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FIFTH FIVE-YEAR REVIEW REPORT FOR N. W. MAUTHE CO., INC. SUPERFUND SITE OUTAGAMIE COUNTY, WISCONSIN

Prepared by

Wisconsin Department of Natural Resources
Oshkosh, Wisconsin

For

U.S. Environmental Protection Agency
Region 5
Chicago, Illinois

5/13/2021

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Signed by: DOUGLAS BALLOTTI

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LIST OF ABBREVIATIONS & ACRONYMS

ACL	Alternative Concentration Limit
AHD	City of Appleton Health Department
APR	City of Appleton Parks, Recreation and Facilities Management Department
ARAR	Applicable or Relevant and Appropriate Requirement
AWWTP	City of Appleton Wastewater Treatment Plant
BRRTS	Bureau for Remediation and Redevelopment Tracking System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Continuing Obligation
DCA	Dichloroethane
DCE	Dichloroethylene
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
HI	Hazard Index
ICs	Institutional Controls
ICIAP	Institutional Control Implementation and Assurance Plan
ITRC	Interstate Technology Regulatory Council
LED	Light Emitting Diode
LTS	Long Term Stewardship
MCO	Midwest Contract Operations, Inc.
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NR	Natural Resources (e.g. ch NR 140, Wis. Admin. Code)
O&M	Operation and Maintenance
OU	Operable Unit
PAL	Preventative Action Limit
PFAS	Per- and Polyfluoroalkyl Substances
PLC	Programmable Logic Controller
POTW	Publicly Owned Treatment Works
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RCL	Residual Contaminant Level
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
TBC	To be considered
TCA	Trichloroethane
TCE	Trichloroethylene
UU/UE	Unlimited Use and Unrestricted Exposure
VI	Vapor Intrusion
VISL	Vapor Intrusion Screening Level
VOC	Volatile Organic Compound
WDHS	Wisconsin Department of Health Services
WDNR	Wisconsin Department of Natural Resources
WRRD	Wisconsin Remediation and Redevelopment Database

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The Wisconsin Department of Natural Resources (WDNR) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)) and considering United States Environmental Protection Agency (EPA) policy.

This is the fifth FYR for the N. W. Mauthe Co., Inc. Superfund Site ("site"). The triggering action for this **statutory** review is the completion date of the previous FYR. The FYR has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The site consists of one Operable Unit (OU), which is addressed in this FYR. OU1 addresses the groundwater and soil remedy.

The N. W. Mauthe Co., Inc. Superfund Site FYR was led by Gwen Saliares, WDNR Hydrogeologist. Participants included Jennifer Borski, WDNR Hydrogeologist, and Cheryl Kondreck, EPA Remedial Project Manager. The review began on 7/1/2020.

Site Background

The site is located at 725 South Outagamie Street in Appleton, Wisconsin. (See **Figure 1** in **Appendix B**.) Appleton has a population of 75,382 (2019 Census Estimate based on 2010 Census of 72,623). Electroplating of chromium took place at the site from 1960 until 1976 by the Wisconsin Chromium Corp., owned by Norbert W. Mauthe, after moving from the previous Wisconsin Chromium Corp. operation located at 1522 West Melvin Street. Mr. Mauthe then formed the N. W. Mauthe Co. and performed electroplating of zinc, cadmium, copper and possibly silver at the site from 1978 until 1987 when all operations at the site ceased. Mr. Mauthe passed away in 1986. The property is currently owned by Carol Mauthe, widow of Mr. Mauthe. The site also includes adjacent properties where groundwater contamination from the plating operations has migrated.

Physical Characteristics and Land Use

The parcel with the former electroplating operation is a triangular-shaped parcel that is 0.56 acres in size and zoned M2 (general industrial district) with an assessment class of commercial. It is bound to the north by Melvin Street, to the west by a parking lot for Miller Electric and Manufacturing Company at 1515 West Melvin Street (also zoned M2 with an assessment class of manufacturing) and to the southeast by the Wisconsin Central Ltd. railroad corridor. Immediately adjacent to the railroad are three residences (801 South Outagamie Street, 1410 West Second Street and 1414 West Second Street) all zoned R2 (two-family district) with an assessment class of residential. Also adjacent to the railroad are one business/residence (1428 West Second Street) and one business (1400 West Second Street) both zoned C2 (general commercial district) with an assessment class of commercial. The entire site is

approximately three acres in size and made up of all the properties listed above. The groundwater collection system extends throughout the site. The surrounding area is a mix of residential, commercial and industrial properties. Land use at the properties immediately surrounding the site is the same as land use prior to remedial action at the site. (See **Figure 2** in **Appendix B.)** Land use of the site and surrounding properties is not anticipated to change in the future.

The Fox River is located approximately ½ mile southeast of the site. The depth to groundwater at the site ranges from 1 to 25 feet below ground surface and is influenced by the collection trenches. (See **Figure 3** in **Appendix B**.) The shallow groundwater flow direction is toward the collection trenches. (See **Figure 4** in **Appendix B**.) The City of Appleton is served by a municipal water system.

In March 1989, the site was listed on the National Priorities List (NPL).

FIFTH FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: N. W. Mauthe Co., Inc.		
EPA ID: WID083290981		
Region: 5	**State:** WI	**City/County:** Appleton, Outagamie
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: State ***[If "Other Federal Agency", enter Agency name]*:**		
Author name (Federal or State Project Manager): Gwen Saliares		
Author affiliation: Wisconsin Department of Natural Resources		
Review period: 7/1/2020 - 1/29/2021		
Date of site inspection: 7/20/2020		
Type of review: Statutory		
Review number: 5		
Triggering action date: 4/21/2016		
Due date *(five years after triggering action date)*: 4/21/2021		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The Remedial Investigation (RI) Report (CH2M Hill, 1993) found significant contamination of concern in groundwater and soil both on and off the Mauthe Property. There were no ecological risks noted in the RI report.

The contaminants of concern in groundwater are cadmium, chromium, both hexavalent and total, copper, cyanide, manganese, mercury, zinc, benzene, chloroform, 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), toluene, 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2-trichloroethane (1,1,2-TCA), trichloroethene (TCE), and xylene, as described in the 1994 Record of Decision (ROD) Summary (EPA, 1994). These contaminants were found in groundwater above WDNR standards at the Mauthe Property and adjacent properties. The groundwater impacts were limited to the area bounded on the north by Melvin Street, to the east by Outagamie Street, to the south by West Second Street and to the west by the parking lot for Miller Electric located just west of the Mauthe Property.

Subsurface soil contamination at the site was detected to a maximum depth of 25 feet. Soil contamination extended across the entire source property (the "Mauthe Property") and south to the south side of the railroad tracks and onto the residential property at 1414 West Second Street. Contaminants of concern in soil are cadmium, chromium, copper, cyanide, mercury, silver, zinc, chloroform, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, toluene, 1,1,1-TCA, 1,1,2-TCA, and TCE (as noted in the 1994 ROD Summary). Total chromium was the most widely distributed contaminant. Hexavalent chromium was only investigated in groundwater; a method for analysis in soil has since been developed. Hexavalent chromium has not yet been investigated in soil throughout the site despite there being a residual contaminant level (RCL) established by WDNR.

Public human health was threatened by dermal contact, ingestion and inhalation of impacted surficial soils and groundwater on and adjacent to the Mauthe Property and impacted surface water on site. Public health was also threatened by contamination in groundwater through seepage of water into basements and surficial discharge of water from foundation sumps.

Response Actions

WDNR received a complaint of yellow-green surface water in a ditch along the railroad tracks adjacent to 725 South Outagamie Street in March 1982. WDNR also received a complaint of yellow-green water being pumped from a residential foundation drain sump south of the Mauthe Property. WDNR took immediate action in April and May 1982 by installing a shallow drain system to collect contaminated groundwater and surface water. The system operated until late 1984. In October 1984, WDNR installed a temporary asphalt cover to limit infiltration of surface water while continuing to pursue Mr. Mauthe for cleanup of the contamination.

In 1991, as part of a time-critical removal action, EPA installed a fence around the Mauthe Property and excavated some of the highly contaminated soil adjacent to the chrome building and from a tank pit within the building. EPA also steam cleaned the walls, floors and ceilings of the office areas and the

floors and uninsulated portions of the zinc and chromium buildings on the Mauthe property. Miscellaneous debris was decontaminated and disposed of or placed in containers stored in the buildings on the Mauthe Property. In 1991, EPA also installed a groundwater diversion system called an Electro-Pulse Shield in the residence basement at 1414 West Second Street. Installation of the shield reduced seepage of contaminated water into the basement.

Remedy Selection

WDNR signed a ROD selecting a remedy for the site on March 24, 1994 and EPA signed the ROD on March 31, 1994. The Remedial Action Objectives (RAOs) identified in the 1994 ROD include:

- Protect the underlying bedrock aquifer and contain and/or control the further migration of contaminants;
- Reduce the contaminant concentration in groundwater to meet state and/or federal groundwater quality standards, whichever are more stringent;
- Reduce the potential for direct contact with contaminated media such as contaminated soil, surface water and groundwater at the site;
- Prevent the discharge of water that exceeds state or federal surface water criteria to local storm sewers.

The selected remedy includes the following activities:

- Demolition and removal of the buildings on the Mauthe Property, with proper management and disposal of the building debris;
- Removal and proper disposal of the containerized waste stored on the Mauthe Property at the time of the ROD;
- Excavation of soils with a total chromium concentration greater than 500 milligrams per kilogram (mg/kg), removing approximately 80% of the chromium contaminant mass, including the removal of soils beneath the railroad tracks if determined feasible to do while still allowing railroad reasonable and normal use of tracks;
- Off-site treatment (reduction and solidification) and proper disposal of hazardous excavated soils;
- Backfilling of the excavation with clean soil;
- Capping of the site with two feet of clay soil and topsoil with a vegetative cover;
- Installation of three groundwater collection trenches and construction and operation of a groundwater treatment facility with discharge to the sanitary sewer to contain and/or control groundwater contamination with ultimate compliance with groundwater Applicable or Relevant and Appropriate Requirements (ARARs);
- Improvement or installation of foundation drain systems and cleaning, painting or sealing basement walls and floors, as needed, for homes or businesses on the site, to prevent seepage of contaminated water into the buildings;
- Institutional Controls (ICs), such as deed restrictions or easements and site access controls that are intended to prevent access, excavation, disturbance of the newly constructed cap, future soil excavation in the railroad corridor for areas in the corridor where contaminated soils will remain and installation of drinking water wells;
- Monitoring of the effectiveness of the groundwater treatment system and groundwater quality; and
- Operation and maintenance (O&M) of all systems.

As noted in the 1994 ROD, the applicable groundwater remedial action goals at this site are the 1992 Preventative Action Limits (PALs), which are presented in Table 1 below. Under NR 140.28 Wis. Adm. Code, exemptions from the requirement to achieve PALs may be granted if it is determined that it is not technically or economically feasible to achieve PALs, but the exemption levels (i.e.- Alternative Concentration Limits or ACLs) may be no higher than the ESs. These requirements must be met at all wells (points) where groundwater is monitored.

Table 1: Groundwater Cleanup Goals (units in µg/L) per the 1994 ROD

Contaminant	Current Cleanup Goal (1992 WDNR PAL)
Cadmium	1
Chromium	5
Cyanide	40
Copper	500
Mercury	0.2
Manganese	25
Zinc	2,500
Chloroform	0.6
1,1-DCA	85
1,2-DCA	0.5
1,1-DCE	0.024
Cis-1,2-DCE	10
Trans-1,2-DCE	20
Toluene	68.6
1,1,1-TCA	40
1,1,2-TCA	0.06
TCE	0.18
Benzene	0.067
Xylene (Total)	124

Cleanup Goals listed in *Record of Decision Summary* (1994)

Status of Implementation

Demolition of the buildings on the Mauthe Property and the removal and disposal of the containerized waste was accomplished in the fall of 1994 during remedial design (RD). The RD was split into two parts to allow a trench test to be completed on a portion of the groundwater collection system before design of the groundwater treatment facility. Soil excavation, groundwater trench installation and related activities took place in 1995 (Phase I). The estimated location of the existing groundwater collection system is shown on **Figure 2** in **Appendix B**. The groundwater treatment building and clay cap were constructed in 1996 (Phase II). Demolition, excavation, and installment activities were performed by EPA. CH_2M Hill performed start-up of the groundwater treatment system in January 1997 and Midwest Contract Operations, Inc (MCO) began operation of the treatment system in February 1997.

Phase I Remedial Actions

Phase I took place between June 9 and November 18, 1995. Between July and October 1995, EPA performed the excavation of a “hot spot” area with soils at concentrations greater than 500 mg/kg for chromium, which removed a majority of the contaminant source area. Additional soils were excavated on and off the Mauthe Property including under the railroad tracks (temporarily shut down and removed

for the excavation effort) and 1414 West Second Street to access the soils identified for removal. Excavation may have extended slightly onto the northeast corner of 1428 West Second Street and/or slightly onto the northwest corner of 801 South Outagamie Street as excavation boundaries were not surveyed with respect to the parcel boundaries. Excavated soils with concentrations greater than 500 mg/kg for chromium were transported off-site for proper disposal. Excavated soils with concentrations less than 500 mg/kg for chromium were replaced onsite along with clean soils. Two feet of clay and a vegetative cover were installed in June 1996. The excavation area is shown on **Figure 2** in **Appendix B.**

The groundwater collection trench system was designed with several purposes. The west trench, located on Miller Electric property, and the southeast trench, located along Outagamie Street and West Second Street, were designed to prevent further migration of contamination by surrounding the delineated groundwater plume. The central trench, located along the south side of the railroad corridor, was designed to prevent further migration of contamination from the Mauthe Property and reverse the groundwater gradient between the Mauthe Property and residences to the south. In addition to the collection trenches, two 33-foot deep sumps (manholes) with pumps were constructed in June and August 1995. Associated piping was installed in October 1995 to transport the collected groundwater to the groundwater treatment building.

Residential foundation drains of 4-inch polyvinyl chloride drain pipe were installed with ¾-inch clear stone backfill at 1410 and 1414 West Second Street in October 1995. A sealant was applied to the exteriors of the foundations. The new residential foundation drains at 1410 and 1414 West Second Street along with the existing foundation drain at 801 South Outagamie Street were connected to the southeast collection trench. The interior floors and walls of the foundations at 1410 and 1414 West Second Street and 801 South Outagamie Street were seal coated in October and November 1995.

Additional construction activity took place in May 2002 when WDNR received a complaint of yellow-green water ponding in the grass at 1428 West Second Street. The existing foundation drain at 1428 West Second Street was not connected to the collection trench as initially planned. This was discovered in May 2002 and the drain sump at 1428 West Second Street was laterally connected to the southeast trench at that time.

Eight new monitoring wells were installed in October 1995. Four piezometers were installed within the filter material of the groundwater collection trenches to assist with evaluation of the groundwater collection. These piezometers were scheduled to be abandoned after initial system evaluation. These piezometers were abandoned by WDNR in May 2004 due to the poor condition of the wells. OMNNI Associates, Inc installed five source-area wells in May 2006 (MW-109 through MW-113) to replace several wells installed during the RI that were abandoned. These wells are located in areas of historically high groundwater contaminant concentrations, either within or nearby the footprints of the former plating buildings (see **Figure 2** in **Appendix B).**

Phase II Remedial Actions

Phase II of the RA took place between August 1996 to February 1997 and April 1997 to May 1997 and included construction of the groundwater treatment building and treatment system. The final landscape work took place in April 1997. The chain-link perimeter fence at the Mauthe Property was also installed in April 1997. This fence is locked and provides for general security of the property, including the cap. Manholes no. 1 and no. 2 are located off the Mauthe Property, outside of the chain-link fence. (See **Figure 2** in **Appendix B**.)

The asphalt drive north of the treatment building was constructed in November 1996. Phase II is documented in the report, *Phase II Remedial Action Construction Documentation Report* (CH_2M Hill, 1997).

Based on existing data, the groundwater collection trench is containing the migration of groundwater contamination. (See **Figure 5** in **Appendix B**.) In 2006, approval to discharge collected groundwater directly to the Publicly Owned Treatment Works (POTW) was granted. Since April 2006, the combined influent from manhole no. 1 and manhole no. 2 are directly discharged to the sanitary sewer without on-site pre-treatment under a permit. The combined influent has historically met discharge limits prior to on-site treatment from the start of the system operations, so the City of Appleton revised the discharge permit so that treatment was no longer required.

Institutional Controls

Table 2: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soil/Groundwater	Yes	Yes	1515 W Melvin St; 725 S Outagamie St; 801 S Outagamie St; 1400 W Second St; 1410 W Second St; 1414 W Second St; 1428 W Second St;	Allow for continued access and operation and maintenance of monitoring network and collection and treatment system; requirement to provide written notice to WDNR prior to any excavation or removal of vegetative cover and materials Prevent access to and excavation of source areas, disturbance of the cap and other remedial components, future soil excavation in the railroad corridor for areas in the corridor where contaminated soils will remain, and installation of drinking water wells.	Access easement for the Mauthe Property at 725 South Outagamie Street, parcel ID 303011500 (obtained Nov. 9, 2015). Access easements for properties with collection system components (planned but not accepted by property owners to date).

			WI Central Ltd Railway Corridor (Parcel ID: 313148700)	Informational notice of residual contamination, monitoring network, and collection and treatment system; restrict activities that disturb the cap, monitoring network and collection system.	WDNR database, last updated January 2016. City of Appleton building permit/utility work database requiring contact with WDNR prior to issuing a building permit or performing any utility work at: 1515 West Melvin Street, 725 and 801 South Outagamie Street, and 1400, 1410, 1414, and 1428 West Second Street. (obtained Feb. 23, 2016)
Groundwater	Yes	Yes	Same as above	Restrict groundwater use	Appleton Municipal Code Chapter 20 (Adopted March 18, 1992) requires connection to public water and sewer services and abandonment of wells

Implementation of ICs and Other Measures

The 1994 ROD called for ICs that are intended to prevent access, excavation, disturbance of the cap, future soil excavation in the railroad corridor for areas in the corridor where contaminated soils will remain, and installation of drinking water wells. EPA provided deed restrictions in 1997 and 1998 to the property owners where the collection system was installed following installation and EPA recommended they be filed. No property owner voluntarily filed restrictions to their deed.

Deed restrictions have not been pursued with property owners since 1998 because Wisconsin is not a Uniform Environmental Covenants Act (UECA) state, and therefore has not routinely utilized deed restrictions since 2006. Instead, WDNR provides notice to the public by adding the property and related continuing obligation (CO) information to the WDNR's Wisconsin Remediation and Redevelopment Database (WRRD) established in accordance with s. 292.12(3), Wis. Stats. COs are legal requirements that are designed to ensure protectiveness of the remedy. The COs applied on the Mauthe Property are for contaminated groundwater, residual soil contamination, a cover must be maintained over the contaminated soil for direct contact and groundwater pathway risks, and the containment system must be operated and maintained. The CO relating to operating and maintaining the containment system is also applied on the residential site properties and the railroad corridor running through the site (see **Appendix I**). The containment system is made up of the residential foundation drain tile systems, three groundwater collection trenches on neighboring properties, two collection sumps with pumps on neighboring properties, the manholes on neighboring properties, and the groundwater treatment facility on the Mauthe Property (see **Figure 2** in **Appendix B**).

This site will be included on the DNR's WRRD. The state provides notice to the public by adding the property and related CO information to the WRRD, established in accordance with s. 292.12(3), Wis. Stats.

Although the imposed COs limit unwanted activities on the applicable properties, access easements are necessary for personnel to enter the properties to perform O&M duties and other activities in support of the remedy. In 2015, WDNR secured an access easement for the Mauthe Property at 725 South Outagamie Street, parcel ID number 303011500 (see **Appendix J**). This document assures WDNR access to areas where investigation or remedial action is to be conducted, as well as to maintain, repair, amend or abandon the groundwater collection system, install and maintain monitoring wells, and collect soil samples. The document also calls attention to the presence of the residual contamination and components of the groundwater collection and monitoring system.

At that time, WDNR drafted access easements for the properties that include collection system components (1515 West Melvin Street, 801 South Outagamie Street, and 1400, 1410, 1414 and 1428 West Second Street), as well as properties that include monitoring wells as part of the required monitoring well network (715 South Outagamie Street, West Melvin Street and 1525 West Second Street). WDNR was unable to secure easements with any of these properties due to frequent turn-over of property ownership in combination with staffing changes and workload issues within WDNR. With recent additions, WDNR will again pursue securing access easements with these properties. A template of the access easement for properties outside of the Mauthe Property is included in **Appendix J**. WDNR maintains access agreements with the property owners to allow for continued O&M of the monitoring network and collection and treatment system. An access easement for the railroad corridor was not drafted in 2015 and is not needed for regular O&M. An access agreement with the railroad will be requested if repairs are needed to that portion of the groundwater collection system.

During the interview process for the fourth FYR, WDNR met with individuals from the City of Appleton and discussed the residual contamination in the soil and groundwater, along with the presence of the groundwater collection and monitoring systems. The City agreed to flag the following properties in their database and contact the WDNR prior to issuing a building permit or performing any utility work at: 1515 West Melvin Street, 725 and 801 South Outagamie Street, and 1400, 1410, 1414 and 1428 West Second Street.

The City ordinance requires that neighboring residents be connected to a public water supply and to not have wells. The City of Appleton Parks, Recreation and Facilities Management Department (APR) regularly observes the capped area and groundwater treatment building under a Cooperative Agreement with WDNR (**Appendix G**) and ensures that the integrity of the remedy is protected. The current property owners are aware that they should not disturb the portions of the collection system located on their properties.

Current Compliance

While some controls are in place and have been effective, as observed during the July 2020 site inspection, it is difficult to ensure that all affected property owners are aware of the property use limitations imposed by the remedy due to frequent ownership turn-over. Based on the July 2020 site inspection, FYR interviews and monthly O&M activities, WDNR and EPA are not aware of uses of the site or media uses which are inconsistent with the ICs in effect.

IC follow-up actions to obtain access easements and creating a plan to establish procedures to monitor, maintain, and enforce established ICs are still needed for the site. WDNR will update the O&M Manual (CH_2M Hill, 1997) to include long-term stewardship (LTS) of implemented ICs in lieu of developing a

separate Institutional Control Implementation and Assurance Plan (ICIAP) as recommended in the fourth FYR. Including the LTS and components of ICIAP into the O&M Plan will ensure that ICs are reviewed on a regular basis and will identify whether ICs established at the site are effective. The updated O&M Plan will also outline a mechanism for reporting these findings to EPA on a regular basis.

Systems Operations/Operation & Maintenance

Monthly and annual O&M activities are performed at the groundwater treatment building and manholes. These activities are detailed in the *Final O&M Manual* (CH_2M Hill, 1997), and in the semi-annual or annual *O&M Report* (Terracon). Monthly O&M activities are summarized in the Inspection Sheet and Operator Log Sheet in **Appendix H**. APR maintains and regularly observes the capped area and groundwater treatment building under a Cooperative Agreement with WDNR (**Appendix G**). WDNR and the current O&M Operator are responsible for all other O&M activities. No modifications to the O&M Manual have occurred since the fourth FYR.

The current *Long-Term Groundwater Monitoring Plan* updated in November 2018 (WDNR, November 2018) is shown on **Table 3** in **Appendix C.** Current groundwater monitoring locations can be seen on **Figure 2** in **Appendix B**. The 2018 monitoring plan consists of the following components:

- All monitoring wells will continue to be inspected annually in September and water level elevations recorded;
- Total (dissolved) chromium will be analyzed every two years in September at MW-101, MW-102, MW-103, MW-104, MW-107, MW-109, MW-110, MW-111, MW-112 and MW-113;
- Total (dissolved) chromium will continue to be analyzed every four years in September at perimeter wells W-2, W-8, W-15, MW-105, MW-106 and MW-108;
- Manganese will continue to be analyzed every four years in September at all wells;
- Cyanide will be analyzed every two years in September at MW-110, MW-111, and MW-112;
- VOCs will be analyzed every two years in September at MW-107, MW-109, MW-110, MW-111, MW-112 and MW-113; and
- Three well volumes will be purged from W-2, W-8, W-15, MW-105, MW-106 and MW-108 and stabilization parameters monitored prior to performing low-flow sampling from these wells.

Significant O&M activities, and emergency operations and shutdowns are also documented in each *O&M Report* (Terracon). During this FYR period, several ongoing problems were identified with the implementation of system operations and maintenance. On May 22, 2018, Terracon observed the Programmable Logic Controller (PLC), which contains the programming to control and monitor the discharge of contaminated groundwater from the collection system, had failed and the pumps had not been operating for 201 hours (Terracon, 2018). It was discovered that the power supply had failed, and parts of the PLC were obsolete. After two days a temporary fix was completed, and the permanent fix was installed on June 5, 2018. A similar failure was observed on July 22, 2019; the pumps had not run for 57 hours, but the issue was resolved within two days (Terracon, 2019). No negative impacts resulted from these failures. Due to the age of the PLC a significant unfixable failure could happen suddenly, which could cause a major disruption to the collection of contaminated groundwater. WDNR is currently working with Terracon to replace the PLC with an updated unit that will increase efficiency and allow for remote data collection.

In September 2018, the owners of 801 South Outagamie Street contacted WDNR about two inches of standing water in their basement, as documented in the *O&M Report #59* (Terracon, 2019) and in the

November 2018 Excavation Observation Report (Terracon, 2020). Water was backing up from their sump pit, along with water seeping through the walls or junction of the walls and floor in multiple locations. The cause of the problem could not be determined through inspecting the foundation drains via video, so WDNR retained Terracon to excavate and further investigate the existing drain lateral. This work was performed in November 2018. Through the excavation it was determined that the original lateral placed in 1996 was obstructed by sediment and roots causing water from the residential drain tile to back up in the line before meeting the groundwater collection trench. This old line was removed and replaced with a new lateral that extends east from the southeast corner of the residence before turning north to directly connect with manhole no. 2. The new lateral can be seen on **Figure 2** in **Appendix B**. In June 2019, a new driveway and sidewalk were placed along with topsoil and grass seed over the former excavation areas. However, grass has not been successfully reestablished in the southeastern portion of the property. This work is scheduled to be completed after this FYR period.

There is the possibility that drain laterals at other residences could be in similar states of disrepair and could soon fail leading to issues like what was experienced at 801 South Outagamie Street. Overall, this points to the collection system nearing the end of its lifespan and likely requiring replacement of parts and/or modification in the near future.

During the 4th FYR the sediment accumulation within manhole no. 1 and manhole no. 2 was identified as a problem that could lead to damage and failure of the submersible pumps. This is a continuing issue within both manholes, and sediment needs to be cleaned out before damage is done. The accumulation of sediment could be pointing to issues in the construction of the manholes or in the collection trenches. Similar to the residential drain laterals, investigation into the problem, along with replacement if needed, should be pursued.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 3: Protectiveness Determinations/Statements from the 2016 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1/Sitewide	Short-term Protective	The remedy at the N. W. Mauthe site currently protects human health and the environment because the remedy is functioning as designed. The cap, fence, groundwater collection system and groundwater monitoring results show that exposure pathways that could result in unacceptable risks are currently under control. However, in order for the remedy to be protective in the long term, the following actions need to be taken to ensure long-term protectiveness: secure access agreements with all properties; develop an ICIAP and implement ICs; develop and implement a LTS plan within the existing site O&M Plan to include procedures for monitoring and tracking compliance with existing ICs, communicating with EPA; and providing an annual certification to EPA that the ICs remain in place and are effective; sample surficial soil at 801 S. Outagamie St., 1400, 1410, 1414 and 1428 W. Second St. and analyze for hexavalent chromium; and visually inspect sub-surface collection components.

Table 4: Status of Recommendations from the 2016 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
1/ Sitewide	Long-term access easements are needed for properties that include collection system components beyond the Mauthe Property	Secure access easements with all properties	Ongoing	Access easement could only be attained for the Mauthe Property so far. Property owner changes, along with WDNR staffing changes and workload issues has prevented securing easements at the other properties with collection system components. With recent additions, WDNR will again pursue securing access easements with these properties. A template of the access easement for properties outside of the Mauthe Property is included in **Appendix J**. (planned 2/7/2023)	NA
1/ Sitewide	LTS procedures are needed to ensure that effective ICs are monitored, maintained and enforced	Develop and implement an LTS plan within the existing site O&M Plan to include procedures for monitoring and tracking compliance with existing ICs, communicating with EPA, and providing an annual certification to EPA that the ICs remain in place and are effective	Addressed in Next FYR	Due to staffing changes and workload balance issues, WDNR was unable to develop this plan. WDNR believes it is still warranted and will work to implement an LTS plan within the existing O&M Manual. (planned 5/2/2023)	NA
1/ Sitewide	Effective ICs are needed	Develop an ICIAP and implement ICs to ensure that effective ICs are implemented, monitored, maintained, and enforced	Addressed in Next FYR	Due to staffing changes and workload balance issues WDNR was unable to develop an ICIAP. WDNR plans to include the components of the ICIAP into the LTS plan as outlined in the recommendation above. To ensure long-	NA

				term protectiveness, the O&M Manual will include procedures to ensure ICs are monitoring, maintained, and enforced. A separate ICIAP will not be developed.	
1/ Sitewide	Undefined hexavalent chromium in surficial soil off the Mauthe Property	Sample surficial soil at 801 S. Outagamie St., 1400, 1410, 1414 and 1428 W. Second St. and analyze for hexavalent chromium	Addressed in Next FYR	Surficial soil was sampled for hexavalent chromium at 801 S Outagamie St. Surficial soil sampling at 1400, 1410, 1414 and 1428 W. Second St. should still occur to evaluate the potential for risk from direct contact with contaminated soil. However, no funding is currently available for this effort. (8/1/2025)	NA
1/ Sitewide	Life-span of collection components	Visually inspect sub-surface collection components	Addressed in Next FYR	Manhole 1 and manhole 2 visually inspected. Fixes done at 801 S Outagamie St. Observations and repairs and/or modifications still needed for manholes, collection trenches, and drain tiles around the site. (planned 9/19/2022)	NA
1/ Sitewide	Optimization of the existing system or additional RA options need to be evaluated for the site to meet groundwater RAOs	Conduct an evaluation of the existing site remedy to identify specific actions needed to improve the remedy's effectiveness and long-term protectiveness and facilitate progress towards site completion	Ongoing	Due to staffing changes and workload balance issues WDNR was unable to evaluate the existing remedy. This is still needed to identify actions, such as in-situ treatment via injection in the source area, that can improve effectiveness. (planned 12/1/2024)	NA
1/ Sitewide	Ownership of treatment building unclear	WDNR legal work with EPA legal to clarify building ownership	Completed	Building ownership was determined. Neither EPA nor WDNR legally own the treatment building. WDNR is responsible for O&M.	8/29/2018

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by newspaper in the *Appleton Post Crescent* on 7/12/2020, stating that there was a FYR and inviting the public to submit any comments to WDNR. No public comments were received. The results of the review and the report will be made available at the site information repository located at Appleton Public Library, 225 North Oneida St Appleton, WI 54911.

On July 10, 2020, informational packets were also sent to owners of property on which the groundwater collection and/or monitoring system is constructed to inform them of the start of the FYR process (715, 725, and 801 South Outagamie Street, 1400, 1410, 1414, 1428 and 1525 West Second Street and 1515 West Melvin Street). The packet detailed the history of the site and its groundwater collection system and included a copy of the two-page document by EPA, *Checking Up On Superfund Sites: The Five-Year Review*, December 2009.

Ms. Saliares sent an electronic mail message including the informational packet to the Wisconsin Department of Health Services (WDHS), City of Appleton Health Department (AHD), APR, City of Appleton Environmental Programs Coordinator, the local Alderperson, and Terracon, the current environmental consultant for O&M services.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. The results of these interviews are summarized below.

The following people were interviewed during the FYR process:

- Kurt Eggebrecht, City of Appleton – Health Officer
- Cameron Green, City of Appleton – Facilities Manager
- Paula Vandehey, City of Appleton – Director of Public Works Department
- Brian Kreski, City of Appleton – Environmental Programs Coordinator
- Owners and Occupants of 801 S Outagamie St
- Scott Hodgson, Terracon – O&M Operator
- David Lease, Miller Electric – Facility Manager
- Jill Robbins, Miller Electric – Plant Engineer
- Trina Durocher, W.O.R.C.S. Inc. – Environmental Consultant

Interview records are included in **Appendix F**.

No new concerns were raised during any of the FYR interviews. Property owners connected to the groundwater collection system along with City of Appleton employees working in the area are aware of the site, the groundwater collection system, and what activities may be prohibited. Parking lot improvements, including replacing the entire paved surface, were completed at 1515 West Melvin Street in fall 2020. WDNR gave approval of the improvements prior to them taking place; no monitoring wells or collection system components were impacted, and excavation of contaminated soil was not a significant issue.

A key problem with O&M centers around the age of the treatment building and the components of the groundwater collection system. In the treatment building the replacement of heaters and lights remain the most frequent failures; however, more significant failures to the PLC have also occurred since the fourth FYR. These failures are discussed in more depth under the Systems Operations/Operation & Maintenance section of this report. Replacement of the PLC is needed to reduce the likelihood of negative impacts due to failures, and to reduce the chance of system failures going unnoticed by the O&M Operator. Issues with the groundwater collection system, such as broken lateral connections, were identified during the repair work at 801 South Outagamie Street. The O&M Operator recommended investigating the remainder of the collection system because there is a high possibility that it could be in a similar state of disrepair. The O&M Operator also stressed that sediment accumulation within manhole no. 1 and manhole no. 2 needs to be addressed before pump failures occurred. Additionally, several changes to O&M activities and the selected remedy may be needed. In-situ injection within the source area to reduce the concentrations of several contaminants of concern may be needed and could alter the needed remedy. Industrial discharge limits for contaminants could be changed or newly imposed, and (Per- and Polyfluoroalkyl Substances) PFAS could be detected at concentrations requiring pretreatment.

Data Review

Historical groundwater data from the RI was reviewed and compared with post remedy groundwater data from 1997 through September 2019 and is summarized below. All wells in the *Site Specific Plans for the N. W. Mauthe Long Term Response Action* (CH_2M Hill, 1997) for sampling are present. MW-102 and MW-105 could not be sampled in 2019 due to broken bolts on the well covers and required repairs, which were completed in 2020. **Figure 6** through **Figure 16** in **Appendix B** provide a series of graphs showing chromium or VOC concentrations versus time at various monitoring locations.

Cadmium, copper, mercury, and zinc are not present above the 1992 State PALs of 1 microgram per liter (µg/L), 500 µg/L, 0.2 µg/l and 2,500 µg/l respectively, in any monitoring well. Sampling for cadmium was discontinued in 2003, and sampling for copper, mercury and zinc was discontinued in 2000.

Manganese was above the 1992 PAL of 25 µg/L at W-2, MW-104, MW-106, MW-108, MW-110, MW-112, and MW-113 in September 2019. The presence of manganese is not related to contamination from plating operations; therefore, it is monitored every four years to assist in evaluation of the geochemistry of the site.

Sampling for cyanide was discontinued in 2000 at the wells included in the original monitoring plan (W-2, W-8, W-15, MW-101 through MW-108), and was discontinued at MW-109 and MW-113 in 2007. Cyanide sampling occurs every two years at MW-110, MW-111 and MW-112. For this FYR period, concentrations have been consistently less than ½ of the PAL at all three wells; it may be appropriate to discontinue analysis of cyanide at these locations.

Total dissolved chromium (chromium) is sampled every four years at perimeter wells W-2, W-8, W-15, MW-105, MW-106 and MW-108 where chromium has been below the 1992 PAL of 5 µg/L since at least 2000. Chromium is sampled every two years at MW-101, MW-102, MW-103, MW-104, MW-107, MW-109, MW-110, MW-111, MW-112 and MW-113 where chromium has historically been above the 1992 PAL. Analysis of hexavalent chromium began in December 2003 to determine the percentage of hexavalent chromium present. It appears that all chromium present in groundwater is in the hexavalent state. Given that there is no 1992 PAL for hexavalent chromium, analysis in monitoring wells was discontinued after September 2006 as a cost savings measure.

Chromium in MW-102 was previously not detected but ranged from <2.5 to 116 µg/L between 2016 and 2018; the well could not be sampled in 2019 due to a broken bolt on the well cover. This well is located between the central and southeast collection trenches. The detections are believed to reflect movement of residual chromium contamination toward the collection trenches.

Chromium in MW-103 ranged from 4.4 to 34.3 µg/L between 2016 and 2019. This well is located just south of the central collection trench. A concentration versus time graph for chromium at MW-103 is included as **Figure 6** in **Appendix B**.

Chromium at MW-104, located south of the central collection trench and southwest of MW-103, ranged from 2.6 to 93.5 µg/L between 2016 and 2019. A concentration versus time graph for chromium at MW-104 is included as **Figure 7** in **Appendix B**.

Despite chromium concentrations remaining well above the 1992 PAL at MW-107 the overall trend in concentrations has been decreasing over time. Between 2016 and 2019 concentrations ranged from 609 to 2,390 µg/L. This well is located just south of the treatment building. A concentration versus time graph for chromium at MW-107 is included as **Figure 8** in **Appendix B**.

OMNNI Associates, Inc installed five source-area wells in May 2006 (MW-109 through MW-113) to replace several wells installed during the RI that were abandoned. These wells are located in areas of historically high groundwater contaminant concentrations, either within or nearby the footprints of the former plating buildings (see **Figure 2** in **Appendix B)**:

- MW-109 is located between the northwest corner of the Mauthe Property where chromium was present at 150,000 µg/L and on the west side of the Mauthe Property where chromium was present at 124,000 µg/L in May 1992. Chromium ranged from 333 to 847 between 2016 and 2019;
- MW-110 is located between the former zinc plating building and the former chrome plating building where chromium was present at 73,300 µg/L in May 1992. Chromium ranged from 6.2 to 1,460 µg/L between 2016 to 2019;
- MW-111 is located in the northeast corner of the Mauthe Property where chromium was present at 18,600 µg/L in May 1992. Chromium ranged from 10.1 to 551 µg/L between 2016 and 2019;
- MW-112 is located within the former zinc plating building in the location of the collection pit where chromium was present in soil at 15,000 mg/kg, zinc at 14,900 mg/kg, cadmium at 3,660 mg/kg and cyanide at 2,960 mg/kg in January 1992. Chromium ranged from 89.6 to 5,310 µg/L between 2016 and 2019;
- MW-113 is located at the southeast corner of the former chrome plating building where chromium was present at 860,000 µg/L in February 1992 and 789,000 µg/L in May 1992. Chromium ranged from 759 to 26,200 µg/L between 2016 and 2019.

VOCs have not been sampled since 2002 at W-2, W-8, W-15, MW-101, MW-105, MW-106 and MW-108 since they were not detected or were consistently well below the PALs. VOCs were sampled for one round in 2016 at MW-102, MW-103 and MW-104, which are located on residential properties to the south of the central collection trench; no VOCs were detected at any of these wells. VOCs remain in the groundwater at MW-107, located in the source area, and the concentrations have been gradually decreasing since 2009 but remain significantly above the 1992 PALs. These VOCs are 1,1-DCE, 1,1,1-

TCA, 1,1,2-TCA, and TCE. A concentration versus time graph for VOCs at MW-107 is included as **Figure 14** in **Appendix B**.

MW-109 through MW-113 were installed in the source area on the Mauthe Property and initially analyzed for VOCs in 2006. VOCs detected significantly above the 1992 PALs since 2016 in these wells include: 1,1-DCE, 1,1,2-TCA and TCE at MW-109; 1,1-DCE, 1,1,1-TCA, 1,1,2-TCA and TCE at MW-110; 1,1-DCE and TCE at MW-111; 1,1-DCE and TCE at MW-112; 1,1-DCE, cis-1,2-DCE, 1,1,1-TCA, 1,1,2-TCA and TCE at MW-113. VOCs are analyzed every two years at MW-109 through MW-113. Graphs showing VOC concentrations versus time at MW-110 and MW-113 are included as **Figure 15** and **Figure 16** in **Appendix B**.

Several contaminants of concern continue to follow decreasing concentration trends since the fourth FYR, showing the remedy is functioning as intended. However, it does not appear that the remedy will be able to meet cleanup levels in a reasonable timeframe considering the concentrations remain significantly higher than the respective 1992 PALs. Monitoring wells located in the source area have the highest concentrations and greatest variability in chromium and VOCs concentrations. As discussed during the FYR interview process additional remedial action, such as in-situ injection in the source area, could dramatically decrease these concentrations and make the RAOs more achievable.

Table 5: Maximum Contaminant Concentrations (Results) in Groundwater and Groundwater Cleanup Goals (units in µg/L)

Contaminant	Maximum results in May 1992 according to RI report, Feb 1993	Max results in May 1997 (post excavation & at start of collection system)	Max results in Dec 2005 (8 yrs O&M)	Max results in March 2010 (source area well install)	Max results in Sept 2019 (current data)	Current Cleanup Goal (1992 WDNR PAL)
Chromium[1]	**789,000**	**3,600**	**2,400**	**31,300**	**1,300**	5
Cyanide[2]	**1,048**	< 0.78	NA	110	< 6.8	40
1,1-DCA[3]	**90 J**	36	42	**159**	48.3	85
1,2-DCA[4]	< 10	ND	ND	ND	NA	0.5
1,1-DCE[5]	**190**	**40**	**26**	**169**	**29.5**	0.7
Cis-1,2-DCE[6]	**1,800** (total 1,2-DCE)	3.1	< 4.1	**47.3**	**14.8**	10
Trans-1,2-DCE[7]		< 0.5	< 4.4	9.8	1.2 J	20
1,1,1-TCA[8]	**2,100**	**390**	**250**	**718**	**114**	40
1,1,2-TCA[9]	< 10	**3.5**	< 2.1	< 0.42	< 0.55	0.06
TCE[10]	**1,800**	**420**	**490**	**620**	**308**	0.18

BOLD values exceed the respective 1992 WDNR PAL
J: value estimated or detected between the limit of detection and the limit of quantitation
[1]Chromium: May 1992 data is from MW-15. May 1997 and Dec 2005 data is from MW-107 as no well was located at former MW-15 during that time. March 2010 data is from MW-113, located at former MW-15. Sept 2019 data is from MW-107, located on the Miller Electric property
[2]Cyanide: May 1992 data is from MW-34. May 1997 data was from W-15 as there was no well located at former MW-34 at this time. March 2010 and Sept 2019 data is from MW-112, located near MW-34.

[3]1,1-DCA: May 1992 data is from MW-26R. May 1997 and Dec 2005 data is from MW-107 as no well was located in the area of the former metal plating buildings at that time. March 2010 data is from MW-110 and Sept 2019 data is from MW-113, both located in the former building area.
[4]1,2-DCA: No wells were analyzed for this contaminant in Sept 2019.
[5]1,1-DCE: May 1992 data is from MW-17 and MW-25R. May 1997 and Dec 2005 data is from MW-107 as no well was located in the area of the former metal plating buildings at that time. March 2010 data is from MW-110 and Sept 2019 data is from MW-113, both located in the former building area.
[6]Cis-1,2-DCE: Total 1,2-DCE data in May 1992 is from MW-18. May 1997 and Dec 2005 data is from MW-107 as no well was located in the area of the former metal plating buildings at that time. March 2010 is from MW-110 and Sept 2019 data is from MW-112.
[7]Trans-1,2-DCE: Total 1,2-DCE data in May 1992 is from MW-18. March 2010 data is from MW-110 and Sept 2019 data is from MW-113, both located in the former metal plating building area.
[8]1,1,1-TCA: May 1992 data is from MW-17. May 1997 and Dec 2005 data is from MW-107 as no well was located in the area of the former metal plating buildings at that time. March 2010 data is from MW-110 and Sept 2019 data is from MW-113, both located in the former metal plating building area.
[9]1,1,2-TCA: May 1997 data is from MW-107 as no well was located in the area of the former metal plating building at that time. Sept 2019 data is from MVV-113, located in the former building area.
[10]TCE: May 1992 data is from MW-25R. May 1997, Dec 2005, March 2010 and Sept 2019 data is from MW-107.

In 2006, approval to discharge collected groundwater directly to the Publicly Owned Treatment Works (POTW) was granted. On-going chromium monitoring of the groundwater influent and discharge shows that the combined influent chromium concentrations remain well within the POTW discharge limits (listed in Tables 1 and 2 of Appendix C). Treatment of collected groundwater remains unnecessary prior to discharging to the POTW.

In February 2016, WDNR performed a vapor intrusion (VI) pathway screening of VOC data in groundwater in accordance with *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*, PUB-RR-800. A property screening may trigger a VI investigation if it overlays contaminated groundwater at the water table with concentrations above enforcement standards. Based on those criteria the screening revealed potential for vapor migration at the Mauthe Property at 725 South Outagamie Street and on the adjacent Miller Electric property at 1515 West Melvin Street. VOC concentrations over the past five years are still present in groundwater above standards on the Mauthe Property (MW-109 through MW-113) and on the adjacent Miller Electric property (MW-107). The presence of VOCs, especially TCE, in groundwater presents the potential concern for vapor migration. It was evaluated during the fourth FYR according to WDNR guidelines that a vapor investigation was not warranted at that time at the Mauthe Property and on the adjacent Miller Electric property despite overlaying contaminated groundwater. Land use and occupancy have not changed since the last FYR, and the VOC plume has not migrated to other monitoring wells, so following WDNR guidelines a vapor investigation is still not warranted at this time at the Mauthe Property and on the adjacent Miller Electric property.

However, in March 2021, WDNR and EPA performed a VI pathway screening in accordance with EPA VI guidelines as detailed in the *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (EPA, 2015). The screening revealed several properties with a potential VI risk. A property is recommended for a VI investigation if a site has groundwater contamination where concentrations of one or more volatile chemicals exceed the vapor intrusion screening level (VISL) or other risk-based concentration values and its occupied buildings are located above or within 100 feet laterally from the surface footprint of the contaminant plume, such as monitoring wells. Groundwater concentrations of TCE at MW-107, MW-109, MW-111, MW-112, and MW-113 exceed the residential and commercial VISL of 5.2 µg/L and 21.8 µg/L, respectively. No other VOC concentrations in groundwater exceeded VISL values. Out of an abundance of caution and

following EPA guidance, a VI investigation is recommended at properties that are within 100 feet of wells that exceed the TCE VISL or where a preferential vapor pathway may exist. The VI investigation will determine if there is a complete exposure pathway to indoor air and if there is a risk of adverse health effects related to an exposure. Groundwater generally flows away from the residences to a collection trench, the subsurface soils are mainly composed of silty clay materials, and the residential properties are not located directly above the groundwater contamination therefore, it is not anticipated that VI is occurring at the Site however, it is recommended to collect VI data to confirm that VI is not occurring.

During the fourth FYR, surface soil samples were collected from one residential property (1414 W. Second Street) and analyzed for hexavalent chromium. Analyses showed hexavalent chromium in surface soils at concentrations above WDNR's non-industrial direct contact RCL of 0.301 mg/kg. Even though hexavalent chromium concentrations were detected above WDNR's non-industrial direct contact RCL, the concentrations were within EPA's acceptable risk range and therefore considered short-term protective. As part of the Issues and Recommendations of the fourth FYR report, surficial soil sampling was to be conducted to delineate hexavalent chromium impacted soils on some of the residential properties surrounding the Mauthe property. In September 2017 WDNR performed a limited surficial soil and sump water investigation at 801 South Outagamie Street. Soils were collected at depths ranging between ten to twelve inches and analyzed for hexavalent chromium, as documented in *Limited Hexavalent Chromium Sampling, (Residence – 801 South Outagamie Street)* (Terracon, 2017). Hexavalent chromium was detected in one of the samples above the WDNR non-industrial direct contact RCL of 0.301 mg/kg but again were within EPA's acceptable risk range. Hexavalent chromium was not detected in the sump pit water at or above the limit of detection. This is the second property to have surficial soil with hexavalent chromium concentrations above the WDNR's non-industrial direct contact RCL and it is reasonable to assume that similar concentrations of hexavalent chromium may be found in the surface soils at other properties. Additional surficial soil sampling at the site properties was identified as a recommendation in the fourth FYR and is still needed to identify the nature and extent of hexavalent chromium present in residential soils to ensure long-term protectiveness of the remedy.

In September 2019, the City of Appleton Wastewater Treatment Plant (AWWTP) began investigating potential sources of PFAS in their sewer service area following a WDNR statewide initiative. The Interstate Technology Regulatory Council (ITRC) fact sheet *History and Use of Per- and Polyfluoroalkyl Substances (PFAS)* indicates that metal plating and etching operations may be a potential source of PFAS, so as part of the statewide initiative WDNR completed AWWTP's PFAS industry survey for the site. In October 2019, WDNR requested EPA's assistance investigating and sampling the groundwater for PFAS; this assistance was verbally approved on 10/17/19. In December 2020, the O&M Operator collected 20 monitoring well samples and 2 system influent samples; samples were analyzed for 36 PFAS analytes as detailed in *Quality Assurance Project Plan Addendum* (Terracon, 2020), approved by EPA on 11/30/20. Unvalidated lab data indicated detections of PFAS compounds at every sampling location except for two piezometer locations, PZ-5 and PZ-6. Lab data will be validated by the EPA Environmental Services Assistance Teams contractor in spring 2021 and analyses of the data will be included in the next FYR. Even if PFAS are confirmed at levels requiring changes to the groundwater treatment system for discharging into the POTW, it would not impact protectiveness because there is no new exposure pathway. The system is currently diverting groundwater from the source area to the groundwater treatment building, all residential properties within the Site are connected to the municipal water supply, and no private potable wells exists at the Site. Additionally, the City of Appleton has a groundwater use restriction ordinance, Appleton Municipal Code Chapter 20

(adopted March 18, 1992), which requires connection to public water and sewer services and abandonment of any existing potable wells.

Site Inspection

The inspection of the site was conducted on 7/20/2020. In attendance were Jennifer Borski, WDNR, Gwen Saliares, WDNR, Blaine Schroyer of Terracon, Krista Kroeninger of Terracon, Cameron Green, APR and Tom Flick, APR. Cheryl Kondreck, EPA, was invited to the site inspection but unable to attend due to COVID-19 travel restrictions. She participated in the site inspection via phone. The purpose of the inspection was to assess the protectiveness of the remedy.

The inspection included a walk-through of the groundwater treatment building and walking in front of the following properties to observe the condition of each property: 725 and 801 South Outagamie Street, 1400, 1410, 1414, and 1428 West Second Street. No new structures or disturbances to the cap were observed. The fence around the source area was in good condition and did not need any repairs. Components of the groundwater collection system, such as the manholes and collection trenches, could not be accessed for inspection. The Site Inspection Checklist is included in **Appendix E**.

The vegetative cap on the Mauthe Property is in good condition and is being maintained by APR under the Cooperative Agreement, discussed earlier (see Appendix G). Generally, the treatment building is in good condition with the exception of cracking of the concrete and glass block windows due to settling since 1996. The treatment building is locked when the O&M Operator or APR staff are not on site. The O&M Operator and Ms. Saliares have keys to the treatment building along with the APR Department Director and the lead APR staff at the satellite office. All the monitoring wells were inspected on this date; monitoring wells MW-102 and MW-105 were determined to need cover and collar replacements, MW-106 was determined to need a cover replacement. This work was completed at the end of September 2020.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:
Yes.

Remedial Action Performance
The collection trenches appear to be containing the plume, but it is questionable as to whether the collection system and foundation drain laterals will continue in the long term to prevent contaminated water from seeping into basements. In 2018, the entire drain tile lateral had to be replaced at 801 S Outagamie St after contaminated groundwater back-flowed from the system into the basement. There is the chance that laterals at other residences could be in similar states, and potentially fail in the future. The collection system is nearing the end of its lifespan and will require replacement of parts and/or modification.

Although the remedy is functioning as intended it does not appear that the remedy will be able to meet cleanup levels in a reasonable timeframe. This is an ongoing issue/recommendation from the previous FYR with plans to conduct an evaluation of the existing site remedy and identify

specific actions needed to improve the remedy's effectiveness and long-term protectiveness and facilitate progress towards site completion. This is planned to be completed by December 1, 2022.

The discharge permit was modified to allow the collected groundwater to be discharged directly to the Appleton POTW. The groundwater treatment system is no longer utilized, but the groundwater treatment building and piping infrastructure is still utilized for combining the effluent prior to discharge to the POTW in compliance with the wastewater discharge permit.

A clay cap at the site is in place to prevent direct contact with remaining soil contamination and a fence is in place to protect the cap.

System Operations/O&M

The existing collection system is being effectively operated and maintained but is not sustainable in the long term. It will require replacement and/or modification. As mentioned above, the replacement of the drain lateral at 801 S Outagamie St may indicate a system-wide issue that could impact future protectiveness. The integrity of the entire collection system needs to be visually inspected to evaluate where repairs or modifications are needed and then to make those necessary repairs and modifications. This is planned to be completed by September 2022. In the meantime, continuous operation of the collection system is effectively containing the contamination.

Implementation of Institutional Controls and Other Measures

While most ICs are in place and have been effective it is difficult to ensure that all affected property owners are aware of the property use limitations imposed by the remedy due to frequent ownership turn-over. Access controls, such as fencing around the source area, are in place that are effective in preventing exposure. However, follow-up actions are necessary to ensure the long-term protectiveness of the remedy. The two key follow-up actions are to obtain access easements and the development of a Plan, which would evaluate efficacy of current ICs and identify what, if any, additional ICs may be needed. Additionally, the Plan will include LTS procedures could help ensure that ICs are properly maintained, monitored, and enforced. WDNR will update the O&M Manual to include these components.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Question B Summary:

No

Changes in Standards and TBCs

The long-term RAO is to reduce the contaminant concentrations in groundwater to meet state and/or federal groundwater quality standards. WDNR PALs outlined in ch. NR 140, Wis. Adm. Code are the more stringent standard for each contaminant of concern. The sampling of several contaminants of concern have been discontinued over the years due to concentrations being well below the respective PALs. None of those PALs have changed since the fourth FYR, and therefore it is not necessary to resume sampling of any of the discontinued contaminants of concern.

Changes in Toxicity and Other Contaminant Characteristics
As emerging contaminants, PFAS were not included as contaminants of concern in the 1994 ROD. According to ITRC, metal plating and etching operations may be a potential source of PFAS. Sampling the monitoring wells for PFAS occurred in December 2020. Depending on the results, additional investigation may be needed, and it may be necessary for WDNR to implement a temporary and/or permanent system to treat the groundwater for PFAS prior to discharge.

Changes in Exposure Pathways
The land use at and near the site is a mixture of residential, commercial and industrial. In Fall 2020 the parking lot at 1515 West Melvin Street underwent improvements that involved replacing the entire paved surface. WDNR gave approval of these plans prior to implementation and ensured that no new exposure pathways would be created during or after improvement. Overall, no new human health or ecological routes of exposure have been identified since remedy selection in 1994. However, as detailed earlier, although a VI pathway is not anticipated, to be conservative and following EPA's VI guidance, it is recommended to conduct VI investigation at occupied buildings within approximately 100 ft of the VOC contaminated groundwater surface footprint.

Although PFAS has been detected in the groundwater, it does not present any new exposure pathway because any PFAS within groundwater will be contained by the collection system, and all site residences are connected to municipal water systems.

In September 2017 the limited investigation into surficial soil and sump water at 801 South Outagamie Street, as documented in *Limited Hexavalent Chromium Sampling, (Residence – 801 South Outagamie Street)* (Terracon, 2017), detected hexavalent chromium in soil above the non-industrial direct contact RCL of 0.301 mg/kg. Hexavalent chromium was not detected in the sump pit water. This is the second property to have surficial soil with hexavalent chromium concentrations above the WDNR's non-industrial direct contact RCL however, the levels found are within EPA's acceptable risk range and are considered protective in the short term. Additional surficial soil sampling is needed to identify the nature and extent of hexavalent chromium present in residential soils to ensure long-term protectiveness of the remedy.

Expected Progress Towards Meeting RAOs
The RAOs currently in place in the ROD are still valid; these RAOs apply to the originally identified contaminants of concern along with VOCs, and they aim "to prevent direct contact and ingestion of ponded water, groundwater, soil or debris. . . and to prevent the discharge of water that exceeds state or federal surface water criteria". Additionally, there is the RAO for groundwater to "protect the underlying bedrock aquifer and contain and/or control the further migration of contaminants." The long-term remedial objective as mentioned previously is to "reduce the contaminant concentration in groundwater to meet state and/or federal groundwater quality standards, whichever are more stringent." While these RAOs are still valid the selected remedy is making slow progress towards meeting the RAOs; it may not be possible to achieve the groundwater standards for each contaminant of concern within a reasonable amount of time. An evaluation of the site remedy should be performed to identify actions that could improve the remedy's effectiveness and long-term protectiveness and facilitate progress towards site completion. This evaluation could be completed by WDNR or by the EPA National Optimization team. This item will be completed by December 1, 2024.

The RAOs detailed in the ROD apply to the original contaminants of concern but do not apply to PFAS contaminants. Should PFAS be confirmed at levels of potential concern, additional investigation would be needed as well as an evaluation of the effectiveness of the existing remedy in addressing PFAS.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No. The Site has not been impacted by any natural disasters and has no new climate change vulnerabilities. No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
None

Issues and Recommendations Identified in the Five-Year Review:

OU(s): 1/Sitewide	Issue Category: Operations and Maintenance			
	Issue: Out-dated electrical and control units in treatment building			
	Recommendation: Upgrade electrical, wiring, and program accessibility in treatment building			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	8/2/2021

OU(s): 1/Sitewide	Issue Category: Site Access/Security			
	Issue: Long-term access easements are needed for properties that include collection system components beyond the Mauthe Property, not including the railroad corridor			
	Recommendation: Secure access easements with all properties, except the railroad corridor			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	2/7/2023

OU(s): 1/Sitewide	Issue Category: Institutional Controls			
	Issue: LTS procedures are needed to ensure that effective ICs are monitored, maintained and enforced			
	Recommendation: Develop LTS procedures that can be incorporated into an updated O&M Manual			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	5/2/2023

OU(s): 1/Sitewide	Issue Category: Operations and Maintenance			
	Issue: Lifespan of collection components			
	Recommendation: Inspect all collection components, make any needed repairs and/or modifications			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	9/19/2022

OU(s): 1/Sitewide	Issue Category: Remedy Performance			
	Issue: Undefined hexavalent chromium in surficial soil off the Mauthe Property			
	Recommendation: Surficial soil sampling at 1400, 1410, 1414 and 1428 W. Second St. should still occur to evaluate the potential for risk from direct contact with contaminated soil			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	8/1/2025

OU(s): 1/Sitewide	Issue Category: Operations and Maintenance			
	Issue: Unknown if detected PFAS in groundwater will require modification to the groundwater treatment system to continue discharging to the POTW			
	Recommendation: Review validated PFAS groundwater data and document whether concentrations warrant changes to the groundwater treatment system			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	11/1/2023

OU(s): 1/Sitewide	Issue Category: Remedy Performance			
	Issue: Optimization of the existing system or additional RA options need to be evaluated for the site to meet groundwater RAOs			
	Recommendation: Conduct an evaluation of the existing site remedy to identify specific actions needed to improve the remedy's effectiveness and long-term protectiveness and facilitate progress towards site completion			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	12/1/2024

OU(s): 1/Sitewide	Issue Category: Other			
	Issue: Residential properties are located within 100 feet from concentrations of VOCs in the groundwater that exceed the VI screening level			
	Recommendation: Conduct a VI investigation to determine if there is a complete exposure pathway to indoor air and if the pathway exists determine if there is a risk of adverse health effects related to an VI exposure on the Mauthe Property, site residential properties and properties adjacent to the site			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	WDNR	EPA	5/1/2023

OTHER FINDINGS

In addition, the following are recommendations that were identified during the FYR and may improve performance of the remedy, reduce costs, improve management of O&M, and accelerate site close out, but do not affect current nor future protectiveness:

- WDNR would like to sample drain tile water from each site property connected to the collection system. The goal of this sampling effort was to evaluate whether the groundwater surrounding the homes was still impacted by chromium. If the groundwater surrounding these homes was no longer impacted by chromium, the drain tiles could be disconnected from the collection system and instead connected to the sanitary or storm sewers. This could significantly reduce the size of the OU, reduce the amount O&M activities, and lower operating costs by requiring less connection components to be maintained.
- The O&M Operator recommended updating the lighting inside the treatment building to light emitting diode (LED) lights. This would require an up-front cost but overall would improve efficiency and reduce energy costs for the building.

VII. PROTECTIVENESS STATEMENT

OU1 & Sitewide Protectiveness Statement
Protectiveness Determination: Short-term Protective
Protectiveness Statement: The remedy at the N. W. Mauthe Co., Inc. Superfund currently protects human health and the environment because the remedy is functioning as designed. The cap, fence, groundwater collection system and groundwater monitoring results show that exposure pathways that could result in unacceptable risks are currently under control. However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: -Upgrade electrical, wiring, and program accessibility in treatment building; -Secure access easements with all properties, except the railroad corridor; -Develop LTS procedures in an updated O&M Manual; -Inspect all collection components, make any needed repairs and/or modifications; -Sample surficial soil on all site properties containing collection components**;** -Conduct an evaluation of the existing site remedy to identify specific actions needed to improve the remedy's effectiveness and long-term protectiveness and facilitate progress towards site completion; -Conduct an analysis of PFAS results to determine whether additional investigation is necessary along with an evaluation of the existing remedy; and -Conduct a VI investigation to determine if there a complete exposure pathway to indoor air at the Mauthe Property, site residential properties and properties adjacent to the site.

VIII. NEXT REVIEW

The next FYR report for the N. W. Mauthe Superfund Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin, Wis. Stat. ch. 292; Wis. Admin. Code ch. NR 700, PUB-RR-800, WDNR, January 2018.

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Final O&M Manual, Groundwater Treatment System, N. W. Mauthe Site, Appleton, Wisconsin, CH_2M Hill, April 29, 1997.

History and Use of Per- and Polyfluoroalkyl Substances (PFAS), Interstate Technology Regulatory Council, April 2020.

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Long-Term Remedial Action Report, N. W. Mauthe Long-Term Response Action, CH_2M Hill, November 1998.

November 2018 Excavation Observation Report, N. W. Superfund Site, Appleton, Wisconsin, Terracon, August 10, 2020.

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Operation & Maintenance Report, Report #54, N. W. Mauthe Superfund Site, Appleton, Wisconsin, WDNR BRRTS No. 02-45-000127, Terracon, October 19, 2016.

Operation & Maintenance Report, Report #55, N. W. Mauthe Superfund Site, Appleton, Wisconsin, WDNR BRRTS No. 02-45-000127, Terracon, April 28, 2017.

Operation & Maintenance Report, Report #56, N. W. Mauthe Superfund Site, Appleton, Wisconsin, WDNR BRRTS No. 02-45-000127, Terracon, October 27, 2017.

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Operation & Maintenance Report, Report #59, N. W. Mauthe Superfund Site, Appleton, Wisconsin, WDNR BRRTS No. 02-45-000127, Terracon, November 12, 2019.

Operation & Maintenance Report, Report #60, N. W. Mauthe Superfund Site, Appleton, Wisconsin, WDNR BRRTS No. 02-45-000127, Terracon, October 30, 2020.

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PFAS Groundwater Investigation Report, N. W. Mauthe Superfund Site, Appleton, Wisconsin, Terracon, March 3, 2021.

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Simulation of Solute Movement at a Chromium-Contaminated Site, N. W. Mauthe Property, 725 S. Outagamie St., Appleton, WI, OMNNI Associates, March 16, 2007.

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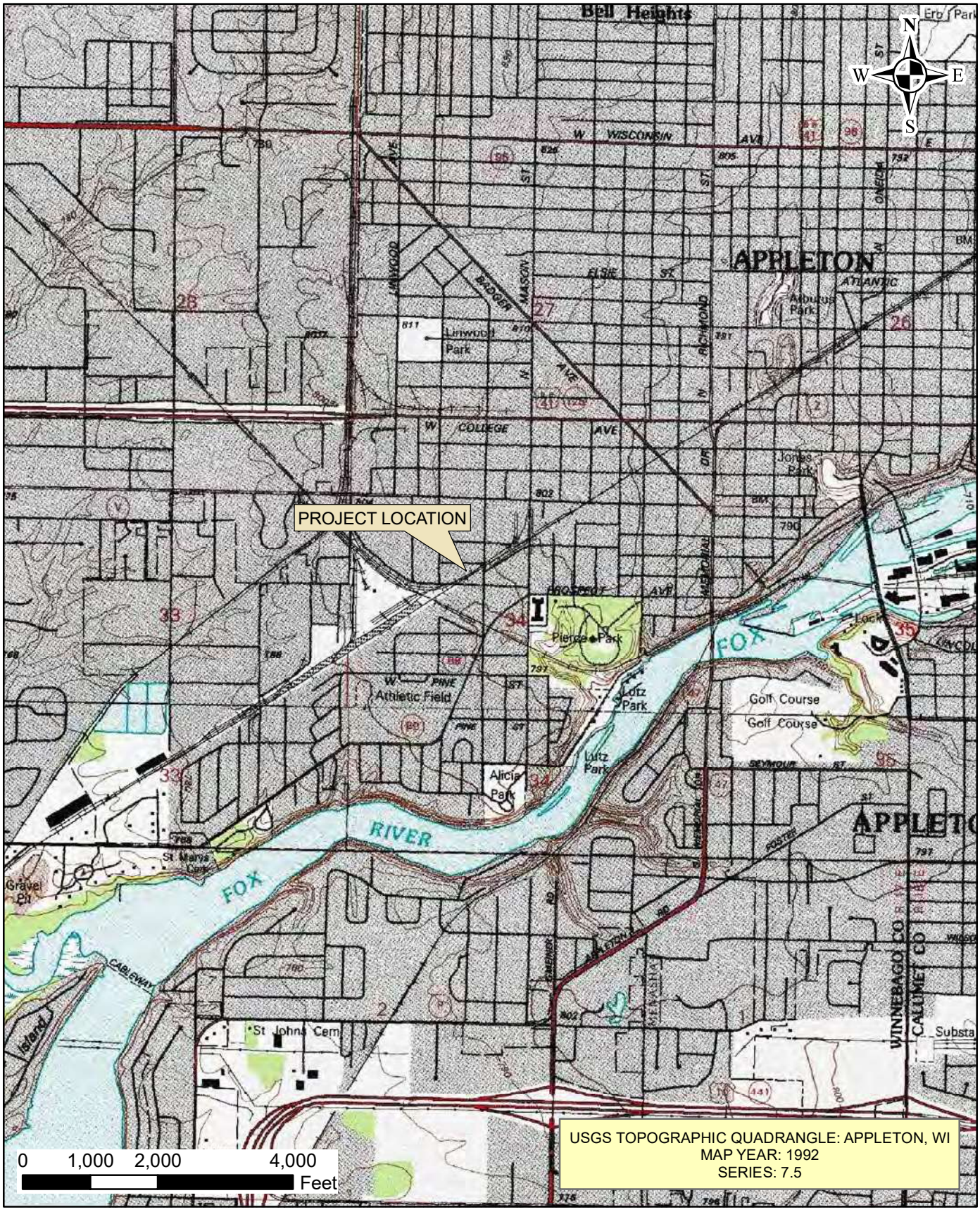
APPENDIX B – FIGURES



Project Mngr:	PAL
Drawn By:	LES
Checked By:	PAL
Project No:	58117057
Date:	03/21/2012

Terracon
Consulting Engineers & Scientists
9856 South 57th Street Franklin, WI 53132
(414) 423 0255 (414) 423 0566

SITE LOCATION MAP

N.W. MAUTHE SITE
725 SOUTH OUTAGAMIE STREET

APPLETON WISCONSIN

FIGURE

1

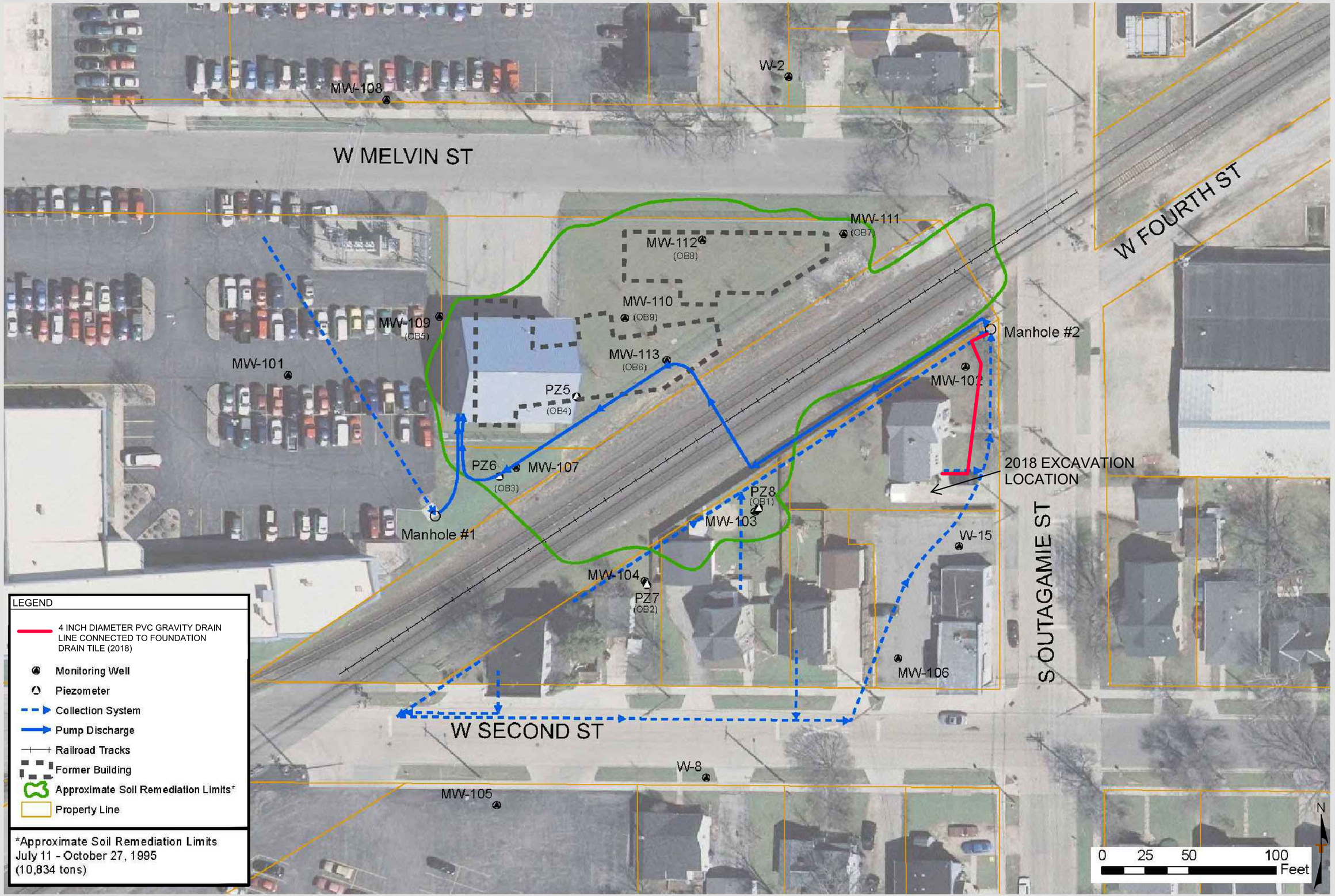


FIGURE 2 (FIG2)

SITE DETAIL MAP

N.W. MAUTHE SITE
726 SOUTH OUTAGAMIE STREET
APPLETON, WISCONSIN

Terracon
Consulting Engineers and Scientists
9666 South 57th Street Franklin, WI 53132
PH: (414) 423-0255 FAX: (414) 423-0566

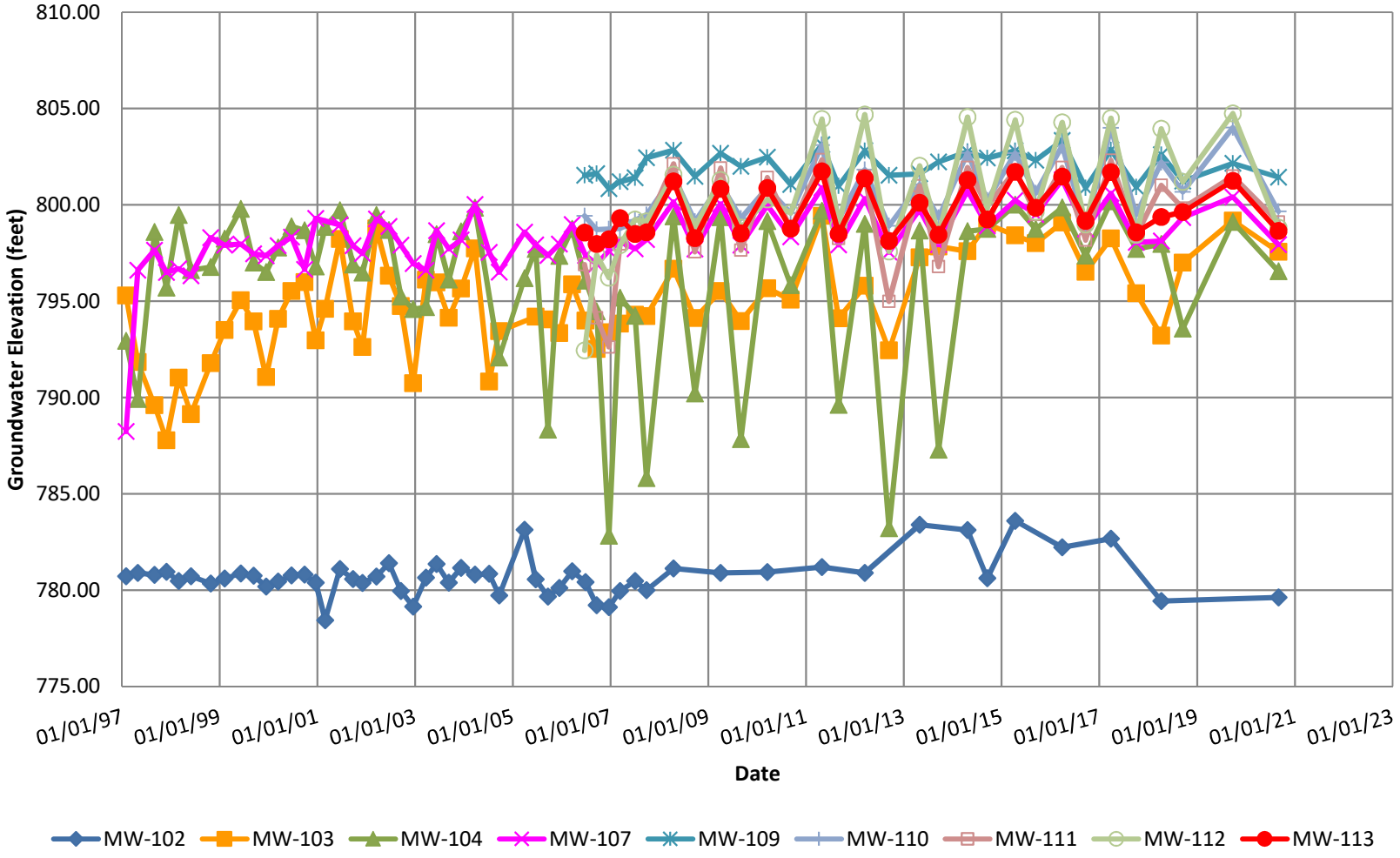
Project No.	58117057
Scale:	As Shown
File No.	58117057C2R2
Date:	10/2020
Project Mngr:	SAH
Drawn By:	JMN
Checked By:	SAH
Approved By:	SAH

Note: Figure taken from Omni Site Detail Map, January 2011

FIGURE 3

Groundwater Hydrographs

N.W. Mauthe Superfund Site



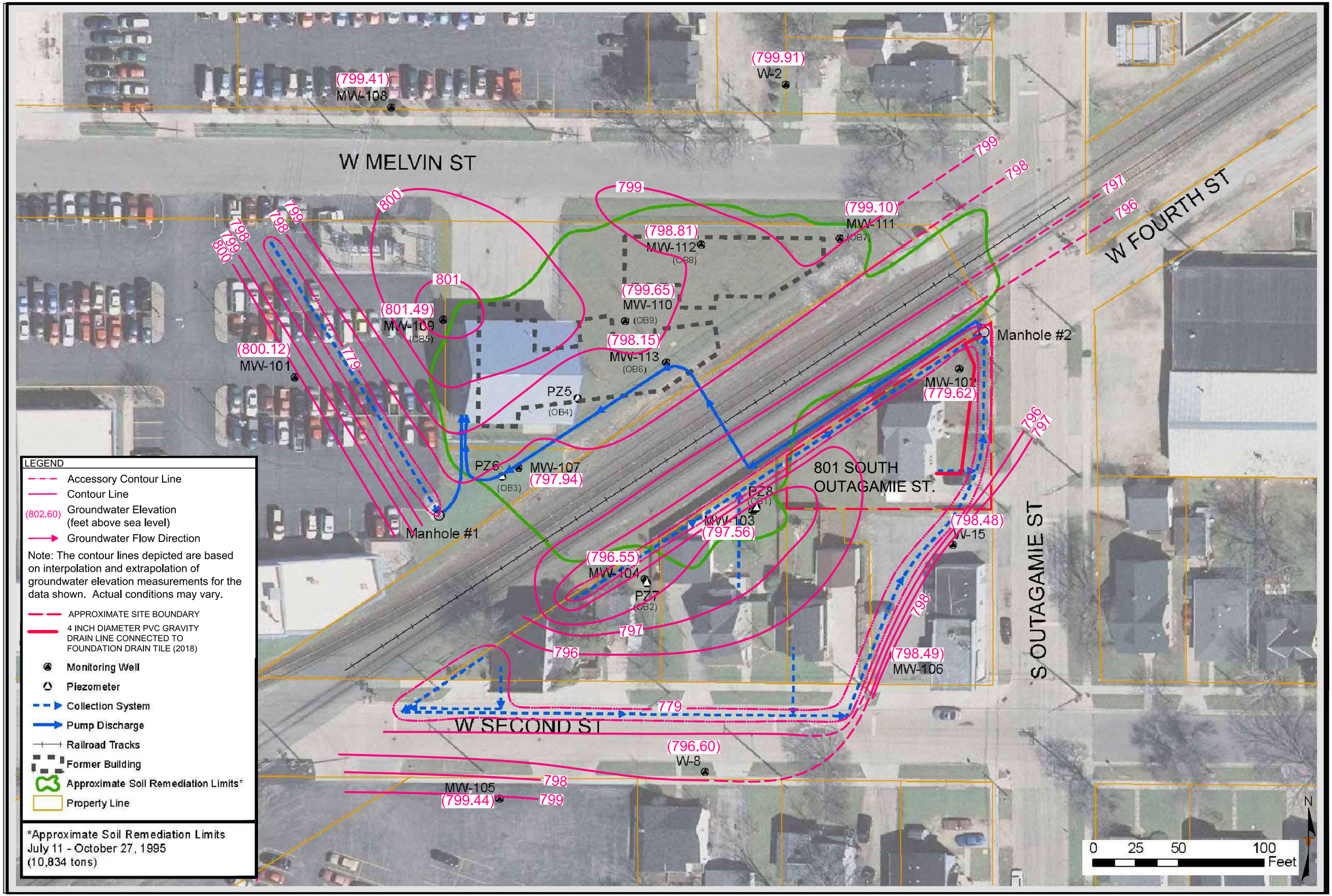


FIGURE 4 (FIG4)

GROUNDWATER TABLE CONTOUR MAP - AUGUST 2020

N.W. MAUTHE SITE
726 SOUTH OUTAGAMIE STREET
APPLETON, WISCONSIN

Terracon
Consulting Engineers and Scientists
9856 South 57th Street
Franklin, WI 53132
PH: (414) 423-0255
FAX: (414) 423-0566

Project No.	58117057
Scale:	As Shown
File No.	58117057C2R2
Date:	10/2020
Project Mngr:	SAH
Drawn By:	JMN
Checked By:	SAH
Approved By:	SAH

Note: Figure taken from Omni Site Detail Map, January 2011

W MELVIN ST

W FOURTH ST

S OUTAGAMIE ST

W SECOND ST

MW-108 <2.5

W-2 <2.5

MW-101 <2.5

MW-109 (OB5) 339

MW-112 (OB8) 305

MW-111 (OB7) 76.3

MW-110 (OB9) <2.5

MW-113 (OB6) 759

PZ5 (OB4)

PZ6 (OB3)

MW-107 1300

PZ8 (OB1)

MW-103 4.4J

MW-104 3.8J

PZ7 (OB2)

MW-102 NS

W-15 <2.5

MW-106

W-8 <2.5

MW-105 NS

Manhole #1

Manhole #2

2

10

100

1000

0 25 50 100 Feet

N

Legend

- Monitoring Well
- Piezometer
- Collection System
- Pump Discharge
- Railroad Tracks
- Former Building
- Approximate Soil Remediation Limits*
- Property Line

2.2 Total Chromium Concentration (µg/L)

µg/L Micrograms per liter

Isoconcentration line, dashed where inferred

NS = Not Sampled

Note: The isoconcentration lines may differ near trenches.

4 INCH DIAMETER PVC GRAVITY DRAIN LINE CONNECTED TO FOUNDATION DRAIN TILE (2018)

*Approximate Soil Remediation Limits
July 11 - October 27, 1995
(10,834 tons)

FIGURE 5

GROUNDWATER TOTAL CHROMIUM ISOCONCENTRATION MAP - SEPTEMBER 2019

N.W. MAUTHE SITE
725 SOUTH OUTAGAMIE STREET
APPLETON WISCONSIN

Terracon
Consulting Engineers and Scientists
9856 South 57th Street Franklin, WI 53132
PH. (414) 423 0255 FAX (414) 423 0566

Project No.	58117057
Scale:	As Shown
File No.:	58117057C2R2
Date:	10/2020
Project Mngr:	SAH
Drawn By:	JMN
Checked By:	KLK
Approved By:	SAH

Note: Figure taken from Omni Site Detail Map, January 2011

FIGURE 6

MW-103 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

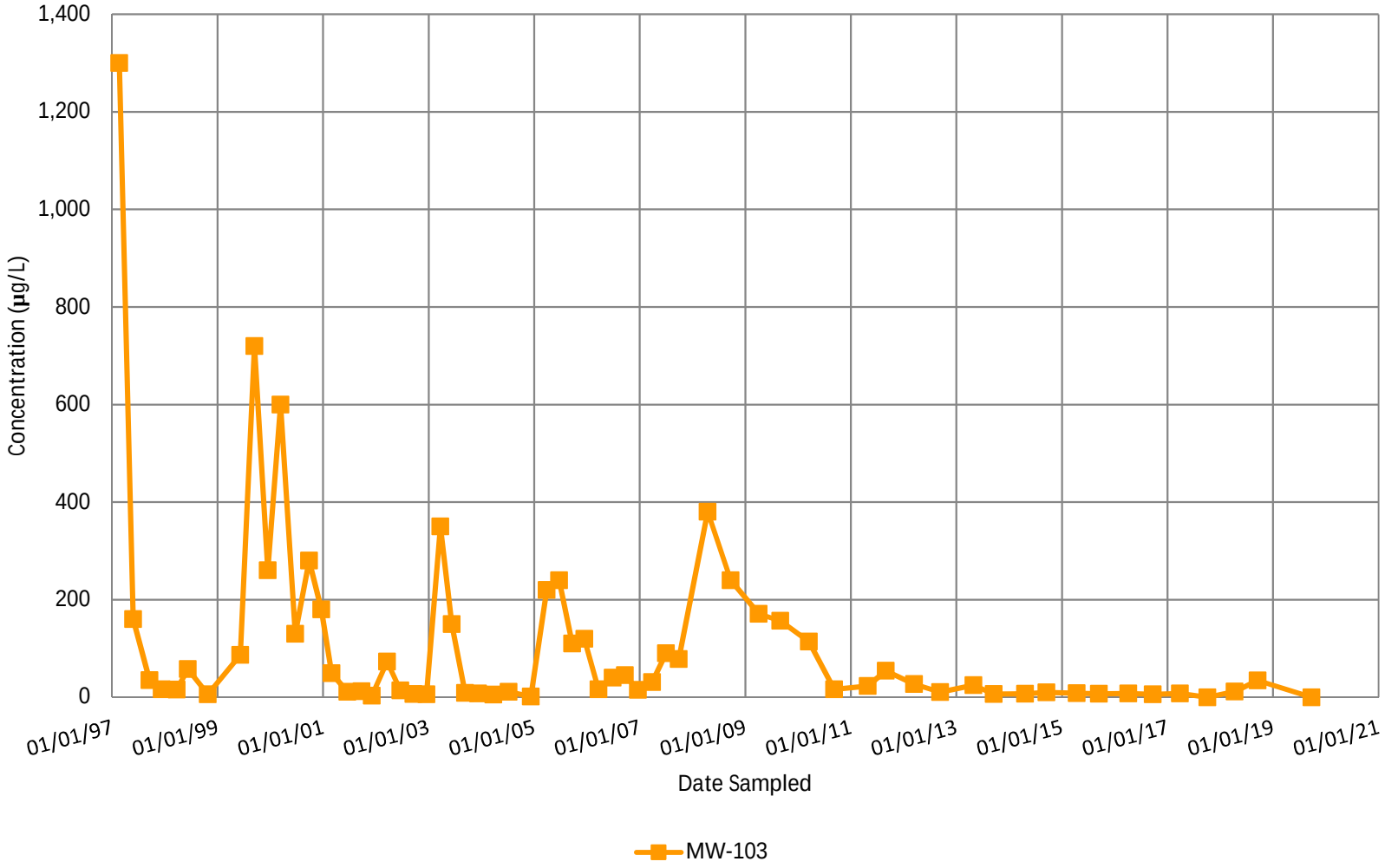


FIGURE 7

MW-104 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

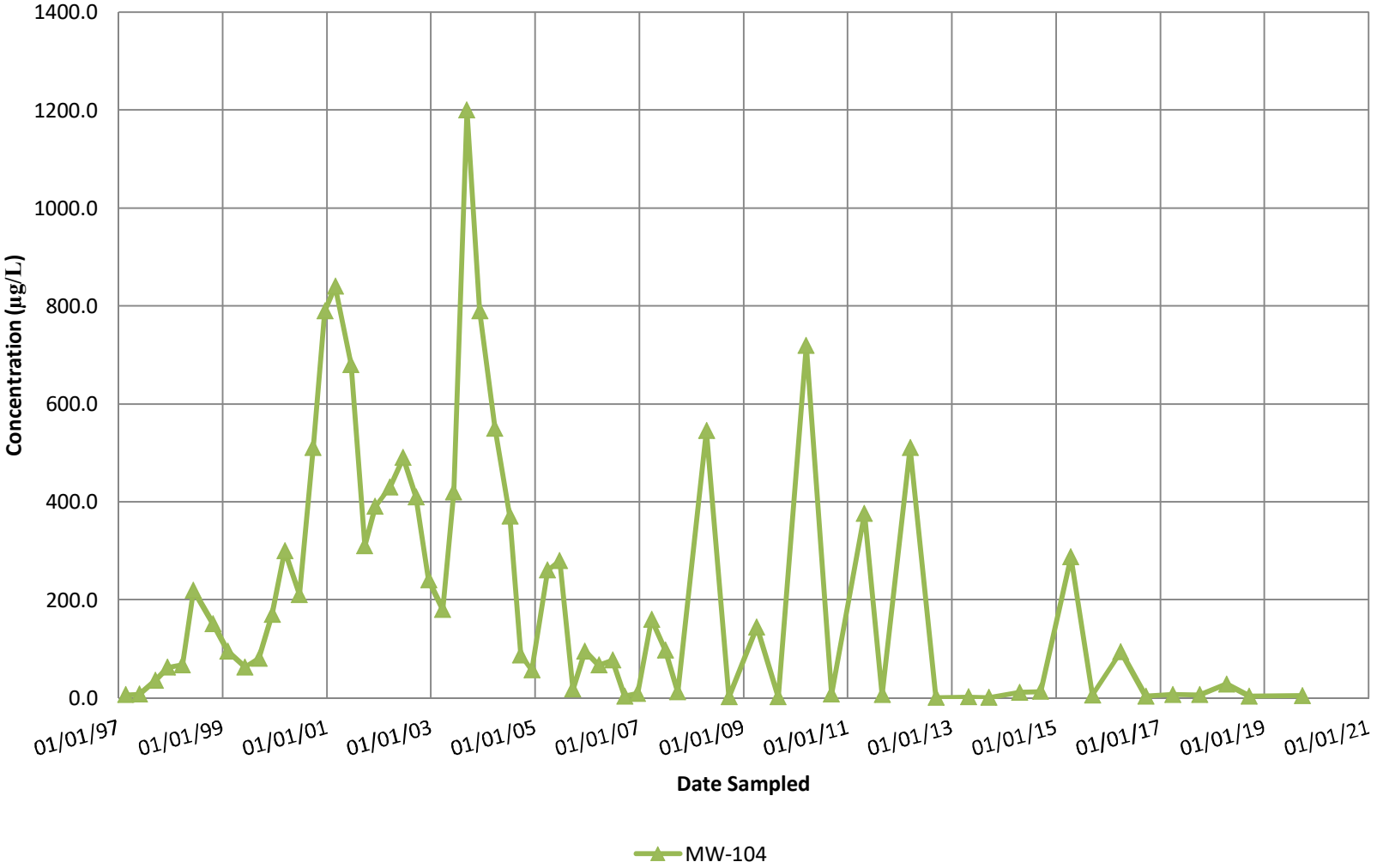


FIGURE 8

MW-107 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

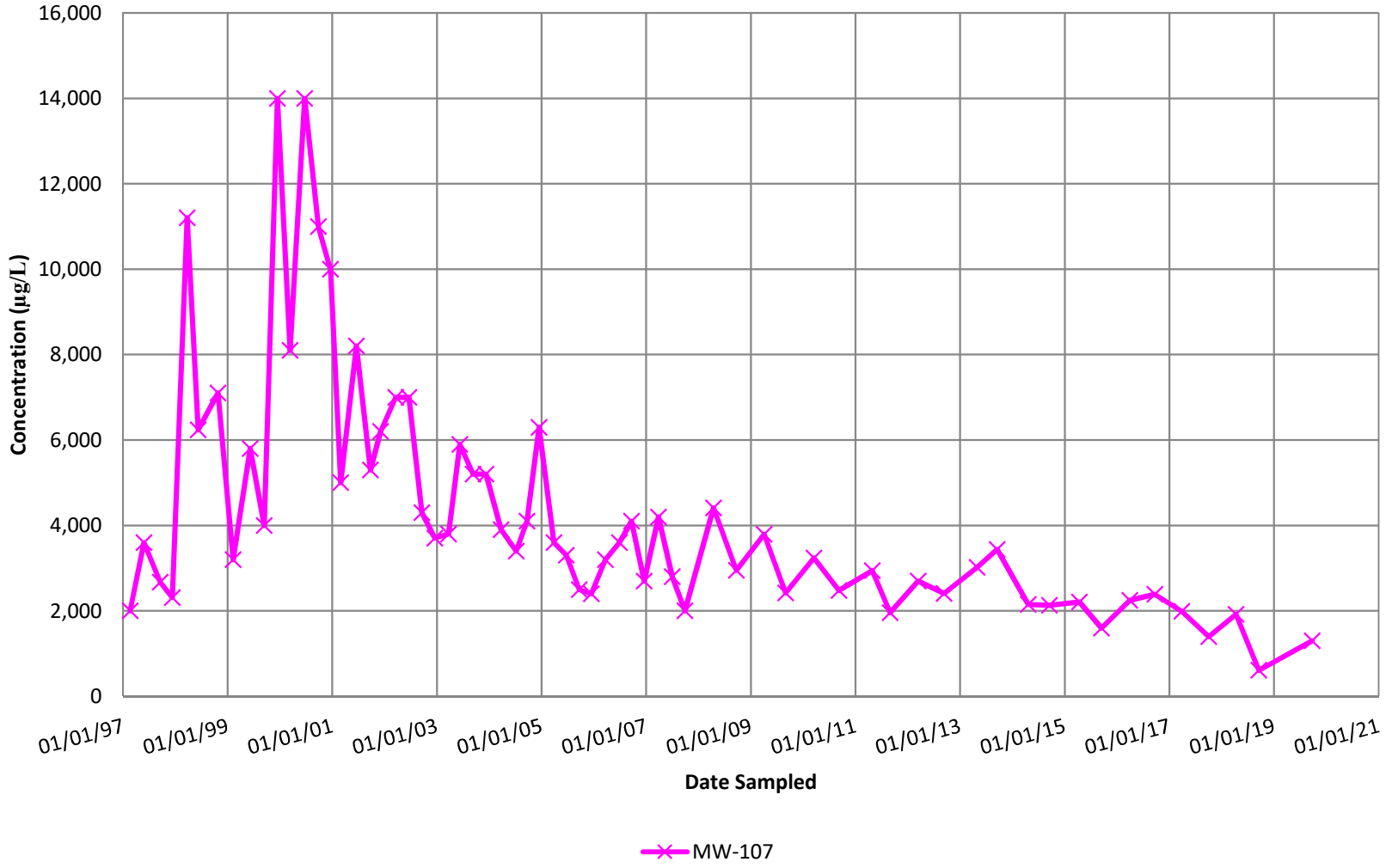


FIGURE 10

MW-110 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

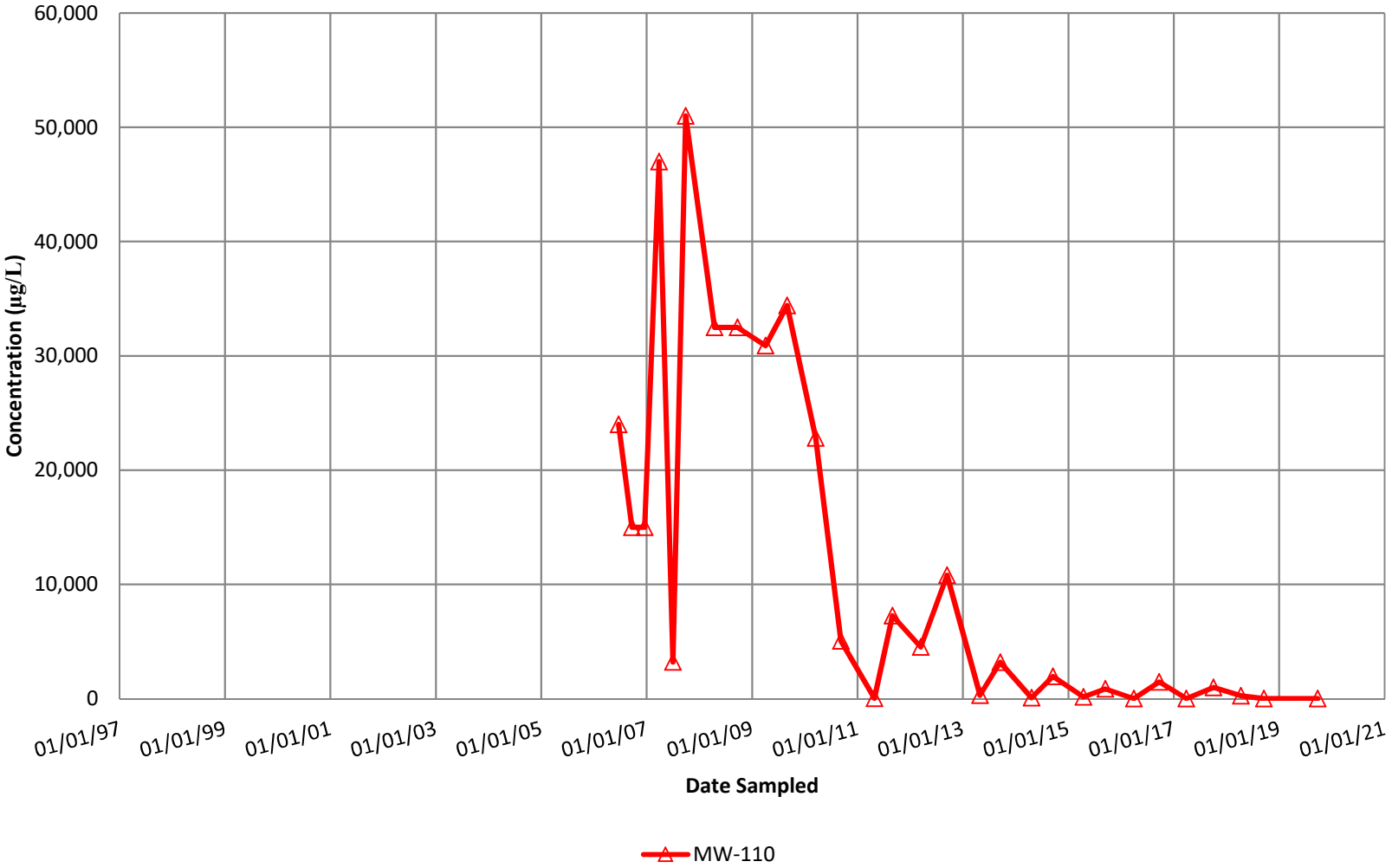


FIGURE 9

MW-109 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

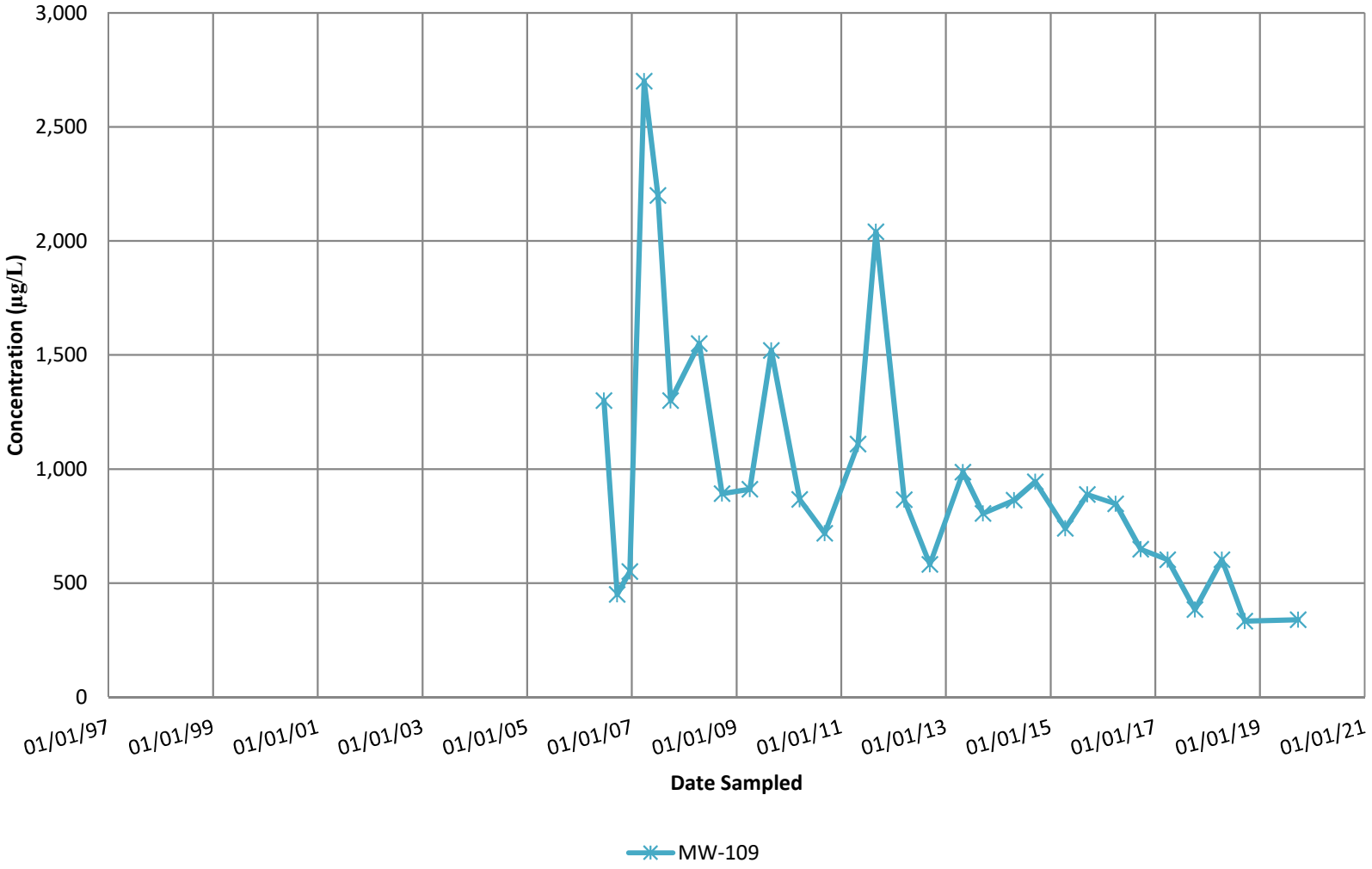


FIGURE 11

MW-111 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

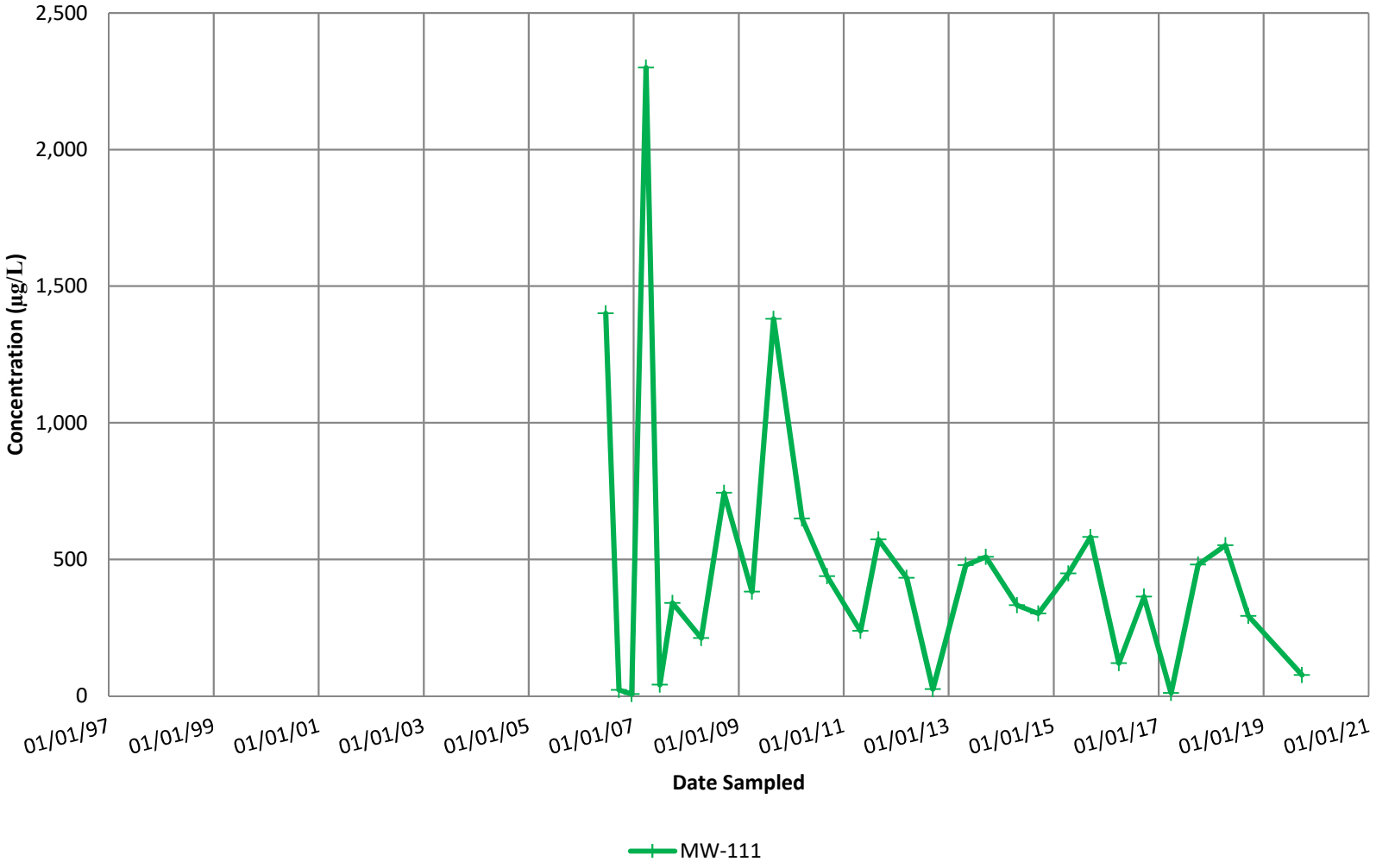


FIGURE 12

MW-112 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

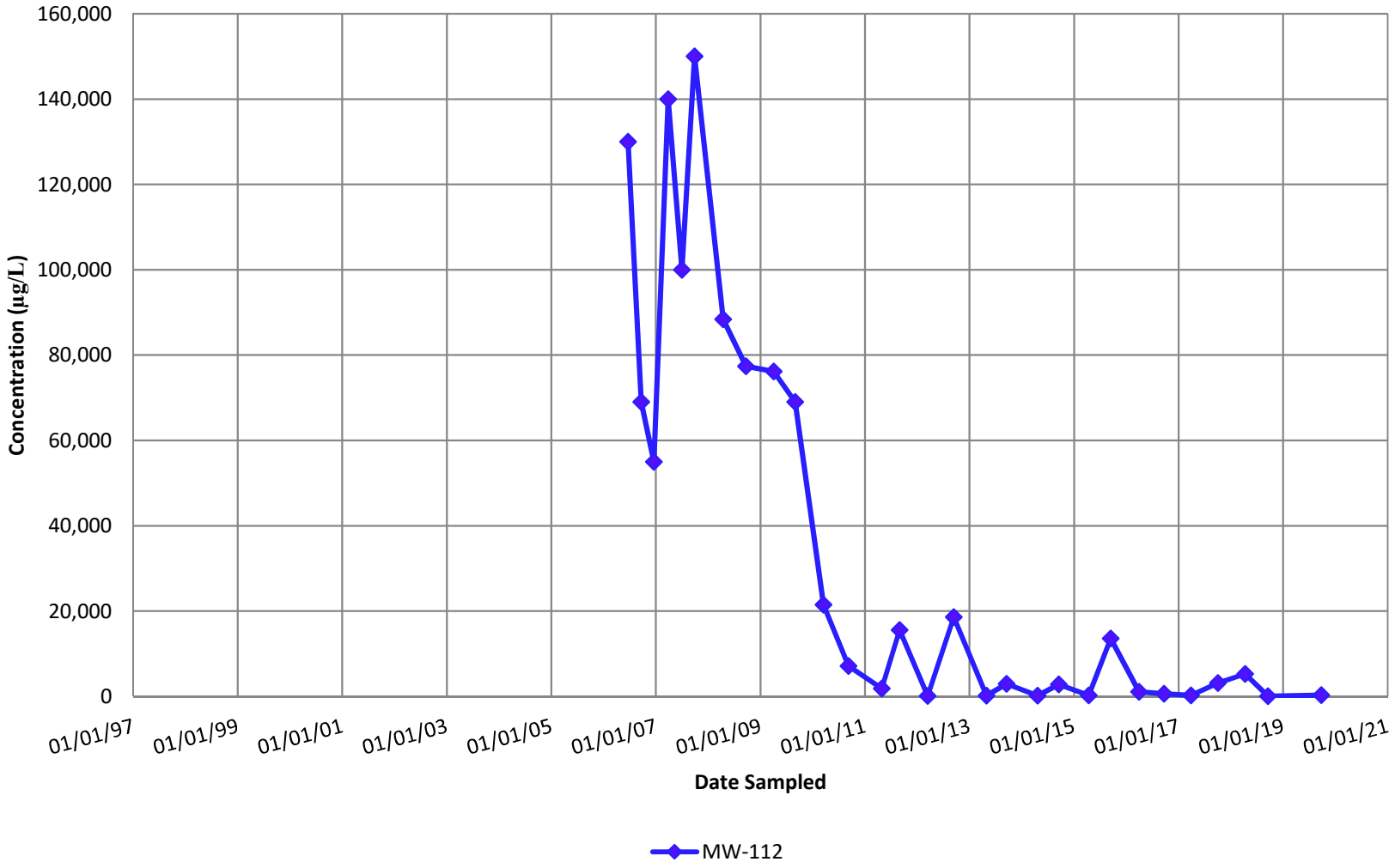


FIGURE 13

MW-113 Total Chromium Concentration Trends

N.W. Mauthe Superfund Site

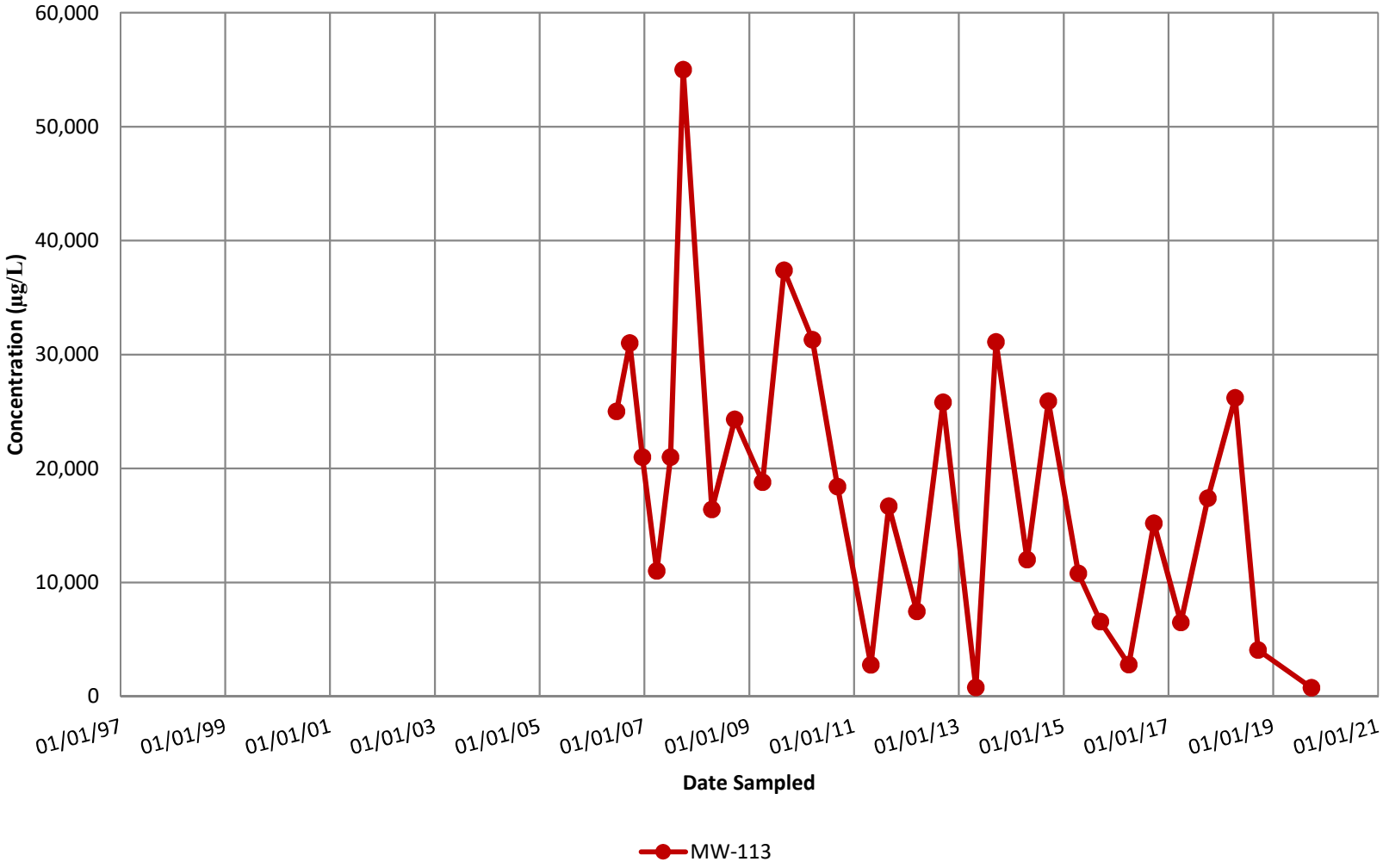


FIGURE 14

MW-107 CVOC Concentration Trends

N.W. Mauthe Superfund Site

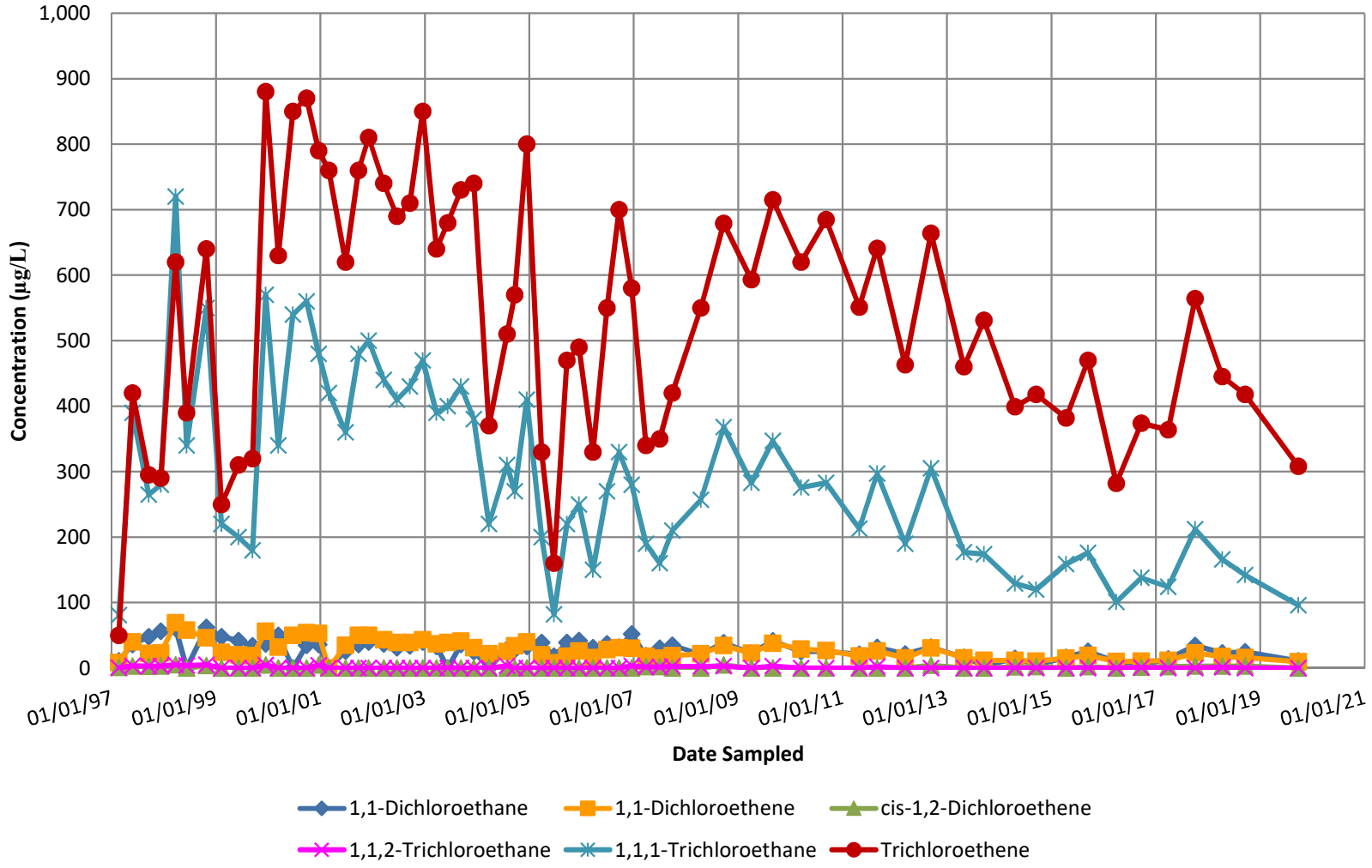


FIGURE 15

MW-110 CVOC Concentration Trends

N.W. Mauthe Superfund Site

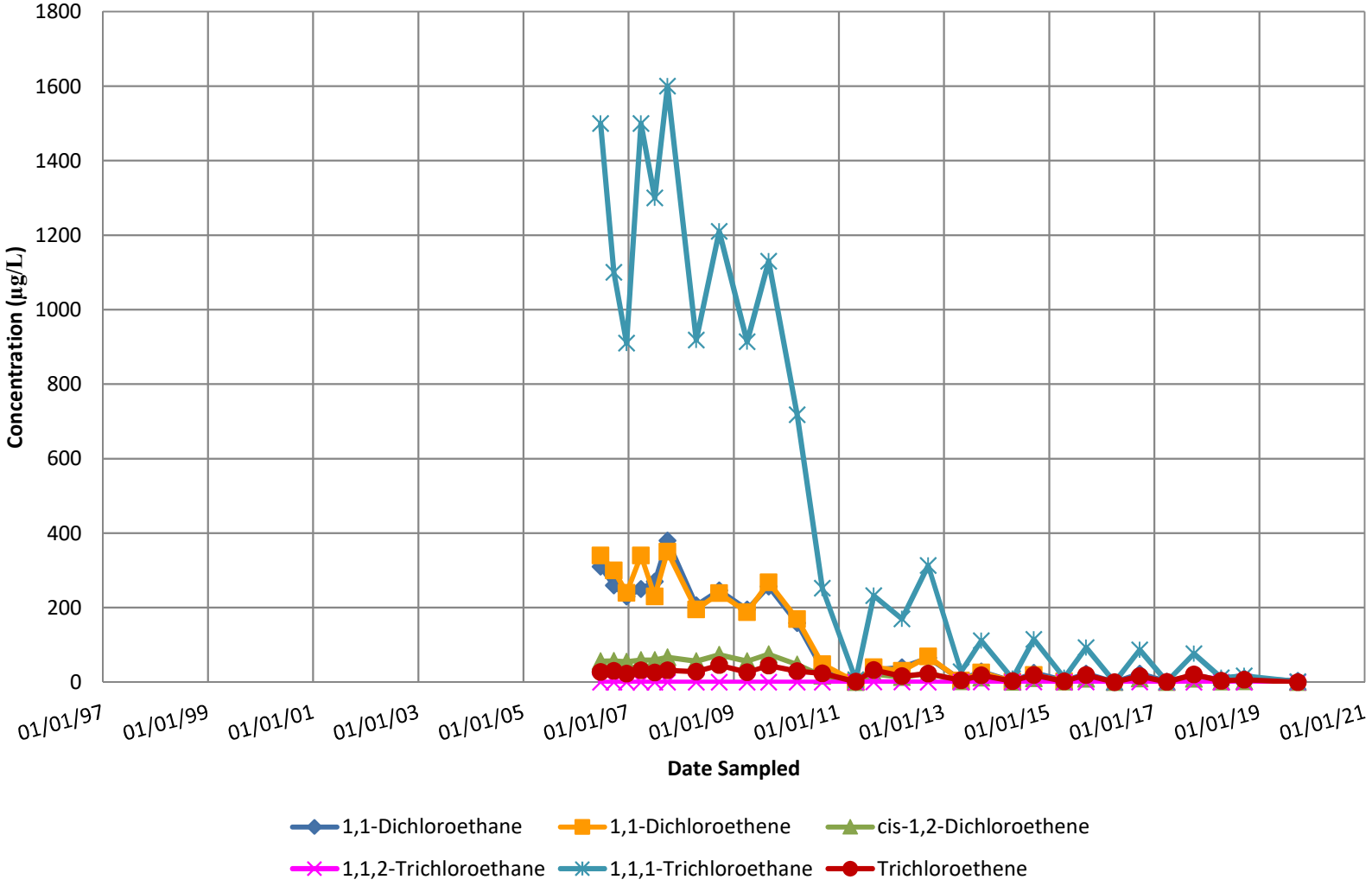
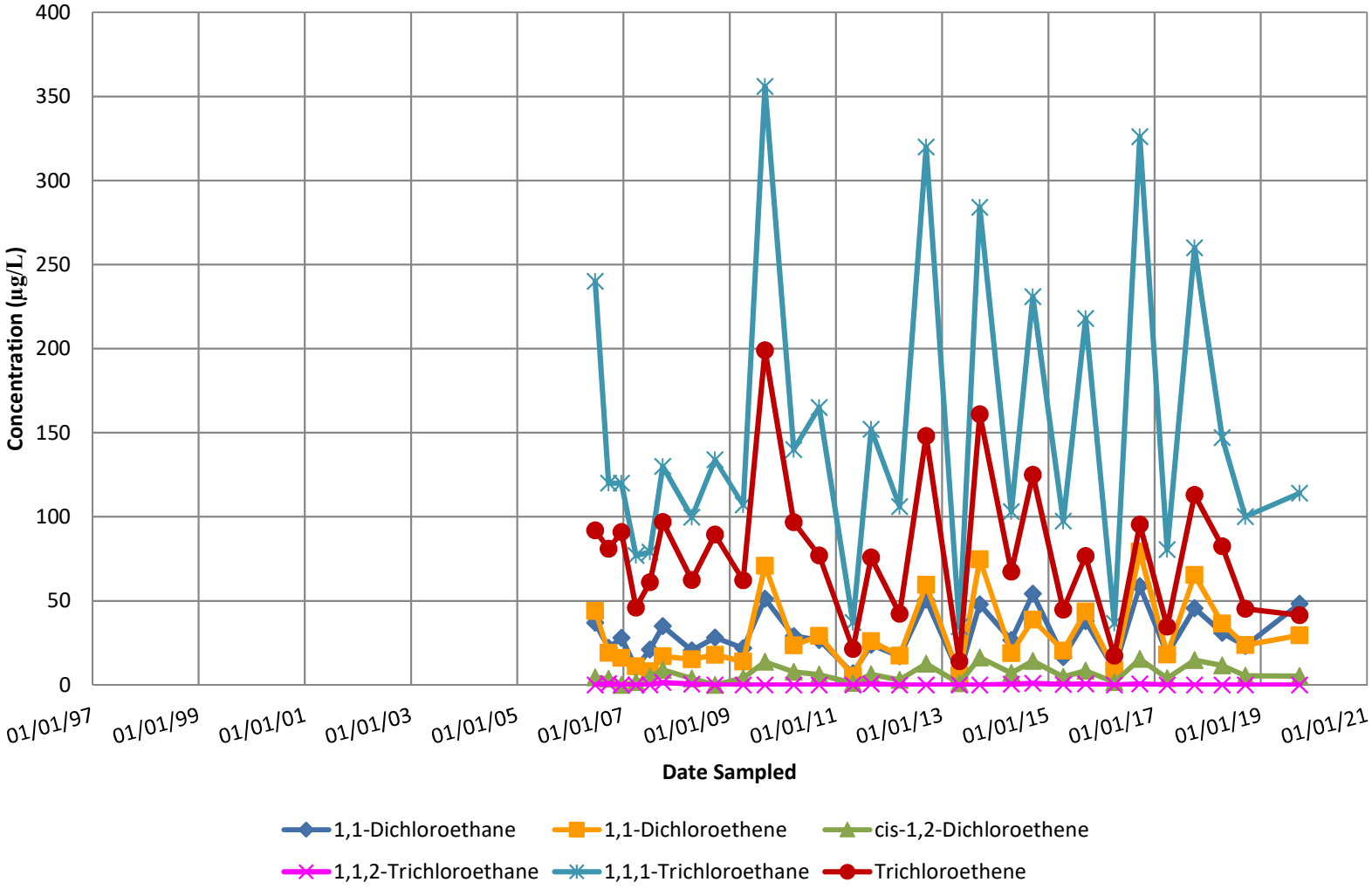


FIGURE 16

MW-113 CVOC Concentration Trends

N.W. Mauthe Superfund Site



APPENDIX C – TABLES

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
09/25/07		8,290,363											
	10/01/07	*8,300,685*											
10/01/07		8,301,251	10,888										
10/02/07		8,301,251	0		7.7								
10/15/07		8,324,675	23,424										
10/16/07		8,324,675	0		7.4	1.700			6.93	3.9		7.30	0.60
10/22/07		8,355,957	31,282										
10/23/07		8,355,957	0		7.5	1.500			7.04	3.75		NA	NA
10/29/07		8,370,413	14,456	**October**									
10/30/07		8,370,413	0	**71,891**	7.4	1.900			NA	NA		NA	NA
	11/01/07	*8,372,575*											
11/05/07		8,377,912	7,499										
11/06/07		8,377,912	0	**November**	8.3	1.900	1.300		7.8	4.30		8.2	0.18
11/16/07		8,386,583	8,671	**21,587**									
	12/01/07	*8,394,162*											
12/03/07		8,395,372	8,789										
12/04/07		8,395,372	0		8.6	3.100	2.500		8.4	4.60		8.6	0.16
12/12/07		8,399,522	4,150	**December**									
12/21/07		8,402,508	2,986	**25,977**									
	01/01/08	*8,420,139*											
01/01/08		8,420,868	18,360										
01/02/08		8,420,868	0		8.7	1.300	1.200		8.4	4.50		8.7	0.62
01/02/08		8,421,628	760										
01/10/08		8,459,333	37,705										
01/15/08		8,479,244	19,911	**January**									
01/25/08		8,497,063	17,819	**84,612**									
	02/01/08	*8,504,750*											
02/01/08		8,505,562	8,499										
02/03/08		8,507,408	1,846	**February**									
02/04/08		8,507,408	0	**22,861**	8.9	1.700	1.600		8.7	2.60		8.8	0.70
	03/01/08	*8,527,611*											
03/02/08		8,528,931	21,523	**March**	9.0	2.9	2.500		8.7	3.60		8.8	2.50
03/31/08		8,653,211	124,280	**128,713**									
	04/01/08	*8,656,324*											
04/01/08		8,657,629	4,418		9.0	1.6	1.530		8.7	1.60		8.9	1.45
04/01/08		8,661,298	3,669										
04/04/08		8,682,788	21,490										
04/07/08		8,697,084	14,296										
04/08/08		8,697,084	0		9.1	0.063			8.7	1.40		8.9	0.54
04/14/08		8,790,128	93,044										
04/15/08		8,790,128	0		9.1	0.36			8.7	0.90		8.8	0.17
04/15/08		8,797,710	7,582					Installed			Installed		
04/16/08		8,804,525	6,815					1,074			2,804		
04/16/08		8,806,972	2,447					1,589			3,661		
04/21/08		8,826,834	19,862					5,176			11,176		
04/22/08		8,826,834	0		9.1	0.87		5,649	8.8	0.95	12,292	8.9	0.55
04/28/08		8,860,276	33,442	**April**				13,291			36,802		
04/29/08		8,860,276	0	**212,193**	9.1	0.51		14,721	8.8	0.96	40,534	9.1	0.43
	05/01/08	*8,868,517*											
05/05/08		8,890,994	30,718					22,372			59,203		
05/06/08		8,890,994	0		9.1	0.95	0.679	22,844	8.7	1.14	60,259	8.8	0.62
05/12/08		8,907,573	16,579					28,018			70,853		
05/13/08		8,907,573	0		9.2	0.69		28,487	8.8	1.00	71,555	9.0	0.34
05/19/08		8,920,045	12,472					32,756			79,328		
05/20/08		8,920,045	0		9.1	0.74		33,225	8.8	0.96	80,376	8.9	0.27
05/26/08		8,929,582	9,537	**May**				36,557			85,277		
05/27/08		8,929,582	0	**66,866**	9.0	0.60		37,025	8.9	1.04	85,979	8.9	0.16
	06/01/08	*8,935,384*											

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
06/02/08		8,936,965	7,383					39,411			90,202		
06/03/08		8,936,965	0		9.3	0.90	0.824	39,876	9.0	1.06	90,901	9.0	0.54
06/09/08		8,951,078	14,113					43,187			101,102		
06/10/08		8,951,078	0		9.2	0.85		44,118	9.0	1.53	106,505	9.0	0.38
06/11/08		8,960,258	9,180					45,176			112,396		
06/16/08		8,999,813	39,555					52,865			140,673		
06/16/08		8,999,813	0					52,865			141,398		
06/17/08		8,999,813	0		9.2	1.4		53,808	9.1	3.40	143,560	9.1	0.33
06/18/08		9,007,718	7,905					54,790			146,825		
06/23/08		9,016,923	9,205					57,605			153,557		
06/24/08		9,016,923	0		9.3	0.20		58,074	9.1	2.50	154,613	9.0	0.14
06/30/08		9,026,850	9,927	**June**				61,392			160,227		
06/30/08		9,026,850	0	**91,466**				61,392			160,573		
	07/01/08	*9,026,850*											
07/01/08		9,026,850	0		9.3	1.4	1.290	61,861	9.0	2.45	161,266	9.1	0.58
07/07/08		9,035,952	9,102					64,701			166,481		
07/08/08		9,035,952	0		9.4	1.2		65,168	9.1	1.90	167,518	9.2	1.05
07/10/08		9,041,071	5,119					66,138			170,315		
07/14/08		9,054,932	13,861					68,973			182,057		
07/15/08		9,054,932	0		9.4	0.82		69,444	9.0	1.80	184,517	9.2	0.54
07/21/08		9,083,663	28,731					74,198			206,929		
07/22/08		9,083,663	0		9.4	0.74		75,898	9.2	2.52	211,453	9.2	0.31
07/25/08		9,114,297	30,634					81,242			230,374		
07/28/08		9,121,075	6,778					83,136			235,668		
07/29/08		9,121,075	0		7.4	0.70		83,609	7.2	3.30	237,073	7.2	0.30
07/29/08		9,123,409	2,334	**July**				83,646			237,455		
	08/01/08	*9,127,730*		**100,880**									
08/04/08		9,137,140	13,731					87,426			248,221		
08/05/08		9,137,140	0		7.6	1.30	1.260	87,426	7.2	2.72	250,342	7.2	0.41
08/05/08		9,141,581	4,441					87,938			252,120		
08/09/08		9,151,886	10,305					90,785			260,213		
08/11/08		9,154,723	2,837					91,732			262,298		
08/12/08		9,154,723	0		7.5	1.2		92,206	7.2	2.45	263,337	7.3	0.25
08/13/08		9,157,388	2,665					92,710			264,058		
08/18/08		9,162,704	5,316					94,604			267,897		
08/19/08		9,162,704	0		7.5	0.98		95,077	7.2	2.08	268,595	7.2	0.20
08/19/08		9,163,932	1,228					95,106			268,623		
08/21/08		9,166,109	2,177					96,049			270,020		
08/24/08		9,168,274	2,165					96,993			271,417		
08/26/08		9,168,274	0	**August**	7.5	1.1		97,465	7.1	2.25	272,112	7.1	0.22
	09/01/08	*9,173,323*		**45,593**									
09/01/08		9,173,586	5,312					99,390			274,587		
09/02/08		9,173,586	0		7.6	1.4	1.290	99,863	7.3	2.50	274,936	7.3	0.21
09/02/08		9,174,445	859					99,894			274,962		
09/06/08		9,176,960	2,515					100,837			276,718		
09/08/08		9,176,960	0		7.5	1.3		101,310	7.2	2.25	277,071	7.3	0.16
09/15/08		9,182,218	5,258					103,257			279,911		
09/16/08		9,182,218	0		7.6	1.3		103,731	7.3	2.60	280,611	7.6	0.37
09/18/08		9,185,245	3,027					104,715			281,689		
09/22/08		9,187,538	2,293					105,663			283,095		
09/23/08		9,187,538	0		7.5	1.6		106,137	7.3	3.05	283,475	7.5	0.17
09/28/08		9,191,553	4,015					107,560			285,589		
09/30/08		9,191,553	0	**September**	7.6	1.8		108,035	7.4	3.70	285,942	7.4	0.18
	10/01/08	*9,192,867*		**19,545**									

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
10/05/08		9,195,280	3,727					109,500			287,383		
10/07/08		9,195,280	0		7.7	2.2	2.000	109,975	7.4	4.38	288,093	7.8	0.12
10/07/08		9,196,521	1,241					110,012			288,124		
10/10/08		9,200,017	3,496					110,965			290,943		
10/12/08		9,200,017	0					111,919			291,644		
10/14/08		9,200,017	0		7.8	1.9		112,396	7.5	3.48	292,698	7.8	0.27
10/16/08		9,204,404	4,387					112,906			293,436		
10/18/08		9,206,201	1,797					113,861			294,504		
10/21/08		9,206,201	0		7.8			114,337	7.5	4.02	295,563	7.9	0.28
10/22/08		9,208,980	2,779					114,848			296,250		
10/26/08		9,211,601	2,621					116,279			297,676		
10/28/08		9,211,601	0	**October**	7.9	2.0		116,756	7.7	3.96	298,743	8.2	0.26
	11/01/08	*9,214,938*		**22,071**									
11/01/08		9,215,379	3,778					117,743			300,201		
11/04/08		9,215,379	0		8.0	2.1	1.880	118,698	7.7	4.32	301,273	8.1	0.20
11/04/08		9,217,467	2,088					118,732			301,305		
11/07/08		9,219,330	1,863					119,685			302,376		
11/10/08		9,220,422	1,092					120,162			303,090		
11/20/08		9,229,031	8,609					123,506			309,112		
11/24/08		9,231,935	2,904					124,939			310,833		
11/24/08		9,232,260	325					124,939			311,189		
11/26/08		9,233,464	1,204					125,702			311,660		
11/28/08		9,234,926	1,462	**November**				126,192			312,744		
	12/01/08	*9,234,926*		**19,988**									
12/02/08		9,234,926	0		8.2	2.3	2.190	127,656	7.8	3.57	314,118	8.3	0.18
12/12/08		9,242,670	7,744					130,122			316,912		
12/17/08		9,247,587	4,917	**December**				131,563			320,808		
	01/01/09	*9,266,230*		**31,304**									
01/02/09		9,268,140	20,553					136,435			338,229		
01/06/09		9,268,140	0		7.8	2.5	2.430	137,894	7.7	4.48	341,351	7.8	1.05
01/12/09		9,277,419	9,279	**January**				139,384			344,897		
	02/01/09	*9,287,182*		**20,952**									
02/01/09		9,287,326	9,907					143,256			351,798		
02/03/09		9,287,326	0		7.8	3.3	2.900	143,738	7.9	4.69	352,143	8.2	0.34
02/05/09		9,288,848	1,522	**February**				143,772			352,912		
	03/01/09	*9,334,332*		**47,151**									
03/01/09		9,335,249	46,401					153,077			393,568		
03/03/09		9,335,249	0		7.6	2.4	1.970	153,561	7.9	4.24	394,973	8.2	0.87
03/11/09		9,355,734	20,485					156,519			412,282		
03/30/09		9,463,572	107,838					182,357			500,471		
03/31/09		9,463,572	0	**March**				183,323			501,935		
	04/01/09	*9,467,680*		**133,348**									
04/01/09		9,469,538	5,966					184,290			504,856		
04/03/09		9,478,305	8,767					187,194			511,375		
04/06/09		9,485,542	7,237					189,607			516,807		
04/07/09		9,485,542	0		7.7	0.84	0.730	190,569	7.9	1.14	518,251	8.1	0.52
04/13/09		9,498,358	12,816					194,432			525,799		
04/14/09		9,498,358	0		7.7	0.59		194,908	8.0	1.20	525,799	8.2	0.27
04/20/09		9,507,740	9,382					198,262			532,295		
04/21/09		9,507,740	0		7.8	1.0		198,262	8.0	0.96	533,364	8.3	1.74
04/27/09		9,545,303	37,563					208,646			561,846		
04/28/09		9,545,303	0		8.0	1.2		210,663	7.7	1.89	566,157	7.5	0.28

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	05/01/09	*9,568,209*		**April**									
05/01/09		9,574,025	28,722	**100,528**				217,567			582,471		
05/04/09		9,582,624	8,599					220,929			588,270		
05/05/09		9,582,624	0		7.6	0.76	0.724	221,884	8.0	1.29	589,714	8.0	0.33
05/11/09		9,599,171	16,547					227,170			599,566		
05/12/09		9,599,171	0		8.0	0.89		228,124	7.6	0.84	600,996	7.9	0.24
05/18/09		9,613,720	14,549					232,921			609,305		
05/19/09		9,613,720	0		7.4	0.79		233,874	7.0	0.84	610,378	7.2	0.38
05/19/09		9,615,798	2,078					233,908			610,421		
05/19/09		9,616,122	324					233,908			610,775		
05/25/09		9,624,219	8,097					237,697			615,786		
05/26/09		9,624,219	0		7.3	0.58		238,168	7.1	1.08	616,149	7.0	0.16
	06/01/09	*9,650,519*		**May**									
06/01/09		9,652,323	28,104	**82,310**				245,914			637,378		
06/02/09		9,652,323	0		7.3	0.23	0.648	246,871	6.9	1.05	638,835	7.2	0.26
06/03/09		9,658,104	5,781					248,350			641,072		
06/15/09		9,701,735	43,631					261,249			674,466		
	07/01/09	*9,727,520*		**June**									
07/01/09		9,727,975	26,240	**77,001**				272,082			691,914		
07/05/09		9,732,032	4,057					273,967			694,431		
07/07/09		9,732,032	0		7.4	0.96	0.878	274,443	7.1	2.20	695,508	7.1	0.20
07/20/09		9,742,289	10,257					278,743			700,527		
	08/01/09	*9,748,231*		**July**									
08/03/09		9,749,397	7,108	**20,712**				282,543			704,414		
08/04/09		9,749,397	0		7.5	1.9	1.680	283,019	7.1	2.80	704,768	7.3	0.14
08/08/09		9,752,139	2,742					284,005			706,115		
08/08/09		9,753,763	1,624					284,480			707,282		
08/09/09		9,757,508	3,745					284,962			710,677		
08/10/09		9,761,572	4,064					285,930			714,131		
08/10/09		9,762,328	756					286,411			714,491		
08/12/09		9,765,851	3,523					287,368			717,355		
08/13/09		9,767,253	1,402					287,846			718,430		
08/17/09		9,771,256	4,003					289,758			720,916		
08/30/09		9,785,737	14,481					295,976			730,538		
	09/01/09	*9,787,043*		**August**									
09/01/09		9,787,352	1,615	**38,811**	7.6	1.6	1.320	296,492	7.1	2.85	731,650	7.4	0.53
09/10/09		9,794,060	6,708					299,850			735,572		
09/21/09		9,800,194	6,134					303,204			738,803		
09/22/09		9,800,194	0					303,684			739,163		
	10/01/09	*9,806,949*		**September**									
10/01/09		9,807,491	7,297	**19,906**				306,569			743,395		
10/05/09		9,811,856	4,365					308,500			746,224		
10/06/09		9,811,856	0		6.9	1.8	1.700	308,983	6.8	2.48	746,576	7.1	0.55
10/15/09		9,827,819	15,963					314,838			757,329		
10/18/09		9,830,464	2,645					316,288			758,757		
	11/01/09	*9,871,202*		**October**									
11/02/09		9,875,106	44,642	**64,253**				329,981			793,417		
11/03/09		9,875,106	0		7.4	1.2	1.150	330,961	7.0	2.60	795,595	7.2	0.46
11/04/09		9,880,551	5,445					331,974			797,084		
11/05/09		9,882,809	2,258					332,950			798,526		
11/11/09		9,891,712	8,903					337,309			803,889		
11/12/09		9,893,927	2,215					338,274			805,324		
11/16/09		9,896,880	2,953					339,720			807,132		
11/17/09		9,897,695	815					340,200			807,495		
11/20/09		9,899,892	2,197					341,164			808,946		
11/30/09		9,914,595	14,703					346,476			819,664		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	12/01/09	*9,914,595*		**November**									
12/01/09		9,914,595	0	**43,393**	7.6	1.7	1.500	347,446	7.3	2.25	820,740	7.8	0.67
12/15/09		9,931,024	16,429					354,237			829,781		
12/18/09		9,933,254	2,230					355,200			831,213		
	01/01/10	*9,956,004*		**December**									
01/03/10		9,960,070	26,816	**41,409**				362,443			853,235		
01/05/10		9,960,070	0		6.9	2.3	2.220	362,924	7.2	5.36	855,045	7.2	0.68
01/14/10		9,969,979	9,909					365,847			860,488		
01/18/10		9,972,503	2,524					366,807			862,304		
01/31/10		9,991,034	18,531					370,664			878,832		
	02/01/10	*9,991,034*		**January**									
02/02/10		9,991,034	0	**35,030**	7.4	1.6	1.460	371,145	7.2	4.05	880,637	7.2	0.46
02/03/10		9,994,392	3,358					371,664			881,364		
02/16/10		10,002,996	8,604					374,543			887,937		
02/28/10		10,009,542	6,546					376,928			892,655		
	03/01/10	*10,009,542*		**February**									
03/02/10		10,009,542	0	**18,508**	7.6	1.6	1.340	376,928	7.4	2.70	893,732	7.4	1.41
03/06/10		10,015,341	5,799					377,919			898,085		
03/13/10		10,048,616	33,275					383,764			927,938		
03/17/10		10,065,891	17,275					388,140			942,069		
03/23/10		10,077,601	11,710					392,478			950,481		
03/31/10		10,088,487	10,886					396,786			958,091		
	04/01/10	*10,088,725*		**March**									
04/01/10		10,088,817	330	**79,183**				396,786			958,456		
04/04/10		10,092,465	3,648					398,207			961,014		
04/06/10		10,092,465	0		7.4	1.3	1.180	399,166	7.2	2.00	962,110	7.2	0.20
04/19/10		10,151,166	58,701					416,846			1,005,028		
	05/01/10	*10,189,439*		**April**									
05/03/10		10,196,869	45,703	**100,715**				432,284			1,038,553		
05/04/10		10,196,869	0		7.3	0.98	0.902	433,730	7.1	1.12	1,040,370	7.2	0.37
05/17/10		10,258,463	61,594					453,256			1,083,344		
06/01/10		10,294,510	36,047					466,168			1,109,480		
	06/01/10	*10,294,510*		**May**									
06/01/10		10,294,510	0	**105,071**	7.6	0.85	0.762	467,117	7.2	1.44	1,110,569	7.3	0.28
06/21/10		10,372,589	78,079					488,138			1,171,628		
06/30/10		10,400,340	27,751					495,720			1,193,925		
06/30/10		10,400,889	549					496,193			1,194,286		
	07/01/10	*10,401,954*		**June**									
07/01/10		10,402,536	1,647	**107,444**				496,664			1,195,375		
07/05/10		10,409,431	6,895					499,493			1,200,058		
07/06/10		10,409,431	0		7.3	1.1	0.988	499,963	7.3	1.92	1,200,783	7.5	0.41
07/12/10		10,426,614	17,183					504,247			1,213,873		
07/21/10		10,506,902	80,288					525,545			1,275,358		
07/22/10		10,515,567	8,665					527,488			1,282,668		
07/23/10		10,532,459	16,892					531,679			1,283,332		
	08/01/10	*10,586,662*		**July**									
08/02/10		10,594,781	62,322	**184,709**				549,129			1,283,332		
08/03/10		10,594,781	0		7.8	0.54	0.515	549,601	7.4	1.20	1,283,332	7.5	0.20
08/04/10		10,599,046	4,265					550,588			1,283,332		
08/04/10		10,599,046	0					550,588			1,283,358		
08/04/10		10,599,046	0					550,588			1,283,358		
08/05/10		10,600,937	1,891					551,531			1,284,413		
08/06/10		10,602,372	1,435					552,002			1,285,481		
08/07/10		10,604,242	1,870					552,943			1,286,560		
08/12/10		10,621,705	17,463					558,442			1,299,650		
08/18/10		10,644,322	22,617					565,095			1,317,296		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	09/01/10	*10,664,511*		**August**									
09/06/10		10,672,363	28,041	**77,849**				575,879			1,336,978		
09/07/10		10,672,363	0		7.7	0.64	0.588	575,879	7.2	1.28	1,337,698	7.4	0.19
09/09/10		10,675,017	2,654					576,846			1,338,823		
09/09/10		10,675,348	331					576,846			1,339,184		
09/15/10		10,681,923	6,575					579,656			1,343,454		
09/20/10		10,688,747	6,824					582,004			1,348,431		
09/28/10		10,712,898	24,151					588,142			1,368,075		
09/28/10		10,713,225	327					588,142			1,368,432		
	10/01/10	*10,717,803*		**September**									
10/01/10		10,718,374	5,149	**53,291**				590,497			1,371,651		
10/03/10		10,721,339	2,965					591,909			1,373,451		
10/05/10		10,721,339	0		7.6	0.80	0.763	592,849	7.3	1.32	1,374,902	7.5	0.10
10/15/10		10,733,086	11,747					597,097			1,380,767		
10/17/10		10,734,957	1,871					598,030			1,381,848		
10/31/10		10,760,102	25,145					605,549			1,401,547		
	11/01/10	*10,760,102*		**October**									
11/02/10		10,760,102	0	**42,299**	7.8	0.65	0.639	606,486	7.6	1.44	1,403,369	7.9	0.20
11/11/10		10,773,294	13,192					611,203			1,410,005		
11/14/10		10,775,484	2,190					612,137			1,411,471		
11/17/10		10,778,424	2,940					613,539			1,413,301		
11/28/10		10,790,717	12,293					618,231			1,422,421		
	12/01/10	*10,794,632*		**November**									
12/04/10		10,800,013	9,296	**34,530**				622,006			1,428,648		
12/07/10		10,800,013	0		7.6	1.0	0.989	623,423	7.8	1.80	1,430,482	7.9	0.24
12/15/10		10,811,058	11,045					627,228			1,435,313		
12/20/10		10,814,659	3,601					628,621			1,437,887		
12/23/10		10,816,825	2,166					629,558			1,439,358		
	01/01/11	*10,827,569*		**December**									
01/02/11		10,829,348	12,523	**32,938**				632,850			1,449,967		
01/04/11		10,829,348	0		8.0	1.6	1.500	633,803	7.9	5.31	1,452,901	8.0	0.53
01/17/11		10,845,438	16,090					638,076			1,462,175		
01/28/11		10,852,203	6,765					640,437			1,467,352		
01/30/11		10,853,317	1,114					640,910			1,468,093		
	02/01/11	*10,853,317*		**January**									
02/01/11		10,853,317	0	**25,748**	7.9	2.1	2.100	641,382	7.7	4.90	1,468,834	7.6	0.18
02/02/11		10,854,899	1,582					641,426			1,469,273		
02/14/11		10,859,963	5,064					643,318			1,472,988		
02/21/11		10,876,100	16,137					646,167			1,488,233		
02/21/11		10,876,705	605					646,167			1,488,978		
02/24/11		10,880,277	3,572					647,105			1,491,974		
02/27/11		10,883,601	3,324					648,128			1,494,713		
	03/01/11	*10,883,601*		**February**									
03/01/11		10,883,601	0	**30,284**	7.8	1.8	1.530	648,594	7.7	4.95	1,496,572	7.8	0.52
03/21/11		10,957,602	74,001					664,834			1,558,957		
	04/01/11	*11,023,291*		**March**									
04/04/11		11,045,838	88,236	**139,690**				687,442			1,632,177		
04/05/11		11,045,838	0		8.0	0.40	0.380	688,903	7.8	1.10	1,637,351	7.7	0.21
04/16/11		11,138,592	92,754					710,138			1,708,997		
04/26/11		11,216,566	77,974					731,830			1,771,918		
04/29/11		11,258,391	41,825					743,289			1,804,105		
04/29/11		11,262,451	4,060					744,757			1,807,043		
	05/02/11	*11,274,169*		**April**									
05/02/11		11,277,586	15,135	**250,878**				750,559			1,818,009		
05/03/11		11,277,586	0		7.8	0.37	0.338	751,514	7.6	0.68	1,819,601	7.8	0.20
05/16/11		11,310,055	32,469					763,336			1,841,085		
05/17/11		11,311,520	1,465					763,807			1,842,263		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	06/01/11	*11,344,383*		**May**									
06/02/11		11,347,664	36,144	**70,214**				778,512			1,868,238		
06/06/11		11,354,057	6,393					781,832			1,872,152		
06/07/11		11,354,057	0		7.7	0.46	0.447	782,305	7.6	0.85	1,872,545	7.7	0.14
06/17/11		11,368,867	14,810					788,961			1,881,915		
06/20/11		11,373,134	4,267					790,860			1,884,626		
	07/01/11	*11,419,112*		**June**									
07/04/11		11,434,679	61,545	**74,729**				811,146			1,932,424		
07/05/11		11,434,679	0		7.9	0.78	0.752	811,621	7.6	1.50	1,933,199	7.5	0.19
07/18/11		11,450,616	15,937					818,915			1,942,544		
07/27/11		11,470,412	19,796					825,753			1,958,375		
07/28/11		11,473,213	2,801					826,666			1,960,688		
	08/01/11	*11,483,192*		**July**									
08/01/11		11,484,004	10,791	**64,080**				830,795			1,968,801		
08/02/11		11,484,004	0		7.9	0.86	0.800	831,711	7.5	1.26	1,970,342	7.5	0.42
08/04/11		11,492,474	8,470					834,025			1,975,014		
08/05/11		11,493,370	896					834,506			1,975,820		
08/15/11		11,509,618	16,248					841,800			1,986,618		
08/31/11		11,524,004	14,386					849,495			1,994,794		
	09/01/11	*11,524,179*		**August**									
09/01/11		11,524,431	427	**40,987**				849,948			1,994,794		
09/03/11								850,953			1,997,262		
09/05/11		11,533,935	9,504					852,322			2,003,014		
09/06/11		11,533,935	0		8.0	1.2	1.180	852,778	7.7	1.65	2,004,161	7.7	0.55
09/08/11		11,538,054	4,119					854,174			2,005,726		
09/19/11		11,547,336	9,282					859,158			2,011,134		
09/20/11		11,548,416	1,080					859,611			2,011,902		
09/28/11		11,562,993	14,577					863,696			2,024,247		
	10/01/11	*11,568,104*		**September**									
10/03/11		11,572,412	9,419	**43,925**				867,344			2,031,123		
10/04/11		11,574,566	2,154					868,253			2,032,650		
10/05/11		11,574,566	0					868,707			2,033,029		
10/06/11		11,574,566	0					869,161			2,033,785		
10/08/11		11,579,097	4,531					870,519			2,036,082		
10/10/11		11,579,097	0		7.5	1.2	1.090	870,972	7.4	2.15	2,036,082	7.5	0.22
10/26/11		11,603,315	24,218					879,056			2,054,141		
10/30/11		11,606,358	3,043					880,416			2,055,759		
	11/01/11	*11,607,509*		**October**			**Pounds Cr**						
11/01/11		11,608,102	1,744	**39,405**			**0.358**	881,323			2,055,759		
11/02/11		11,608,233	131					881,362			2,055,792		
11/03/11		11,608,233	0		8.2	1.3	1.220	881,378	8.1	2.46	2,055,818	8.0	0.03
11/05/11		11,611,395	3,162					882,340			2,059,467		
11/06/11		11,614,756	3,361					883,608			2,062,594		
11/07/11		11,616,924	2,168					883,718			2,063,343		
11/08/11		11,618,636	1,712					884,345			2,065,014		
11/12/11		11,651,616	32,980					890,384			2,094,235		
11/15/11		11,662,529	10,913					894,135			2,102,462		
11/23/11		11,677,899	15,370					900,936			2,112,833		
11/29/11		11,687,640	9,741				**Pounds Cr**	905,028			2,119,690		
	12/01/11	*11,689,609*		**November**			**0.834**						
12/01/11		11,687,640	0	**82,100**	7.4	1.7	1.700	905,938	7.8	2.65	2,119,690	8.0	0.72
12/06/11		11,706,691	19,051					910,893			2,134,888		
12/15/11		11,724,224	17,533					918,198			2,147,141		
12/26/11		11,737,368	13,144					924,102			2,155,863		
12/31/11		11,742,107	4,739					926,371			2,158,911		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	01/01/12	*11,742,204*		**December**			**Pounds Cr**						
01/04/12		11,744,667	2,560	**52,595**			**0.745**	927,731			2,158,911		
01/05/12		11,744,667	0		6.9	0.98	0.862	928,184	7.5	1.84	2,161,198	7.3	0.27
01/19/12		11,754,619	9,952					932,303			2,166,977		
01/27/12		11,758,987	4,368					934,572			2,169,652		
01/31/12		11,761,124	2,137				**Pounds Cr**	935,480			2,171,180		
	02/01/12	*11,761,228*		**January**			**0.137**						
02/02/12		11,761,124	0	**19,024**	7.4	2.1	1.860	936,191	7.7	2.50	2,172,687	7.7	6.1
02/07/12		11,763,586	2,358					938,043		2.80	2,176,546		1.71
02/22/12		11,778,355	14,769					941,736			2,183,827		
02/24/12		11,780,157	16,571					942,642			2,184,964		
02/28/12		11,782,379	18,793				**Pounds Cr**	943,547			2,186,478		
	03/01/12	*11,783,379*		**February**			**0.329**						
03/01/12		11,782,379	0	**21,255**	7.1	2.6	2.560	944,002	7.3	3.45	2,186,478	7.6	2.04
03/14/12		11,824,851	41,472					956,400			2,221,364		
03/21/12		11,839,925	15,074					962,783			2,231,770		
03/25/12		11,848,965	9,040					965,591			2,239,149		
	04/01/12	*11,865,023*		**March**			**Pounds Cr**						
04/03/12		11,871,806	22,841	**81,644**			**1.740**	973,817			2,256,557		
04/05/12		11,871,806	6,783		7.6	0.83	0.730	975,189	7.9	1.28	2,258,866	7.8	0.48
04/18/12		11,896,899	25,093					984,322			2,273,887		
04/21/12		11,906,449	9,550					986,147			2,282,902		
	05/01/12	*11,923,538*		**April**			**Pounds Cr**						
05/02/12		11,930,935	24,486	**58,515**			**0.356**	996,194			2,300,258		
05/03/12		11,933,848	2,913					997,107			2,302,572		
05/09/12		11,989,964	56,116					1,010,822			2,349,979		
05/14/12		12,005,061	15,097					1,016,338			2,361,277		
05/16/12		12,005,061	0		6.5	0.67	0.581	1,018,169	7.4	0.63	2,363,951	7.6	0.15
05/20/12		12,016,709	11,648					1,021,100			2,368,989		
05/22/12		12,018,570	1,861					1,022,007			2,370,141		
05/24/12		12,021,249	2,679					1,023,245			2,372,066		
05/31/12		12,028,808	7,559					1,027,317			2,378,556		
	06/01/12	*12,029,342*		**May**			**Pounds Cr**						
06/02/12		12,030,994	2,186	**105,804**			**0.512**	1,027,317			2,378,556		
06/05/12		12,033,617	2,623					1,028,676			2,380,101		
06/07/12		12,033,617	0		6.8	0.55	0.507	1,029,581	7.4	0.99	2,381,259	7.7	0.17
06/19/12		12,046,851	13,234					1,034,134			2,389,253		
06/29/12		12,056,747	9,896					1,038,653			2,395,689		
	07/01/12	*12,057,998*		**June**			**Pounds Cr**						
07/03/12		12,059,332	1,334	**28,656**			**0.121**	1,040,009			2,397,210		
07/05/12		12,059,332	0		6.1	0.98	0.906	1,040,913	6.2	1.24	2,397,969	6.6	0.19
07/10/12		12,064,003	4,671					1,042,739			2,402,552		
07/20/12		12,069,263	5,260					1,045,446			2,402,552		
	08/01/12	*12,078,083*		**July**			**Pounds Cr**						
08/01/12		12,078,359	9,096	**20,085**			**0.152**	1,049,510			2,408,561		
08/02/12		12,078,359	0		6.2	1.20	1.120	1,049,969	6.2	1.72	2,408,954	6.0	0.56
08/07/12		12,082,510	4,151					1,051,808			2,410,869		
08/16/12		12,098,108	15,598					1,056,800			2,423,447		
	09/01/12	*12,111,167*		**August**			**Pounds Cr**						
09/01/12		12,111,772	13,664	**33,084**			**0.309**	1,063,135			2,432,088		
09/09/12		12,116,611	4,839					1,065,875			2,434,745		
09/11/12		12,117,783	1,172			1.70	1.520	1,066,747	6.4	0.72	2,435,127	6.3	0.21
09/18/12		12,121,226	3,443					1,068,577			2,437,061		
09/26/12		12,125,024	3,798					1,070,837			2,438,957		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	10/01/12	*12,126,164*		**September**			**Pounds Cr**						
10/04/12		12,127,304	2,280	**14,997**			**0.190**	1,072,193			2,440,091		
10/04/12		12,127,304	1,140			1.50	1.370	1,072,193	6.4	1.44	2,440,091	6.2	0.32
10/05/12		12,129,085	1,781					1,073,276			2,440,999		
10/09/12		12,129,791	706					1,073,696			2,441,370		
10/19/12		12,163,907	34,116					1,081,043			2,471,345		
10/30/12		12,189,653	25,746					1,092,239			1,289,448		
	11/01/12	*12,191,094*		**October**			**Pounds Cr**						
11/06/12		12,196,769	7,116	**64,930**			**0.741**	1,096,343			2,493,654		
11/09/12		12,198,437	1,668		NA	1.1	1.040	1,097,450	NA	1.34	2,494,750	NA	0.21
11/22/12		12,212,741	14,304					1,103,179			2,504,679		
11/30/12		12,218,011	5,270					1,106,155			2,507,598		
	12/01/12	*12,218,663*		**November**			**Pounds Cr**						
12/03/12		12,219,752	1,089	**27,569**			**0.239**	1,107,006			2,508,689		
12/10/12		12,223,289	3,537		8.0	1.00	1.100	1,109,121	7.7	1.60	2,510,506	8.0	0.27
12/26/12		12,234,632	11,343					1,114,683			2,517,462		
12/31/12		12,239,248	4,616					1,117,237			2,520,012		
	01/01/13	*12,239,543*		**December**			**Pounds Cr**						
01/01/13		12,239,958	710	**20,880**			**0.191**	1,117,663			2,520,377		
01/10/13		12,246,590	6,632			1.90	1.720	1,120,640	7.7	1.68	2,524,770	8.0	1.32
01/24/13		12,278,928	32,338					1,130,141			2,550,847		
01/28/13		12,282,035	3,107					1,131,414			2,553,042		
01/31/13		12,287,892	5,857					1,132,425			2,558,715		
	02/01/13	*12,288,247*		**January**			**Pounds Cr**						
02/01/13		12,289,018	1,126	**48,644**			**0.697**	1,132,680			2,559,456		
02/07/13		12,293,874	4,856		7.9	0.82	0.663	1,134,376	7.6	1.35	2,563,137	8.0	0.22
02/20/13		12,308,445	14,571					1,038,672			2,575,057		
02/27/13		12,313,181	19,307					1,140,359			2,578,725		
	03/01/13	*12,314,165*		**February**			**Pounds Cr**						
03/03/13		12,315,958	2,777	**25,918**			**0.143**	1,141,206			2,580,927		
03/07/13		12,318,024	2,066		7.9	0.83	0.753	1,142,054	7.7	1.44	2,582,395	7.8	0.27
03/18/13		12,361,201	43,177					1,151,536			2,619,703		
03/20/13		12,365,136	3,935					1,153,250			2,622,317		
03/27/13		12,378,442	13,306					1,159,233			2,630,884		
03/31/13		12,400,821	22,379					1,164,838			2,649,804		
	04/01/13	*12,403,728*		**March**			**Pounds Cr**						
04/01/13		12,407,465	3,737	**89,563**			**0.562**	1,165,570			2,655,346		
04/11/13		12,461,497	54,032		7.4	0.42	0.431	1,180,148	7.0	0.60	2,700,747	7.4	0.14
04/17/13		12,522,138	60,641					1,196,092			2,749,790		
	05/01/13	*12,570,545*		**April**			**Pounds Cr**						
05/01/13		---	---	**166,817**			**0.599**						
05/01/13		12,571,333	49,195		8.1	0.56	0.553	1,215,096	7.3	0.38	2,785,968	7.8	0.09
05/19/13		12,623,298	51,965					1,235,753			2,823,953		
	06/01/13	*12,647,282*		**May**			**Pounds Cr**						
				76,737			**0.353**						
06/06/13		12,657,605	34,307		7.6	0.96	0.826	1,251,551	7.4	0.47	2,849,502	7.8	0.73
06/12/13		12,669,485	11,880					1,256,351			2,857,966		
06/17/13		12,680,642	11,157					1,259,722			2,867,078		
	07/01/13	*12,727,950*		**June**			**Pounds Cr**						
				80,668			**0.555**						
07/18/13		12,767,116	86,474		7.4	0.73	0.694	1,286,165	6.7	0.73	2,938,280	7.5	0.07
07/31/13		12,780,876	13,760					1,293,015			2,947,351		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	08/01/13	*12,781,814*		**July**			**Pounds Cr**						
				53,864			**0.311**						
08/04/13		12,784,628	3,752					1,293,015			2,947,351		
08/07/13		12,786,184	1,556					1,295,588			2,951,110		
08/08/13		12,786,555	371		7.5	0.83	0.775	1,296,442	6.8	0.68	2,951,801	7.2	0.16
08/19/13		12,795,058	8,503					1,298,966			2,954,811		
08/21/13		12,795,638	580					1,300,287			2,956,243		
08/26/13		12,797,295	1,657					1,301,154			2,957,147		
08/28/13		12,800,434	3,139					1,302,541			2,958,987		
	09/01/13	*12,803,511*		**August**			**Pounds Cr**						
09/01/13		12,803,511	6,216	**21,697**			**0.140**	1,303,580			2,961,265		
09/05/13		12,808,096	4,585					1,305,282			2,964,435		
09/09/13		12,811,883	8,372					1,306,947			2,966,675		
09/11/13		12,815,166	7,070					1,309,139			2,968,968		
09/14/13		12,818,151	6,268					1,310,005			2,970,501		
09/18/13		12,822,283	7,117		7.3	1.3	1.170	1,311,729	7.1	0.99	2,973,533	7.3	0.19
09/30/13		12,833,637	11,354					1,317,815			2,980,475		
	10/01/13	*12,834,025*		**September**			**Pounds Cr**						
10/01/13		12,834,025	388	**30,514**			**0.297**	1,318,244			2,980,475		
10/08/13		12,843,796	9,771					1,321,693			2,988,064		
10/16/13		12,852,554	8,758					1,325,559			2,994,143		
10/18/13		12,855,027	2,473		7.7	1.20	1.120	1,326,419	7.5	1.04	2,996,041	7.8	0.14
	11/01/13	*12,867,815*		**October**			**Pounds Cr**						
11/01/13		12,867,815	12,788	**33,790**			**0.315**	1,332,902			3,004,777		
11/05/13		12,876,841	9,026					1,335,488			3,012,422		
11/13/13		12,903,367	26,526		7.8	1.00	0.920	1,345,039	8.1	0.66	3,033,152	7.9	0.11
11/20/13		12,924,566	21,199					1,350,740			3,051,316		
	12/01/13	*12,940,971*		**November**			**Pounds Cr**						
12/02/13		12,944,252	19,686	**73,156**			**0.560**	1,360,688			3,063,995		
12/10/13		12,954,971	10,719		7.6	1.4	1.320	1,365,411	7.4	2.70	3,071,689	7.1	0.07
12/12/13		12,957,411	2,440					1,366,744			3,073,244		
12/23/13		12,965,941	8,530					1,371,029			3,078,956		
12/31/13		12,970,459	4,518					1,373,592			3,081,611		
	01/01/14	*12,970,599*		**December**			**Pounds Cr**						
01/01/14		12,970,772	313	**29,628**			**0.326**	1,373,592			3,081,991		
01/15/14		12,976,884	6,112		7.5	1.2	1.050	1,376,582	7.1	2.20	3,086,176	7.6	0.11
01/31/14		12,983,061	6,177					1,379,605			3,090,406		
	02/01/14	*12,983,265*		**January**			**Pounds Cr**						
02/02/14		12,983,747	686	**12,666**			**0.111**	1,380,032			3,090,789		
02/13/14		12,987,155	3,408		8.0	1.8	1.610	1,381,726	8.1	2.88	3,093,093	8.3	0.19
02/28/14		12,993,603	6,448										
	03/01/14	*12,993,783*		**February**			**Pounds Cr**						
03/01/14		12,993,909	306	**10,518**			**0.141**						
03/13/14		13,005,882	11,973		7.6	0.38	0.434	1,385,639	7.7	5.80	3,112,477	8.0	0.30
03/31/14		13,059,539	53,657										
	04/01/14	*13,059,979*		**March**			**Pounds Cr**						
04/01/14		13,061,650	2,111	**66,196**			**0.239**	1,399,014			3,165,447		
04/12/14		13,091,485	29,835					1,411,117			3,187,701		
04/13/14		13,099,571	8,086					1,412,822			3,195,631		
04/15/14		13,135,912	36,341					1,424,711			3,224,028		
04/18/14		13,165,955	30,043					1,434,115			3,247,300		
04/22/14		13,210,016	44,061		7.6	0.44	0.377	1,440,204	7.4	0.72	3,258,396	7.5	0.31
	05/01/14	*13,211,258*		**April**			**Pounds Cr**						
05/01/14		13,211,345	1,329	**151,279**			**0.475**	1,451,524			3,282,450		
05/13/14		13,267,656	56,311		7.5	0.28	0.273	1,471,868	7.3	0.73	3,326,392	7.4	0.20
05/14/14		13,280,912	13,256					1,475,015			3,337,773		
05/15/14		13,286,754	5,842					1,476,780			3,342,511		
05/20/14		13,304,068	17,314					1,483,692			3,355,729		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	06/01/14	*13,332,599*		**May**			**Pounds Cr**						
06/02/14		13,336,115	32,047	**121,341**			**0.276**	1,495,755			3,382,176		
06/12/14		13,372,027	35,912		7.9	0.40	0.381	1,508,756	7.6	0.60	3,410,073	7.8	0.20
06/14/14		13,374,936	2,909					1,510,080			3,412,070		
06/17/14		13,379,348	4,412					1,512,220			3,415,268		
06/19/14		13,394,274	14,926					1,514,826			3,429,626		
06/20/14		13,401,646	7,372					1,517,014			3,436,003		
06/30/14		13,444,046	42,400					1,531,745			3,470,067		
	07/01/14	*13,445,046*		**June**			**Pounds Cr**	1,532,601			3,472,302		
07/01/14		13,446,138	2,092	**112,447**			**0.357**						
07/02/14		13,449,088	2,950					1,533,460			3,475,127		
07/09/14		13,463,816	14,728		7.7	0.68	0.689	1,539,906	7.4	1.0	3,486,800	7.4	1.0
07/14/14		13,472,104	8,288					1,543,805			3,492,830		
07/28/14		13,480,642	8,538	**July**			**Pounds Cr**	1,551,065			3,501,179		
	08/01/14	*13,481,746*		**36,700**			**0.211**						
08/01/14		13,481,837	1,195					1,552,341			3,502,760		
08/13/14		13,495,032	13,195		7.9	0.681	0.72	1,557,877	7.5	1.16	3,511,069	7.7	0.92
08/17/14		13,502,593	7,561					1,560,483			3,517,406		
08/19/14		13,509,446	6,853					1,562,278			3,523,163		
08/20/14		13,517,300	7,854					1,563,989			3,530,111		
08/22/14		13,525,676	8,376					1,567,014			3,536,533		
08/25/14		13,534,424	8,748					1,571,333			3,542,173		
08/29/14		13,539,488	5,064					1,573,914			3,545,371		
08/30/14		13,542,314	2,826	**August**			**Pounds Cr**	1,575,198			3,547,361		
	09/01/14	*13,543,999*		**62,253**			**0.37**						
09/02/14		13,546,601	4,287					1,577,338			3,550,419		
09/05/14		13,550,482	3,881					1,579,481			3,553,370		
09/08/14		13,562,709	12,227					1,582,918			3,564,025		
09/17/14		13,579,703	16,994		7.9	0.60	0.546	1,589,348	7.6	1.16	3,577,644	7.3	0.36
09/24/14		13,593,114	13,411	**September**			**Pounds Cr**	1,595,011			3,577,644		
	10/01/14	*13,602,541*		**58,542**			**0.27**	1,600,155			3,577,644		
10/01/14		13,603,009	9,895					1,600,155			3,577,644		
10/16/14		13,633,400	30,391		7.3	0.67	0.596	1,610,440	7.8	1.28	3,619,044	7.4	0.36
10/28/14		13,658,462	25,062	**October**			**Pounds Cr**	1,621,724			3,636,660		
	11/01/14	*13,662,568*		**60,027**			**0.298**						
11/01/14		13,663,621	5,159					1,624,238			3,640,194		
11/12/14		13,672,756	9,135		8.1	1.1	0.980	1,629,780	7.6	1.62	3,648,121	8.1	1.08
11/30/14		13,695,977	23,221					1,640,533			3,663,353		
	12/01/14	*13,696,416*		**November**			**Pounds Cr**						
12/01/14		13,697,118	1,141	**37,515**			**0.306**	1,640,533			3,663,353		
12/04/14		13,701,386	4,268					1,643,108			3,666,947		
12/08/14		13,705,980	4,594					1,645,245			3,670,118		
12/12/14		13,709,486	3,506		8.1	1.5	1.320	1,646,957	7.7	2.72	3,672,490	8.5	0.35
12/31/14		13,768,265	58,779					1,666,522			3,720,581		
	01/01/15	*13,769,665*		**December**			**Pounds Cr**						
01/01/15		13,770,654	2,389	**73,249**			**0.805**	1,667,388			3,722,195		
01/12/15		13,785,790	15,136		8.2	0.65	0.597	1,674,271	7.8	1.36	3,733,018	7.3	0.20
01/31/15		13,798,407	12,617					1,679,866			3,742,191		
	02/01/15	*13,798,602*		**January**			**Pounds Cr**						
02/01/15		13,798,727	320	**28,937**			**0.144**	1,679,866			3,742,588		
02/04/15		13,800,127	1,400		8.1	0.74	0.721	1,680,719	7.9	1.48	3,743,379	7.1	0.17
02/16/15		13,804,943	4,816					1,682,892			3,746,962		
02/20/15		13,805,957	1,014					1,683,320			3,747,752		
02/24/15		13,806,974	1,017					1,683,745			3,748,542		
02/28/15		13,808,369	1,395					1,684,600			3,749,334		
	03/01/15	*13,808,507*		**February**			**Pounds Cr**						
03/01/15		13,808,690	321	**9,905**			**0.059**	1,684,600			3,749,728		
03/18/15		13,815,075	6,385		8.2	0.80	0.713	1,687,150	7.2	1.00	3,757,618	8.0	0.34

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N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
03/23/15		13,815,928	853					1,688,046			3,759,604		
03/25/15		13,816,332	404					1,688,901			3,759,889		
03/26/15		13,816,697	365					1,689,329			3,760,382		
	04/01/15	*13,822,714*		**March**			**Pounds Cr**						
04/07/15		13,823,071	6,374	**14,207**			**0.084**	1,694,467			3,765,931		
04/15/15		13,856,854	33,783		7.4	0.92	0.858	1,704,938	7.7	1.92	3,792,943	7.0	0.25
04/30/15		13,885,187	28,333					1,718,370			3,812,262		
	05/01/15	*13,885,585*		**April**			**Pounds Cr**						
05/04/15		13,889,467	4,280	**62,871**			**0.449**	1,720,520			3,815,063		
05/13/15		13,898,048	8,581		8.0	0.60	0.554	1,724,812	7.8	0.92	3,820,667	8.1	0.37
05/18/15		13,905,897	7,849					1,727,444			3,827,133		
05/19/15		13,909,365	3,468					1,728,740			3,830,304		
05/23/15		13,914,964	5,599					1,731,329			3,834,357		
05/25/15		13,920,921	5,957					1,733,052			3,839,818		
05/28/15		13,937,530	16,609					1,736,965			3,854,997		
	06/01/15	*13,958,452*		**May**			**Pounds Cr**						
06/02/15		13,967,174	29,644	**72,867**			**0.336**	1,746,201			3,878,793		
06/03/15		13,970,819	3,645					1,747,948			3,881,197		
06/10/15		13,986,712	15,893		7.4	0.60	0.547	1,755,299	7.1	0.66	3,892,044	7.2	0.27
06/16/15		14,018,102	31,390					1,765,062			3,917,649		
06/19/15		14,042,191	24,089					1,772,128			3,937,351		
06/28/15		14,066,780	24,589					1,781,741			3,956,167		
06/30/15		14,069,200	2,420					1,783,061			3,957,962		
	07/01/15	*14,069,642*		**June**			**Pounds Cr**						
07/01/15		14,069,914	714	**111,190**			**0.506**	1,783,061			3,957,962		
07/08/15		14,077,301	7,387		7.7	0.37	0.351	1,787,623	7.2	0.68	3,963,593	7.5	0.23
07/14/15		14,085,720	8,419					1,790,678			3,970,192		
07/29/15		14,114,029	28,309					1,804,056			3,993,110		
	08/01/15	*14,115,454*		**July**			**Pounds Cr**						
08/05/15		14,117,883	3,854	**45,812**			**0.134**	1,807,395			3,995,776		
08/12/15		14,131,529	13,646			0.41	0.371	1,812,749	7.2	0.51	4,006,460	7.1	0.19
08/17/15		14,137,372	5,843					1,816,582			4,010,201		
08/18/15		14,138,406	1,034					1,817,349			4,011,060		
08/27/15		14,145,800	7,394					1,822,802			4,016,771		
	09/01/15	*14,151,425*		**August**			**Pounds Cr**						
09/04/15		14,155,393	9,593	**35,971**			**0.111**	1,828,088			4,025,183		
09/09/15		14,175,870	20,477		7.6	0.23	0.208	1,833,613	7.2	0.72	4,041,266	7.0	0.14
09/18/15		14,191,902	16,032					1,843,839			4,055,798		
09/28/15		14,211,188	19,286					1,852,031			4,069,063		
09/29/15		14,211,559	371					1,852,459			4,069,894		
	10/01/15	*14,212,577*		**September**			**Pounds Cr**						
10/01/15		14,212,781	1,222	**61,152**			**0.106**	1,853,738			4,071,365		
10/07/15		14,220,473	7,692			0.72	0.661	1,856,721	7.2	1.26	4,071,365	7.3	0.16
10/13/15		14,226,617	6,144					1,859,329			4,079,148		
10/21/15		14,233,700	7,083					1,863,168			4,082,924		
10/27/15		14,241,197	7,497					1,865,726			4,088,517		
	11/01/15	*14,260,606*		**October**			**Pounds Cr**						
11/02/15		14,266,255	25,058	**48,029**			**0.264**	1,872,203			4,108,562		
11/12/15		14,288,543	22,288		7.7	0.73	0.700	1,882,551	7.3	1.20	4,122,107	7.6	0.26
11/30/15		14,334,387	45,844					1,898,090			4,155,815		
	12/01/15	*14,336,677*		**November**			**Pounds Cr**						
12/01/15		14,339,197	4,810	**76,072**			**0.443**	1,899,821			4,159,227		
12/10/15		14,364,604	25,407		7.9	0.69	0.627	1,910,218	7.4	0.66	4,176,267	7.3	0.30
12/21/15		14,458,622	94,018					1,937,179			4,246,823		
	01/01/16	*14,487,544*		**December**			**Pounds Cr**						
01/01/16		14,488,585	29,963	**150,867**			**0.788**	1,949,306			4,267,333		
01/07/16		14,499,288	10,703		7.9	0.62	0.572	1,954,033	7.4	0.87	4,274,451	7.6	0.40
	02/01/16	*14,532,622*		**January**			**Pounds Cr**						

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
02/01/16		14,533,138	33,850	**45,078**			**0.215**	1,971,254			4,316,580		
02/10/16		14,562,012	28,874		8.1	0.87	0.858	1,973,902	7.6	0.61	4,324,057	8.1	0.70
02/29/16		14,601,368	39,356					1,982,872			4,359,110		
	03/01/16	*14,602,713*		**February**			**Pounds Cr**						
03/01/16		14,603,747	2,379	**70,091**			**0.501**	1,983,300			4,361,401		
03/10/16		14,625,282	21,535		7.9	0.63	0.609	1,988,471	7.3	1.44	4,380,928	7.4	0.37
03/31/16		14,728,685	103,403					2,017,845			4,463,804		
	04/01/16	*14,733,540*		**March**			**Pounds Cr**						
04/02/16		14,751,888	23,203	**130,827**			**0.663**	2,023,638			4,482,114		
04/06/16		14,770,034	18,146		7.8	0.38	0.244	2,029,748	7.2	0.53	4,495,836	7.2	0.24
	05/01/16	*14,827,634*		**April**			**Pounds Cr**						
05/03/16		14,834,742	64,708	**94,094**			**0.191**	2,057,059			4,539,976		
05/12/16		14,846,704	19,070		7.6	0.70	0.645	2,062,615	7.2	0.47	4,547,811	7.1	0.69
05/17/16		14,856,181	9,477					2,067,406			4,553,472		
	06/01/16	*14,889,570*		**May**			**Pounds Cr**						
06/06/16		14,902,417	46,236	**61,936**			**0.333**	2,086,371			4,585,701		
06/08/16		14,906,067	3,650		7.5	0.43	0.406	2,088,096	7.1	0.69	4,587,959	7.1	0.25
06/19/16		14,946,108	40,041					2,101,451			4,617,396		
	07/01/16	*14,980,911*		**June**			**Pounds Cr**						
07/01/16		14,983,214	37,106	**91,341**			**0.309**	2,113,474			4,646,051		
07/07/16		14,998,455	15,241		7.4	0.50	0.430	2,119,487	7.0	0.87	4,656,766	7.1	0.20
07/31/16		15,036,518	38,063					2,138,364			4,681,191		
	08/01/16	*15,036,760*		**July**			**Pounds Cr**						
08/01/16		15,037,244	726	**55,849**			**0.200**	2,138,788			4,682,282		
08/11/16		15,047,013	9,769		7.4	0.61	0.583	2,144,319	7.1	0.98	4,687,103	7.1	0.12
08/24/16		15,065,460	18,447					2,152,060			4,700,186		
	09/01/16	*15,080,715*		**August**			**Pounds Cr**						
09/02/16		15,081,239	15,779	**43,955**			**0.213**	2,159,787			4,709,523		
09/08/16		15,093,858	12,619		7.2	0.41	0.355	2,164,508	7.1	0.60	4,718,876	6.9	0.17
09/15/16		15,117,114	23,256					2,173,196			4,734,824		
09/30/16		15,161,513	44,399					2,190,037			4,766,164		
	10/01/16	*15,162,610*		**September**			**Pounds Cr**						
10/01/16		15,162,976	1,463	**81,895**			**0.242**	2,190,896			4,766,917		
10/05/16		15,170,280	7,304		7.5	0.76	0.707	2,194,329	7.1	1.17	4,771,417	7.2	0.24
	11/01/16	*15,218,316*		**October**			**Pounds Cr**						
11/01/16		15,218,916	48,636	**55,706**			**0.328**	2,214,974			4,803,706		
11/09/16		15,231,072	12,156		7.7	0.58	0.550	2,221,415	7.3	1.02	4,810,434	7.2	0.17
11/30/16		15,257,768	26,696					2,231,705			4,829,512		
	12/01/16	*15,259,593*		**November**			**Pounds Cr**						
12/01/16		15,262,085	4,317	**41,277**			**0.189**	2,233,005			4,832,948		
12/08/16		15,278,159	16,074		7.7	0.90	0.832	2,240,348	7.4	1.41	4,843,138	7.3	0.26
	01/01/17	*15,320,273*		**December**			**Pounds Cr**						
01/05/17		15,328,203	50,044	**60,680**			**0.420**						
01/05/17		15,328,203	0			1.00	0.895	2,259,750	7.5	1.44	4,878,940	7.4	0.47
01/31/17		15,387,622	59,419					2,272,198			4,933,594		
	02/01/17	*15,387,845*		**January**			**Pounds Cr**						
02/01/17		15,388,387	765	**67,572**			**0.504**	2,272,625			4,933,971		
02/09/17		15,399,455	11,068		7.8	0.56	0.542	2,277,351	7.5	0.99	4,941,836	7.1	0.13
	03/01/17	*15,452,749*		**February**			**Pounds Cr**						
03/08/17		15,476,369	76,914	**64,904**			**0.305**						
03/08/17		15,476,369	0		7.8	0.59	0.539	2,302,121	7.3	1.14	5,002,178	7.3	0.26
03/14/17		15,497,125	20,756					2,309,539			5,016,906		
03/25/17		15,528,765	31,640					2,321,231			5,039,669		
03/29/17		15,542,291	13,526					2,325,638			5,049,699		
	04/01/17	*15,558,808*		**March**			**Pounds Cr**						
04/02/17		15,562,275	19,984	**106,059**			**0.476**	2,333,037			5,064,049		
04/06/17		15,582,526	20,251		7.7	0.43	0.405	2,340,089	7.3	0.57	5,064,049	7.3	0.27
04/27/17		15,676,954	94,428					2,372,953			5,146,405		

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Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	05/01/17	*15,703,639*		**April**			**Pounds Cr**						
05/04/17		15,728,166	51,212	**144,831**			**0.488**						
05/04/17		15,728,166	0		7.6	0.28	0.257	2,387,552	7.1	0.36	5,185,807	6.8	0.21
	06/01/17	*15,796,047*		**May**			**Pounds Cr**						
06/08/17		15,812,038	83,872	**92,408**			**0.198**						
06/08/17		15,812,038	0		7.5	0.35	0.325	2,421,837	7.1	0.36	5,243,312	7.2	0.16
	07/01/17	*15,888,740*		**June**			**Pounds Cr**						
07/01/17		15,891,390	79,352	**92,693**			**0.251**						
07/06/17		15,902,647	11,257		7.5	0.57	0.525	2,453,044	7.1	0.69	5,309,639	7.0	0.50
07/31/17		15,945,154	42,507					2,472,011			5,337,122		
	08/01/17	*15,945,504*		**July**			**Pounds Cr**						
08/01/17		15,945,880	726	**56,764**			**0.248**	2,472,438			5,337,492		
08/09/17		15,958,437	12,557		7.4	0.68	0.624	2,478,016	7.0	0.66	5,347,291	6.9	0.38
	09/01/17	*15,992,489*		**August**			**Pounds Cr**						
09/07/17		16,001,926	43,489	**46,985**			**0.244**	2,472,438			5,337,492		
09/07/17		16,001,926	0		7.4	0.50	0.488	2,497,770	7.1	0.68	5,375,524	6.9	0.14
09/29/17		16,031,780	29,854					2,510,609			5,395,101		
	10/01/17	*16,034,956*		**September**			**Pounds Cr**						
10/03/17		16,035,404	3,624	**42,467**			**0.173**	2,512,318			5,397,338		
10/05/17		16,037,996	2,592		7.5	0.44	0.410	2,513,176	7.1	1.14	5,399,232	6.7	0.12
	11/01/17	*16,080,246*		**October**			**Pounds Cr**						
11/07/17		16,090,463	52,467	**45,290**			**0.155**	2,536,891			5,436,850		
11/09/17		16,092,667	2,204		7.6	0.76	0.718	2,538,180	7.2	0.99	5,437,985	7.2	0.22
11/15/17		16,098,379	5,712					2,541,643			5,441,055		
11/30/17		16,109,689	11,310					2,549,030			5,450,173		
	12/01/17	*16,110,147*		**November**			**Pounds Cr**						
12/03/17		16,112,117	2,428	**29,901**			**0.179**	2,550,308			5,451,687		
12/07/17		16,115,265	3,148		7.4	0.82	0.755	2,551,590	7.4	1.29	5,453,973	7.4	0.20
12/14/17		16,121,000	5,735					2,551,590			5,453,973		
12/31/17		16,131,936	10,936					2,560,147			5,464,203		
	01/01/18	*16,132,116*		**December**			**Pounds Cr**						
01/01/18		16,132,328	392	**21,969**			**0.138**	2,560,571			5,464,203		
01/04/18		16,133,697	1,369		--	0.78	0.734	2,560,993	--	0.41	5,465,331	--	0.04
	02/01/18	*16,144,665*		**January**			**Pounds Cr**						
02/01/18		16,144,863	11,166	**12,549**			**0.077**	2,566,068			5,472,876		
02/08/18		16,147,315	2,452		7.8	0.75	0.906	2,567,326	7.4	1.68	5,474,376	7.2	0.16
02/28/18		16,155,889	8,574					2,570,306			5,481,207		
	03/01/18	*16,156,053*		**February**			**Pounds Cr**						
03/01/18		16,156,211	322	**11,388**			**0.086**	2,570,306			5,481,586		
03/08/18		16,163,746	7,535		7.7	0.52	0.526	2,574,570	7.4	0.78	5,485,747	7.2	0.20
03/27/18		16,183,153	19,407					2,585,717			5,495,623		
03/31/18		16,188,615	5,462					2,472,869*			5,499,048		
	04/01/18	*16,189,199*		**March**			**Pounds Cr**						
04/01/18		16,190,057	1,442	**33,146**			**0.145**	2,473,316			5,500,204		
04/05/18		16,195,349	5,292		7.7	0.60	0.585	2,476,332	7.3	0.84	5,502,874	7.4	0.35
04/10/18		16,203,721	8,372					2,480,242			5,508,217		
04/25/18		16,302,239	98,518					2,508,161			5,586,326		
04/30/18		16,328,835	26,596					2,516,938			5,606,361		
	05/01/18	*16,330,212*		**April**			**Pounds Cr**						
05/01/18		16,331,044	2,209	**141,013**			**0.687**	2,517,809			5,607,864		
05/04/18		16,360,268	29,224					2,526,963			5,630,632		
05/10/18		16,409,694	49,426		7.6	0.30	0.315	2,541,347	7.2	0.51	5,667,843	6.8	0.19
05/22/18		16,428,757	19,063					2,547,991			5,681,939		
05/24/18		16,455,003	26,246					2,557,801			5,698,300		
05/29/18		16,462,967	7,964					2,562,178			5,702,537		
	06/01/18	*16,466,594*		**May**			**Pounds Cr**						
06/01/18		16,467,299	4,332	**136,382**			**0.358**	2,563,476			5,705,975		
06/05/18		16,476,100	8,801					2,566,515			5,712,597		

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N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
06/07/18		16,480,044	3,944		7.6	0.38	0.382	2,568,258	7.1	0.53	5,715,101	7.3	0.21
06/30/18		16,537,167	57,123					2,588,614			5,756,117		
	07/01/18	*16,537,690*		**June**			**Pounds Cr**						
07/01/18		16,538,238	1,071	**71,096**			**0.226**	2,589,032			5,756,879		
07/05/18		16,542,427	4,189		7.6	0.31	0.311	2,591,176	7.2	0.57	5,759,920	7.1	0.16
07/12/18		16,545,145	2,718					2,594,639			5,763,368		
07/19/18		16,553,309	8,164					2,597,639			5,766,777		
07/31/18		16,571,725	18,416					2,604,452			5,779,752		
	08/01/18	*16,571,996*		**July**			**Pounds Cr**						
08/01/18		16,572,495	770	**34,306**			**0.089**	2,589,032			5,756,879		
08/08/18		16,581,462	8,967		--	0.43	0.438	2,608,818	7.1	0.55	5,785,813	7.0	0.27
08/31/18		16,637,913	56,451					2,629,840			5,828,591		
	09/01/18	*16,640,165*		**August**			**Pounds Cr**						
09/01/18		16,641,711	3,798	**68,169**			**0.125**	2,631,151			5,831,336		
09/06/18		16,695,169	53,458		7.5	0.24	0.256	2,646,502	7.1	0.59	5,871,311	6.7	0.08
09/17/18		16,734,724	39,555					2,659,921			5,899,762		
09/18/18		16,738,499	3,775					2,660,806			5,903,277		
09/30/18		16,775,825	37,326					2,672,955			5,932,062		
	10/01/18	*16,776,168*		**September**			**Pounds Cr**						
10/01/18		16,776,700	875	**136,003**			**0.290**	2,673,387			5,932,454		
10/03/18		16,785,853	9,153		7.8	0.30	0.303	2,675,556	7.3	0.60	5,940,463	7.1	0.22
10/25/18		16,899,216	113,363					2,709,668			6,027,153		
	11/01/18	*16,908,245*		**October**			**Pounds Cr**						
11/01/18		16,908,712	9,496	**132,077**			**0.333**	2,713,560			6,033,788		
11/07/18		16,921,099	12,387		7.7	0.38	0.424	2,717,458	7.1	0.36	6,044,211	6.8	0.34
11/12/18		16,936,140	15,041					2,723,181			6,054,634		
11/14/18		16,940,487	4,347					2,725,362			6,057,406		
11/16/18		16,944,318	3,831					2,727,099			6,059,771		
11/19/18		16,949,417	5,099					2,729,266			6,063,298		
	12/01/18	*16,964,903*		**November**			**Pounds Cr**						
12/06/18		16,972,133	22,716	**56,658**			**0.200**	2,738,784			6,080,566		
12/06/18		16,972,133	0		8.0	0.52	0.521	2,738,784	7.4	0.53	6,080,566	7.2	0.45
	01/01/19	*17,020,007*		**December**			**Pounds Cr**						
01/04/19		17,021,076	48,943	**55,104**			**0.239**	2,757,483			6,116,420		
01/10/19		17,051,054	29,978		7.8	0.26	0.246	2,765,903	7.2	0.41	6,140,244	7.0	0.18
	02/01/19	*17,085,876*		**January**			**Pounds Cr**						
02/01/19		17,086,762	35,708	**65,869**			**0.135**	2,779,438			6,166,376		
02/07/19		17,092,183	5,421		8.0	0.36	0.398	2,781,163	7.5	0.37	6,170,668	7.3	0.35
	03/01/19	*17,108,085*		**February**			**Pounds Cr**						
03/01/19		17,108,314	16,131	**22,209**			**0.074**	2,786,817			6,183,118		
03/07/19		17,112,149	3,835		7.9	0.29	0.296	2,788,121	7.4	--	6,186,219	7.4	--
03/26/19		17,201,867	89,718					2,810,744			6,261,318		
	04/01/19	*17,220,303*		**March**			**Pounds Cr**						
04/02/19		17,221,255	19,388	**112,218**			**0.277**	2,818,615			6,274,417		
04/02/19		17,221,255	0		7.7	0.40	0.408	2,818,615	7.2	0.53	6,274,417	7.2	0.15
04/18/19		17,270,735	49,480					2,834,848			6,312,336		
04/30/19		17,336,326	65,591					2,855,668			6,362,011		
	05/01/19	*17,338,042*		**April**			**Pounds Cr**						
05/01/19		17,340,509	4,183	**117,739**			**0.400**	2,856,981			6,365,212		
05/09/19		17,366,641	26,132		7.8	0.43	0.441	2,866,635	7.2	0.39	6,383,940	7.2	0.66
	06/01/19	*17,467,893*		**May**			**Pounds Cr**						
06/06/19		17,492,562	125,921	**129,851**			**0.477**	2,856,981			6,365,212		
06/06/19		17,492,562	0		7.6	0.23	0.249	2,908,632	7.2	0.32	6,478,871	7.0	0.22
06/11/19		17,502,105	9,543					2,912,952			6,486,321		
06/18/19		17,525,532	23,427					2,920,258			6,503,730		
	07/01/19	*17,581,030*		**June**			**Pounds Cr**						
07/08/19		17,613,923	88,391	**113,137**			**0.235**	2,947,437			6,572,415		
07/10/19		17,619,393	5,470		7.6	0.25	0.229	2,949,581	7.1	0.48	6,576,370	7.0	0.12

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
07/22/19		17,636,628	17,235					2,956,444			6,590,064		
07/23/19		17,644,137	7,509					2,958,908			6,596,369		
07/26/19		17,655,780	11,643					2,961,918			6,602,890		
07/31/19		17,662,536	6,756					2,965,324			6,606,751		
	08/01/19	*17,662,953*		**July**			**Pounds Cr**						
08/01/19		17,663,650	1,114	**81,923**			**0.156**	2,965,752			6,607,522		
08/07/19		17,674,432	10,782		7.7	0.37	0.383	2,969,223	7.3	0.38	6,615,773	7.5	0.30
08/31/19		17,712,769	38,337					2,984,986			6,643,285		
	09/01/19	*17,713,001*		**August**			**Pounds Cr**						
09/01/19		17,713,872	1,103	**50,048**			**0.160**	2,985,412			6,644,057		
09/05/19		17,719,385	5,513		7.8	0.48	0.489	2,987,590	7.3	0.50	6,644,933	7.3	0.43
09/18/19		17,790,650	71,265					3,009,066			6,701,147		
09/30/19		17,829,959	39,309					3,022,795			6,730,481		
	10/01/19	*17,830,522*		**September**			**Pounds Cr**						
10/01/19		17,831,112	1,153	**117,521**			**0.479**	2,985,412			6,644,057		
10/10/19		17,895,551	64,439		7.7	0.23	0.239	3,042,581	7.4	0.35	6,779,975	7.2	0.16
10/31/19		17,949,436	53,885					3,063,263			6,819,059		
	11/01/19	*17,950,221*		**October**			**Pounds Cr**						
11/01/19		17,950,822	1,386	**119,699**			**0.238**	3,063,964			6,819,849		
11/07/19		17,964,181	13,359		8.0	0.36	0.343	3,069,346	7.5	0.39	6,828,897	7.7	0.26
11/30/19		18,029,863	65,682					3,091,286			6,879,193		
	12/01/19	*18,031,315*		**November**			**Pounds Cr**						
12/01/19		18,032,559	2,696	**81,094**			**0.232**	3,091,718			6,881,218		
12/06/19		18,058,482	25,923		8.0	0.35	0.343	3,099,656	7.3	0.34	6,901,417	7.8	0.14
12/31/19		18,123,426	64,944					3,122,055			6,954,035		
	01/01/20	*18,126,523*		**December**			**Pounds Cr**						
01/01/20		18,127,980	4,554	**95,208**			**0.272**	3,122,936			6,954,035		
01/03/20		18,137,077	9,097		7.9	0.46	0.438	3,125,583	7.6	0.43	6,961,319	7.6	0.41
01/31/20		18,185,942	48,865					3,144,421			6,996,350		
	02/01/20	*18,188,180*		**January**			**Pounds Cr**						
02/03/20		18,188,411	2,469	**61,657**			**0.225**	3,145,281			6,998,288		
02/07/20		18,193,814	5,403		8.0	0.60	0.562	3,147,017	7.6	0.28	7,002,580	7.9	0.22
02/28/20		18,215,202	21,388					3,155,718			7,017,733		
	03/01/20	*18,217,070*		**February**			**Pounds Cr**						
03/02/20		18,218,425	3,223	**28,890**			**0.135**	3,157,017			7,020,060		
03/06/20		18,227,194	8,769		8.0	0.81	0.776	3,159,176	7.4	0.53	7,027,934	7.9	0.44
03/31/20		18,382,609	155,415					3,201,453			7,154,334		
	04/01/20	*18,384,172*		**March**			**Pounds Cr**						
04/01/20		18,388,797	6,188	**167,102**			**1.080**	3,203,232			7,159,271		
04/10/20		18,415,384	26,587		8.1	0.25	0.237	3,213,356	7.7	0.18	7,178,272	8.1	0.16
04/30/20		18,455,631	40,247					3,228,721			7,207,059		
	05/01/20	*18,456,245*		**April**			**Pounds Cr**						
05/01/20		18,457,479	1,848	**72,073**			**0.142**	3,229,593			7,208,236		
05/07/20		18,465,286	7,807		8.0	0.26	0.262	3,233,088	7.5	0.18	7,213,316	7.9	0.12
05/30/20		18,547,864	82,578					3,261,998			7,273,059		
	06/01/20	*18,552,699*		**May**			**Pounds Cr**						
06/01/20		18,555,721	7,857	**96,454**			**0.210**	3,264,658			7,279,075		
06/04/20		18,563,811	8,090		7.8	0.28	0.282	3,267,737	7.3	0.20	7,284,611	7.5	0.20
06/30/20		18,636,606	72,795					3,294,057			7,339,953		
	07/01/20	*18,637,892*		**June**			**Pounds Cr**						
07/01/20		18,638,722	2,116	**85,193**			**0.200**	3,294,931			7,341,133		
07/10/20		18,652,865	14,143		7.9	0.29	0.284	3,301,008	7.3	0.23	7,350,478	7.5	0.20
07/31/20		18,723,698	70,833					3,324,361			7,403,193		
	08/01/20	*18,724,228*		**July**			**Pounds Cr**						
08/03/20		18,728,205	4,507	**86,336**			**0.204**	3,326,528			7,405,919		
08/06/20		18,731,111	2,906		7.8	0.33	0.345	3,327,827	7.3	0.34	7,407,858	7.5	0.18
08/31/20		18,753,077	21,966					3,339,110			7,421,402		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	09/01/20	*18,753,491*		**August**			**Pounds Cr**						
09/01/20		18,753,819	742	**29,263**			**0.084**	3,339,541			7,421,789		
09/11/20		18,760,472	6,653		8.1	0.57	0.544	3,343,863			7,427,984		
09/30/20		18,792,498	32,026					3,358,277			7,446,675		
	10/01/20	*18,792,926*		**September**			**Pounds Cr**						
10/01/20		18,793,222	724	**39,435**			**0.179**	3,358,711			7,427,060		

Italicized red type metered discharge reading was calculated by linear interpolation to 12 midnight.

Industrial User (Wastewater Discharge) Permit 18-21 Outfall 001 Effluent Limits		
pH	Hexavalent Chromium	Total Chromium
Between 5.0 and 12.4 s.u.	<4.5 mg/L	<7.0 mg/L

[1] Beginning in September 2018, the Total Chromium lab sample was not filtered. Previously, through August 2018, the sample was filtered (0.45 micron filter).
* On 3/31/18, the MH1 flowmeter face was blank. Upon replacing the batteries, the totalizer reading reverted to 2,472,869 gallons, a difference of -112,848 gallons from the previous known total.

TABLE 2
City of Appleton Compliance Limits, Outfall 001
N.W. Mauthe Superfund Site - Appleton, WI

		Aluminum (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Chromium Total[1] (mg/L)	Copper (mg/L)	Cyanide (mg/L)	Lead (mg/L)	Mercury (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Hexavalent Chromium (mg/L)
Permit #18-21 Limits		70	1.0	0.3	7.0	3.5	1.0	2.0	0.002	2.0	10.0	4.5
Sampler	Sample Date											
CH2M Hill	02/20/97	<.02	<.003	<.00050	0.04	<.01	<.00001	<.005	<.0002	<.005	0.0051	<.01
CH2M Hill	03/24/98	0.0152	<.002	<.00004	0.0637	<.0095	<.0017	<.0006	<.000015	<.0095	0.0046	0.1000
Appleton	04/29/98	<.011	<.002	<.005	0.2200	<.05	0.0020	<.1	<.0002	<.04	<.005	NA
Appleton	10/07/98	<.011	<.002	0.0050	0.1700	<.05	<.001	<.1	<.0002	<.04	0.0250	NA
MCO	03/18/99	<.009	<.003	<.00031	NA	.00068****	<.000032	<.0024	<.00005	.00351****	<.012	<.0036
Appleton	03/18/99	<.011	<.002	<.005	<0.05	<.05	0.0010	0.1000	<.00005	0.0400	0.0180	NA
Appleton	09/21/99	<.011	<.002	<.005	<.05	<.05	0.0030	<.1	<.00015	<.04	0.0080	NA
Appleton	02/15/00	<.015	<.0020	<.005	0.0900	<.05	<.001	<.1	<.00013	<.04	0.0280	NA
MCO	03/13/00	<.009	<.003	<.00031	0.1400	<.0006	<.0044	<.0024	<.00005	0.0012	<.012	NA
Appleton	02/21/01	<0.15	<.002	<.005	0.11	<.05	0.001	<.1	<.00013	<.04	0.042	NA
MCO	03/01/01	<.034	<.0027	.012 ****	0.25	.0088 ****	<.0033	<.17	<.00005	.036 ****	0.015	<.0036
Appleton	10/02/01	0.016	<.002	<.005	0.14	<.05	<.001	<.1	<.00013	<.04	0.065	NA
MCO	03/19/02	<.034	<.0027	<.0075	0.36	<.0077	<.0027	<.17	<.00005	<.017	<.012	<.0036
Appleton	05/02/02	<.049	<.012	<.014	0.362	<.015	<.0014	<.060	<.00011	<.011	<.009	NA
Appleton	11/12/02	0.027	<.0082	<.00053	0.23	<.009	<.0007	<.00084	<.000028	0.0044	0.0081	NA
Appleton	02/11/03	<0.027	<.0082	<.00053	0.086	<.0009	<.0014	<.0013	<.000028	0.0036	<.0025	NA
Appleton	03/24/03	<.045	<.0027	<.0088	0.13	0.075	<.0050	<.16	<.000050	<.019	<.0044	<.0036
Appleton	10/23/03	0.0045	0.0013	<0.0001	0.221	<0.0008	<0.005	<0.0006	0.0002	<0.025	<0.010	NA
Appleton	03/24/04	<0.050	<0.0026	<0.010	0.15	<0.0060	<0.0050	<0.16	<0.000025	<0.020	<0.010	NA
Appleton	11/09/04	0.0071	<0.0012	<0.0001	0.04	0.0008	<0.005	<0.008	<0.0002	0.0013	<0.01	NA
MCO	08/08/05	0.023	<0.0035	<0.0003	0.039	0.0019	<0.0037	<0.0011	<0.000026	<0.0044	0.0024	<0.005
Appleton	11/05/06	0.0052	<0.0012	<0.0001	0.088	<0.0005	<0.005	<0.0008	<0.0002	0.0017	<0.010	NA
Appleton	02/23/06	0.0021	<0.0012	<0.0001	0.08	<0.0005	<0.0005	<0.0008	<0.0002	0.0022	<0.010	NA
MCO	03/23/06	<0.20	<0.0076	<0.00074	0.32	0.0018	0.0043	<0.0034	<0.000026	0.0033	<0.020	NA
Appleton	06/27/06	<0.200	<0.0076	<0.00074	0.700	0.0016	<0.0094	<0.0034	<0.000072	0.0021	<0.020	<0.350
Appleton	10/05/06	0.037	<0.00011	<0.0001	4.575	0.0068	0.01	<0.001	<0.0002	0.0026	<0.010	NA
Appleton	03/22/07	<0.07	<0.07	<0.01	1.9	3.5	<0.004	<0.03	<0.0002	<0.04	<0.01	NA
MCO	04/02/07	0.0383	0.00024	0.000086	1.41	0.0041	<0.0094	0.00013	<0.00019	0.0035	0.009	NA
Appleton	12/04/07	<0.07	<0.001	<0.01	3.4	<0.01	0.008	<0.03	<0.0002	<0.04	<0.01	1.5
Appleton	01/16/08	0.21	<0.005	<0.01	<0.03	0.02	0.017	0.06	0.0003	<0.04	0.04	NA
OMNNI	04/08/08	0.0114	0.00043	0.00011	0.864	0.0043	0.014 J	0.000095 J	<0.0001	0.0024	0.0071	0.063
Appleton	08/19/08	<0.08	<0.001	<0.01	0.95	<0.01	0.005	<0.03	0.0002	<0.02	<0.01	NA
Appleton	03/31/09	<0.09	<0.012	<0.01	0.99	<0.01	<0.008	<0.05	<0.0002	<0.02	<0.01	NA
OMNNI	04/07/09	<0.0151	0.003 J	0.00040 J	0.767	0.0024 J	<0.0060	<0.0014	<0.00010	0.0016 J	0.0137 J	0.84
Appleton	09/22/09	<0.08	<0.006	<0.01	2.3	<0.01	<0.008	<0.05	<0.0002	<0.02	<0.01	NA
Appleton	03/02/10	<0.06	<0.002	<0.01	1.6	<0.01	<0.008	<0.03	<0.0002	<0.01	<0.01	NA
OMNNI	04/06/10	0.0501 J	<0.0014	0.00043 J	1.16	0.0024 J	<0.0061	<0.00075	<0.0001	0.0023 J	0.0046 J	1.3
Appleton	11/02/10	<0.10	<0.010	<0.01	0.71	<0.01	<0.008	<0.03	<0.0002	<0.01	<0.01	NA
Appleton	02/24/11	<0.08	<0.001	<0.01	1.5	<0.01	0.008	<0.04	<0.0002	<0.02	<0.01	NA
OMNNI	04/05/11	0.0725 J	0.0025 J	<0.00026	0.401	0.0028 J	<0.0061	<0.0014	<0.00010	0.00053 J	0.0023 J	0.40
Appleton	10/26/11	<0.08	<0.005	<0.01	1.2	<0.01	0.007	<0.04	<0.0002	<0.02	<0.01	NA
Appleton	03/21/12	<0.11	<0.004	<0.01	1.3	0.01	0.007	<0.04	<0.0002	<0.02	<0.01	NA
Terracon	04/05/12	<0.0695	<0.0047	<0.00039	0.696	0.014 J	<0.0061	<0.0014	<0.00010	0.001 J	<0.0053	0.83
Appleton	10/04/12	0.0865	0.0051	0.00049	1.43	0.0028 J	0.026	0.0022	0.0001	0.00019 J	<0.0053	NA
Terracon	04/11/13	0.078	<0.004	<0.00048	0.431	0.0024 J	<0.0038	<0.027	<0.00010	0.00013 J	<0.0024	0.42
Appleton	04/17/13	<0.0714	<0.0042	<0.00048	0.279	0.0029 J	<0.0038	<0.027	<0.00010	0.00062 J	<0.0024	NA
Appleton	11/20/13	<0.0714	<0.0042	<0.00048	1.13	0.0018 J	0.0044 J	<0.027	<0.00010	0.00085 J	0.0034 J	NA
Appleton	04/15/14	0.119 J	<0.0068	<0.001	0.27	0.0036 J	<0.060	<0.0016	<0.00010	<0.0013	<0.0058	NA
Terracon	05/13/14	0.116 J	<0.0068	<0.001	0.273	0.0034 J	<0.060	0.0040 J	<0.00010	<0.0013	0.0064 J	0.28
Appleton	9/24/2014	<0.0655	<0.0068	<0.001	0.757	<0.0034	<0.010	<0.0016	<0.00010	<0.0013	<0.0058	NA
Terracon	4/15/2015	0.054 J	<0.0072	<0.00060	0.858	0.0041 J	<0.010	<0.0030	<0.00010	<0.0014	0.0026 J	0.92
Appleton	6/3/2015	<0.0655	<0.0068	<0.001	0.504	<0.0034	<0.020	<0.0016	<0.00010	0.0013 J	<0.0058	NA
Appleton	10/21/2015	0.105 J	<0.0068	<0.0010	0.676	<0.0034	<0.010	0.0024 J	<0.00010	<0.0013	0.0078 J	NA
Terracon	5/12/2016	0.0637 J	<0.0072	<0.00060	0.645	<0.0036	<0.0068	<0.0030	<0.00013	0.0018 J	<0.0013	0.70
Appleton	5/17/2016	<0.090	<0.001	<0.010	0.530	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.01	NA
Appleton	11/1/2016	<0.090	<0.010	<0.010	0.560	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.010	NA
Appleton	4/27/2017	<0.060	<0.001	<0.010	0.370	<0.010	0.007	<0.030	<0.0002	<0.020	<0.010	NA
Terracon	6/8/2017	<0.0555	<0.0083	<0.0013	0.345	<0.0063	<0.0068	<0.0043	<0.00013	<0.0026	<0.0093	0.35
Appleton	11/9/2017	<0.060	0.001	0.010	0.770	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.010	NA
Appleton	5/22/2018	NA	<0.015	<0.0006	0.319	0.005	0.010	<0.005	<0.0002	0.005	<0.002	NA
Terracon	6/7/2018	0.0713 J	<0.0083	<0.0013	0.382	<0.0063	<0.014	<0.0043	<0.00013	<0.0026	<0.0093	0.38
Appleton	11/14/2018	NA	0.020	0.001	0.325	0.004	<0.009	<0.005	<0.0002	0.004	0.004	NA
Appleton	4/18/2019	NA	<0.015	<0.0006	0.519	0.005	<0.005	<0.009	<0.0002	0.005	<0.002	NA
Terracon	7/10/2019	NA	0.0091 J	<0.0013	0.229	<0.0063	0.011 J	0.006 J	<0.00013	0.0029 J	<0.0116	0.25
Appleton	9/18/2019	NA	Results not yet available									NA

J = Estimated concentration detected above the limit of detection and below the limit of quantitation

[1] Beginning in September 2018, the Total Chromium lab sample was not filtered. Previously, through August 2018, the sample was filtered (0.45 micron filter).

N. W. Mauthe Superfund Site

TABLE 4 - REVISED NOVEMBER 2018
Groundwater Monitoring Wells and Piezometers
Sampling Frequency

Well ID	Water Level	pH	Temperature	Specific Conductivity	Dissolved Oxygen	Redox	Ferrous Iron	Chromium Total Dissolved (Filtered)	Chromium Hexavalent (Unfiltered)	Manganese	Cyanide	Zinc	VOCs
W-2	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
W-8	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
W-15	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
MW-101	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			
MW-102	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			
MW-103	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			
MW-104	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			
MW-105	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
MW-106	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
MW-107	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			2YR
MW-108	A	4YR	4YR	4YR	4YR	4YR	4YR	4YR		4YR			
MW-109**	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			2YR
MW-110**	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR	2YR		2YR
MW-111**	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR	2YR		2YR
MW-112**	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR	2YR		2YR
MW-113**	A	2YR	2YR	2YR	2YR	2YR	4YR	2YR		4YR			2YR
PZ-1													
PZ-2													
PZ-3													
PZ-4													
PZ-5*	A												
PZ-6*	A												
PZ-7*	A												
PZ-8*	A												

Quality Assurance/Quality Control (QA/QC) must be performed in compliance with s. NR 716.13(6), Wis. Adm. Code

A = annual (**Sept**) - Note: A sampling revised by USEPA 11/13/18 from Mar/Apr to **Sept**

SA - semi-annual (Mar/Apr and Sept) - Note: Change from SA to **2YR** sampling approved by USEPA 11/13/18 for 2018-2019 O&M contract.

2YR = every two years **(Sept** 2019, **Sept** 2021, etc.) - Note: 2YR sampling revised by USEPA 11/13/18 from Mar/Apr to **Sept** for 2018-2019 O&M contrac

4YR = every four years **(Sept** 2019, **Sept** 2023, etc) - Note: 4YR sampling revised by USEPA 11/13/18 from Mar/Apr to **Sept** for 2018-2019 O&M contrac

Piezometers 1-4 abandoned May 2004 (terminated in collection trenches)

Hexavalent chromium eliminated October 2006

Zinc eliminated August 2007

Bold Italics During 4YR sampling, purge three well volumes and monitor stabilization parameters prior to low-flow sampling per USEPA 11/13/18

* installed May 2005

** installed May 2006

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
W-2	02/20/97	NA	15	NA	26	NA	460.0	NA	49
	05/27/97	0.43	8.5	NA	<10	NA	170.0	<.2	30
	09/18/97	0.27	4.5**	NA	9.5**	3**	116.0	<.03	16.9
	12/12/97	.13*	6.2	NA	<9.7	<.8	133.0	.06*	20.4
	03/25/98	0.08	<3.9	NA	<9.5	<1.7	83.8	.007*	18.6
	06/10/98	.31*	16.4	NA	18.6**	<1.7	466.0	.027*	40.8
	10/27/98	.51*	3.60	NA	4.7*	<.0032	69.0	<.05	170
	02/09/99	.46*	<.62	NA	4.0	<.0032	240.0	<0.05	23
	06/08/99	<.31	<.62	NA	1.8*	<.0032	290.0	<0.05	<12
	09/13/99	<.31	2.00	NA	3.2	<.0032	240.0	<.05	<12
	12/15/99	<.31	0.72 *	NA	NA	NA	2.8	NA	NA
	03/13/00	<.31	0.79 *	NA	NA	NA	7.8	NA	NA
	06/22/00	<.31	<.62	NA	NA	NA	<.42	NA	NA
	09/27/00	2.70	1.1*	NA	NA	NA	17.0	NA	NA
	12/19/00	.24*	0.91*	NA	NA	NA	8.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	06/19/01	<.17	0.55 *	NA	NA	NA	48.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	NA	52	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	03/19/02	.27*	<.57	NA	NA	NA	<2.0	NA	NA
	06/20/02	<.23	<.44	NA	NA	NA	61.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	110.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	150.0	NA	NA
	03/24/03	<0.17	<0.43	NA	NA	NA	8.5	NA	NA
	03/24/04	NA	<0.45	5.0	NA	NA	<1.0	NA	NA
	03/29/05	NA	1.2	<2.7	NA	NA	1.3	NA	NA
	03/23/06	NA	0.52	<5.0	NA	NA	4.1	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	4.7	NA	NA
	04/29/11	NA	0.51 J	NA	NA	NA	21.7	NA	NA
	04/14/15	NA	<2.1	NA	NA	NA	318	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	271	NA	NA
W-8	02/20/97	NA	17	NA	22	NA	320.0	NA	34
	05/27/97	1.6	37	NA	27	NA	670.0	<.2	54
	09/18/97	0.45	14.4	NA	14.6**	1**	338.0	.11**	31.8
	12/12/97	0.5*	5.7	NA	<9.7	<.8	147.0	.07*	17.1
	03/25/98	0.43	10.1	NA	15**	<1.7	205.0	.007*	21
	06/10/98	0.54	9.9	NA	12.6**	<1.7	264.0	.016*	21.6
	10/27/98	0.80	3.90	NA	4.8*	<.0032	64.0	<.05	85
	02/09/99	<.31	<.62	NA	<60	<.0032	850.0	<.05	12
	06/08/99	<.31	<.62	NA	2.6	<.0032	50.0	<.05	<12
	09/13/99	<.31	1.90	NA	2.7	<.0032	98.0	<.05	29
	12/15/99	<.31	2.80	NA	NA	NA	180.0	NA	NA
	03/13/00	<.31	1.4 *	NA	NA	NA	65.0	NA	NA
	06/22/00	<.31	3.10	NA	NA	NA	74.0	NA	NA
	09/27/00	.27*	.75*	NA	NA	NA	26.0	NA	NA
	12/19/00	<.23	.66*	NA	NA	NA	40.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	23.0	NA	NA
	06/19/01	<.17	1*	NA	NA	NA	100.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	NA	380.0	NA	NA
	12/25/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	21.0	NA	NA
	06/20/02	<.23	.47*	NA	NA	NA	1400.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	620.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	34.0	NA	NA
	03/24/03	<.17	<.43	NA	NA	NA	27.0	NA	NA
	03/24/04	NA	0.76*	3.8	NA	NA	1.7*	NA	NA
	03/29/05	NA	<0.52	<2.7	NA	NA	9.7	NA	NA
	03/23/06	NA	<0.4	<5.0	NA	NA	5.5	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	6.0	NA	NA
	04/29/11	NA	0.63 J	NA	NA	NA	<0.14	NA	NA
	04/13/15	NA	<2.1	NA	NA	NA	<1.4	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	<1.1	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
W-15	02/20/97	NA	32	NA	52	NA	430.0	NA	88
	05/27/97	0.27	5.9	NA	15	NA	97.0	<.2	39
	09/18/97	0.31	13.9	NA	18.8**	<.78	325.0	<.03	35.5
	12/12/97	.12*	5.7	NA	9.7**	<.8	80.9	.03*	18.5
	03/25/98	.04*	<3.9	NA	<9.5	<1.7	85.7	.038*	13.7
	06/10/98	.11*	10	NA	13.2**	<1.7	147.0	.016*	18.8
	10/27/98	.41*	6.80	NA	7.40	<.0032	110.0	<.05	100
	02/09/99	<.31	<.62	NA	<.60	<.0032	320.0	<.05	<12
	06/08/99	<.31	2.40	NA	14.00	<.0032	130.0	<.05	66
	09/13/99	<.31	5.30	NA	6.40	<.0032	130.0	<.05	16
	12/15/99	<.31	5.00	NA	NA	NA	90.0	NA	NA
	03/13/00	<.31	7.00	NA	NA	NA	130.0	NA	NA
	06/22/00	<.31	1.80	NA	NA	NA	11.0	NA	NA
	09/27/00	<.23	4.20	NA	NA	NA	24.0	NA	NA
	12/19/00	<.23	1.4*	NA	NA	NA	930.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	06/19/01	<.17	<.34	NA	NA	NA	<2	NA	NA
	09/24/01	<.17	<.34	NA	NA	NA	290.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	2.5	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	22.0	NA	NA
	06/20/02	.36*	.47*	NA	NA	NA	3.1	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	110.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	31.0	NA	NA
	03/24/03	<0.17	0.47*	NA	NA	NA	27.0	NA	NA
	03/24/04	NA	1.80	3.8	NA	NA	1.1*	NA	NA
	03/29/05	NA	0.98	<2.7	NA	NA	24.0	NA	NA
	03/23/06	NA	1.60	<5.0	NA	NA	8.0	NA	NA
	03/28/07	NA	<1.9	NA	NA	NA	13	NA	NA
	04/29/11	NA	2.8 J	NA	NA	NA	8.3	NA	NA
	04/13/15	NA	2.8 J	NA	NA	NA	<1.4	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	4.8 J	NA	NA
MW-101	02/20/97	NA	36	NA	41	NA	820.0	NA	49
	05/27/97	<.2	10	NA	11	NA	170.0	<.03	18
	09/18/97	.06**	11.9	NA	10.7**	1**	145.0	<.05	18.2
	12/12/97	.06*	12.8	NA	<9.7	<.8	176.0	.05*	20.7
	03/25/98	.04*	20.9	NA	21.6**	<1.7	239.0	.007*	32.7
	06/10/98	.27*	48.2	NA	46.8	<1.7	604.0	.044*	75.9
	10/27/98	<.16	3.20	NA	4.2*	<.0032	24.0	<.05	54
	02/09/99	<.31	<0.62	NA	<.60	<.0032	1900.0	<.05	14
	06/08/99	<.31	1.80	NA	8.2	<.0032	380.0	<.05	39
	09/13/99	<.31	2.90	NA	5.1	<.0032	31.0	<.05	<12
	12/15/99	<.31	2.50	NA	NA	NA	9.1	NA	NA
	03/13/00	<.31	2.30	NA	NA	NA	100.0	NA	NA
	06/22/00	<.31	1.4 *	NA	NA	NA	<4.2	NA	NA
	09/27/00	<.23	19.00	NA	NA	NA	37.0	NA	NA
	12/19/00	<.23	7.20	NA	NA	NA	18.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	13.0	NA	NA
	06/19/01	<.17	8.50	NA	NA	NA	9.1	NA	NA
	09/24/01	<.17	0.55 *	NA	NA	NA	<2.0	NA	NA
	12/05/01	<.23	0.90*	NA	NA	NA	<2.0	NA	NA
	03/19/02	<.23	0.66*	NA	NA	NA	<2.0	NA	NA
	06/20/02	<.23	0.58*	NA	NA	NA	2.2	NA	NA
	09/18/02	<.23	<0.44	NA	NA	NA	13.0	NA	NA
	12/17/02	<.23	<0.44	NA	NA	NA	33.0	NA	NA
	03/24/03	<.17	0.50*	NA	NA	NA	8.3	NA	NA
	03/24/04	NA	0.79*	<3.6	NA	NA	<1.0	NA	NA
	03/29/05	NA	1.10	<2.7	NA	NA	16.0	NA	NA
	03/23/06	NA	0.55	<5.0	NA	NA	45.0	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	14.0	NA	NA
	04/16/08	NA	2.4 J	NA	NA	NA	NA	NA	NA
	04/03/09	NA	1.9 J	NA	NA	NA	NA	NA	NA
	03/17/10	NA	2.5 J	NA	NA	NA	NA	NA	NA
	04/29/11	NA	1.4 J	NA	NA	NA	0.50 J	NA	NA
	03/16/12	NA	<2.0	NA	NA	NA	0.50 J	NA	NA
	04/29/13	NA	<2.0	NA	NA	NA	NA	NA	NA
	04/21/14	NA	2.2 J	NA	NA	NA	NA	NA	NA
	04/14/15	NA	<2.1	NA	NA	NA	<1.4	NA	NA
	03/30/16	NA	<2.1	NA	NA	NA	NA	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-101	03/29/17	NA	<2.5	NA	NA	NA	NA	NA	NA
	04/11/18	NA	<2.5	NA	NA	NA	NA	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	3.0 J	NA	NA
MW-102	02/20/97	NA	26	NA	38	NA	570.0	NA	34
	05/27/97	0.21	48	NA	77	NA	920.0	<.2	73
	09/18/97	.08**	<3.92	NA	6.9**	2**	302.0	<.03	8.7
	12/12/97	.04*	<3.9	NA	<9.7	<.8	387.0	.04*	10.9
	03/25/98	.11*	<3.9	NA	9.5**	<1.7	302.0	.007*	7.4*
	06/10/98	.04*	<3.9	NA	<9.8	<1.7	318.0	.018*	9.5
	10/27/98	.27*	.98*	NA	3.2*	<.0032	340.0	<.05	24
	02/09/99	<.31	.73*	NA	<.60	<.0032	670.0	<.05	20
	06/08/99	<.31	1.2*	NA	5.8	<.0032	140.0	<.05	36
	09/13/99	<.31	4.00	NA	15.0	<.0032	160.0	<.05	73
	12/15/99	<.31	1.2 *	NA	NA	NA	550.0	NA	NA
	03/13/00	<.31	1.70	NA	NA	NA	580.0	NA	NA
	06/22/00	<.31	<.62	NA	NA	NA	310.0	NA	NA
	09/27/00	<.23	2.10	NA	NA	NA	130.0	NA	NA
	12/19/00	.33*	2.90	NA	NA	NA	110.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	06/19/01	<.17	<.34	NA	NA	NA	<2	NA	NA
	09/24/01	.48 *	1.40	NA	NA	NA	46.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	100.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	87.0	NA	NA
	06/20/02	<.17	1.80	NA	NA	NA	44.0	NA	NA
	09/18/02	<.23	1.4*	NA	NA	NA	<2.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	38.0	NA	NA
	03/24/03	0.21*	<0.43	NA	NA	NA	3.5	NA	NA
	03/24/04	NA	<0.45	<3.6	NA	NA	65.0	NA	NA
	03/29/05	NA	0.71	<2.7	NA	NA	190.0	NA	NA
	03/23/06	NA	<0.40	<5.0	NA	NA	100.0	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	230	NA	NA
	04/16/08	NA	<0.57	NA	NA	NA	NA	NA	NA
	04/03/09	NA	<0.57	NA	NA	NA	NA	NA	NA
	03/17/10	NA	0.74 J	NA	NA	NA	NA	NA	NA
	04/29/11	NA	6.1	NA	NA	NA	32.1	NA	NA
	03/14/12	NA	<2.0	NA	NA	NA	NA	NA	NA
	04/29/13	NA	130	NA	NA	NA	NA	NA	NA
	04/21/14	NA	128	NA	NA	NA	NA	NA	NA
	04/13/15	NA	98.2	NA	NA	NA	NA	NA	NA
	03/30/16	NA	116	NA	NA	NA	NA	NA	NA
	03/29/17	NA	90.5	NA	NA	NA	NA	NA	NA
	04/11/18	NA	<2.5	NA	NA	NA	NA	NA	NA
	09/25/19	Unable to sample - Broken bolt over well							

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-103	02/20/97	NA	1,300	NA	47	NA	800.0	NA	27
	05/27/97	<.2	160.0	NA	31	NA	900.0	<.2	29
	09/18/97	.06**	35.2	NA	13.5**	3**	287.0	<.03	13.7
	12/12/97	.04*	16.3	NA	<9.7	<.8	84.3	.09*	21.4
	03/25/98	.04*	15.5	NA	<9.5	<1.7	83.0	.007*	7.5*
	06/10/98	.15*	57.6	NA	27.5	<1.7	417.0	.02*	33.7
	10/27/98	<.16	6.30	NA	2.3*	<.0032	27.0	<.05	30.0
	06/08/99	<.31	87.00	NA	3.5	<.0032	810.0	<.05	30
	09/13/99	<.31	720.0	NA	5.9	<.0032	83.0	<.05	15
	12/15/99	<.31	260.0	NA	NA	NA	160.0	NA	NA
	03/13/00	<.31	600.0	NA	NA	NA	79.0	NA	NA
	06/22/00	<.31	130.0	NA	NA	NA	180.0	NA	NA
	09/27/00	<.23	280.0	NA	NA	NA	230.0	NA	NA
	12/19/00	<.23	180.0	NA	NA	NA	170.0	NA	NA
	03/01/01	<.23	49.0	NA	NA	NA	240.0	NA	NA
	06/19/01	<.17	11.0	NA	NA	NA	350.0	NA	NA
	09/24/01	<.17	12.0	NA	NA	NA	280.0	NA	NA
	12/05/01	<.23	2.9	NA	NA	NA	230.0	NA	NA
	03/19/02	<.23	73.0	NA	NA	NA	7.9	NA	NA
	06/20/02	<.23	14.0	NA	NA	NA	630.0	NA	NA
	09/18/02	<.23	6.5	NA	NA	NA	560.0	NA	NA
	12/17/02	<.23	6.2	NA	NA	NA	3.7	NA	NA
	03/24/03	.26*	350.0	NA	NA	NA	48.0	NA	NA
	06/10/03	NA	150.0	NA	NA	NA	NA	NA	NA
	09/10/03	NA	9.10	NA	NA	NA	NA	NA	NA
	12/10/03	NA	7.70	NA	NA	NA	NA	NA	NA
	12/15/03	NA	NA	<3.6	NA	NA	NA	NA	NA
	03/24/04	NA	5.60	6.3	NA	NA	7.6	NA	NA
	07/09/04	NA	11.00	16.0	NA	NA	NA	NA	NA
	12/09/04	NA	1.20	<3.6	NA	NA	NA	NA	NA
	03/29/05	NA	220.0	350.0	NA	NA	82.0	NA	NA
	06/22/05	NA	240.0	250.0	NA	NA	NA	NA	NA
	09/21/05	NA	110.0	69.0	NA	NA	NA	NA	NA
	12/15/05	NA	120.0	150.0	NA	NA	NA	NA	NA
	03/23/06	NA	16.0	270.0	NA	NA	8.4	NA	NA
	06/28/06	NA	40.0	29.0	NA	NA	NA	NA	NA
	09/20/06	NA	45.0	35.0	NA	NA	NA	NA	NA
	12/20/06	NA	15.0	NA	NA	NA	NA	NA	NA
	03/28/07	NA	31	NA	NA	NA	38	NA	NA
	07/03/07	NA	90	NA	NA	NA	NA	NA	NA
	09/28/07	NA	78	NA	NA	NA	NA	NA	NA
	04/16/08	NA	380	NA	NA	NA	NA	NA	NA
	09/22/08	NA	240	NA	NA	NA	NA	NA	NA
	04/03/09	NA	171	NA	NA	NA	NA	NA	NA
	09/01/09	NA	157	NA	NA	NA	NA	NA	NA
	03/17/10	NA	114	NA	NA	NA	NA	NA	NA
	09/09/10	NA	16.4	NA	NA	NA	NA	NA	NA
	04/29/11	NA	23.1	NA	NA	NA	<0.14	NA	NA
	09/01/11	NA	54.5	NA	NA	NA	NA	NA	NA
	03/14/12	NA	27.0	NA	NA	NA	NA	NA	NA
	09/11/12	NA	10.8	NA	NA	NA	NA	NA	NA
	04/29/13	NA	24.8	NA	NA	NA	NA	NA	NA
	09/17/13	NA	6.4	NA	NA	NA	NA	NA	NA
	04/21/14	NA	6.9	NA	NA	NA	NA	NA	NA
	09/17/14	NA	10.0	NA	NA	NA	NA	NA	NA
	04/14/15	NA	8.2	NA	NA	NA	<1.4	NA	NA
	09/14/15	NA	6.9	NA	NA	NA	NA	NA	NA
	04/05/16	NA	7.8 J	NA	NA	NA	NA	NA	NA
	09/21/16	NA	5.8 J	NA	NA	NA	NA	NA	NA
	03/29/17	NA	7.5 J	NA	NA	NA	NA	NA	NA
	10/04/17	NA	<2.5	NA	NA	NA	NA	NA	NA
	04/11/18	NA	11.7	NA	NA	NA	NA	NA	NA
	09/17/18	NA	34.3	NA	NA	NA	NA	NA	NA
	09/25/19	NA	4.4 J	NA	NA	NA	4.1 J	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-104	02/20/97	NA	5.9	NA	15	NA	550.0	NA	6.9
	05/27/97	<.02	6.9	NA	11	NA	470.0	<.2	5.2
	09/18/97	<.04	35.6	NA	5**	3**	235.0	<.03	4.74
	12/12/97	.04*	61.8	NA	9.8**	<.8	279.0	.05*	14
	03/25/98	.04*	66.8	NA	<9.5	<1.7	73.6	.008*	7.4*
	06/10/98	.04*	219.0	NA	<9.8	<1.7	107.0	.016*	12.8
	10/27/98	.29*	150.0	NA	2.3*	<.0032	25.0	<.05	30
	02/09/99	<.31	94.0	NA	1.4*	<.0032	1000.0	<.05	<12
	06/08/99	1*	62.0	NA	12.0	<.0032	620.0	<.05	17
	09/13/99	<.31	80.0	NA	3.2	<.0032	9.2	<.05	<12
	12/15/99	<.31	170.0	NA	NA	NA	1.6	NA	NA
	03/13/00	<.31	300.0	NA	NA	NA	13.0	NA	NA
	06/22/00	<.31	210.0	NA	NA	NA	41.0	NA	NA
	09/27/00	<.23	510.0	NA	NA	NA	3.9	NA	NA
	12/19/00	<.23	790.0	NA	NA	NA	<2	NA	NA
	03/01/01	<.23	840.0	NA	NA	NA	<2	NA	NA
	06/19/01	<.17	680.0	NA	NA	NA	2.3	NA	NA
	09/24/01	<.17	310.0	NA	NA	NA	17.0	NA	NA
	12/05/01	<.23	390.0	NA	NA	NA	2.2	NA	NA
	03/19/02	<.23	430.0	NA	NA	NA	<2.0	NA	NA
	06/20/02	<.23	490.0	NA	NA	NA	14.0	NA	NA
	09/18/02	<.23	410.0	NA	NA	NA	27.0	NA	NA
	12/17/02	<.23	240.0	NA	NA	NA	8.9	NA	NA
	03/24/03	<.17	180.0	NA	NA	NA	4.2	NA	NA
	06/10/03	NA	420.0	NA	NA	NA	NA	NA	NA
	09/10/03	NA	1,200.0	NA	NA	NA	NA	NA	NA
	12/10/03	NA	790.0	NA	NA	NA	NA	NA	NA
	12/15/03	NA	NA	700.0	NA	NA	NA	NA	NA
	03/24/04	NA	550.0	580.0	NA	NA	<1.0	NA	NA
	07/09/04	NA	370.0	380.0	NA	NA	NA	NA	NA
	09/22/04	NA	87.0	33.0	NA	NA	NA	NA	NA
	12/09/04	NA	56.0	57.0	NA	NA	NA	NA	NA
	03/29/05	NA	260.0	260.0	NA	NA	1.0	NA	NA
	06/22/05	NA	280.0	230.0	NA	NA	NA	NA	NA
	09/21/05	NA	17.0	25.0	NA	NA	NA	NA	NA
	12/15/05	NA	95.0	110.0	NA	NA	NA	NA	NA
	03/23/06	NA	66.0	200.0	NA	NA	6.3	NA	NA
	06/28/06	NA	76.0	58.0	NA	NA	NA	NA	NA
	09/20/06	NA	2.8	<6.8	NA	NA	NA	NA	NA
	12/20/06	NA	8.4	NA	NA	NA	NA	NA	NA
	03/28/07	NA	160	NA	NA	NA	130	NA	NA
	07/03/07	NA	97	NA	NA	NA	NA	NA	NA
	09/28/07	NA	11.0	NA	NA	NA	NA	NA	NA
	04/16/08	NA	545	NA	NA	NA	NA	NA	NA
	09/22/08	NA	1.3 J	NA	NA	NA	NA	NA	NA
	04/03/09	NA	144	NA	NA	NA	NA	NA	NA
	09/01/09	NA	1.4 J	NA	NA	NA	NA	NA	NA
	03/17/10	NA	719	NA	NA	NA	NA	NA	NA
	09/09/10	NA	6.7	NA	NA	NA	NA	NA	NA
	04/29/11	NA	376	NA	NA	NA	7.7	NA	NA
	09/01/11	NA	5.4	NA	NA	NA	NA	NA	NA
	03/14/12	NA	510	NA	NA	NA	NA	NA	NA
	09/11/12	NA	<2.0	NA	NA	NA	NA	NA	NA
	04/29/13	NA	1.3 J	NA	NA	NA	NA	NA	NA
	09/17/13	NA	<2.0	NA	NA	NA	NA	NA	NA
	04/21/14	NA	10.5	NA	NA	NA	NA	NA	NA
	09/16/14	NA	12.5	NA	NA	NA	NA	NA	NA
	04/14/15	NA	287.0	NA	NA	NA	<1.4	NA	NA
	09/14/15	NA	5.0	NA	NA	NA	NA	NA	NA
	03/30/16	NA	93.5	NA	NA	NA	NA	NA	NA
	09/21/16	NA	2.6 J	NA	NA	NA	NA	NA	NA
	03/29/17	NA	6.2 J	NA	NA	NA	NA	NA	NA
	10/04/17	NA	5.8 J	NA	NA	NA	NA	NA	NA
	04/11/18	NA	27.6	NA	NA	NA	NA	NA	NA
	09/17/18	NA	2.8 J	NA	NA	NA	NA	NA	NA
	09/25/19	NA	3.8 J	NA	NA	NA	244	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-105	02/20/97	NA	21	NA	22	NA	1100.0	NA	23
	05/27/97	<.2	5	NA	<10	NA	120.0	<.2	12
	09/18/97	.14**	29.5	NA	28.3	1**	532.0	<.03	46
	12/12/97	.36*	15.8	NA	12.5**	<.8	297.0	.03*	27.1
	03/25/98	.04*	30.8	NA	27.6	<1.7	518.0	.064*	44
	06/10/98	.048*	13.7	NA	15.3**	<1.7	217.0	.016*	22.1
	10/27/98	.29*	8.80	NA	8.20	<.0032	150.0	<.05	70
	02/09/99	<.31	1.3*	NA	4.30	<.0032	2000.0	<.05	19
	06/08/99	<.31	1*	NA	18.00	<.0032	1300.0	<.05	66
	09/13/99	<.31	.64*	NA	24.00	<.0032	1700.0	<.05	30
	12/15/99	<.31	<.62	NA	NA	NA	860.0	NA	NA
	03/13/00	<.31	4.80	NA	NA	NA	660.0	NA	NA
	06/22/00	<.31	1.0 *	NA	NA	NA	600.0	NA	NA
	09/27/00	<.23	1.2*	NA	NA	NA	700.0	NA	NA
	12/19/00	<.23	<.4	NA	NA	NA	230.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	43.0	NA	NA
	06/19/01	<.17	.75*	NA	NA	NA	230.0	NA	NA
	09/24/01	<.17	.73*	NA	NA	NA	530.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	22.0	NA	NA
	06/20/02	<.23	.60*	NA	NA	NA	1400.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	600.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	58.0	NA	NA
	03/24/03	.21*	<.43	NA	NA	NA	86.0	NA	NA
	03/24/04	NA	3.80	6.3	NA	NA	89.0	NA	NA
	03/29/05	NA	<0.52	<2.7	NA	NA	82.0	NA	NA
	03/23/06	NA	0.42	<5.0	NA	NA	43.0	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	23	NA	NA
	04/29/11	NA	0.64 J	NA	NA	NA	1.8 J	NA	NA
	04/13/15	NA	<2.1	NA	NA	NA	2.5J	NA	NA
	09/25/19	Unable to sample - Broken bolt over well							
MW-106	02/20/97	NA	21	NA	24	NA	320.0	NA	26
	05/27/97	<.02	40	NA	35	NA	590.0	<.2	68
	09/18/97	.05**	5.5	NA	6.2**	1**	56.9	<.03	35.6
	12/12/97	.04*	9.2	NA	9.7**	<.08	155.0	.03*	18.4
	03/25/98	NA	13.40	NA	14.4**	<1.7	150.0	.007*	18.5
	06/10/98	.04*	<3.9	NA	10.2**	<1.7	10.0	.016*	10.9
	10/27/98	.27*	3.20	NA	4.3*	<.0032	38.0	<.05	88
	02/09/99	<.31	<.62	NA	1.1*	<.0032	760.0	<.05	22
	06/08/99	<.31	.79*	NA	2.3	<.0032	900.0	<.05	<12
	09/13/99	<.31	1.80	NA	4.7	<.0032	1100.0	<.05	30
	12/15/99	<.31	1.3 *	NA	NA	NA	130.0	NA	NA
	03/31/00	<.31	2.30	NA	NA	NA	270.0	NA	NA
	06/22/00	<.31	.73 *	NA	NA	NA	<4.2	NA	NA
	09/27/00	<.23	.88*	NA	NA	NA	50.0	NA	NA
	12/19/00	<.23	.77*	NA	NA	NA	22.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	45.0	NA	NA
	06/19/01	.21*	.39*	NA	NA	NA	57.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	NA	950.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	310.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	92.0	NA	NA
	06/20/02	<.23	<.44	NA	NA	NA	270.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	420.0	NA	NA
	12/17/02	<.23	<.44	NA	NA	NA	41.0	NA	NA
	03/24/03	<0.17	<.43	NA	NA	NA	2.1	NA	NA
	03/24/04	NA	<0.45	3.8	NA	NA	190.0	NA	NA
	03/29/05	NA	1.10	<2.7	NA	NA	15.0	NA	NA
	03/23/06	NA	0.45	<5.0	NA	NA	30.0	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	15	NA	NA
	04/29/11	NA	0.79 J	NA	NA	NA	0.16 J	NA	NA
	04/13/15	NA	<2.1	NA	NA	NA	<1.4	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	55.2	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-107	02/20/97	NA	2,000	NA	13	NA	190.0	NA	6.9
	05/27/97	<.2	3,600	NA	<10	NA	91.0	<.2	10
	09/18/97	<.04	2,670	NA	<8.1	1**	59.3	<.03	33.5
	12/12/97	.04*	2,310	NA	<9.7	<.8	48.4	.1*	6.7
	03/25/98	.04*	11,200 J	NA	12.1**	<1.7	68.2	.041*	9.3*
	06/10/98	.11*	6,240	NA	13.8**	<1.7	161.0	.027*	17.3*
	10/27/98	<.16	7,100	NA	1.2*	<.0032	28.0	<.05	94
	02/09/99	<.31	3,200	NA	1.9*	<.0032	49.0	<.05	<12
	06/08/99	<.31	5,800	NA	3.0	<.0032	25.0	<.05	<12
	09/13/99	<.31	4,000	NA	1.9*	<.0032	18.0	<.05	<12
	12/15/99	<.31	14,000	NA	NA	NA	.83 *	NA	NA
	03/13/00	<.31	8,100	NA	NA	NA	22.0	NA	NA
	06/22/00	<.31	14,000	NA	NA	NA	<42	NA	NA
	09/27/00	<.23	11,000	NA	NA	NA	4.9	NA	NA
	12/19/00	<.23	10,000	NA	NA	NA	2.4	NA	NA
	03/01/01	<.23	5,000	NA	NA	NA	2.2	NA	NA
	06/19/01	<.17	8,200	NA	NA	NA	<2	NA	NA
	09/24/01	<17	5,300	NA	NA	NA	270.0	NA	NA
	12/05/01	<.23	6,200	NA	NA	NA	10.0	NA	NA
	03/19/02	<.23	7,000	NA	NA	NA	<20	NA	NA
	06/20/02	<2.3	7,000	NA	NA	NA	<20	NA	NA
	09/18/02	<.17	4,300	NA	NA	NA	24.0	NA	NA
	12/17/02	<.17	3,700	NA	NA	NA	15.0	NA	NA
	03/24/03	<10	3,800	NA	NA	NA	7.7	NA	NA
	06/10/03	NA	5,900	NA	NA	NA	NA	NA	NA
	09/10/03	NA	5,200	NA	NA	NA	NA	NA	NA
	12/10/03	NA	5,200	NA	NA	NA	NA	NA	NA
	12/15/03	NA	NA	5,500	NA	NA	NA	NA	NA
	03/24/04	NA	3,900	4,100	NA	NA	1.2*	NA	NA
	07/09/04	NA	3,400	5,000	NA	NA	NA	NA	NA
	09/22/04	NA	4,100	4,400	NA	NA	NA	NA	NA
	12/14/04	NA	6,300	5,800	NA	NA	NA	NA	NA
	03/29/05	NA	3,600	4,100	NA	NA	1.9	NA	NA
	06/22/05	NA	3,300	2,900	NA	NA	NA	NA	NA
	09/21/05	NA	2,500	2,500	NA	NA	NA	NA	NA
	12/15/05	NA	2,400	2,700	NA	NA	NA	NA	NA
	03/23/06	NA	3,200	3,600	NA	NA	1.90	NA	NA
	06/28/06	NA	3,600	3,000	NA	NA	NA	NA	NA
	09/20/06	NA	4,100	4,200	NA	NA	NA	NA	NA
	12/19/06	NA	2,700	NA	NA	NA	NA	NA	NA
	03/28/07	NA	4,200	NA	NA	NA	1.7	NA	NA
	07/03/07	NA	2,800	NA	NA	NA	NA	NA	NA
	09/28/07	NA	2,000	NA	NA	NA	NA	NA	NA
	04/16/08	NA	4,410	NA	NA	NA	NA	NA	NA
	09/22/08	NA	2,950	NA	NA	NA	NA	NA	NA
	04/03/09	NA	3,790	NA	NA	NA	NA	NA	NA
	09/01/09	NA	2,420	NA	NA	NA	NA	NA	NA
	03/17/10	NA	3,240	NA	NA	NA	NA	NA	NA
	09/09/10	NA	2,480	NA	NA	NA	NA	NA	NA
	04/29/11	NA	2,940	NA	NA	NA	0.32 J	NA	NA
	09/01/11	NA	1,960	NA	NA	NA	NA	NA	NA
	03/14/12	NA	2,700	NA	NA	NA	NA	NA	NA
	09/11/12	NA	2,410	NA	NA	NA	NA	NA	NA
	04/30/13	NA	3,020	NA	NA	NA	NA	NA	NA
	09/17/13	NA	3,440	NA	NA	NA	NA	NA	NA
	04/21/14	NA	2,150	NA	NA	NA	NA	NA	NA
	09/16/14	NA	2,130	NA	NA	NA	NA	NA	NA
	04/14/15	NA	2,210	NA	NA	NA	2.0 J	NA	NA
	09/14/15	NA	1,600	NA	NA	NA	NA	NA	NA
	03/30/16	NA	2,250	NA	NA	NA	NA	NA	NA
	09/21/16	NA	2,390	NA	NA	NA	NA	NA	NA
	03/29/17	NA	1,990	NA	NA	NA	NA	NA	NA
	10/03/17	NA	1,400	NA	NA	NA	NA	NA	NA
	04/11/18	NA	1,920	NA	NA	NA	NA	NA	NA
	09/17/18	NA	609	NA	NA	NA	NA	NA	NA
	09/25/19	NA	1,300	NA	NA	NA	3.5 J	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-108	02/20/97	NA	25	NA	23	NA	490.0	NA	31
	05/27/97	<.2	11	NA	13	NA	210.0	<.2	15
	09/18/97	.14**	27.4	NA	22.4**	1**	462.0	<.03	36.6
	12/12/97	.04*	5.6	NA	<9.7	<.8	74.8	.03*	27.9
	03/25/98	.04*	9.4	NA	10.4**	<1.7	142.0	.007*	13.8
	06/10/98	.14*	28.4	NA	25.5	<1.7	478.0	.021*	40.5
	10/27/98	.26*	8.90	NA	7.40	<.0032	88.0	<0.5	44
	02/09/99	<.31	1.70	NA	3.90	<.0032	560.0	<.05	30
	06/08/99	<.31	3.10	NA	1.4*	<.0032	450.0	<.05	54
	09/13/99	<.31	4.50	NA	5.30	<.0032	100.0	<.05	<12
	12/15/99	<.31	6.10	NA	NA	NA	79.0	NA	NA
	03/13/00	<.31	3.6	NA	NA	NA	41.0	NA	NA
	06/22/00	<.31	6.5	NA	NA	NA	<4.2	NA	NA
	09/27/00	<.23	2.9	NA	NA	NA	29.0	NA	NA
	12/19/00	<.23	3.0	NA	NA	NA	22.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	NA	<2.0	NA	NA
	06/19/01	<.17	2.40	NA	NA	NA	110.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	NA	40.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	NA	7.4	NA	NA
	03/19/02	<.23	<.57	NA	NA	NA	3.4	NA	NA
	06/20/02	<.23	0.85*	NA	NA	NA	39.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	NA	150.0	NA	NA
	12/17/02	<.23	0.67*	NA	NA	NA	34.0	NA	NA
	03/24/03	<.17	0.67*	NA	NA	NA	3.3	NA	NA
	03/24/04	NA	0.79*	<36	NA	NA	83.0	NA	NA
	03/29/05	NA	0.65	<2.7	NA	NA	2.6	NA	NA
	03/27/06	NA	<0.40	<5.0	NA	NA	6.2	NA	NA
	03/27/07	NA	<1.9	NA	NA	NA	1.4	NA	NA
	04/29/11	NA	1.8 J	NA	NA	NA	0.70 J	NA	NA
	04/14/15	NA	<2.1	NA	NA	NA	<1.4	NA	NA
	09/25/19	NA	<2.5	NA	NA	NA	79.9	NA	NA
MW-109 ****	06/21/06	<0.92	1,300	1,400	2.4*	<9.4	480.0	<0.072	<20
	09/20/06	NA	450	NA	-	<9.4	430.0	NA	<20
	12/19/06	NA	550	NA	NA	NA	NA	NA	NA
	03/29/07	NA	2,700	NA	NA	0.94	15	NA	<20
	07/03/07	NA	2,200	NA	NA	NA	NA	NA	NA
	09/28/07	NA	1,300	NA	NA	NA	NA	NA	NA
	04/16/08	NA	1,550	NA	NA	NA	NA	NA	NA
	09/22/08	NA	892	NA	NA	NA	NA	NA	NA
	04/03/09	NA	912	NA	NA	NA	NA	NA	NA
	09/01/09	NA	1,520	NA	NA	NA	NA	NA	NA
	03/17/10	NA	867	NA	NA	NA	NA	NA	NA
	09/09/10	NA	718	NA	NA	NA	NA	NA	NA
	04/29/11	NA	1,110	NA	NA	NA	3.8 J	NA	NA
	09/01/11	NA	2,040	NA	NA	NA	NA	NA	NA
	03/16/12	NA	866	NA	NA	NA	NA	NA	NA
	09/11/12	NA	582	NA	NA	NA	NA	NA	NA
	04/29/13	NA	986	NA	NA	NA	NA	NA	NA
	09/17/13	NA	805	NA	NA	NA	NA	NA	NA
	04/21/14	NA	863	NA	NA	NA	NA	NA	NA
	09/16/14	NA	944	NA	NA	NA	NA	NA	NA
	04/14/15	NA	740	NA	NA	NA	<1.4	NA	NA
	09/14/15	NA	889	NA	NA	NA	NA	NA	NA
	03/30/16	NA	847	NA	NA	NA	NA	NA	NA
	09/21/16	NA	648	NA	NA	NA	NA	NA	NA
	03/29/17	NA	602	NA	NA	NA	NA	NA	NA
	10/04/17	NA	384	NA	NA	NA	NA	NA	NA
	04/10/18	NA	602	NA	NA	NA	NA	NA	NA
	09/17/18	NA	333	NA	NA	NA	NA	NA	NA
	09/26/19	NA	339	NA	NA	NA	18.3	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-110 ****	06/21/06	<0.92	24,000	26,000	2.9*	40	290.0	<0.072	<20
	09/20/06	NA	15,000	NA	NA	41	260.0	NA	<20
	12/19/06	NA	15,000	NA	NA	53	NA	NA	NA
	03/29/07	NA	47,000	NA	NA	6.6	84	NA	<20
	07/03/07	NA	3,200	NA	NA	79	NA	NA	NA
	09/28/07	NA	51,000	NA	NA	71	NA	NA	NA
	04/16/08	NA	32,500	NA	NA	55	NA	NA	NA
	09/22/08	NA	32,500	NA	NA	57	NA	NA	NA
	04/03/09	NA	30,900	NA	NA	42	NA	NA	NA
	09/01/09	NA	34,400	NA	NA	21	NA	NA	NA
	03/17/10	NA	22,800	NA	NA	39	NA	NA	NA
	09/09/10	NA	5,060	NA	NA	7.5 J	NA	NA	NA
	04/29/11	NA	27.2	NA	NA	<6.1	0.22 J	NA	NA
	09/01/11	NA	7,270	NA	NA	6.6 J	NA	NA	NA
	03/14/12	NA	4,530	NA	NA	6.6 J	NA	NA	NA
	09/12/12	NA	10,800	NA	NA	13 J	NA	NA	NA
	04/30/13	NA	294	NA	NA	4.3 J	NA	NA	NA
	09/17/13	NA	3,190	NA	NA	4.3 J	NA	NA	NA
	04/22/14	NA	76	NA	NA	<10	NA	NA	NA
	09/17/14	NA	1,960	NA	NA	<0.010	NA	NA	NA
	04/15/15	NA	156	NA	NA	10	2.7J	NA	NA
	09/14/15	NA	849	860	NA	<10	NA	NA	NA
	03/31/16	NA	3.5 J	NA	NA	<6.8	NA	NA	NA
	09/21/16	NA	1,460	NA	NA	<6.8	NA	NA	NA
	03/29/17	NA	6.7 J	NA	NA	<6.8	NA	NA	NA
	10/03/17	NA	987	NA	NA	<6.8	NA	NA	NA
	04/10/18	NA	251	NA	NA	<6.8	NA	NA	NA
	09/17/18	NA	6.2 J	NA	NA	<6.8	NA	NA	NA
	09/26/19	NA	<2.5	NA	NA	<6.8	542	NA	NA
MW-111 ****	06/21/06	<0.92	1,400	1,400	3.3*	27	190.0	<0.072	<20
****	09/20/06	NA	22	NA	-	20*	210.0	NA	<20
	12/19/06	NA	6.7	NA	NA	NA	NA	NA	NA
	03/29/07	NA	2,300	NA	NA	31	11	NA	<20
	07/03/07	NA	41	NA	NA	NA	NA	NA	NA
	09/28/07	NA	340	NA	NA	NA	NA	NA	NA
	04/16/08	NA	212	NA	NA	16 J	NA	NA	NA
	09/22/08	NA	743	NA	NA	NA	NA	NA	NA
	04/03/09	NA	381	NA	NA	13 J	NA	NA	NA
	09/01/09	NA	1,380	NA	NA	NA	NA	NA	NA
	03/17/10	NA	649	NA	NA	17 J	NA	NA	NA
	09/09/10	NA	438	NA	NA	NA	NA	NA	NA
	04/29/11	NA	238	NA	NA	<6.1	<0.14	NA	NA
	09/01/11	NA	572	NA	NA	NA	NA	NA	NA
	03/14/12	NA	432	NA	NA	13	NA	NA	NA
	09/12/12	NA	24.5	NA	NA	NA	NA	NA	NA
	04/30/13	NA	478	NA	NA	11 J	NA	NA	NA
	09/17/13	NA	509	NA	NA	11 J	NA	NA	NA
	04/21/14	NA	332	NA	NA	12 J	NA	NA	NA
	09/17/14	NA	302	NA	NA	12 J	NA	NA	NA
	04/14/15	NA	448	NA	NA	11	<1.4	NA	NA
	09/14/15	NA	582	660	NA	11	NA	NA	NA
	03/31/16	NA	120	NA	NA	<6.8	NA	NA	NA
	09/22/16	NA	363	NA	NA	NA	NA	NA	NA
	03/29/17	NA	10.1	NA	NA	<6.8	NA	NA	NA
	10/03/17	NA	480	NA	NA	NA	NA	NA	NA
	04/10/18	NA	551	NA	NA	9.9 J	NA	NA	NA
	09/17/18	NA	292	NA	NA	9.9 J	NA	NA	NA
	09/26/19	NA	76.3	NA	NA	<6.8	2.7 J	NA	NA
MW-112 ****	06/21/06	<0.92	130,000	140,000	5.3	140	180.0	<0.072	34,000
	09/20/06	NA	69,000	NA	NA	84	130.0	NA	<20
	12/19/06	NA	55,000	NA	NA	88	NA	NA	<200
	03/28/07	NA	140,000	NA	NA	450	110	NA	<20
	07/03/07	NA	100,000	NA	NA	35	NA	NA	<200
	09/28/07	NA	150,000	NA	NA	320	NA	NA	34
	04/16/08	NA	88,400	NA	NA	380	NA	NA	NA
	09/22/08	NA	77,400	NA	NA	210	NA	NA	NA
	04/03/09	NA	76,200	NA	NA	210	NA	NA	NA
	09/01/09	NA	69,000	NA	NA	150	NA	NA	NA

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500
MW-112	03/17/10	NA	21,500	NA	NA	110	NA	NA	NA
	09/09/10	NA	7,150	NA	NA	110	NA	NA	NA
	04/29/11	NA	1,840	NA	NA	<6.1	2.6 J	NA	NA
	09/01/11	NA	15,600	NA	NA	51	NA	NA	NA
	03/14/12	NA	149	NA	NA	<6.1	NA	NA	NA
	09/12/12	NA	18,600	NA	NA	32	NA	NA	NA
	04/30/13	NA	216	NA	NA	5.2 J	NA	NA	NA
	09/17/13	NA	2,940	NA	NA	5.2 J	NA	NA	NA
	04/21/14	NA	189	NA	NA	<10	NA	NA	NA
	09/17/14	NA	2,820	NA	NA	0.016	NA	NA	NA
	04/14/15	NA	274	NA	NA	10	<1.4	NA	NA
	09/14/15	NA	13,600	16,000	NA	21	NA	NA	NA
	03/31/16	NA	1,080	NA	NA	8.0 J	NA	NA	NA
	09/22/16	NA	638	NA	NA	7.0 J	NA	NA	NA
	03/29/17	NA	240	NA	NA	<14	NA	NA	NA
	10/03/17	NA	3,150	NA	NA	8.9 J	NA	NA	NA
	04/10/18	NA	5,310	NA	NA	14 J	NA	NA	NA
	09/17/18	NA	89.6	NA	NA	7.6 J	NA	NA	NA
	09/26/19	NA	305	NA	NA	<6.8	283	NA	NA
MW-113 ****	06/21/06	<0.92	25,000	26,000	3.4*	11	170.0	<0.072	<20
	09/20/06	NA	31,000	NA	NA	12*	85.0	NA	<20
	12/19/06	NA	21,000	NA	NA	NA	NA	NA	NA
	03/29/07	NA	11,000	NA	NA	<0.94	3.2	NA	<20
	07/03/07	NA	21,000	NA	NA	NA	NA	NA	NA
	09/28/07	NA	55,000	NA	NA	NA	NA	NA	NA
	04/16/08	NA	16,400	NA	NA	NA	NA	NA	NA
	09/22/08	NA	24,300	NA	NA	NA	NA	NA	NA
	04/03/09	NA	18,800	NA	NA	NA	NA	NA	NA
	09/01/09	NA	37,400	NA	NA	NA	NA	NA	NA
	03/17/10	NA	31,300	NA	NA	NA	NA	NA	NA
	09/09/10	NA	18,400	NA	NA	NA	NA	NA	NA
	04/29/11	NA	2,760	NA	NA	NA	<0.14	NA	NA
	09/01/11	NA	16,700	NA	NA	NA	NA	NA	NA
	03/14/12	NA	7,460	NA	NA	NA	NA	NA	NA
	09/12/12	NA	25,800	NA	NA	NA	NA	NA	NA
	04/30/13	NA	776	NA	NA	NA	NA	NA	NA
	09/17/13	NA	31,100	NA	NA	NA	NA	NA	NA
	04/22/14	NA	12,000	NA	NA	NA	NA	NA	NA
	09/17/14	NA	25,900	NA	NA	NA	NA	NA	NA
	04/14/15	NA	10,800	NA	NA	NA	<1.4	NA	NA
	09/14/15	NA	6,560	7,400	NA	NA	NA	NA	NA
	03/31/16	NA	2,780	NA	NA	NA	NA	NA	NA
	09/21/16	NA	15,200	NA	NA	NA	NA	NA	NA
	03/29/17	NA	6,490	NA	NA	NA	NA	NA	NA
	10/03/17	NA	17,400	NA	NA	NA	NA	NA	NA
	04/10/18	NA	26,200	NA	NA	NA	NA	NA	NA
	09/17/18	NA	4,060	NA	NA	NA	NA	NA	NA
	09/26/19	NA	759	NA	NA	NA	5,010	NA	NA
PZ-5	07/19/05****	NA	1.3*	<5.0	NA	NA	NA	NA	NA
	09/21/05****	NA	0.41*	<5.0	NA	NA	NA	NA	NA
	03/31/16****	NA	<2.1	NA	NA	NA	NA	NA	NA
PZ-6	07/19/05****	NA	1.2*	<5.0	NA	NA	NA	NA	NA
	09/21/05****	NA	<0.40	<5.0	NA	NA	NA	NA	NA
	03/30/16****	NA	<2.1	NA	NA	NA	NA	NA	NA
PZ-7	07/19/05****	NA	<0.52	<5.0	NA	NA	NA	NA	NA
	09/21/05****	NA	0.55*	<5.0	NA	NA	NA	NA	NA
	03/30/16****	NA	<2.1	NA	NA	NA	NA	NA	NA
PZ-8	07/19/05****	NA	1.1*	<5.0	NA	NA	NA	NA	NA
	09/21/05****	NA	<0.40	<5.0	NA	NA	NA	NA	NA
	04/05/16	NA	<2.1	NA	NA	NA	NA	NA	NA

EXPLANATION:

Samples collected prior to 10/27/98 were collected by CH2M Hill.

* = Analyte detected between limit of detection and limit of quantitation.

** = Compound was found in sample and blank.

*** = Standard is for Total Chromium.

**** = OMNNI Associates, Inc. collected groundwater samples from PZ-5 to PZ-8 on July 19, 2005 and September 21, 2005 and MW-109 to MW-113 on June 21, 2006 and September 20, 2006 using a peristaltic pump and dedicated tubing.

ND = Not detected above the analytical laboratories method detection limit

NA = Not Analyzed

J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MW-104 = Was tested for Aluminum, Nickel, Arsenic & Lead. No quantifiable detections were noted for any of the analytes.

TABLE 5

Historical Groundwater Analytic Test Results--Selected Metals

N.W. Mauthe Superfund SIte - Appleton, Wisconsin

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Hexavalent Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
Max Contaminant Level (MCL)		5	100	100***	100	200	50.0	2	5,000
1992 ES NR 140		10	50	50	1,000	200	50.0	2	5,000
1992 PAL NR 140		1.0	5	5***	500	40	25.0	0.2	2,500

ug/L = Microgram/Liter

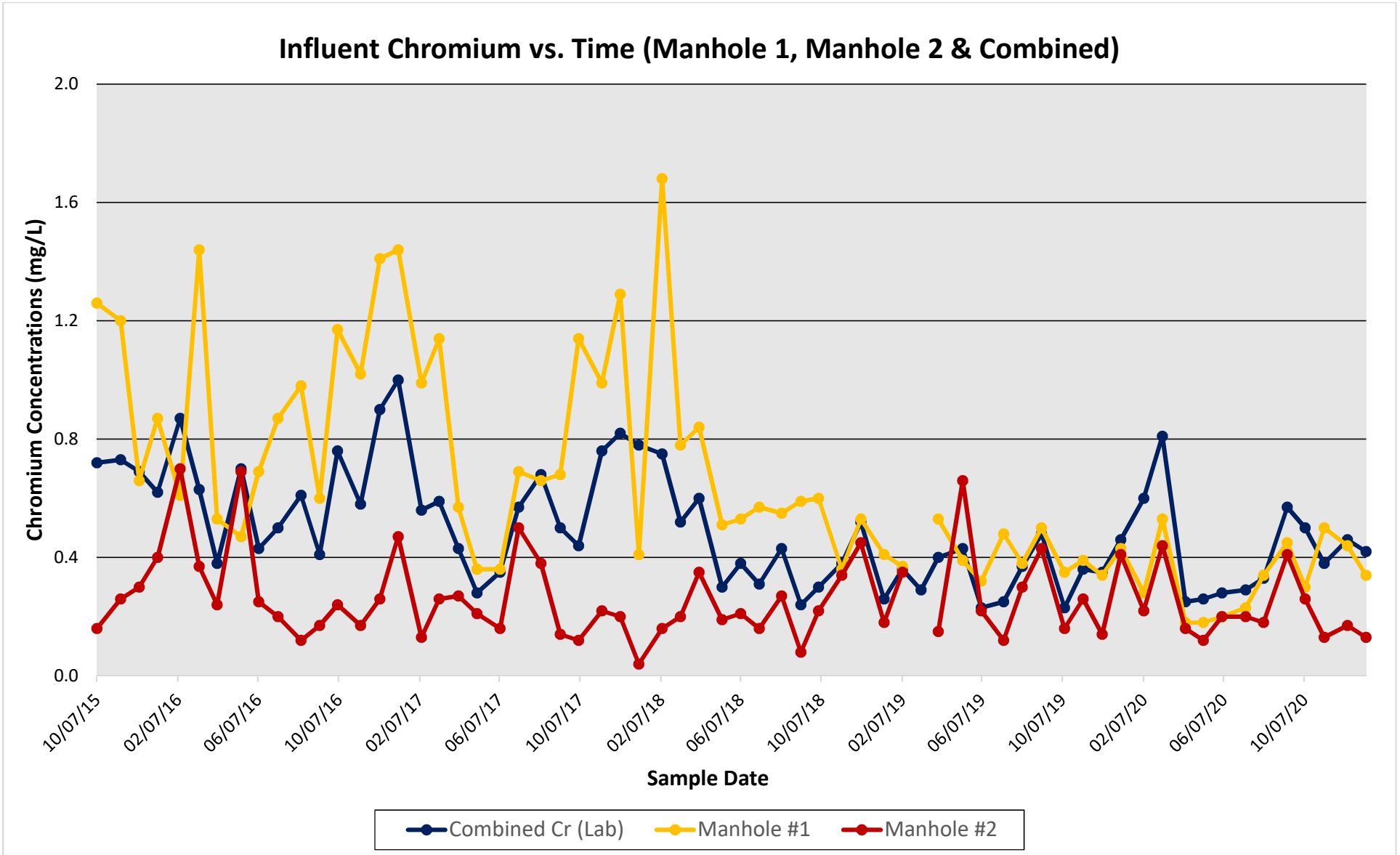
mg/L = Milligram / Liter

Indicates an exceedance of the 1992 NR 140 Groundwater Quality Enforcement Standard (ES)

Indicates Exceedance of the 1992 NR 140 Groundwater Preventive Action Limit (PAL)

NOTE: The EPA Record of Decision establishes the 1992 PALS as the cleanup goals for the site.

APPENDIX D - INFLUENT HEXAVALENT CHROMIUM VS. TIME GRAPH


Influent Chromium vs. Time (Manhole 1, Manhole 2 & Combined)
Chromium Concentrations (mg/L)
2.0
1.6
1.2
0.8
0.4
0.0
10/07/15
02/07/16
06/07/16
10/07/16
02/07/17
06/07/17
10/07/17
02/07/18
06/07/18
10/07/18
02/07/19
06/07/19
10/07/19
02/07/20
06/07/20
10/07/20
Sample Date
Combined Cr (Lab)
Manhole #1
Manhole #2

APPENDIX E – SITE INSPECTION CHECKLIST

Site Inspection Checklist

I. SITE INFORMATION

Site name: N. W. Mauthe Superfund Site	**Date of inspection:** 7/20/2020
Location and Region: Appleton, WI, Region 5	**EPA ID:** WID083290981
Agency, office, or company leading the five-year review: WDNR	**Weather/temperature:** Partly cloudy, high of 75°F

Remedy Includes: (Check all that apply)

- ✓**Landfill cover/containment**
- ✓**Access controls**
- ✓**Institutional controls**
- Groundwater pump and treatment
- Surface water collection and treatment
- Other_____

- Monitored natural attenuation
- ✓**Groundwater containment**
- Vertical barrier walls

II. INTERVIEWS

1. **O&M site manager** Scott Hodgson (Name) O&M Operator (Title) 12/3/2020 (Date)
   Interviewed on phone
   Problems and suggestions provided. See Hodgson interview record in Appendix F

2. **O&M staff** _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

   Agency City of Appleton Health Department
   Contact Kurt Eggebrecht, (Name) City of Appleton Health Officer (Title) 12/2/2020 (Date) 920-832-6429 (Phone no.)
   No problems or suggestions reported. See Eggebrecht interview record in Appendix F

4. **Other interviews – See Appendix F for interview records**

Nicole and Nathan Beardsley, Owner & Private Resident at 801 S. Outagamie St., Appleton, WI

David Lease, Facility Manager at Miller Electric
Jill Robbins, Plant Engineer at Miller Electric
Trina Durocher, Environmental Consultant at W. O. R. C. S. Inc

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

O&M manual	✓**Readily available**	✓**Up to date**	N/A
As-built drawings	Readily available	Up to date	✓**N/A**
Maintenance logs	✓**Readily available**	✓**Up to date**	N/A

Remarks The O&M Manual is located at the WDNR Oshkosh office. O&M checklists created by O&M operator are present on site, readily available and up to date. Construction drawings are located on-site and at the WDNR Oshkosh office. Final as-builts were not generated by CH2M Hill under contract by EPA.

2. **Site-Specific Health and Safety Plan** ✓**Readily available** ✓**Up to date** N/A
Contingency plan/emergency response plan ✓**Readily available** ✓**Up to date** N/A
Remarks Current O&M Contractor responsible to maintain health and safety plan

3. **O&M and OSHA Training Records** Readily available ✓**Up to date** N/A
Remarks Located at Terracon office

4. **Permits and Service Agreements**

Air discharge permit	Readily available	Up to date	✓**N/A**
Effluent discharge	✓**Readily available**	✓**Up to date**	N/A
Waste disposal, POTW	✓**Readily available**	✓ **Up to date**	N/A
Other permits_____	Readily available	Up to date	✓**N/A**

Remarks Effluent discharge and POTW permit are the same and are located on site, at the WDNR Oshkosh office and electronically on BRRTS on the Web.

5. **Gas Generation Records** Readily available Up to date ✓ **N/A**
Remarks

6. **Settlement Monument Records** Readily available Up to date ✓**N/A**
Remarks

7. **Groundwater Monitoring Records** ✓**Readily available** ✓**Up to date** N/A
Remarks O&M Reports including groundwater monitoring records are located at the WDNR Oshkosh office and electronically on BRRTS on the Web.

8. **Leachate Extraction Records** Readily available Up to date ✓**N/A**
Remarks

9. **Discharge Compliance Records**

Air	Readily available	Up to date	✓ **N/A**
Water (effluent)	✓**Readily available**	✓**Up to date**	N/A

Remarks O&M Reports including discharge compliance records are located at the WDNR Oshkosh office and electronically on BRRTS on the Web.

10. **Daily Access/Security Logs** Readily available Up to date ✓**N/A**
Remarks

IV. O&M COSTS		
1.	**O&M Organization**	
	State in-house	✓**Contractor for State**
	PRP in-house	Contractor for PRP
	Federal Facility in-house	Contractor for Federal Facility
	Other Utilities, wastewater discharge permit and O&M costs beyond general contract are separate state costs.	

2. **O&M Cost Records (Routine costs only)**
Readily available ✓**Up to date**
✓**Funding mechanism/agreement in place**
Original O&M cost estimate_____

WDNR costs for **general O&M contracts** during review period
(Note: Costs detailed below do not include WDNR salaries, utilities or "beyond routine O&M costs")

From October 1, 2016 to September 30, 2017…….. $18,000.00

From October 1, 2017 to September 30, 2018……. $18,000.00

From October 1, 2018 to September 30, 2019……. $18,000.00

From October 1, 2019 to September 30, 2020……. $14,000.00

From October 1, 2020 to September 30, 2021……. $14,000.00

WDNR fiscal year costs for **utilities and "beyond routine O&M costs"**

CY = O&M Contract Year

		Phone	Gas	Electric	Storm Water	Discharge	POTW Samping & Permitting	Beyond O&M Costs
2016 CY	Totals:	$916.03	$788.12	$1,139.02	$638.94	$3,020.43	$165.00	$17,643.05
2017 CY	Totals:	TBD	$921.54	$1,605.15	$647.91	$2,342.70	$374.00	$5,980.54
2018 CY	Totals:	TBD	$1,030.89	$1,938.42	$710.10	$2,198.89	$674.00	$6,570.67
2019 CY	Totals:	TBD	$1,077.08	$1,920.58	$803.67	$3,492.33	$367.00	$67,142.92
2020 CY (through Jan 2021)	Totals:	TBD	$860.99	$2,063.07	$831.01	$3,378.39	$367.10	$31,109.89
2021 CY	Totals:	TBD	$275.09	$660.31	$208.33	$465.69	$359.90	$16,413.92

V. ACCESS AND INSTITUTIONAL CONTROLS ✓**Applicable** N/A

A. Fencing

1. Fencing damaged Location shown on site map **✓Gates secured** N/A

Remarks Chain link fence installed at Mauthe property (725 S Outagamie St) in 1991 and/or 1996 in good condition. Intended purpose of fence is to protect clay cap. Documentation unclear if clay cap extends onto neighboring properties. Gate for chain link fence installed by WDNR in June 2005. If fence deteriorates or is damaged, consider removing fence with EPA approval. The wooden fence present on adjacent private properties was installed by EPA during construction of the remedy; however, the wooden fence is not required as part of the remedy and maintenance is the responsibility of the property owners.

B. Other Access Restrictions

1. **Signs and other security measures** Location shown on site map N/A

Remarks No signs posted. No building identification posted. Treatment building and fence locked. Daily presence at treatment building by APR through Cooperative Agreement, bi-monthly by O&M contractor and sporadically by WDNR.

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	Yes	**✓No**	N/A
Site conditions imply ICs not being fully enforced	Yes	**✓No**	N/A

Type of monitoring (*e.g.*, self-reporting, drive by) O&M operator, APR & WDNR observations
Frequency daily site visits for APR and bimonthly O&M operator (minimum)
Responsible party/agency O&M contractor, currently Terracon, under contract by WDNR
Contact Scott Hodgson (Name) O&M operator (Title) 920-791-9206 (Phone no.)

Reporting is up-to-date	Yes	No	**✓N/A**
Reports are verified by the lead agency	Yes	No	**✓N/A**
Specific requirements in deed or decision documents have been met	Yes	No	**✓ N/A**
Violations have been reported	Yes	No	**✓N/A**

Other problems or suggestions:
Remarks: Clay cap and chain link fencing are inspected and maintained by O&M operator. Post RA reports do not include discussion of ICs (e.g. whether in place or documented). Properties with collection system placed on WDNR GIS Registry with notice not to disturb system components or soil. Draft deed restrictions provided by EPA to property owners after implementation of RA and were encouraged, not required, to file the restrictions. No restrictions were filed. Access easement in place for 725 S. Outagamie St.

2. **Adequacy** ICs are adequate **✓ICs are inadequate** N/A

Remarks See remarks under C.1. above.

D. General

1. **Vandalism/trespassing** Location shown on site map **✓No vandalism evident**

Remarks Daily presence by APR staff deters vandalism & trespassing.

2. **Land use changes on site**

Remarks No land use changes on site

3. **Land use changes off site** **✓N/A**

Remarks Land use at all neighboring properties same as time of remedy in 1995/1996

VI. GENERAL SITE CONDITIONS

A. Roads Applicable **✓ N/A**

1. **Roads damaged** Location shown on site map Roads adequate N/A
Remarks_____
_____

B. Other Site Conditions

Remarks _____
_____

VII. LANDFILL COVERS **✓Applicable** N/A

A. Landfill Surface

1. **Settlement** (Low spots) Location shown on site map **✓Settlement not evident**
Areal extent_____ Depth__ ___
Remarks_____
_____

2. **Cracks** Location shown on site map **✓ Cracking not evident**
Lengths_____ Widths_____ Depths_____
Remarks_____
_____

3. **Erosion** Location shown on site map **✓ Erosion not evident**
Areal extent_____ Depth_____
Remarks_____
_____

4. **Holes** Location shown on site map **✓ Holes not evident**
Areal extent_____ Depth_____
Remarks_____
_____

5. **Vegetative Cover** **✓ Grass** Cover properly established **✓No signs of stress**
✓ Trees/Shrubs (indicate size and locations on a diagram)
Remarks No signs of stress to vegetative grass cover over clay cap. Presence of trees assumed to be aesthetic only. Any visible stress to trees likely due to inadequate precipitation and/or compacted clay cap. Any stressed tree is chipped and mulched on-site.

6. **Alternative Cover (armored rock, concrete, etc.)** **✓ N/A**
Remarks_____
_____

7. **Bulges** Location shown on site map **✓ Bulges not evident**
Areal extent_____ Height_____
Remarks_____
_____

8. **Wet Areas/Water Damage** ✓ **Wet areas/water damage not evident**

Wet areas	Location shown on site map	Areal extent_____
Ponding	Location shown on site map	Areal extent_____
Seeps	Location shown on site map	Areal extent_____
Soft subgrade	Location shown on site map	Areal extent_____

Remarks_____

9. **Slope Instability** Slides Location shown on site map ✓**No evidence of slope instability**
Areal extent_____
Remarks_____

B. Benches Applicable ✓ **N/A**

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** Location shown on site map N/A or okay
Remarks_____

2. **Bench Breached** Location shown on site map N/A or okay
Remarks_____

3. **Bench Overtopped** Location shown on site map N/A or okay
Remarks_____

C. Letdown Channels Applicable ✓ **N/A**

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** Location shown on site map No evidence of settlement
Areal extent_____ Depth_____
Remarks_____

2. **Material Degradation** Location shown on site map No evidence of degradation
Material type_____ Areal extent_____
Remarks_____

3. **Erosion** Location shown on site map No evidence of erosion
Areal extent_____ Depth_____
Remarks_____

4. **Undercutting** Location shown on site map No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ No obstructions
Location shown on site map Areal extent_____
Size_____
Remarks_____
_____

6. **Excessive Vegetative Growth** Type_____
No evidence of excessive growth
Vegetation in channels does not obstruct flow
Location shown on site map Areal extent_____
Remarks_____
_____

D. Cover Penetrations ✓**Applicable** N/A

1. **Gas Vents** Active Passive
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance
✓**N/A**
Remarks_____
_____

2. **Gas Monitoring Probes**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance ✓ **N/A**
Remarks_____
_____

3. **Monitoring Wells** (within surface area of landfill)
✓**Properly secured/locked or fenced** ✓**Functioning** ✓**Routinely sampled** ✓**Good condition**
Evidence of leakage at penetration Needs Maintenance N/A
Remarks The flush mount well covers are secured with bolts and monitoring well PVC pipe is capped with orange screw-on caps with the potential to be locked.

4. **Leachate Extraction Wells**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance ✓**N/A**
Remarks_____
_____

5. **Settlement Monuments** Located Routinely surveyed ✓**N/A**
Remarks_____
_____

E. Gas Collection and Treatment Applicable ✓ **N/A**

1. **Gas Treatment Facilities**
Flaring Thermal destruction Collection for reuse
Good condition Needs Maintenance
Remarks_____
_____

2. **Gas Collection Wells, Manifolds and Piping**
Good condition Needs Maintenance
Remarks_____
_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
Good condition Needs Maintenance N/A
Remarks_____
_____

F. Cover Drainage Layer Applicable ✓ **N/A**

1. **Outlet Pipes Inspected** Functioning N/A
Remarks_____
_____

2. **Outlet Rock Inspected** Functioning N/A
Remarks_____
_____

G. Detention/Sedimentation Ponds Applicable ✓ **N/A**

1. **Siltation** Areal extent_____ Depth_____ N/A
Siltation not evident
Remarks_____
_____

2. **Erosion** Areal extent_____ Depth_____
Erosion not evident
Remarks_____
_____

3. **Outlet Works** Functioning N/A
Remarks_____
_____

4. **Dam** Functioning N/A
Remarks_____
_____

H. Retaining Walls Applicable ✓ **N/A**

1. **Deformations** Location shown on site map Deformation not evident
Horizontal displacement_____ Vertical displacement_____
Rotational displacement_____
Remarks_____
_____

2. **Degradation** Location shown on site map Degradation not evident
Remarks_____
_____

I. Perimeter Ditches/Off-Site Discharge Applicable ✓ **N/A**

1. **Siltation** Location shown on site map Siltation not evident
Areal extent_____ Depth_____
Remarks_____
_____

2. **Vegetative Growth** Location shown on site map N/A
Vegetation does not impede flow
Areal extent_____ Type_____
Remarks_____
_____

3. **Erosion** Location shown on site map Erosion not evident
Areal extent_____ Depth_____
Remarks_____
_____

4. **Discharge Structure** Functioning N/A
Remarks_____
_____

VIII. VERTICAL BARRIER WALLS Applicable ✓ **N/A**

1. **Settlement** Location shown on site map Settlement not evident
Areal extent_____ Depth_____
Remarks_____
_____

2. **Performance Monitoring** Type of monitoring_____
Performance not monitored
Frequency_____ Evidence of breaching
Head differential_____
Remarks_____
_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ✓ **Applicable** N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ✓ **Applicable** N/A

1. Pumps, Wellhead Plumbing, and Electrical

Good condition ✓**All required wells properly operating** Needs Maintenance N/A

Remarks

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances

Good condition ✓ **Needs Maintenance**

Remarks Collection (perforated) and transfer (solid) piping, including laterals to residential drain tiles, have not been fully inspected since installation in 1996 & 1997. All underground piping needs to be inspected via video surveillance to determine integrity.

3. Spare Parts and Equipment

✓**Readily available on internet** Good condition Requires upgrade Needs to be provided

Remarks No spare parts for extraction on site. Local plumber accessible and parts readily accessible on internet.

B. Surface Water Collection Structures, Pumps, and Pipelines Applicable ✓ **N/A**

1. Collection Structures, Pumps, and Electrical

Good condition Needs Maintenance

Remarks_____

_____

2. Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances

Good condition Needs Maintenance

Remarks_____

_____

3. Spare Parts and Equipment

Readily available Good condition Requires upgrade Needs to be provided

Remarks_____

_____

C. Treatment System **✓ Applicable** N/A

1. **Treatment Train** (Check components that apply)
   Metals removal Oil/water separation Bioremediation
   Air stripping Carbon adsorbers
   Filters_____
   Additive (e.g., chelation agent, flocculent)
   Others Not utilized – direct discharge to POTW since 2006.
   Good condition Needs Maintenance
   Sampling ports properly marked as sample ports and **✓functional**
   ✓Sampling/maintenance log displayed and up to date
   ✓Equipment properly identified
   Quantity of groundwater removed annually average of 75,632 gallons influent removed annually from 2016-2020.
   Quantity of surface water treated annually none
   Remarks Ferrous sulfate treatment equipment needs decommissioning. Need back-up treatment plan if cannot meet discharge limits without treatment. There are more effective and cost efficient treatment options available. Tanks in good condition for storage capacity.

2. **Electrical Enclosures and Panels** (properly rated and functional)
   N/A Good condition **✓Needs Maintenance**
   Remarks Electrical panel antiquated (from 1997) and requires temperature-controlled room.

3. **Tanks, Vaults, Storage Vessels**
   N/A **✓ Good condition** **✓ Proper secondary containment** Needs Maintenance
   Remarks Secondary containment is the building

4. **Discharge Structure and Appurtenances**
   N/A **✓ Good condition** Needs Maintenance
   Remarks Discharge is single pipe lateral to City sanitary sewer

5. **Treatment Building(s)**
   N/A **✓ Good condition** Needs repair
   Remarks Building repairs include heaters (multiple) replacements. Building concrete and glass windows are cracking due to settling issues observed since construction in 1997.

6. **Monitoring Wells** (pump and treatment remedy)
✓ **Properly secured/locked** ✓ **Functioning** ✓ **Routinely sampled** Good condition
✓ **All required wells located** ✓ **Needs Maintenance** N/A
Remarks MW-102, MW-105, MW-106 need repairs to covers and collars.

D. Monitoring Data

1. Monitoring Data
Is routinely submitted on time - Yes ✓ **Is of acceptable quality**

2. Monitoring data suggests:
✓ **Groundwater plume is effectively contained** ✓**Contaminant concentrations are declining**
exceptions: chromium and VOCs generally stable to slightly reducing and fluctuate with precipitation events. Significantly more cost-effective source area remedy could be implemented.

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
Properly secured/locked Functioning Routinely sampled Good condition
All required wells located Needs Maintenance ✓ **N/A**
Remarks_____
_____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

According to the ROD, signed 3/31/1994, the remedy selected is intended to "…contain and/or control groundwater contamination with ultimate compliance with groundwater ARARs… installation of foundation drain systems…to prevent seepage of contaminated water into the buildings…institutional controls… that are intended to prevent access, excavation, disturbance of the newly constructed cap, future soil excavation in the railroad corridor for areas in the corridor where contaminated soils will remain and installation of drinking water wells…"

The existing containment system is effectively containing the contaminated groundwater; however, the system is grossly inefficient in working toward the goal of achieving ARARs.

Installation of the foundation drain systems and collection trenches appears to have prevented further seepage of contaminated water into residential basements. However, the condition of the collection system components is unknown. System design did not account for routine inspection of the integrity of the collection system. Therefore, any threat of failure cannot be identified at this time.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
The collected groundwater is currently direct discharged to the POTW under permit without pre-treatment. Alternative options to meet the intended RA goals are currently being considered. O&M of the collection trenches is proving to be difficult. The WDNR is evaluating options for an exit strategy for the foundation drain systems and collection trenches, specifically the West Trench, but do not have the capability to sample water from individual drain tile systems or trenches or manually disconnect these portions without significant disruption and additional cost. The inability to sample individual drain tile systems, trenches or temporarily shut down collection trenches is adding to the difficulty. WDNR annually verifies property ownership and individual access agreements are maintained. Long-term environmental easements are necessary to eliminate the need for access agreements and to assure notification of the system to prospective purchasers.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.
Corrosion and sediment accumulation within manhole no. 2, will need to be addressed prior to impacting the overall collection system. Approximately $144,860 was spent from Oct 2015 – Jan 2021 in "beyond O&M" repairs on the treatment building and monitoring and collection system.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
Optimizations performed by WDNR greatly reduced the gas and energy use, labor and chemicals required for operation of the system and thereby O&M costs and carbon footprint. WDNR contracted with AECOM to perform a site-specific optimization analysis at the Mauthe site, performed in 2009 and published in 2012. Those recommendations are detailed in the fourth five year report, and are still valid.

APPENDIX F – INTERVIEW RECORDS

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:30 am**	**Date: 7/20/2020**
Type: Telephone ✓ **Visit** Other **Location of Visit: 801 South Outagamie Street**		Incoming Outgoing
Contact Made By:		
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**
Individual Contacted:		
Name: [redacted]	**Title: Private Resident**	**Organization: N/A**
Telephone No: [redacted] **Fax No: N/A** **E-Mail Address: N/A**	**Street Address: 801 S Outagamie St** **City, State, Zip: Appleton, WI 54914**	

Summary Of Conversation

The following questions were asked by Saliares and answered by Beardsley:

Q. How long have you lived at this residence?
A. We have lived at this residence since 2016, which is when we purchased the property from the previous owner.

Q. Are you aware of the history and status of the site?
A. We are aware of the history and status of the site. We have frequently communicated questions and concerns about the site to Ms. Jennifer Borski in the past.

Q. Are you aware of the presence of the collection trench and/or monitoring wells on your property?
A. We are aware of the monitoring well, MW-102, located in our yard along with the cover for manhole 2 at the corner of our property. We have never noticed any issues, breaks, etc with either location over the past four years. We are aware of the presence of the collection trench that runs through a portion of our property. In the fall of 2018 we had water pooling in our basement. The DNR investigated the drain tile system under our house and its lateral connecting to the groundwater collection trench. It was discovered that the lateral pipe was not performing correctly, it was full of sediment and plants roots, which was causing the water to backflow into our basement. It was also discovered that the lateral pipe did not connect where it was supposed to on the connection trench. That fall the lateral pipe, running from the southeast corner of our house to the collection trench was excavated and removed. A new lateral pipe was placed, running from the northeast corner of our house and connecting directly into manhole 2. A portion of our driveway and private walkway was taken out during the excavation. The areas were refilled with sand and soil after excavation took place. In summer 2019 the driveway and private walkway were replaced, along with all excavated portions of the yard being leveled and reseeded. We understand that we should contact the DNR if we experience any more water in our basement.

Continued on Page 2 of 2

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**	
Subject: Five Year Review Interview		**Time: 10:00 – 10:30 am**	**Date: 7/20/2020**
Type: Telephone ✓ **Visit** Other **Location of Visit: 801 South Outagamie Street**		Incoming Outgoing	
Contact Made By:			
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**	
Individual Contacted:			
Name: [redacted]	**Title: Private Resident**	**Organization: N/A**	
Telephone No: [redacted] **Fax No: N/A** **E-Mail Address: N/A**		**Street Address: 801 S Outagamie St** **City, State, Zip: Appleton, WI 54914**	

Summary Of Conversation

Q. Are you aware that your sump and drain tile system ties into the collection trench and there is currently no connection to city storm or sanitary (for sump)?
A. We are aware that the drain tile system ties into the collection system for the site. Since fall 2018 our drain tile has been directly connected to manhole 2, and does not connect to the collection trench running to manhole 2.

Q. Do you feel well informed about the activities and progress of the project?
A. We feel well informed about the site. Borski and Saliares contact us via mail and e-mail with any site updates that may impact us and our property. We feel comfortable contacting them via e-mail to ask questions about the site and our property.

Q. What is your overall impression of the site?
A. The site is very quiet, we do not notice a lot of activity around the area and any work happening does not impact us day to day. The site appearance is nice, it does not look like a contaminated area, so it adds some aesthetic qualities to the area.

Q. Do you have or are you aware of any community concerns?
A. We are not aware of any community concerns, and we don't have any ourselves.

Q. Do you have any comments/suggestions/recommendations?
A. We have a question about who is responsible for repairing the fence that runs across our backyard by the train tracks. Some portions of the fence are starting to lean over, and we are wondering if the DNR is responsible for repairing the fence. The southern portion of our yard that was previously excavated in 2018 has not successfully reestablished grass, and some cracks in the soil can be seen running through the area. We have a question on whether the DNR will repair those cracks and reseed the area of excavation again. Lastly, we received a grant from the City of Appleton to repair our home and this included installing basement windows on all four sides of the house. We have a question on whether the window wells would need to be connected to the drain tile and groundwater collection systems, and if so would the DNR put in the window wells and make those connections.

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:30 am**	**Date: 12/2/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Kurt Eggebrecht	**Title: Health Officer**	**Organization: City of Appleton**
Telephone No: (920) 832-6429 **Fax No: N/A** **E-Mail Address: kurt.eggebrecht@appleton.org**	**Street Address: 100 N. Appleton St.** **City, State, Zip: Appleton, WI 54911**	

Summary Of Conversation

Saliares discussed the following items:

- Status of the five-year process;
- Status of investigation for PFAS in groundwater and potential changes to treatment system;
- Change in property ownership at 801 S Outagamie St since last five-year review. New property owners have been in contact with Saliares. Excavation took place on the property in 2018 to repair their connection to the collection trench.
- Change in property ownership at 1410 W. Second St since last five-year review. New property owner has not yet contacted Saliares as requested in writing. Second request will be sent;
- 2016 vapor assessment indicates vapor intrusion is not a concern, groundwater collection system limit potential movement of vapors into off-site residences;
- Reviewed 2019 chromium & VOC concentrations in monitoring wells in former source area and at MW-107.

Do you have or are you aware of any community concerns?

A. I am not aware of any questions or concerns from any other City employees or community members in the area.

Do you have any other comments/suggestions/recommendations?

A. My last day of work is June 4, 2020, and there will be someone taking over my position after that date. It will be a smooth transition, but any questions can be directed to Steve Khil, the Environmental Supervisor, after that date. All of the updates sound good to me, I wonder if the ownership at the Eager Beaver Bar, 1400 W Second St, has changed in the past five years. Saliares informed him that ownership has not changed.

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:30-10:50**	**Date: 12/01/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Cameron Green	**Title: Facilities Manager**	**Organization: City of Appleton**
Telephone No: (920) 419-5987 **Fax No: N/A** **E-Mail Address: cameron.green@appleton.org**	**Street Address: 1819 E. Witzke Boulevard** **City, State, Zip: Appleton, WI 54911-8401**	

Summary Of Conversation

Saliares provided Green with an update on the following:

- Status of the five-year process;
- Status of investigation for PFAS in groundwater and potential changes to treatment system;
- Status of treatment building updates;
- Existing cooperative agreement with city for maintenance of grounds and daily presence in exchange for use of the truck bay and control room office of the treatment building expires April 2022;
- Intention for DNR to exit the existing treatment building and transition to a more-appropriately scaled on site treatment building;

Do you have or are you aware of any community concerns?

A. I don't have much exposure or knowledge of if there are any community concerns about the site at this time.

Have any issues or concerns been reported to you by city staff?

A. I reached out to City staff as well as supervisors, and there are no questions or concerns about the site.

Do you have any other comments/suggestions/recommendations?

A. We recently have a City employee newly working out of the treatment building; he is aware of the site history and potential risks and does not have any concerns. From a building operations standpoint, the City has recently replaced the lights within the track-bay on site as well as replaced the toilet inside the treatment building. We will continue operating from the treatment building and will reach out to DNR if there is anything that needs to be fixed, or if any questions arise.

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:16**	**Date: 12/9/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**		Incoming Outgoing

Contact Made By:		
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**
Individual Contacted:		
Name: Paula Vandehey	**Title: Director of Public Works**	**Organization: City of Appleton**
Telephone No: (920) 832-6482 **Fax No: N/A** **E-Mail Address: paula.vandehey@appleton.org**	**Street Address: 100 N. Appleton St.** **City, State, Zip: Appleton, WI 54911**	

Summary Of Conversation

Saliares discussed the following items:

- Status of the five-year process;
- Status of investigation for PFAS in groundwater and potential changes to treatment system;
- Reminder: Direct discharge of collected water occurring since July 2006 under permit by the city;
- Change in property ownership at 801 S Outagamie St since last five-year review. New property owners have been in contact with Saliares. Excavation took place on the property in 2018 to repair their connection to the collection trench.
- Change in property ownership at 1410 W. Second St since last five-year review. New property owner did not contact Saliares as requested in writing. Second request will be sent;

Saliares asked Vandehey the following questions:

Q. What are the current conditions of storm sewer laterals for the following properties:

- **725 S Outagamie St –** none
- **801 S Outagamie St –** none
- **1400 W Second St –** none
- **1410 W Second St –** none
- **1414 W Second St –** none
- **1428 W Second St –** none

Q. Have any recent inspections performed by the City identified problems with the storm sewer mains or laterals?
A. We have not had any recent inspections performed in the area that have identified any problems. The most recent work I can remember is the excavation activities at 801 S Outagamie St back in 2018, our City Plumber contacted the homeowners recently and they did not have any issues.

Continued on Page 2 of 2

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:16**	**Date: 12/9/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Paula Vandehey	**Title: Director of Public Works**	**Organization: City of Appleton**
Telephone No: (920) 832-6482 **Fax No: N/A** **E-Mail Address: paula.vandehey@appleton.org**	**Street Address: 100 N. Appleton St.** **City, State, Zip: Appleton, WI 54911**	

Summary Of Conversation

Q. Do you have or are you aware of any community concerns?

A. Our City Plumber went around last week and put door tags on each of the off-site residences stating they should contact the City and DNR about any water issues in their basements. He has not heard anything back in relation to those door tags. I have made sure that everyone knows about the collection trench system in the area and made sure digging does not take place in the area around the site.

Q. Do you have any other comments/suggestions/recommendations?

A. None

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview		**Time: 1:00 – 1:32 pm** / **Date: 12/1/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**		Incoming Outgoing
Contact Made By:		
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**
Individual Contacted:		
Name: Brian Kreski	**Title: Environmental Programs Coordinator**	**Organization: City of Appleton**
Telephone No: (920) 832-5945 **Fax No: N/A** **E-Mail Address: brian.kreski@appleton.org**		**Street Address: 2006 E. Newberry Street** **City, State, Zip: Appleton, WI 54915**

Summary Of Conversation

Saliares provided Kreski with an update on the following:

- Status of the five-year process;
- Status of investigation for PFAS in groundwater and potential changes to treatment system;
- Status of treatment building updates;
- Reminder: Direct discharge of collected water occurring since July 2006 under permit by the city;
- Review of chromium and VOC concentrations trends at MW-107 and MW-109 through MW-113.

Saliares asked Kreski the following questions:

Q. Does the City of Appleton have discharge limitations in place for PFAS at this time?

A. The City does not have discharge limits in place currently, we are looking for the State of Wisconsin to provide some direction or numbers that we should be aiming for. We have currently only heard about drinking water standards, so without guidance from the State we can't hypothesize what limits should be established for wastewater. Setting a limit also brings into question what treatment will need to be established on other sites, landfills, etc., and what that will mean cost-wise for the City.

Q. If PFAS are detected within the groundwater what does this mean for the industrial user discharge permit held by the DNR to directly discharge untreated groundwater?

A. Again this is hard to answer without already having limits in place for PFAS in the wastewater. There are several hypothetical situations that would have to be thought through with my supervisors in order for us to guess what might happen if PFAS are found at Mauthe. It is unclear whether we would require groundwater discharge to be stopped temporarily until treatment of the PFAS could be established, again hard to guess without a limit in place.

Q. Do you have or are you aware of any community concerns?

A. I am not aware of any issues or questions that have been raised by City employees.

Continued on Page 2 of 2

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview		**Time: 1:00 – 1:32 pm** / **Date: 12/1/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**		Incoming Outgoing
Contact Made By:		
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**
Individual Contacted:		
Name: Brian Kreski	**Title: Environmental Programs Coordinator**	**Organization: City of Appleton**
Telephone No: (920) 832-5945 **Fax No: N/A** **E-Mail Address: brian.kreski@appleton.org**		**Street Address: 2006 E. Newberry Street** **City, State, Zip: Appleton, WI 54915**

Summary Of Conversation

Q. Do you have any other comments/suggestions/recommendations?

A. One of the main questions I have is what this PFAS sampling could mean for other sites in the area, particularly landfills dealing with leachates that may be contaminated with PFAS. It would be helpful if the State could provide insight on what limits should be established, and guidance on how other sites should be sampling for the contaminants. I am curious to see what the groundwater sampling results show, and what changes may occur at Mauthe.

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 11:00 – 11:30 am**	**Date: 7/20/2020**
Type: Telephone ✓ **Visit** Other **Location of Visit: 1515 W Melvin Street**		Incoming Outgoing

Contact Made By:		
Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:		
Name: David Lease	**Title: Facility Manager**	**Organization: Miller Electric**
Jill Robbins	**Plant Engineer**	**Miller Electric**
Trina Durocher	**Environmental Consultant**	**W.O.R.C.S. Inc.**

Telephone No: N/A **Fax No: N/A** **E-Mail Address: N/A**	**Street Address: 1635 W Spencer St** **City, State, Zip: Appleton, WI 54914**

Summary Of Conversation

Saliares provided Lease, Robbins, and Durocher with an update on the following items:

- Status of the five-year process;
- Status of investigation for PFAS in groundwater and potential changes to treatment system;
- Status of the groundwater collection system.

Lease discussed parking lot improvements planned for Fall 2020 on the parcel addressed as 1515 W Melvin St. Improvements will include either raising the entire grade of the parking lot or keeping it the same except around one light pole which will be used as a drainage point. There is one section where they plan on excavating some soil, and Lease questioned whether it would impact MW-101 on the parcel. Saliares stated as long as the rise height of the well doesn't change then it is okay. Lease stated that Miller Electric would notify WDNR and Terracon, O&M Operator, when construction is ready to take place so Terracon can be on-site and replace the cover on the clean-out of the groundwater trench on the parcel.

Do you have or are you aware of any community concerns?

A. I am not aware of any community concerns, and have not received any questions or comments from staff at Miller Electric.

Do you have any other comments/suggestions/recommendations?

A. I do not have any other comments or suggestions about the site.

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:56 am**	**Date: 12/3/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Scott Hodgson	**Title: Sr. Project Manager**	**Organization: Terracon**
Telephone No: (414) 209-7640 **Fax No: N/A** **E-Mail Address: scott.hodgson@terracon.com**	**Street Address: 9856 S 57th Street** **City, State, Zip: Franklin, WI 53132**	

Summary Of Conversation

The following questions were asked by Saliares and answered by Hodgson:

Q. In 2006 we switched from batch treatment to direct discharge without treatment. What issues / overall concerns do you have, as O&M operator, noted regarding the direct discharge to the sanitary sewer?
A. For the entire time that we have had the permit there have not been any concerns that have not been addressed and we have been able to improve efficiency over the years. There are a few future problems that could arise revolving around whether chromium discharge limits change and whether we detect PFAS in the groundwater or if PFAS limits are put in place. In those instances, we would have to re-start treating the groundwater before discharge, and we would need to upgrade the control unit for the treatment system.

Q. In 2018-2019, Terracon responded to failure of the gravity-drain storm lateral (installed by USEPA) from the pre-existing sump & drain tile at 801 S. Outagamie St. to the southeast collection trench. This resulted in abandonment of the indoor sump and complete re-routing and replacement of the lateral directly to manhole No. 2, including replacement of the southeast corner downspout, private concrete walkway and a portion of the concrete parking pad and yard restoration. What key issues with the collection system did you identify during this repair project? (e.g., sump abandonment at residence, condition of lateral, condition/pitch of collection trench, stormwater issues at home due to landscaping, subsequently installed basement windows without window wells, etc.)
A. When we performed this repair project, we discovered that the whole original drainage system for this property was not performing as intended. The pipe connecting the drain tile to the collection trench was an open system, which allowed for tree roots to grow into the pipe and break the check valve preventing backflow into the basement. Additionally, we were unable to verify the entirety of the drain tiles were functioning as intended; we were only able to assess the portion around the southeast corner of the house. There is the possibility that the portions around the remainder of the house are not functioning properly. The homeowners need to actively work at ensuring that runoff and groundwater does not get into the basement by sloping the landscaping away from the house and by sealing any cracks in the basement foundation. When window wells are installed in future this could also lead to potential leaks that the homeowners will need to think about.

Continued on Page 2 of 3

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:56 am**	**Date: 12/3/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Scott Hodgson	**Title: Sr. Project Manager**	**Organization: Terracon**
Telephone No: (414) 209-7640 **Fax No: N/A** **E-Mail Address: scott.hodgson@terracon.com**	**Street Address: 9856 S 57th Street** **City, State, Zip: Franklin, WI 53132**	

Summary Of Conversation

Q. What failures or complications do you anticipate may occur with the <u>treatment building</u> in the next five years?
A. The remaining four heaters will likely fail in the coming years, and they are no longer made, so they will need to be entirely replaced. Similarly, the lighting within the process room should be upgraded. Currently, two lights do not work, and it is likely that more could fail in the future. Installing LED lights inside the process room could save money in the long run and could potentially be remotely controlled on phones. Lastly, there are some cracks in the foundation walls of the treatment. The cracks have not expanded in recent years but there is the chance that windows could crack as well if the building continues to shift and settle.

Q. What failures or complications do you anticipate may occur with the <u>collection system</u> in the next five years?
A. The main concern about the collection system is the failures of the pumps inside the manholes. The pumps have not been inspected for 3 or 4 years now, and at that time there was a serious sediment accumulation issue in manhole no. 2. There is a chance that the sediment could accumulate to the point that it would be taken up by the pump, which would immediately break it. The sediment needs to be cleaned out from the manhole. Also, there is the chance that the issues seen at 801 S Outagamie St are similar to the state of the connections from the other residences. Investigation and potential replacement of those connections should be considered.

Q. What is your evaluation of the chromium trends in groundwater at MW-107 and MW-109 through MW-113 from 2016-2020?
A. The trends are good and are continuing to decrease over time. There is still seasonal variation, but overall it is moving in a downward trend. MW-113 still has the greatest seasonal variation but that is likely due to the well being in a hot spot of contamination on the source property.

Q. What is your evaluation of the VOCs trend in groundwater at MW-107 and MW-109 through MW-113 from 2016-2020?
A. The trends are good and are continuing to decrease over time. There is still seasonal variation, but overall it is moving in a downward trend. MW-113 still has the greatest seasonal variation but that is likely due to the well being in a hot spot of contamination on the source property.

Continued on Page 3 of 3

INTERVIEW RECORD

Site Name: N. W. Mauthe Superfund Site		**EPA ID No.: WID083290981**
Subject: Five Year Review Interview	**Time: 10:00 – 10:56 am**	**Date: 12/3/2020**
Type: ✓ **Telephone** Visit Other **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: Gwen Saliares	**Title: Hydrogeologist, Proj. Mgr.**	**Organization: WDNR**

Individual Contacted:

Name: Scott Hodgson	**Title: Sr. Project Manager**	**Organization: Terracon**
Telephone No: (414) 209-7640 **Fax No: N/A** **E-Mail Address: scott.hodgson@terracon.com**	**Street Address: 9856 S 57th Street** **City, State, Zip: Franklin, WI 53132**	

Summary Of Conversation

Q. What changes to the collection system and treatment building would you anticipate if PFAS are detected in groundwater?
A. I can only answer generally, but if we decide that treatment is needed for the concentrations of PFAS in groundwater then we recommend a carbon-based treatment. We do have the ability to implement a temporary system as our initial response until a permanent system can be installed inside the treatment building. The temporary system would involve hauling in carbon treatment cannisters and keeping them on trailers outside the building. Holes would need to be cut into the building so collected groundwater can be pumped from the building, into the cannisters, and then back into the building for discharge. However, the temporary and permanent systems all depend on what concentration we are aiming for as the clean-up standard. Without a discharge limit in place it could be argued that we don't need to do any treatment.

Q. In 2020, Miller Electric replaced the parking lot west of the treatment building, over the west collection trench. Are there any concerns of note regarding this effort? Were monitoring wells, MW-101 & MW-109, and manhole no. 1 adequately protected?
A. From what I have heard and seen from photographs there was no damage to the wells or manhole no. 1. They were supposed to replace the cover of the clean-out during this construction project, but instead just put back the previous cover. This means if we ever want to get into that clean-out we will need to break open the cover, and then replace it.

Q. What is the transition plan within Terracon for continuation of this contract with your pending retirement and loss of your institutional knowledge of this site?
A. Krista Kroeninger has been getting familiar with the site over the past year and will take more responsibility starting next year. Blaine Schroyer will still be available for assistance, and after I retire in 2022 I will still be available for consultation.

Q. Do you have any other observations, recommendations or concerns?
A. My main recommendation is for the soil around the neighborhood to be sampled for hexavalent chromium. It is important to determine if there are any direct contact issues, or whether the soil is impacting the shallow groundwater around those residences. Additionally, it would significantly reduce the overall length of the project if some groundwater treatment was injected into the source area. This could reduce costs in the long run by reducing the amount of time that groundwater containment must occur.

APPENDIX G – CITY OF APPLETON COOPERATIVE AGREEMENT

COOPERATIVE AGREEMENT FOR USE OF THE BUILDING AND FACILITIES AT THE N.W. MAUTHE CONTAMINATION REMEDIATION SITE LOCATED AT 725 SOUTH OUTAGAMIE ST., APPLETON, WISCONSIN
APRIL 2017

This Cooperative Agreement ("the contract") is entered into by and between the State of Wisconsin, Department of Natural Resources ("the Department") and the City of Appleton ("the City") under the authority of section 66.0301, Wisconsin Statutes, which provides for intergovernmental cooperation. The Agreement is for the purpose of providing routine building and grounds maintenance in exchange for use of the on-site building and facilities, subject to the following terms and conditions;

1. PERIOD OF AGREEMENT: This contract shall be in effect from the date it is signed by both parties for a period of **five years**, subject to renewal upon mutual agreement of the parties.

2. CANCELLATION. The Department reserves the right to cancel this contract in whole or in part, without penalty, if the City fails to comply with the terms and conditions of this contract. Either the Department or the City may terminate this contract with six months written notice to the other party.

3. ENTIRE CONTRACT; AMENDMENTS. This contract, and referenced parts and attachments, shall constitute the entire agreement and previous communications or agreements pertaining to the subject matter of this contract are hereby superseded. Any contractual revisions including cost adjustments and time extensions may be made only by a written amendment to this contract, signed by both parties prior to the ending date of this contract.

4. ASSIGNMENT. Neither this contract nor any right or duty in whole or in part by the City under this contract may be assigned, delegated or subcontracted without the written consent of the Department.

5. SCOPE OF WORK. The Scope of Work for this contract is included in Attachment #1 and is incorporated by reference.

6. COMPENSATION. The Department agrees to allow the City the use of the building and facilities at the N.W. Mauthe site in exchange for the City providing routine maintenance of the building and grounds as described in the above Scope of Work.

7.INDEPENDENT CONTRACTOR. The City is an Independent Contractor for all purposes and is not an employee or agent of the Department. The Department agrees that the City shall have sole control of the method, hours worked, and time and manner of any performance under this contract other than as specifically provided in the scope of work. The Department takes no responsibility for supervision or direction of the City's employees or agents, and no responsibility for their safety. The City shall be responsible for taking adequate measures to protect the health and safety of its employees and agents and any other persons having access to the site. The Department further agrees that it will exercise no control over the selection and dismissal of the City's employees or agents.

8.LIABILITY IMPOSED BY LAW. Each party to this contract agrees that, as related to this cooperative agreement, any loss or expense (including costs and attorney fees) by reason of liability imposed by law, will be the responsibility of the party responsible for the officer, employee or agent whose activity caused the loss or expense.

9. WORKERS COMPENSATION & EMPLOYERS LIABILITY INSURANCE. The City shall maintain, during the term of this contract, worker's compensation insurance as required by Wisconsin Statute for all employees engaged in the work and public liability and property damage insurance against any claim(s) which might occur in carrying out the contract. Minimum coverage is $1,000,000 per accident for bodily injury or disease and $500,000 property damage.

10. GENERAL LIABILITY INSURANCE. The City shall maintain, during the term of this contract, general liability insurance at a minimum coverage of $1,000,000 per accident for bodily injury, personal injury and property damage. **The State must be named as an additional insured under the general liability policy. The City will provide a Certificate of Insurance to the state within 14 days of execution of this contract.**

11. NONDISCRIMINATION. In connection with the performance of work under this contract, the City agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined in section 51.01(5), Wis. Stats., sexual orientation or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Except with respect to sexual orientation, the City further agrees to take affirmative action to ensure equal employment opportunities. The City agrees to post in conspicuous places, available for employees and applicants for employment, notices to be provided by the Department setting forth the provisions of this nondiscrimination clause. Failure to comply with the conditions of this clause may result in the termination of this contract.

12. APPLICABLE LAW. This contract shall be governed by the laws of the State of Wisconsin. The Contractor shall at all times comply with all federal, state and local laws, ordinances and regulations in effect during the period of this contract.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Date 5/4/17 By: Cathy Stepp, Secretary

Signature:

CITY OF APPLETON

Date 4-17-17 By: Dean Gazza

Title: Director

Signature: Dean Gazza

"…meeting community needs…enhancing quality of life."

CITY OF APPLETON

a Wisconsin Municipal Corporation

Agreement: Cooperative Agreement for use of the Building and Facilities at the N.W. Mauthe Contamination Remediation Site located at 725 South Outagamie Street, Appleton, Wisconsin
State of Wisconsin
Department of Natural Resources

Date: April 14, 2017

By: Timothy M. Hanna, Mayor

Attest: Kami Lynch, City Clerk

Approved as to form:

James P. Walsh, City Attorney

Countersigned pursuant to §62.09(10), Wis. Stats.:

Anthony D. Saucerman, Finance Director

Cooperative Agreement Between the City of Appleton and the Wisconsin Department of Natural Resources
ATTACHMENT 1 – APRIL 2017
N. W. Mauthe Contamination Remediation Site

City of Appleton (the "City") Responsibilities:

I. DOORS AND SECURITY

A. The City will provide a combination lock and chain for the security gate. The combination shall be communicated with the Department.
B. Keys provided to the City must be stamped "DO NOT COPY".
C. A list of City staff with keys assigned must be provided to the Department annually. One key will be stored in the City of Appleton Parks main office.
D. The front door should be shut and not propped open. Truck bay doors can be left open while on site.
E. All doors (pedestrian and overhead) will be closed and locked when the building is vacated.
F. An electronic key pad for entrance is not allowed.

II. HEALTH & SAFETY

A. There is no smoking in the building.
B. The City is responsible to provide signs necessary for their staff (e.g., no smoking, turn lights off).
C. The City is responsible to implement and fund recommendations by the Appleton Fire Department that are a result of City of Appleton occupancy and use.
D. The City will provide signs or notices of general guidelines for placement on the walls (e.g., Lock all doors before leaving).
E. The City will stock, use and maintain the Morton Safety Kit located outside the control room.
F. City staff will immediately notify the operator or Department Project Manager of emergency issues (e.g., building maintenance needs, vandalism).

III. FACILITIES OPERATION & MAINTENANCE

A. The City will post a signed copy of the Cooperative Agreement and Attachment in the Truck Bay.
B. The City will maintain the grounds at their expense year-round in exchange for use of the truck bay, control room and bathroom (e.g., perform additional landscaping around the building including installing borders, raised vegetation beds and new vegetation, lawn, tree and shrub care, snow removal, daily litter pick-up, graffiti removal).
C. City staff will walk the grounds and building daily to fill out a general grounds and facility checklist provided by the Department (e.g., all heaters/air conditioning is working; no water on the floor; not obvious leaking of roof or pipes; no vandalism). The City will notify the Department's operations contractor immediately if there are any issues to be addressed.
D. A microwave and stand is allowed in the control room for use by City staff during breaks and lunch.
E. City staff (not external cleaning crew) are responsible for cleaning and stocking the bathroom and providing cleaning tools and products. The City will sweep and clean the office and truck floors and walkways weekly. Daily cleaning of floors is necessary after heavy use (e.g., mud, slush).
F. All modifications to the building and grounds need pre-approval by the Department. In general, wall penetration is acceptable on exterior walls only but must be pre-approved. Clothes hooks and a punch clock may be installed in the control room with pre-approval. Wall penetration is not acceptable on the south wall in the control room.
G. The truck bay drain empties into the treatment system. Vehicle and machine washing in the truck bay is not allowed. Truck washing on the lawn within the fence is acceptable. **The City**

will place and maintain a silt screen over the truck bay drain to prevent dirt, leaves, etc. from entering the drain that may fall from vehicles (e.g., snow and ice melt, mud off wheels).

H. One trailer stored on site outside overnight is acceptable. No other equipment may be stored outside.
I. The City may place a picnic table within the fence for use by City staff.
J. The City will be responsible to schedule and finance repairs to the facility and grounds identified by the Department as necessary and/or resulting from City use (e.g., overhead door parts repair or replacement and associated labor).

IV. SITE ACCESS AND UTILITIES

A. The City is responsible to provide their own telephone services. The existing phone in the control room is designated for system alarms and must be available to call out 24 hrs/day, 7 days/week.
B. The City is responsible to maintain an access easement for the property. The access easement was signed on March 20, 2017 by the property owner at the time, Carol J. Mauthe, and recorded with the Outagamie County Register of Deeds office on March 31, 2017 as Document #2100433.

Department of Natural Resources (the "Department") Responsibilities:

A. The Department will hold a meeting with new or existing City staff upon request regarding the history of the site, safety concerns and on-going remediation operations.
B. The Department will provide updated fact sheets on the N. W. Mauthe Superfund site for City staff, as appropriate (e.g., after a Five-Year-Review with EPA). These fact sheets may be provided to interested citizens.
C. The Department will provide City staff with a short checklist for daily use (e.g., heaters/AC functional, no water on floor, no vandalism)
D. The Department will inform the City when there is a change of operations contractor. The operations contract is typically put out for bid every two to four years.
E. The Department will inform the City in advance of any additional investigative or remedial actions on the property that may temporarily affect their operations.
F. The Department will schedule and finance routine inspection of the facility and any repairs identified as necessary to maintain the integrity of the facility for the purpose of maintaining the groundwater collection (and treatment) system (e.g., gutter repair, heater maintenance and repair, air conditioning in control room for system electronics).
G. Either the Department or the City may terminate the agreement with six months written notice.

APPENDIX H – ROUTINE SITE INSPECTION SHEETS

Terracon Consultants, Inc.
9856 South 57th Street
Franklin, WIsconsin

Phone: 414-423-0255
Fax: 404-423-0718

Inspection Sheet
Groundwater Pretreatment System, N.W. Mauthe Superfund Site

This Inspection record must be completed each month. Provide further description and comments, if necessary, on a separate sheet of paper and attach fo this sheet. *Any item that received "No" as an answer must be described.

Task	Y	N*	N/A	Description & Comments
Grounds				
Yard gated locked				
Fence in good condition				
Debris picked up				
Exterior building in good condition				
General grounds in good condition				
Garage				
Ceiling fan operational				
Heaters functional				
Room temperature > 50°F				
Overhead doors functional				
Fire extinguishers charged				
Office Area				
Lights work				
Phone has dial tone				
No alarm lights activated on control panel				
Controls appropriately set				
Heater/AC functional				
Waste basket emptied if needed				
Bathroom				
Light works				
Fan works				
Sink operational				
Toilet operational				
Toilet paper stocked				
Hand towels stocked				
Hand soap stocked				
Floor drain clear				
Treatment Process Area				
Two exterior doors auto lock and closed				
Heaters functional				
Room temperature > 55°F				
Lights work				
Ceiling fans operational				
Floor dry				
Treatment tanks in good condition				
Piping in good condition				
Pumps/valves/fittings in good condition				
Fire extinguishers charged				
Sample Preparation Area				
Light on				
Sink operational				
Hand towels stocked				
Hand soap stocked				
Waste basket emptied if needed				
Hot water heater in good condition				
Safety kit stocked				
Sampling containers stocked				
Chain of custody forms stocked				
Sampling supplies stocked				
Sampling equipment functional				

Date: _____ **Signature:** _____

Terracon Consultants, Inc.
9856 South 57th Street
Franklin, WIsconsin

Phone: 414-423-0255
Fax: 414-423-0566

Operator Log Sheet
Groundwater Pretreatment System, N.W. Mauthe Superfund Site

Data entered by:	Date:	Time:	Outfall 001 reading:	Total flow Manhole #1:	Total flow Manhole #2:

Operator: _____ Date: _____ Arrival Time: _____ Departure Time: _____

Plant, building and grounds check ☐

Outfall 001 flow meter inspection ☐

Close discharge valve ☐

Outfall 001 reading:	Total flow Manhole #1:	Total flow Manhole #2:

Operator: _____ Date: _____ Arrival Time: _____ Departure Time: _____

pH Sensor Calibration: Date/Time: _____ Initials: _____

Open discharge valve ☐

Outfall 001 Hexavalent & Total Chromium samples collected Yes ☐ No ☐ pH _____

Manhole #1 Pump set to Manual ☐ Pump set to Auto ☐

Hexavalent Chromium concentration _____ mg/L pH _____

Dilution required Yes ☐ No ☐

[Calculation ___ part effluent ___ part(s) distilled water _____ mg/L X _____ (dilution factor) = _____ mg/L]

Manhole #2 Pump set to Manual ☐ Pump set to Auto ☐

Hexavalent Chromium concentration _____ mg/L pH _____

Dilution required Yes ☐ No ☐

[Calculation ___ part effluent ___ part(s) distilled water _____ mg/L X _____ (dilution factor) = _____ mg/L]

Comments: _____

Notes:

Manhole #1 and #2 influent samples are measured by Hatch test kit, model Pocket Colorimeter II, for hexavalent chromium (unfiltered).

All samples collected for pH analysis are measured by Hach pH Pocket Pal Tester.

Hexavalant Chromium (unfiltered/ no preservative) submitted to Pace Analytical Services for laboratory analysis.

Total chromium (field filtered/ HNO_3) submitted to Pace Analytical Services for laboratory analysis.

APPENDIX I – CO PACKET FOR ONGOING CLEANUPS

Ongoing Cleanups with Continuing Obligations
Cover Sheet

October, 2010
(RR 5391)

Purpose

This cover sheet summarizes continuing obligations regarding environmental conditions on this property. Continuing obligations are legal mechanisms that:

1) Require or restrict certain actions to protect human health or the environment.
2) Minimize human and natural resource exposure to contamination, and/or
3) Give notice of the **existence** of residual contamination

Learn more about continuing obligations at **http://dnr.wi.gov/org/aw/rr/cleanup/obligations.htm**

DNR Property Information:

Continuing Obligation Date: Mar 31, 1994

BRRTS #: **02-45-000127** FID #: 445014460

ACTIVITY NAME: N W Mauthe (SF)

PROPERTY ADDRESS: 725 S Outagamie St

MUNICIPALITY: Appleton

PARCEL ID #: 313011500

***WTM COORDINATES:**

X: **645400** Y: **421461**

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

○ Approximate Center Of Continuing Obligations

◉ Approximate Source Parcel Center

Please use the CLEAN system at **http://dnr.wi.gov/org/aw/rr/clean.htm** for additional DNR site information.

EPA Superfund Information (*if applicable*):

EPA ID: **WID083290981** *To view more information click on the EPA ID.*

SITE NAME: N W MAUTHE CO INC

Requirements for *all* properties with Continuing Obligations

1. Properly manage contaminated soil if it is excavated. Sample and arrange appropriate treatment or disposal.
2. DNR approval is required if a water supply well will be constructed or reconstructed.

Site-Specific Requirement(s) - (BRRTS Action Code)

☒ A "cap" over the contaminated area must be: (222)
- ☐ Constructed & Maintained
- ☒ Maintained

☐ A vapor mitigation system must be: (226)
- ☐ Constructed & Maintained
- ☐ Maintained

☐ The need for vapor control technology must be evaluated if a building will be constructed. (228)

☐ The approved soil cleanup level is suitable for industrial use of the property. (220)

☐ DNR has approved construction on an abandoned landfill and certain maintenance requirements apply. (402) or (404)

☐ A structural impediment (e.g. building) is present which inhibited investigation/cleanup. Further environment work may be required if the impediment is removed. (224)

☐ DNR has directed a local government unit (LGU) to take an action and a LGU liability exemption applies. This exemption does not transfer to future private owners. (230)

☒ Another type of continuing obligation has been established in DNR's remedial action plan approval. (228)
Explain:

Per the Record of Decision, the containment system must be operated and maintained. This includes foundation drain systems on neighboring properties, three groundwater collection trenches on neighboring properties, two collection sumps with pumps on neighboring properties and a groundwater treatment facility on the source property.

State of Wisconsin
Department of Natural Resources
http://dnr.wi.gov

Impacted Off-Source Property Information

Form 4400-246 (R 3/08)

This fillable form is intended to provide a list of information that must be submitted for evaluation for case closure. It is to be used in conjunction with Form 4400-202, Case Closure Request (Section H). The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department.

NOTICE: Completion of this form is mandatory for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing closure requests and determining the need for additional response action. The Department may provide this information to requesters as required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS #: 02-45-000127

ACTIVITY NAME: N W Mauthe (SF)

ID	Off-Source Property Address	Parcel Number	WTM X	WTM Y
A	1515 W Melvin St	313011400	645322	421446
B	801 S Outagamie St	313133000	645447	421442
C	1400 W Second St	313132900	645452	421414
D	1410 W Second St	313132800	645432	421413
E	1414 W Second St	313132700	645415	421414
F	1428 W Second St	313132600	645392	421408
G				
H				
I				

N W Mauthe Superfund Site

Legend

- Parcel Polygons
- Property Address

N

0 20 40 60ft

DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

WDNR BRRTS #02-45-000127

Author:

Date Printed: 01/7/21 11:36 AM

Sources:

OLI Outagamie Land Information

N W Mauthe Superfund Site

Legend

- Parcel Polygons
- Property Address

N

0 50 100 150ft

DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

WDNR BRRTS #02-45-000127

Author:

Date Printed: 01/7/21 11:35 AM

Sources:

OLI Outagamie Land Information

N W Mauthe Superfund Site

Legend

- Parcel Polygons
- Property Address

N

0 100 200 300ft

DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

WDNR BRRTS #02-45-000127

Author:

Date Printed: 01/7/21 11:39 AM

Sources:

Outagamie Land Information

APPENDIX J – ACCESS EASEMENTS

Outagamie County Register of Deeds Office
410 S. Walnut St., Appleton, WI 54911
Abstracting: (920) 832-5114 or (920) 832-5112

COURTESY MEMORANDUM

RE: DOCUMENT # 2058874 **DATE RECORDED:** November 9, 2015

While we review documents prior to recording them, the final responsibility for completeness and accuracy rests with the parties involved in the transaction. The attached document contains the following error (s) that may need to be corrected in a manner in which your legal advisor may recommend.

_____ **No Title as to part or all of the described property**

_____

_____

_____ **No Legal Description is given**

_____ **The Legal Description given is Incorrect or Incomplete**

_____

_____

_____

_____ **The Original Document Information is Incorrect**
Doc#_____ **Jacket/Volume**_____ **Image/Page**_____

_____ **Not an Outagamie County Legal Description**

_____ **The Legal Description now appears to cover a Certified Survey Map (CSM)**
(Per Wisconsin Statue 236.34 (3) you must make reference to the recorded CSM in your legal description)

_____ **The Legal Description now appears to cover a Plat**
(Per Wisconsin Statute 236.28 you must make reference to the recorded plat in your legal description)

_____ **The Legal Description on the (SATISFACTION/ASSIGNMENT) is not the same as the legal description given on the referenced mortgage.**

_____ **We show the holder of this mortgage to be:** _____

X **Other:** FYI: Incorrect spelling of plat name.

_____

☐ **If box is checked, an E-Receipt will be required in order to re-record this document.**
Please check your records, and if necessary, submit a Correction Instrument to the Register of Deeds Office for recording. **Be sure to include a statement on the Correction Instrument explaining what you are correcting on the old document.** The fee for recording a Correction Instrument is $30.00, regardless of the number of pages. A completed electronic Wisconsin Real Estate Transfer Receipt may be required when any deed or land contract is being corrected. **Please contact our office if you have any questions. Thank you!**

mk

Document Number

TEMPORARY ACCESS EASEMENT

2058874
Recorded
November 09, 2015 9:45 AM

OUTAGAMIE COUNTY
SARAH R VAN CAMP
REGISTER OF DEEDS

Fee Amount: $30.00
Total Pages: 4

THIS TEMPORARY ACCESS EASEMENT is made by and between Carol J. Mauthe, as her interest may appear (hereinafter referred to as "Grantor") and the State of Wisconsin, Department of Natural Resources (hereinafter referred to as "Grantee").

RECITALS

WHEREAS, Grantor is the owner of the following described property (hereinafter referred to as the "Premises"):

Lots 12, 13, 14 and 15, in Block 3 LENNOX PARK ADDITION, Third Ward, City of Appleton, Outagamie County, Wisconsin;

Recording Area

Return: Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921
Attn: Lacey Cochart, Attorney

Parcel Identification Number (PIN):

313011500

WHEREAS, the Premises is part of the hazardous waste "superfund" site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as listed on the National Priority List and commonly known as the N.W. Mauthe Co. site and is the focus of remedial cleanup efforts that the Grantee oversees and regulates;

WHEREAS, Grantor is willing to provide the Grantee with the right of ingress and egress to and from the Premises for all purposes related to the groundwater collection system, groundwater monitoring wells, piezometers, groundwater contamination, site investigation, and remedial actions;

NOW, THEREFORE, for good and valuable consideration, the Grantor does hereby convey to the Grantee a temporary non-exclusive access easement for ingress and egress as contained herein:

1. The parties hereto confirm and agree that the recitals set forth above are true and correct and incorporate the same herein for all purposes.

2. This access easement shall remain in full force and effect until the Grantee determines that site closure has been obtained and the N.W. Mauthe Co., site has been delisted from the National Priority List.

3. This access easement provides for access by the Grantee and its employees, duly authorized representatives, agents, contractors or assigns for the following purposes:

   a. To maintain, repair, amend or abandon the existing groundwater collection system;
   b. To install and maintain groundwater monitoring wells and piezometers as needed to define the degree and extent of groundwater contamination;
   c. To collect soil samples; and
   d. To gain access to areas where investigative or remedial action is to be conducted.

4. It is understood by the Grantor and the Grantee that the following conditions apply to said access easement:

   a. The Grantee shall have the right to properly abandon the soil borings, geoprobes, groundwater monitoring wells and piezometers when the borings, geoprobes, wells or piezometers are no longer needed.

b. The Grantee shall have the right to post signs and posters along the access easement in order to delineate and locate these lands for ingress and egress, and shall control said use to minimize interference with the owners remaining land.

c. The Grantee may make such improvements and installations as are necessary, convenient and incidental to the full enjoyment and use of the rights and privileges granted by this access easement.

d. The Grantors shall not lease or convey any other easement in any way affecting the access easement without securing the prior written permission of the Grantee.

e. The Grantee may transfer to or share the rights in this access easement with their employees, duly authorized representatives, agents, contractors or assigns.

f. This access easement shall not grant the general public the right to enter such area for any purpose. This easement is intended to provide an access easement for management purposes only to the Grantee, its employees, duly authorized representatives, agents, contractors or assigns.

g. The location of this access easement may be amended upon the mutual agreement of both parties, their successors or assigns.

5. The terms Grantor and Grantee, when used herein, shall mean either masculine or feminine, singular or plural, as the case may be, and the provisions of this easement shall bind the parties mutually, their heirs, successors, personal representatives and assigns.

6. This agreement shall be governed by and construed in accordance with the laws of the State of Wisconsin.

7. This agreement sets forth the entire understanding of the parties and may not be changed except by a written document executed and acknowledged by all parties to this agreement.

8. If any term or condition of this agreement shall be deemed invalid or unenforceable, the remainder of this agreement shall not be affected thereby, and each term and condition shall be valid and enforceable to the fullest extent permitted by law.

9. Enforcement of this agreement may be by proceedings at law or in equity against any person or persons violating or attempting or threatening to violate any term or condition in this agreement, either to restrain or prevent the violation or to obtain any other relief. If a suit is brought to enforce this agreement, the prevailing party shall be entitled to recover its costs, including reasonable attorney fees, from the nonprevailing party.

END OF CONDITIONS

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed on its behalf this 26th day of OCTOBER, 2015.

By Carol J Mauthe (SEAL)
Carol J. Mauthe

BRENDAN S. MCMAHON
Notary Public
State of Wisconsin

State of Wisconsin)
) ss.
Outagamie County)

Personally appeared before me this 26th day of October 2015, the above named Carol J. Mauthe to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity therein stated and for the purpose therein contained.

Notary Public, State of Wisconsin
My Commission (expires)(is) 04/06/2018

IN WITNESS WHEREOF, the Grantee has agreed to and caused this easement to be executed on its behalf this - 4 day November, 2015.

State of Wisconsin
Department of Natural Resources
For the Secretary

By _____ (SEAL)

LACEY COCHART NOTARY PUBLIC STATE OF WISCONSIN

State of Wisconsin)
) ss.
Dane County)

Personally came before me this 4th day of November, 2015, the above named Kurt Thiede, State of Wisconsin Department of Natural Resources, to me known to be the person who executed the foregoing instrument and acknowledged that he executed and delivered the same as for the act and deed of said Department of Natural Resources.

_____
*
Notary Public, State of Wisconsin
My Commission (expires)(is) Permanent

This instrument drafted by:
State of Wisconsin
Department of Natural Resources

Document Number

TEMPORARY ACCESS EASEMENT

THIS TEMPORARY ACCESS EASEMENT (hereinafter referred to as "Easement") is made by and between [INSERT OWNER], as his/her interest may appear (hereinafter referred to as "Grantor") and the State of Wisconsin, Department of Natural Resources (hereinafter referred to as "Grantee").

RECITALS

WHEREAS, Grantor is the owner of the following described property (hereinafter referred to as the "Premises"):

[INSERT LEGAL DESCRIPTION]

WHEREAS, the Premises is part of the hazardous waste "superfund" site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as listed on the National Priority List and commonly known as the N.W. Mauthe Co. site and is the focus of remedial cleanup efforts that the Grantee oversees and regulates; and

Recording Area

Return: Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921
Attn: Lacey Cochart, Attorney

Parcel Identification Number (PIN):

WHEREAS, Grantor is willing to provide the Grantee with the right of ingress and egress to and from the Premises for all purposes related to the groundwater collection system, groundwater monitoring wells, piezometers, groundwater contamination, site investigation, and remedial actions.

NOW, **THEREFORE**, for good and valuable consideration, the Grantor does hereby convey to the Grantee a temporary non-exclusive Easement for ingress and egress as contained herein:

1. The Grantor and the Grantee confirm and agree that the recitals set forth above are true and correct and incorporate the same herein for all purposes.

2. This Easement shall remain in full force and effect until the Grantee determines that site closure has been obtained and the N.W. Mauthe Co., site has been delisted from the National Priority List. This Easement shall run with the land and shall bind the Grantor, their heirs, successors and assigns until terminated by the Grantee as provided herein.

3. This Easement provides for access by the Grantee and its employees, duly authorized representatives, agents, contractors or assigns for the following purposes:

    a. To maintain, repair, modify, remove, replace or abandon the existing groundwater collection system;

    b. To install maintain, repair, remove and replace groundwater monitoring wells and piezometers as needed to define the degree and extent of groundwater contamination;
    c. To collect soil samples; and

    d. To gain access to areas where investigative or remedial action for all affected media (e.g. soil, groundwater, air) shall be conducted in accordance with the Record of Decision, Wis. Stat. ch. 292, and Wis. Admin. NR 700 Rules Series.

4. The Grantor and the Grantee agree that the following conditions apply to the Easement:

a. The Grantee shall have the right to properly abandon the soil borings, geoprobes, groundwater monitoring wells and piezometers when the borings, geoprobes, wells or piezometers are no longer needed.

b. The Grantee shall have the right to post signs and posters along the Easement.

c. The Grantee may make such improvements and installations as are necessary, convenient and incidental to the full use and exercise of the rights and privileges granted by this Easement.

d. The Grantor shall not lease or convey any other easement in any way affecting the Easement without securing the prior written permission of the Grantee.

e. It is highly recommended that the Grantor contact the Grantee (WDNR) prior to any excavation or removal of vegetative cover and materials, including soil, to insure collection systems and contaminated materials are not disturbed.

f. The Grantee may transfer to or share the rights in this Easement with their employees, duly authorized representatives, agents, contractors or assigns.

g. This Easement shall not grant the general public the right to enter and use the Premises for any purpose. This Easement is intended to provide access for management purposes only to the Grantee, its employees, duly authorized representatives, agents, contractors or assigns.

h. The location of this Easement may be amended upon the mutual agreement of the Grantor and the Grantee, their successors or assigns.

5. The terms Grantor and Grantee, when used herein, shall mean either masculine or feminine, singular or plural, as the case may be, and the provisions of this Easement shall bind the Grantor and the Grantee mutually, their heirs, successors, personal representatives and assigns.

6. This Easement shall be governed by and construed in accordance with the laws of the State of Wisconsin.

7. This Easement sets forth the entire understanding of the Grantor and the Grantee and supersedes all prior agreements, understandings and representation whether written or oral between the Grantor and the Grantee. This Easement may not be changed except by a written document executed and acknowledged by the Grantor and the Grantee.

8. If any term or condition of this Easement shall be deemed invalid or unenforceable, the remainder of this Easement shall not be affected thereby, and each term and condition shall be valid and enforceable to the fullest extent permitted by law.

9. Enforcement of this Easement may be by proceedings at law or in equity against any person or persons violating or attempting or threatening to violate any term or condition in this Easement, either to restrain or prevent the violation or to obtain any other relief. If a suit is brought to enforce this Easement, the prevailing party shall be entitled to recover its costs, including reasonable attorney fees, from the non-prevailing party.

END OF CONDITIONS

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed on its behalf this _____day of_____, 2016.

By _____
[INSERT NAME]

NOTARY

State of Wisconsin)
) ss.
Outagamie County)

Personally appeared before me this _____ day of _____ 2016, the above named [INSERT NAME] to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity therein stated and for the purpose therein contained.

_____

Notary Public, State of Wisconsin
My Commission (expires)(is) _____

IN WITNESS WHEREOF, the Grantee has agreed to and caused this easement to be executed on its behalf this -____ day _____, 2016.

State of Wisconsin
Department of Natural Resources
For the Secretary

By _____

(Signature of WDNR Representative)

NOTARY

State of Wisconsin)
) ss.
Dane County)

Personally came before me this _____ day of _____, 2016, the above named [INSERT NAME AND TITLE], State of Wisconsin Department of Natural Resources, to me known to be the person who executed the foregoing instrument and acknowledged that he executed and delivered the same as for the act and deed of said Department of Natural Resources.

_____
*
Notary Public, State of Wisconsin
My Commission (expires)(is) _____

This instrument drafted by:
State of Wisconsin
Department of Natural Resources

APPENDIX K – MUNICIPAL CODE OF THE CITY OF APPLETON, WISCONSIN

MUNICIPAL CODE

OF

THE CITY

OF

APPLETON, WISCONSIN

Published by Order of the Common Council

Chapter 20

Utilities

ARTICLE I. IN GENERAL

Sec. 20-1. Utilities Committee.

The Utilities Committee shall consist of five (5) alderpersons. The alderpersons shall be appointed by the Mayor with the approval of the Common Council. A majority of the members of the Committee shall constitute a quorum. The Committee shall report directly to the Common Council and shall have jurisdiction over the operational policies for the stormwater, water and sewer utilities, subject to the rules and regulations of the Wisconsin Public Service Commission or other regulatory agencies as they may apply.
(Code 1965, §1.04(3); Ord 169-89, §1, 12-20-89; Ord 60-90, §1, 6-25-90; Ord 68-90, §1, 8-22-90; Ord 30-95, §1, 3-1-95; Ord 67-95, §1, 5-17-95; Ord 6-97, §1, 4-16-97)

Sec. 20-2. Connection to public sewers and water main required; use of privies.

(a) Connection to public water and sewer services shall be required as provided in §4-270.

(b) [*Reserved*]

(c) [*Reserved*]
(Code 1965, §7.04(5), (6); Ord 31-95, §1, 3-1-95)
Cross reference(s) – Plumbing standards 4-26 et seq.

Sec. 20-3. Sewer and water connection fee for properties not previously assessed.

No plumbing permit shall be issued authorizing a connection with the City water and sewer systems if the land to be benefited by such connection had not been specifically assessed for the water or sewer main extension in the street abutting the property for the reason that the property to be so benefited was not in the corporate limits of the City at the time the assessment was levied for the water or sewer main extensions, unless the owner thereof pays a connection fee to the City in the amount equal to the amount which the property would have been assessed on the basis of the prevailing cost for the water main and sewer main at the time connection is made computed in accordance with the special assessment policy in effect.
(Code 1965, §2.10)

Secs. 20-4 – 20-30. Reserved.

connection has been eliminated in compliance with the provisions of this section.

(f) ***Emergency discontinuance of service.*** If it is determined by the Water Utility that a cross connection or an emergency endangers public health, safety or welfare and required immediate action, and a written finding to that effect is filed with the City Clerk and delivered to the customer's premises, service may be immediately discontinued. The customer shall have an opportunity for hearing under W.S.A. Chapter 68, within ten (10) days of such emergency discontinuance.
(Code 1965, §12.13, Ord 189-04, §1, 1-1-05; Ord 136-05, §1, 11-22-05)

Sec. 20-42. Private water wells.

(a) ***Definitions.*** The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them herein, except where context clearly indicates a different meaning:

Municipal water utility means a system for the provision to the public of piped water for human consumption when such system has at least fifteen (15) service connections or regularly serves at least twenty-five (25) year-round residents and is owned or operated by a city, village, county, town, town sanitary district, utility district or public institution as defined in W.S.A. §49.10(12)(f)(1), or a privately owned Water Utility serving any of the above.

Noncomplying means a well or pump installation which does not comply with the provisions of Wisconsin Administrative Code, Chapter NR 812, in effect at the time the well was constructed, a contamination source was installed, the pump was installed or work was done on either the well or pump installation.

Pump installation means the pump and related equipment used for withdrawing water from a well including the discharge piping, the underground connections, pitless adapters, pressure tanks, pits, sampling faucets and well seals or caps.

Unsafe means a well or pump installation which produces water which is bacteriologically contaminated or contaminated with substances in excess of the standards of Wisconsin Administrative Code, chapters NR 109 or 140, or for which a health advisory has been issued by the State Department of Natural Resources.

Unused means a well or pump installation which is not in use or does not have a functional pumping system.

Well means an excavation or opening in the ground made by digging, boring, drilling, driving or other methods for the purpose of obtaining groundwater for consumption or other use.

Well abandonment means the filling and sealing of a well according to the provisions of Wisconsin Administrative Code, chapter NR 810.

(b) ***Purpose.*** The purpose of this section is to prevent contamination of groundwater and to protect public health, safety and welfare by assuring that unused, unsafe or noncomplying wells which may serve as conduits for contamination or wells which may be illegally cross connected to the municipal water utility are properly abandoned.

(c) ***Applicability.*** This section applies to all wells located on premises served by the municipal water utility.

(d) ***Abandonment required.*** All wells located on premises connected to the municipal water utility shall be abandoned in accordance with the terms of this section and Wisconsin Administrative Code, chapter NR 812, or no later than one (1) month from the date of connection to the municipal water utility, whichever occurs last, unless a well operation permit has been obtained by the well owner from the City plumbing inspector.

(e) ***Well operation permit.*** The plumbing inspector may grant a permit to a private well owner to operate a well for a period not to exceed five (5) years providing the conditions of this section are met. An owner may require renewal of a well operation permit by submitting information verifying that the conditions of this section are met. The plumbing inspector may conduct inspections or have water quality tests conducted at the applicant's expense to obtain or verify information necessary for consideration of a permit application or renewal. Permit applications and renewals shall be made on forms provided by the plumbing inspector. The following conditions must be met for issuance or renewal of a well operation permit:

(1) The well and pump installation must meet or must be upgraded to meet the requirements of Wisconsin Administrative Code, chapter NR 812;

(2) The well construction and pump installation must have a history of producing bacteriologically and contaminant safe water as evidenced annually by at least two (2) samplings taken a minimum of two (2) weeks apart for bacteria testing; with one (1) of these samples also requiring arsenic testing. Results must meet Department of Natural Resources requirements for maximum contaminant levels for these parameters. No exception to this condition may be made for unsafe wells, unless the State Department of Natural Resources

approved, in writing, the continued use of the well;

(3) For residences, there must be no cross connections between the well and pump installation and the municipal water utility. A reduced pressure backflow preventer between the two (2) systems is acceptable for industrial use if the industry has the reduced pressure backflow preventer checked by a plumber certified for such tests, on a yearly basis;

(4) The proposed use of the well and pump installation must be justified as being necessary in addition to water provided by the municipal water utility;

(5) If well water is discharged to the sanitary sewer, a meter must be installed on the line to measure flow.

(f) ***Abandonment procedures.***

(1) All wells abandoned under the jurisdiction of this section or rule shall be abandoned according to the procedures and methods of Wisconsin Administrative Code, Chapter NR 812. All debris, pump, piping, unsealed liners and any other obstructions which may interfere with sealing operations shall be removed prior to abandonment.

(2) The owner of the well, or the owner's agent, shall notify the City plumbing inspector at least forty-eight (48) hours prior to commencement of any well abandonment activities. The abandonment of the well shall be observed by the City plumbing inspector, in accordance with §4-272(c).

(3) An abandonment report form, supplied by the State Department of Natural Resources, shall be submitted by the well owner to the City plumbing inspector (who will forward a copy to the City Clerk) and the State Department of Natural Resources within ten (10) days of the completion of the well abandonment.

(g) ***Extension requests.*** The Utilities Committee may extend the time for well permitting or may grant temporary relief where strict enforcement of this section would work an unnecessary hardship without corresponding public or private benefit.

(Ord 9-91, §1, (12.14), 2-6-91; Ord 35-96, §1, 4-17-96, Ord 36-96, §1, 4-17-96, Ord 190-04, §1, 1-1-05)

Charter reference(s) – Sealing of abandoned wells § 4-271(c).

Secs. 20-43 – 20-65. Reserved.

Clerk's Office.

(3) ***Laboratory analysis charge.*** The City will assess the industries a laboratory analysis charge to recover the City's expense for analyzing the industrial wastewater discharge samples for specific pollutants. The fee schedule for analysis of specific pollutants will be on file in the City Clerk's Office.

(c) ***Collection.*** The collection of industrial monitoring charges shall be pursuant to §20-206.

(d) ***Lien for delinquent charges.*** The administering of liens for delinquent charges under this section shall be pursuant to §20-207.
(Code 1965, §2.12; Ord 101-91, §1, 9-18-91; Ord 4-93, §1, 1-6-93; Ord 59-94, §1, 5-4-94)

ARTICLE V. STORMWATER MANAGEMENT SERVICES

DIVISION 1. GENERAL PROVISIONS

Sec. 20-226. Findings and necessity.

The City of Appleton finds that the management of stormwater and other surface water discharge within and beyond the Fox River is a matter that affects the health, safety and welfare of the City, its citizens and businesses and others in the surrounding area. Failure to effectively manage stormwater affects the sanitary sewer utility operations of the City by, among other things, increasing the likelihood of infiltration and inflow in the sanitary sewer. In addition, surface water runoff may create erosion of lands, threaten businesses and residences with water damage and create sedimentation and other environmental damage in the Fox River. Those elements of the system which provide for the collection of and disposal of stormwater and regulation of groundwater are of benefit and provide services to all property within the City of Appleton, including property not presently served by the storm elements of the system. The cost of operating and maintaining the City stormwater management system and financing necessary repairs, replacements, improvements and extension thereof should, to the extent practicable, be allocated in relationship to the benefits enjoyed and services received therefrom. In order to protect the health, safety and welfare of the public, the Common Council is exercising its authority to establish a stormwater utility and set the rates for stormwater management services. The City is acting under the authority of Chapters 62 and 66 of the Wisconsin Statutes, and particularly at least the following statutes: §62.04, §62.11, §62.16(2), §62.18, §66.0621, §66.0809 and §66.0821.

Sec. 20-227. Establishment.

There is hereby established a City of Appleton Stormwater Utility. The operation of the Stormwater Utility shall be under the supervision of the Common Council. The Director of Public Works will be in charge of the Stormwater Utility.

Sec. 20-228. Authority.

The City, through the Stormwater Utility, may acquire, construct, lease, own, operate, maintain, extend, expand, replace, clean, dredge, repair, conduct, manage and finance such facilities as are deemed by the City to be proper and reasonably necessary for a system of storm and surface water management. These facilities may include, without limitation by enumeration, surface and underground drainage facilities, sewers, watercourses, retaining walls and ponds and such other facilities as will support a stormwater management system.

Sec. 20-229. Definitions.

For the purpose of this ordinance, the following definitions shall apply; words used in the singular shall include the plural, and the plural, the singular; words used in the present tense shall include the future tense; the work "shall" is mandatory and not discretionary; the work "may" is permissive. Words not defined herein shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

Director. The term "Director" means the Director of Public Works or his designee.

Equivalent Runoff Unit (ERU). The term "ERU" means the statistical average horizontal impervious area of "single family homes" (single family and mobile homes) within the City of Appleton on the date of adoption of this ordinance. The horizontal impervious area includes, but is not limited to all areas covered by structures, roof extensions, patios, porches, driveways and sidewalks.

Impervious Area or Impervious Surface. These terms mean a horizontal surface which has been compacted or covered with a layer of material so that it is highly resistant to infiltration by rain water. It includes, but is not limited to, semi-impervious surfaces such as compacted clay, as well as streets, roofs, sidewalks, parking lots and other similar surfaces.

Duplex unit. The term "duplex unit" means any residential space identified for habitation by members of the same family attached to only one other residential space or as classified by the City Building Code.

Dwelling unit. The term "dwelling unit" means any residential space identified for habitation by members of the same family or as classified by the City Building Code. A dwelling unit includes, but is not limited to, all duplexes, apartments, residential condominiums and townhouse living units.

Multifamily unit. The term "multifamily unit" means any residential space identified for habitation by members of the same family or as classified by the City Building Code. A dwelling unit includes, but is not limited to, all duplexes, apartments, residential condominiums and townhouse living units.

Residential property. The term "residential property" means any lot or parcel developed exclusively for residential purposes including, but not limited to, single family homes, manufactured homes, multifamily apartment buildings and condominiums.

Non-residential property. The term "non-residential property" means any developed lot or parcel not exclusively residential as defined herein, including, but not limited to, transient rentals (such as hotels and motels), commercial, industrial, institutional, governmental property and parking lots.

Undeveloped property. The term "undeveloped property" means that which has not been altered from its natural state by the addition of any improvements such as a building, structure, impervious surface, change of grade or landscaping. For new construction, a property shall be considered developed pursuant to this ordinance (a) upon issuance of a Certificate of Occupancy, or upon completion of construction or final inspection if no such certificate is issued or (b) where construction is at least fifty percent (50%) complete and construction is halted for a period of three (3) months.

Sec. 20-230. Connection.

(a) Property owners shall be required to connect to the City's mini-sewer or storm sewer lateral within twelve (12) months of installation, pursuant to the provisions of §4-270. (Ord 16-97, §1, 3-5-97)

Secs. 20-231 – 20-235. Reserved.