



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Governor

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March 15, 2023

Mr. Robert L. Clawson d/b/a Hurricane Road Industrial Development
c/o Greg Cafouros Kroger, Gardis, and Regas
111 Monument Circle, Suite 900
Indianapolis, IN, 46204-5125

Re: Underground Vault Pilot Study and 3rd Quarter Groundwater Monitoring Report

Hurricane Road Industrial Development
Franklin, Johnson County
State Cleanup Site #201334567

Dear Mr. Clawson:

The Indiana Department of Environmental Management (IDEM) has reviewed the file pertaining to a release(s) of hazardous substances at the Former Houglund Tomato Factory, currently known as Hurricane Industrial Development, located at 1130 Eastview Drive, Franklin, Johnson County, Indiana (Site). Specifically, the following documents, prepared and submitted by Patriot Environmental Engineering (Patriot) were reviewed:

- *Underground Vault Pilot Study Report and Remediation Work Plan (Pilot Study)*, dated January 6, 2023, IDEM's Virtual File Cabinet (VFC) (available at <https://vfc.idem.in.gov>) document #83414234; and,
- *Third Quarter 2022 Quarterly Performance Groundwater Monitoring Report* dated January 10, 2023 (3QM Report), IDEM's VFC document #83418566.

The documents were evaluated based on IDEM's *Risk-based Closure Guide (RCG)* and *State Cleanup Program Guide* nonrule policy documents and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW846)* Third Edition, Update III. Nonrule policy documents are located at: <https://www.in.gov/idem/resources/nonrule-policies/effective-nonrule-policies/>. Based on the data submitted, the underground vault soil vapor extraction (SVE) system is approved and continued monitoring of the remediation performance is warranted. The following IDEM comments must be addressed in the installation of the SVE system and performance monitoring:



Visit on.IN.gov/survey or scan the QR code to provide feedback.

We appreciate your input!



Comments

Pilot Study

1. The pilot test equipment, observation well placement, operating parameters, and sampling procedures, as well as the results and conclusion to implement a full-scale soil vapor extraction (SVE) system at the Recycling Center at the Site are acceptable and approved.
2. The design for the SVE system and the plan for performance monitoring are also acceptable and approved.
3. For post-startup paired vapor sampling events and final paired sampling events, all outlets or vents of the SVE system must be capped before starting the shutdown clock.
4. The paired indoor air sampling location for the warehouse must be at or near SS-2 where sub-slab levels are much higher than the other points.
5. The final paired sampling event must include an indoor air sample at each sub-slab location rather than just the warehouse.

3QM Report

1. Boring and well logs for newly installed monitoring wells (MW-59D, MW-60S, I, and D, MW-61I and D, MW-62D, MW-63I and D, and the six wells installed to the east (Kasting Property)) have not been submitted in previous reports and must be provided in the next report.
2. IDEM concurs that the PlumeStop (PRB) appears to be reducing the trichloroethylene (TCE) concentrations at the downgradient boundary of the Hurricane Industrial Development property in both shallow and deep groundwater. Both ethane and ethene must be sampled in groundwater to show that complete dechlorination is occurring. Since there are occupied buildings above the plume and remediation chemicals injected include those that can generate methane, monitoring for methane in both groundwater and vapor samples must be included in all future sampling events.
3. Patriot states in the 3QM Report that injection/injection point PRB-1 is reducing the TCE concentrations at monitoring well MW-24, which is located adjacent to the PRB injection area, but has not had a noticeable effect on the contaminant of concern (COC) concentrations at monitoring wells MW-36 and MW-37, which are approximately 40 and 90 feet northeast of the northern end of the PRB, respectively. The increasing cis-1,2-dichloroethene (cDCE) concentration in monitoring MW-24 is evidence that reductive dechlorination is occurring. MW-36 and MW-37 are northeast of the PRB in an area with a southerly groundwater flow direction and may not be

impacted by the PRB. IDEM concurs that if COC concentrations in samples from MW-36 and MW-37 continue to not show improvement, additional action at the northern end of PRB-1 may be warranted. Should additional injections take place, plume behavior monitoring will need to be postponed.

4. Per the 3QM Report, additional sampling data is needed to evaluate the effects of the injections in some areas of the remediation. IDEM agrees. Future groundwater monitoring will reveal injection performance and trends and enable Patriot to address remnants of the initial contaminant plume adequately.
5. Based on the observations Patriot recommends continued quarterly sampling. The fourth quarter 2022 (4Q2022) monitoring event was performed in November 2022 and the results will be submitted to IDEM in the next quarterly monitoring report. IDEM agrees quarterly sampling should continue. Provided no additional injection events take place, data collection for plume behavior monitoring could start as early as the 1st Quarter 2023.
6. The 3QM Report provides plume maps showing the extents of on-Site chlorinated volatile organic compound (cVOC) contamination. Since the off-Site cVOC plume is not shown in these figures, the Conceptual Site Model (CSM) is incomplete. Per IDEM's July 2022 RCG Section 2.3.4.2 (Delineating Present Extents in Groundwater), maps showing the extents of contamination delineated to appropriate levels in each affected medium must be provided. Failure to provide these maps with the interpreted extents of contamination prevents the Patriot from developing an adequate CSM that can be used to evaluate potential exposure risks or defining the extents of contamination that may require corrective action. Future monitoring reports must include this information.

Conclusions

The design and details for the SVE system and performance monitoring are acceptable and approved per the comments above. IDEM agrees the remedial injections have affected concentrations of COCs from the Site, however, additional sampling is needed to further assess the effects of the injections. Since dechlorination is occurring, ethane, ethene, and methane must be sampled in groundwater, and methane must be sampled in vapor to show that complete dechlorination is happening. Provided no additional injection events take place, data collection for plume behavior monitoring could start as early as the 1st Quarter 2023. Future monitoring reports must include a plume map showing the extents of contamination off-Site as well as on-Site. Boring and well logs for the new monitoring wells must be provided.

IDEM must be provided a minimum of two weeks advance notice for field activities. Please submit future groundwater monitoring reports to IDEM within 60 days of completion of field work. The SVE system must be installed within 90 days of the date of this letter.

To reduce paper usage, reports are required to be submitted via **State Cleanup's e-Submission Portal (ESP)**. Paper copies are no longer required or accepted; however, paper copies of figures and tables may be requested by the Project Manager.

To request access to the ESP, complete State Agency Form 57103, available on IDEM's website at idem.in.gov/mysubmission. Please note that the size limit for an electronic document remains at 75 megabytes (MB) per IDEM Office of Land Quality electronic document submittal guidelines, which are available online at: www.in.gov/idem/landquality/2368.htm.

If you have any questions or comments concerning this matter, please contact me by phone at (317) 234-3931 or by email at tjohnson@idem.in.gov, or you may call IDEM's toll free number at (800) 451-6027 and ask for Tim Johnson.

Sincerely,



Tim Johnson
State Cleanup Section
Office of Land Quality

cc: IDEM Site #201334567
Mr. Mike Casper, Patriot Engineering Inc.
Johnson County Health Department

If a technical dispute arises and cannot be resolved in a timely manner, please see IDEM's website for information about appealing technical decisions through the Office of Land Quality's Technical Review Panel pilot program at: www.in.gov/idem/cleanups/2370.htm.