

From: Kavanaugh, Jeffrey
To: Kyle.Amberger@ghd.com
Subject: FW: Contact Metals Welding (CMW) - East Side Vapor Intrusion Investigation (2/24/2023) - IDEM Response.6.20.2024
Date: Thursday, June 20, 2024 3:29:54 PM
Attachments: [image001.png](#)
[image002.png](#)
[image005.png](#)

Good Afternoon Mr. Amberger;

The Indiana Department of Environmental Management (IDEM) has reviewed the *East Side Vapor Intrusion Investigation Status Report- Summer* (August 2022), dated (GHD), February 24, 2023) for the former Contact Metals Welding (CMW).

The report was uploaded to the IDEM Virtual File Cabinet (VFC) as document #83453849 and under the Voluntary Remediation Program (VRP) CMW site number #6000101. The VRP applicant for the CMW site (#6000101) is Battery Properties Inc. Further site history can be found in the VFC located on the IDEM website www.idem.in.gov.

This technical response contains a brief background summary including comments generated during our review of the above-mentioned report. The purpose of this response is to provide agency technical input and to update the public file.

Background

The East Side properties are located adjacent and to the east of the former CMW facility at 70 South Gray Street and the former PR Mallory Administration Building located at 3029 East Washington Street, in Indianapolis.

The *East Side Vapor Intrusion Investigation Status Report* provided a summary of the summer vapor sampling activities and the results of the data collected in August and September 2022.

Multiple interim mitigation procedures and technologies were previously implemented at several affected residential structures in 2021. The interim technologies included air purifiers (including iWave filters), HVAC

adjustment, and plumbing leak repairs. Since Trichloroethene (TCE) levels continued to exceed Published Levels (PL) following the interim technologies at the residential structures, a Soil Vapor Extraction (SVE) system was installed (April 2022) and connected to Manhole MH-5 to extract the vapors emanating from the sewer system.

The purpose of vapor intrusion (VI) activities was to determine the preferential VI exposure pathway to the residences through the sewer lines. In August-September 2022, VI sampling was conducted at five (9, 17, 33, and 43 South Gray Street; and 3216 Moore Avenue) of the 10 residential properties, located within the investigative area on the East Side. Access was not obtained for the remaining five residences. Vapor samples (indoor, crawlspace, basement, sewer conduit in the basement, sub-slab, and ambient air) from these residential properties were collected utilizing 6-L Summa Canisters for 24-hour time duration and analyzed for volatile organic compounds (VOC) using EPA Method TO-15. Sample results from the Summer 2022 residential VI sampling activities indicated TCE was not detected above its respective PL at any sampled residential location. Several houses showed chloroform exceedances; however, GHD concluded that background sources caused the exceedances.

On August 12, 2022, vapor samples from manholes (MH-1, MH-2, and MH-3) were collected utilizing 1-L Summa Canisters for 5-10 minutes and analyzed for VOCs. In two of the three manholes, TCE was detected at 406 ug/m³ in MH-1 and 430 ug/m³ in MH-2. This was above the conduit published level of 70 ug/m³. GHD noted that concentrations had been significantly reduced since the SVE system had been operational. IDEM acknowledged the reduced concentrations and recommended continued operation of the SVE system with confirmatory sampling. Air sampling event results following the SVE system operation confirmed that TCE within the sewer lines significantly decreased by 78.22% to 99.79% at all five manhole locations from previous sampling.

The results for each residential property are discussed in the comments listed below and as summarized on Tables 1-7.

Residential Vapor Intrusion Investigation

Comments

- 1.) 9 South Gray Street- August 2022: Concentrations of site-specific volatile organic compounds (VOC) were either below their respective R2 Residential Indoor Air Published Levels (RIAPL) and/or non-detect in the collected samples from the basement and main level. These results were acceptable to IDEM.

- 2.) 17 South Gray Street- August 2022: Concentrations of site-specific VOCs (except for Benzene and Chloroform) were either below their respective R2 Residential Indoor Air Published Levels (RIAPL) and/or non-detect in the collected samples. Concentrations of Benzene and Chloroform in both samples (basement and main level) exceeded the R2 RIAPLs. The highest levels of Chloroform (6.2 ug/m³) and Benzene (7.9 ug/m³) were detected in a sample collected from the main level. The detected levels of Chloroform and Benzene may have originated from background sources (i.e., household cleaning products, cigarette smoke, etc.). Also, concentrations of Benzene and Chloroform in nearby sewer sample MH-1 were below the R2 Residential Conduit Levels, further indicating the detected levels of Benzene and Chloroform were likely from the background source(s). This explanation was acceptable to IDEM.

- 3.) 33 South Gray Street- September 2022: Concentrations of site-specific VOCs were either below their respective R2 RIAPLs and/or non-detect in the collected samples from the basement, crawlspace, and main level. These results were acceptable to IDEM.

- 4.) 43 South Gray Street- August 2022: Concentrations of site-specific VOCs (except for Chloroform) were either below their respective R2 RIAPLs and/or non-detect in the collected samples from the basement, crawlspace, main level, and sewer conduit in the basement. A concentration of Chloroform (1,200 ug/m³) in a sample collected from the sewer conduit in basement was above the

R2 residential and commercial sub-slab/conduit PL of 40 ug/m³ and 200 ug/m³. According to the document, this sample was collected from the drain line of the washing machine, where bleach is used to clean clothes. The concentration of Chloroform (1,200 ug/m³) in the sewer conduit from the basement is approximately 36X higher than the result of Chloroform (32.6 ug/m³) collected from the nearby manhole (MH-1), indicating the elevated level of Chloroform maybe from the source and may not be from vapor intrusion. Since chloroform was not detected in the manhole samples, IDEM agreed with the conclusion.

- 5.) 3216 Moore Street- August 2022: Concentrations of site-specific VOCs (except for Chloroform) were either below their respective R2 RIAPLs and/or non-detect in the collected samples. Concentrations of Chloroform in samples collected from the main level (1.3 ug/m³) and its duplicate (1.2 ug/m³) were slightly above the R2 RIAPL of 1 ug/m³. These results were acceptable to IDEM.

Quality Control / Quality Assurance

- 6.) 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 basement of 33 S. Gray Street and the results compared well.
- 7.) The published levels utilized on Tables 1-7 were acceptable; however, the PLs have been updated and can be found on the following webpage: [R2_Table_2023_Table_1.xlsx \(in.gov\)](#).
- 8.) The parameters and their sampling and analytical methods for vapor samples were acceptable. The vacuum pressures and start and stop data were included in the custody forms and sample summary forms and the vacuum pressures and start and stop data were in-control. The Checklists/Residential Inspections provided in Attachment A for each residential property were acceptable in evaluating the data.

- 9.) The August-September 2022 (summer) results from the residential indoor-air sampling events showed no exceedances of TCE above R2 RIAPLs. The data were usable for intended purposes.
- 10.) IDEM noted that possible long-term remedy options could include on and offsite source remediation, installation of mitigation systems (possibly sewer venting) in each affected house, or cured-in-place sealing of the sewer main in the vapor source zone. IDEM also suggested that forthcoming vapor sampling in houses should be performed with the air purifiers and iWave filters temporarily shut down, in order to assess unmitigated conditions. The previous interim measures, air purifiers, HVAC adjustment, and plumbing repair are considered temporary measures. A more permanent remedy is required.
- 11.) The report does not have conclusions beyond the sampling results. The report indicates that GHD appears to plan to continue SVE operation and vapor sampling and assessment, but without plans for a long-term remedy. IDEM considers the SVE system as an interim measure. Therefore, a detailed plan of remediating CMW (VRP Site #6000101) and anticipated next steps and path to closure is required.

Conclusions and Recommendations

At the time of the sampling, it appeared that the SVE interim system was effectively preventing vapor intrusion into the east side residences. Continued operation of this system and confirmatory sampling is recommended until a permanent remedy can be implemented.

In the meantime, IDEM finds the report acceptable based on the following: 1) air sampling data conducted after the installation of the SVE system indicated TCE concentrations within the sewer system decreased at all manhole locations compared to results collected prior to SVE operation, 2) in the manholes nearest to the sampled houses (MH-1 and MH-2), TCE levels in MH-1 are reduced 97.6% from the levels observed in June 2021, while MH-2 shows a 98.7% reduction in TCE during the

same timeframe, 3) the chloroform background rationale is acceptable to IDEM.

Please respond within 60 days from the receipt of this response with a work plan and scope of work to address the above comments and provide a more permanent remedial solution and path to closure for the CMW VRP site #6000101.

If you have any questions, please contact me at (317) 234-0970, (800) 451-6027, or at jkavanau@idem.in.gov.

Sincerely,



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