

**Notice:** Use this form to request a **written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31 - 19.39, Wis. Stats.].

## Definitions

**"Property"** refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.

**"Liability Clarification"** refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55, Wis. Stats.

**"Technical Assistance"** refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.

**"Post-closure modification"** refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

## Select the Correct Form

This form should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

**Do not use this form if one of the following applies:**

- Request for an **off-site liability exemption or clarification** for Property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure - GIS Registry Form 4400-202.

**All forms, publications and additional information are available on the internet at:** [dnr.wi.gov/topic/Brownfields/Pubs.html](http://dnr.wi.gov/topic/Brownfields/Pubs.html).

## Instructions

1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located. See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

# Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

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## Section 1. Contact and Recipient Information

### Requester Information

This is the person requesting technical assistance or a post-closure modification review, that his or her liability be clarified or a specialized agreement and is identified as the requester in Section 7. DNR will address its response letter to this person.

Last Name	First	MI	Organization/ Business Name
Smith	Jason		Tecumseh Products Company LLC
Mailing Address			City
5683 Hines Drive			Ann Arbor
			State
			MI
			ZIP Code
			48108
Phone # (include area code)	Fax # (include area code)	Email	
(731) 707-2889		jason.smith@tecumseh.com	

The requester listed above: (select all that apply)

- Is currently the owner
  Is considering selling the Property  
 Is renting or leasing the Property
  Is considering acquiring the Property  
 Is a lender with a mortgagee interest in the Property  
 Other. Explain the status of the Property with respect to the applicant:

Responsible Party

### Contact Information (to be contacted with questions about this request)

Select if same as requester

Contact Last Name	First	MI	Organization/ Business Name
Harvey	Chris	D	TRC Environmental Corporation
Mailing Address			City
230 West Monroe Street, Suite 630			Chicago
			State
			IL
			ZIP Code
			60606
Phone # (include area code)	Fax # (include area code)	Email	
(312) 909-0043	(312) 578-0877	charvey@trccompanies.com	

### Environmental Consultant (if applicable)

Contact Last Name	First	MI	Organization/ Business Name
Harvey	Chris	D	TRC Environmental Corporation
Mailing Address			City
230 West Monroe Street Suite 630			Chicago
			State
			IL
			ZIP Code
			60606
Phone # (include area code)	Fax # (include area code)	Email	
(312) 909-0043	(312) 578-0877	charvey@trccompanies.com	

### Property Owner (if different from requester)

Contact Last Name	First	MI	Organization/ Business Name
Langenfeld	Casey		City of New Holstein
Mailing Address			City
2110 Washington Street			New Holstein
			State
			WI
			ZIP Code
			53061
Phone # (include area code)	Fax # (include area code)	Email	
(920) 898-5766	(920) 898-5879	clangenfeld@wppienergy.org	

## Section 2. Property Information

Property Name	FID No. (if known)
Tecumseh Products Company (Former) - Chromium Line	408020690
BRRTS No. (if known)	Parcel Identification Number
02-08-363333	18919, 18569, 18921, 18646, 18465, 18450, 18568

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Street Address 1604 Michigan Avenue		City New Holstein	State WI	ZIP Code 53061
County Calumet	Municipality where the Property is located <input checked="" type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village of New Holstein	Property is composed of: <input type="radio"/> Single tax parcel <input checked="" type="radio"/> Multiple tax parcels	Property Size Acres 38	

1. Is a response needed by a specific date? (e.g., Property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.

No  Yes

Date requested by: \_\_\_\_\_

Reason:

2. Is the "Requester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?

No. **Include the fee that is required for your request in Section 3, 4 or 5.**

Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

**Fill out the information in Section 3, 4 or 5 which corresponds with the type of request:**

**Section 3. Technical Assistance or Post-Closure Modifications;**

**Section 4. Liability Clarification; or Section 5. Specialized Agreement.**

### Section 3. Request for Technical Assistance or Post-Closure Modification

Select the type of technical assistance requested: **[Numbers in brackets are for WI DNR Use]**

- No Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - Include a fee of \$350. Use for a written response to an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event.
- Review of Site Investigation Work Plan - NR 716.09, [135] - **Include a fee of \$700.**
- Review of Site Investigation Report - NR 716.15, [137] - **Include a fee of \$1050.**
- Approval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - **Include a fee of \$1050.**
- Review of a Remedial Action Options Report - NR 722.13, [143] - **Include a fee of \$1050.**
- Review of a Remedial Action Design Report - NR 724.09, [148] - **Include a fee of \$1050.**
- Review of a Remedial Action Documentation Report - NR 724.15, [152] - **Include a fee of \$350**
- Review of a Long-term Monitoring Plan - NR 724.17, [25] - **Include a fee of \$425.**
- Review of an Operation and Maintenance Plan - NR 724.13, [192] - **Include a fee of \$425.**

Other Technical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)

- Schedule a Technical Assistance Meeting - **Include a fee of \$700.**
- Hazardous Waste Determination - **Include a fee of \$700.**
- Other Technical Assistance - **Include a fee of \$700.** Explain your request in an attachment.

Post-Closure Modifications - NR 727, [181]

- Post-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; sites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. **Include a fee of \$1050, and:**
  - Include a fee of \$300 for sites with residual soil contamination; and
  - Include a fee of \$350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing obligations.

Attach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change to a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents may be submitted later in the approval process, on a case-by-case basis).

### Section 4. Request for Liability Clarification

Select the type of liability clarification requested. Use the available space given or attach information, explanations, or specific questions that you need answered in DNR's reply. Complete Sections 6 and 7 of this form. **[Numbers in brackets are for DNR Use]**

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"Lender" liability exemption clarification - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of \$700.**

Provide the following documentation:

- (1) ownership status of the real Property, and/or the personal Property and fixtures;
- (2) an environmental assessment, in accordance with s. 292.21, Wis. Stats.;
- (3) the date the environmental assessment was conducted by the lender;
- (4) the date of the Property acquisition; for foreclosure actions, include a copy of the signed and dated court order confirming the sheriff's sale.
- (5) documentation showing how the Property was acquired and the steps followed under the appropriate state statutes.
- (6) a copy of the Property deed with the correct legal description; and,
- (7) the Lender Liability Exemption Environmental Assessment Tracking Form (Form 4400-196).
- (8) If no sampling was done, please provide reasoning as to why it was **not** conducted. Include this either in the accompanying environmental assessment or as an attachment to this form, and cite language in s. 292.21(1)(c)2., h.-i., Wis. Stats.:
  - h. The collection and analysis of representative samples of soil or other materials in the ground that are suspected of being contaminated based on observations made during a visual inspection of the real Property or based on aerial photographs, or other information available to the lender, including stained or discolored soil or other materials in the ground and including soil or materials in the ground in areas with dead or distressed vegetation. The collection and analysis shall identify contaminants in the soil or other materials in the ground and shall quantify concentrations.
  - i. The collection and analysis of representative samples of unknown wastes or potentially hazardous substances found on the real Property and the determination of concentrations of hazardous waste and hazardous substances found in tanks, drums or other containers or in piles or lagoons on the real Property.

"Representative" liability exemption clarification (e.g. trustees, receivers, etc.) - s. 292.21, Wis. Stats. [686]

❖ **Include a fee of \$700.**

Provide the following documentation:

- (1) ownership status of the Property;
- (2) the date of Property acquisition by the representative;
- (3) the means by which the Property was acquired;
- (4) documentation that the representative has no beneficial interest in any entity that owns, possesses, or controls the Property;
- (5) documentation that the representative has not caused any discharge of a hazardous substance on the Property; and
- (6) a copy of the Property deed with the correct legal description.

Clarification of local governmental unit (LGU) liability exemption at sites with: (select all that apply)

- hazardous substances spills - s. 292.11(9)(e), Wis. Stats. [649];
- Perceived environmental contamination - [649];
- hazardous waste - s. 292.24 (2), Wis. Stats. [649]; and/or
- solid waste - s. 292.23 (2), Wis. Stats. [649].

❖ **Include a fee of \$700, a summary of the environmental liability clarification being requested, and the following:**

- (1) clear supporting documentation showing the acquisition method used, and the steps followed under the appropriate state statute(s).
- (2) current and proposed ownership status of the Property;
- (3) date and means by which the Property was acquired by the LGU, where applicable;
- (4) a map and the ¼, ¼ section location of the Property;
- (5) summary of current uses of the Property;
- (6) intended or potential use(s) of the Property;
- (7) descriptions of other investigations that have taken place on the Property; and
- (8) (for solid waste clarifications) a summary of the license history of the facility.

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## Section 4. Request for Liability Clarification (cont.)

Lease liability clarification - s. 292.55, Wis. Stats. [646]

❖ **Include a fee of \$700 for a single Property, or \$1400 for multiple Properties and the information listed below:**

- (1) a copy of the proposed lease;
- (2) the name of the current owner of the Property and the person who will lease the Property;
- (3) a description of the lease holder's association with any persons who have possession, control, or caused a discharge of a hazardous substance on the Property;
- (4) map(s) showing the Property location and any suspected or known sources of contamination detected on the Property;
- (5) a description of the intended use of the Property by the lease holder, with reference to the maps to indicate which areas will be used. Explain how the use will not interfere with any future investigation or cleanup at the Property; and
- (6) all reports or investigations (e.g. Phase I and Phase II Environmental Assessments and/or Site Investigation Reports conducted under s. NR 716, Wis. Adm. Code) that identify areas of the Property where a discharge has occurred.

General or other environmental liability clarification - s. 292.55, Wis. Stats. [682] - Explain your request below.

❖ **Include a fee of \$700 and an adequate summary of relevant environmental work to date.**

No Action Required (NAR) - NR 716.05, [682]

❖ **Include a fee of \$700.**

Use where an environmental discharge has or has not occurred, and applicant wants a DNR determination that no further assessment or clean-up work is required. Usually this is requested after a Phase I and Phase II environmental assessment has been conducted; the assessment reports should be submitted with this form. This is not a closure letter.

Clarify the liability associated with a "closed" Property - s. 292.55, Wis. Stats. [682]

❖ **Include a fee of \$700.**

- Include a copy of any closure documents if a state agency other than DNR approved the closure.

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Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.

## Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: [dnr.wi.gov/topic/Brownfields/Igu.html#tabx4](http://dnr.wi.gov/topic/Brownfields/Igu.html#tabx4).

Tax cancellation agreement - s. 75.105(2)(d), Wis. Stats. [654]

❖ **Include a fee of \$700, and the information listed below:**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the Property deed with the correct legal description.

Agreement for assignment of tax foreclosure judgement - s.75.106, Wis. Stats. [666]

❖ **Include a fee of \$700, and the information listed below:**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the Property deed with the correct legal description.

Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]

❖ **Include a fee of \$1400, and the information listed below:**

- (1) a draft schedule for remediation; and,
- (2) the name, mailing address, phone and email for each party to the agreement.

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**Section 6. Other Information Submitted**

Identify all materials that are included with this request.

Send both a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form and all reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.

- Phase I Environmental Site Assessment Report - Date: \_\_\_\_\_
- Phase II Environmental Site Assessment Report - Date: \_\_\_\_\_
- Legal Description of Property (required for all liability requests and specialized agreements)
- Map of the Property (required for all liability requests and specialized agreements)  
Analytical results of the following sampled media: Select all that apply and include date of collection.  
 Groundwater     Soil     Sediment     Other medium - Describe: \_\_\_\_\_  
Date of Collection: \_\_\_\_\_
- A copy of the closure letter and submittal materials
- Draft tax cancellation agreement
- Draft agreement for assignment of tax foreclosure judgment
- Other report(s) or information - Describe: Remedial Action Documentation Report

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

- Yes - Date (if known): \_\_\_\_\_
- No

**Note:** The Notification for Hazardous Substance Discharge Form - Non-Emergency Only (Form 4400-225) is accessible through the RR Program Submittal Portal application. Directions for using the form and the Submittal Portal application are available on the [Submittal Portal web page](#).

**Section 7. Certification by the Person who completed this form**

- I am the person submitting this request (requester)
- I prepared this request for: Tecumseh Products Company  
Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.



Signature

12/30/2021  
Date Signed

Principal  
Title

(312) 909-0043  
Telephone Number (include area code)

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## Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a [DNR regional brownfields specialist](#) with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

### DNR NORTHERN REGION

Attn: RR Program Assistant  
Department of Natural Resources  
223 E Steinfest Rd Antigo, WI 54409

### DNR NORTHEAST REGION

Attn: RR Program Assistant  
Department of Natural Resources  
2984 Shawano Avenue  
Green Bay WI 54313

### DNR SOUTH CENTRAL REGION

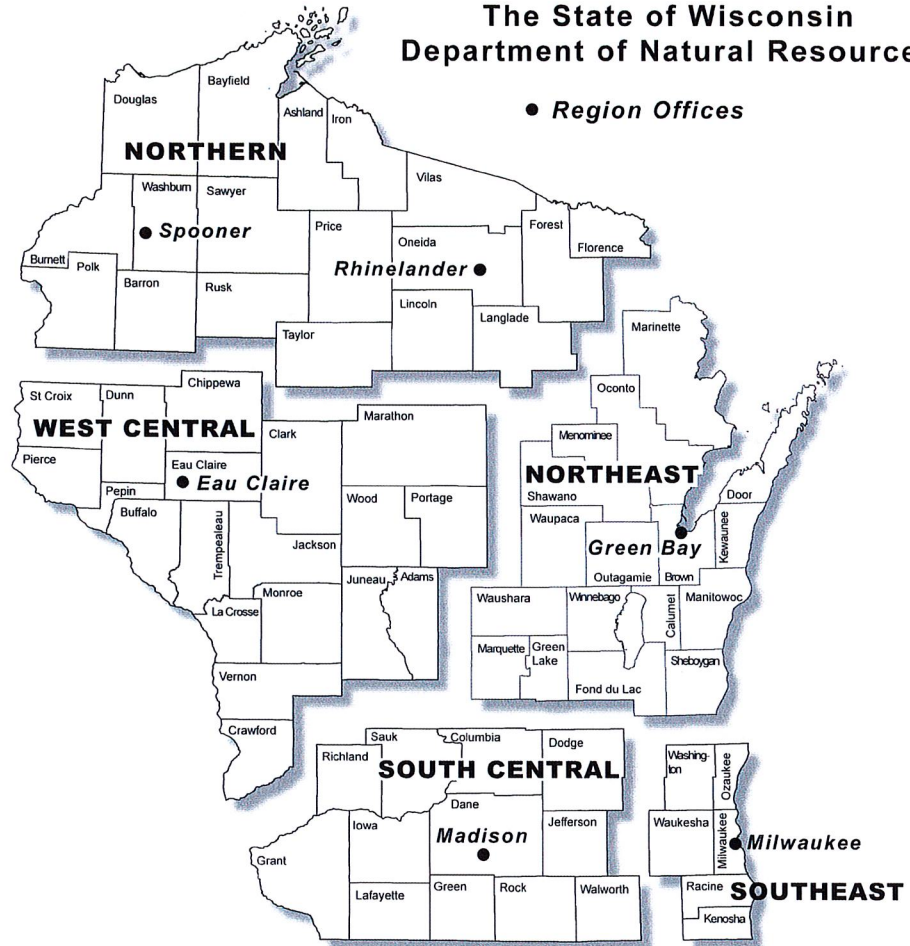
Attn: RR Program Assistant  
Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg WI 53711

### DNR SOUTHEAST REGION

Attn: RR Program Assistant  
Milwaukee DNR Office  
1027 West St. Paul Ave  
Milwaukee WI 53233

### DNR WEST CENTRAL REGION

Attn: RR Program Assistant  
Department of Natural Resources  
1300 Clairemont Ave.  
Eau Claire WI 54702



*Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.*

DNR Use Only			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS No. (if used)
DNR Reviewer		Comments	
Fee Enclosed? <input type="radio"/> Yes <input type="radio"/> No	Fee Amount \$	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		

December 30, 2021

Kevin McKnight  
Hydrogeologist – Remediation and Redevelopment Program  
Wisconsin Department of Natural Resources  
625 E. County Y, Suite 700  
Oshkosh, WI 54901

**Subject: Remedial Action Documentation Report  
Tecumseh Products Company (Former) – Chromium Line  
1604 Michigan Avenue, New Holstein, WI 53061  
WDNR Facility ID: 408020690; BRRTS #02-08-363333**

Dear Mr. McKnight:

This report documents remedial actions recently implemented by TRC Environmental Corporation (TRC) in accordance with the approved *Remedial Action Plan* (TRC, 2021) for the former Tecumseh Products Company (Tecumseh) – Chromium Line site (BRRTS #02-08-363333 [Open ERP]) (Site). The remediation activities consisting of in-situ chemical reduction (ISCR) via injection wells and soil mixing were conducted from October 25 to November 10, 2021. The remedy was implemented to address hexavalent chromium impacts observed at the Site. The details of the implemented supplemental remedy are presented in accordance with Wisconsin Administrative Code Chapter 724.15 in the following sections.

### Site Location Information

- Street Address: 1604 Michigan Avenue, New Holstein, Wisconsin 53061
- Quarter-Quarter Section, Township, Range, and County: NE ¼ and SE ¼ of SE ¼ of Section 10 of Township 17 North, Range 20 East, Calumet County
- NR 716.15 (5) (d) Location Information: Refer to **Figure 1**
- Latitude and Longitude: 88°05'10.46"W 43°57'12.30"N
- Wisconsin Transverse Mercator (WTM) Coordinates: 1,274,535.61011 U.S. ft. N, 2,209,822.29252 U.S. ft. E

### Responsible Party

- Tecumseh Products Company, LLC  
5683 Hines Drive  
Ann Arbor, MI 48108  
  
Mr. Jason Smith  
731-707-2889  
[jason.smith@tecumseh.com](mailto:jason.smith@tecumseh.com)



## Consultant Involved with Project

- TRC Environmental Corporation  
230 West Monroe Street, Suite 630  
Chicago, IL 60606

Mr. Chris Harvey, P.E.  
[charvey@trccompanies.com](mailto:charvey@trccompanies.com)  
(312) 909-0043 cell

## Site Background Information

Several investigations have been completed at the Site. Previous Site investigations (URS 2002; New Fields 2004; TRC 2006 and 2009) delineated the extent of soil impact beneath the plant building where the former plating line was located, and in soils outside the building. In addition, these investigations determined the direction of groundwater flow, assessed the concentration and distribution of dissolved chromium species (total, Cr(VI), and Cr(III)), and evaluated the presence of typical plating-related metals and cyanide. During the investigations and groundwater monitoring, total dissolved chromium consisted of predominantly dissolved hexavalent chromium and future sampling would focus on the total dissolved chromium, as approved by WDNR (WDNR, 2013).

The Site has undergone previous remedial actions, including both source removal as well as MNA. TRC completed a limited chromium soil excavation in September 2011 in the area immediately surrounding a soil boring where analytical results from a sample collected during an August 2010 USEPA Site Assessment found hexavalent chromium at a concentration of 28.6 mg/L (using toxicity characteristic leaching procedure (TCLP)) which exceeded the toxicity characteristic of 5 mg/L. Analytical results of post-excavation soil samples collected from the base and sidewalls of the excavation were below Residual Cleanup Levels (RCLs) confirming source removal. No additional soil removal was warranted, and the excavation was backfilled with clean gravel.

For the past ten years, based on historical groundwater data and in accordance with WDNR recommendations (WDNR, 2008), groundwater monitoring has been conducted quarterly to annually to evaluate the effectiveness of MNA as the final step in the remedial process. In March 2019, TRC completed the groundwater monitoring event and reporting in accordance with the approved Long-Term Monitoring Plan. Total dissolved Cr exceeded the WDNR Enforcement Standard (ES) and the Preventative Action Limit (PAL) established in Chapter NR 140, Groundwater Quality, of the Wisconsin Administrative Code (WAC) in two monitoring wells (MW-B and MW- 5). Seven monitoring wells exceeded the ES in 2019 (MW-A, MW-E, TEC-1, TEC-3, TEC-4, NH- 7, and NH-26). The report concluded that 1) the contaminant plume remains stable and has not shown any migration from previous sampling events, 2) the groundwater impacts do not pose a threat to human health or the environment, and 3) that natural attenuation continues to control the migration of chromium impacts and is still a viable remedy for the site (TRC, 2019a). WDNR responded with a letter, dated July 10, 2019, and directed Tecumseh to prepare and submit a RAOR (TRC, 2019b). The RAOR was approved by WDNR and TRC's proposed remedial action was based upon the information presented in the RAOR.

The RAOR was premised on the fact that the City of New Holstein will be redeveloping the Site, including demolition of the above-grade building structures but leaving the building floor/foundation in place as an engineered barrier. The demolition activities were completed in November 2021. Due to the Site's soil

RCL exceedances and NR 140 ES exceedances, a combination of in-situ soil mixing and subsurface injection wells were agreed upon to address both potential leaching of chromium from soil to groundwater and dissolved phase chromium within the groundwater near the former plating areas.

## Remedial Actions Performed

On April 27, 2021, TRC submitted a remedial action plan (RAP) for WDNR review (TRC, 2021). The RAP was approved on August 13, 2021 (WDNR, 2021). TRC acquired the proper permits from the WDNR prior to mobilization and kept physical copies of these permits onsite at all times. On June 29, 2021, the project received the Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-0046566-07 (Contaminated Groundwater from Remedial Action Options). On July 2, 2021, a temporary exemption for the injection of a remedial material into groundwater was received. This exemption was applied for due to Wisconsin Administrative Code NR 140.28(1)(d) and allowed the project to be exempt from Wis. Adm. Code NR 812.05. All terms and conditions of the general permit and temporary exemption were followed during remedial activities.

On October 25, 2021, TRC and its subcontractor Redox Tech, LLC (Redox Tech) mobilized to the Site to begin injection well installation and soil mixing activities. Using direct push injections installed via a Geoprobe 6610DT and a 1.5-inch DPT drill rod with expendable points, a combination of ferrous sulfate and Redox Tech's Anaerobic BioChem (ABC) was injected into 123 underground Class V injection wells between 13 to 25 feet below ground surface (bgs) at two-foot intervals. A trailer mounted, pneumatically operated mix and pump system were used in combination with a permitted hydrant located along Jefferson Street. A total of 27,921 lb of ferrous sulfate and 3,099 lb of ABC were injected into the subsurface at pressures below 100 psi. Further details on specific amounts injected at each point can be found in Attachment 3. The injection wells were spaced at approximately 12-foot intervals where possible and targeted three areas: the two former plating lines and a higher Cr(VI) concentration area north of the plating lines. The field-located injection locations can be seen on Figure 2.

On November 8, 2021, Redox Tech began in-situ soil mixing activities at the two former plating line areas. The demolition contractor (Veit) sawcut and removed the approximate 1,200 sq. ft. of concrete overlying these areas prior to soil mixing. The concrete was then hauled and disposed of at GFL Hickory Meadows Landfill with other waste from the building demolition. Using an excavator bucket and Redox Tech's proprietary soil blender excavator attachment, a total of 24,000 lb of ferrous sulfate and 2,649 lb of ABC were added to and then blended into the 0 to 6 ft bgs interval. Further details on specific amounts blended at the Site can be found in Attachment 3.

Injection well and soil mixing activities were completed on November 10, 2021. All injection well locations and soil mixing areas were located via a Juniper Geode Bluetooth GPS which is capable of sub-meter accuracy.

Each injection well was abandoned per Wis. Adm. Code NR 141.25 upon completion of all injection activities via bentonite chips. Injection wells located within the building footprint were also sealed with concrete to maintain the cap. TRC has completed an Inventory of Injection Wells form (WDNR Form 3300-253) to meet the NR 141.25(4) well abandonment documentation requirement using WDNR supplied forms. The Inventory of Injection Wells form can be found in Attachment 4.

## Changes to Planned Remedial Actions

Injection well locations were field-adjusted to avoid damaging existing monitoring wells, former underground sewer lines, and when significant subsurface impediments were encountered during drilling and/or well installation. For example, if refusal was encountered during injection well installation at 21 ft bgs, the prescribed amount of ferrous sulfate and ABC for an individual well would be injected at 21 ft, 19 ft, 17 ft, 15 ft, and 13 ft with more injectant administered to each interval. The depth intervals of injection wells located outside of the former building footprint were also adjusted to 10 to 22 ft bgs to account for the three feet of elevation that the remaining concrete foundation provides. The full seven injection intervals were not able to be achieved at the following injection wells: IW-2 to IW-12, IW-14 to IW-17, IW-33, IW-34, IW-45, IW-48, IW-56, IW-57, IW-59 to IW-61, IW-63 to IW-82, IW-84 to IW-100, and IW-102 to IW-123. The specific injection intervals for each injection well can be found in Attachment 3.

The average of recently measured groundwater levels were used as the Site's groundwater level, so no groundwater levels were measured during the described remedial actions.

## Site Monitoring During Remediation

While injection well activities were occurring at the Site, TRC used a photoionization detector (PID) to field-screen for volatile organic compounds (VOCs) at each injection well. All readings were 0.0 ppm besides a reading of 1.2 ppm at IW-57, 10.0 at IW-83, and 0.9 ppm at IW-116. These PID readings were noticed as spikes during the soil gas monitoring and did not persist during the entire time the soil gas was screened. TRC and Redox Tech also monitored the Site and surrounding areas for surfacing or "daylighting" of injectant and/or groundwater during injection activities. Negligible daylighting occurred intermittently, and injection pressure and location was adjusted if daylighting persisted.

## Post-Remediation Activities and Cap Maintenance

The demolition contractor working at the Site filled all pits, trenches, floor drains, and all other potential openings in the concrete cap with concrete and/or flowable fill. The soil mixing areas were capped with flowable fill as well to maintain the cap. The City of New Holstein will manage the cap in accordance with the existing Cap Maintenance Plan.

Tecumseh will continue to actively monitor the groundwater to confirm the effectiveness of the remedial actions. The next groundwater monitoring event will occur in May 2022, approximately six months after supplemental remedial activities were completed. Previously performed groundwater monitoring events at the Site will be used as the baseline condition when assessing the effectiveness of the remedial actions.

## Request for Review

TRC requests a technical review response from WDNR of this Remedial Action Documentation Report and will provide a \$350 review fee.

If there are any questions, please contact me at (312) 909-0043 or via e-mail at [charvey@trccompanies.com](mailto:charvey@trccompanies.com).

Mr. Kevin McKnight  
Wisconsin Department of Natural Resources  
December 30, 2021  
Page 5 of 5

Sincerely,

TRC



Chris Harvey, P.E.  
Principal

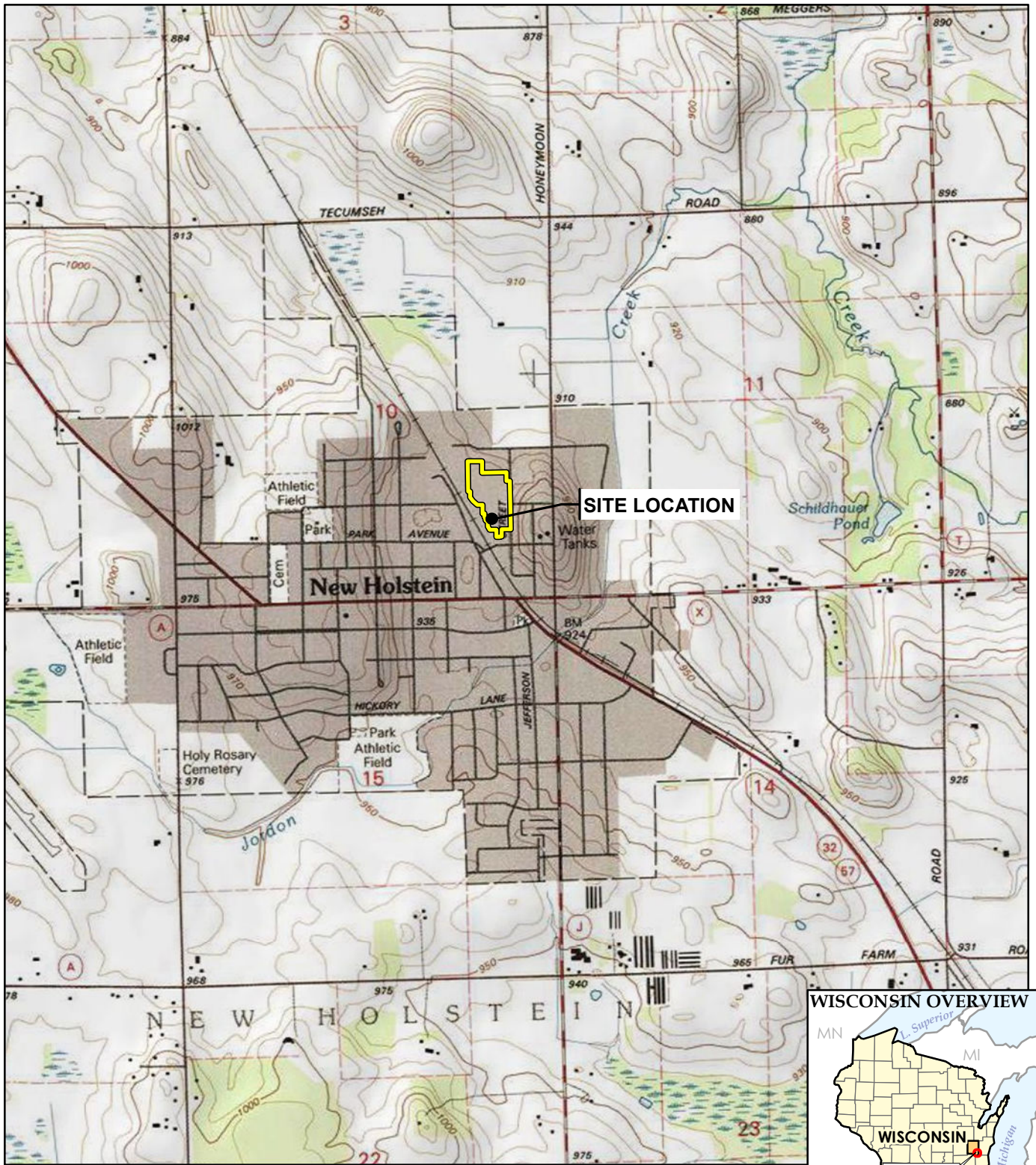
Attachments: Figure 1: Site Location Map  
Figure 2: Site Map  
Attachment 1: References  
Attachment 2: Professional Certifications  
Attachment 3: Field Summary Report for Remedial Services in New Holstein, WI –  
Redox Tech, LLC  
Attachment 4: Inventory of Injection Wells - WDNR Form 3300-253

cc: Mr. Jason Smith/Tecumseh Products Company, LLC. – Ann Arbor, MI (electronic copy)  
Mr. Curtis Toll/Greenberg Traurig, LLP - Philadelphia, PA (electronic copy)  
Mr. Ron Bock/TRC - Irvine, CA (electronic copy)

## **Attachment 1: References**

- New Fields. 2004. *Supplemental Site Investigation for Chromium Contamination, Tecumseh Products Company, New Holstein, Wisconsin. January 2004.*
- TRC Environmental Corporation. 2006. *Groundwater Monitoring Report and Investigation Work Plan, Tecumseh Power Company, Former Plating Line, New Holstein, Wisconsin. December 2006.*
- TRC. 2009. *Site Investigation Report. Former Tecumseh Products, Former Plating Line, New Holstein, Wisconsin. August 2009.*
- TRC. 2019a. *Groundwater Monitoring Report, Former Tecumseh Products, Former Plating Line Area, New Holstein, Wisconsin. May 13, 2019.*
- TRC. 2019b. *Remedial Action Options Report, Former Tecumseh Products, Former Plating Line Area. October 31, 2019.*
- TRC. 2021. *Remedial Action Plan, Tecumseh Products Company (Former) – Chromium Line. April 27, 2021.*
- URS Corporation. 2002. *Site Investigation Report for Groundwater Contamination, Tecumseh Products Company, New Holstein Operations, New Holstein, Wisconsin. November 21, 2002.*
- WDNR. 2008. *Letter RE: Proposed Remedial Action Options Report, Tecumseh Products Former Plating Line. December 2, 2008.*
- WDNR. 2013. *Letter RE: Response to 2013 Annual Groundwater Report, Former Tecumseh Products, Former Plating Area. October 15, 2013*
- WDNR. 2021. *Response to July 22, 2021 Letters RE Remedial Action Design Report Review and Infiltration/Injection Temporary Exemption Request. August 13, 2021.*

## FIGURES



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



WORKING COPY



708 Heartland Trail  
Suite 3000  
Madison, WI 53717  
Phone: 608.826.3600

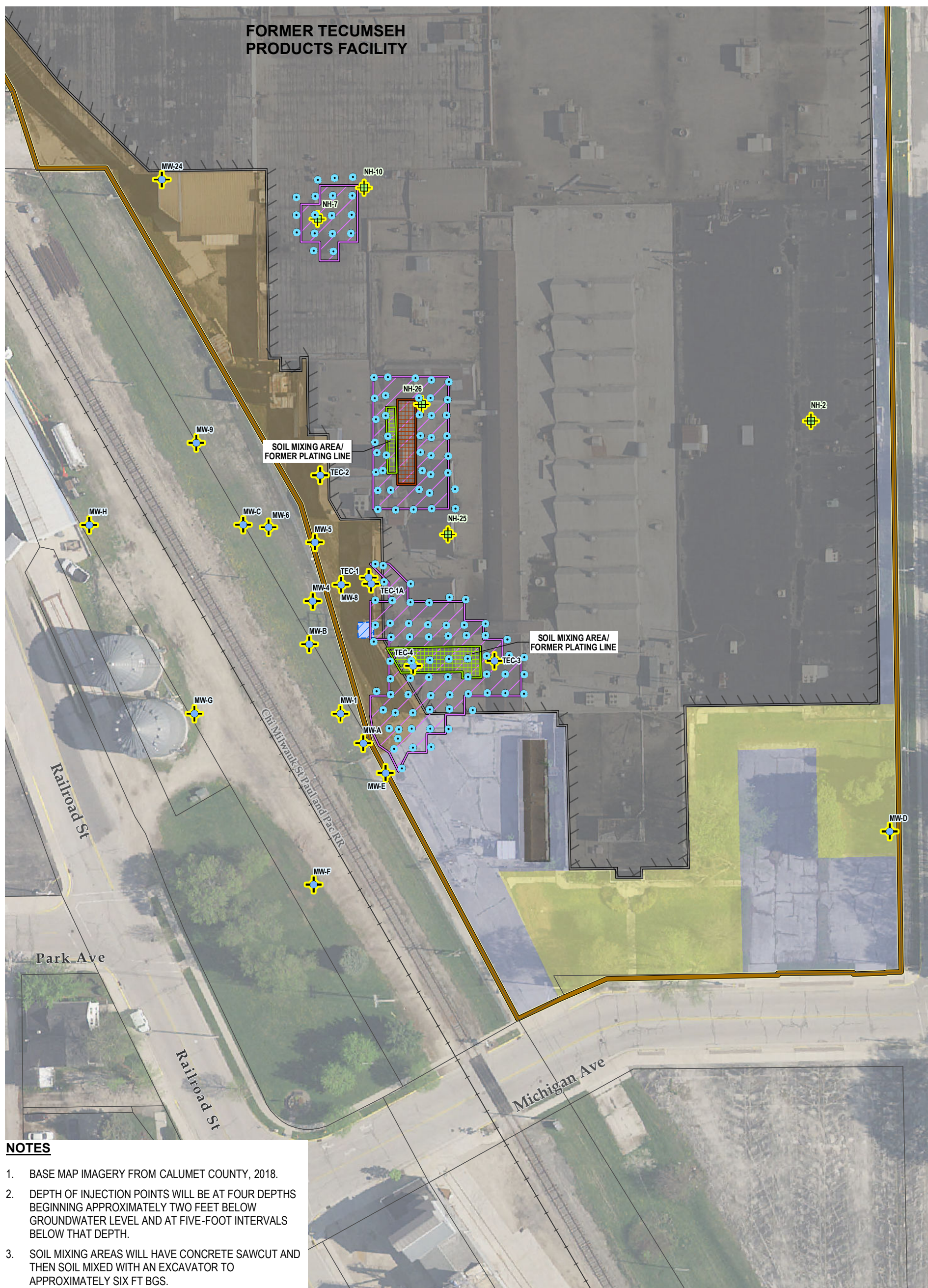
**BRRTS #02-08-363333**  
**TECUMSEH PRODUCTS CO. (FORMER) - CHROMIUM LINE**  
**NEW HOLSTEIN, WISCONSIN**

**FIGURE 1**  
**SITE LOCATION MAP**

DRAWN BY:	R. SUEMNICHT
APPROVED BY:	C. HARVEY
PROJECT NO:	107927-200-9300
FILE NO.	107927-200-018slm.mxd
DATE:	DECEMBER 2021



**FORMER TECUMSEH PRODUCTS FACILITY**



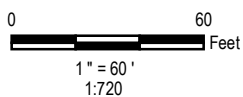
**NOTES**

1. BASE MAP IMAGERY FROM CALUMET COUNTY, 2018.
2. DEPTH OF INJECTION POINTS WILL BE AT FOUR DEPTHS BEGINNING APPROXIMATELY TWO FEET BELOW GROUNDWATER LEVEL AND AT FIVE-FOOT INTERVALS BELOW THAT DEPTH.
3. SOIL MIXING AREAS WILL HAVE CONCRETE SAWCUT AND THEN SOIL MIXED WITH AN EXCAVATOR TO APPROXIMATELY SIX FT BGS.

**LEGEND**

	PARCEL BOUNDARY		CAP COVER TYPES
	INJECTION WELL		EXISTING BUILDING CAP (STRUCTURAL IMPEDIMENT)
	MONITORING WELL (TRC)		GRASS CAP
	MONITORING WELL (R.E. LEE)		GRAVEL/GRASS CAP
	WELL TO BE PROTECTED DURING DEMOLITION ACTIVITIES		PAVEMENT CAP
	INJECTION AREA		BUILDING
	SOIL MIXING AREA		FORMER SOIL EXCAVATION AREA (CLEAN BACKFILL)
	OPEN PIT		

WORKING COPY



PROJECT: **BRRTS #02-08-363333**  
**TECUMSEH PRODUCTS CO. (FORMER) - CHROMIUM LINE**  
**NEW HOLSTEIN, WISCONSIN**

SHEET TITLE: **SITE MAP**

DRAWN BY: R. SUJEMNIGHT	SCALE: 1:720	PROJ. NO. 107927-200-9300
CHECKED BY:		FILE NO. 107927-200-019.mxd
APPROVED BY:	DATE PRINTED:	<b>FIGURE 2</b>
DATE: DECEMBER 2021		



708 Heartland Trail, Suite 3000  
 Madison, WI 53717  
 Phone: 608.826.3600  
 www.trcsolutions.com

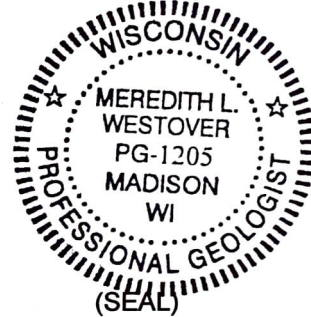
## **Attachment 2: Professional Certifications**

Consistent with NR 712.09(1) Wis. Adm. Code that submittals prepared by, or under the supervision of, a professional engineer, a hydrogeologist or a scientist shall be dated and certified by the professional engineer, hydrogeologist or scientist using the appropriate certification:

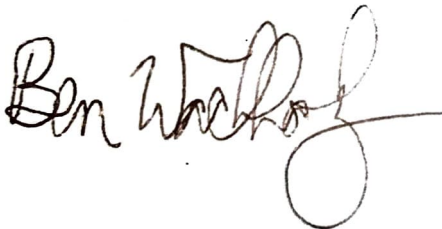
"I, Meredith Westover, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



Meredith Westover, P.G. #1205



"I, Benjamin Wachholz, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



Benjamin Wachholz, P.E. #47706-6



**Attachment 3: Field Summary Report for Remedial Services in New  
Holstein, WI – Redox Tech, LLC**

**Table 1: Injection Summary Table**

<b>Injection Point</b>	<b>Date</b>	<b>Number of Intervals</b>	<b>Solution Injected (gal)</b>	<b>ABC Injected (gal)</b>	<b>ABC Injected (lbs)</b>	<b>Ferrous Sulfate Injected (lbs)</b>
IW-1	11/10/2021	7	270	3	25	228
IW-2	11/9/2021	3	270	3	25	228
IW-3	11/9/2021	6	270	3	25	228
IW-4	11/9/2021	6	270	3	25	228
IW-5	11/9/2021	3	270	3	25	228
IW-6	11/9/2021	3	270	3	25	228
IW-7	11/9/2021	6	270	3	25	228
IW-8	11/9/2021	6	270	3	25	228
IW-9	11/9/2021	6	270	3	25	228
IW-10	11/9/2021	6	270	3	25	228
IW-11	11/9/2021	6	270	3	25	228
IW-12	11/8/2021	6	270	3	25	228
IW-13	11/8/2021	7	270	3	25	228
IW-14	11/9/2021	6	270	3	25	228
IW-15	11/9/2021	6	270	3	25	228
IW-16	11/8/2021	6	270	3	25	228
IW-17	11/8/2021	6	270	3	25	228
IW-18	10/27/2021	7	270	3	25	228
IW-19	10/27/2021	7	270	3	25	228
IW-20	10/28/2021	7	270	3	25	228
IW-21	10/28/2021	7	270	3	25	228
IW-22	10/26/2021	7	270	3	25	228
IW-23	10/28/2021	7	270	3	25	228
IW-24	10/27/2021	7	270	3	25	228
IW-25	10/28/2021	7	270	3	25	228
IW-26	10/28/2021	7	270	3	25	228
IW-27	10/28/2021	7	270	3	25	228
IW-28	10/28/2021	7	270	3	25	228
IW-29	10/27/2021	7	270	3	25	228
IW-30	10/29/2021	7	270	3	25	228
IW-31	10/28/2021	7	270	3	25	228
IW-32	10/28/2021	7	270	3	25	228
IW-33	10/29/2021	6	270	3	25	228
IW-34	10/27/2021	5	270	3	25	228
IW-35	10/29/2021	7	270	3	25	228
IW-36	10/28/2021	7	270	3	25	228
IW-37	10/29/2021	7	270	3	25	228
IW-38	10/29/2021	7	270	3	25	228
IW-39	10/29/2021	7	270	3	25	228
IW-40	10/26/2021	7	270	3	25	228

IW-41	11/1/2021	7	270	3	25	228
IW-42	11/2/2021	7	270	3	25	228
IW-43	10/29/2021	7	270	3	25	228
IW-44	10/29/2021	7	270	3	25	228
IW-45	11/1/2021	6	270	3	25	228
IW-46	10/26/2021	7	270	3	25	228
IW-47	10/26/2021	7	270	3	25	228
IW-48	11/1/2021	6	270	3	25	228
IW-49	11/1/2021	7	270	3	25	228
IW-50	11/1/2021	7	270	3	25	228
IW-51	10/27/2021	7	270	3	25	228
IW-52	11/2/2021	7	270	3	25	228
IW-53	11/1/2021	7	270	3	25	228
IW-54	11/1/2021	7	270	3	25	228
IW-55	11/1/2021	7	270	3	25	228
IW-56	11/1/2021	6	270	3	25	228
IW-57	11/1/2021	6	270	3	25	228
IW-58	11/6/2021	7	270	3	25	228
IW-59	11/5/2021	6	270	3	25	228
IW-60	11/5/2021	6	270	3	25	228
IW-61	11/2/2021	6	270	3	25	228
IW-62	11/6/2021	7	270	3	25	228
IW-63	11/2/2021	6	270	3	25	228
IW-64	11/2/2021	5	270	3	25	228
IW-65	11/2/2021	6	270	3	25	228
IW-66	11/3/2021	5	270	3	25	228
IW-67	11/3/2021	5	270	3	25	228
IW-68	11/6/2021	5	270	3	25	228
IW-69	11/3/2021	6	270	3	25	228
IW-70	11/3/2021	5	270	3	25	228
IW-71	11/3/2021	5	270	3	25	228
IW-72	11/3/2021	5	270	3	25	228
IW-73	11/3/2021	5	270	3	25	228
IW-74	11/3/2021	5	270	3	25	228
IW-75	11/6/2021	6	270	3	25	228
IW-76	11/4/2021	4	270	3	25	228
IW-77	11/4/2021	4	270	3	25	228
IW-78	11/4/2021	4	270	3	25	228
IW-79	11/4/2021	4	270	3	25	228
IW-80	11/4/2021	4	270	3	25	228
IW-81	11/3/2021	5	270	3	25	228
IW-82	11/3/2021	4	270	3	25	228
IW-83	11/7/2021	7	270	3	25	228
IW-84	11/2/2021	5	270	3	25	228
IW-85	11/2/2021	5	270	3	25	228
IW-86	11/2/2021	4	270	3	25	228

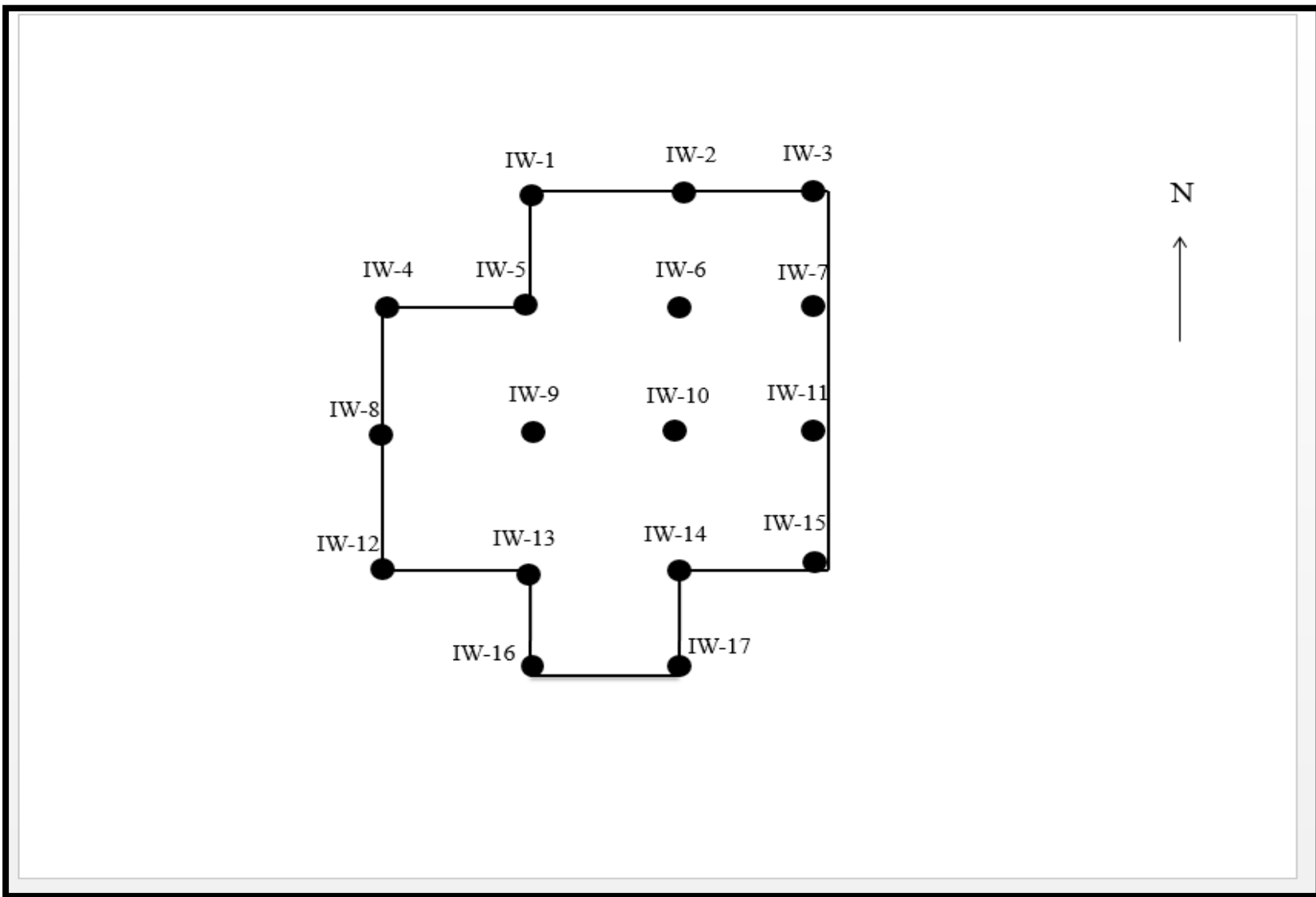
IW-87	11/2/2021	4	270	3	25	228
IW-88	11/7/2021	4	270	3	25	228
IW-89	11/4/2021	4	270	3	25	228
IW-90	11/4/2021	4	270	3	25	228
IW-91	11/7/2021	5	270	3	25	228
IW-92	11/5/2021	5	270	3	25	228
IW-93	11/5/2021	4	270	3	25	228
IW-94	11/5/2021	4	270	3	25	228
IW-95	11/5/2021	4	270	3	25	228
IW-96	11/5/2021	4	270	3	25	228
IW-97	11/6/2021	4	270	3	25	228
IW-98	11/5/2021	4	270	3	25	228
IW-99	11/7/2021	4	270	3	25	228
IW-100	11/7/2021	4	270	3	25	228
IW-101	11/7/2021	7	270	3	25	228
IW-102	11/5/2021	4	270	3	25	228
IW-103	11/5/2021	4	270	3	25	228
IW-104	11/6/2021	4	270	3	25	228
IW-105	11/5/2021	4	270	3	25	228
IW-106	11/6/2021	4	270	3	25	228
IW-107	11/6/2021	4	270	3	25	228
IW-108	11/7/2021	5	270	3	25	228
IW-109	11/7/2021	5	270	3	25	228
IW-110	11/7/2021	4	270	3	25	228
IW-111	11/5/2021	4	270	3	25	228
IW-112	11/6/2021	4	270	3	25	228
IW-113	11/6/2021	4	270	3	25	228
IW-114	11/7/2021	4	270	3	25	228
IW-115	11/7/2021	5	270	3	25	228
IW-116	11/8/2021	5	270	3	25	228
IW-117	11/7/2021	4	270	3	25	228
IW-118	11/8/2021	4	270	3	25	228
IW-119	11/8/2021	5	270	3	25	228
IW-120	11/7/2021	6	270	3	25	228
IW-121	11/8/2021	5	270	3	25	228
IW-122	11/8/2021	4	270	3	25	228
IW-123	11/8/2021	4	270	3	25	228

<b>Totals</b>	<b>33,210</b>	<b>369</b>	<b>3,100</b>	<b>28,000</b>
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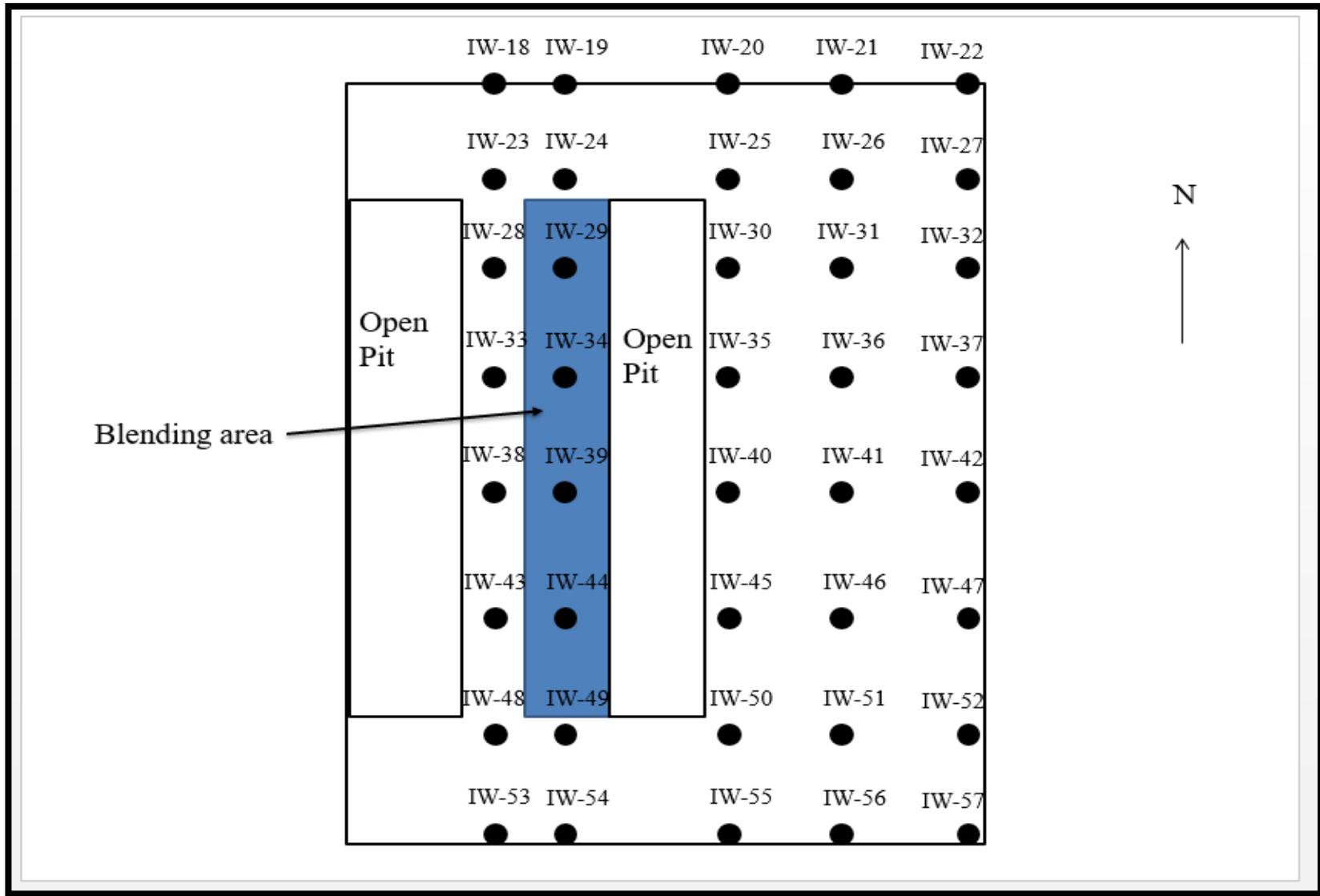
**Table 2: In Situ Soil Blending Summary Table**

<b>Cell</b>	<b>Date Completed</b>	<b>Area (ft<sup>2</sup>)</b>	<b>Target Depth</b>	<b>Sacks of Ferrous Sulfate</b>	<b>Ferrous Sulfate (lbs)</b>	<b>ABC (lbs)</b>	<b>ABC &amp; Ferrous Sulfate (lbs)</b>	<b>ABC (gal)</b>	<b>ABC Solution (gal)</b>
1	11/8/2021	147	0-6	1.5	3,000	289.3	3,289.3	36.5	236.5
2	11/8/2021	147	0-6	1.5	3,000	289.3	3,289.3	36.5	236.5
3	11/9/2021	378	0-6	1.5	3,000	336.2	3,336.2	41	266.0
4	11/9/2021	346.5	0-6	2.5	5,000	552.6	5,552.6	68	448.0
5	11/9/2021	346.5	0-6	2.5	5,000	552.6	5,552.6	68	448.0
6	11/9/2021	273	0-6	2.5	5,000	598.6	5,598.6	73	473.0
<b>TOTAL</b>	<b>N/A</b>	<b>1,638</b>	<b>N/A</b>	<b>12</b>	<b>24,000</b>	<b>2,619</b>	<b>26,619</b>	<b>323</b>	<b>2,108</b>





**Figure 1:** Injection Map NH-10 and NH-7



**Figure 2:** Injection Map NH-26 and NH-25

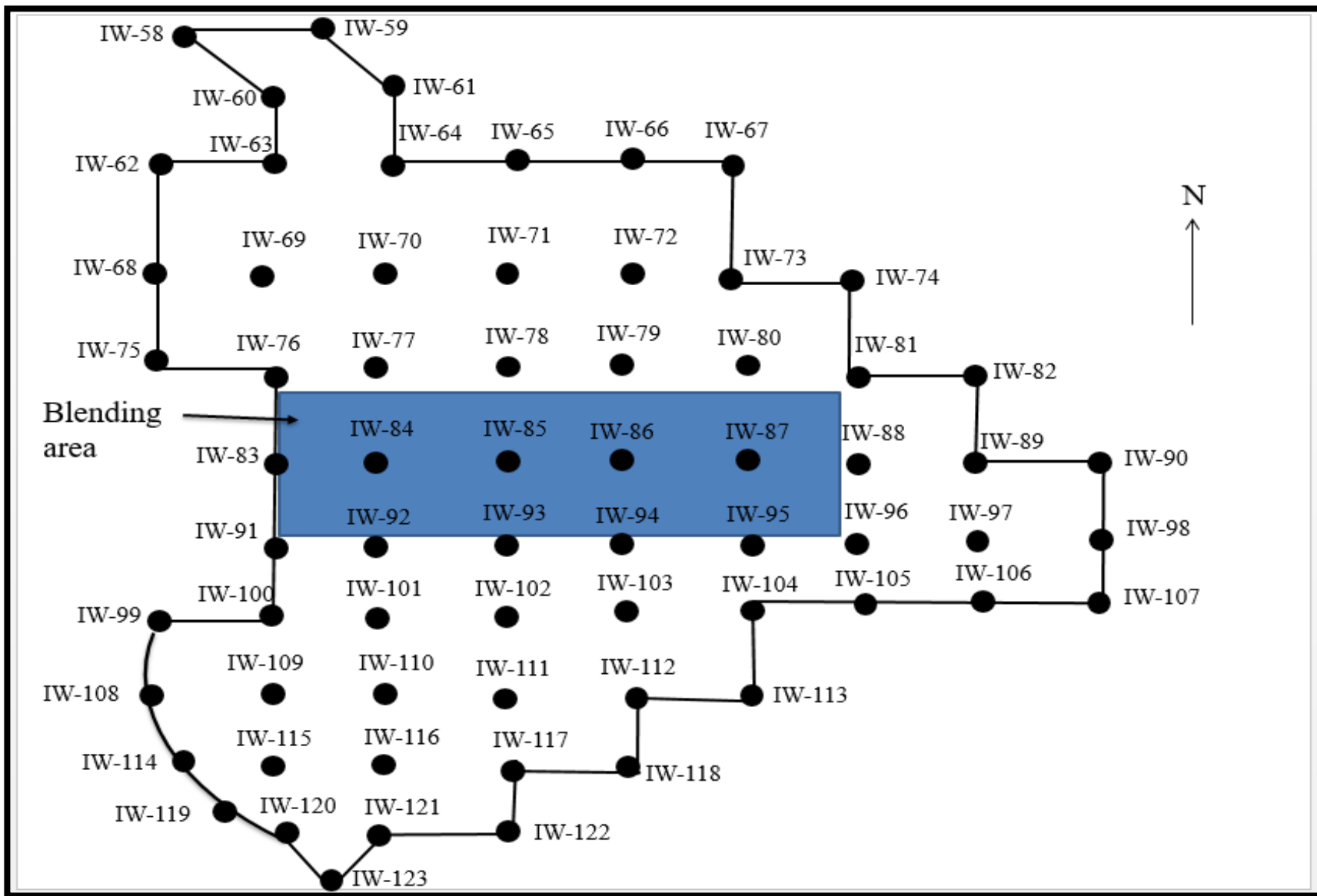


Figure 3: Injection Map TEC-4 and TEC-3

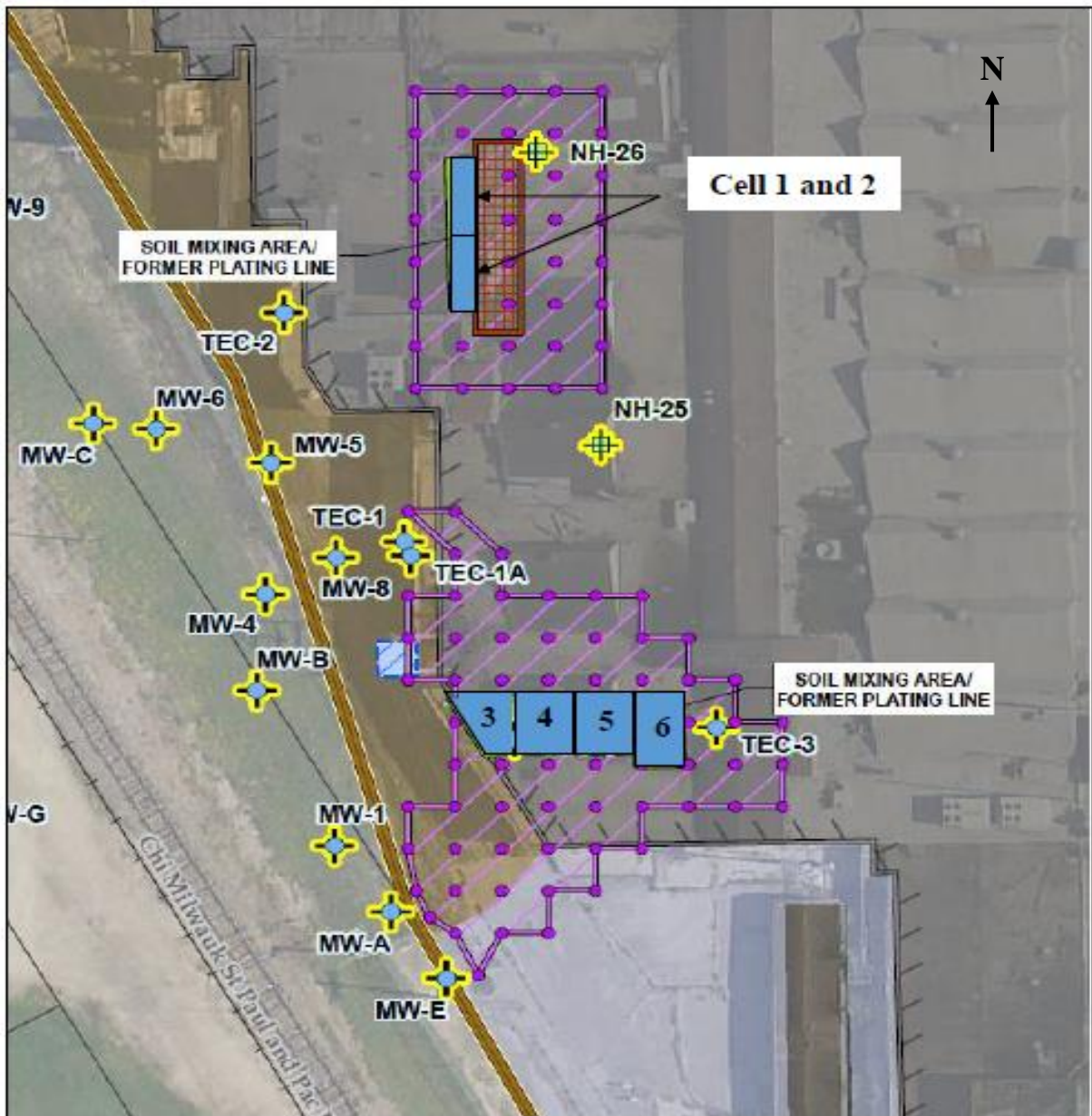


Figure 4. Blending Layout

## Redox Tech Data Collection Sheet

<b>Date:</b>	10/26/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
1333	1433	347.5	
1433	1533	192.5	
1533	1633	463	
1633	1733	77	
<b>Total Injected Solution</b>		1,080	

## Redox Tech Data Collection Sheet

<b>Date:</b>	10/27/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
925	1025	192.5	
1025	1125	347.5	
1125	1225	0	
1225	1325	290	
1325	1425	250	
1425	1525	19.25	
1525	1625	520.75	
<b>Total Injected Solution</b>		1,620	

## Redox Tech Data Collection Sheet

<b>Date:</b>	10/28/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
753	853	540	
853	953	192.5	
953	1053	347.5	
1053	1153	385.5	
1153	1253	154.5	
1253	1353	270	
1353	1453	270	
1453	1553	540	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	10/29/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
744	844	462	
844	944	115.5	
944	1044	462	
1044	1144	115.5	
1144	1244	462	
1244	1344	427.5	
1344	1444	115.5	
<b>Total Injected Solution</b>		2,160	



## Redox Tech Data Collection Sheet

<b>Date:</b>	11/1/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
900	1000	501	
1000	1100	309.5	
1100	1200	270	
1200	1300	270	
1300	1400	309.5	
1400	1500	540	
1500	1600	424	
1600	1700	76	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/2/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
817	917	540	
917	1017	115.5	
1017	1117	424.5	
1117	1217	270	
1217	1317	270	
1317	1417	308.5	
1417	1517	231.5	
1517	1617	540	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/3/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
839	939	540	
939	1039	231.5	
1039	1139	308.5	
1139	1239	424	
1239	1339	116	
1339	1439	308.5	
1439	1539	347	
1539	1639	193.5	
1639	1739	231	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/4/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
805	905	500	
905	1005	270	
1005	1105	310	
1105	1205	0	
1205	1305	343	
1305	1405	197	
1405	1505	424.5	
1505	1605	115.5	
<b>Total Injected Solution</b>		2,160	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/5/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
747	847	540	
847	947	154	
947	1047	386	
1047	1147	154	
1147	1247	386	
1247	1347	300	
1347	1447	585	
1447	1547	195	
1547	1647	540	
<b>Total Injected Solution</b>		3,240	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/6/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
850	950	309	
950	1050	309	
1050	1150	309	
1150	1250	153	
1250	1350	540	
1350	1450	270	
1450	1550	270	
1550	1650	501.5	
1650	1750	38.5	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/7/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
841	941	540	
941	1041	154	
1041	1141	193	
1141	1241	193	
1241	1341	540	
1341	1441	270	
1441	1541	405	
1541	1641	405	
<b>Total Injected Solution</b>		2,700	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/8/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
732	832	540	
832	932	500.5	
932	1032	192.5	
1032	1132	382	
1132	1232	159	
1232	1332	386	
1332	1432	270	
1432	1532	308.5	
1532	1632	501.5	
<b>Total Injected Solution</b>		3,240	



## Redox Tech Data Collection Sheet

<b>Date:</b>	11/9/2021	<b>Data Taker:</b>	Philip Simonton
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
753	853	540	
853	953	424	
953	1053	346.5	
1053	1153	308.5	
1153	1253	0	
1253	1353	540	
1353	1453	347	
1453	1553	231.5	
1553	1653	502.5	
<b>Total Injected Solution</b>		3,240	

## Redox Tech Data Collection Sheet

<b>Date:</b>	11/10/2021	<b>Data Taker:</b>	<b>Philip Simonton</b>
<b>Client:</b>	TRC	<b>Site Name:</b>	New Holstein, WI TRC
<b>Rig Type:</b>	6610	<b>Fluid Conc:</b>	3 gal ABC, 267 gal Water, and 247 lbs Ferrous Sulfate
<b>Inj. Tool:</b>	Inclosed Trailer	<b>Fluid Injected</b>	ABC, Water, and Ferrous Sulfate
<b>Start Time</b>	<b>End Time</b>	<b>Injected Solution (gals)</b>	
751	851	270	
<b>Total Injected Solution</b>		270	





















































































































































































































































































# REDOX TECH, LLC



*"Providing Innovative In Situ Soil and Groundwater Treatment"*

November 23, 2021

Via Email

Benjamin Wachholz

TRC Companies Inc

708 Heartland Trail.

Madison, WI 53717

Phone: (608) 354-3923

Email: [bwachholz@trccompanies.com](mailto:bwachholz@trccompanies.com)

**RE:** Field Summary Report for Remedial Services in New Holstein, WI

Dear Mr. Wachholz,

The following letter provides a brief summary of the field events performed from October 25 through November 10, 2021 at the above referenced site. Redox Tech mobilized to New Holstein, WI for the purpose of addressing impacted soil and groundwater with a combination of ferrous sulfate and Anaerobic BioChem<sup>®</sup> (ABC). Implementation methods included direct push (DPT) injections as well as in situ soil mixing.

## **Direct Push Injections**

Injection of ABC and ferrous sulfate was conducted via direct push drilling techniques in a total of one hundred and twenty-three (123) injection locations. Redox Tech addressed three separate areas for injections. Seventeen (17) locations were in the vicinity of monitoring wells NH-10 and NH-7, forty (40) locations in the vicinity of monitoring wells NH-26 and NH-25, and sixty-six (66) locations were in the vicinity of monitoring wells TEC-4 and TEC-3. All injection locations targeted a vertical interval of 13 to 25 feet below ground surface (ft bgs) with injections occurring every two feet. Completing injections in this manner helped to ensure that proper vertical distribution was achieved.

Locations surrounding monitoring wells NH-10 and NH-7 received a total of 428 lbs (51 gal) of ABC and 3,859 lbs ferrous sulfate. The ABC and ferrous sulfate were mixed with potable water to form 4,590 gallons of solution and injected. Refusal while drilling was observed at several locations in this area. When refusal was encountered, the solution was reallocated into the remaining intervals for that particular location.

Locations surrounding the NH-26 and NH-25 monitoring wells received a total of 1,008 lbs (120 gal) of ABC and 9,080 lbs ferrous sulfate. The ABC and ferrous sulfate were mixed

with potable water to form 10,800 gallons of solution and injected. Injection locations IW-30, IW-35, IW-40, and IW-45 had to be relocated due to access issues.

Locations surrounding the TEC-4 and TEC-3 monitoring wells received a total of 1,663 lbs (198 gal) ABC and 14,982 lbs ferrous sulfate. The ABC and ferrous sulfate were mixed with potable water to form 17,820 gallons of solution and injected. Bedrock (and refusal while drilling) was observed several feet shallower (between 19 and 21 ft bgs) at various locations in this area. The proposed amount of solution was reallocated into the remaining interval when the desired depth was not achieved. A total of twenty-two (22) locations in this area were located approximately 3 feet below grade. To account for the elevation change, the target depth for these locations was adjusted to 10 to 22 ft bgs. Additional injection specifics, including a summary table and injection location maps for all injection areas, are provided in **Appendix A**.

All boreholes were sealed with granular bentonite upon completion. Borings located on the pavement were repaired with high strength concrete.

### **In Situ Soil Mixing**

In addition to DPT injections, in situ mixing was completed in two separate areas. A total of six cells of various sizes were addressed. Redox Tech mixed 24,000 lbs of ferrous sulfate and 2,649 lbs (323 gal) of ABC to complete the in situ soil mixing portion of the project. Mixing targeted a vertical interval of 0 to 6 ft bgs. The ABC solution was mixed at predetermined amounts and pumped into a given cell. The ferrous sulfate was added as a dry powder using the excavator bucket. Once all amendments were added, Redox Tech's proprietary soil blender mixed the contaminated soils and chemicals until a homogenous mixture was achieved. Additional water was added to aid in the mixing process. Blending specifics, including a map of blending areas, is provided in **Appendix A**.

Crew and equipment were off site by the end of the day on Wednesday November 10. Trash was gathered and placed in an area designated by TRC. If there are any questions regarding the work, please do not hesitate to email me at [simonton@redox-tech.com](mailto:simonton@redox-tech.com) or by phone at (630) 705-0390.

Regards,

Philip Simonton

**APPENDIX A**

**INJECTION LOGS  
(INCLUDING SUMMARY  
TABLE AND SKETCHES)**



## **Attachment 4: Inventory of Injection Wells – WDNR Form 3300-253**

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) 2021, December 3	Facility ID Number 408020690	Transaction Type (Please check one of the following) <input type="checkbox"/> Deletion <input type="checkbox"/> Entry Change <input checked="" type="checkbox"/> First Time Entry <input type="checkbox"/> Replacement
--	---------------------------------	---

**Facility Name and Location**

Last Name Tecumseh Products Company LLC/ City of New Holstein	First BRRTS #02-08-363333	MI	Latitude: DEG MIN SEC 43 57 9.32 N	Longitude: DEG MIN SEC 88 5 10.06 W
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Street Address / Route Number 1604 Michigan Avenue	Township T17 N	Range R20E	Section SE	¼ Section SE
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City / Town New Holstein	State WI	ZIP Code 53061	County Calumet	Tribal Land <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**Legal Contact**

Type <input type="checkbox"/> Owner <input checked="" type="checkbox"/> Operator	Last Name Smith	First Jason	MI	Telephone Number (incl. area code) 731-644-8127
---	--------------------	----------------	----	--

Organization Tecumseh Products Company LLC	Ownership <input checked="" type="checkbox"/> Private <input type="checkbox"/> County / Local Government <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Specify Other _____	
Street / P.O. Box 2215 Hwy 69 North		
City / Town Paris	State TN	ZIP Code 38242

**Well Information**

WELL CLASS	WELL TYPE	TOTAL NUMBER OF WELLS	WELL OPERATION STATUS					KEY:
			UC	AC	TA	PA	AN	
V	underground injection	123				X		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):

All injection wells have been abandoned with granular bentonite and sealed with concrete where appropriate.