



April 25, 2018

Mr. Jim Hager, CEO  
WRR Environmental Services, Inc.  
5200 Ryder Road  
Eau Claire, WI 54701

Subject: Infiltration/Injection Temporary Exemption Request for  
WRR Environmental Services, 5200 Ryder Rd., Eau Claire, Wisconsin  
WDNR BRRTS Activity #02-18-000274

Dear Mr. Hager:

The purpose of this letter is to provide a temporary exemption for the injection of remedial materials into groundwater. A request for a temporary exemption to inject the following compounds into groundwater at the WRR Environmental Services site, dated February 15, 2018 was received from your consultant, Gannett Fleming, on February 16, 2018:

- Z-loy – micro-scale zero valent iron in a glycerol solution;
- Newman Zone 55 emulsified vegetable oil;
- Newman Zone HRO – a slow release emulsified vegetable oil;
- Newman Zone OS – an oxygen scavenger;
- SDC-9DHC microbes – a concentrated solution of microbes that facilitate the breakdown of ethanes and ethenes; and
- Sodium bicarbonate.

Appendix A of the above submittal consists of a Request for Coverage Under WPDES Wastewater Discharge Permit WI-0046566-06 for Contaminated Groundwater from Remedial Action Operations. A review fee of \$700 was also submitted with the February 15, 2018 request.

This temporary exemption is intended to provide assurances to WRR Environmental Services Co., Inc. that the environmental cleanup being conducted in response to a release of contaminants on the Property is being conducted in accordance with s. 292.12, Wis. Stats.

#### **Pilot Testing**

Up to 5,000 gallons of the remedial mixture listed below is proposed to be injected into 15 borings surrounding monitoring well W-34, which is located east of Dock #6 in the northeastern area of the site:

- 600 lbs of Z-loy;
- 1,100 lbs of Newman Zone 55 emulsified vegetable oil;
- 350 lbs of Newman Zone HRO;
- 50 lbs of Newman Zone OS;
- 3 liters of SDC-9DHC microbes; and
- Up to 100 lbs. of sodium bicarbonate, as needed, to raise pH of mixture to 7.5.

The remedial mixture will be injected at a rate of 2 to 5 gallons per minute using a direct-push drill rig. In addition, it is proposed that up to 400 gallons of the mixture will be placed via gravity feed into soil vapor extraction well SVE-4, which has a screened interval extending 5 feet below the water table, and is approximately 70 feet south of W-34, near the northeast corner of the E-1 building. Each injection will be followed by flushing with a mixture of water and Newman Zone OS, in quantities of approximately 10 gallons per direct-push boring and 50 gallons at SVE-4.

The intended purposes of the pilot testing are:

- 1) To observe the aquifer's ability to accept the mixture, thereby determining sustainable flow rates at various depths within the aquifer, and
- 2) To gauge the effectiveness of the remedial mixture in promoting anaerobic biodegradation and destruction of chlorinated volatile organic compounds (CVOCs) present in the subsurface in the northeastern portion of the site.

### **Full-Scale Injection (Area A)**

Assuming pilot testing proves successful, full-scale injections are proposed for Area A in the fall of 2018. The number and spacing of injection borings and the mass of reagents to be injected into each boring will be based on results from pilot testing. A report summarizing pilot test results and recommendations for full-scale injections will be submitted to the Department of Natural Resources (DNR) prior to conducting any full-scale injections. Injection of the following approximate quantities of reagents into Area A are anticipated:

- 2,500 lbs of Z-Loy;
- 6,000 lbs of Newman Zone 55 EVO;
- 2,000 lbs of Newman Zone HRO;
- 300 lbs of Newman Zone OS;
- 15 liters of SDC-9DHC microbes; and
- Up to 500 lbs. of sodium bicarbonate, as needed, to raise pH of mixture to 7.5.

### **Follow-up Proposals**

- 1) On March 13, 2018, DNR received a follow-up email message from your consultant, Gannett Fleming, proposing the addition of up to 50 lbs. of either sodium or potassium bromide to the list of substances to be injected during Area A pilot testing. Injection of the bromide was proposed at a concentration of approximately 1,000 mg/L as a tracer to help determine flow paths and travel times within the aquifer. Because of heterogeneities in site geology and potentially complex contaminant suites in certain areas of the site, DNR concurs that use of a tracer may provide valuable data. However, because of the potential for a tracer to impact nearby private wells, your consultant must provide additional information to Brian Austin, Injection Coordinator for the DNR Drinking Water and Ground Water program, and obtain DNR concurrence prior to any tracer injection.
- 2) Your February 15, 2018 submittal stated that WRR "may decide to inject reducing agents into Area B in the southeastern portion of the site where CVOCs are the primary compounds of concern." No other detail on potential injection in Area B is provided. Because historical data from direct-push borings show that the mix of contaminants present in Area B is not limited to CVOCs, pilot test results from Area A cannot be assumed to be applicable to Area B. Therefore, prior to any pilot and/or full-scale injection in Area B, your consultant must submit an addendum to the current request, including all items necessary for a formal injection request (as discussed in DNR Publication RR-935) at Area B. If desired, the Area B addendum may be combined with the required report summarizing Area A pilot test results and recommendations.

**Determination on the NR 812 Injection Prohibition:**

The injection prohibition under s. NR 812.05, Wis. Adm. Code, is not applicable in this case because the proposed action is a DNR-approved activity necessary for the remediation of groundwater.

This letter serves as your approval from the DNR to inject the compounds listed below, to treat CVOCs in groundwater, in accordance with this temporary exemption:

- Up to 5,000 lbs of Z-loy;
- Up to 10,000 lbs of Newman Zone 55 emulsified vegetable oil;
- Up to 5,000 lbs of Newman Zone HRO;
- Up to 600 lbs of Newman Zone OS;
- Up to 30 liters of SDC-9DHC microbes; and
- Up to 600 lbs. of sodium bicarbonate, as needed, to raise pH of each mixture to 7.5.

**NR 140 Temporary Exemption:**

DNR approval is hereby granted to WRR Environmental Services Co., Inc. for the injection of the compounds listed above to groundwater on the WRR Environmental Services property, with certain terms and conditions. The expiration date of this temporary exemption shall be 5 years from the date of this letter.

The need to obtain a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established is required under s. NR 140.28 (1) (d), Wis. Adm. Code. Based on the information provided by your consultant, it appears the requirements for a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established under s. NR 140.28 (1) (d) have been or will be met, in accordance with s. NR 140.28 (5) (c) and (d), Wis. Adm. Code.

DNR approval is granted with the following terms and conditions:

A. General:

1. The remedial action for restoring contaminated groundwater or soil, and any infiltrated or injected contaminated water and remedial materials, shall achieve the applicable response objectives required by s. NR 140.24 (2) or s. NR 140.26 (2), Wis. Adm. Code, within a reasonable period of time.
2. The type, concentration and volume of substances or remedial material to be infiltrated or injected shall be minimized to the extent that is necessary for restoration of the contaminated groundwater.
3. Any infiltration or injection of contaminated water or remedial material into groundwater shall not significantly increase the threat to public health or welfare, or to the environment.
4. No uncontaminated or contaminated groundwater, substance or remedial material shall be infiltrated or injected into an area where a floating non-aqueous liquid is present in the contaminated groundwater.
5. There shall be no expansion of soil or groundwater contamination, or migration of any infiltrated or injected contaminated water or remedial material, beyond the edge of previously contaminated areas, except that infiltration or injection into previously uncontaminated areas may be allowed if the DNR determines that expansion into adjacent, previously uncontaminated areas is necessary for the restoration of the contaminated groundwater, and the requirements of s. NR 140.18 (1), Wis. Adm. Code will be met.
6. All necessary federal, state and local licenses, permits and other approvals shall be obtained, and compliance with all applicable environmental protection requirements is required. A WPDES general permit for Discharge of Contaminated Groundwater from Remedial Action

Operations is required for this action.

B. Specific:

7. The remedial materials to be injected to the groundwater shall be limited to:
  - 5,000 lbs of Z-loy;
  - 10,000 lbs of Newman Zone 55 EVO;
  - 5,000 lbs of Newman Zone HRO;
  - 600 lbs of Newman Zone OS;
  - 30 liters of SDC-9 DHC microbes; and
  - 600 lbs. of sodium bicarbonate, as needed, to raise pH of mixture to 7.5.
8. The remedial material and injection project shall be conducted as described in the February 15, 2018, Injection Work Plan & Permit Request.
9. To ensure clearer data interpretation during and after injection, DNR recommends that recovery well RW-2 be shut down prior to pilot testing.
10. Gannett Fleming shall notify the DNR of field activities no less than one (1) week before implementation.
11. Screening for soil vapor is recommended as a best management practice. Given known heterogeneities in site geology and the potential for evolution of gases from injection and bioremediation, DNR specifically recommends vapor screening associated with underground utilities and an office building east of Area A.
12. Remediation progress reports shall be submitted with the semi-annual progress reports. The progress reports shall include the groundwater monitoring results. The first report should be submitted not more than 6 months after the first injection. Recommendations as to the next phase of sampling and/or the need for additional treatment shall be included in a future report. This report shall be submitted as soon as the necessary information is available, and must be submitted prior to the expiration date of this temporary approval.
13. Any significant changes based on information from the injection groundwater monitoring reports or results shall be submitted to the DNR for approval prior to the changes being implemented at the WRR Environmental Services site. This includes, but is not limited to, adjustments to the volume/mass of the media injected, additional injection points, number of injection events, and/or changes in the type of remediation media used in the injection points.
14. Modifications to the sampling schedule may be requested.
15. In the event of future injection activities, the responsible party may apply for an extension of this approval. A request for an extension of this approval must be received by the DNR before the expiration date.
16. Any permit extension approvals will be dependent on DNR review of site-specific data or any other information it deems necessary.
17. Upon completion of the project, the injection holes must be abandoned in accordance with s. NR 141.25, Wis. Adm. Code, and later topped off with grout or native soils if settling occurs, unless converted to NR141-compliant monitoring wells, or an alternative approved by the DNR Project Manager.

Monitoring Conditions:

1. That the actual volume injected be recorded on an hourly basis for each day of the project.
2. That baseline monitoring be performed prior to the first injection event, for the following groundwater parameters, at the following wells:
  - a. VOCs, dissolved gasses (methane, ethane, ethene), sulfate, dissolved iron and manganese, total organic carbon, alkalinity, dissolved oxygen, pH, oxidation/reduction potential, temperature, and specific conductivity.

- b. at monitoring wells: W-34 and W-32.
3. That after completion of the injection phase of the remedial action (60 to 120 days), all monitoring wells be sampled for the parameters listed in #2a above.
4. That a Site-Specific Health and Safety Plan be followed.
5. That the injection is performed at less than 100 psi at a rate which prohibits solution mounding in the aquifer, and plume disfigurement.

Failure to adhere to the provisions of this temporary exemption may result in the DNR requiring revisions to the remedial action design, operation or monitoring procedures, or the revocation of this exemption and the implementation of an alternative remedial action to restore soil or groundwater quality, or both.

### **WPDES Permit**

Your proposed discharge is eligible for coverage under the general Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI-0046566-06 for Discharge of Contaminated Groundwater from Remedial Action Operations. You are responsible for compliance with the conditions contained in this permit. The permit and factsheet can be downloaded from the DNR website at <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>. The amended water will be discharged to the groundwater. No pollutants shall be injected into the groundwater, with the exception of those present in the groundwater which will be extracted from the site.

Discharges under this permit are required to be consistent with a discharge management plan that has been approved by the DNR. Your plan, titled *Injection Work Plan & Permit Request* dated February 15, 2018 will be considered as the required discharge management plan. The analysis results would indicate that monitoring is required for all parameters from ch. NR 140, Tables 1 – 3, detected in the discharge, as specified in part 2.3 of the WPDES permit.

Treatment will be provided by injection of reducing agents. The emulsified vegetable oil and zero valent iron will be discharged to the groundwater. No waste will be discharged to any surface water. Any significant system changes will require DNR approval.

The DNR hereby authorizes your pollutant discharge under the general WPDES permit for Discharge of Contaminated Groundwater from Remedial Action Operations, (WI-0046566-06). The following conditions are highlighted for your information:

### **Monitoring and Reporting Conditions:**

Note: These monitoring conditions are in addition to monitoring required by the DNR Remediation and Redevelopment Program for evaluation of remedial action effectiveness.

1. That after completion of the injection phase, quarterly monitoring shall continue for one year from injection completion, with sample collection and analysis completed according to #2 above (baseline monitoring) and the requirements of the accompanying WPDES discharge permit for this site.
2. The discharge limits which must be met are included in the permit as follows:
  - a. Section 5, pages 10-11 WI-0046566-06.
3. The monitoring results shall be sent to Woody Myers, Wastewater Section, Eau Claire Service Center using discharge monitoring reports (DMR).

### **Notice of Appeal Rights for WPDES General Permit:**

Section 283.35, Wisconsin Statutes, authorizes the DNR to issue general permits for discharges from categories or classes of point sources. If a permittee believes coverage of a facility under a general

WPDES permit is not appropriate, the permittee may apply for issuance of an individual WPDES permit pursuant to section 283.35 (2) and may petition the DNR for withdrawal of coverage under the general permit. The individual permit application should indicate which site-specific factors would justify alternate WPDES limits for the operation. Issuance of such a site-specific WPDES permit will provide for a 30-day public comment period, and potentially a public informational hearing and/or an adjudicatory hearing. The DNR may withdraw a facility from coverage under a general permit if it is determined that a discharge is a significant contributor of pollutants to waters of Wisconsin, or in certain other cases set out in s. 283.35, Stats. In lieu of general permit withdrawal, the DNR may refer any violation of this permit to the Department of Justice for enforcement under s. 283.89, Stats. In order to avoid any enforcement action, please read the WPDES permit carefully and comply with the permit requirements.

If you believe you have a right to challenge the DNR decision to cover this facility with a WPDES general permit, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review DNR decisions must be filed. To request a contested case hearing pursuant to section 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the DNR, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Such a petition should identify pollutant(s) that are believed to be not appropriately regulated by the general permit for the specific site. All requests for contested case hearings must be made in accordance with section NR 2.05 (5), Wis. Adm. Code, and served on the Secretary in accordance with section NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the time period for filing a petition for judicial review.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the DNR, to file your petition with the appropriate circuit court and serve the petition on the DNR. A petition for judicial review must name the Department of Natural Resources as the respondent.

If you have any questions regarding this letter, please contact me at 715-839-3748 or via email at [mae.willkom@wisconsin.gov](mailto:mae.willkom@wisconsin.gov).

Sincerely,



Mae Willkom  
Hydrogeologist  
Remediation & Redevelopment Program

Enclosure

cc: Anthony W. Miller, P.S.S., Gannett Fleming, 8025 Excelsior Dr., Madison, WI 53717-1900  
Brian Austin, DG/5  
Bill Phelps, DG/5  
Woody Myers, DNR Wastewater, Eau Claire  
Angela Carey, DNR, Madison  
Dave Rozeboom, DNR RR, Eau Claire

**DISCHARGE MONITORING REPORT FORM - Contaminated Groundwater**

**PERMITTEE NAME: WRR**

**WPDES PERMIT NO. WI-0046566-06**

**YEAR:2018**

**FIN: 10132**

**ADDRESS: 5200 Ryder Road, Eau Claire**

DMR-Petroleum to Surface Water Revised 12/2012

Outfall Number	001	001	001	001	001	001	001
Sample Point Description		System Effluent	System Effluent	System Effluent	System Effluent	System Effluent	System Effluent
Parameter Name	Sample Date	Flow	Total Suspended Solids	VOC			
Parameter Units	mm/dd/year	Gal/Day	mg/l	ug/l			
Daily Maximum Limit			40	See Permit Section 4.1			
Sample Type		Estimate	Grab	Grab	Grab	Grab	Grab
Frequency of Sampling		Daily	Weekly/Monthly	Weekly/Monthly	Weekly/Monthly	Weekly/Monthly	Weekly/Monthly

**Comments:**

**FOOTNOTES:**

- (1) Monitoring of discharges is required on the following frequency, unless indicated otherwise in writing:
  - (a) One time/day on two different days during the first five days of discharge.
  - (b) One time/week during the second through fifth calendar week of discharge.
  - (c) One time/month after the fifth week for remaining duration of the project.
- (2) Monitoring for TSS is not required for a discharge to groundwater.
- (3) Oil & grease monitoring is not required when waived by the DNR in writing.
- (4) See Directions.

**COMMENTS:** (Include additives if used and amount, method of pollution control, and amount of actual discharge load below the permit level (P Load – T Load).)

**DIRECTIONS:**

- ☞ For "Outfall # and Description" enter the number of the outfall you are reporting (i.e., 001 or 002, etc.) and the source of wastewater (i.e., pit/trench dewatering, well dewatering). Copy and use a new form for each separate outfall.
- ☞ Enter the date each sample was taken next to the sample number.
- ☞ Enter the total flow for the day.
- ☞ Enter the number of days discharge since the last sample date including the sample date.
- ☞ Each daily concentration value entered must be the highest value of all samples types analyzed for that day.
- If needed for 303(d) or TMDL or as directed in letter of coverage.
  - ☞ Enter Actual TSS Load = Flow (MGD) X Conc X 8.34.
  - ☞ Enter Permit TSS Load = Flow (MGD) X 40 mg/L X 8.34.
  - ☞ For the last line, give total flow for the entire discharge period, give the total days of discharge, give average TSS and oil & grease concentrations.
  - ☞ Enter T Load = Total Flow (MGY) X Av Conc X 8.34.
  - ☞ Enter P Load = Total Flow (MGY) X 40 mg/L X 8.34.

**DISCHARGE MONITORING REPORT FORM - Contaminated Groundwater**

**PERMITTEE NAME:**

**WPDES PERMIT NO. WI-0046566-06**

**YEAR:** \_\_\_\_\_

**FIN:**

**ADDRESS:**

DMR-Petroleum to Surface Water Revised 12/2012

Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day.

**Authorized per WISCONSIN STATUTE 283.55**

**PLEASE ATTACH NOTES AND/OR ADDRESS-NAME  
CORRECTIONS ON A SEPARATE SHEET**

**RETURN REPORT NO LATER THAN:** The 15th of the following month, for the remainder of the dewatering project.

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT, (40 CFR 122.5). I ALSO CERTIFY THAT THE VALUES BEING SUBMITTED ARE THE ACTUAL VALUES FOUND IN THE SAMPLES; NO VALUES HAVE BEEN MODIFIED OR CHANGED IN ANY MANNER. WHEREVER I BELIEVE A VALUE BEING REPORTED IS INACCURATE, I HAVE ADDED AN EXPLANATION INDICATING THE REASONS WHY THE VALUE IS INACCURATE.

**SEND TO: Department of Natural Resources  
1300 W Clairemont Ave  
Eau Claire, WI 54701**

Signature of Person Completing Form

Date

Signature of Principal Exec. Officer or Authorized Agent Title

Date