

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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Scott Hassett, Secretary
Gloria L. McCutcheon, Regional Director

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January 24, 2004⁵

Mr. Mark Krueger, PG
Mr. Mafizul Islam, PE
Sigma Environmental Services, Inc.
1300 West Canal Street
Milwaukee, Wisconsin 53233

FID#268087820
BRRTS#02-68-305374

Subject: Underground Injection Control Conditional Approval, Temporary NR 140.28(5) Exemption Approval and Remedial Action Plan Approval for the Zillmer Property, Former Fabricare Site, 323 West Sunset Drive, Waukesha, Wisconsin, Waukesha County, NW 1/4 of the NE 1/4, Section 15, Township 6 North, Range 19 East

Dear Mr. Krueger and Mr. Islam:

The Wisconsin Department of Natural Resources (Department) reviewed the following document submitted on behalf of your client, Mr. and Mrs. Howard Zillmer:

1. Supplemental Information and Remedial Action Plan (SI/RAP), Zillmer Property, Former Fabricare Site, 323 West Sunset Drive, Waukesha, Wisconsin, December 2004

The Drinking Water & Groundwater and the Remediation & Redevelopment programs have reviewed the request for an approval according to the provisions of the Wisconsin Well Construction and Pump Installation Code (NR 812). The remedial method that is proposed by your consultant is chemical oxidation of tetrachloroethylene (PCE) and its degradation products using potassium permanganate ($KMnO_4$) solution. A pilot study has not been proposed for this property; however, a bench test was performed on samples collected from the source area.

Twelve infiltration wells are to be constructed within the source area as shown on Figure 4 - December 2004 submittal. The potassium permanganate solution will be introduced in the well system every two to three weeks and allowed to gravity drain through the impacted zone. Treatment will occur over a six to nine month period. Approximately 8,000 pounds of oxidant solution will be introduced to the subsurface. The information submitted by Sigma (December 2004 SI/RAP) provides a sound technical basis for understanding contaminant configuration within the subsurface environment in the selected source location shown on Figure 2.

The Department conditionally approves your proposed remedial action. A temporary exemption is granted under s. NR 140.28(5), Wis. Admin. Code, for the application of a cumulative total of approximately 8,000 pounds of a potassium permanganate solution as identified in the December 2004 SI/RAP submitted to the Department. This exemption is required because the application of a chemical oxidant has the potential to temporarily increase concentrations of trace metals and MnO_4 above State groundwater quality preventive action limits (PALs). The

total amount of remedial materials injected must not be more than what is needed to sustain oxidation of contaminants in groundwater at the site.

To maintain this exemption, you must comply with all applicable exemption requirements listed in s. NR 140.28(5)(c), Wis. Admin. Code, and the remedial action design, operation, and monitoring criteria listed in s. NR 140.28(5)(d), Wis. Admin. Code. Failure to adhere to the provisions of this exemption may result in the Department requiring one or more of the following:

1. Revisions to the remedial action plan (RAP), operation or monitoring procedures;
2. Revocation of this exemption; or
3. An alternative RAP.

Please carefully review the approval conditions, which may significantly alter the work plan in certain areas. The approval conditions are specific to this project.

Regulatory Requirement

Section NR 812.05, Wis. Adm. Code requires that the use of any well, drillhole or water system for the underground placement of any waste, surface, or subsurface water or any substance, as defined in s. 160.01(8), Stats., is prohibited unless the placement is a department-approved activity necessary for the construction, rehabilitation or operation of the well, drillhole or water system or is a department-approved activity necessary for remediation of contaminated soil, groundwater or an aquifer. For the purposes of this section the term "drillhole" includes any excavation or opening that is deeper than it is wide, even if it extends less than 10 feet below the ground surface and the term "well" includes an excavation that is deeper than it is wide regardless of its depth or purpose. Circulation of water through a closed-loop heat pump system in a drillhole is not prohibited by this section. Groundwater tracers may only be used with approval.

Based upon the proposed design, the well construction materials to be used should be structurally sound for the proposed life of the system [< 1 year]. Department approval of the groundwater injection/infiltration system under s. 292, Stats., is appropriate because the injection/infiltration system is needed for remediation of contaminated soil, groundwater or an aquifer as part of a remediation project approved by the Department under s. 292, Stats. and 280 Stats. Please note the issuance of a **wastewater discharge permit by the Department is required prior to the infiltration or injection of substances or remedial material into unsaturated soil or groundwater.** A wastewater discharge permit establishes the effluent or injection limits for substances or remedial material, which may be infiltrated or injected into unsaturated soil or groundwater. A temporary exemption granted under this subsection applies to substances or remedial material which may enter groundwater or may be detected at a point of standards applications; it does not apply to substances or remedial material infiltrated or injected into unsaturated soil.

The Department has concluded that your underground injection may be approved, with the following conditions:

Conditions of Approval

1. That the infiltration system must be constructed and operated as proposed in the SI/RAP submittal.
2. That the monitoring program for the remedial action is conducted as proposed in the submittal.
3. That the monitoring points are constructed and tested as proposed.
4. That the operation of the underground infiltration system must terminate 1 year from the date of this approval.
5. That the Department's Form 3300 - 253, Inventory of Injection Wells, be used to submit the following information within 30 days of the first injection event:
 - a. Injection well facility name and location.
 - b. Name and address of the injection well owner or operator.
 - c. Type of ownership such as, but not limited to, private, federal, state, local government or tribal.
 - d. Well class and type of injection well.
 - e. Number and operating status of injection wells on a property or in a project.
6. That the infiltration wells, monitoring wells and piezometers must be abandoned according to the requirements of s. NR 141 Wisconsin Administrative Code upon conditional case closure by the Department.
7. That exclusion zones must be established for the facility during the entire injection process. This means that special safety measures should be taken to eliminate potential ignition sources.
8. That no injection will occur in areas where measurable free product or non-aqueous liquids (NAPLs) are present. (Note: the file information indicates that free product has not been detected in previous testing.)
9. That a Site Specific Health and Safety Plan be followed.
10. That introduction of this material does not cause the contaminant to move out of the plume area.
11. That the municipal water used for the KMnO_4 solution should be free of trihalomethanes or disinfection byproducts.
12. That Department approval is requested prior to performing any subsequent polishing treatment.
13. That the monitoring program following treatment is conducted as proposed in the submittal.
14. Prior to each treatment event, groundwater elevation measurements will be collected and color (purple) observations will be made from groundwater samples at each well.
15. That vapor monitoring is conducted inside the building and at the four (4) closest monitoring well locations (MW-1, MW-2, MW-3 and MW-4) as shown on Figure 4 of the December 2004 SI/RAP submittal that includes a measurement of % LEL every 15 minutes during the first hour of each of the infiltration events.
16. That if 10% of LEL is reached at anytime and at any monitoring point:
 - a. Cease injection operations immediately.
 - b. Evaluate cause of vapors.
 - c. Implement measures to reduce the vapor concentration to acceptable levels.

- d. Increase monitoring frequency. Rotate between monitoring points in the immediate vicinity of the monitoring point where the elevated level was detected.
17. That in the event that sustained exceedances of the 10% of LEL level is present for more than 30 minutes, or if 25% of LEL is reached at anytime and at any monitoring point, then immediate notification of the local fire department is required.
18. That the Department is notified immediately of system breakdown or shutdown or of any groundwater quality enforcement standard exceedances in the water quality-monitoring program (other than target contaminant compounds).
19. That all owners of utility lines and the local fire department are notified prior to the initial injection/infiltration event and that representatives of each of these entities be allowed to observe the treatment activities.
20. That the Department be notified by electronic mail (brenda.boyce@dnr.state.wi.us & sharon.schaver@dnr.state.wi.us) 3 business days prior to start of each treatment event.

Extensions

1. In the event that the treatment is not completed within 1 year of operation, the responsible party may apply for an extension of this approval.
2. In the event that additional treatment is needed after 1 year from the date of this approval, the responsible party may apply for an extension of this approval.

Notice of Appeal Rights

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review, of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as a respondent.

To request a contested case hearing pursuant to section 227.42, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department to serve a petition form hearing on the Secretary of the Department of Natural Resources. The filing of a request for contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

All hearing requests must be made in accordance with s. NR 2.05(2), Wis. Adm. Code, and must identify the grounds for the petition and the desired modification or change to the Order and include specific information demonstrating the following:

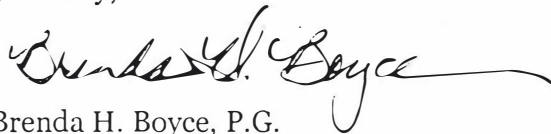
1. The substantial interest of the petitioner which is injured in fact or threatened with injury by Department action or inaction;
2. That there is no evidence of legislative intent that this interest is not to be protected;

3. That the injury to the petitioner is different in kind or degree from injury to the general public caused by the Department action or inaction; and
4. That there is a dispute of material fact. (You must specify the disputed facts.)

This notice is provided pursuant to section 227.48(2), Stats.

If there are any questions, please contact either Brenda Boyce at (262) 574-2140 or Sharon Schaver at (414) 263-8560.

Sincerely,



Brenda H. Boyce, P.G.
Hydrogeologist
Bureau for Remediation & Redevelopment



Sharon L. Schaver, P.G.
Regional Hydrogeologist
Drinking Water and Groundwater Program

Enclosure: Form 3300 - 253, Inventory of Injection Wells

c: Mr. & Mrs. Zillmer
Michael Carlton – von Briesen & Roper, S.C.
Corey Heckel, WDNR Waukesha
Richard Roth, DG/2
William Phelps, DG/2
SER File

E-transmittal only to:
Sharon Gayan, WDNR – Milw.
Jim Fratrack, WDNR Milwaukee
Jim D'Antuono, WDNR – Wauk.

This information is collected under the authority of the Safe Drinking Water Act.

Notice: Code of Federal Regulations (40 CFR 144.26 Inventory Requirements): owners or operators of all injection wells authorized by rule shall submit inventory information to an approved State Underground Injection Control Program. Personal information collected on this form will be used for inventory purposes. Information will be made accessible to requesters under Wisconsin's Open Records laws (s. 19.32 to 19.39, Wis. Stats.) and requirements.

Date Prepared (Year, Month, Day)	Facility ID Number	Transaction Type (Please check one of the following)
		<input type="checkbox"/> Deletion <input type="checkbox"/> Entry Change <input type="checkbox"/> First Time Entry <input type="checkbox"/> Replacement

Facility Name and Location

Last Name	First	MI	Latitude: DEG MIN SEC	Longitude: DEG MIN SEC
			N	W
Street Address / Route Number			Township	Range
			N	
City / Town		State	ZIP Code	County
				Tribal Land <input type="checkbox"/> Yes <input type="checkbox"/> No

Legal Contact

Type	Last Name	First	MI	Telephone Number (incl. area code)
<input type="checkbox"/> Owner <input type="checkbox"/> Operator				
Organization			Ownership	
Street / P.O. Box			<input type="checkbox"/> Private <input type="checkbox"/> County / Local Government	
City / Town			<input type="checkbox"/> State <input type="checkbox"/> Federal	
			<input type="checkbox"/> Specify Other _____	

Well Information

WELL CLASS	WELL TYPE	TOTAL NUMBER OF WELLS	WELL OPERATION STATUS					KEY:
			UC	AC	TA	PA	AN	
								DEG = Degree MIN = Minute SEC = Seconds SECT = Section ¼ SECT = Quarter Section AC = Active UC = Under Construction PA = Permanently Abandoned and Approved by State AN = Permanently Abandoned and Not Approved by State TA = Temporarily Abandoned and Not Approved by State

Comments (Optional):