



September 30, 2021

TECUMSEH PRODUCTS COMPANY
ATTN: CARRIE WILLIAMSON, GENERAL COUNSEL
5683 HINES DRIVE
ANN ARBOR, MI 48108

[Via Electronic Mail Only to carrie.williamson@tecumseh.com]

Subject: Natural Recovery Monitoring Plan for Surface Water and Sediment Not Approved
HARP Site Long Term Monitoring, BRRTS # 02-08-587669

Dear Ms. Williamson:

The Natural Recovery Monitoring Plan for Surface Water and Sediment dated April 15, 2021 submitted to the Department of Natural Resources (DNR), as required by the November 2018 Negotiated Agreement for the Hayton Area Remediation Project (HARP) Site Long Term Monitoring, is not approved.

The Natural Recovery Monitoring Plan does not meet the requirements of Wis. Adm. Code ch. NR 724 and is missing necessary and pertinent information, as referenced in the attached comments. The comments provided are intended to refine the monitoring plan to improve the work product and assist with compliance with maintenance and monitoring requirements for remedial action sites in Wisconsin.

The comments should not be interpreted as exhaustive addressing all of the requirements necessary to comply with NR 724 Wis. Adm. Code for a natural recovery monitoring plan and NR 726 Wis. Adm. Code for case closure. All relevant information should be included in the revision.

As stated in Section XIV of the Negotiated Agreement, “[n]othing herein shall preclude the State from requiring Tecumseh to undertake other or additional environmental response actions at the Site that may otherwise be required of Tecumseh as a responsible party pursuant to Wis. Stats. ch. 292 and the Wis. Admin. Code ch. NR 700 administrative rule series.”

Therefore, within 60 days of the date of this letter, November 29, 2021, revise and re-submit the monitoring plan with a \$425 long-term monitoring plan review fee.

Please contact me at (920) 510-8277 or by email at Sarah.Krueger@wisconsin.gov if you wish to discuss this further.

Sincerely

Sarah Krueger, P.G.
Project Manager, Northeast Region
Remediation & Redevelopment Program

Attachment: DNR Comments on the Natural Recovery Monitoring Plan for Surface Water and Sediment
HARP Site Long Term Monitoring, BRRTS # 02-08-587669

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cc: Jason Smith, Tecumseh Products Co. – jason.smith@tecumseh.com
Chris Harvey, TRC - CHarvey@trccompanies.com
William J. Nelson, DNR – William.Nelson@wisconsin.gov

General Comments

1. Wis. Admin. Code ch. NR 724 long-term monitoring plan can be iterative, where information collected may indicate the need for modification to the plan to include changes to evaluation, analysis, data collection or analytical methods, etc.

QAPP Needed

2. Quality Assurance Project Plan (QAPP) – The department is directing you under Wis. Admin. Code § NR 724.17(2) to develop a QAPP to accompany the long term monitoring plan that describes in detail the data collection and analytical methods used in the LTM plan. The QAPP may be submitted as a separate document or as an addendum to the monitoring plan.

Objective Statement Needed

3. Section 3.3 Purpose – The monitoring plan should include a statement of the objective of the plan. Objective statements provide the basis for the overall monitoring plan and so should include key elements of decisions based on the data collected.

Scope of Work Deficiencies

4. Section 4.1 Scope of Work – Sediment and water do not necessarily need to be collected at the same locations. There may be benefits in separating the activities so water sampling locations are more representative of the operable unit (OU) or to reduce site disturbances from sampling one media to another media.
5. Section 4.1 Scope of Work, Surface Water Sampling – PCBs in water are strongly correlated to temperature, suspended organic matter, and total suspended solids (TSS). Past United States Geological Survey (USGS) monitoring had shown orders of magnitude variation between sampling dates. The monitoring plan should develop a baseline of PCBs in surface water for HARP. The monitoring year should include monthly monitoring of PCBs in water during the expected peak water PCB concentration during the summer months of May through August.
6. Section 4.1 Scope of Work, Surface Water Sampling – Locations: Add reference or background surface water collection locations. An upstream reference location should be located on the South Branch of the Manitowoc River near Chilton. Jordan Creek above the HARP should also be sampled.
7. Section 4.1 Scope of Work, In Channel Sediment Sampling – The sampling locations should be selected based on the existing post remedial action sampling. The following locations (see attached map) have shown elevated sediment PCBs and should be monitored for sediment PCBs in this plan:
 - a. OU1: S4, S13
 - b. OU2: S6, S13
 - c. OU3: S3, S09
 - d. OU4: S3, RU 17C (vicinity)
 - e. OU5: Past location of the 11 ppm PCB result, the proposed DS2 at Lemke Rd.

Additional sampling locations in each OU should be selected based on field verified geomorphology i.e. poling survey. Representative areas of deposition e.g sediment trap, point bars, and quiescent areas, and impacted areas that were not remediated should be included in the in-channel sampling locations as part

of the natural recovery monitoring. These sampling locations may be adjusted periodically with concurrence from DNR based on depositional rates determined with the poling surveys.

Sediment Sampling Location Deficiencies

8. Section 4.3 Sampling Locations (sediment) – The sampling location must contain adequate sediment for sampling and analysis. If the transect probe method can't find a minimum of 1.0 feet of sediment additional nearby locations should be probed until a minimum of 1.0 feet of soft sediment is located.

Surface Water Sampling Deficiencies

9. Section 4.4 Surface Water Sample Collection – This section must be compatible with water sample collection for PCB congeners. See comment 11 on PCB analyses.
10. Section 4.4 Surface Water Sample Collection – Water samples must be analyzed for PCB congeners, total organic carbon (TOC), dissolved organic carbon (DOC), chlorophyll, and TSS. Water temperature at the sample collection point must be obtained, recorded, and reported with the sample results. Based on DNR's experience with water PCB data for the Fox River project, incorporating a field blank is strongly encouraged to account for potential bias. The procedure for collecting a field blank should be similar to what's used for low level mercury (i.e. pouring reagent water from one bottle into the sample bottle to account for any atmospheric contributions.)
11. Section 4.4 Surface Water Sample Collection – Water samples must be analyzed by a PCB congener method to achieve reliable quantitation for total PCBs. USEPA method 1668 or an equivalent high-resolution gas chromatography/mass spectrometry method is required. Although USEPA method 8082 can be used for congener determinations, no laboratories accredited in Wisconsin have developed that method, so method performance and congener detection limits have not been evaluated for this application.

Sediment Sampling Deficiencies

12. Section 4.5.2 Sediment Sample Collection – 50% of sediment sample locations must be sampled by both a ponar grab sampler (or approved equivalent) and with a core sampler for comparison of the results.
13. Section 4.5.3 Sediment Sample Processing – Sediment must be analyzed for TOC.
14. Section 4.5.3 Sediment Sample Processing – This section needs more information on transport and protection of the integrity of unprocessed samples. Transporting core samples in core tubes has risks of disturbing the sample. Explain what will be done to protect the samples during distant transport such as travel to Madison for processing.
15. Section 4.5.3 Sediment Sample Processing – Subsampling of sediment cores must be consistent with the OU5 SIWP.
 - f. Sediment collected by core sample must be subsampled for lab analyses by the 0-6 inch interval and the 6-18 inch interval when available. If the full 6-18 inch interval is not available, the portion that is available must be analyzed. These intervals must not be adjusted by the core recovery as indicated in the TRC SOP 008.
 - g. The monitoring plan must specify recovery criteria for core sampling. Commonly a minimum recovery ratio of 75% is specified in sediment core sampling plans.
 - h. Sediment core recovery ratios must be recorded and reported in the SI report.

Surface Water and Sediment Sampling Frequency

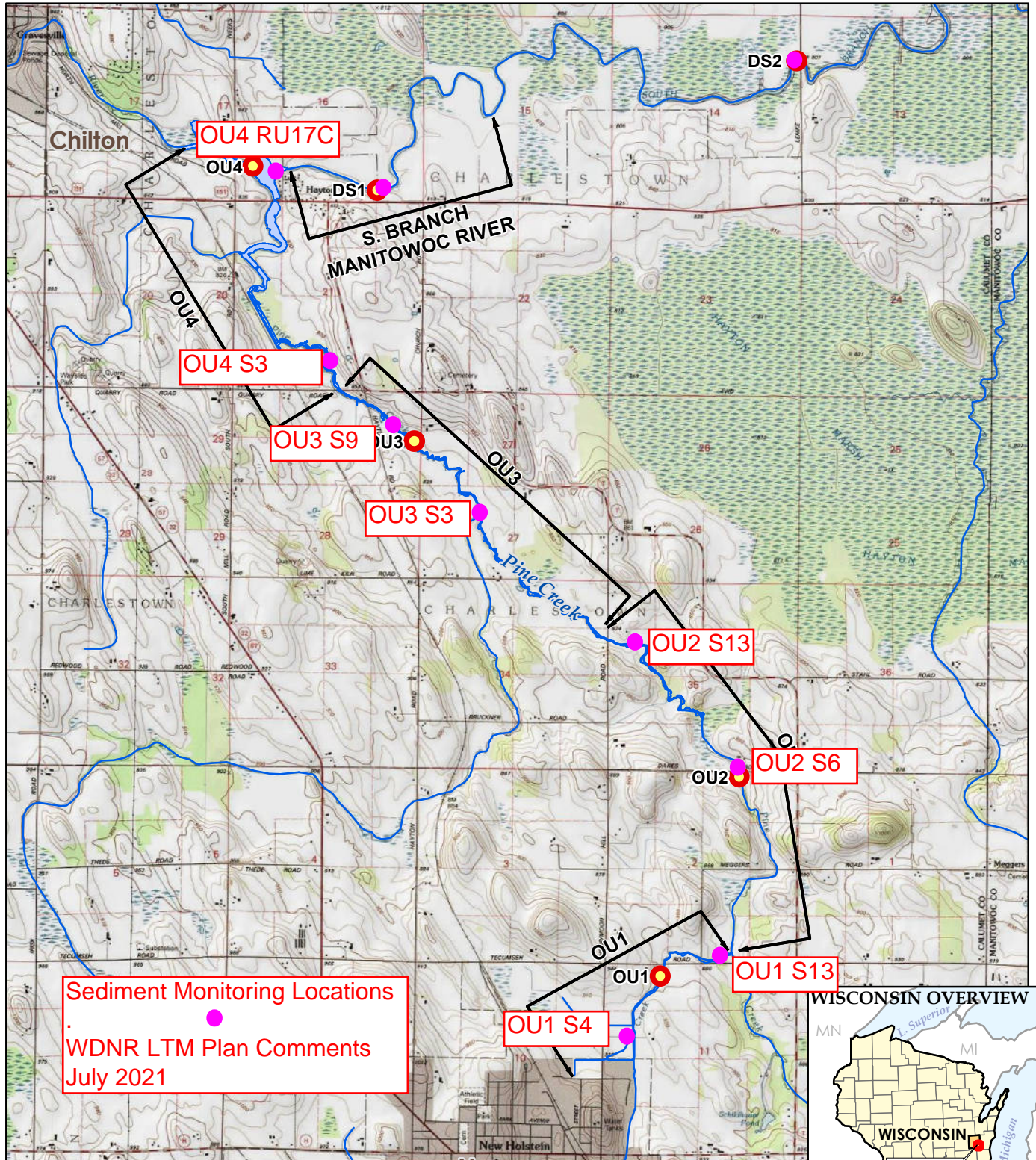
16. 5.1 Schedule – Surface water and sediment require a more frequent sampling interval than every three years in conjunction with fish tissue monitoring.

Initially a baseline shall be established for sediment thickness, surface water and sediment concentrations. The baseline can be used to help establish and evaluate the sampling frequency. Absent an understanding of the deposition rates in the waterway, DNR recommends annual poling and evaluation of sediment thickness. DNR also recommends annual sediment and surface water sampling for a minimum of three years. Poling and sampling frequency may be adjusted with concurrence from DNR based on evaluation of the data.

Surface water and sediment sampling will still be required at the time of fish tissue sampling regardless of the frequency prescribed in the Natural Recovery Monitoring Plan and shall be included in the future Fish Tissue Monitoring Plan per items 20 and 21 of Exhibit G of the Negotiated Agreement.

PCB Sampling Results Deficiencies

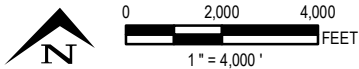
17. 5.2 Reporting - The summing routine for total PCBs needs to be identified and clearly described in the monitoring plan/QAPP. The summing must consider method sensitivity and how partial PCB fingerprints will be addressed to assure that trends are not biased by varying detections. Note that the LTMP for the Fox River specified that 20 to 30 congeners needed to be detected to include the data in the trends analysis. This was based on the need to detect >75% of a PCB Aroclor mass to be representative.
18. 5.2 Reporting – The monitoring report must include sediment PCB data previously gathered at the sampling locations, e.g., past Closure Documentation Sampling Results. These results must be included in any trend evaluation.
19. Table 1 – The laboratory’s analytical levels of detections and reporting limits should be provided for each analyte. Identify the analytical lab that will be used for each analyte or test method. Sample preparation and preservation requirements should also be provided. This information may be put into Table 1 or in another table.



Sediment Monitoring Locations
 WDNR LTM Plan Comments
 July 2021



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES (1992-1993).



LEGEND
 SURFACE WATER AND SEDIMENT SAMPLING LOCATION



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**HARP POST-REMEDATION
 NATURAL RECOVERY MONITORING PLAN**

**SURFACE WATER AND SEDIMENT
 MONITORING LOCATIONS**

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APPROVED BY:	C. HARVEY
PROJECT NO:	107927-9300
FILE NO.	197927-9300-038.mxd
DATE:	MARCH 2021

FIGURE 2