

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Ronald W. Kaczmierczak, Regional Director

Oshkosh Service Center
625 East County Road Y, STE. 700
Oshkosh, WI 54901-9731
TELEPHONE 920-424-3050
FAX 920-424-4404

December 2, 2004

Harvey & Brett Donaldson
110 West Cecil Street
Neenah, WI 54956

SUBJECT: Response to Remedial Action Options Report for
Donaldson's One Hour Cleaners, 110 W. Cecil St., Neenah, WI
WDNR BRRTS Case #: 02-71-110797

Dear Messrs. Donaldson,

On October 22, 2004, the Department received a *Remedial Action Options Report* (RAOR) for Donaldson's One Hour Cleaners (Donaldson's) site located at 110 West Cecil Street in Neenah, Wisconsin. Northern Environmental submitted the report on your behalf. The Department recently reviewed the RAOR.

Extent of Soil Contamination and Remedial Action Proposed

Northern Environmental states in the RAOR that the extent of soil contamination is defined and proposes no additional active remediation of the remaining soil contamination. The remaining soil contamination is proposed to be addressed by recording a restriction to deeds on properties with soils remaining in excess of direct contact standards beneath existing structures, specifically the building located at the source property and the former NAPA store. In addition, a restriction to maintain the existing asphalt cover over remaining soil contamination to limit infiltration of precipitation is proposed. A maintenance plan for each property must also be developed for on-going monitoring and repair of these structures and asphalt. Entry on the soil Geographic Information System (GIS) Registry at the time of closure is also proposed.

The Department agrees that the extent of soil contamination is defined. However, additional information is needed before the proposed remedy can be approved. Please supply the following information in an addendum to the RAOR:

1. Submit a site map with property lines shown with respect to soil boring locations to verify which properties will require deed restrictions, cap maintenance plans and entry on the soil GIS Registry. Contact information for each property owner with remaining soil contamination should be included in the addendum.
2. Confirm that a deed restriction, long-term maintenance of existing caps and entry on the soil GIS Registry are acceptable to those property owners.
3. Provide information on the current condition and permeability of the existing asphalt present above remaining soil contamination. Photos of the current asphalt condition at each property should also be provided.

Discuss with Mark Gordon prior to decision
④ Confirm that the values calculated in Section 3.1 of the RAOR, *Soil Criteria*, were calculated with the risk criteria recently updated on the Environmental Protection Agency's website. If these were not recently verified, these values will need to be updated.

-AB 8/30/05

As a general note, natural attenuation of the remaining soil contamination as a final remedy cannot be approved until it is shown that the groundwater plume is stable to receding in the steady-state condition (without manipulation by the soil vapor or groundwater extraction system). This has not yet been shown.

Extent of Groundwater Contamination and Remedial Action Proposed

Northern Environmental states that the extent of the groundwater plume is defined enough to evaluate and select a final remedy for the groundwater. While the Department agrees that a final remedy can be evaluated at this time, the extent of the plume must continue to be pursued. Piezometer, PZ5300, was recently installed and sampled on June 3, 2004 to evaluate the southwestern extent of the plume at Curtis Avenue. Data shows that tetrachloroethene (PCE) and vinyl chloride are present above enforcement standards and trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE) are above preventive action limits. At a minimum, this piezometer is to be monitored quarterly to evaluate a trend for PCE and vinyl chloride. Additional delineation may be required dependent upon concentrations and trends.

The remedial action objective identified for groundwater is to "document or assist natural attenuation of the remaining groundwater chlorinated solvent plume". Specifically, Northern Environmental proposes to perform the following simultaneously:

- Discontinue operation of the groundwater extraction system;
- Perform quarterly monitoring for volatile organic compounds (VOCs) at MW400, MW700, MW800, MW1500 and MW2100 for five to eight rounds starting three months post shut-down. Evaluation of natural attenuation parameters during one event is also proposed;
- Operate the soil vapor extraction system one week per month during September through February for two years if the water table is naturally depressed enough.

No additional monitoring of the remaining groundwater plume is proposed during the initial five to eight quarterly events. Northern Environmental proposes to evaluate the quarterly groundwater data from the five select wells to determine if contaminant trends in these five wells are stable to decreasing. If stable to decreasing trends are established, Northern Environmental proposes to expand the monitoring network to include the remaining monitoring points at the site (approximately 30 wells and piezometers) for one year of quarterly monitoring to verify stable to decreasing trends throughout the plume. If a mass reduction in contamination is verified, Northern Environmental proposes to request closure. If stable to decreasing trends cannot be verified in the initial monitoring or expanded monitoring, injection of a carbon and nutrient source (enhanced anaerobic bioremediation) is proposed to be implemented.

The existing extraction system has proven effective in capturing contaminated groundwater from the source area, affecting flow to outlying piezometers connected through the fracture network and appears to enhance the geochemistry for reductive dechlorination. It is important to note that the plume responded to the temporary shut down of the groundwater extraction system in 2003 with a significant increase in vinyl chloride throughout the extent of the plume within just a few weeks. Similarly, the plume quickly responded to the system starting back up with a significant decrease in vinyl chloride throughout the extent of the plume. Extended monitoring of the plume under steady-state conditions has not yet occurred.

The Department does not agree that the proposed post-groundwater extraction system shut-down monitoring of five locations for one to two years will be adequate to evaluate the response of the contamination throughout the plume for evaluation of natural attenuation as a final remedy. A more frequent monitoring schedule should be proposed for the first three months after shut-down.

Furthermore, the Department does not agree that natural attenuation is a viable remedial action option for groundwater for this site based on the existing fractured bedrock network, existing natural attenuation groundwater data and contaminant concentrations observed post shut-down in 2003. However, monitoring select wells throughout the plume under steady-state conditions does appear to be necessary to develop a detailed plan for active remediation. An amended monitoring plan that includes evaluation of the entire plume under steady-state conditions should be submitted in an addendum to the RAOR.

The following should be addressed as supplemental information in an addendum to the RAOR:

In-Situ Chemical Oxidation (ISCO)

1. Comment on whether injection would take place beneath existing structures in areas with remaining hazardous waste soil.
2. Discuss the possibility of injection throughout the length of the plume. Specifically address whether injection into the groundwater contamination is a consideration.
3. Discuss the natural oxidant demand present at this site.
4. Discuss whether installation of injection points would be disruptive. (This was listed as a disadvantage for enhanced anaerobic bioremediation.)

Groundwater Pump and Treat System Operation

1. Clarify what select wells are proposed to be monitored during system operation annually in March.
2. It appears that during system operation, annual monitoring of select wells is the only observation of the plume proposed. Annual monitoring is not adequate to evaluate a trend or to observe the on-going behavior of the plume to evaluate whether to restart the system the next season.
3. Discuss whether additional extraction points throughout the extent of the plume were considered during this evaluation.
4. Clarify the disadvantage listed, "longer remediation time frame". Discuss what this is in comparison to and confirm the anticipated time frame for this remedial option is five years of operation.

Enhanced Anaerobic Bioremediation

1. Discuss how the most appropriate substrate is proposed to be selected. Specifically, what are the parameters to consider?
2. As requested under the ISCO section, comment on whether injection would take place beneath the existing structures in areas with remaining hazardous waste and the possibility of injection throughout the length of the plume.

Proposed costs should also be updated as appropriate in the addendum to the RAOR.

Post-Remedial Action Monitoring for Closure

One year of quarterly monitoring from the entire network immediately following active remediation is very likely not adequate to evaluate the impact of the remediation on a plume of this size with the complex geology and geochemistry. An amended monitoring plan should be proposed.

Operation and Maintenance (O&M) reports submitted semi-annually should discuss the current mass of the contaminant plume with respect to pre-remediation. Please note that Mann-Kendall and Mann-Whitney statistical tests are not adequate to evaluate the mass of the plume.

Air Pathway Evaluation

The potential for migration of vapors from contaminated soil or groundwater has been field investigated at 109 West Cecil Street in Neenah after co-review of the site data by Chuck Warzecha with Department of Health and Family Services (DHFS). NAPA, an automobile parts store, occupied the building located immediately south of the source area at the time of that review. Further investigation of the potential for migration of vapors from the hazardous waste present beneath the NAPA building was not requested due to the other potential sources for vapors located in the NAPA store. The RAOR states that the NAPA building is now vacant. The Department would like to discuss the status of this building further with your consultant to assure that any future business will be protected from vapors from the remaining soil contamination and from the soil vapor extraction stack. Similarly, it should be noted that the same issue might need to be addressed at the source property if the land use changes while soil contamination remains beneath the building.

Continued Operation of Existing System and Monitoring during RAOR Evaluation

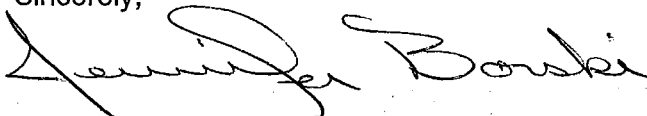
Additional information is requested in a supplemental RAOR for the Department to continue review of the proposed remedial option. Until a remedial action is approved by the Department and a consultant selected through the Dry Cleaner Environmental Repair Program (DERP) process for implementation of the remedial action, the groundwater extraction system should continue to be operated along with continued monitoring of the plume. The last sampling event took place in June 2004. A sampling event should be scheduled for December 2004 and semi-annual monitoring of select wells throughout the plume continued. At a minimum, continued semi-annual monitoring should include MW200, MW400, MW700, MW800, MW1100, PZ1200, PZ1800, MW1900, MW2100, PZ2500, MW2600, PZ3500, PZ3900, PZ4000, MW4800, MW16 (U-pump) and quarterly monitoring at PZ5300. Semi-annual O&M reports should continue to be submitted as well.

Remaining Dry Cleaner Environmental Repair Program (DERP) Funds

Anticipating approval of the reimbursement claim submitted in August 2004 for costs incurred through February 2004, remaining DERP funds available for this site are approximately \$117,500. The selected proposed remedial action option, including implementation of enhanced anaerobic bioremediation, is estimated at \$143,800. The supplemental RAOR should also discuss your ability to fund the continued investigation and remedial action to closure at this site after the DERP cap of \$500,000 is reached.

The Department requests a supplemental RAOR be submitted by January 14, 2005 for continued Department review of the proposed remedial action. If you have any questions in regard to this letter, please call me at (920) 424-7887.

Sincerely,



Jennifer Borski
Hydrogeologist
Bureau for Remediation & Redevelopment

Paper Copy: Mark Foht, Northern Environmental

Electronic Copy: T. Evanson – Madison, RR/3, J. Soellner – Madison, CF/8,
C. Warzecha – Madison, DHFS