

## Field Survey Summary

Historically, commercial businesses such as dry cleaners, gas stations, auto maintenance facilities, and car washes have flourished near the heavily developed Keystone corridor surrounding 46<sup>th</sup> and Keystone Avenue. Several commercial properties along the Keystone Avenue corridor have been documented to contain significant groundwater contamination, principally from the historic uses of these properties. Contamination of the aquifer from chemicals (including chemical waste products) used by businesses in this area has been a significant concern given the close proximity of the Fall Creek water treatment plant, private wells, and Fall Creek. The Fall Creek water treatment plant uses both well and surface water (Fall Creek) for its source water.

In an effort to determine if the documented groundwater contamination near 46<sup>th</sup> and Keystone Avenue is impacting private wells within the area, the Marion County Health Department (MCHD), Department of Water Quality and Hazardous Materials Management (DWQHMM) completed a groundwater survey in January and February of 2009. Based on historic environmental documents for this area, the aquifer has principally been contaminated by Volatile Organic Compounds (VOC's); dry cleaning and gasoline stations typically use or sell bulk amounts of chemicals/products (Perchloroethylene, Benzene) chiefly comprised of VOC's. The survey had two primary objectives:

- Field verify properties which were believed to be served by a private well
- Obtain groundwater samples from as many properties (with private wells) as possible

To make the survey process more manageable, the survey area was divided into three zones. The streets comprising each zone are as follows:

- Zone One, includes 44<sup>th</sup>, 45<sup>th</sup>, 46<sup>th</sup> Streets, Caroline Street, Duke Street, Hillsdale and Keystone Ave
- Zone Two, includes 45<sup>th</sup>, 46<sup>th</sup> Streets, Allisonville Road, and Temple Ave
- Zone Three, includes 45<sup>th</sup>, 46<sup>th</sup> Streets, Dearborn Street, LaSalle Street, Miami Drive and Parker Ave

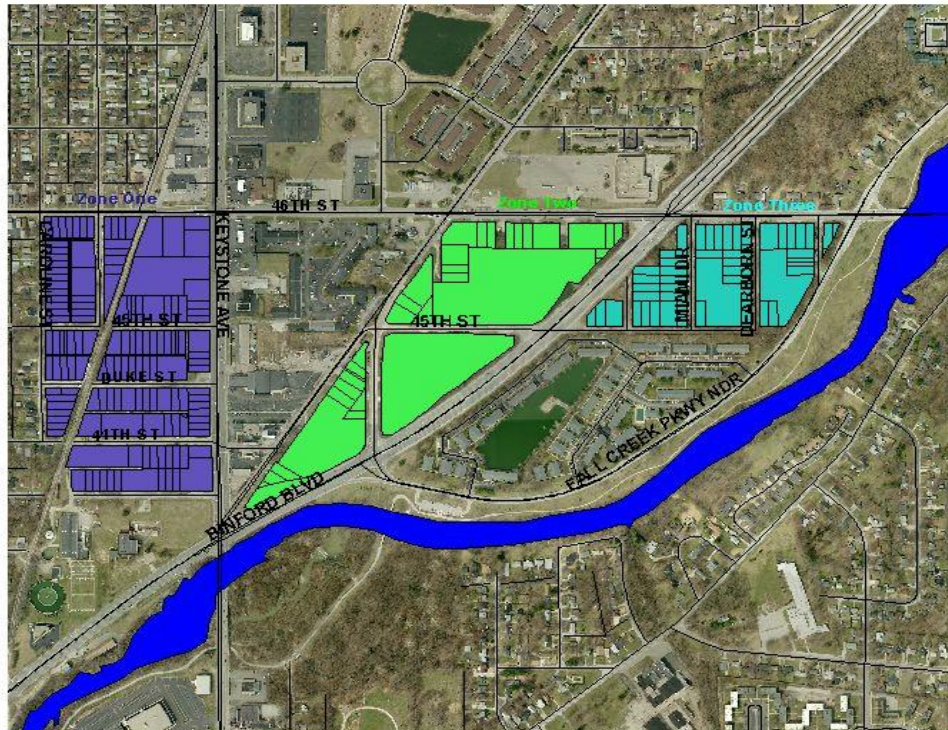
See enclosed map and spreadsheet showing each zone, sample location, and sample results. The survey design required the Environmental Health Specialist to make contact with each property owner or resident within the survey zones. During the door-to-door survey, if a resident or representative was not available, a MCHD business card was left at an easily locatable location (front door) on the property.

None of the properties field surveyed in Zone One or Two was determined to contain private wells. The close proximity of water mains for properties within Zone One and Two likely contributed to the lack of private wells.

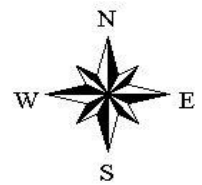
Zone Three was comprised of 36 residential properties. Fikru Hailu and Joseph Ketterman determined all 36 properties within Zone Three were served by a private well. During the initial survey, six wells were sampled within Zone Three; none (0%) of the sample results indicated the presence of Volatile Organic Compounds. In addition, all of the wells sampled were tested for Anions (ex: Chloride, Fluoride, Nitrates, Nitrite), Metals (ex: Arsenic, Cadmium, Mercury, Manganese, Lead) and the presence of Coliform bacteria. Two of the six sampled private wells (33%) were slightly elevated for Metals such as Manganese and/or lead. The elevated Metals level for the two wells was determined to be related to the household plumbing and not a condition of the aquifer. None (0%) of the six sampled wells indicated the presence of Coliform bacteria or were elevated for Anions.

In summary, Zone Three is not presently impacted by groundwater contamination. The route groundwater contamination may take in the future is difficult to predict, given variables such as pumping rates created within private water wells, product recovery wells/systems, and commercial water wells used by water utilities. The DWQHMM will continue to monitor the groundwater quality for Zone Three and provide this information to residents, external agencies, and other stakeholders.

# Jan 2009 Well Survey



- Zone One
- Zone Two
- Zone Three
- Major Streets
- Centerlines
- Rivers



0.3 0 0.3 0.6 Miles