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SOUTH CENTRAL REGION

Ms. Janet DiMaggio, Hydrogeologist
Wisconsin Department of Natural Resources
Bureau for Remediation and Redevelopment
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Clarification of Selected Remedial Alternative
Baker Manufacturing Company – Western Parcel
133 Enterprise Street, Evansville, Wisconsin
BRRTS #02-54-550763

Dear Ms. DiMaggio:

On behalf of Baker Manufacturing Company (Baker), SCS BT Squared (SCS) is providing additional clarification regarding the selected remedial alternative for the Western Parcel. Baker is requesting Wisconsin Department of Natural Resources (WDNR) concurrence that the following remedial alternative components will facilitate future case closure under NR 726:

1) Groundwater natural attenuation under NR 726.05(2)(b)
2) Soil performance standard under NR 720.19(2)
3) Source area remediation using enhanced anaerobic bioremediation (injection) to reduce the mass of residual contamination and shorten the natural attenuation time frame

The rationale for a soil performance standard and groundwater natural attenuation of chlorinated volatile organic compounds (CVOCs) was included in the December 8, 2010 "Site Investigation and Closure Request – Western Parcel" (Closure Request). The Closure Request clarifies that the existing buildings and pavement serve to limit direct contact and minimize infiltration of water in areas of residual contamination. We included a Cap Maintenance Plan in the Closure Request. There is no identified exposure pathway for the capped soil.

Two years of quarterly groundwater monitoring show that the dissolved CVOC plume is limited to the shallow, unconsolidated aquifer in the Western Parcel east of Allen Creek, and that natural attenuation is reducing the mass and concentration of the plume. For example, there are significantly greater concentrations of methane, ethane, and ethane (typical end products of anaerobic reductive dechlorination) in groundwater samples collected downgradient from the source area. With the exception of cis-1,2-dichloroethene detected in one sediment sample, there

is no evidence of CVOC impacts in Allen Creek. There is no identified exposure pathway for groundwater.

SOURCE AREA REMEDIATION

In response to the WDNR's March 2, 2011 Case Closure Denial, Baker submitted a "Remedial Options Analysis" on May 11, 2011, consistent with NR 722. The selected source area remedy is enhanced anaerobic bioremediation (Option 6), based on short- and long-term effectiveness, implementability, restoration time frame, technical and economic feasibility, site-specific conditions, and expected case closure with institutional controls (i.e., soil performance standard with Cap Maintenance Plan and Geographic Information System registry).

Aside - SCS used preliminary site-specific residual contaminant levels (SSRCLs) under NR 720.19 and USEPA's on-line calculator (Soil Screening Guidance) to design a remediation approach for the primary source area located north of the Foundry Building. Since residual tetrachloroethene (PCE) contamination will remain in the soil on site regardless of the source-area remediation approach and scope, the planned closure pathway for soil remains a performance standard. As long as the contaminant pathways are addressed by the performance standard, there is no need to formally establish numerical residual contaminant levels for this site, according to the WDNR Guidance on Soil Performance Standards, PUB-RR-528, March 2009.

The source area treatment zone shown on Figure 1 represents approximately 72 percent of the residual contaminant mass. The remediation goals for this area are to significantly reduce the concentration of PCE in soil and the concentration of PCE and daughter products in groundwater. The proposed scope of work includes the following tasks:

- Collecting initial soil and groundwater samples to further evaluate the effectiveness of in situ remediation, including soil organic carbon content and groundwater biological oxygen demand.
- Injecting a consortium of anaerobic bacteria at approximately 21 direct-push locations, to reductively de-chlorinate the PCE and daughter products through vinyl chloride to ethene.
- Completing five years of semiannual groundwater sampling.
- Collecting soil confirmation samples from the treatment zone.
- Submitting an updated case closure request to the WDNR.

ADDITIONAL REMEDIATION COMPONENTS

Based telephone and email communications with the WDNR since submitting the May 2011 Remedial Options Analysis, Baker proposes to include the following additional tasks with the source area remediation scope of services:

- Prepare and submit a source area remediation workplan to the WDNR, including an injection permit request and details regarding the five-year groundwater monitoring and confirmation soil sampling activities.
- Perform a pilot study prior to conducting the full-scale injection.
- As part of detailed costing (but not covered in the workplan), account for a possible, second follow-up injection in case the first injection doesn't perform as planned.

VAPOR INTRUSION ASSESSMENT

Baker acknowledges receiving the WDNR's September 9, 2011 letter reminding responsible parties to evaluate for the potential intrusion of contaminant vapors into indoor air. The WDNR sent this generic notification letter for all open remediation cases, requiring responsible parties to provide documentation summarizing methods performed to evaluate vapor intrusion pathways and justification for why vapor intrusion can be ruled out.

As summarized in the Closure Request, SCS performed an air quality evaluation at Baker on September 12, 2006. The evaluation included air screening inside and outside the north end of the Foundry Building with a photoionization detector (PID) and a flameionization detector (FID) as well as collection of one indoor air sample inside the north end of the Foundry Building. The air sample was analyzed for vinyl chloride, PCE, trichloroethene, and dichloroethene. No CVOCs were detected in the air sample, and the PID and FID readings were considered background (0 to 2 parts per million).

As discussed with you on October 21, 2011, we understand that the WDNR has recently updated their vapor intrusion guidance and that additional vapor intrusion assessment beyond the work described above may be necessary. As part of an overall strategy for future case closure, Baker will further evaluate the need for a vapor intrusion assessment, which may occur coincident with or following the source area remediation activities described above.

Assuming that the source area remediation goals will be achieved and the post-remediation groundwater contaminant plume remains stable, Baker would appreciate WDNR's concurrence that the overall remediation strategy outlined in this letter will result in reasonable consideration

of case closure for the Western Parcel after this work is completed. Baker's next planned submittal to the WDNR is a Workplan for Source Area Remediation.

Please contact us at (608) 224-2830 if you have questions or comments regarding this clarification of the selected remedial alternative for Baker.

Sincerely,

Robert Langdon
Senior Project Manager
SCS BT SQUARED

John B. Tweddale, PG, CHMM
Vice President
SCS BT SQUARED

REL/LMH/JBT

cc: Gene Fahrney, Baker Manufacturing Company
David Olsen, Baker Manufacturing Company
Patrick Hartman, Rock Island Capital, LLC

Enclosure: Figure 1 – Proposed Injection Area

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FIGURE 1

Proposed Injection Area

LEGEND

- BAKER PROPERTY LINE
- NEIGHBORING PROPERTY LINE
- EASEMENT LINE
- RAILROAD TRACKS
- EDGE OF WATER
- FENCE
- POST/POLE
- HYDRANT
- UTILITY POLE
- LIGHT POLE
- COMMUNICATIONS
- ELECTRIC
- GAS
- SANITARY
- WATER
- MONITORING WELL
- GAIA TECH SOIL BORING
- GEOPROBE SOIL BORING
- PCE ≥100 µg/kg
- PCE ≥1,000 µg/kg
- PCE ≥10,000 µg/kg
- PCE ≥100,000 µg/kg

NOTES:

1. BASE MAP DERIVED FROM THE ALTA/ACSM LAND TITLE SURVEY REVISED ON MAY 19, 2006 BY COMBS AND ASSOCIATES.
2. GAIA TECH SOIL BORING LOCATIONS ARE APPROXIMATE AND ARE BASED ON GAIA TECH'S LIMITED PHASE II SITE INVESTIGATION REPORT, APRIL 2006.
3. NOT ALL UTILITIES ARE SHOWN. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND ARE BASED ON FIELD MEASUREMENTS COLLECTED ON SEPTEMBER 13, 2006 FOR ONLY THE AREA NORTH OF THE FOUNDRY.

40 0 40

SCALE: 1" = 40'

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PROPOSED INJECTION AREA

FIGURE 1

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