

DATE: May 15, 2013 BRRTS #: 02-13-001569

TO: Mike Schmoller – SCR/RR

FROM: Terry Evanson – RR/5

SUBJECT: Review Comments for Madison Kipp Corporation Site Investigation Report, dated February 2013

**Caveats to these review comments**

My review of this report focused on the vapor intrusion pathway, including degree and extent of PCE contamination at the water table, PCE soil contamination, PCE soil vapor contamination and sub-slab/indoor air PCE vapor concentrations in homes adjacent to Madison Kipp. I did not review in any detail the following aspects of the Site Investigation: deep groundwater investigation; PAH, PCB and RCRA metal contamination in the soils; functioning of the SVE system; in-situ pilot test of chemical oxidation for treatment of groundwater contamination.

**Report Comments/Observations**

Better maps

Compliance with NR 716 site investigation and reporting requirements. MKC needs to identify and visually represent the degree and extent of contamination according to the following criteria:

NR 716.11(3)(a) requires that the “nature, degree and extent, both areal and vertical, of the hazardous substances . . .in all affected media” be determined.

NR 716.15(2)(g)(7) requires “isoconcentration maps of hazardous substance concentrations in each environmental medium”.

Therefore:

1. Groundwater isoconcentration maps should include, at minimum, a contour of the ES for each contaminant of concern. The report should include maps for all groundwater contaminants of concern, not just PCE.
2. Soil maps should include isoconcentration maps – the bubble maps are not very informative. Several base maps may be necessary – the single base map that includes the neighborhood and MKC is likely too small a scale to appropriately visualize the soil concentrations for the various contaminants.

Conceptual Site Model

Section 7 is more of a summary than a CSM. The CSM should paint a picture of where the contamination originated (this is really not addressed anywhere in the report – especially the PCBs, PAHs and metals, and is only poorly addressed for the PCE), how it has traveled, and where it is now. The CSM should include the possible exposure routes and how exposures will be addressed. The CSM should lay the basis for the remedial actions that will be proposed in the future - -for instance, which site characteristics lend themselves to SVE, in-situ oxidative treatment, etc.

Vapor Intrusion Discussion

The report does a poor job of discussing the vapor intrusion pathway. The VI pathway is barely addressed at all in Section 7, CSM. The report doesn’t discuss how the vapors affected the neighbors, vapor concentrations from the 2011 investigation of the neighboring properties, doesn’t include the data from the vapor monitoring wells (2006 to date), nor does it lay a basis for why MKC concludes the vapor pathway has been adequately investigated. In fact, the report doesn’t really acknowledge that there was any VI concern and doesn’t even show the 3 homes that exceed sub-slab vapor screening levels (Figure 5-30).

Report conclusion regarding vapor are: on-site probes will continue to be monitored; no additional off-site testing. What about annual indoor air testing at the homes with sub-slab exceedance, a least through site closure? Other responsible parties have agreed to that.

Specific comments

1. Include a true water table map and a true water table isoconcentration map. The groundwater contaminant maps in the SI are arranged by geologic unit. The water table in the southern half of the property is not visually addressed on a map because the water table information is combined with all the information from the Lone Rock formation. It is critical to have an accurate water table map as well as degree and extent of the VOCs at the water table demarcated in order to properly assess the likely risk from the vapor intrusion pathway.
	1. If MKC does not believe the current monitoring wells can be used to draw a water table map for the entire area of concern, then additional water table wells need to be installed to fill in this definition.
2. Recommend additional groundwater maps, corresponding to the depths of well screens. It seems that information is combined over fairly wide depth intervals of the aquifer. The well screen depths appear to correspond more nearly to these 4 levels:
	1. Water table
	2. Lower Lone Rock
	3. Upper Wonewoc
	4. Lower Wonewoc
3. Was any historical excavation done at the site? I understood from previous discussions that excavations were performed but the report does not mention this.
4. Is Fig. 2-3, Potential on-site source & historical remediation, accurate? Should larger scale maps be employed to be specific about previous sources, remedies?
5. What about the sources under the building? This isn’t mentioned at all.
6. PCBs, their source, location under the building, etc. are hardly discussed, much less delineated.
7. Cross-section maps should be included that show water table elevation & contaminant concentration related specifically to the vapor pathway.
8. Tables of soil vapor probe results for on & off-site vapor probes.
9. Map 5 – 30 doesn’t show that 150, 154 & 162 S. Marquette St. each exceeded the sub-slab screening levels for PCE.
10. Maps 5 – 29 and 5 – 30 need to be updated to include all the locations where SSDS have been installed. (DNR must supply this information)
11. Insert a table of results for the original sub-slab and indoor air testing at 150, 154 and 162 S. Marquette St homes.
12. Need to investigate the vapor risk beneath the MKC building itself. The vapor pathway, including all buildings at risk, both on and off-site, needs to be addressed in the SI.
13. Further delineate northern component of groundwater flow and contamination in both the water table and in the Lower Lone Rock formation.
14. Temporary groundwater wells (23) placed in the northern area of the property – what was the purpose of this aspect of the investigation (degree and extent of contamination; vapor risk)? Insert a table showing depth of wells, screen length.
15. It is very hard to read long strings of numbers in paragraphs (ex. p. 83). Use tables in the text to make this information more understandable.
16. Consider adding appendices that document important information that is referenced in the SI. Example: 2012 summary reports to homeowners on the upgrades to the SSDS installed in 2011; the ISCO Pilot Report.

cc. Linda Hanefeld – SCR/RR

 Henry Nehls-Lowe - DHS