

**From:** [Kavanaugh, Jeffrey](#)  
**To:** [Kyle.Amberger@ghd.com](mailto:Kyle.Amberger@ghd.com)  
**Subject:** FW: PR Mallory - Westside Vapor Intrusion Investigaitons - IDEM Response 6.20.2024  
**Date:** Thursday, June 20, 2024 3:31:11 PM  
**Attachments:** [image002.png](#)  
[image004.png](#)  
[image005.png](#)

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Dear Mr. Amberger.

The Indiana Department of Environmental Management (IDEM) has reviewed the *West Side Vapor Intrusion Investigation*, (GHD, March 29, 2023) and the *West Side Vapor Intrusion Investigation*, (GHD, September 19, 2023) reports for Former P. R. Mallory Facility.

The reports were uploaded to the IDEM Virtual File Cabinet (VFC) as documents #83453835 and #83540181 listed under the Voluntary Remediation Program (VRP) site number #6170902. Further site history can be found in the VFC located on the IDEM website [www.idem.in.gov](http://www.idem.in.gov).

This technical response contains a brief background summary as provided in the *West Side Vapor Intrusion Investigation* reports and includes comments generated during our review of the reports. The purpose of this response is to provide agency input and to update the public file.

#### Background

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Previous groundwater sampling events conducted at the site had shown that volatile organic compounds (VOCs) were present in the shallow groundwater interval west of the former PR Mallory and Contact Metals Welding sites. Trichloroethene (TCE) concentrations in groundwater are the primary contaminant of concern (COC) that have prompted vapor intrusion activities west of the Site.

GHD previously developed a *Preferential Pathway Investigation Work Plan* (VFC #82676111) (GHD, September 5, 2018), to assess potential vapor intrusion at structures overlying and adjacent to the shallow groundwater plume. GHD evaluated preferential pathways and provided the results in the *Preferential Pathway Investigation Data Transmittal* (GHD, October 2, 2020) report. The report concluded the utilities were not acting as a pathway for vapors and properties outside the plume did

not need to be evaluated for vapor intrusion. All results for 68 South Oxford Street were less than Residential Indoor Air Screening Levels (RIASL) during a March 2022 sampling event. In March of 2022, GHD was denied access at 47 South Oxford, 51 South Oxford and 59 South Oxford Street and these properties were not sampled during the January 2023 event.

In GHD's summary report for *West Side Vapor Intrusion Summer 2022 Sampling*, (GHD, March 23, 2023), GHD reported that property owners at 50 and 52 South Parker and 70 South Oxford would be contacted to perform one final sampling event during winter heating season (mid-November 2022 through March 2023). GHD further reported that if the results from the Winter 2022/2023 sampling event were similar to the Summer 2022 event results (conducted in September 2022), then the vapor intrusion pathway would be considered closed.

Property owners at 50 and 52 South Parker Avenue were contacted in January 2023 to perform VI sampling during the winter season. VI sampling was conducted at 50 South Parker and at 52 South Parker Avenue on February 8-9, 2023. Following on multiple attempts for access in January and February 2022, GHD made additional attempts to obtain access at 70 South Oxford Street in January and February 2023. GHD did not receive responses from the owner and was unable to sample. It is noted that 70 South Oxford Street is a duplex with 68 South Oxford which has been cleared for any VI concerns.

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West Side Vapor Intrusion Investigations (March 29, 2023)

- 1.) 41 South Oxford Street - GHD collected basement and main level indoor air samples at 41 South Oxford Street on September 13, 2022. GHD could not collect sub-slab samples due to water in the sample line. It does not appear that an indoor air survey was completed. As with previous sampling events in December 2020 and August 2021, the only parameter detected above its Residential Indoor Air Publish Level (RIAPL) ( $1.2 \text{ ug/m}^3$ ) was chloroform, at up to  $3.1 \text{ ug/m}^3$ . GHD indicated that this was not a site related Release Related Chemical (RRC) and that the result was likely associated with disinfected drinking water or bleach. Completion of an indoor air survey would have been helpful in supporting this conclusion. However, IDEM agrees with the

conclusion. Based on the results and previous indoor air and sub-slab results, GHD concluded that the VI pathway was incomplete. IDEM agrees with this conclusion. No further VI sampling appears to be necessary at this location.

- 2.) 50 South Oxford Street – GHD collected sub-slab, basement, main level, and second level indoor air samples at 50 South Oxford Street on September 9, 2022. It does not appear that an indoor air survey was completed. Chloroform was detected in indoor air at up to 1.5 ug/m<sup>3</sup>. Also detected were isopropyl alcohol (RIAPL 210 ug/m<sup>3</sup>) at up to 1,400 ug/m<sup>3</sup> and naphthalene at up to 4.9 ug/m<sup>3</sup>. There were no Residential Sub-slab Publish Level (RSSPL) exceedances, indicating likely indoor air sources or laboratory contaminants. Note that R2 no longer considers naphthalene a VI risk due to its low vapor pressure. As stated previously, an indoor air survey would have been useful in supporting any indoor air sources as causing the elevated sample results. However, IDEM agrees that, based on the lack of RRCs in the sub-slab sample, the VI pathway is incomplete at this time. IDEM would recommend one additional paired sampling event in winter worst case conditions to confirm previous results, particularly since only one sub-slab sample has been collected to date.
- 3.) GHD indicated that properties at 50 and 52 South Parker and 70 South Oxford Streets would be sampled during an upcoming winter sampling event, which was acceptable. IDEM would recommend that 50 South Oxford be added to this sampling event.
- 4.) Due to difficulties in securing access to 47, 51, and 59 South Oxford, GHD requested IDEM assistance in obtaining access. Since these properties directly overlie the plume, IDEM stresses the importance of securing access for sampling and is available to provide the requested assistance. Please provide current contact information for any locations that access has been denied.

West Side Vapor Intrusion Investigation – Winter 2022/2023 (September 19, 2023)

- 5.) Additional attempts to obtain access at 70 South

Oxford were made in January and February 2023 and no responses were received from the owner and was unable to sample. IDEM stresses the importance of securing access for sampling and is available to provide the requested assistance. Please provide current contact information for any location that access has been denied.

- 6.) The winter sampling included results of paired VI sampling at two off-site locations – 50 and 52 South Parker Avenue. GHD conducted the sampling on February 8-9, 2023, under winter worst case conditions. This event was a follow up to summer worst case sampling that was conducted in August 2021. GHD collected four paired samples and a sealed floor grate sample at 50 South Parker Avenue and four indoor air and two sub-slab samples at 52 South Parker Avenue. Sample results were compared to commercial published levels for these commercial structures. All sub-slab, indoor air, and floor grate concentrations were below commercial published levels and in most cases below detection limits. This was similar to the summer 2021 results and acceptable to IDEM.
  
- 7.) 50 South Parker Avenue - VOCs were either below the respective R2 PLs and/or non-detect in the collected sub-slab, conduit, and indoor air samples during February 2023 sampling event. Concentrations of 1,4-Dichlorobenzene (ranging from 10.8 ug/m<sup>3</sup> to 25.3 ug/m<sup>3</sup>) were detected above the R2 Commercial Indoor Air Published Levels (CIAPL) of 10 ug/m<sup>3</sup> in indoor-air samples collected in August 2021; however, since the concentrations of 1,4-Dichlorobenzene in the sub-slab samples were far below the R2 CSSPL, it was likely that the detected levels of 1,4-Dichlorobenzene in indoor-air samples may have originated from background sources (i.e., moth balls, insecticides, air deodorant, toilet bowl deodorizer, and scented candles) and may not be a RRC for the site. GHD concluded that the VI pathway was incomplete, and no further sampling was recommended. IDEM agrees that the VI pathway is incomplete at this location.
  
- 8.) 52 South Parker Avenue - VOCs were either below their respective R2 PLs and/or non-detect in the

collected sub-slab and indoor-air samples during February 2023 event. GHD concluded that the VI pathway was incomplete, and no further sampling was recommended. IDEM agrees that the VI pathway is incomplete at this location.

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Quality Assurance / Quality Control (QA/QC)

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- 9.) The vapor intrusion investigations activities were completed at 41 South Oxford and 50 South Oxford, and 50 and 52 South Parker Avenue, where sub-slab, conduit, and indoor-air samples were collected utilizing 6-L Summa Canisters for approximately 23 hours. The sampling locations and methods were acceptable to IDEM.
- 10.) Vapor samples were analyzed for VOCs using EPA Method TO-15. The sampling and analysis methodologies; sampling duration; and initial, final, and laboratory measured canister pressures were acceptable. The building survey check lists were not included in the report and therefore, the background source(s) could not be determined.
- 11.) Laboratory reports were submitted with QA/QC documentation which met the R2 Level II elements (MDDRs), and appropriate laboratory methods were utilized for sample analysis. Field duplicate samples were collected from the main level of 41 South Oxford Street and the results compared well. Field duplicate samples were also collected from the sub-slab point (VP-2, located at 50 S. Parker) and from an indoor-air (midpoint northside, located at 52 S. Parker); and the results compared well.
- 12.) The published levels utilized on Tables 1 and 2 are acceptable; however, these PLs have been updated and can be found on the following webpage: [R2\\_Table\\_2023\\_Table\\_1.xlsx \(in.gov\)](#). Comments listed below are based on these updated R2 PLs.

IDEM agrees that no further VI sampling appears to be necessary at 41 South Oxford Street. IDEM would recommend one additional paired sampling event in winter worst case conditions to confirm previous results at 50 South Oxford Street, particularly since only one sub-slab sample has been collected to date. In addition, GHD concluded that the VI pathway is incomplete at locations 50 and 52 South Parker Avenue and no further sampling is

recommended. IDEM agrees that the VI pathway is incomplete at these locations as well.

IDEM acknowledges the difficulties in securing access to 47, 51, 59, and 70 South Oxford Street and that GHD requested the agency's assistance in obtaining access. Since these properties directly overlie the plume, IDEM stresses the importance of securing access for sampling and is available to provide the requested assistance. Please provide current contact information for any location that access has been denied.

Please respond within 60 days of receipt of this response with a work plan and scope of work to address the above comments that require a response. If you have any questions, please contact me at (317) 234-0970, (800) 451-6027, or at [jkavanau@idem.in.gov](mailto:jkavanau@idem.in.gov).

Sincerely,



Jeffrey J. Kavanaugh  
*Senior Environmental Manager*  
*Voluntary Remediation Program*  
*Remediation Services Branch*

[JKavanau@idem.IN.gov](mailto:JKavanau@idem.IN.gov) | (317) 234-0970

*Office of Land Quality*  
Indiana Department of Environmental Management