Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-675-3843 | 651-282-5332 TTY | www.pca.state.mn.us

RECEIVED
MAY 28 2009
CRA INC.
ST. PAUL

May 26, 2009

Mr. James Payne
The Environmental Law Group
East Bridge at Riverplace, Suite 114
10 - 2nd Street Northeast
Minneapolis, MN 55413

Mr. Erik Salveson
Halleland, Lewis Nilan & Johnson P.A.
600 U.S. Bank Plaza
220 South Sixth Street
Minneapolis, MN 55402-4501

RE: Highway 96 Dump Superfund Site
2008 Annual Monitoring Report

Dear Mr. Payne and Mr. Salveson:

On March 12, 2009, Conestoga-Rovers & Associates (CRA) submitted a report entitled "2008 Annual Monitoring Report Highway 96 Site, White Bear Township, Minnesota " (Report) to the Minnesota Pollution Control Agency (MPCA) on behalf of Reynolds Metals Company and Whirlpool Corporation, the Responsible Parties for the Highway 96 Dump Superfund site (Site). In general, the Report does a thorough job of summarizing historical and recent activities, including remedial actions and residential well sampling.

MPCA staff has reviewed the report and has the following comments:

1) Page 8, It should be noted that as part of the Long Term Monitoring Program, directional boring under Gilfillan Lake was approved and is dependent on receiving access from the property owners. A current status report on obtaining access should be given.

2) Page 14, Add "eliminating this well from further sampling" to the last sentence on the page.

3) Page 19, 2nd bullet; The text refers to two total Volatile Organic Compounds (VOCs) peaks on Figure 3.8 (EW1/EW1A) in 2006 and 2008; however, according to the horizontal time scale, the two peaks appear to be in 2007 and 2009. The report indicates that the peaks are due to increased Trichlorethylene (TCE) concentrations, and interprets that "(t)he increased TCE concentrations are attributed to delayed migration from the CWA." CRA should provide a more detailed explanation for these peaks and for the concept of "delayed migration".

4) Page 19, 3rd bullet; The report discusses the total VOCs results for MW12D, but does not mention a sharp peak (400 ug/L) in 1997, or a possible explanation for that peak. This peak seems unusual, given the fact that total VOC concentrations since 1997 have remained below 3 ug/L. Perhaps the lower total VOC concentrations since 1997 are due to the operation of the extraction system.

5) Pages 26 and 27, New Residential Well Installations; The text does not mention the residents' requests for new wells in the Jordan aquifer. The report only indicates that installation of new residential wells at 13 West Shore Road and 2 Hummingbird Hill is currently in progress (March 2009). It should be noted that agreements were reached with the homeowners at 2 Hummingbird Bird Hill and 13 West Shore Road to install Jordan aquifer wells.

Attached you will also find comments submitted by Keith Benker on behalf of the city of North Oaks. We request that you respond to comments 2 and comments 4 through 10. The MPCA will be responding to comments 1 and 3.

The MPCA requests a written response addressing the comments noted above. The response is due within thirty (30) days receipt of this letter. If you have any further questions in this matter, please feel free to call Nile Fellows at 651-757-2352 or Fred Campbell at 651-757-757-2260.

Sincerely,

Nile Fellows, Project Leader
Superfund Unit 1
Superfund, RCRA & Voluntary Cleanup
Remediation Division

Frederick K. Campbell
Superfund Unit 1
Superfund, RCRA & Voluntary Cleanup
Remediation Division

NF/FKC:csa

Enclosure

cc: K. Thomas Vogt, North Oaks Resident
James Kelly, Minnesota Department of Health
I. Daniel Colton, Leonard, Street and Deinard
Carmen Netten, Attorney General's Office
Mark Eisenschenk, North Oaks Resident
Lugene Olson, North Oaks Home Owners' Association
Donald and Margaret Wiley, North Oaks Residents
Keith Benker, Wenck Associates
Sarah Illi, CRA
Mayor John Schaaf, City of North Oaks
Beth Cliffe, City of North Oaks Council Member
George Rux, City of North Oaks Council Member

Wenck Associate Comments Regarding
2008 Annual Monitoring Report, Highway 96 Site
Prepared by CRA, March 2009

May 9, 2009

Wenck Associates reviewed the 2008 Annual Monitoring Report (2008 AMR) on behalf of the city of North Oaks (City). The comments are grouped into two categories: 1) questions for which answers are requested to better understand the 2008 AMR, and 2) suggestions that would improve future reports from the perspective of the City (and perhaps others).

<u>Comments/Questions for 2008 Annual Monitoring Report</u>

1. Since the MPCA did not select a remedy for Operable Unit 4 (OU4) that eliminates the concerns of affected and potentially affected homeowners (i.e., municipal water supply), there is renewed interest in the effectiveness of the dump site groundwater extraction system (Groundwater System) to eliminate the migration of contamination. The City and its residents desire, and are interested to see proof, that the Groundwater System is preventing the migration of contamination (especially vinyl chloride) that could lengthen the time of concern for potential impacts to downgradient residential wells. Please explain how or where the different cleanup levels apply for vinyl chloride. With a lack of historical knowledge, it is unknown why the 1993 Minnesota Decision Document (MDD), and Amended Table 1, October 1994, selected a cleanup level of 2 µg/L for vinyl chloride versus the Health Risk Limit (HRL) of 0.2 µg/L. The MDD does not explain and Amended Table 1 merely notes that "the cleanup level for vinyl chloride was adjusted for Site specific reasons. It is not MCL based." The "Site specific reasons" are not explained. The MDD Amendment (2008) states that the "HRL is the cleanup standard used by the MPCA for vinyl chloride for OU4," which is defined by Figure 1 of the MDD Amendment as residential areas without municipal water. The footnotes for Appendix D in the 2008 AMR state that the "Site Cleanup Goals (SCGs) apply to on-Site monitoring wells and compliance wells in the Lower Sand and St. Peter Sandstone aquifers only." For vinyl chloride, the SCG is 2 µg/L. Thus, it could be interpreted that it is acceptable to have vinyl chloride concentrations less than 2 µg/L migrate past the Groundwater System towards residential wells to the west. Theoretically, the Groundwater System could be turned off when vinyl chloride concentrations are still above the HRL of 0.2 µg/L, but below the SCG of 2 µg/L. It is in the best interests of the City and its residents to have <u>no</u> vinyl chloride (or any contamination) migrate beyond this extraction system, but certainly no levels above the HRLs. The City and its residents are not happy to have to deal with contamination issues and have expressed the desire that the timeframe for dealing with the matter is as short as possible. Allowing vinyl chloride above the HRL to migrate past the Groundwater System will extend the timeframe for concern about

impacts to downgradient homes. If it is not already the case, it is recommended that the MPCA clarify (and enforce) that the HRL for vinyl chloride applies to the dump site groundwater extraction wells and compliance monitoring wells. Furthermore, it is recommended that the vinyl chloride analytical method be revised for the compliance wells to lower the reporting limit from 1 µg/L to 0.2 µg/L in order to demonstrate that vinyl chloride is not being allowed to migrate beyond the Groundwater System at concentrations above the HRL. The current data (see Appendix D.1 of the 2008 AMR) does not allow such a conclusion to be made.

2. Page 14 of the 2008 AMR reports that "the sharp increase in TVOC concentrations at EW1A in 2006 and 2008 is due almost entirely to increased trichloroethene (TCE) concentrations. The TCE was not seen downgradient of the extraction system. Increased TCE concentrations are attributed to delayed migration from the CWA (Consolidated Waste Area)." Note that a similar increase is observed at perched groundwater well MW4U with TCE concentrations going from 4.9 µg/L in 1998 to 230 µg/L in 2006 (Appendix D.2). Please explain what is meant by "delayed migration" and the data used to support this statement. Since the 2008 AMR only shows TCE detections, and not all TCE data, it is difficult to verify the statement regarding downgradient wells (see Comment #4 below). The increasing TCE concentrations at and near the extraction system are not themselves a concern, but they place greater importance on the effectiveness of the extraction system to prevent further migration.

<u>Suggestions for Future Annual Monitoring Reports</u>

3. It is recommended that future AMRs include a brief discussion explaining the cleanup levels and where they apply, especially for vinyl chloride since there are two different cleanup levels and this contaminant represents the biggest concern to North Oaks residents (see Comment #1 above).

4. It would be helpful if the report included a CD with the historical water quality data in a database or spreadsheet format. This would enable reviewers to search, sort, and evaluate the data. This could be as simple as providing Appendices D.1 to D.3 on a CD in addition to, or instead of, the current hard copy tables. It is recommended that the CD include all reported analytical parameters from the lab reports, not just selected parameters as presented in Appendices D.1 to D.3.

5. While water quality data from downgradient wells is the best evidence for evaluating the effectiveness of the dump site groundwater extraction system, it would be helpful if the report included a table summarizing monthly average flow rates for the two extraction wells as another indicator of system performance. This would be further evidence to support conclusions that the Groundwater System is effectively preventing migration of contamination towards residential homes.

6. Since vinyl chloride is the primary chemical of concern beyond the dump site groundwater extraction system, it would be helpful if the report included a figure

showing the vinyl chloride results for the entire area from the dump site to west of Gilfillan Lake. This would help homeowners to understand what levels of contamination may be migrating toward their homes. Wells at different depths could be color-coded, or there could be separate figures for different depths. Figure 4.16 only shows vinyl chloride results for residential wells west and north of Gilfillan Lake. Likewise, it would be helpful if vinyl chloride concentrations were plotted on a geologic cross section across the entire area to help see the vertical distribution. Figure 3.10 only shows a cross section closer to the dump site, which does not show the residual plume beyond the capture zone of the groundwater extraction system. The vinyl chloride concentrations could be plotted on the cross sections in Appendix A. [Note that while total volatile organic compounds (TVOCs) may be a good indicator of contaminant mass near the dump site for evaluating mass removal, it is less useful as an indicator of downgradient water quality since it does not directly convey what locations have an exceedance of a cleanup level. Perhaps these TVOC maps could be replaced by vinyl chloride maps for areas beyond the dump site so as not to create additional work for the report. The vinyl chloride maps could note any other VOCs that are above a cleanup level, since there are few, if any.]

7. Similar to the previous comment, it would be helpful if the report included trend graphs of vinyl chloride concentrations for select wells with detections. 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 recognizing that there is uncertainty. Homeowners would like to know what they should expect, and the AMRs are an appropriate vehicle to carry this message.

8. Figure 3.9 shows a graph of TVOCs for 7 Robb Farm Road; a well that was sealed in 1994, so it is of limited value in the report and could be deleted.

9. It would be helpful if Figure 3.10 showed elevations for the cross section.

10. It is suggested to add monitoring well MW20B to Figure 3.1 showing the locations of cross sections and to Cross Section A-A’ in Appendix A.