September 26, 2019

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RE: Review of Groundwater Assessment and Vapor Intrusion Remedial Workplan – Former Clinton Engines at 605 East Maple St., Maquoketa

Dear Mr. Smith,

The Iowa Department of Natural Resources (Iowa DNR) received a Land Recycling Program (LRP) Site Assessment Report on July 31, 2019 that outlined recent attempts to define groundwater contamination associated with the former Clinton Engines facility at 605 East Maple Street in Maquoketa. Additionally, the Iowa DNR received a Vapor Intrusion Workplan for the Clinton Engines Museum on September 5, 2019. Review information on both reports is found below.

Groundwater Assessment

The groundwater contamination plume associated with the former Clinton Engines company has spread offsite. Concentrations both onsite and offsite pose risks to human health and the environment. The following issues were noted during review of the report:

1) Chlorinated solvents are dense contaminants and are often found well below the static water level. Given the concentrations found in MW-2R (installed to a depth of 30 ft.), it appears the nearby monitoring wells are too shallow to detect the contaminants as they migrate deeper. Deeper wells will need to be installed and monitored for contaminants of concern, in addition to the existing shallow wells.
2) The protected groundwater plume is not defined to the northeast (past B-32) and to the southeast (past B-48). As noted in previous letters, a non-protected groundwater source which is affecting or likely to affect an existing drinking water well must meet standards applied to protected groundwater sources (567 IAC 137.6(3)). If there are wells nearby, the protected groundwater standard will be applicable.
3) In accordance with 567 IAC 137.8(3)'b', vertical definition of contamination is a requirement of the Land Recycling Program, even where bedrock is encountered. This plume is not fully defined vertically. More work will be required if the City plans to pursue a No Further Action Certificate from the LRP under 567 IAC 137.11. However, if the City wishes to withdraw from the LRP, site management can continue under State Lead (567 IAC 133). In that case, bedrock wells would not be required at this time but could be revisited if private/public bedrock wells report contamination from this source in the future.

4) It is noted that water was not encountered at some boring locations (e.g. BH-23, BH-27, BH-31). Please document at what the depth those borings were terminated.
5) Once the plume is defined and decisions are made about the site's LRP involvement going forward, a monitoring network must be established to monitor plume dynamics. This should include nested wells.
6) A receptor survey must be completed. Chemicals of concern (COC) at this site can impact drinking and non-drinking water wells and plastic or gasketed water lines. All water wells within the known plume must be sampled to determine if there has been an impact. The static water level and concentration of first encountered groundwater should be considered when determining which plastic water lines are at-risk. Please note, the Iowa DNR does not have specific standards relating to chlorinated solvent impacts on water lines.
7) Please include a groundwater flow map in the future reports.
8) Harmful vapors can enter structures through many conduits (e.g. basements cracks, drains, utility entrances). EPA's Vapor Intrusion Screening Level (VISL) calculator can help determine the groundwater concentration of each COC that can result in indoor vapor concerns. In consideration of moving forward with vapor sampling, a plume map of first-encountered groundwater concentrations (contoured to the groundwater screening level) shall be developed to narrow the area of concern for vapor intrusion. From there, you may want to consider conducting soil gas sampling in the right-of-ways to identify areas of potential impact. Please keep in mind that both residential and non-residential structures could be impacted.

Within 45 days please present a letter style report that addresses those issues outline above. The report should include a list of drinking and non-drinking water wells within the known plume and the status of each well (active, plugged, etc.). Additionally, please include a timeline of planned work.

Vapor Investigation at Clinton Engines Museum

The vapor intrusion workplan for the Clinton Engines Museum was received on September 5, 2019. The plan is to address the vapor issue inside the building by increasing the air exchange in the building by removing the existing ventilators and replacing them with two energy recovery ventilators. This will be done in hopes of increasing air flow from 0.3 air exchanges per hour to 1 air exchange per hour. Anything larger than that could overwhelm the current heating and cooling systems of the building. Additionally, the sump pit area is now being passively vented and the basement floor will be sealed/repaired in an attempt to eliminate areas of possible vapor intrusion. After all remedial actions have been taken, confirmation indoor vapor sampling will take place. EPA's Regional Screening Levels (RSL) for Composite Worker are being used for evaluation of results. Please note the remedial plan is generally approved with the exception of a post-remedial sampling change. Two rounds of sampling (showing temporal differences) will be necessary to show the vapor intrusion issue has been addressed. The submittal reports that two other buildings (a historic depot and a storage building) will be sampled. Please notify the Iowa DNR if either buildings show concentrations above laboratory detecting limits. An Environmental Covenant will be implemented on the site to address long term maintenance requirements of the museum and surrounding buildings. The first post-remediation indoor air sampling for the Clinton Engines Museum is planned for November 2019. Please keep the Iowa DNR notified if changes to the schedule occur and submit a post-remediation report 60 days after the second round of sampling.

Free Product

The remarks on the sample receiving form from Below Ground Surface, Inc. (pg. 481 of the groundwater assessment report) indicate that the shallowest groundwater sample from MW-2R was not run due to free product. This is in line with historic documents indicating there was/is free product toluene onsite. In accordance with 567 IAC 137.9(6), free product must be addressed at this site. A Free Product Recovery Assessment Report is required by January 15, 2020. Please note, LRP free product guidance is available at the DNR's LRP website (https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Contaminated-Sites/Land-Recycling-Program-LRP).

Due to the complexity of this site, it may be helpful to have a teleconference or meeting to discuss the requirements listed above and/or the future of the site. Please contact me by email at shelly.nellesen@dnr.iowa.gov or by phone at (515) 725-8372 to schedule or meeting or if you have questions.

Sincerely,

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Iowa Department of Natural Resources

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