Madison Well Survey and Sampling Project

Background

An investigation was performed in the south side neighborhood near Madison Ave and Edgewood Ave. MCHD received an IDEM incident report dated January 29, 2009, notifying the department of a leaking underground storage tank at 5920 Madison Ave. This site was previously a Sunoco gas station, but is currently a CVS pharmacy. Preliminary sample results show soil contamination with levels of TPH-GRO at 5800 ppm and benzene at 1700 ppb. Sample results also show groundwater contamination with levels of benzene at 4790 ppb and MTBE at 886 ppb. A ½-mile radius around this property was surveyed for private wells, based on DNR well logs and ArcView maps showing the city water mains. Free well testing was offered to interested homeowners to determine if any contamination was present. Wells were sampled for bacteria, metals, and anions in addition to volatile organic compounds. The following is a summary of these findings as of July 13, 2009.

Survey Results

44 homes were surveyed, see attached list of property addresses. There was an 84% response rate, with 37 properties responding to the survey and 7 no responses. Of the 37 responses, 18 properties are connected to municipal water and the remaining 19 have private wells. Samples were taken and analyzed for 16 of the 19 private wells.

Sampling Results

VOCS

No volatile organic compounds, including benzene, were found above detection limits in any of the samples taken. The detectable limit for benzene is 0.23 ppb.

Bacteria

Coliform bacteria were present in 9 wells. *E.coli* bacteria were present in 1 well. Chlorination instructions were sent out with the lab reports with follow-up inspections scheduled.

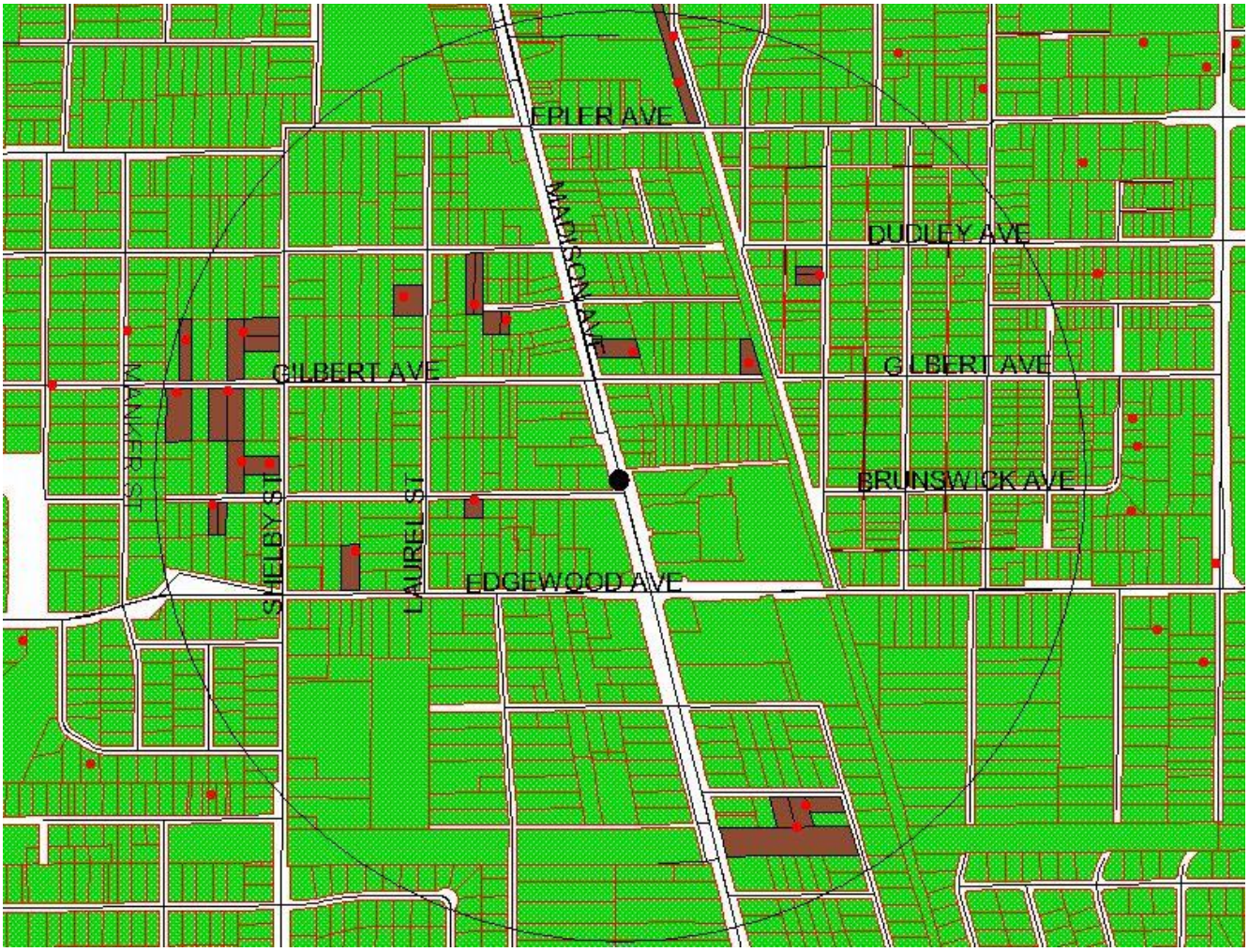
Arsenic

Arsenic levels were slightly elevated in 4 wells, ranging from 10 ppb to 14.9 ppb. The Maximum Contaminant Level (MCL) for arsenic in drinking water is 10 ppb. Additional information on arsenic was given to the property owners of these wells. Geological maps confirm that the bedrock in this area is New Albany shale, which is naturally high in arsenic.

All other chemicals analyzed were below the MCLs as established by the US EPA.

Conclusions

Based on sample results, private drinking wells do not appear to be affected by the groundwater contamination at 5920 Madison Ave. Hydrologic maps show that groundwater generally flows to the west and northwest of this site. Most of the sampling conducted was northwest of the site, with some sampling to the south and northeast. Since no benzene was detected in any of the wells, it appears that the product has not migrated through the water table. However, note that the MCHD Lab does not specifically test for TPH-GRO or MTBE.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