



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott Walker, Governor
Cathy Stepp, Secretary

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November 18, 2014

MR ROBERT MARKWELL
THREE RIVERS MANAGEMENT INC
MANOR OAK ONE SUITE 200
1910 COCHRAN RD
PITTSBURGH PA 15220

FILE COPY

Subject: Technical Assistance and Environmental Liability Request for the Groundwater Natural Attenuation Remedy at the Former Koppers Inc. Facility, Superior, Wisconsin
WDNR BRRTS #02-16-000484

Dear Mr. Markwell:

On October 20, 2014, the Department of Natural Resources' (DNR) Remediation and Redevelopment program received a completed Technical Assistance and Environmental Liability Request (Form 4400-237), prepared for the above named site by ARCADIS US, Inc. and dated October 9, 2014. This form was accompanied by the appropriate review fee for "Other Technical Assistance" as required under section NR 749.04, Wisconsin Administrative Code, as well as a copy of the *Groundwater Natural Attenuation Demonstration Summary Report* (the report), prepared by ARCADIS and dated June 12, 2014. The report had been submitted to the DNR previously, but was included with this package as it is an integral part of the technical assistance request.

In the request, Beazer East, Inc. (Beazer) is seeking DNR approval of the natural attenuation remedy for groundwater, as selected in ARCADIS's July 2007 *Focused Corrective Measures Study Report*. The report graphically summarizes data collected since the 1990s, through the facility investigation as well as through previous natural attenuation assessment work, and describes the results of the natural attenuation demonstration scope of work implemented over the past two years. The recently completed sampling was conducted as a form of post-remedial monitoring following the corrective actions that were completed on the source property in the fall of 2010.

Additional groundwater data was collected in 2013 and 2014 to support the argument that natural attenuation processes will effectively address the residual contaminants in groundwater. In addition to four quarters of analyses for the identified contaminants of potential concern (COPCs), geochemical and microbiological indicator parameter data was collected during some of the sampling events. The results of this more recent monitoring indicate that geochemical indicator parameter data supports natural attenuation, and that *in situ* microbiological populations have the capability to degrade COPCs.

When viewed in conjunction with the historic groundwater trend data, the information contained in the report provides supplementary lines of evidence that the residual groundwater contamination located on the source property has reached stable if not decreasing concentrations. This data, along with the geologic conditions present at the site, suggest that natural attenuation will be an effective means to eventually bring the residual groundwater contamination on the source property into compliance with Wisconsin's groundwater quality standards. We therefore approve of this remedy.

As we have explained to your company in the past, however, the DNR does not have a mechanism to allow a party responsible for a Resources Conservation and Recovery Act (RCRA) land disposal facility to discontinue a groundwater monitoring program prior to the end of the long term care period. Facilities such as this are subject to both the long term care and groundwater monitoring requirements of ss. NR 664.0110(2)(a) and 664.0228(2), Wis. Adm. Code. Consequently, our approval of a natural attenuation remedy for residual groundwater contamination on the source property does not equate to an approval to discontinue your required groundwater monitoring. Beazer will need to continue the semi-annual monitoring as described in the Long-Term Care Plan Approval Modification, dated October 29, 2002. Please refer to the attached letter from DNR's Ed Lynch to Jeffrey Holden and Robert Anderson of ARCADIS if you have further questions on this issue.

If you have any questions concerning this letter or the project in general, please do not hesitate to write or call me at 715-685-2920. I can also be reached by e-mail at Christopher.Saari@Wisconsin.gov.

Sincerely,



Christopher A. Saari
Hydrogeologist

attach. *Koppers Inc. Superior, Wisconsin Groundwater Monitoring and Corrective Action*, letter from Edward Lynch, DNR Bureau of Waste and Materials Management, to Jeffrey Holden and Robert Anderson, ARCADIS U.S., Inc., dated November 23, 2011

cc: Jane Patarcity – Three Rivers Management, Inc.
Paul Kline – Three Rivers Management, Inc.
Dave Bessingpas – ARCADIS
John Robinson – DNR Wausau
Steve Ashenbrucker – DNR Park Falls
Judy Fassbender – DNR Madison RR/5
Ed Lynch – DNR Madison WMM/5

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November 23, 2011

Mr. Jeffrey Holden
Mr. Robert Anderson
Arcadis U.S., Inc.
160 Chapel Road
Suite 303
Manchester, CN 06042 1625

Subject: Koppers Inc. Superior, Wisconsin
Groundwater Monitoring and Corrective Action
WID 006176498

Dear Messrs. Holden and Anderson:

Thank you for your letter dated July 14, 2011. You requested DNR's concurrence regarding a natural attenuation approach for remediating groundwater on the property and presented rationale for discontinuing the current groundwater monitoring program related to the RCRA impoundments at the Koppers Inc., Superior, Wisconsin facility.

Department groundwater monitoring requirements for hazardous waste land disposal activities are found in *ch. NR 664, Wis. Adm. Code – Subchapter F - Releases from Solid Waste Management Units*. Beazer East, Inc. is subject to Subchapter F through its long term care license pursuant to *s. NR 664.0090(5), Wis. Adm. Code* and its closure and long term care plan approvals. Chapter NR 664, Wis. Adm. Code can be found at:
<http://legis.wisconsin.gov/rsb/code/nr/nr664.pdf>

Groundwater Monitoring. The department does not have a mechanism that allows for a party responsible for a land disposal facility to discontinue groundwater monitoring program at a RCRA (or hazardous waste) land disposal facility prior to the end of the long term care period. Hazardous waste surface impoundments closed with residual contamination from the regulated activity are subject to both long term care and groundwater monitoring for the long term care period (*ss. NR 664.0110(2)(a) & 664.0228(2)*) when contamination is left in place at final closure. The Koppers Inc. surface impoundments were closed with residual contamination.

Groundwater monitoring is part of the department's current closure and long term care plan approval. In response to a specific request, the department can assess the possibility of reducing the number of monitoring wells, the monitoring frequency, and monitoring parameters called for in a facility's ground-water monitoring plan. The department has approved closure and long term care plan modifications that have the number of groundwater monitoring wells, parameters monitored, and monitoring frequency at this site.

Section NR 664.0228(2), Wis. Adm. Code, requires the owner or operator to comply with all long term care requirements throughout the long term care period. This includes groundwater monitoring system maintenance and compliance with other applicable requirements of Subchapter F. Attempting to reduce the long term care period would be a significant, time consuming and expensive undertaking. *Section NR 664.009(6), Wis. Adm. Code*, does allow the department to apply alternative requirements for groundwater monitoring and corrective action for releases to groundwater when the department determines that: 1.) a surface impoundment is situated among solid waste management units, a release has occurred and both the regulated unit and one or more solid waste management units are likely to have contributed to the release, and 2.) it is not necessary to apply the groundwater monitoring and corrective action requirements because alternative requirements will protect human health and the environment.

While the department understands the complex site conditions and difficulties those conditions create in analyzing groundwater contamination at the site, recent data continue to confirm contaminants in the groundwater at concentrations exceeding groundwater enforcement standards as well as the presence of dioxins and furans in the groundwater. (sections 3.1 & 3.2 in 2010 RCRA Annual Groundwater Monitoring Report – Koppers Inc. Facility Superior, Wisconsin – February 28, 2011). While the contaminant plume may be stable, there has not been a sufficient demonstration that “alternative requirements” are in place that protect human health and the environment. The groundwater enforcement standard exceedance(s) and presence of dioxin and furans are a department concern. Continued groundwater monitoring is appropriate.

Corrective Action Work Plan. The department is encouraged by your belief that natural attenuation is occurring as stated in your letter. The department believes further data is necessary to demonstrate these trends. If Beazer desires to make this demonstration, it is necessary for Beazer to prepare and submit a work plan. Your letter states that this plan will follow the department's guidance on natural attenuation for petroleum releases *without* collection of geochemical or microbiological indicators. We believe these indicators are fundamental to the evaluation of successful natural attenuation. If you believe that previously collected geo-chemical indicatory data has adequately demonstrated the ongoing effectiveness of natural attenuation processes, you should provide further evidence to corroborate that belief in the work plan. Furthermore, since chlorinated compounds exist at the site, you need to also consider the department's guidance “*Understanding Chlorinated Hydrocarbon Behavior in Groundwater: Investigation, Assessment and Limitations of Monitored Natural Attenuation* (RR-699 April 2003). <http://dnr.wi.gov/org/awlr/archives/pubs/RR699.pdf>” in work plan development. If Beazer decides not to pursue this natural attenuation work plan, then you need to submit a separate corrective action work plan that will cover necessary remedial actions until corrective action is complete. Beazer must also develop a schedule concluding with the completion of all corrective action activities.

Corrective Action Financial Responsibility. Furthermore, U.S. EPA Office of Enforcement and Compliance Assurance (OECA) has informed the department that we must begin requiring licensed hazardous waste facilities, including those with long term care licenses, to establish proof of financial responsibility covering the cost of corrective action per §291.37(2), Wis. Stats. It is necessary for Beazer to establish a schedule and estimate costs needed to cover remaining remedial activities. In the federal OECA FY 2012 Final National Program Manager (NPM) Guidance, EPA emphasizes that states must ensure facilities in RCRA Corrective Action are making progress to remediate their site and establishing financial assurance. See http://www.epa.gov/planandbudget/annualplan/FY12_OECA_NPM_Gdnce.pdf

In conclusion, Beazer must continue to implement its RCRA groundwater monitoring program as required by existing approvals. Beazer may request a modification to the approved program. It is possible this modification could be integrated into the work plan designed to demonstrate the effectiveness of natural attenuation. Beazer must also establish a schedule to complete remedial actions at the site and establish a corrective action financial assurance mechanism.

Please contact Chris Saari in our Ashland office (christopher.saari@wisconsin.gov & 715/685-2920) on issues related to site corrective action. Please contact me (edward.lynch@wisconsin.gov & 608/267-0545) if you have groundwater monitoring or financial responsibility questions.

Sincerely,



Edward K. Lynch, PE, Chief
Hazardous Waste Prevention and Management Section
Bureau of Waste and Material Management

Cc: Jane Patarcity – Beazer
Mark Gordon – RR/5
Jill Schoen – WCR
John Morris – NOR / Spooner
Jae Lee – EPA Region 5

Linda Paul – Koppers
Chris Saari – NOR / Ashland
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