State Form 4336

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
INDIANAPOLIS

OFFICE MEMORANDUM

Date: January 3, 2019

To: Crystal Haulter
State Cleanup

Thru: Steve Buckel 1/3/19

From: Jim Risch 1/3/2019
Chemistry Services Section

Subject: Further Site Investigation Report, dated November 2, 2018
Cummins, Inc.
Columbus, Bartholomew Co., IN
Site # 0000687
VFC Document # 82644382

The Further Site Investigation Report (FSI), prepared by Crossroads Environmental Consulting (Crossroads) and received by Chemistry Services on 11/8/2018, has been evaluated as requested.

Chemistry previously commented (VFC # 80631353) on the Subsurface Investigation Summary Report and Proposed Work Plan (VFC # 80602005) dated 1/30/2018, and the comments were included in the IDEM letter to the facility (VFC # 80633683) dated 3/22/2018. Crossroads prepared the FSI Report to address comments in the IDEM letter and to detail site activities completed according to the modified Work Plan.

Comments

1. On 9/24-26/2018, Crossroads advanced six soil borings (SB-31 to SB-36) at the locations shown on Figure 6. Soil samples were collected continuously from each boring, and the samples were field-screened for VOCs using a PID. No soil samples were submitted to the laboratory for analysis, even though elevated PID readings were noted for samples from borings SB-33 and SB-34. The soil sampling methods described in Section 4.4 of the FSI Report and documented on the boring logs in Appendix D are acceptable for the purpose of the investigation.

2. Temporary monitoring well screens were installed in each soil boring at the depths shown on the boring logs. This procedure was previously utilized at the site and Chemistry noted that the procedure may not completely isolate a particular interval when multiple intervals in a single boring are sampled. As requested in the 3/22/2018 IDEM letter, groundwater monitoring field documentation showing purge times, purge volumes, and sample depths was provided in the report. Grab groundwater samples were collected from each screened interval from each boring

using a "stainless-steel low-flow foot valve, dedicated polyethylene tubing, and a Waterra Hydrolift-2 actuator." This inertial-lift pumping device can significantly increase sample turbidity and agitate and aerate the water column within the sampling point. Therefore, the groundwater sampling procedures described in Section 4.5.2 of the FSI Report are acceptable for the investigation; however, Chemistry cautions that the samples may not be representative of the depth interval listed, and the results for sample VOCS are estimated due to the potential for volatilization caused by the sampling device.

3. A laboratory report with some elements of the minimum data documentation requirements (MDDRs) was provided in Appendix F, and Chemistry was able to verify the groundwater results summarized on Table 1 and shown on Figure 10 of the FSI Report. Samples were analyzed for VOCs by EPA Method 8260 and the analytical methods are acceptable. Field duplicate samples were collected at SB-33(30-32 ft) and SB-34(22-24 ft) and the results were in good agreement, except for trans-1,2-DCE and 1,1-DCE in the SB-34(22-24 ft)/Dup-2 pair. Therefore, detected results for trans-1,2-DCE and 1,1-DCE in groundwater are considered estimated. A trip blank and an equipment blank were collected and VOCs were not detected in these samples.

4. As requested in the 3/22/2018 IDEM letter, Tables 2A and 2B were revised to show soil sample results reported on a "dry-weight basis." The revised tables in Appendix E are acceptable.

5. The FSI Work Plan (FSIWP) in Appendix G proposes completion of up to 12 additional soil borings (locations A through L on the map) and installation of nested temporary monitoring wells for the purpose of grab groundwater sample collection. Soil samples will not be submitted for laboratory analysis. These procedures are similar to the procedures described in the FSI Report and are acceptable for the investigation, as indicated in the above comments. Additionally, two-inch diameter permanent monitoring wells will be installed at select locations following the review of data collected from the grab groundwater sampling event. These wells will be properly developed and later purged and sampled using low-flow techniques with a centrifugal pump. The FSIWP refers to the 2009 IDEM *Micro-Purge Sampling Option* guidance document, which has been updated (see IDEM website at: https://www.in.gov/idem/cleanups/files/guidance_sampling_micro-purge.pdf). Otherwise, the proposed sampling and analysis methods for groundwater monitoring are acceptable. If long-term monitoring of the site groundwater well network is needed, Chemistry recommends development of a detailed sampling and analysis plan (SAP) or similar document to help maintain consistent procedures.

Conclusion

Chemistry found the sampling and analysis methods in the FSI Report and proposed FSIWP to be generally acceptable. Also, the sampling-related comments in the 3/22/2018 IDEM letter were addressed.

cc: Steven Cooper, Geological Services