MARION COUNTY PUBLIC HEALTH DEPARTMENT
Prevent. Promote. Protect.

Department of Water Quality & Hazardous Materials Management
3901 Meadows Drive, 2nd Floor
Indianapolis, IN 46205

Keystone and Werges Neighborhood Groundwater Assessment Summary 2018

Note: 8 digit numbers below refer to virtual file cabinet documents listed under agency ID #18115

Background

The Phillips 66 gas station located at 3232 South Keystone Avenue in Indianapolis, 46237 Marion County, Indiana has been in operation for over twenty years. In 1990 this facility installed three (3) Underground Storage Tanks (USTs) each containing gasoline product ranging from 3,000 to 6,000 gallons. (22067577) In 2002 gasoline product escaped one of the USTs and was reported to IDEM. (22067638) It wasn't until 2007 that a limited phase II subsurface investigation was performed to determine if the soil and/or groundwater was impacted. Their investigation determined that because groundwater monitoring showed levels of Benzene product 250% higher than the industrial default closure level (IDCL) that installing a groundwater monitoring well network on-site and continued monitoring for a minimum of two years is necessary. (80238237)

Although this assessment was performed in 2007, it was not submitted to IDEM until early 2016. Indiana Department of Environmental Management (IDEM) has since then been inspecting the facility and enforcing violations regarding the USTs on site. In 2017 ownership of the gas station requested permission to permanently close the USTs, which was approved for closure starting in 2018. (80598735) As of 07/09/2018 Phillips 66 still has three (3) USTs of which none of them have tank lining testing records submitted to IDEM. (80575527)

2018 Survey Results

Starting in May 2018 the Marion County Public Health Department (MCPHD) began offering water samples to the residential well owners within a ¼ mile radius of the USTs. It was determined that an estimated fifty-nine (59) properties were utilizing well water within the ¼ mile radius. Each resident received a letter expressing interest in sampling their groundwater for bacteriological and chemical parameters. Well logs, when available, were also sent to the residents who participated in the survey. Out of the possible fifty-nine (59) properties, five (5) of them were on municipal water, and eight (8) of them were vacant lots. Out of the remaining forty-six (46) properties sixteen (16) participated in the survey resulting in 35% participation.

Sampling Results

Bacteria

E. coli bacteria were absent in all samples and total coliform bacteria were present in 8 wells. Results were unsatisfactory (total coliform bacteria) for 50% of the private well sampled. Chlorination instructions were sent out with the lab reports and follow-up sampling was offered.

VOCs

No volatile organic compounds were found above detection limits in any of the samples taken.

Anions

Well samples were tested for the following anions: Chloride, Fluoride, Nitrates, Nitrites, Phosphates, and Sulfates. Two properties had chloride contamination above maximum contaminant levels (MCLs). These residents were notified and follow-up sampling was offered.

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. All metals were below the Maximum Contaminant Levels, with Manganese and Iron above the secondary standard in some samples.

Conclusions

In conclusion, the primary contaminants found during this groundwater survey were coliform bacteria. There are many factors that may have been contributing to the unsatisfactory bacteria samples. One of which would be that the homes are older and the wells haven't been chlorinated before. As for the VOC results they do not suggest that the USTs located at 3232 South Keystone Avenue in Indianapolis, 46237 Marion County, Indiana have contaminated the surrounding residential groundwater. Since there is no evidence of groundwater contamination since 2007 and the gas station has received permission to permanently close the USTs there is no reason to continue monitoring the residential wells unless requested by the residents.

Map2: ¼ mile radius of 3232 S. Keystone Ave showing municipal water system and properties sampled.