was available amongst the wells tested. For future surveys, it is recommended for additional wells to be tested and to promote well operator basics such as annual well chlorination or bacteriological treatment and effective chemical treatment system design, installation and maintenance (if necessary) prior to and after the well survey.

Perry Manor Neighborhood Well Survey Area

***Properties sampled are highlighted**

