

**Wenck Associate Comments Regarding
2009 Annual Monitoring Report, Highway 96 Site
Prepared by CRA, March 2010**

April 1, 2010

Wenck Associates reviewed the 2009 Annual Monitoring Report on behalf of the City of North Oaks. Overall, we concur with the conclusions and recommendations. The primary follow-up action is tracking installation of the replacement extraction well at the dump site.

Last year, Wenck provided comments/suggestions intended to improve future reports from the perspective of the City (and perhaps others). Nearly all of the suggested changes were incorporated, which is appreciated as it made the report more transparent. Below are additional comments and/or suggestions intended to help clarify certain points for the readers.

1. Section 1.3, Remedial Actions: New this year is a separate subsection for each of the four Operable Units, which is a good approach and should be continued.
2. Section 1.3.2.2, Groundwater Monitoring Program: In MPCA's response to a comment last year regarding the different cleanup levels, they indicated that the 1993 MDD defined "Site" monitoring and extraction wells as "all wells east of Robb Farm Road." Suggest adding this definition prior to the sub-paragraphs for "On-Site Monitoring" and "Off-Site Monitoring." The definition is consistent with what is illustrated on Figure 1.2. By this definition, the MW12, MW13, and MW16 well nests should be considered "on-site," not "off-site" as described in the text. Revise the text and Figure 1.4 accordingly.
3. Section 1.3.4, Operable Unit 4, page 7: Suggest adding a new paragraph after the list of bullets to explain that the requirement for long term monitoring included installation of three monitoring wells angled beneath Gilfillan Lake, if property access is provided. Explain that attempts were made to obtain access without success. Reference the CRA and MPCA letters on this subject in 2009, including the MPCA position that "at this time, the MPCA will not require the Responsible Parties to continue their attempts to obtain access to private parties in order to install the proposed angle monitoring wells." Suggest keeping this paragraph in future annual reports as documentation of the response to this MDD Amendment requirement and as a place-holder should the situation change.
4. Section 3.3, EW1A/EW2 Performance Assessment, page 12: Suggest revising the explanation of the three extraction wells to be in chronological order -- EW1 in Lower Sand in 1989, EW1A in Lower Sand in 1995 to supplement EW1 (presumably due to decreasing rate at EW1), and EW2 in Upper St. Peter (why in St. Peter?) in 2005 when EW1 was no longer producing meaningful flow and was

shut off. A clearer story would be helpful from a historical perspective and to understand that well replacements can be expected.

5. Section 3.3, EW1A/EW2 Performance Assessment, page 14 and Figure 3.9: Total VOC concentrations continued to increase at EW1A and EW2 during 2009 with no definitive explanation. As noted in our comments last year, the increasing trends are not themselves a concern, but they place greater importance on the effectiveness of the extraction system to prevent further migration. The proactive efforts with respect to replacing EW1A seem to reflect an appreciation of this importance. (No change needed to the report.)
6. Section 4.1, Summary of Site Cleanup Levels, paragraph on “Site Cleanup Goals”: In a comment last year, we requested clarification on the different cleanup levels for vinyl chloride. The MPCA responded in a letter to North Oaks dated August 26, 2009. It is requested that the response to the first part of that comment (minus the last sentence) be added to this section of the annual report as further explanation.
7. Figure 4.17, Maximum Vinyl Chloride Concentrations in Residential Wells (2009): Suggest having this figure show the vinyl chloride results for all sampled wells, not just the residential wells. This would provide a nice plan view of the vinyl chloride results for the entire area, including the dump area, to serve as a companion figure to the cross sections in Appendix A that show vinyl chloride results.
8. Appendix A, Geologic Cross Sections: Suggest adding EW2 to both cross sections to show where groundwater is being extracted from the Upper St. Peter.
9. Appendix G, Graphs of Vinyl Chloride Trends: Suggest adding graphs for MW17A and 17B to show what is happening over time on the east side of Gilfillan Lake as an indicator of what might be expected on the west side of the lake. This would help readers understand changes over time, especially as related to predicting potential impacts to residential wells west of Gilfillan Lake. It is suggested that the report discuss such predictions based on the available data, while giving recognition to the fact that there is uncertainty. Homeowners would like to know what they should expect, and the annual reports are an appropriate vehicle to carry this message.