Mr. Michael McCann
Project Manager
Voluntary Remediation Program
Office of Land Quality
Indiana Department of Environmental Management
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Indianapolis, Indiana 46204

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ENVIRONMENT

Subject:
Addendum to Revised Remediation Work Plan / Response to Revised Remediation Work Plan Comment Letter (September 16, 2020)
Former Indiana Creosoting Company
240 Country Club Road
Bloomington, Monroe County, Indiana 47403
VRP # 6970403

Date:
October 16, 2020

Contact:
Steve Sharp

Phone:
317-236-2829

Email:
steve.sharp@arcadis.com

Our ref:
30028139 Task 07

Dear Mr. McCann:

A conference call was held with the Indiana Department of Environmental Management (IDEM) on September 30, 2020 to resolve the final item (IDEM Comment #2) from IDEM's September 16, 2020 response letter (Attachment 1) regarding the Former Indiana Creosoting Company property (Site) located in Bloomington, Indiana. Based on our conference call, CSX Transportation (CSXT), Arcadis U.S., Inc. (Arcadis), and the IDEM agreed upon the scope of work to address this final comment as detailed below.

COMMENTS / RESPONSE

IDEM Comment:

1. *Arcadis needs to confirm the operational status of the free product recovery system. To provide an accurate plume behavior analysis the recovery system cannot be in operation. A long-term plume behavior analysis can start once the aquifer has re-equilibrated (usually one year).*

Response:

The long-term plume behavior analysis has been monitored and evaluated for several years at this site through multiple lines of evidence supporting this conclusion. The Dense Non-Aqueous Phase Liquid (DNAPL) recovery system at this site is not a typical groundwater recovery system (i.e. pump and treat) which

can significantly depress groundwater elevations in the vicinity of recovery wells. The DNAPL recovery system at this site was designed and implemented specifically to minimize groundwater extraction and does not appreciably affect groundwater elevations and flow patterns for the reasons described in the following sections.

IDEM Rejoinder:

The response is not acceptable. An evaluation of plume behavior assumes no active measures are taking place. While the free product recovery system may not be affecting water levels and flow direction it is potentially affecting concentration gradients and therefore long-term plume behavior. A long-term plume behavior analysis can start once the aquifer has re-equilibrated (usually one year). While the data collected after 2015 shows the plume remains stable, the data represents the system performance and not long-term plume behavior.

Response to Rejoinder:

As agreed upon by the parties on the call, CSX will collect five more quarters of groundwater samples, one of which will be the stormwater sampling event. Based on the free-product recovery program stopping in May 2020, the first two sample events before May 2020 and the third quarterly sample event conducted after May 2020 will be used in conjunction with these five new sampling events to evaluate long-term plume stability. If these eight quarters of data continue to show a stable or decreasing groundwater concentration trend, then the quarterly sampling events will end, and a Remediation Completion Report will be submitted to the IDEM.

If you have any questions or comments regarding this submittal, please contact Steve Sharp (Arcadis) at 317-236-2829 or Daniel Dyer (CSXT) at 317-327-2242. Additionally, if IDEM would like to have a meeting to discuss this response, please contact us at your earliest convenience.

Sincerely,

Arcadis U.S., Inc.

Randall Woodruff
Geological Scientist

Steven C. Sharp, LPG (IN)
Senior Geologist / CPM-2

Copies:
Daniel Dyer, CSXT

Enclosures:

Attachment 1: IDEM Comment Letter dated September 16, 2020

ATTACHMENT 1

IDEM Comment Letter dated September 16, 2020

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

September 16, 2020

Daniel Dyer
Manager of Environmental Remediation
CSX Transportation, Inc.
31 East Georgia Street
Indianapolis, IN 46204

Dear Mr. Dyer:

Re: Addendum to Revised Remediation Work Plan/
Response to Revised RWP Comment Letter
Former Indiana Creosoting Company
240 Country Club Road
Bloomington, IN 47403
VRP # 6970403

The Indiana Department of Environmental Management (IDEM) has reviewed the Addendum to Revised Remediation Work Plan/ Response to Revised RWP Comment Letter of June 11, 2020 (Arcadis, dated August 10, 2020) for the Former Indiana Creosoting Company site located at 240 Country Club Road in Bloomington, Indiana.

The Addendum to the Revised Remediation Work Plan (RRWP) was uploaded to the IDEM Virtual File Cabinet (VFC) as document #83022808. Further site history can be found in the VFC located on the IDEM website www.idem.in.gov. This technical letter contains a brief background summary including comments generated during our review of the above mentioned response.

Background

The Site is bordered to the north and east by commercial/industrial properties; and to the southeast, south and west by predominantly residential properties, although there is some commercial/industrial property along these boundaries as well. The Site is a generally rectangular shaped parcel of land approximately 40 acres in size and is divided into two portions by Country Club Road. The first portion, approximately 14 acres in size, is located north of Country Club Road and is divided by Clear Creek, which flows from north to south through the portion. This entire portion of the site generally lies in or near the floodplain of Clear Creek.

The area west of Clear Creek (north of Country Club Road) is where the former creosoting operations were performed. Creosote storage tanks and various railroad spurs were also located here. The area to the east of Clear Creek is a marshy area of floodplain that was included among land that CSX purchased in 2006 and was not part of the former wood-treating operation. The second portion of the Site, which is also divided by Clear Creek, is located south of Country Club Road, and comprises approximately 26 acres. The area to the west of Clear Creek was historically used to store untreated railroad ties and was never developed. The area to the east of Clear Creek consists of floodplain land that was included in CSXT's 2006 purchase described in the preceding paragraph, as well as approximately 6 acres of commercial land located predominantly above the floodplain that CSXT purchased in 2010. This area (east of Clear Creek) has historically been undeveloped.

Wood-treating operations began circa 1914 by the American Creosoting Company and ceased in 1976. The Indiana Creosoting Company, a subsidiary of the Monon Railroad, purchased the property from the American Creosoting Company in 1961. The Monon Railroad merged with the Louisville and Nashville Railroad in 1971, which was the predecessor company to CSXT. All creosote storage, handling, and use appears to have occurred north of Country Club Road in the former operations area.

The Site was formally entered into the Indiana Department of Environmental Management (IDEM) Voluntary Remediation Program (VRP) May 13, 1997. The current remediation and clean-up objectives for soil and groundwater at the Site are 1996 VRP Tier II Default Non-residential (Industrial) Scenario for on-site impacts and residential for off-site impacts, unless an Environmental Restrictive Covenant (ERC) is agreed upon by the off-site property owners. CSXT expects the land-use of this property to remain industrial at this time. The Site's constituents of concern (COCs) are BTEX (benzene, toluene, ethylbenzene, and xylenes), poly aromatic hydrocarbons (PAHs), phenolic compounds, phthalates, arsenic, and lead. Components of a Remediation Work Plan (RWP) were submitted between 2011 and 2015.

Comments

1. **IDEM Comment #1:** The monitoring program is outlined in Section 7.2 of the RWP. A subset of 24 monitoring wells has been selected as a representative set to determine water quality for this project (Table 10, Figure 9). These monitoring wells will be sampled on a quarterly basis for a period of two years (eight quarters), or until quarterly sampling is deemed no longer necessary as agreed upon by the IDEM and CSXT/ Arcadis. The monitoring system and duration are acceptable to IDEM.

   Response: CSX and Arcadis agree with IDEM's comment and will follow the monitoring program outlined in Section 7.2 of the RRWP.

   Rejoinder: The response is acceptable.

2. **IDEM Comment #2:** Arcadis needs to confirm the operational status of the free product recovery system. To provide an accurate plume behavior analysis the recovery system cannot be in operation. A long-term plume behavior analysis can start once the aquifer has re-equilibrated (usually one year).

   Response: The long-term plume behavior analysis has been monitored and evaluated for several years at this site through multiple lines of evidence supporting this conclusion. The Dense Non-Aqueous Phase Liquid (DNAPL) recovery system at this site is not a typical groundwater recovery system (i.e. pump and treat) which can significantly depress groundwater elevations in the vicinity of recovery wells. The DNAPL recovery system at this site was designed and implemented specifically to minimize groundwater extraction and does not appreciably affect groundwater elevations and flow patterns for the reasons described in the following sections.

   Rejoinder: The response is not acceptable. An evaluation of plume behavior assumes no active measures are taking place. While the free product recovery system may not be affecting water levels and flow direction it is potentially affecting concentration gradients and therefore long-term plume behavior. A long-term plume behavior analysis can start once the aquifer has re-equilibrated (usually one year). While the data collected after 2015 shows the plume remains stable, the data represents system performance and not long-term plume behavior.

3. **IDEM Comment #3:** The plume behavior analysis needs to include samples collected shortly after (within 24 hours) a storm event. Arcadis requested clarification on IDEM's criteria used to identify a storm event. Rainfall is considered a storm event when at least 0.75 inch falls over a 24-hour period. Once a storm event occurs, sampling needs to take place with 24 hours.

   Response: Arcadis conducted a water elevation study, as proposed in the RRWP, to provide site-specific data. These data were used to determine what size storm triggered a significant response in the aquifer, and how long it took for the aquifer to return to base flow conditions. From these data, the site-specific size of a "threshold" storm event was determined, as well as the time interval following the event that was appropriate for conducting the storm-event sampling.

   Rejoinder: The response is acceptable. Development of site-specific storm event response criteria will provide a more accurate representation of how contaminant concentrations respond to storm events. IDEM agrees with the Arcadis proposal to use all nine (9) wells that were evaluated as part of the transducer study to become a smaller subset of monitoring wells to be sampled during the future storm water event.

4. **IDEM Comment #4:** Appendix F included the Quality Assurance Project Plan (QAPP). The Tables E-1, E-2 and E-3 in Appendix F QAPP should be revised because the parameter list is missing some of the compounds (phenolics, phthalates, etc.) that are shown in the Table 1 "Constituents of Concern". Also, the quality assurance and quality control acceptance limits were missing from the Appendix F QAPP and should be included. Section 8.2.2 indicated that the acceptance criteria and compounds used for the matrix spike and matrix spike duplicate analysis are identified in the SOPs. However, copies of the SOPs for the constituents of concern were not included and should be added. If the QA/QC acceptance limits for each analysis will follow the EPA methods, then a statement to clarify this intent should be added to the QAPP.

   Response: Arcadis has addressed the IDEM comments and has prepared a revised QAPP, which is provided in Attachment 3 of the Addendum.

   Rejoinder: The response is acceptable.

Please respond within 30 days from the receipt of this letter with a plan or scope of work to address Comment #2. Once this comment has been addressed to IDEM's satisfaction, the RRWP can be technically approved and put out for public notice. It is not necessary to reprint the sections of the RRWP that these comments address; an addendum letter response is acceptable.

If you have any questions, please contact me at (317) 233-5298, (800) 451-6027, or at email mmccann@idem.in.gov.

Sincerely,

Michael R. McCann

Michael R. McCann, Project Manager
Voluntary Remediation Program
Office of Land Quality

cc: Steve Sharp, Arcadis G&M, Inc., 150 West Market St, Suite 728, Indianapolis, IN 46204

It is the goal of IDEM to enable remediation sites to move forward in a timely manner. If an impasse has been reached over technical issues, a Technical Review Panel of non OLQ scientists is available to review and offer a non-binding opinion to help resolve technical disagreements with the VRP and State Cleanup Program project managers. The goal is to facilitate progress at your site. This review process is available immediately. If you would like to request a review by the Panel, please contact Bruce Oertel, Branch Chief, Remediation Services Branch, OLQ at (317) 232-4535 or boertel@idem.in.gov.

Any decision produced by the Technical Review Panel is not an agency action as defined in IC § 4-21.5-1-4 or an order as defined in IC §4-21.5-1-9. This decision is not subject to administrative review because it is not a determination of any legal rights, duties, privileges, immunities, or other legal interests, and because it is issued pursuant to an informal procedure for dispute resolution as allowed by IC 4-21.5-3-34 (a).