State of Wisconsin
Department of Natural Resources
P.O. Box 7921, Madison, WI 53707-7921

GIS REGISTRY (Cover Sheet)

Form 4400-280 (R 6/13)

Source Property Information

CLOSURE DATE: 12/26/2013

BRRTS #: 02-37-000007

FID #: 737055880

ACTIVITY NAME: Holtz & Krause

DATCP #:

PROPERTY ADDRESS: E Kent ST / Northwestern AVE

PECFA#:

MUNICIPALITY: Wausau

PARCEL ID #: multiple parcels

***WTM COORDINATES:**

X: 550944 Y: 495987

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

WTM COORDINATES REPRESENT:

○ Approximate Center Of Contaminant Source

◉ Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

CONTINUING OBLIGATIONS

Contaminated Media for Residual Contamination:

☒ Groundwater Contamination > ES *(236)*

- ☒ Contamination in ROW
- ☒ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

☐ Soil Contamination > *RCL or **SSRCL *(232)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

Site Specific Obligations:

☐ Soil: maintain industrial zoning *(220)*

*(**note:** soil contamination concentrations between non-industrial and industrial levels)*

☐ Structural Impediment *(224)*

☒ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

- ☒ Direct Contact
- ☒ Soil to GW Pathway

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

○ Yes ◉ No ○ N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Superior Service Center
1701 N. 4th Street
Superior WI 54880

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN DEPT. OF NATURAL RESOURCES

December 26, 2013

This letter applies to properties A - F as shown on the Impacted Property Notification Information form in Attachment F.

Holtz-Krause Steering Committee
c/o Mark Thimke, Esquire
Foley and Lardner, LLP
777 West Wisconsin Ave
Milwaukee WI 53202

Brad Karger
Marathon County Administrator
Marathon County Courthouse
500 Forest St
Wausau, WI 54403

Wausau Curling Club, Inc.
c/o Cal Tillisch
Goyke, Tillisch & Higgins, LLP
816 N 3rd St
PO Box 2188
Wausau, WI 54403-2188

KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS

SUBJECT: Final Case Closure with Continuing Obligations
Holtz-Krause Landfill, including the Wausau Curling Club, Wausau, WI
DNR BRRTS Activity #: 02-37-000007
FID #: 737055880

Dear Mr. Thimke, Mr. Karger, Mr. Tillisch, and subsequent property owners:

The Department of Natural Resources (DNR) considers the Holtz-Krause Landfill, including the Wausau Curling Club, to have satisfied the conditions of case closure in ch. NR 700 rule series, with continuing obligations. No further investigation or remediation is required. However, you, future property owners, and occupants of the property must comply with the "continuing obligations" as specified in the conditions of closure in this letter. Please read over this letter closely to ensure that you continue to comply with all conditions and other on-going requirements.

Per s. NR 726.15, Wis. Adm. Code, the current Property owner is required to provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases these properties from you. This letter is being sent to three parties: the responsible party, Holtz-Krause Steering Committee, as well as current owners of the properties, as the landfill cap and other landfill components are located on five parcels owned by Marathon County, and one parcel owned by the Wausau Curling Club, Inc. (see attached map, Figure B.1.b, Detailed Site Map, CRA, October 2013; and the attached "Legal Descriptions for Holtz Krause Landfill Properties").

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wis. Adm. Code. The West Central Region (WCR) Closure Committee reviewed the request for case closure on November 14, 2013. The Closure Committee reviews environmental remediation cases for compliance with applicable laws and standards to maintain consistency in the closure of these cases. A conditional closure letter was issued by the DNR on November 18, 2013, and documentation that the conditions in that letter were met was received on December 23, 2013.

Background

The Holtz-Krause landfill was used as a municipal, residential, and industrial landfill, which accepted wastes from 1957 until it ceased operation in 1980. Given the environmental conditions at the site, a remedial action was selected for the site consisting of a low-permeability landfill cap, an active gas extraction system, long-term groundwater monitoring, groundwater extraction and treatment, and institutional controls. The landfill cap and gas system were constructed in 1994, and long-term monitoring commenced. In 2011, the DNR modified the groundwater remedy to replace groundwater extraction with natural attenuation.

In 2012, the responsible parties entered the site into the Voluntary Party Liability Exemption Program (VPLE), and the DNR issued an assurance letter on July 25, 2012, confirming eligibility for the exemption, with a determination that site investigation activities were complete. The assurance letter also approved the proposed remedial action plan for the site, which included redevelopment of the property into a soccer field complex, including repairs and modifications to the gas extraction system. Construction of the soccer field complex was completed by fall of 2013.

There is currently a legal agreement, dated July 25, 2012, between the Holtz Krause Steering Committee, Marathon County, and the City of Wausau, which includes responsibilities for operation and maintenance of the soccer field complex. Under this agreement, the City of Wausau will provide operation and maintenance activities of the landfill, including gas monitoring, maintenance of the gas extraction system, and maintenance of the landfill cap. This includes the portions of the cap that exist on the Wausau Curling Club property, and the blower and flare for the gas extraction system, also on the Curling Club property. Under the agreement, Marathon County will operate and maintain the soccer complex.

The conditions of closure and continuing obligations required at the time of closure were based on the property being used for recreational purposes, given this intended use.

Continuing Obligations

The continuing obligations for these properties are summarized below. Further details on actions required are found in the section Closure Conditions.

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code, enforcement standards.
- One or more monitoring wells were not located and must be properly filled and sealed if found.
- The engineered cover must be inspected and maintained over the landfill waste and the DNR must approve any changes to this barrier.

- Site-specific continuing obligation – Operation and maintenance of an active gas extraction system, monitoring of that system, and annual reporting to the DNR is required through a building on an abandoned landfill (BAL) exemption dated March 6, 2013 (attached), given the Property's intended use as a soccer complex. If the site had remained as a passive recreational facility (i.e., an open green space), then a passive gas extraction system would have been sufficient for that use. The need for an active gas extraction system was the natural result of the redevelopment issues associated with the design and placement of the numerous soccer fields on the Property.
- Site-specific continuing obligation – If site use changes in the future, such that that the active gas extraction system is no longer necessary by the site owner, the site owner at that time must construct and maintain at a minimum a passive venting system that adequately addresses the contaminants of concern to the satisfaction of the Department.

The DNR fact sheet, "Continuing Obligations for Environmental Protection", RR-819, helps to explain a property owner's responsibility for continuing obligations on their property. The fact sheet may be obtained at http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf.

GIS Registry

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web) at http://dnr.wi.gov/topic/Brownfields/rrsm.html, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, under the Geographic Information System (GIS) Registry layer, at the same web address.

DNR approval prior to well construction or reconstruction is required for all sites shown on the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at http://dnr.wi.gov/topic/wells/documents/3300254.pdf.

All site information is also on file at the West Central Regional DNR office, at 1300 W. Clairemont Avenue, Eau Claire, WI, 54701. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a PDF in BRRTS on the Web.

Prohibited Activities

Certain activities are prohibited at sites closed under the ch. NR 700 rule series because maintenance of a barrier is intended to prevent contact with any remaining contamination. When a barrier is required, the condition of closure requires notification of the DNR before making a change, in order to determine if further action is needed to maintain the protectiveness of the remedy employed. The following activities are prohibited on any portion of the property where an engineered cover is required, as shown on the attached map (Figure B.1.b, Detailed Site Map, CRA, October 2013), unless prior written approval has been obtained from the DNR:

- removal of the existing barrier;

- replacement with another barrier;
- excavating or grading of the land surface;
- filling on covered or paved areas;
- plowing for agricultural cultivation;
- construction or placement of a building or other structure requires an exemption under the building on abandoned landfill process;
- changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

Closure Conditions

Compliance with the requirements of this letter is a responsibility to which the current property owner, lessee, occupants, and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the site Operations and Maintenance Plan are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wis. Stats., to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to the attention of Erin Endsley, project manager for the site, at 1701 N. 4th St, Superior, WI 54880.

Residual Groundwater Contamination (ch. NR 140, 812, Wis. Adm. Code)

Groundwater contamination greater than enforcement standards is present both on the Curling Club property and off this contaminated property, as shown on the attached maps (Figures B.3.b.1.1, Groundwater Isoconcentrations Dissolved Arsenic; B.3.b.1.2, Groundwater Isoconcentrations Total Arsenic; B.3.b.2, Groundwater Isoconcentrations Benzene; B.3.b.4, Groundwater Isoconcentrations Tetrahydrofuran; B.3.b.6, Groundwater Isoconcentrations Vinyl Chloride; CRA, October 2013). If you intend to construct a new well, or reconstruct an existing well, you'll need prior DNR approval. Affected property owners and right-of-way holders were notified of the presence of groundwater contamination.

Monitoring Wells that could not be Properly Filled and Sealed (ch. NR 141, Wis. Adm. Code)

Monitoring wells MW-2 located on Curling Club property, MW-15 located on the Northwestern Avenue right-of-way, and MW-20 located at 2313 Grandview Drive (off-site property), as shown on the attached map (Figure B.3.d, Monitoring Well Locations, CRA, October 2013), could not be properly filled and sealed because they were missing due to being paved over, covered or removed during site development activities. Your consultant made a reasonable effort to locate the wells and to determine whether they were properly filled and sealed, but was unsuccessful. You or subsequent property owners may be held liable for any problems associated with the monitoring wells as they may create a conduit for contaminants to enter groundwater. If any of the groundwater monitoring wells are found, the then current owner of the property on which the well is located is required to notify the DNR, to properly fill and seal the wells and to submit the required documentation to the DNR.

Cover or Barrier (s. 292.12 (2) (a), Wis. Stats., s. NR 726.15, s. NR 727.07 Wis. Adm. Code)

There is a 5-7' thick landfill cap covering the waste mass, compliant with s. NR 504.07, Wis. Adm. Code. This cover, which exists in the specific location shown on the attached map (Figure B.1.b, Detailed Site Map, CRA, October 2013), shall be inspected and maintained in compliance with the site Operations and Maintenance Plan in order to minimize the infiltration of water and prevent additional groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code, and to prevent direct contact with the landfill waste mass that might otherwise pose a threat to human health.

A cover or barrier for industrial land uses, or certain types of commercial land uses may not be protective if the use of the property were to change such that a residential exposure would apply. This may include, but is not limited to single or multiple family residences, a school, day care, senior center, hospital or similar settings. In addition, a cover or barrier for multi-family residential housing use may not be appropriate for use at a single family residence.

The cover approved for this case closure is protective for the intended use as a recreational facility. Before using the property for residential purposes, such as single or multiple family residences, a school, day care, senior center, hospital or similar settings you must notify the DNR at least 45 days before taking an action, and await the DNR's response to determine if additional response actions are warranted.

A request may be made to modify or replace a cover or barrier. The replacement or modified cover or barrier must be protective of the revised use of the property, and must be approved in writing by the DNR prior to implementation.

The landfill cover must be inspected on a monthly basis. As described in the site Operations and Maintenance Plan, inspections of the landfill cover will be done as part of the monthly site inspections. The inspection logs will be submitted to the DNR annually in the Annual Monitoring Report submittal. The first submittal of the Annual Monitoring Report will be in 2014. Although there is an agreement in place for the City of Wausau to conduct the inspection and maintenance of the landfill cover, it is still the responsibility of the property owners (Marathon County and Wausau Curling Club, Inc.) to ensure that the cover is not damaged in any way, and that prior DNR approval is obtained for any modifications to the cover.

Site-Specific Condition (s. NR 726.05 (9), NR 726.15 (2) (m), s. NR 727.07 (7), Wis. Adm. Code)

An exemption for development at a Historic Fill Site or Licensed Landfill was approved by the DNR on March 6, 2013, for the construction of soccer fields on the landfill cover and repairs to the gas extraction system (attached). Another exemption for development was approved by the DNR on June 20, 2013, for the construction of championship field lighting and a concession/restroom building on the landfill cap (attached). Any redevelopment of this property will require compliance with the approved exemptions. Any changes from the March 6, 2013, and June 20, 2013, exemptions will require prior DNR approval in writing. Please refer to the Development at Historic Fill Site or Licensed Landfill guidances for further information at http://dnr.wi.gov/topic/landfills/development.html.

Although there are exemptions in place for the soccer field development on the landfill cover, any development on the Wausau Curling Club property that will impact the landfill cover or other landfill components (the gas extraction system, the blower or flare station, or gas probes), will also require an exemption for development at a Historic Fill Site or Licensed Landfill. The Curling Club, or subsequent owner of that property, should contact the DNR if any such developments are planned.
Specific requirements contained in the exemptions for the soccer field development include site inspection and maintenance activities, as well as monitoring. These requirements include submittal of a site Operations and Maintenance Plan and submittal of Annual Monitoring Reports. The Operations and Maintenance Plan was received in October 2013, and includes periodic inspection and maintenance of the landfill cap, and monitoring and maintenance of the gas extraction system, including monitoring of the gas extraction wells, blower, and gas probes. This includes landfill components on the Marathon County parcels as well as the Wausau Curling Club property. Monitoring results from the gas extraction wells, blower, and gas probes shall be summarized and submitted to the Department annually in an Annual Monitoring Report. This report shall include a summary of inspection and maintenance activities the prior year, their findings and recommended planned and/or completed activities. As with the landfill cover requirements, inspection, maintenance and reporting will be conducted by the City of Wausau, under the agreement between the Holtz Krause Steering Committee, Marathon County, and the City of Wausau.

Site-Specific Condition (s. NR 726.05 (9), NR 726.15 (2) (m), s. NR 727.07 (7), Wis. Adm. Code)

In addition to the requirements contained in the March 6, 2013, and June 20, 2013, exemptions, there is another site-specific continuing obligation regarding the gas extraction system, should the land use change in the future. If the site use changes in the future, such that the active gas extraction system is no longer necessary, the site owner at that time must either continue to maintain and operate the active system, or construct and maintain a passive venting system for methane mitigation.

Sites with an Exemption for Development at a Historic Fill Site or Licensed Landfill

Any future redevelopment of this property must take into account consideration of the presence of waste materials and will require the issuance of an exemption from the DNR to build on an abandoned landfill prior to the start of any construction. Please refer to the Development at Historic Fill Site or Licensed Landfill guidance for further information at http://dnr.wi.gov/topic/landfills/development.html.

Given that this is a VPLE site, the owners of the properties are required to comply with the conditions of case closure and state law. If a Certificate of Completion (COC) is issued under s. 292.15, Stats., for these properties, then a COC may be revoked by the DNR if the property owners fail to comply with the applicable provisions of ch. 292, Stats., ch. NR 700 rule series, including the provisions of s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if the property owner does not comply with the conditions of closure, applicable laws, or with a certificate of completion issued under ss. 292.11 and 292.15, Wis. Stats, or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter and administrative rules).

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Erin Endsley at 715-392-3126 or via email at erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Team Supervisor
Remediation & Redevelopment Program

Attachments:

- Figure B.1.b, Detailed Site Map, CRA, October 2013
- Legal Descriptions for Holtz Krause Landfill Properties
- Figure B.3.b.1.1, Groundwater Isoconcentrations Dissolved Arsenic, CRA, October 2013
- Figure B.3.b.1.2, Groundwater Isoconcentrations Total Arsenic, CRA, October 2013
- Figure B.3.b.2, Groundwater Isoconcentrations Benzene, CRA, October 2013
- Figure B.3.b.4, Groundwater Isoconcentrations Tetrahydrofuran, CRA, October 2013
- Figure B.3.b.6, Groundwater Isoconcentrations Vinyl Chloride, CRA, October 2013
- Figure B.3.d, Monitoring Well Locations, CRA, October 2013
- Building on an Abandoned Landfill Exemption, March 6, 2013
- Building on an Abandoned Landfill Exemption, June 20, 2013

cc: Dave Eisenreich, Holtz-Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476
Ron Frehner, Conestoga-Rovers & Associates, 1801 Old Hwy 8 NW, Suite #114, St. Paul, MN 55112
Jim Tipple, Mayor, City of Wausau, 407 Grant Street, Wausau, WI 54403
Russell Wilson, Ruder Ware, 500 First Street, Suite 8000, PO Box 8050, Wausau, WI 54402-8050
Mark Giesfeldt /Michael Prager/Darsi Foss – RR/3
Erin Endsley – NOR
Loren Brumberg – WCR
Kristine Hess – LS/8
Pat Stevens – AD/8
Brad Marquardt, City of Wausau, 407 Grant St., Wausau, WI 54403
Donald J. Goretski, 2002 Coel Blvd. Wausau, WI 54403
Andrew F. Spangberg, 219 Schwebach St., Wausau, WI 54403
Mickie A. Myers, 213 Schwebach St., Wausau, WI 54403
Linda K. Merriam, 209 Schwebach St., Wausau, WI 54403
Karen M. Bartelt, 205 Schwebach St., Wausau, WI 54403
Jill F. Follensbee, 201 Schwebach St., Wausau, WI 54403
Craig W. Petitt, Mark R Dolan, 666 W 9th Ave., Oshkosh, WI 54902
Jeffrey C. Seefeldt, 14492 Angel Crest Ln., Lakewood, WI 54138
Steven A. Jacobson, 2011 1/2 Garth St., Wausau, WI 54403
Christa J. McCarten, 126 Pleasant St., Wausau, WI 54403
Mark W. Conway, 207 Jones Dr., Rothschild, WI 54474
Kenneth Ruether, PO Box 347, Schofield, WI 54476-0347
David A. Andrashie, 1611 Neupert Ave., Schofield, WI 54476-3543
TMJ Properties LLC, 701 Sand Lake Road, Onalaska, WI 54650
Wausau Cemetery Association, 1501 Grand Ave., Wausau, WI 54403
St. Michaels Congregation, 611 Stark St., Wausau, WI 54403
Grandview Storage, 2313 Grandview Dr., Wausau, WI 54403

074702-60(018)GIS-SP014 OCT 29/2013

figure B.1.B

DETAILED SITE MAP
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

Legal Descriptions for Holtz Krause Landfill Properties

Property	PIN	Owner Name	Parcel Address	Legal Description
Soccer Complex	291-2808-063-0999	MARATHON COUNTY	602 E KENT ST WAUSAU WI 54403	THAT PT OF FRAC N 1/2 SW 1/4 SEC 6 28 8 & OF NW SE LYG WLY OF RR RW EX S 4 RODS FOR ROAD PURPOSES PT OF CSM VOL 27-175(7192)
Soccer Complex	291-2808-062-0992	MARATHON COUNTY	1500 NORTHWESTERN AVE WAUSAU WI 54403	SEC 06-28-08 PT OF FRL S 1/2 NW 1/4 LOT (2) OF CSM VOL 14-160 (3862) EX THAT PT OF LOT (2) LYG IN SE NE SEC 1-28-7
Soccer Complex	291-2808-062-0999	MARATHON COUNTY	600 E KENT ST WAUSAU WI 54403	THAT PART OF FRAC S 1/2 NW 1/4 LYG S & W OF C & N W R R CO YARDS SEC 6 28 8 PT OF CSM 27-175(7192)
Soccer Complex	291-2807-011-0924	MARATHON COUNTY	1237 JUNCTION ST WAUSAU WI 54403	E 10 ACRES OF SE NE EX PCL DESD IN VOL 118 OF DEEDS PG 282 SEC 1- 28-7 ALSO THAT PT OF LOT 2 ON CSM VOL 14 PG 160 IN SE NE SEC 1-28-7 PT OF CSM VOL 27-175(7192)
Soccer Complex	291-2807-011-0922	MARATHON COUNTY	1233 JUNCTION ST WAUSAU WI 54403	PT OF SE NE SEC 1-28-7 DESD AS LOT 1 ON CSM VOL 14 PG 160
Curling Club	291-2807-014-0900	WAUSAU CURLING CLUB INC	1920 CURLING WAY WAUSAU WI 54403	SEC 1 28 7 PT N1/2 NE1/4 SE1/4 PT OF SE1/4 NE1/4 THAT PT LYG ELY OF EAU EAU CLAIRE RIVER FLOWAGE ("SLOUGH") AS DESD IN DOC #1603108, ALSO LOT 3 BLK 5 RIPCZINSKES GRAND AVE ADD INCL N1/2 OF VAC E ROSS AVE LYG S OF SD LOT AND VAC 33' LYG E OF SD LOT ALSO LOT 2 BLK 4 OF SD ADD INCL S1/2 OF VAC E ROSS AVE LYG N OF SD LOT & E 10' OF VAC PORTION LYG W OF SD LOT EX OUTLOT (1) CSM VOL 75-47(16248)DOC #1615640

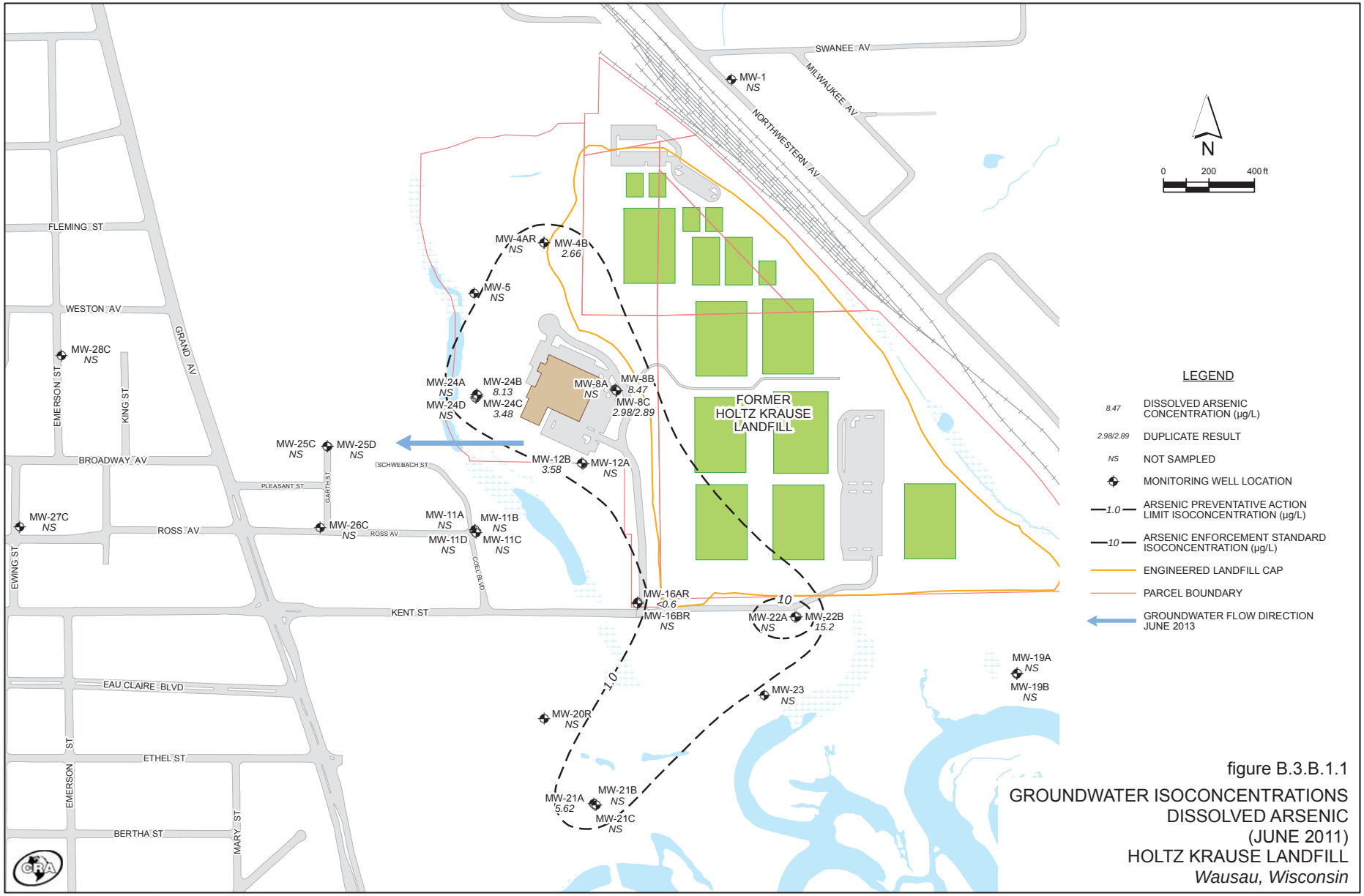

figure B.3.B.1.1

GROUNDWATER ISOCONCENTRATIONS
DISSOLVED ARSENIC
(JUNE 2011)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP003 OCT 29/2013

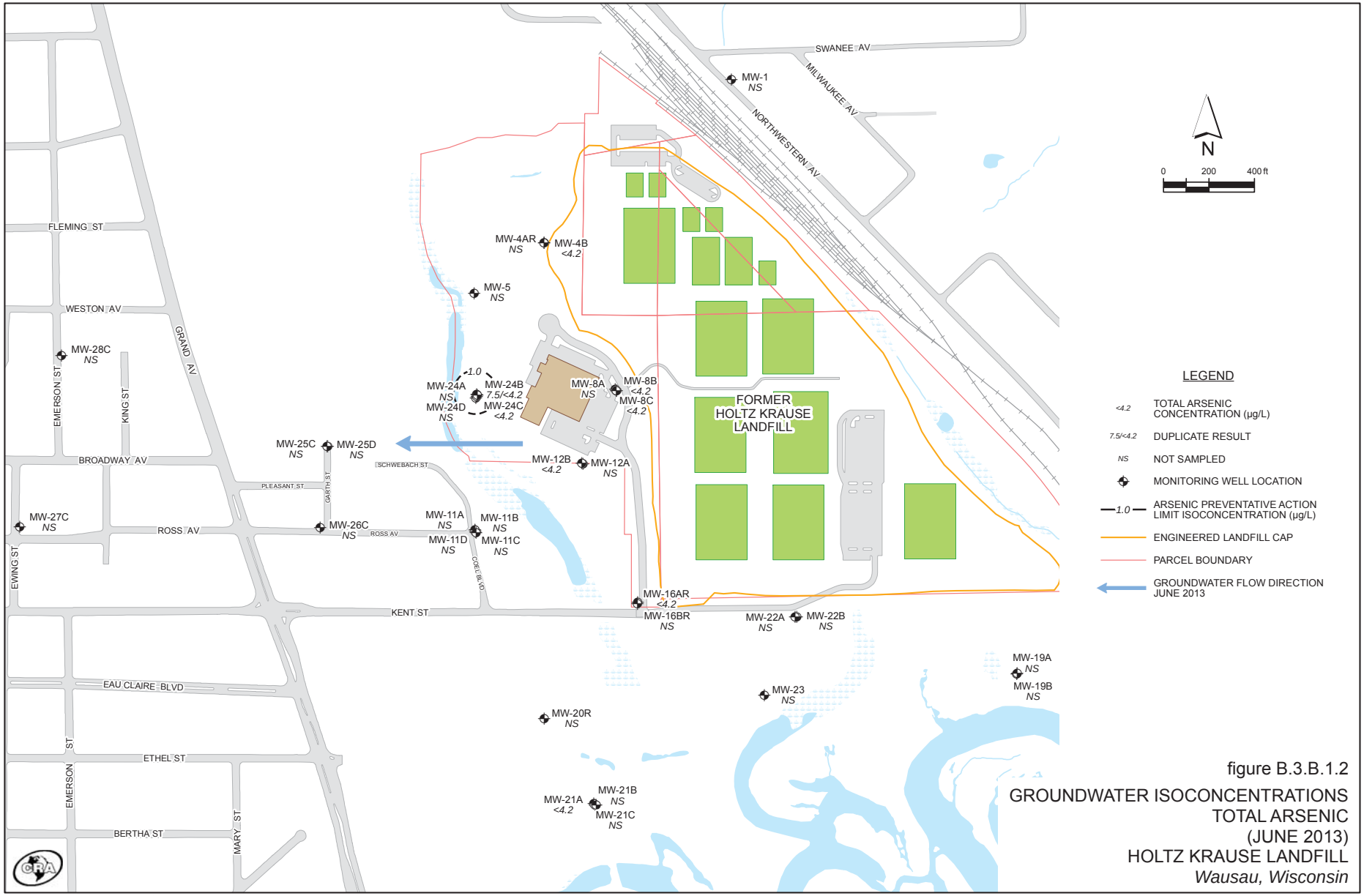

figure B.3.B.1.2

GROUNDWATER ISOCONCENTRATIONS
TOTAL ARSENIC
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP004 OCT 29/2013

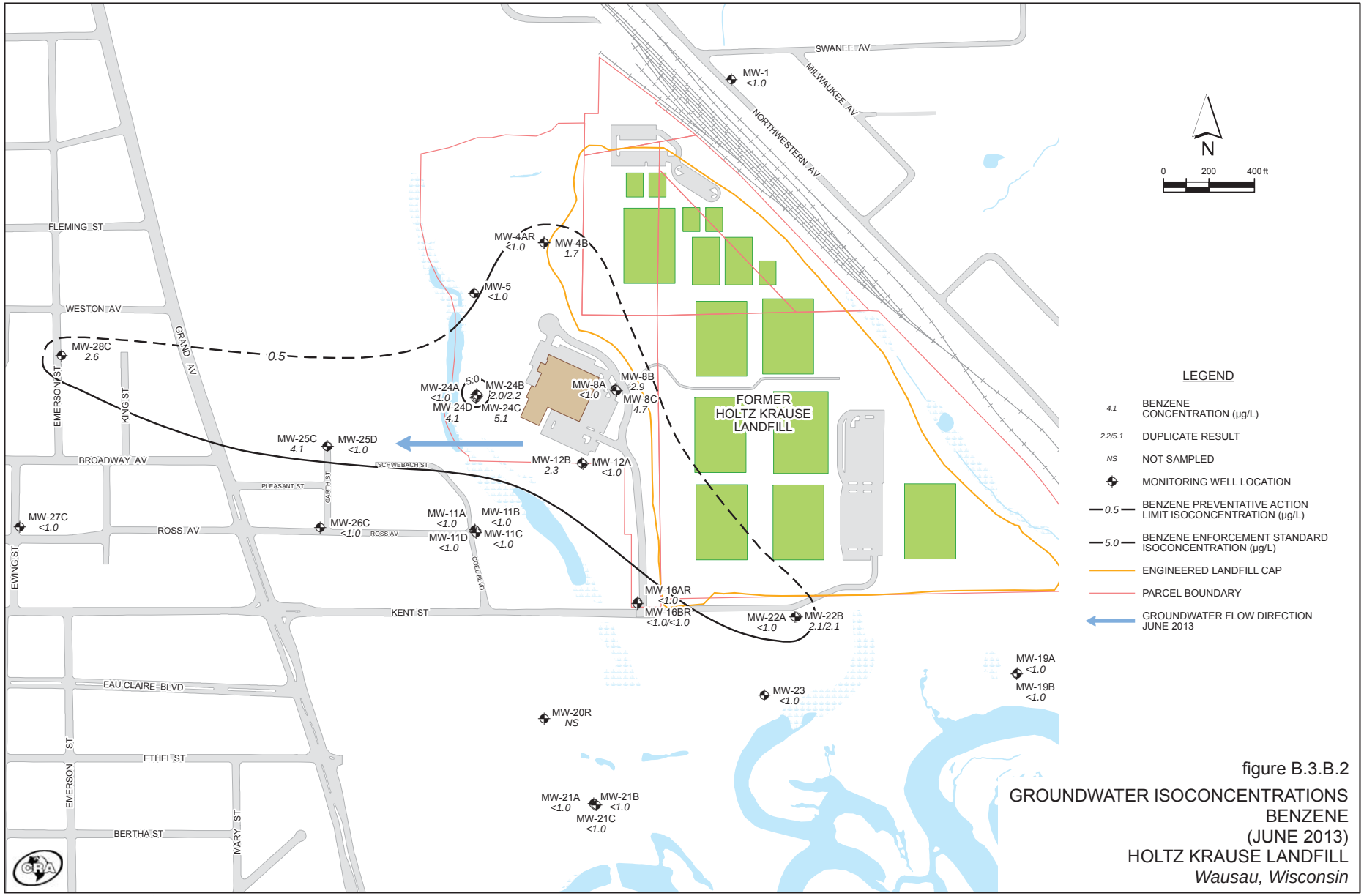

figure B.3.B.2

GROUNDWATER ISOCONCENTRATIONS
BENZENE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP005 OCT 30/2013

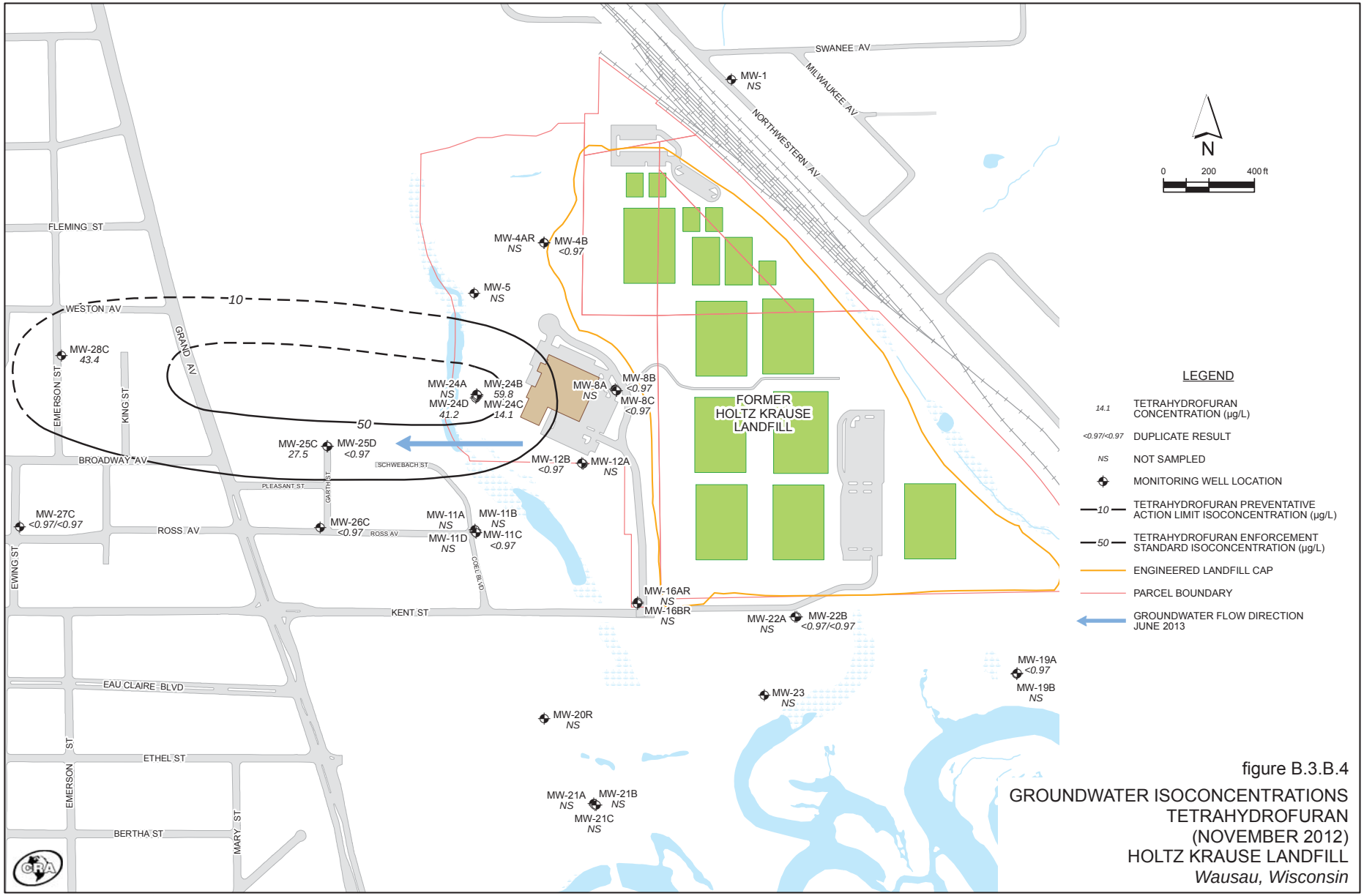

figure B.3.B.4

GROUNDWATER ISOCONCENTRATIONS
TETRAHYDROFURAN
(NOVEMBER 2012)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP007 OCT 29/2013

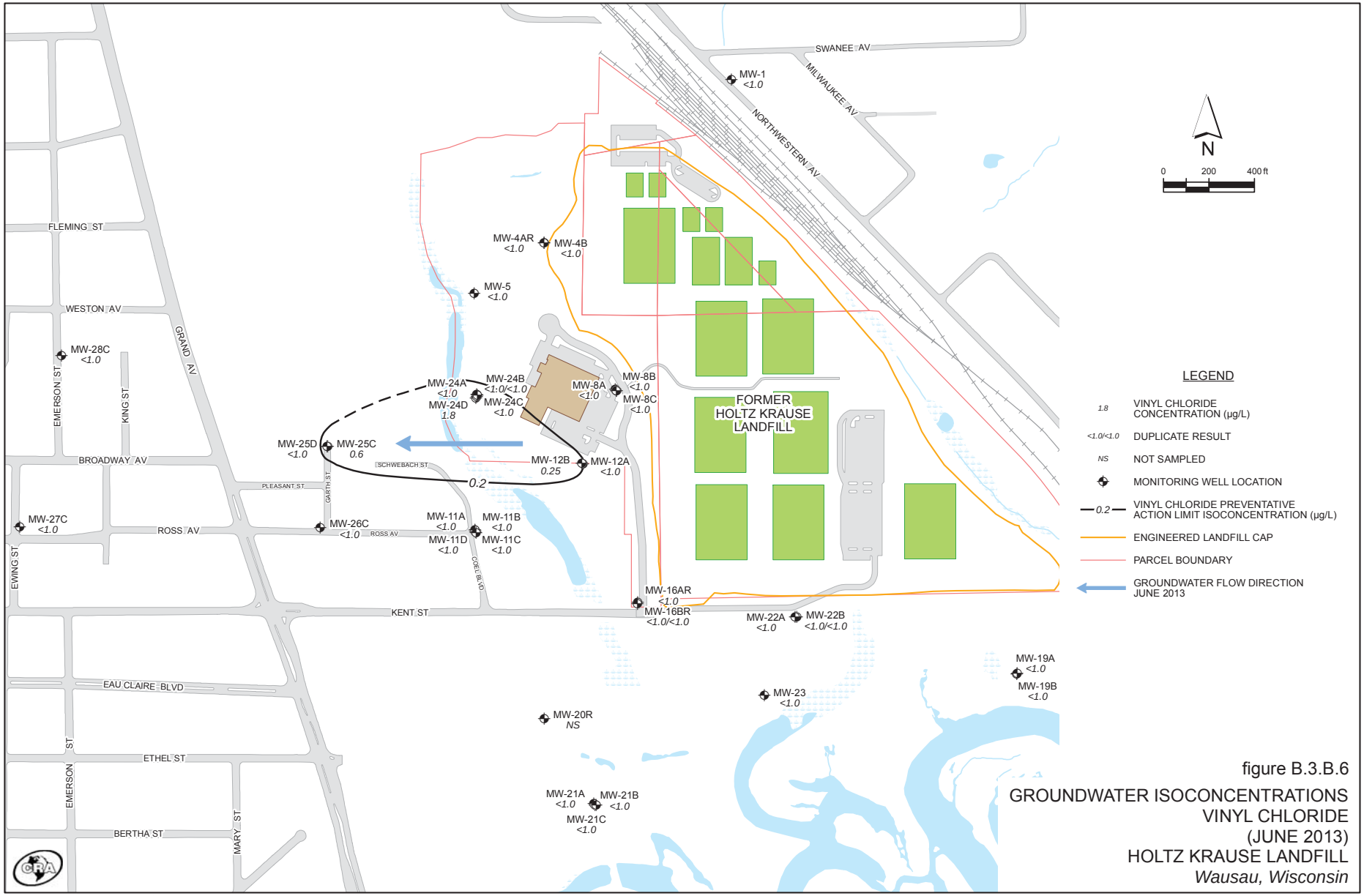

figure B.3.B.6

GROUNDWATER ISOCONCENTRATIONS
VINYL CHLORIDE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP009 OCT 29/2013

figure B.3.D

MONITORING WELL LOCATIONS
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(MISC010)GIS-SP001 NOV 19/2013

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1300 W Clairemont Avenue
Eau Claire WI 54701

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

March 6, 2013

Mark Thimke, Esquire
Foley & Lardner, LLP
777 West Wisconsin Avenue
Milwaukee, WI 53202-5306

File Ref: FID# 737055880
Marathon County
SW Approval

Subject: Conditional Case-by-Case Grant of Exemption for Development of a Property Where Solid Waste has been Disposed, and Approval of Final Design Report
Holtz and Krause Landfill, Wausau, WI
License #0674, BRRTS #02-37-000007

Dear Mr. Thimke:

The purpose of this letter is to provide a response to the Holtz Krause PRP Group's request dated April 2012 for a grant of exemption from regulation under s. NR 506.085, Wis. Adm. Code, for the purposes of obtaining approval for the proposed soccer field development on the Holtz Krause Landfill. In order to make this determination, the Wisconsin Department of Natural Resources (the "Department") has reviewed the "*Development at Historic Fill Site or Licensed Landfill Exemption Application*" April 2012, as well as the *"Final Design Report for Athletic Fields and Proposed Modifications to Holtz-Krause Landfill"* February 2013, both prepared by Conestoga-Rovers & Associates, St. Paul, MN.

Based on the Department's review and evaluation, we are issuing this conditional grant of exemption from the prohibitions contained in s. NR 506.085, Wis. Adm. Code, in conjunction with the approval of the final design submittal, including the incorporated Department comments provided to Ron Frehner of Conestoga-Rovers & Associates on January 16, 2013. You must comply with the conditions of this grant of exemption in order to maintain the exemption. This grant of exemption is limited to the proposed changes described in your application, including the specific construction requirements that are detailed in the final design document. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval.

Several modifications have been proposed to the existing site features in preparation for site development. The 1995 remedy will remain intact, but the development of the soccer field complex will necessitate changes to the grading of the flat area of the landfill cap, as well as modifications to the active gas extraction system for management of methane and possible odors. The final design report included detailed specifications for the grading changes, gas extraction system modifications, and the layout of the soccer fields, parking lots, activity pads, and utilities.

Please review the information contained in the publication *Development at Historic Fill Sites and Licensed Landfills: Considerations and Potential Problems* PUB-RR-685 to assist you in preventing environmental or safety problems during and after development. We would like to particularly draw your

attention to the public safety risk posed by the explosive potential for methane gas that may be present on a property due to the presence of decomposing solid waste.

You are reminded that this approval does not relieve you of obligations to meet all other applicable federal, state and local permits, as well as zoning and regulatory requirements. If you have any questions concerning this letter, please contact Erin Endsley at 715-392-3126 or by email to erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Regional Team Supervisor
Remediation and Redevelopment Program

cc: Dave Eisenreich, Chairman, Holtz & Krause Steering Committee, PO Box 1582, Wausau WI 54402-1582
Ron Frehner, Conestoga-Rovers & Associates
Dave Erickson, City of Wausau
Mark Giesfeldt – RR/5
Erin Endsley – RR/NOR
Loren Brumberg – RR/WCR
Brad Wolbert – WA/5
Bob Grefe – WA/5
Eric Syftestad – WA/5
Jill Schoen – WMM/WCR
Brad Johnson – Water/Wausau
Ashley Gray – AM/Wausau

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

CONDITIONAL GRANT OF EXEMPTION
FOR
DEVELOPMENT ON A PROPERTY
WHERE SOLID WASTE HAS BEEN DISPOSED

FINDINGS OF FACT

The Department finds that:

1. The Holtz Krause PRP Group has proposed to construct soccer fields, paved parking areas, and activity pads on the Holtz Krause Landfill located in the City of Wausau, Marathon County, Wisconsin.

2. Holtz & Krause, Inc. owned and operated a municipal waste landfill licensed by the Department (License #0674) from approximately 1957 until 1980. The landfill is a 57-acre site that received approximately 2.0 million cubic yards of waste materials, including municipal waste, non-combustible waste, demolition and construction waste, wood waste, animal waste, and other waste materials. The Department issued the initial operating license on April 24, 1970.

3. The Department issued a conditional closure plan approval to the Holtz Krause Steering Committee for plans addressing closure of the landfill entitled *"April 25, 1994 Closure Plan Approval, Holtz & Krause Landfill, License No. 674"*.

3. As documented in the Record of Decision ("ROD") dated July 22, 1992, the Holtz Krause Landfill has a final cover system consisting of (in ascending order) a nominal 2-feet soil cover (installed in 1982), 2-feet of clay (installed in 1994), a 40-mil very low density polyethylene ("VLDPE") geomembrane liner, 2.5-feet rooting zone soil, and 6-inches of topsoil. An active gas extraction system was installed to manage methane migration and to minimize groundwater impacts (installed in 1994).

4. Marathon County took title to the Holtz Krause Landfill on October 12, 2012, and now owns five parcels (Parcels 291-2808-063-0999, 291-2808-062-0999, 291-2808-062-0992, 291-2807-011-0924, & 291-2807-011-0922) that collectively constitute the landfill property located at 400 East Kent Street, City of Wausau, Marathon County, Wisconsin, hereinafter referred to as "the Property."

5. Solid waste has been disposed of at the Property and remains at the Property.

6. The Holtz Krause PRP Group submitted a "*Development at Historic Fill Site or Licensed Landfill Exemption Application*" dated April 2012 for an exemption from the prohibitions in NR 506.085, Wis. Adm. Code, for development of athletic fields, parking lots, and related improvements on the cover of the Holtz Krause Landfill.

7. Conestoga-Rovers & Associates, on behalf of the Holtz Krause PRP Group, submitted the *"Final Design Report for Athletic Fields and Proposed Modifications to Holtz-Krause Landfill"*, dated February 2013. The report was submitted by Conestoga-Rovers & Associates under the seal of a professional engineer relating to the proposed development and the environmental conditions at the Property.

7. Based upon the information provided to the Department, the proposed development at the Property is not expected to cause future exceedances of applicable soil and groundwater standards.

8. Additional documents considered in review of the exemption request include the following:
   - Final Design Report for Athletic Fields and Proposed Modifications to Holtz-Krause Landfill, February 2013, prepared by Conestoga-Rovers & Associates, St. Paul, MN
   - Wisconsin Department of Natural Resources Development at Historic Fill Site or Licensed Landfill Exemption Application, April 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN
   - Remedial Action Plan, Proposed Modifications to Holtz-Krause Landfill, April 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN
   - Expert Opinion on Groundwater Quality, Holtz Krause Landfill, Wausau, Wisconsin, April 5, 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN

9. Additional facts relevant to the review of the grant of exemption modification request include the following:

   - *"April 25, 1994 Closure Plan Approval, Holtz & Krause Landfill, License No. 674"* issued by the Department and dated April 25, 1994.
   - Holtz & Krause Landfill, Record of Decision, Selected Remedial Alternative, establishing final cover system, gas extraction system, and groundwater remedy dated July 22, 1992.
   - Holtz & Krause Landfill, Record of Decision Amendment modifying the groundwater remedy to allow for monitored natural attenuation dated June 22, 2011.

10. The special conditions set forth below are needed to assure that construction of the proposed soccer field complex is conducted in a manner that will maintain the integrity of the landfill cap, maintain the integrity of the gas extraction system components, prevent settlement, that long-term care is conducted to maintain the landfill cover and gas extraction system, and reduces the potential for deleterious impact to human health or the environment.

11. If conditions set forth below are complied with, development of the Property will not result in environmental pollution as defined in ss. 289.01(8) and 299.01(4), Wis. Stats.

CONCLUSIONS OF LAW

1. The Department has authority under s. NR 500.08(4), Wis. Adm. Code, to issue an exemption from the prohibitions in s. NR 506.085, Wis. Adm. Code, if the proposed development will not cause environmental pollution as defined in ss. 289.01(8) and 299.01(4), Wis. Stats.

2. The Department has authority to approve a grant of exemption with conditions if the conditions are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, or to assure that environmental pollution will not occur.

3. The conditions set forth below are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, and to assure that environmental pollution will not occur.

4. In accordance with the foregoing, the Department has the authority under s. NR 500.08(4), Wis. Adm. Code, to issue the following conditional grant of exemption.

CONDITIONAL GRANT OF EXEMPTION

The Department hereby issues an exemption to the Holtz Krause PRP Group, from the prohibitions in s. NR 506.085, Wis. Adm. Code, for development on the Property which contains solid waste as proposed in the final design report dated February 2013, subject to the following conditions:

1. No action related to development of the Property may be taken which will cause a significant adverse impact on wetlands as provided in ch. NR 103, Wis. Adm. Code.

2. No action related to development of the Property may be taken which will cause a significant adverse impact on critical habitat areas, as defined in s. NR 500.03(55), Wis. Adm. Code.

3. No action related to development of the Property may be taken which will cause a detrimental effect on any surface water, as defined in s. NR 500.03(62), Wis. Adm. Code.

4. No action related to development of the Property may be taken which will cause a detrimental effect on groundwater, as defined in s. NR 500.03(62), Wis. Adm. Code, or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application as defined in ch. NR 140, Wis. Adm. Code.

5. No action related to development of the Property may be taken which will cause a migration and concentration of explosive gases in any structures in excess of 25% of the lower explosive limit for such gases at any time. No actions may be taken which will cause a migration and concentration of explosive gases in the soils outside of the limits of solid waste disposal within 200 feet of the property boundary or beyond the Property boundary in excess of the lower explosive limit for such gases at any time. No actions may be taken which will cause a migration and concentration of explosive gases in the air outside of the limits of solid waste disposal within 200 feet of the landfill boundary or beyond the landfill property boundary in excess of the lower explosive limit for such gases at any time.

6. No action related to development of the Property may be taken which will cause an emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.03, Wis. Adm. Code.

7. No action related to development of the Property may be taken which will cause an exceedance of a soil cleanup standard in ch. NR 720, Wis. Adm. Code.

8. This exemption shall transfer with changes in property ownership. In accordance with s. 289.46(2), Wis. Stats., any person having or acquiring rights of ownership in land where a solid or hazardous waste disposal facility was previously operated may not undertake any activities on the land which interfere with the closed facility causing a significant threat to public health, safety or welfare. The Department should be contacted to discuss any proposed changes to avoid activities that could violate the statute.

9. This grant of exemption is limited to the proposed changes described in your application and the final design report. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval. This grant of exemption is also based on the expectation that the work will be done in accordance with the specifications outlined in the final design report. Any variations from these specifications must obtain Department approval prior to being implemented.

10. Site development including grading and storm water design, modifications of landfill gas extraction and flare system, construction of athletic fields and irrigation system, construction of access roads, parking lots, and trails, gas probe monitoring, construction of concessions and restrooms, maintaining landfill cover integrity, and all improvements associated with the development shall be conducted in accordance with the final design report and the review comments provided by the Department.

11. The Holtz Krause PRP Group shall submit an operations and maintenance plan that includes periodic inspection and maintenance of the landfill cap, and monitoring and maintenance of the gas extraction system, including monitoring of the gas extraction wells, blower, and gas probes.

12. Monitoring results from the gas extraction wells, blower, and gas probes shall be summarized and submitted to the Department annually in an Annual Monitoring Report. This report shall include a summary of inspection and maintenance activities the prior year, their findings and recommended planned and/or completed activities.

13. The proposed buildings, access roads, parking lots, and soccer fields on the landfill are considered modifications to the existing cap, and as such, will function as part of the cap. If the buildings, parking lots, access roads, or soccer field locations or designs change, you must ensure that those open areas are restored to the conditions specified in the Department's 1994 closure plan approval for the existing landfill cap.

14. Provide a ten day or more advance notice to the Department of the pre-installation meeting for the geosynthetic clay liner and geomembrane (Appendix N, SECTION 02072 – 5).

15. During construction, provide weekly status reports to the Department, and coordinate with the Department in scheduling construction inspections as needed.

16. Final as-built drawings and a construction documentation report shall be submitted to the Department for review and approval, and it should document the modifications to the cap and gas extraction system, and any other site feature modifications and development activities.

17. Prior to commencing construction, contact Brad Johnson in the Wausau office, for approval of the necessary storm water permits from the Department.

18. This document must be given to the general contractor for the site so that they are aware of the conditions related to the development of the site.

19. At the time of site closure, there may be continuing obligations and conditions applied to the site, in addition to those required as part of this exemption.

The Department reserves the right to require the submittal of additional information and to modify this grant of exemption at any time, if in the Department's opinion, modifications are necessary. Unless specifically noted, the conditions of this grant of exemption do not supersede or replace any previous conditions of approval for this property.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

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

Dated: 3/8/13

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Bill Evans

Bill Evans – West Central Regional Team Supervisor
Remediation & Redevelopment Program

Erin Endsley

Erin Endsley – Hydrogeologist
Remediation & Redevelopment Program
Northern Region

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1300 W Clairemont Avenue
Eau Claire WI 54701

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN DEPT. OF NATURAL RESOURCES

June 20, 2013

Dave Eisenreich
Holtz & Krause Steering Committee
5208 DJ Lane
Weston, WI 54476

File Ref: FID# 737055880
Marathon County
SW Approval

Subject: Conditional Case-by-Case Grant of Exemption for Development of a Property Where Solid Waste has been Disposed and Approval for Construction of Concession/Restroom Building and Championship Field Lighting for the Holtz Krause Athletic Complex
Holtz and Krause Landfill, Wausau, WI
License #0674, BRRTS #02-37-000007

Dear Mr. Eisenreich:

The purpose of this letter is to provide a response to the Holtz Krause PRP Group's request dated June 3, 2013 for a grant of exemption from regulation under s. NR 506.085, Wis. Adm. Code, for the purposes of obtaining approval for the construction of a concession building and lighting towers as part of the soccer field development on the Holtz Krause Landfill. In order to make this determination, the Wisconsin Department of Natural Resources (the "Department") has reviewed the "*Development at Historic Fill Site or Licensed Landfill Exemption Application*", submitted as part of the *"Building on Abandoned Landfill Application, Holtz-Krause Landfill"* dated June 3, 2013, and the *"BAL Addendum, Holtz Krause Landfill"* dated June 15, 2013, both prepared by Conestoga-Rovers & Associates, St. Paul, MN.

Based on the Department's review and evaluation, we are issuing this conditional grant of exemption from the prohibitions contained in s. NR 506.085, Wis. Adm. Code. You must comply with the conditions of this grant of exemption in order to maintain the exemption. This grant of exemption is limited to the proposed activities described in your application, including the specific construction requirements that are detailed in the application. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval. This grant of exemption is in addition to the exemption issued by the Department dated March 6, 2013, for development of an athletic complex on the Holtz Krause Landfill.

Several modifications have been proposed to the existing site features in preparation for site development. The 1995 remedy will remain intact, but construction of the concession/restroom building and championship field lighting will necessitate specific design plans that will protect the integrity of the landfill cap. The final design plans included detailed specifications for the cap integrity, grading changes, vapor barrier, and passive venting system.

Please review the information contained in the publication *Development at Historic Fill Sites and Licensed Landfills: Considerations and Potential Problems* PUB-RR-685 to assist you in preventing environmental or safety problems during and after development. We would like to particularly draw your attention to the public safety risk posed by the explosive potential for methane gas that may be present on the property due to the presence of decomposing solid waste.

You are reminded that this approval does not relieve you of obligations to meet all other applicable federal, state and local permits, as well as zoning and regulatory requirements. If you have any questions concerning this letter, please contact Erin Endsley at 715-392-3126 or by email to erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Regional Team Supervisor
Remediation and Redevelopment Program

cc: Mark Thimke, Foley & Lardner, LLP, 777 West Wisconsin Avenue, Milwaukee, WI 53202-5306
Ron Frehner, Conestoga-Rovers & Associates
Dave Erickson, City of Wausau
Mark Giesfeldt – RR/5
Erin Endsley – RR/NOR
Loren Brumberg – RR/WCR
Eric Syftestad – WA/5
Jill Schoen – WMM/WCR

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

CONDITIONAL GRANT OF EXEMPTION
FOR
DEVELOPMENT ON A PROPERTY
WHERE SOLID WASTE HAS BEEN DISPOSED

FINDINGS OF FACT

The Department finds that:

1. The Holtz Krause PRP Group has proposed to construct soccer fields, paved parking areas, activity pads, field lighting, and a concession/restroom building on the Holtz Krause Landfill located in the City of Wausau, Marathon County, Wisconsin.

2. Holtz & Krause, Inc. owned and operated a municipal waste landfill licensed by the Department (License #0674) from approximately 1957 until 1980. The landfill is a 57-acre site that received approximately 2.0 million cubic yards of waste materials, including municipal waste, non-combustible waste, demolition and construction waste, wood waste, animal waste, and other waste materials. The Department issued the initial operating license on April 24, 1970.

3. The Department issued a conditional closure plan approval to the Holtz Krause Steering Committee for plans addressing closure of the landfill entitled *"April 25, 1994 Closure Plan Approval, Holtz & Krause Landfill, License No. 674"*.

4. As documented in the Record of Decision ("ROD") dated July 22, 1992, the Holtz Krause Landfill has a final cover system consisting of (in ascending order) a nominal 2-feet soil cover (installed in 1982), 2-feet of clay (installed in 1994), a 40-mil very low density polyethylene ("VLDPE") geomembrane liner, 2.5-feet rooting zone soil, and 6-inches of topsoil. An active gas extraction system was installed to manage methane migration and to minimize groundwater impacts (installed in 1994).

5. Marathon County took title to the Holtz Krause Landfill on October 12, 2012, and now owns five parcels (Parcels 291-2808-063-0999, 291-2808-062-0999, 291-2808-062-0992, 291-2807-011-0924, & 291-2807-011-0922) that collectively constitute the landfill property located at 400 East Kent Street, City of Wausau, Marathon County, Wisconsin, hereinafter referred to as "the Property."

6. Solid waste has been disposed of at the Property and remains at the Property.

7. The Holtz Krause PRP Group submitted a "*Development at Historic Fill Site or Licensed Landfill Exemption Application*" dated April 2012 for an exemption from the prohibitions

in NR 506.085, Wis. Adm. Code, for development of athletic fields, parking lots, and related improvements on the cover of the Holtz Krause Landfill.

8. Conestoga-Rovers & Associates, on behalf of the Holtz Krause PRP Group, submitted the *"Final Design Report for Athletic Fields and Proposed Modifications to Holtz-Krause Landfill"*, dated February 2013. The report was submitted by Conestoga-Rovers & Associates under the seal of a professional engineer relating to the proposed development and the environmental conditions at the Property.

9. Based upon the information provided, the Department issued a conditional grant of exemption to the Holtz Krause PRP Group, dated March 6, 2013, from the prohibitions in s. NR 506.085, Wis. Adm. Code, for development of an athletic complex on the Property where solid waste had been disposed.

10. The Holtz Krause PRP Group submitted a second "*Development at Historic Fill Site or Licensed Landfill Exemption Application*" dated June 2012, for an exemption from the prohibitions in NR 506.085, Wis. Adm. Code, for development of a concession/restroom building and championship field lighting on the cover of the Holtz Krause Landfill, which were not included as part of the original exemption application.

11. Based upon the information provided to the Department, the proposed development at the Property is not expected to cause future exceedances of applicable soil and groundwater standards.

12. Additional documents considered in review of the exemption request include the following:
    - BAL Addendum, Holtz Krause Landfill, June 3, 2013, prepared by Conestoga-Rovers & Associates, St. Paul, MN.
    - Wisconsin Department of Natural Resources Development at Historic Fill Site or Licensed Landfill Exemption Application, June 3, 2013, prepared by Conestoga-Rovers & Associates, St. Paul, MN.
    - Final Design Report for Athletic Fields and Proposed Modifications to Holtz-Krause Landfill, February 2013, prepared by Conestoga-Rovers & Associates, St. Paul, MN
    - Wisconsin Department of Natural Resources Development at Historic Fill Site or Licensed Landfill Exemption Application, April 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN
    - Remedial Action Plan, Proposed Modifications to Holtz-Krause Landfill, April 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN
    - Expert Opinion on Groundwater Quality, Holtz Krause Landfill, Wausau, Wisconsin, April 5, 2012, prepared by Conestoga-Rovers & Associates, St. Paul, MN

13. Additional facts relevant to the review of the grant of exemption modification request include the following:

- *"April 25, 1994 Closure Plan Approval, Holtz & Krause Landfill, License No. 674"* issued by the Department and dated April 25, 1994.
- Holtz & Krause Landfill, Record of Decision, Selected Remedial Alternative, establishing final cover system, gas extraction system, and groundwater remedy dated July 22, 1992.
- Holtz & Krause Landfill, Record of Decision Amendment modifying the groundwater remedy to allow for monitored natural attenuation dated June 22, 2011.

14. The special conditions set forth below are needed to assure that construction of the proposed concession building and championship field light towers is conducted in a manner that will maintain the integrity of the landfill cap, maintain the integrity of the gas extraction system components, prevent settlement, that long-term care is conducted to maintain the landfill cover and gas extraction system, and reduces the potential for deleterious impact to human health or the environment.

15. If conditions set forth below are complied with, development of the Property will not result in environmental pollution as defined in ss. 289.01(8) and 299.01(4), Wis. Stats.

CONCLUSIONS OF LAW

1. The Department has authority under s. NR 500.08(4), Wis. Adm. Code, to issue an exemption from the prohibitions in s. NR 506.085, Wis. Adm. Code, if the proposed development will not cause environmental pollution as defined in ss. 289.01(8) and 299.01(4), Wis. Stats.

2. The Department has authority to approve a grant of exemption with conditions if the conditions are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, or to assure that environmental pollution will not occur.

3. The conditions set forth below are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, and to assure that environmental pollution will not occur.

4. In accordance with the foregoing, the Department has the authority under s. NR 500.08(4), Wis. Adm. Code, to issue the following conditional grant of exemption.

CONDITIONAL GRANT OF EXEMPTION

The Department hereby issues an exemption to the Holtz Krause PRP Group, from the prohibitions in s. NR 506.085, Wis. Adm. Code, for development on the Property which contains solid waste as proposed in the Development at Historic Fill Site or Licensed Landfill Exemption Application, June 3, 2013, and the final design report dated February 2013, subject to the following conditions:

1. No action related to development of the Property may be taken which will cause a significant adverse impact on wetlands as provided in ch. NR 103, Wis. Adm. Code.

2. No action related to development of the Property may be taken which will cause a significant adverse impact on critical habitat areas, as defined in s. NR 500.03(55), Wis. Adm. Code.

3. No action related to development of the Property may be taken which will cause a detrimental effect on any surface water, as defined in s. NR 500.03(62), Wis. Adm. Code.

4. No action related to development of the Property may be taken which will cause a detrimental effect on groundwater, as defined in s. NR 500.03(62), Wis. Adm. Code, or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application as defined in ch. NR 140, Wis. Adm. Code.

5. No action related to development of the Property may be taken which will cause a migration and concentration of explosive gases in any structures in excess of 25% of the lower explosive limit for such gases at any time. No actions may be taken which will cause a migration and concentration of explosive gases in the soils outside of the limits of solid waste disposal within 200 feet of the property boundary or beyond the Property boundary in excess of the lower explosive limit for such gases at any time. No actions may be taken which will cause a migration and concentration of explosive gases in the air outside of the limits of solid waste disposal within 200 feet of the landfill boundary or beyond the landfill property boundary in excess of the lower explosive limit for such gases at any time.

6. No action related to development of the Property may be taken which will cause an emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.03, Wis. Adm. Code.

7. No action related to development of the Property may be taken which will cause an exceedance of a soil cleanup standard in ch. NR 720, Wis. Adm. Code.

8. This exemption shall transfer with changes in property ownership. In accordance with s. 289.46(2), Wis. Stats., any person having or acquiring rights of ownership in land where a solid or hazardous waste disposal facility was previously operated may not undertake any activities on the land which interfere with the closed facility causing a significant threat to public health, safety or welfare. The Department should be contacted to discuss any proposed changes to avoid activities that could violate the statute.

9. This grant of exemption is limited to the proposed changes described in your application and the final design report. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval. This grant of exemption is also based on the expectation that the work will be

done in accordance with the specifications outlined in the exemption application and the final design report. Any variations from these specifications must obtain Department approval prior to being implemented. If any additional structures are considered for placement on the landfill cap, such as bleachers or other structures, you must obtain prior Department approval.

10. This grant of exemption is in addition to the exemption granted by the Department on March 6, 2013, from the prohibitions in s. NR 506.085, Wis. Adm. Code, for development of an athletic complex on the Property where solid waste had been disposed. The conditions in this exemption do not replace or modify any of the conditions contained within the original exemption granted on March 6, 2013.

11. Site development, including construction of a concession/restroom facility with vapor barrier and passive venting system and the championship field lighting, maintaining landfill cover integrity, and all improvements associated with the development shall be conducted in accordance with the specifications in the exemption application dated June 3, 2013, as well as the final design report and the review comments provided by the Department.

12. The Holtz Krause PRP Group shall submit an operations and maintenance plan that includes periodic inspection and maintenance of the landfill cap, and monitoring and maintenance of the gas extraction system, including monitoring of the gas extraction wells, blower, and gas probes.

13. Monitoring results from the gas extraction wells, blower, and gas probes shall be summarized and submitted to the Department annually in an Annual Monitoring Report. This report shall include a summary of inspection and maintenance activities the prior year, their findings and recommended planned and/or completed activities.

14. The proposed buildings and lighting standards on the landfill are considered modifications to the existing cap, and as such, will function as part of the cap. If the buildings or structures change, you must ensure that those areas are restored to the conditions specified in the Department's 1994 closure plan approval for the existing landfill cap.

15. During construction, provide weekly status reports to the Department, and coordinate with the Department in scheduling construction inspections as needed.

16. Final as-built drawings and a construction documentation report shall be submitted to the Department for review and approval, and it should document the modifications to the cap and gas extraction system, and any other site feature modifications and development activities.

17. This document must be given to the general contractor for the site so that they are aware of the conditions related to the development of the site.

18. At the time of site closure, there may be continuing obligations and conditions applied to the site, in addition to those required as part of this exemption.

The Department reserves the right to require the submittal of additional information and to modify this grant of exemption at any time, if in the Department's opinion, modifications are necessary. Unless specifically noted, the conditions of this grant of exemption do not supersede or replace any previous conditions of approval for this property.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

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

Dated: 6/20/2013

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Bill Evans

Bill Evans – West Central Regional Team Supervisor
Remediation & Redevelopment Program

Erin Endsley

Erin Endsley – Hydrogeologist
Remediation & Redevelopment Program
Northern Region

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
PO Box 4001
Eau Claire WI 54702-4001

POST CLOSURE

Scott Walker, Governor
Cathy L. Stepp, Secretary
Dan G. Baumann, Regional Director
Telephone 715-839-3700
FAX 715-839-6076
TTY Access via relay - 711

WISCONSIN DEPT. OF NATURAL RESOURCES

May 15, 2014

BRRTS No. 02-37-000007

MR. DONALD J. GORETSKI
2002 COEL BOULEVARD
WAUSAU, WI 54403

SUBJECT: Removal of Off-Source Properties from the DNR's GIS Registry Related to Final Case Closure of the Holtz Krause Landfill

Dear Mr. Goretski:

On Monday, April 21, 2014, the Department of Natural Resources (DNR) hosted an open house meeting to discuss closure of the Holtz Krause Landfill site and the continuing obligation that was placed upon your residential property (December 26, 2013 letter). During this meeting the question was asked how the neighbors could go about "getting their property removed from the DNR's GIS Registry." Department staff responded by telling meeting participants they would look into the matter and get back with an answer.

Upon review of new groundwater data in this case, the DNR has decided to remove off-source properties, including your property, from the DNR's GIS Registry.

An updated trends analysis of groundwater quality for the Holtz Krause Landfill site - requested by DNR and conducted by the environmental consultant for the Holtz Krause Landfill - shows that contaminant concentrations in groundwater in the residential area should be below the groundwater quality enforcement standard for all compounds in the near future. The groundwater trends analysis was submitted to DNR on April 25, 2014. In addition, the DNR also took into account that groundwater in this area is not used for potable purposes.

DNR staff believes this decision is further supported by the fact that at the time of case closure only one deep groundwater monitoring well in the residential area, which had more than a dozen monitoring wells, had an exceedance of the groundwater enforcement standard for just one compound. Contaminant concentrations in the area have steadily decreased and groundwater quality has measurably improved in the two decades since an impervious cap was installed over the landfill in 1994.

Based on the facts in this case, the DNR has removed the off-source properties from the DNR's GIS Registry on-line web mapping system. This action will not compromise public health or safety. Therefore, you are no longer required to notify prospective buyers of your property about the need to seek a DNR variance for the construction of a private water supply well. Under state law it is the responsibility of well drillers and constructors to investigate whether such a variance is required. DNR has used this opportunity to improve our processes so that in cases like this it will no longer be necessary to list individual properties such as yours on the GIS Registry.

POST CLOSURE

We hope this letter provides you with a higher level of comfort regarding future plans for your property. If you have additional concerns or questions regarding closure of this case or how it impacts your property, please feel free to contact project manager Erin Endsley at 715-392-3126 or by email at Erin.Endsley@Wisconsin.gov.

Sincerely,

for Loren A. Brundsing

Connie Antonuk
Air & Waste Program Manager
Northern District
Wisconsin Department of Natural Resources

LAB:lb

c: Darsi Foss/Michael Prager/Michael Skwarok – RR/5
Connie Antonuk – Rhinelander Service Center
Erin Endsley – Superior Service Center
Ed Culhane – Appleton USDA Office
Adam Streiffer - WDHS
Mark A. Thimke, Foley & Lardner, LLP, 777 East Wisconsin Avenue, Milwaukee, WI 53202-5306
Russell W. Wilson, Ruder Ware, 500 First Street, Suite 8000, P.O. Box 8050, Wausau, WI 54402-8050
Ronald Frehner, P.E., 1801 Old Highway 8 Northwest, Suite 114, St. Paul, MN 55112
Brad Karger, Marathon County Administrator, Marathon County Courthouse, 500 Forest Street, Wausau, WI 54403
James E. Tipple, Mayor, City of Wausau, 407 Grant Street, Wausau, WI 54403
Dave Eisenreich, Holtz Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476

POST CLOSURE

CONESTOGA-ROVERS & ASSOCIATES

1801 Old Highway 8 Northwest, Suite 114
St. Paul, Minnesota 55112
Telephone: (651) 639-0913 Fax: (651) 639-0923
www.CRAworld.com

April 25, 2014

Reference No. 086161

Ms. Erin Endsley
Wisconsin Department of Natural Resources
Northern Region
1701 N 4th St.
Superior, Wisconsin 54880

Dear Ms. Endsley:

Re: Trends in Groundwater Quality in Residential Area
West of the Holtz & Krause Landfill, Wausau, Wisconsin

This letter follows up on the discussion of removal of the groundwater use restriction associated with properties located in the Pleasant Street, Garth Street and Schwebach Street area in Wausau.

In the closure report, CRA identified monitoring wells with test results showing groundwater contamination above enforcement standards. Figures 1 and 2 reflect the benzene and vinyl chloride concentrations as of June 2013. The residential area we discussed is represented by seven monitoring wells (MW-11A, B, C, D; MW-25C, D; and MW-26D), all of which were monitored for many years with the latest sampling round being completed in June 2013. Results from six of the monitoring wells show that groundwater quality is below the enforcement standard. Only MW-25C exhibited benzene and vinyl chloride slightly above the enforcement standard. Table 1 shows the data over the last four sampling rounds. The trend in concentrations at this well location is downward and is expected to reach the enforcement standard levels soon as shown on Figures 3 and 4. CRA completed a trend analysis and determined that the benzene and vinyl chloride levels at MW-25C will both reach the enforcement standard by November 2014.

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ENGINEERING DESIGN

POST CLOSURE

CONESTOGA-ROVERS & ASSOCIATES

April 23, 2014 Reference No. 086161

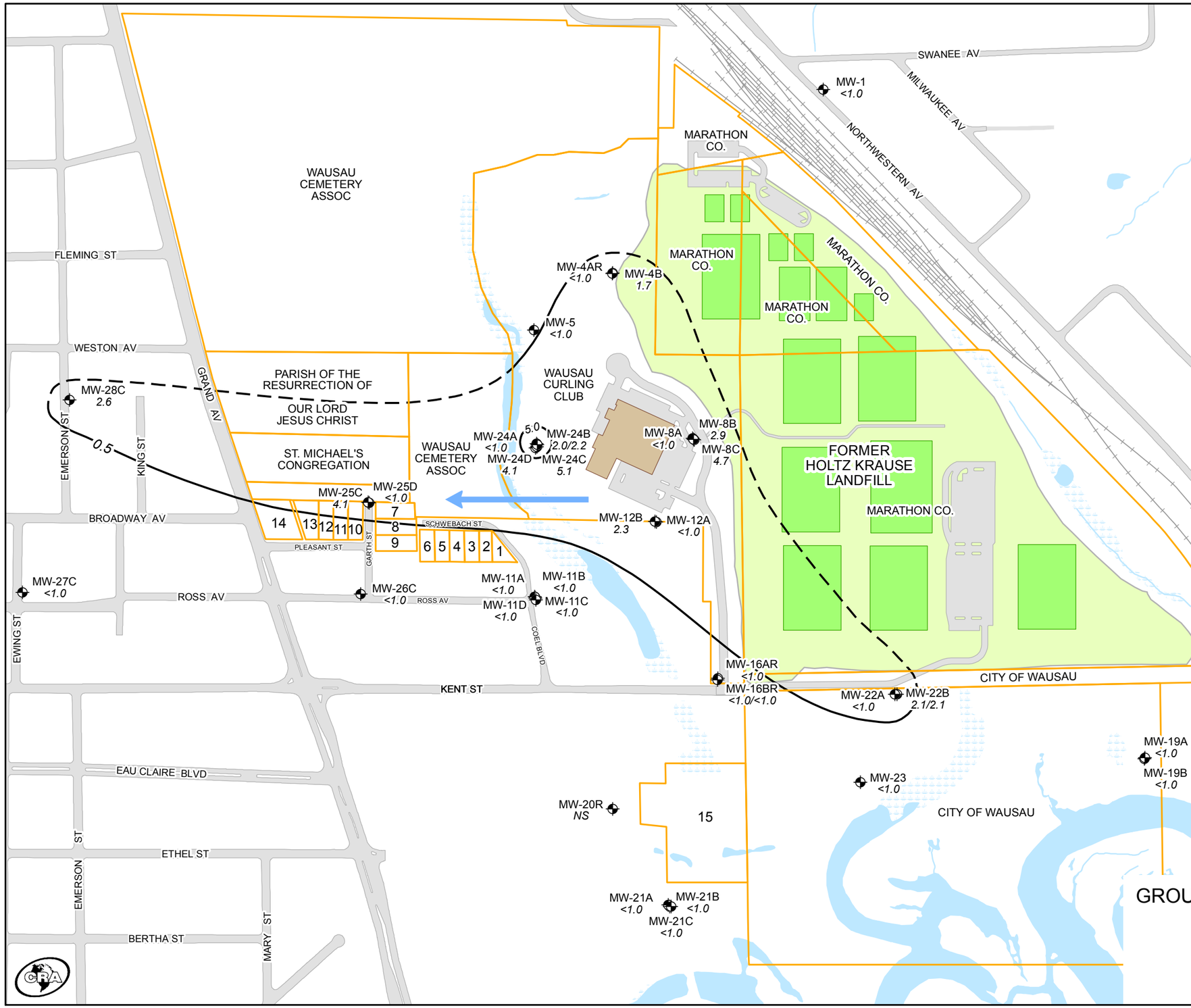
Should you have any questions, please do not hesitate to call.

CONESTOGA-ROVERS & ASSOCIATES

Ron Frehner, P.E.

RF/ma/1

cc: Mark Thimke, Foley and Lardner
Dave Eisenreich, Holtz Krause Steering Committee



LEGEND

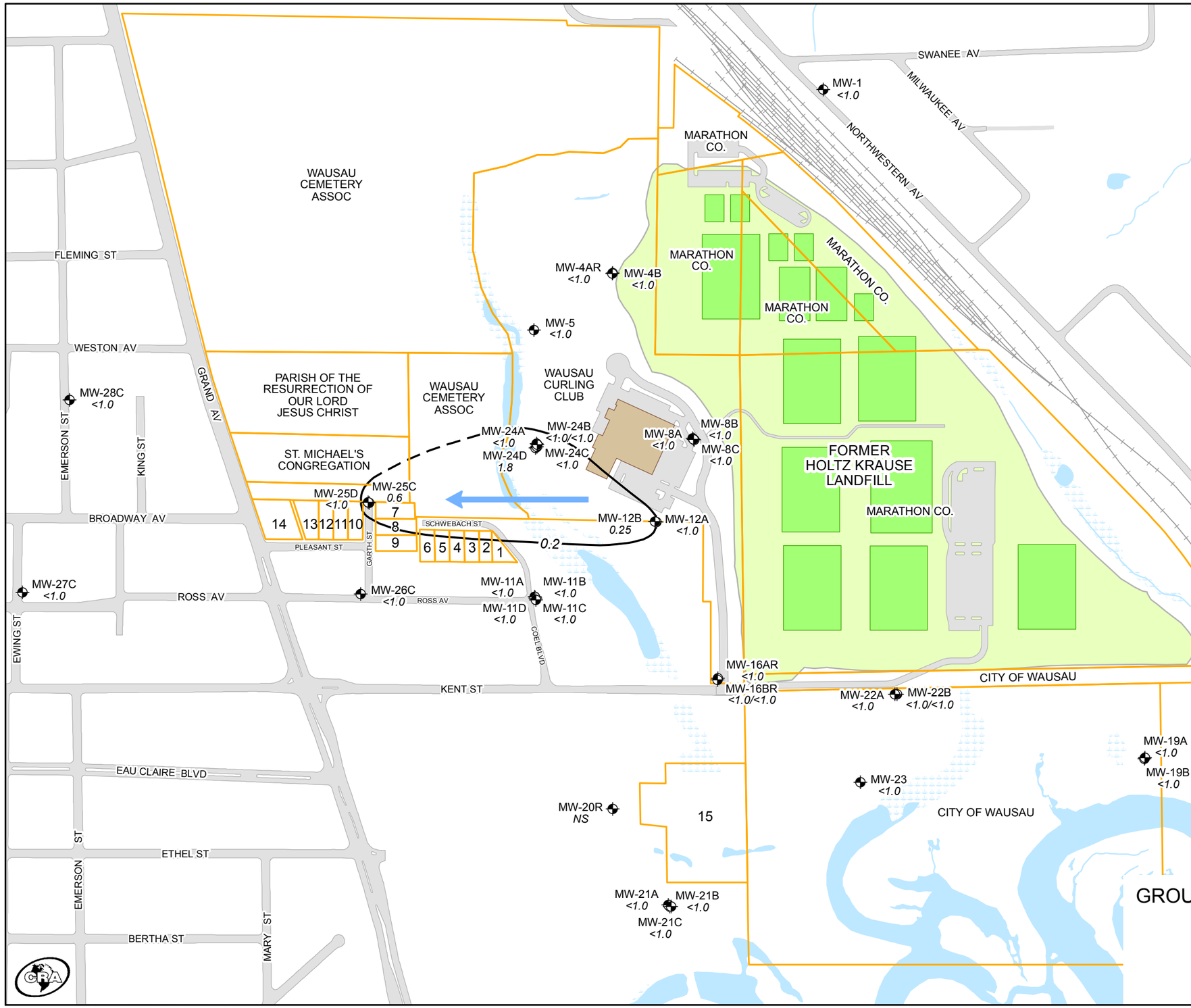
4.1	BENZENE CONCENTRATION (µg/L)
2.2/5.1	DUPLICATE RESULT
NS	NOT SAMPLED
	MONITORING WELL LOCATION
0.5	BENZENE PREVENTATIVE ACTION LIMIT ISOCONCENTRATION (µg/L)
5.0	BENZENE ENFORCEMENT STANDARD ISOCONCENTRATION (µg/L)
	ENGINEERED LANDFILL CAP
	PARCEL BOUNDARY
	GROUNDWATER FLOW DIRECTION JUNE 2013

MAP ID	PARCEL ADDRESS
1	2002 COEL BLVD WAUSAU WI 54403
2	219 SCHWEBACH ST WAUSAU WI 54403
3	213 SCHWEBACH ST WAUSAU WI 54403
4	209 SCHWEBACH ST WAUSAU WI 54403
5	205 SCHWEBACH ST WAUSAU WI 54403
6	201 SCHWEBACH ST WAUSAU WI 54403
7	2003 GARTH ST WAUSAU WI 54403
8	2007 GARTH ST WAUSAU WI 54403
9	2011 GARTH ST WAUSAU WI 54403
10	126 PLEASANT ST WAUSAU WI 54403
11	120 PLEASANT ST WAUSAU WI 54403
12	116 PLEASANT ST WAUSAU WI 54403
13	112 PLEASANT ST WAUSAU WI 54403
14	2001 GRAND AVE WAUSAU WI 54403
15	2313 GRANDVIEW DR WAUSAU WI 54403

figure 1

GROUNDWATER ISOCONCENTRATIONS
BENZENE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

086161-00(ENDSLEY001)GIS-SP001 APR 24/2014



MAP ID	PARCEL ADDRESS
1	2002 COEL BLVD WAUSAU WI 54403
2	219 SCHWEBACH ST WAUSAU WI 54403
3	213 SCHWEBACH ST WAUSAU WI 54403
4	209 SCHWEBACH ST WAUSAU WI 54403
5	205 SCHWEBACH ST WAUSAU WI 54403
6	201 SCHWEBACH ST WAUSAU WI 54403
7	2003 GARTH ST WAUSAU WI 54403
8	2007 GARTH ST WAUSAU WI 54403
9	2011 GARTH ST WAUSAU WI 54403
10	126 PLEASANT ST WAUSAU WI 54403
11	120 PLEASANT ST WAUSAU WI 54403
12	116 PLEASANT ST WAUSAU WI 54403
13	112 PLEASANT ST WAUSAU WI 54403
14	2001 GRAND AVE WAUSAU WI 54403
15	2313 GRANDVIEW DR WAUSAU WI 54403

figure 2

GROUNDWATER ISOCONCENTRATIONS
VINYL CHLORIDE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

086161-00(ENDSLEY001)GIS-SP002 APR 24/2014

Figure 3
Benzene Linear Regression Analysis
MW-25C
Holtz Krause Landfill
Wausau, Wisconsin

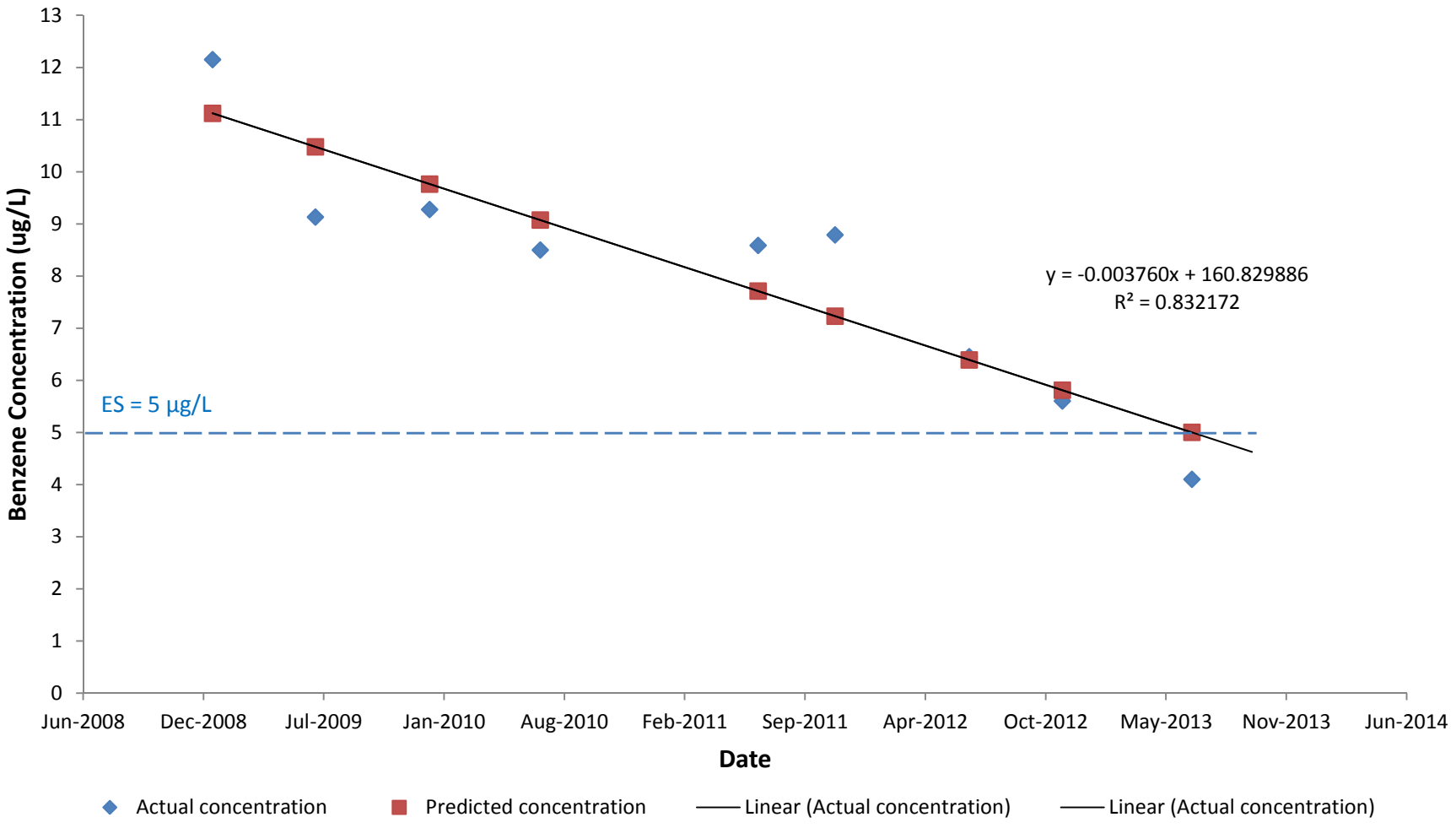


Figure 4
Vinyl Chloride Linear Regression Analysis
MW-25C
Holtz Krause Landfill
Wausau, Wisconsin

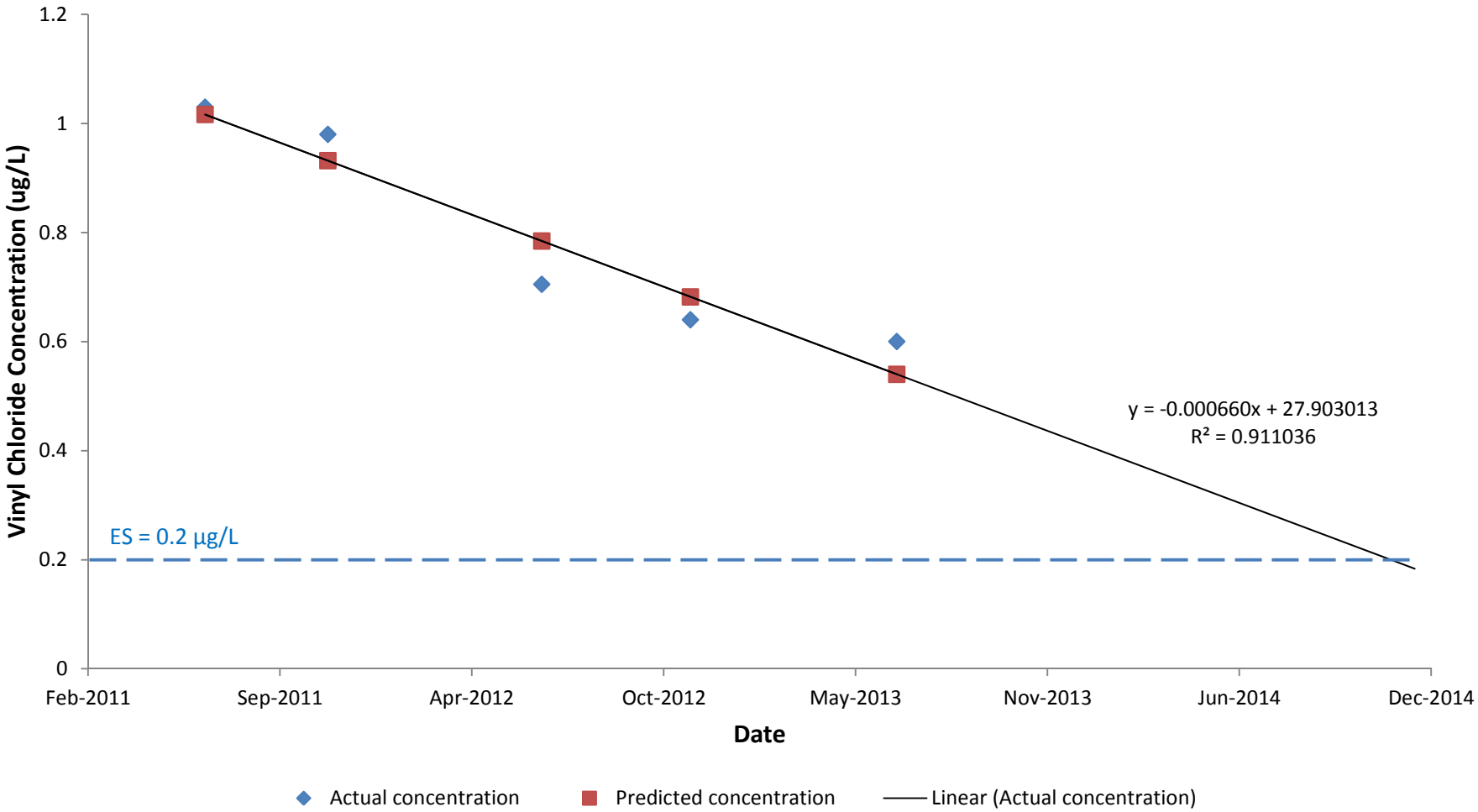


TABLE 1

ENFORCEMENT STANDARD EXCEEDENCES BASED ON
RECENT FOUR GROUNDWATER SAMPLING EVENTS
FORMER HOLTZ & KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well Name	*Sample Date*	*Name*	*Result*	*Comments*	*Recent Four Event Mean*	*ES*
Residential Area Between Landfill and Grand Avenue						
MW-25C	11/3/2011	Benzene	**8.79**			5
MW-25C	6/13/2012	Benzene	**6.45**			5
MW-25C	11/15/2012	Benzene	**5.6**			5
MW-25C	6/18/2013	Benzene	*4.1*	Arithmetic Mean	**6.24**	5
MW-25C	11/3/2011	Vinyl Chloride	**0.98**			0.2
MW-25C	6/13/2012	Vinyl Chloride	**0.71**			0.2
MW-25C	11/15/2012	Vinyl Chloride	**0.64**			0.2
MW-25C	6/18/2013	Vinyl Chloride	**0.6**	Arithmetic Mean	**0.73**	0.2

Notes:

Bold font	Individual result exceeds ES
ES	Enforcement standard

TABLE 2

PREDICTED DATE OF ENFORCEMENT STANDARD COMPLIANCE
BENZENE AND VINYL CHLORIDE AT MW-25C
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Parameter	*Monitoring Well*	*Sample Date*	*Concentration (ug/L)*	*ES*
Benzene	MW-25C	1/2/2009	**12.2**	5
Benzene	MW-25C	1/2/2009	**12.1**	5
Benzene	MW-25C	6/22/2009	**9.13**	5
Benzene	MW-25C	12/29/2009	**9.38**	5
Benzene	MW-25C	12/29/2009	**9.17**	5
Benzene	MW-25C	7/1/2010	**8.5**	5
Benzene	MW-25C	7/1/2010	**8.5**	5
Benzene	MW-25C	6/28/2011	**8.7**	5
Benzene	MW-25C	6/28/2011	**8.7**	5
Benzene	MW-25C	6/28/2011	**8.47**	5
Benzene	MW-25C	6/28/2011	**8.47**	5
Benzene	MW-25C	11/3/2011	**8.79**	5
Benzene	MW-25C	6/13/2012	**6.5**	5
Benzene	MW-25C	6/13/2012	**6.4**	5
Benzene	MW-25C	11/15/2012	**5.6**	5
Benzene	MW-25C	6/18/2013	*4.1*	5
Benzene	MW-25C	6/18/2013	*4.1*	5
		Predicted Date	***Predicted Concentration (ug/L)***	
Benzene	MW-25C	**June 2013**	*5*	
Vinyl Chloride	MW-25C	6/28/2011	**1.03**	0.2
Vinyl Chloride	MW-25C	11/3/2011	**0.98 J**	0.2
Vinyl Chloride	MW-25C	6/13/2012	**0.66**	0.2
Vinyl Chloride	MW-25C	6/13/2012	**0.75**	0.2
Vinyl Chloride	MW-25C	11/15/2012	**0.64**	0.2
Vinyl Chloride	MW-25C	6/18/2013	**0.6 J**	0.2
Vinyl Chloride	MW-25C	6/18/2013	**0.6**	0.2
		Predicted Date	Predicted Concentration (ug/L)	
Vinyl Chloride	MW-25C	**November 2014**	*0.2*	

Note:

Duplicate results were averaged for statistical purposes.

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DEPARTMENT OF NATURAL RESOURCES
Eau Claire Service Center
1300 W. Clairemont Ave.
Eau Claire WI 54701

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

December 26, 2013

Brad Marquardt
City of Wausau
407 Grant Street
Wausau WI 54403-4783

Subject: Continuing Obligations and Property Owner Requirements for the City of Wausau Right of Way, Kent Street East of Curling Way
Final Case Closure for Holtz-Krause Landfill, Wausau, WI
DNR BRRTS Activity #: 02-37-000007

Dear Mr. Marquardt:

The purpose of this letter is to notify you that certain continuing obligations apply to the City of Wausau right of way on Kent Street, east of Curling Way, (referred to in this letter as the "Property") due to contamination remaining on the Property. The continuing obligations are part of the cleanup and case closure approved for the above referenced case, located on Kent Street. (The case is referenced by the location of the source property, i.e. the property where the original discharge occurred, prior to contamination migrating to the Property.) The continuing obligations that apply to the Property are stated as conditions in the attached closure approval letter, and are consistent with s. 292.12, Wis. Stats., and ch. NR 700, Wis. Adm. Code, rule series. They are meant to limit exposure to any remaining environmental contamination at the Property. These continuing obligations will also apply to future owners of the Property, until the conditions no longer exist at the Property.

It is common for properties with approved cleanups to have continuing obligations as part of cleanup/closure approvals. Information on continuing obligations on properties can be found by using the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web. This database is found at http://dnr.wi.gov/topic/Brownfields/clean.html. This page also provides information on how to find further information about the closure and residual contamination, and how to use the map application, RR Sites Map, including the GIS Registry layer, which shows sites closed with residual contamination and continuing obligations.

The Department reviewed and approved the case closure request regarding the groundwater contamination from the Holtz-Krause Landfill, based on the information submitted by Conestoga-Rovers & Associates, the consultant for the Holtz Krause Steering Committee. The Steering Committee is the entity responsible for conducting the cleanup. As required by state law, you received notification about the requested closure from the Holtz Krause Steering Committee. No further investigation or cleanup is required at this time. However, the closure decision is conditioned on the long-term compliance with certain continuing obligations, as described below.

Continuing Obligations Applicable to Your Property

A number of continuing obligations are described in the attached case closure letter to the Holtz Krause Steering Committee, Marathon County, and the Wausau Curling Club, dated December 26, 2013. However, only the following continuing obligations apply to your Property.

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code, enforcement standards.
- The engineered cover must be inspected and maintained over the landfill waste and the DNR must approve any changes to this barrier.

GIS Registry – Well Construction Approval Needed

Because of the residual groundwater contamination and the continuing obligations, this site, which includes your Property, will be listed on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web, at http://dnr.wi.gov/topic/Brownfields/clean.html. If you intend to construct or reconstruct a well on the Property, you will need to get Department approval in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. A well driller can help with this form. This form can be obtained on-line http://dnr.wi.gov/org/water/dwg/forms/3300254.pdf. If at some time, all these continuing obligations are fulfilled, and the remaining contamination is either removed or meets applicable standards, you may request the removal of the Property from the GIS Registry.

Property Owner Responsibilities

The owner (you and any subsequent property owner) of this Property is responsible for compliance with these continuing obligations, pursuant to s. 292.12, Wis. Stats. You are required to pass on the information about these continuing obligations to anyone who purchases this property from you (i.e. pass on this letter), in accordance with s. NR 727.05. For residential property transactions, you are required to make disclosures under Wis. Stats. s. 709.02. You may have additional obligations to notify buyers of the condition of the property and the continuing obligations set out in this letter and the closure letter.

If you lease or rent the property to an occupant who will be responsible for maintaining a continuing obligation, you will need to include that responsibility in a lease agreement, in accordance with s. NR 727.05, Wis. Adm. Code.

Please be aware that failure to comply with the continuing obligations may result in enforcement action by the Department. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter, including compliance with referenced maintenance plans, are met.

These responsibilities are the property owner's. A property owner may enter into a legally binding agreement (such as a contract) with someone else (the person responsible for the cleanup) to take responsibility for compliance with the continuing obligations. If the person with whom any property owner has an agreement fails to adequately comply with the appropriate continuing obligations, the Department has the authority to require the property owner to complete the necessary work.

A legal agreement between you and another party to carry out any of the continuing obligations listed in this letter does not automatically transfer to a new owner of the property. If a subsequent property owner

cannot negotiate a new agreement, the responsibility for compliance with the applicable continuing obligations resides with that Property owner.

When maintenance of a continuing obligation is required, the Property owner is responsible for inspections, repairs, or replacements as needed. Such actions should be documented by the Property owner and the records kept accessible for the Department to review for as long as the Department directs.

You and any subsequent Property owners are responsible for notifying the Department at least 45 days before making a change to a continuing obligation, and obtaining approval, before making any changes to the property that would affect the obligations applied to the Property. Send all written notifications in accordance with the above requirements to the Eau Claire office, to the attention of the RR Environmental Program Associate, at 1300 West Clairemont Avenue, Eau Claire WI 54701.

DNR fact sheet, RR-819, "Continuing Obligations for Environmental Protection" helps explain a property owner's responsibility for continuing obligations on their property. This fact sheet was sent to you when you received a notification letter before the closure request was submitted to the DNR. You may obtain a copy at http://dnr.wi.gov/org/aw/rr/archives/pubs/RR819.pdf.

Under s. 292.13, Wis. Stats., owners of properties affected by contamination from another property are generally exempt from investigating or cleaning up a hazardous substance discharge that has migrated onto a property from another property, through the soil, groundwater or sediment pathway. However, the exemption under s. 292.13, Wis. Stats., does not exempt the property owner from the responsibility to maintain a continuing obligation placed on the property in accordance with s. 292.12, Wis. Stats. To maintain this exemption, that statute requires the current property owner and any subsequent property owners, to meet the conditions in the statute, including:

- Granting reasonable access to DNR or responsible party, or their contractors;
- Avoiding interference with response actions taken; and
- Avoiding actions that make the contamination worse (e.g., demolishing a structure and causing or worsening the discharges to the environment).

The Department appreciates your efforts. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Erin Endsley at 715-392-3126, or by email at erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Team Supervisor
Remediation & Redevelopment Program

Attach. Holtz-Krause Landfill Final Closure Letter, December 26, 2013

cc: Dave Eisenreich, Holtz-Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476
Ron Frehner, Conestoga-Rovers & Associates, 1801 Old Hwy 8 NW, Suite #114, St. Paul, MN 55112

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Eau Claire WI 54701

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WISCONSIN
DEPT. OF NATURAL RESOURCES

December 26, 2013

The Rights of Way on Coel Blvd., Schwebach St. and Garth St. have been removed from the Impacted Property Notification Information form in Attachment F.

Brad Marquardt
City of Wausau
407 Grant Street
Wausau WI 54403-4783

Subject: Continuing Obligations and Property Owner Requirements for the City of Wausau Right of Ways: Curling Way, Coel Blvd., Schwebach St., Garth St.
Final Case Closure for Holtz-Krause Landfill, Wausau, WI
DNR BRRTS Activity #: 02-37-000007

Dear Mr. Marquardt:

The purpose of this letter is to notify you that certain continuing obligations apply to the City of Wausau right of ways on Curling Way, Coel Blvd., Schwebach St., and Garth St., (referred to in this letter as the "Properties") due to contamination remaining on the Properties. The continuing obligations are part of the cleanup and case closure approved for the above referenced case, located on Kent Street. (The case is referenced by the location of the source property, i.e. the property where the original discharge occurred, prior to contamination migrating to the Property.) The continuing obligations that apply to the Property are stated as conditions in the attached closure approval letter, and are consistent with s. 292.12, Wis. Stats., and ch. NR 700, Wis. Adm. Code, rule series. They are meant to limit exposure to any remaining environmental contamination at the Properties. These continuing obligations will also apply to future owners of these Properties, until the conditions no longer exist at the Properties.

It is common for properties with approved cleanups to have continuing obligations as part of cleanup/closure approvals. Information on continuing obligations on properties can be found by using the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web. This database is found at http://dnr.wi.gov/topic/Brownfields/clean.html. This page also provides information on how to find further information about the closure and residual contamination, and how to use the map application, RR Sites Map, including the GIS Registry layer, which shows sites closed with residual contamination and continuing obligations.

The Department reviewed and approved the case closure request regarding the groundwater contamination from the Holtz-Krause Landfill, based on the information submitted by Conestoga-Rovers & Associates, the consultant for the Holtz Krause Steering Committee. The Steering Committee is the entity responsible for conducting the cleanup. As required by state law, you received notification about the requested closure from the Holtz Krause Steering Committee. No further investigation or cleanup is required at this time. However, the closure decision is conditioned on the long-term compliance with certain continuing obligations, as described below.

Continuing Obligations Applicable to Your Properties

A number of continuing obligations are described in the attached case closure letter to the Holtz Krause Steering Committee, Marathon County, and the Wausau Curling Club, dated December 26, 2013. However, only the following continuing obligation applies to your Properties.

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code, enforcement standards.

GIS Registry – Well Construction Approval Needed

Because of the residual groundwater contamination and the continuing obligations, this site, which includes your Properties, will be listed on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web, at http://dnr.wi.gov/topic/Brownfields/clean.html. If you intend to construct or reconstruct a well on the Properties, you will need to get Department approval in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. A well driller can help with this form. This form can be obtained on-line http://dnr.wi.gov/org/water/dwg/forms/3300254.pdf. If at some time, all these continuing obligations are fulfilled, and the remaining contamination is either removed or meets applicable standards, you may request the removal of the Properties from the GIS Registry.

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The owner (you and any subsequent property owner) of these Properties is responsible for compliance with these continuing obligations, pursuant to s. 292.12, Wis. Stats. You are required to pass on the information about these continuing obligations to anyone who purchases these properties from you (i.e. pass on this letter), in accordance with s. NR 727.05. For residential property transactions, you are required to make disclosures under Wis. Stats. s. 709.02. You may have additional obligations to notify buyers of the condition of the property and the continuing obligations set out in this letter and the closure letter.

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Please be aware that failure to comply with the continuing obligations may result in enforcement action by the Department. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter are met.

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You and any subsequent Property owners are responsible for notifying the Department at least 45 days before making a change to a continuing obligation, and obtaining approval, before making any changes to the property that would affect the obligations applied to the Property. Send all written notifications in accordance with the above requirements to the Eau Claire office, to the attention of the RR Environmental Program Associate, at 1300 West Clairemont Avenue, Eau Claire WI 54701.

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Under s. 292.13, Wis. Stats., owners of properties affected by contamination from another property are generally exempt from investigating or cleaning up a hazardous substance discharge that has migrated onto a property from another property, through the soil, groundwater or sediment pathway. However, the exemption under s. 292.13, Wis. Stats., does not exempt the property owner from the responsibility to maintain a continuing obligation placed on the property in accordance with s. 292.12, Wis. Stats. To maintain this exemption, that statute requires the current property owner and any subsequent property owners, to meet the conditions in the statute, including:

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- Avoiding interference with response actions taken; and
- Avoiding actions that make the contamination worse (e.g., demolishing a structure and causing or worsening the discharges to the environment).

The Department appreciates your efforts. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Erin Endsley at 715-392-3126, or by email at erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Team Supervisor
Remediation & Redevelopment Program

Attach. Holtz-Krause Landfill Final Closure Letter, December 26, 2013

cc: Dave Eisenreich, Holtz-Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476
Ron Frehner, Conestoga-Rovers & Associates, 1801 Old Hwy 8 NW, Suite #114, St. Paul, MN 55112

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WISCONSIN
DEPT. OF NATURAL RESOURCES

December 26, 2013

Brad Marquardt
City of Wausau
407 Grant Street
Wausau WI 54403-4783

Subject: Continuing Obligations and Property Owner Requirements for the City of Wausau Right of Way on Northwestern Avenue
Final Case Closure for Holtz-Krause Landfill, Wausau, WI
DNR BRRTS Activity #: 02-37-000007

Dear Mr. Marquardt:

The purpose of this letter is to notify you that certain continuing obligations apply to the City of Wausau right of way on Northwestern Avenue. (referred to in this letter as the "Property") due to contamination remaining on the Property. The continuing obligations are part of the cleanup and case closure approved for the above referenced case, located on Kent Street. (The case is referenced by the location of the source property, i.e. the property where the original discharge occurred, prior to contamination migrating to the Property.) The continuing obligations that apply to the Property are stated as conditions in the attached closure approval letter, and are consistent with s. 292.12, Wis. Stats., and ch. NR 700, Wis. Adm. Code, rule series. They are meant to limit exposure to any remaining environmental contamination at the Property. These continuing obligations will also apply to future owners of the Property, until the conditions no longer exist at the Property.

It is common for properties with approved cleanups to have continuing obligations as part of cleanup/closure approvals. Information on continuing obligations on properties can be found by using the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web. This database is found at http://dnr.wi.gov/topic/Brownfields/clean.html. This page also provides information on how to find further information about the closure and residual contamination, and how to use the map application, RR Sites Map, including the GIS Registry layer, which shows sites closed with residual contamination and continuing obligations.

The Department reviewed and approved the case closure request regarding the groundwater contamination from the Holtz-Krause Landfill, based on the information submitted by Conestoga-Rovers & Associates, the consultant for the Holtz Krause Steering Committee. The Steering Committee is the entity responsible for conducting the cleanup. As required by state law, you received notification about the requested closure from the Holtz Krause Steering Committee. No further investigation or cleanup is required at this time. However, the closure decision is conditioned on the long-term compliance with certain continuing obligations, as described below.

Continuing Obligations Applicable to Your Property

A number of continuing obligations are described in the attached case closure letter to the Holtz Krause Steering Committee, Marathon County, and the Wausau Curling Club, dated December 26, 2013. However, only the following continuing obligation applies to your Property.

- One monitoring well was not located and must be properly filled and sealed if found.

Property Owner Responsibilities

The owner (you and any subsequent property owner) of this Property is responsible for compliance with these continuing obligations, pursuant to s. 292.12, Wis. Stats. You are required to pass on the information about these continuing obligations to anyone who purchases this property from you (i.e. pass on this letter), in accordance with s. NR 727.05. For residential property transactions, you are required to make disclosures under Wis. Stats. s. 709.02. You may have additional obligations to notify buyers of the condition of the property and the continuing obligations set out in this letter and the closure letter.

If you lease or rent the property to an occupant who will be responsible for maintaining a continuing obligation, you will need to include that responsibility in a lease agreement, in accordance with s. NR 727.05, Wis. Adm. Code.

Please be aware that failure to comply with the continuing obligations may result in enforcement action by the Department. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter are met.

These responsibilities are the property owner's. A property owner may enter into a legally binding agreement (such as a contract) with someone else (the person responsible for the cleanup) to take responsibility for compliance with the continuing obligations. If the person with whom any property owner has an agreement fails to adequately comply with the appropriate continuing obligations, the Department has the authority to require the property owner to complete the necessary work.

A legal agreement between you and another party to carry out any of the continuing obligations listed in this letter does not automatically transfer to a new owner of the property. If a subsequent property owner cannot negotiate a new agreement, the responsibility for compliance with the applicable continuing obligations resides with that Property owner.

You and any subsequent Property owners are responsible for notifying the Department at least 45 days before making a change to a continuing obligation, and obtaining approval, before making any changes to the property that would affect the obligations applied to the Property. Send all written notifications in accordance with the above requirements to the Eau Claire office, to the attention of the RR Environmental Program Associate, at 1300 West Clairemont Avenue, Eau Claire WI 54701.

DNR fact sheet, RR-819, "Continuing Obligations for Environmental Protection" helps explain a property owner's responsibility for continuing obligations on their property. This fact sheet was sent to you when you received a notification letter before the closure request was submitted to the DNR. You may obtain a copy at http://dnr.wi.gov/org/aw/rr/archives/pubs/RR819.pdf.

Under s. 292.13, Wis. Stats., owners of properties affected by contamination from another property are generally exempt from investigating or cleaning up a hazardous substance discharge that has migrated onto a property from another property, through the soil, groundwater or sediment pathway. However, the exemption under s. 292.13, Wis. Stats., does not exempt the property owner from the responsibility to maintain a continuing obligation placed on the property in accordance with s. 292.12, Wis. Stats. To maintain this exemption, that statute requires the current property owner and any subsequent property owners, to meet the conditions in the statute, including:

- Granting reasonable access to DNR or responsible party, or their contractors;
- Avoiding interference with response actions taken; and
- Avoiding actions that make the contamination worse (e.g., demolishing a structure and causing or worsening the discharges to the environment).

The Department appreciates your efforts. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Erin Endsley at 715-392-3126, or by email at erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Team Supervisor
Remediation & Redevelopment Program

Attach. Holtz-Krause Landfill Final Closure Letter, December 26, 2013

cc: Dave Eisenreich, Holtz-Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476
Ron Frehner, Conestoga-Rovers & Associates, 1801 Old Hwy 8 NW, Suite #114, St. Paul, MN 55112

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Eau Claire Service Center
1300 W. Clairemont Ave.
Eau Claire WI 54701

OFF-SOURCE
J
PROPERTY

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

December 26, 2013

Grandview Storage
2313 Grandview Drive
Wausau WI 54403

Subject: Continuing Obligations and Property Owner Requirements for
2313 Grandview Dr.
Parcel Identification Number: 291-2807-014-0895
Final Case Closure for Holtz-Krause Landfill, Wausau, WI
DNR BRRTS Activity #: 02-37-000007

Dear Grandview Storage:

The purpose of this letter is to notify you that certain continuing obligations apply to the property at 2313 Grandview Drive (referred to in this letter as the "Property") due to contamination remaining on the Property. The continuing obligations are part of the cleanup and case closure approved for the above referenced case, located on Kent Street. (The case is referenced by the location of the source property, i.e. the property where the original discharge occurred, prior to contamination migrating to the Property.) The continuing obligations that apply to the Property are stated as conditions in the attached closure approval letter, and are consistent with s. 292.12, Wis. Stats., and ch. NR 700, Wis. Adm. Code, rule series. They are meant to limit exposure to any remaining environmental contamination at the Property. These continuing obligations will also apply to future owners of the Property, until the conditions no longer exist at the Property.

It is common for properties with approved cleanups to have continuing obligations as part of cleanup/closure approvals. Information on continuing obligations on properties can be found by using the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web. This database is found at http://dnr.wi.gov/topic/Brownfields/clean.html. This page also provides information on how to find further information about the closure and residual contamination, and how to use the map application, RR Sites Map, including the GIS Registry layer, which shows sites closed with residual contamination and continuing obligations.

The Department reviewed and approved the case closure request regarding the groundwater contamination from the Holtz-Krause Landfill, based on the information submitted by Conestoga-Rovers & Associates, the consultant for the Holtz Krause Steering Committee. The Steering Committee is the entity responsible for conducting the cleanup. As required by state law, you received notification about the requested closure from the Holtz Krause Steering Committee. No further investigation or cleanup is required at this time. However, the closure decision is conditioned on the long-term compliance with certain continuing obligations, as described below.

Continuing Obligations Applicable to Your Property

A number of continuing obligations are described in the attached case closure letter to the Holtz Krause Steering Committee, Marathon County, and the Wausau Curling Club, dated December 26, 2013. However, only the following continuing obligation applies to your Property.

- One monitoring well was not located and must be properly filled and sealed if found.

Property Owner Responsibilities

The owner (you and any subsequent property owner) of this Property is responsible for compliance with these continuing obligations, pursuant to s. 292.12, Wis. Stats. You are required to pass on the information about these continuing obligations to anyone who purchases this property from you (i.e. pass on this letter), in accordance with s. NR 727.05. For residential property transactions, you are required to make disclosures under Wis. Stats. s. 709.02. You may have additional obligations to notify buyers of the condition of the property and the continuing obligations set out in this letter and the closure letter.

If you lease or rent the property to an occupant who will be responsible for maintaining a continuing obligation, you will need to include that responsibility in a lease agreement, in accordance with s. NR 727.05, Wis. Adm. Code.

Please be aware that failure to comply with the continuing obligations may result in enforcement action by the Department. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter are met.

These responsibilities are the property owner's. A property owner may enter into a legally binding agreement (such as a contract) with someone else (the person responsible for the cleanup) to take responsibility for compliance with the continuing obligations. If the person with whom any property owner has an agreement fails to adequately comply with the appropriate continuing obligations, the Department has the authority to require the property owner to complete the necessary work.

A legal agreement between you and another party to carry out any of the continuing obligations listed in this letter does not automatically transfer to a new owner of the property. If a subsequent property owner cannot negotiate a new agreement, the responsibility for compliance with the applicable continuing obligations resides with that Property owner.

You and any subsequent Property owners are responsible for notifying the Department at least 45 days before making a change to a continuing obligation, and obtaining approval, before making any changes to the property that would affect the obligations applied to the Property. Send all written notifications in accordance with the above requirements to the Eau Claire office, to the attention of the RR Environmental Program Associate, at 1300 West Clairemont Avenue, Eau Claire WI 54701.

DNR fact sheet, RR-819, "Continuing Obligations for Environmental Protection" helps explain a property owner's responsibility for continuing obligations on their property. This fact sheet was sent to you when you received a notification letter before the closure request was submitted to the DNR. You may obtain a copy at http://dnr.wi.gov/org/aw/rr/archives/pubs/RR819.pdf.

Under s. 292.13, Wis. Stats., owners of properties affected by contamination from another property are generally exempt from investigating or cleaning up a hazardous substance discharge that has migrated onto a property from another property, through the soil, groundwater or sediment pathway. However, the exemption under s. 292.13, Wis. Stats., does not exempt the property owner from the responsibility to maintain a continuing obligation placed on the property in accordance with s. 292.12, Wis. Stats. To maintain this exemption, that statute requires the current property owner and any subsequent property owners, to meet the conditions in the statute, including:

- Granting reasonable access to DNR or responsible party, or their contractors;
- Avoiding interference with response actions taken; and
- Avoiding actions that make the contamination worse (e.g., demolishing a structure and causing or worsening the discharges to the environment).

The Department appreciates your efforts. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Erin Endsley at 715-392-3126, or by email at erin.endsley@wisconsin.gov.

Sincerely,

Bill Evans

Bill Evans
West Central Team Supervisor
Remediation & Redevelopment Program

Attach. Holtz-Krause Landfill Final Closure Letter, December 26, 2013

cc: Dave Eisenreich, Holtz-Krause Steering Committee, 5208 DJ Lane, Schofield, WI 54476
Ron Frehner, Conestoga-Rovers & Associates, 1801 Old Hwy 8 NW, Suite #114, St. Paul, MN 55112

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
West Central Region Headquarters
1300 W. Clairemont Avenue
Eau Claire WI 54701

Scott Walker, Governor
Cathy L. Stepp, Secretary
Dan G. Baumann, Regional Director
Telephone 715-839-3700
FAX 715-839-6076
TTY Access via relay - 711

March 10, 2014

BRRTS No. 02-37-000007
FID No. 737055880

MR. DAVE EISENREICH
HOLTZ KRAUSE STEERING COMMITTEE
5208 DJ LANE
SCHOFIELD, WI 54476

Subject: A *Certificate of Completion* under the Voluntary Party Liability Exemption Program for the Environmental Investigation and Cleanup of the Holtz Krause Landfill Site, East Kent Street and Curling Way, City of Wausau, Marathon County, Wisconsin

Dear Mr. Eisenreich:

The Wisconsin Department of Natural Resources ("the Department") has reviewed your request for issuance of a *Certificate of Completion* under the Voluntary Party Liability Exemption ("VPLE") Program for the environmental investigation and cleanup of property owned by Marathon County and the Wausau Curling Club, Inc. and known as the Holtz Krause Landfill site located at East Kent Street and Curling Way, and Junction Street, City of Wausau, Marathon County, Wisconsin. You have requested that the Department determine whether the Holtz Krause Steering Committee has met the environmental investigation and remediation requirements under s. 292.15(2), Wis. Stats., for issuance of a *Certificate of Completion.*

The Holtz Krause Landfill site consists of six (6) parcels and approximately 92.71 acres of real property described on five deeds located in parts of the South ½ of the Northwest ¼ and North ½ of the Southwest ¼ of Section 6, Township 28 North, Range 08 East, and parts of the Southeast ¼ of the Northeast ¼ and Northeast ¼ of the Southeast ¼ of Section 1, Township 28 North, Range 07 East, City of Wausau, Marathon County, Wisconsin, hereinafter referred to as "the Property." The Property is further described in the aforementioned deeds in Attachment A of the *Certificate of Completion.*

Determination

As you are aware, s. 292.15, Wis. Stats., authorizes the Department to issue a *Certificate of Completion* to a voluntary party that conducts an approved environmental investigation of a property and restores the environment to the extent practicable and minimizes the harmful effects with respect to hazardous substance discharges on or originating from the Property. Based on the information received by the Department, the Department has determined that the investigation and cleanup of the Property is complete and that all conditions in s. 292.15(2), Wis. Stats., have been met. Attached is the *Certificate of Completion* for this Property.

The Property has been entered onto the WDNR's Geographical Information System ("GIS") Registry due to the presence of groundwater contamination above ch. NR 140, Wis. Adm. Code, enforcement standards and the requirement to inspect and maintain an engineered cover over the landfill waste materials. The purpose of maintaining this database is to make this information available to the public and to notify future property owners of any requirements, limitations, or conditions imposed by the Department. Continuing obligations and cap maintenance plans imposed by the Department for the Property are described in the final case closure letter, with continuing obligations, as an attachment to the *Certificate of Completion*. Particular attention should be paid to these continuing obligations because failure to maintain and monitor the property as required in case closure letters can result in the loss of your liability protections.

Conclusions

The Department appreciates the work conducted by the Holtz Krause Steering Committee to investigate and restore the environment to the extent practicable at the Property. The exemptions provided by this *Certificate of Completion* apply to any successor or assignee of the Holtz Krause Steering Committee, dependent upon the successor or assignee complying with the conditions of s. 292.15, Wis. Stats. If you have any questions or concerns regarding the *Certificate of Completion* and its exemptions or responsibilities, please call me at 715-839-3770 or Attorney Lacy Cochart at 608-267-0846.

Sincerely,

Loren A. Brumberg

Loren A. Brumberg
Land Recycling Specialist
Remediation & Redevelopment Program

LAB:lb
Attachment: *Certificate of Completion*

c: Michael Prager – RR/5
Lacy Cochart – LS/8
Bill Evans – WCR
Erin Endsley – Superior Service Center
Lisa Gutknecht – Wausau Service Center
Mark A. Thimke, Foley & Lardner, LLP, 777 East Wisconsin Avenue, Milwaukee, WI 53202-5306
Russell W. Wilson, Ruder Ware, 500 First Street, Suite 8000, P.O. Box 8050, Wausau, WI 54402-8050
Ronald Frehner, P.E., 1801 Old Highway 8 Northwest, Suite 114, St. Paul, MN 55112
Brad Karger, Marathon County Administrator, Marathon County Courthouse, 500 Forest Street, Wausau, WI 54403
James E. Tipple, Mayor, City of Wausau, 407 Grant Street, Wausau, WI 54403
Cal R. Tillisch, Goyke, Tillisch & Higgins, LLP, 816 North 3rd Street, Wausau, WI 54403

State of Wisconsin
Department of Natural Resources

CERTIFICATE OF COMPLETION OF RESPONSE ACTIONS UNDER SECTION 292.15(2)(ae), WIS. STATS.

Whereas, the **Holtz and Krause Landfill Steering Committee** has applied for an exemption from liability under s. 292.15, Wis. Stats., for real property located along East Kent Street, Curling Way, and Northwestern Avenue in the City of Wausau, Marathon County, Wisconsin, which is commonly referred to as the Holtz Krause Landfill, further described in the legal description found in Attachment A, hereinafter referred to as "the Property";

Whereas, an environmental investigation of the Property has been conducted and the Wisconsin Department of Natural Resources ("the WDNR") has determined that contamination exists at the Property;

Whereas, the **Holtz and Krause Landfill Steering Committee** has submitted to the WDNR certain investigation reports, remedial action plans, and final design plans and modifications to the Holtz Krause Landfill, for the Property which comply with the requirements set forth in chs. NR 700-754, Wis. Adm. Code, consisting of documents and reports listed in Attachment B;

Whereas, in accordance with s. 292.15(2)(ae)1., Wis. Stats., the WDNR has determined that an environmental investigation has been conducted which adequately identified and evaluated the nature, degree, and extent of the hazardous substance discharges on the Property. The WDNR approved of the site investigation in a letter issued to the Holtz Krause Steering Committee on **July 25, 2012**;

Whereas, the WDNR has determined that s. 292.15, Wis. Stats., applies to the Holtz Krause Landfill, as a non-approved, solid waste facility where active remedial operation or treatment is not required, including where groundwater monitoring, leachate or groundwater collection or treatment, or active gas extraction is not required as all or part of the remedial action, and the **Holtz and Krause Landfill Steering Committee** is eligible for the exemption under s. 292.15, Wis. Stats.;

Whereas, on March 6, 2013, and June 20, 2013, the WDNR issued Conditional Grants of Exemption for Development on a Licensed Landfill for construction of athletic fields and modifications to the Holtz Krause Landfill, and a concession/restroom building and championship field lighting for the Holtz Krause athletic field complex (Attachment C). If any person proposes to do any future construction work on the Property, the person shall obtain written approval for the work from the WDNR based on s. 506.085, Wis. Adm. Code, prior to initiating any construction on the Property;

Whereas, groundwater contamination on the Property exceeds groundwater quality enforcement standards under s. NR 140, Wis. Adm. Code, and the engineered cover must be inspected,maintained and repaired over the landfill waste. Therefore, the Property will be listed on the WDNR's Geographical Information System database ("the GIS Registry"), pursuant to s.292.12 (3), Wis. Stats. The **Holtz and Krause Landfill Steering Committee** has submitted to the WDNR all the information necessary to be listed on the GIS Registry, pursuant to s. NR 726.11, Wis. Adm. Code;

Whereas, on December 26, 2013, the WDNR issued a final case closure, with continuing obligations, letter for the Property (Attachment D). The owner of this Property shall adhere to, abide by, and maintain the continuing obligations and other requirements that are specified in the attached final case closure letter and site Operations and Maintenance Plan dated November, 2013. The Property will be listed on the WDNR's GIS Registry of Sites with Residual Contamination and Continuing Obligations. The case closure letter includes the following continuing obligations:

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code, enforcement standards.
- One or more monitoring wells were not located and must be properly filled and sealed if found.
- The engineered cover must be inspected,maintained, and repaired over the landfill waste in accordance with the approved Maintenance and Operations Plan, and the WDNR must approve any changes to this barrier.
- Operations and maintenance of an active gas extraction system, monitoring of the system, and annual reporting to the WDNR is required through a Building on Abandoned Landfill ("BAL") Exemption dated March 6, 2013, given the Property's intended use as a soccer field complex.
- If site use changes in the future, such that the active gas extraction system is no longer necessary by the site owner, the site owner at that time must construct and maintain at a minimum a passive venting system that adequately addresses the contaminants of concern as approved by the WDNR.

Whereas, the WDNR has determined that the response action is complete and was based on the Property being used as a soccer field complex. In the event it is proposed that the Property use changes, and the active gas extraction system is no longer necessary, the site owner must construct and maintain at a minimum a passive gas venting system for methane mitigation approved by the WDNR;

Whereas, the Property is a solid waste landfill enclosed by an engineered final cover consisting of 2-feet of native soils; 2-feet of clay; 40-millimeter very low density polyethylene geo-membrane; 2.5-feet of rooting zone soils; and 6-inches of top soil. The engineered cover shall be inspected, maintained, and repaired over the solid waste in accordance with the approved Maintenance and Operations Plan, and the WDNR must approve any changes to this barrier;

Whereas, if the requirements of this Certificate, the final case closure letter, or the approved Maintenance and Operation Plan are not followed, or if the land use changes from land uses approved in the March 6, 2013, and June 20, 2013, Conditional Grants of Exemption for Development on a Licensed Landfill without WDNR approval, the WDNR may take actions under ss. 292.11 or 292.12, Wis. Stats., to ensure compliance with the specified requirements and the person who owns or controls the Property may no longer qualify for the liability protections under s. 292.15, Wis. Stats.;

Whereas, the **Holtz and Krause Landfill Steering Committee** has paid to the WDNR the appropriate environmental insurance fee and has submitted a complete environmental insurance application form to obtain coverage for the Property under Wisconsin's master insurance contract in accordance with s. 292.15(2)(ae)3m., Wis. Stats., and ch. NR 754, Wis. Adm. Code, based on their desire to use natural attenuation to remediate groundwater contamination that exceeds ch. NR 140, Wis. Adm. Code, groundwater quality enforcement standards;

Whereas, on December 26, 2013, the WDNR determined that response actions necessary to restore the environment to the extent practicable were completed, except with respect to groundwater contaminated with arsenic, benzene, tetrahydrofuran, and vinyl chloride above ch. NR 140, Wis. Adm. Code, groundwater quality enforcement standards. The WDNR determined that this groundwater contamination will be brought into compliance through natural attenuation in accordance with administrative rules promulgated by the WDNR.

Therefore, based upon the information that has been submitted, the WDNR hereby certifies that the response actions set forth in the WDNR-approved remedial action plan and case closure letter for the Property and any other necessary response actions have been completed in accordance with rules promulgated by the WDNR.

Upon issuance of this *Certificate of Completion*, the **Holtz and Krause Landfill Steering Committee** and persons qualified for protection under s. 292.15(3), Wis. Stats., are exempt from the provisions of ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c) and 292.31(8), Wis. Stats., with respect to the existence of hazardous substances on or originating from the Property, the release of which occurred prior to the date the WDNR approved the environmental investigation required under s. 292.15(2)(ae)1., Wis. Stats.

However, the person who owns or controls the Property would no longer qualify for this liability exemption if that person fails to maintain or monitor the Property as required by the March 6, 2013, and June 20, 2013, Conditional Grants of Exemption for Development on a Licensed Landfill the conditions in this *Certificate of Completion*, the December 26, 2013, final case closure letter, s. 292.12, Wis. Stats., and administrative rules promulgated by the WDNR. Any discharges of a hazardous substance to or from the Property that occur after the date that the environmental investigation was approved will be the responsibility of the current Property owner and any other person who possesses or controls that discharge and any person who caused the discharge.

If natural attenuation of contaminated groundwater fails, the insurance coverage under s. 292.15(2)(ae)3m., Wis. Stats., may be used by the state to cover the costs of complying with s. 292.11(3), Wis. Stats., with respect to groundwater quality.

The protection from liability provided under s. 292.15(2), Wis. Stats., does not apply to any person who has obtained a *Certificate of Completion* by fraud or misrepresentation, or by the knowingly failing to disclose material information or under circumstances in which the **Holtz and Krause Landfill Steering Committee** knew or should have known about more discharges of hazardous substances than was revealed by the investigation approved by the WDNR.

Nothing in this *Certificate of Completion* or in s. 292.15, Wis. Stats., affects the authority of the WDNR to exercise any powers or duties under applicable laws other than ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c) and 292.31(8), Wis. Stats., with respect to any release or threatened release of contaminants at the Property, or the right of the WDNR to seek relief available against any person who is not entitled to protection from liability under s. 292.15, Wis. Stats., with respect to such release or threatened release.

SIGNED AND CERTIFIED this 18th day of February, 2014.

Bruce G. Urben, Acting Director
Bureau for Remediation and Redevelopment
Wisconsin Department of Natural Resources

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Case Closure - GIS Registry

SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN

Notice: Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided. Any section of the form not relevant to the case closure request must be fully filled out or explained on a separate page and attached to the relevant section of this form. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Site Information

BRRTS No. 02-37-000007	Parcel ID No. Provided in Attachment 1		
BRRTS Activity (Site) Name Holtz & Krause Landfill	WTM Coordinates X 550944	Y 495987	
Street Address Kent Street	City Wausau	State WI	ZIP Code 54403
Responsible Party (RP) Name Holtz & Krause Steering Committee (HKSC)			
Company Name c/o Mark Thimke, Foley and Lardner			
Street Address 777 E Wisconsin Avenue	City Milwaukee	State WI	ZIP Code 53202
Phone Number (414) 297-5832	Email mthimke@foley.com		

☐ Check here if the RP is the owner of the source property.

Environmental Consultant Name Ron Frehner			
Consulting Firm Conestoga-Rovers and Associates, Inc.			
Street Address 1801 Old Highway 8 NW, Suite 114	City St. Paul	State MN	ZIP Code 55112
Phone Number (651) 639-0913	Email rfrehner@craworld.com		
Acres Ready For Use 57	Voluntary Party Liability Exemption Site? ◉ Yes ○ No		

Fees and Mailing of Closure Request

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

1. **Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR regional Environmental Program Associate at **http://dnr.wi.gov/topic/Brownfields/Contact.html**. Check all fees that apply:

   ☐ $750 Closure Fee

   ☐ $200 GIS Registry Fee for Soil

   ☐ $250 GIS Registry Fee for Groundwater Lost Well(s)

   Total Amount of Payment $ _____

2. **Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see **http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf.**

02-37-000007 | Holtz & Krause Landfill
BRRTS No. | Activity (Site) Name

Site Summary

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

1. **General Site Information and Site History**

   A. **Site Location**: Describe the physical location of the site, both generally and specific to its immediate surroundings.
   The Holtz and Krause Landfill is located within Section 6 of T28N.R8E and Section 1 of T28N.R7E in Marathon County Wisconsin, City of Wausau on Kent Street. The landfill is 57 acres. Ground surface is between 1,170 and 1,210 feet above mean sea level. The top of the site has 36 acres with slopes between 1% and 2%. The site has been developed as a soccer complex. The side slopes are vegetated with a 5 to 1 slope. Surrounding land uses are: Curling Club (W), Cemetery (NW), Railroad (N and E), Cell Tower (N) and undeveloped land (S).

   B. **Prior and current site usage**: Specifically describe the current and historic occupancy and types of use.
   Previously used as a municipal, residential and industrial landfill which accepted waste from 1957-1980. The landfill closed in1980 by order of the Wisconsin Department of Natural Resources (WDNR). In 1994, the HKSC constructed a landfill cap and landfill gas extraction system as part of a WDNR-approved remedy. In 2011, the WDNR selected Natural Attenuation as the permanent groundwater remedy. In 2013, the HKSC upgraded the landfill gas collection system and flare for use as an odor control system. HKSC also constructed a soccer complex with irrigation, underdrains, athletic field manufactured topsoil, paved parking and a concession/restroom facility.

   C. Describe how and when site contamination was discovered.
   Site investigations began in 1966 after the WDNR documented that the landfill was being used as an open dump site. The site was closed in 1980. Subsequently, the Site was studied by the HKSC and a Remedial Investigation/Feasibility Study (RI/FS) was completed in 1991. These studies identified groundwater contamination which led to the remedy selected by the WDNR in 1992.

   D. Describe the type(s) and source(s) or suspected source(s) of contamination.
   The landfill waste is the source of contamination. Leachate migration to groundwater, caused groundwater contamination of volatile organic compounds and metals. Landfill gas prior to the initiation of the active gas system in the 1990s, may have also contributed to volatile organic compounds (VOCs) in groundwater.

   E. Other relevant site description information (or enter Not Applicable).
   Not Applicable

   F. List BRRTS activity site name and number for all other BRRTS activities at this property, including closed cases.
   Gustafson Oil BRRTS #02-37-000507 Petroleum site, closed by WDNR in 1999. The Gustafson Oil site was located on the northernmost parcel

   G. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to this site, and those impacted by contamination from this site.
   Chicago Northwestern Railroad. BRRTS #02-37-000284. Closed in 2003

   H. **Current zoning** (e.g. industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).
   The site is now a recreational site and the zoning was changed to residential (R3). The northern parcel is industrial M2 because it includes the cell tower.

2. **General Site Conditions**

   A. Soil/Geology

      i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.
      The soil underlying the topsoil is a fine to coarse, poorly sorted sand that contains traces of gravel. The sand unit is 50 to 80 feet thick. Underlying the sand is a silty fine sand which grades to stiff clay. This stiff clay is discontinuous across the site. Below this unit is granitic bedrock.

      ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.
      The waste covers 57 acres and its thickness ranges from 20 to 40 feet thick. The vast majority of the waste is residential and construction debris with some commercial and industrial waste.

      iii. Depth to bedrock, bedrock type, and whether or not it was encountered during the investigation.
      Bedrock is granite. The depth to bedrock varies, as the bedrock layer slopes to the southwest at the site. The bedrock is 55 feet below ground surface (bgs) at the concession building. The highest bedrock elevation is 1,217 feet above mean sea level (AMSL) near Northwest Ave.

iv. Describe the nature and locations of current surface cover(s) across the site (e.g. natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).

The surface of the landfill is now a soccer complex and is mowed frequently. The side slopes are vegetated and mowed less often. Paved parking and a concession/restroom building are located on the landfill. The surface of the site consists of 5 to 7 feet of cover soil which includes (beginning at ground surface) 6 to 8 inches of topsoil, approximately 3 feet of rooting zone, a 40 mil flexible membrane liner, 2 feet of clay and 0 to 2 feet of soil over the waste.

B. Groundwater

i. **Discuss depth to groundwater and piezometric elevations.** Describe and explain depth variations, and whether free product affects measurement or water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.

The groundwater depth ranges from 46 feet bgs at MW-3A to approximately 4 feet bgs at MW-21A (see B.3.A.2). The geological information collected in the RI indicates two major hydrostratigraphic units are present in the unconsolidated material. The upper unit consists of fine to coarse sand to silty sand with gravel. The lower unit consists of silty clay to clay, which directly overlies the granite. No free product is present in monitoring wells.

ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.

Water table elevation contours based on December 2009 ground water elevation measurements are presented in Attachment B.3.C.1. The flow direction is westerly. The approximate horizontal hydraulic gradient is 0.001 ft/ft. Groundwater flow within the deeper sand unit is also to the west.

iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.

The horizontal hydraulic gradient is 0.001 ft/ft. The average estimated linear horizontal groundwater flow velocity in the sand unit is approximately 50 ft/yr in the southern and western portions of the site.

iv. Identify and describe locations/distance of potable and/or municipal Wells within 1200 feet of the site.

There are no private or municipal water supply wells located within 1,200 feet downgradient of the Site. There are several private wells (upgradient) of the Site. The City is pursuing the homeowners to abandon their wells.

3. Site Investigation Summary

A. General

i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.

Geraghty & Miller, Inc. conducted the RI under contract with the WDNR and the Holtz and Krause Steering Committee through Holtz and Krause Contractors, Inc. beginning in September 1989 and ending in 1991. The RI defined the migration pathways and described methods used to evaluate the extent and magnitude of contaminant migration within those pathways, assessed risk and provide data for the FS. The data collection scope of work consisted of the following activities: geotechnical laboratory analysis of shallow borings in the existing landfill cover material; collection and laboratory analysis of soil and waste samples from borings completed through and near the landfill; collection and analysis of geologic, geotechnical and hydrogeologic information from borings, water-table monitoring wells and piezometers; collection and laboratory analysis of two rounds of groundwater samples; completion of air monitoring surveys near the perimeter of the landfill; collection and laboratory analysis of two rounds of surface water samples; collection and laboratory analysis of sediment samples and resident aquatic biota; and collection and laboratory analysis of a leachate sample.

In 1998 bedrock monitoring wells MW-11D and MW-25 D were installed to provide additional groundwater characterization.

Monitoring wells MW-25C and MW-26C were installed in 2006 to provide monitoring locations downgradient of the MW-11 well nest and downgradient of the MW-24 well nest.

Monitoring wells MW-27C and MW-28C were installed in 2009 to further characterize groundwater west of MW-25C and MW-26C.

In 2011, a Phase I Environmental Assessment was completed by Conestoga-Rovers & Associates (CRA) as part of the VPLE application. No new Recognized Environmental Conditions were identified by CRA.

ii. Identify whether contamination extends beyond the source property boundary, describe the off-site media (e.g., soil, groundwater, etc.) impacted, and the vertical and horizontal extent of off-site impacts.

There is contamination in groundwater off-site. The extent of groundwater contamination has been delineated both horizontally and vertically.

Groundwater contamination principally consists of benzene and vinyl chloride above the enforcement standards. The maximum depths of contamination (vinyl chloride) is 120 feet below ground at MW-25C. The vinyl chloride plume extended to Grand Avenue, a distance of approximately 1,800 feet off site.

iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.

There are no structural impediments to the completion of the investigation or remedy.

B. Soil

i. Describe degree and extent of **soil contamination** at and from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways.

It can be assumed that the soil beneath the waste has been impacted by leachate because there is no bottom liner. This assumed soil contamination has not been delineated and remains beneath the engineered cap. The waste is considered to be contaminated and the waste is capped.

The site cap meets WAC NR 504 and covers the waste. Wastes are not exposed on the landfill surface and there are no leachate seeps. Therefore there is no potential for direct contact with the waste. The cover consists of (starting at ground surface): a vegetative layer of 6 to 8 inches of topsoil and 3.0 feet of rooting zone soil, the primary barrier layer of a 40 mil very low density polyethylene (VLDPE) geomembrane liner, a secondary barrier layer of 2 feet of compacted clay, and the 1982 soil cover (0-2 feet thick).

ii. Describe the level and types of **soil contaminants** found in the upper four feet of the soil column.

There is no soil contamination found in the upper four feet of the soil column. The soil acting as the landfill cover is thicker than four feet.

iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site: for example, a Residual Contaminant Level (RCL) , a Site-Specific Residual Contaminant Level (SSRCL), or a Performance Standard as determined under ss NR 720.09, 720.11 and 720.19, Wis. Adm. Code. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

Not applicable

C. Groundwater

i. Describe degree and extent of groundwater contamination at or from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.

There are no receptors for groundwater because the water is supplied by the City of Wausau and is provided by municipal watermains. Attachment B provides the monitoring wells which exceed the WDNR enforcement standard for groundwater. Figure B.3.B.1.1 shows arsenic above the enforcement standard at MW-22B. Figure B.3.B.2 shows benzene above the enforcement standard at MW-25C. Figure B.3.B.6 shows vinyl chloride above the enforcement standard at MW-12B, MW-24D, and MW-25C.The 2011 ROD Amendment approved Natural Attenuation as the final groundwater remedy. Groundwater contamination is the result of landfill leachate migration downward to the groundwater beneath the landfill and may also have resulted from landfill gas transfer to groundwater prior to remediation. After the remedy was installed in 1994, landfill leachate generation was eliminated and landfill gas was collected. Groundwater contamination originated below the landfill and extended to the southwest (in the direction of groundwater flow). Figures B.3.A.2 and B.3.A.3 in Attachment B show that the shallow groundwater is not contaminated. The groundwater contamination lies between the shallow groundwater and bedrock. The contaminant plume attenuated over 17 years. The plume is located between the landfill and Grand Avenue. Tetrachloroethene was detected at MW-27C and is shown on Figure B.3.B.3. Tetrachloroethene is not attributed to the landfill because there are uncontaminated wells between the landfill and MW-27C.

ii. Describe the presence of free product at the site, including the thickness, depth, and locations.

There is no free product on the landfill site.

D. Vapor

i. Describe how the vapor migration pathway was assessed, including locations where vapor or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.

With respect to the potential for off-Site vapor migration from groundwater, there is no vapor pathway because shallow groundwater in the area of the residential homes is not contaminated. This pathway was evaluated in the ROD Amendment of 2011. With respect to landfill gas, off-site migration of landfill gas is prevented by the gas collection system. The concession/restroom building utilizes a passive venting and barrier system. With respect to an evaluation of preferential pathway migration of landfill gas along utilities, CRA conducted an evaluation in the design report dated

February 2013. There is no preferential landfill gas migration along utilities.

ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

Vapor action levels from groundwater are not applicable because there is no completed pathway. Methane action levels are established by WAC NR 504.04(4)(e). Methane action levels are measured by a network of gas probes surrounding the landfill. Methane does not exceed the action level at the gas probes as shown on Attachment A.8.a.

E. Surface Water and Sediment

i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

Surface water samples were collected during the RI in October 1989 and June 1990. The results of these samples were discussed in the subsequent Geraghty & Miller FS. Analytes identified in the FS were interpreted as being either below the method detection limit or artifacts of laboratory testing. The distribution of the benzene, chloromethane, and vinyl chloride concentrations and the interpreted groundwater flow direction show that residual dissolved organic compounds are not migrating into Cemetery Slough, Pils Slough, or Horseshoe Slough. Therefore, there is currently no completed pathway between contaminated groundwater and surface water. Surface water and sediment data are presented in Attachment A.6.

ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

There is no completed pathway for contaminated groundwater to discharge to surface water. Hence, the action levels are not applicable.

4. Remedial Actions Implemented and Residual Levels at Closure

A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

The DNR approved implementation of the following remedy components of the 1992 Record of Decision (ROD). Components of the 1992 ROD remedy are:
1. A Low permeability landfill cover consistent with WAC Chapter NR 504 (refer to Section 4.1 for details)
2. An active gas extraction system containing thirty-five gas extraction wells, a blower house and a candlestick flare, and a condensate collection system
3. Groundwater monitoring wells
4. Operation and maintenance of all systems
5. Long-term groundwater monitoring
6. Abandonment of monitoring wells
7. Disposal of investigative wastes generated during the RI and Remedial Action (RA) phases of the project
8. Institutional controls, deed restrictions and site controls
9. Groundwater extraction and treatment

Subsequently, A ROD Amendment was issued in 2011, recognizing the use of natural attenuation in place of groundwater extraction and treatment. Studies demonstrated that groundwater extraction and treatment was not needed. CRA prepared a passive venting design as part of the landfill modifications. This design demonstrated that 69 passive vents would effectively vent the landfill and that active venting is not required. In 2013, the Department approved the passive gas demonstration. The passive gas approach is not being utilized as gas is controlled through the on-site odor control system.

The remediation is documented in the following reports:
- June 1992: DNR; Record of Decision (ROD) - Selected Remedial Alternative
- August 1994: DNR; Consent Decree
- January 1996: RMT; Pre-Flare Compliance Test Program
- January 2003: AECOM; Technical Justification for ROD Amendment
- January 2005: AECOM; Work Plan for Additional Site Investigation
- July 2010: AECOM; Five-Year Review Report
- February 2011: AECOM; Technical Support for ROD Amendment
- June 2011: DNR; Declaration for an Amendment to the ROD
- February 2013, CRA, Final Design Report Athletic Field and Modifications to Holtz Krause Landfill (includes Passive Venting Design)
- October 2013: CRA; Construction Completion Report

As a result of the engineered cap which essentially eliminated leachate migration to groundwater and active venting which treated volatile organic compounds, the groundwater quality has attenuated. Hence, groundwater monitoring is no longer needed.

B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.
Not applicable

C. Describe the *active* remedial actions taken at the site, including: type of remedial system(s) used for each media impacted; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

Landfill Gas Flare System: The active gas collection system installed in 1995 consisted of 35 extraction wells designed to prevent off site gas migration and also to reduce volatile organic compounds (VOCs) in waste. A blower operated between 250 to 300 cubic feet per minute. Landfill gas was treated using a flare. Over 17 years of operation, the gas extraction system achieved its goal of VOC treatment and is no longer required for gas venting. CRA demonstrated that a passive venting system would be effective. The site has a BAL Exemption dated March 6, 2013 that includes conditions for operation and maintenance of the active gas extraction system.

In order to provide a long term odor control system, modifications to the gas collection system were constructed in 2013 including the replacement of the flare station. The odor control flare station has an operational flow rate range of 35 to 185 cubic feet per minute (cfm).

D. Provide a discussion of the nature, degree and extent of residual contamination that will remain at the site or on off-site affected properties after case closure.

Residual contamination will remain within the waste which is beneath a 5 to 7-foot thick soil cap. There will also be residual groundwater contamination until the natural attenuation processes reduces the contamination below the WDNR enforcement standards.

E. Describe the remaining soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds the ch. NR720, Wis. Adm. Code, standard(s) for direct contact.

There is no residual contamination within 4 feet of ground surface because the cap is 5 to 7 feet thick. The site cap meets WAC NR 504 and covers the waste. Wastes are not exposed on the landfill surface. Therefore there is no potential for direct contact with the waste.

F. Describe the remaining soil contamination in the vadose zone that attains or exceeds the soil standard(s) for the groundwater pathway.

None.

G. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.

Cap: The cover system consists of (from ground surface):
- A Vegetative Layer consisting of 6 to 8 inches of topsoil and 3.0 feet of rooting soil
- Primary Barrier Layer consisting of a 40 mil flexible membrane liner
- Secondary Barrier Layer consisting of 2 feet of clay
- The 1982 soil cover (0 to 2 feet thick)

Natural Attenuation. In 2011 the WDNR approved Natural Attenuation as the final groundwater remedy. The decision to approve Natural Attenuation was based on monitoring data from approximately 38 monitoring wells which developed a data base covering the 17 year post-remediation period. The approval was issued because previous investigations showed that the groundwater contamination plume is stable or decreasing and aquifer chemistry is favorable for anaerobic biodegradation of the contaminants of concern.

Vapor Migration System: The Concession/Restroom building has a vapor mitigation system that consists of a vapor barrier and passive venting system.

H. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration, (e.g. stable or receding groundwater plume).

Attachments A and B present groundwater data that show that the plume is stable or decreasing. In 2011, an in depth evaluation of Natural Attenuation data was completed that lead to the Record of Decision Amendment for Natural Attenuation (AECOM, 2011).

I. Identify how all exposure pathways were removed and/or adequately addressed by immediate and/or remedial action(s) described above in paragraphs, B, C, D, E and F.

The exposure pathway to waste was eliminated by the landfill cap. The exposure pathway to groundwater was eliminated through Institutional Controls. The City of Wausau Municipal Code contains a Private Water Well ordinance in Chapter 19.30. The Private Water Well ordinance gives the City the authority to deny applications for groundwater wells, to regulate installation of wells, and to require abandonment of existing groundwater wells. CRA searched the Wisconsin Water Well Database (January 2012, Gen Ver 4.0) and no wells were located within 1,200 feet downgradient of the landfill. As shown in Attachment B.4c2, there are several private wells located east of the landfill (upgradient). The City of Wausau is pursuing

each homeowner to abandon their wells. The exposure pathway to off site methane migration was eliminated by the gas collection system.

J. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.
The landfill gas extraction/odor control and monitoring system will remain after the site is closed. The gas extraction system will remain in order to continue the removal of landfill gases from the waste below the soccer fields. The flare will treat landfill gas odors. The landfill cap will remain in order to eliminate contact with the waste.

K. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.
Attachment A.1.a provides a listing of monitoring wells that exceed enforcement standards. This area of groundwater contamination will be addressed by obtaining environmental insurance through the WDNR's Voluntary Pollution Liability Exemption (VPLE) Program.

L. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.
Not applicable

M. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.
Not applicable

5. **Continuing Obligations: Situations where a maintenance plan(s) and inclusion on DNR's GIS Registry are required.**
Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: Maintenance Plans and GIS Registry	Maintenance Plan (s) Required in Attachment D	GIS Registry Listing
	A. On-Site	B. Off-Site			
i.	☒	☒	Engineering Control/Barrier for Direct Contact	✓	✓
ii.	☒	☒	Engineering Control/Barrier for Groundwater Infiltration	✓	✓
iii.	☒	☐	Vapor Mitigation - post closure passive system	✓	✓
iv.	☐	☐	Vapor Mitigation - post closure active system	✓	✓
v.	☐	☐	None of the above scenarios apply to this case closure	NA	NA

6. **Continuing Obligations: Situations where inclusion on DNR's GIS Registry is required.**
Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: GIS Registry Only	GIS Registry Listing
	A. On-Site	B. Off-Site		
i.	☐	☐	Residual soil contamination exceeds ch. NR 720 generic or site-specific RCLs	✓
ii.	☒	☒	Sites with groundwater contamination equal to or greater than the ch. NR 140, enforcement standards (ES)	✓
iii.	☐	☒	Monitoring wells: lost, transferred or remaining in use	✓
iv.	☐	☐	Structural Impediment (not as a performance standard)	✓
v.	☐	☐	Residual soil contamination remaining at ch. NR 720 Industrial Use levels	✓
vi.	☐	☐	Vapor intrusion may be future, post-closure issue if building use or land use changes	✓
vii.	☐	☐	None of the above scenarios apply to this case closure	NA

7. Underground Storage Tanks

A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action? ○ Yes ◉ No

B. Do any upgraded tanks meeting the requirements of ch. SPS 310, Wis. Adm. Code, exist on the property? ○ Yes ◉ No

C. If the answer to question 7b is yes, is the leak detection system currently being monitored? ○ Yes ○ No

Data Tables (Attachment A)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form.All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General directions for Data Tables:

- Use bold and italics font on information of importance on tables and figures. Use **bold font** for ch. NR 140, Wis. Adm. Code, groundwater enforcement standard (ES) attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, groundwater preventive action limit (PAL) standard attainments or exceedances.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e. do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (2)(g)3, Wis. Adm. Code, in the format required in s. NR 716.15(2)(h)3, Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Pre-remedial Soil Analytical Table, etc).
- For required documents, each table (e.g., A.1., A.2., etc.,) should be a separate PDF.

A. Data Tables

A.1. **Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates, for all groundwater sampling points e.g. monitoring wells, temporary wells, sumps, extraction wells, any potable wells and any other wells, extraction wells and any potable wells for which samples have been collected.

A.2. **Pre-remedial Soil Analytical Table(s):** Table(s) showing the soil analytical results and collection dates - prior to conducting the interim and/or remedial action. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).

A.3. **Post-remedial Soil Analytical Table(s):** Table(s) showing the post-remedial action soil analytical results and collection dates. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).

A.4. **Pre and Post Remaining Soil Contamination Soil Analytical Table(s):** Table(s) showing only the pre and post remedial action soil analytical results that exceed a Residual Contaminate Level (RCL) or a Site-Specific Residual Level (SSRCL).

A.5. **Vapor Analytical Table**: Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.

A.6. **Other Media of Concern (e.g., sediment or surface water)**: Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, time period for sample collection, method and results sampling.

A.7. **Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.

A.8. **Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

Maps and Figures (Attachment B)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions for all Maps and Figures:

- If any map or figure is not relevant to the case closure request, you must fully explain the reason(s) why and attach that explanation (properly labeled with the map/ figure title) in Attachment B.
- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11x17 inches, in a portable document format (pdf) readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.

- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(2)(h)1 and 726.05(3)(a)4.d, Wis Adm. Code.
- Do not use shading or highlights on any of the analytical tables.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.

B.1. Location Maps

B.1.a. **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all impacted and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.

B.1.b. **Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for on-site and applicable off-site properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Levels (SSRCL) as determined under ss. NR 720.09, 720.11 and 720.19, Wis. Adm. Code.

B.1.c. **RR Site Map:** From RR Sites Map (http://dnrmaps.wi.gov/imf/imf.jsp?site=brrts2) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

B.2. Soil Figures

B.2.a. **Pre-remedial Soil Contamination:** Figure(s) showing the sample location of all pre-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeded a Residual Contaminant Level (RCL) or a Site-Specific Residual Contaminant Level (SSRCL) as determined under ss. NR 720.09, 720.11 and 720.19, Wis. Adm. Code.

B.2.b. **Post-remedial Soil Contamination :** Figure(s) showing the sample location of all post-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) or a Site-Specific Residual Contaminant Level (SSRCL) as determined under ss. NR 720.09, 720.11 and 720.19, Wis. Adm. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.

B.2.c. **Pre/Post Remaining Soil Contamination:** Figure(s) showing the only location of all pre and post remedial residual soil sample location(s) where unsaturated contaminated soil remains after remediation and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminate Level (RCL) or a Site-Specific Residual Level (SSRCL) as determined under ss. NR 720.09, 720.11 and 720.19, Wis. Admin. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.

B.3. Groundwater Figures

B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:

- Source location(s) and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).
- Source location(s) and lateral and vertical extent if groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES)
- Surface features, including buildings and basements, and show surface elevation changes.
- Any areas of active remediation within the cross section path, such as excavations or treatment zones.
- Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1b)

B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, Preventive Action Limit (PAL) and/or an Enforcement Standard (ES). Indicate the date and direction of groundwater flow based on the most recent sampling data.

B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.

B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been previously abandoned.

B.4. Vapor Maps and Other Media

B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway, in relation to remaining soil and groundwater contamination, including sub-slab, indoor air, soil vapor, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.

B.4.b. **Other media of concern (e.g., sediment or surface water)**: Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.

B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank)

Documentation of Remedial Action (Attachment C)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc).
- If the documentation requested below is "not applicable" to the site-specific circumstances, include a brief explanation to support that conclusion.
- If the documentation requested below has already been submitted to the Department, please note the title and date of the report for that particular document requested.

C.1. **Site investigation documentation,** that has not otherwise been previously submitted.

C.2. **Investigative waste** disposal documentation.

C.3. **NR 720.19 analysis**, assumptions and calculations for site specific RCLs (SSRCLs) , with justification, including EPA Soil Screening Level Model Calculations and results.

C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.

C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment upon receiving conditional closure.

C.6. **Photos.** For sites or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system. Include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features should be visible and discernible. Photographs must be labeled with the site name, the features shown, location and the date on which the photograph was taken.

C.7. **Other**. Include any other relevant documentation not otherwise noted above. (This section may remain blank)

Maintenance Plan(s) (Attachment D)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

When one or more "maintenance plans" are required for a site closure, include in each maintenance plan all required information in sections D.1. through D.5. below, and attach the plan(s) in Attachment D. The following "model" maintenance plans can be located at: (1) Maintenance plan for a engineering control or cover: http://dnr.wi.gov/topic/Brownfields/documents/maintenance-plan.pdf; and (2) Maintenance plan for vapor intrusion: http://dnr.wi.gov/topic/Brownfields/documents/appendix5_606.pdf.

D.1. **Location map(s)** which show(s): (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) and all property boundaries.

D.2. **Brief descriptions** of the type, depth and location of residual contamination.

D.3. **Description of maintenance action(s)** required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.

D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter.

D.5. **Contact information,** including the name, address and phone number of the individual or facility who will be conducting the maintenance.

02-37-000007 Holtz & Krause Landfill

BRRTS No. Activity (Site) Name

Monitoring Well Information (Attachment E)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

Attach monitoring well construction and development forms (DNR FORM 4400-113 A and B: http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf) for all wells that will remain in-use, be transferred to another party or that could not be located. A figure of these wells should be included in Attachment B.3.d.

Select One:

○ No monitoring wells were required as part of this response action.

○ All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site

◉ ***Select One or More:***

☒ Not all monitoring wells can be located, despite good faith efforts. Attachment E must include description of efforts made to locate the "lost" wells.

☐ One or more wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s).

☐ One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason(s) the well(s) will remain in use.

Notifications to Owners of Impacted Properties (Attachment F)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

- State law requires that the responsible party provide a 30-day, written advance notice (i.e., a letter) to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned.
- A model "template letter" for these mandatory notifications can be downloaded at: http://dnr.wi.gov/files/PDF/pubs/rr/RR919.pdf.

Check all that apply to the site-specific circumstances of this case closure:

	A. Impacted Source Property and Owner is not Conducting Cleanup	B. Impacted Right of Way	C. Impacted Off-Site Property Owner	Impacted Property Notification Situations: Ch. NR 726 Appendix A Letter
1.	☒	☒	☐	Residual groundwater contamination exceeds Ch. NR 140 Wis. Administrative Code enforcement standards.
2.	☐	☐	☐	Residual soil contamination that attains or exceeds standards is present after the remedial action is complete, and must be properly managed should it be excavated or removed.
3.	☒	☒	☐	An engineered cover or a soil barrier (e.g. pavement) must be maintained over contaminated soil for direct contact or groundwater infiltration concerns.
4.	☐	☐	☐	Industrial land use soil standards were used for the clean-up standard.
5.	☐	☐	☐	A vapor mitigation system (or other specific vapor protection) must be operated and maintained.
6.	☐	☐	☐	Vapor assessment needed if use changes.
7.	☐	☐	☐	Structural impediment.
8.	☐	☒	☒	Lost, transferred or open monitoring wells.
9.	☐	☐	☐	Not Applicable.

If any of the previous boxes in rows 1 thru 8 were checked, include the following as part of Attachment F:

- FORM 4400-246;
- Copy of each letter sent, 30 days or more prior to requesting closure; and
- Proof of receipt for each letter.
- For this site closure, __10__ (number) property (ies) has/have been impacted, the owners have been notified, and copies of the letters and receipts are included in Attachment F.

02-37-000007 | Holtz & Krause Landfill
BRRTS No. | Activity (Site) Name

Source Legal Documents (Attachment G)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form.All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Include all of the following documents, in this order, in Attachment G:

G.1. **Deeds - Source Property and Other Impacted Properties:** The most recent deed with legal descriptions clearly labeled for (1) the **Source Property** (where the contamination originated) and (2) all **off-source** (off-site) properties where letters were required to be sent per the ch. NR 700, Wis. Adm. Code, rule series (e.g., off-site cover maintenance required, lost monitoring well, off-site cover property impacts to groundwater exceeding the ch. NR 140, Wis. Adm. Code.

Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*

G.2. ***Certified Survey Map:*** *A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map.* (Lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

G.3. **Verification of Zoning**: Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.

G.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties.

Signatures and Findings for Closure Determination

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Check the correct signature block below for this case closure request, and have the proper environmental professional(s) sign this document, in accordance with the ch. NR 700 Wis. Adm. Code rule series. Both boxes may be checked if applicable to this case closure.

☒ A response action(s) for this site addresses groundwater contamination (including natural attenuation remedies). In this situation, the closure request must be prepared by, or under the supervision of, a professional engineer and a hydrogeologist, as defined in ch. NR 712, Wis. Adm. Code. Include both signatures provided below with the submittal.

☐ The response action(s) for this site addresses media other than groundwater. In this situation, the case closure request must be prepared by, or under the supervision of, a professional engineer, as defined in ch. NR 712, Wis. Adm. Code. The "engineering certification" language below, at a minimum, must be signed.

Engineering Certification

I Ron Frehner hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this case closure request has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. All phases of work necessary to obtain data, develop conclusions, recommendations and prepare submittals for this case closure request have been prepared by me, or their preparation has been supervised by me. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Ron Frehner	Professional Engineer
Printed Name	Title
Ron Frehner	31708
Signature	P.E. Stamp and Number

10/31/13
Date

RONALD FREHNER 31708 ST. PAUL MN

02-37-000007 Holtz & Krause Landfill

BRRTS No. Activity (Site) Name

Hydrogeologist Certification

I Charles Ahrens hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. All phases of work necessary to address groundwater contamination including obtaining data, developing conclusions, recommendations and preparing submittals for this case closure request have been prepared by me, or their preparation has been supervised by me. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Charles Ahrens	Professional Geologist # 1268-13
Printed Name	Title
Charles Ahrens	10/30/13
Signature	Date

Attachment 1
(Case Closure-GIS Registry - Form 4400-202)

Parcel ID No.

- 291-2808-062-0999
- 291-2808-063-0999
- 291-2808-062-0992
- 291-2807-011-0924
- 291-2807-011-0922
- 291-2807-014-0900

TABLE A.1.a

ENFORCEMENT STANDARD EXCEEDENCES BASED ON
RECENT FOUR GROUNDWATER SAMPLING EVENTS
FORMER HOLTZ & KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well Name	*Sample Date*	*Name*	*Result*	*Comments*	*Recent Four Event Mean*	*ES*	*PAL*
Area Near Landfill							
MW-12B	11/3/2011	Vinyl Chloride	**0.49**			0.2	0.02
MW-12B	6/13/2012	Vinyl Chloride	*0.08*	ND, 1/2 LOD		0.2	0.02
MW-12B	11/15/2012	Vinyl Chloride	*0.08*	ND, 1/2 LOD		0.2	0.02
MW-12B	6/19/2013	Vinyl Chloride	**0.25**	Arithmetic Mean	**0.23**	0.2	0.02
				Geometric Mean	*0.17*	0.2	0.02
MW-22B	6/26/2008	Arsenic, Dissolved	**12.5**			10	1
MW-22B	6/22/2009	Arsenic, Dissolved	**13**			10	1
MW-22B	6/28/2010	Arsenic, Dissolved	**16**			10	1
MW-22B	6/29/2011	Arsenic, Dissolved	**15.2**	Arithmetic Mean	**13.8**	10	1
				Geometric Mean	**13.8**	10	1
MW-24C	11/3/2011	Benzene	**6.58**			5	0.5
MW-24C	6/13/2012	Benzene	**5.6**			5	0.5
MW-24C	11/15/2012	Benzene	*3.6*			5	0.5
MW-24C	6/19/2013	Benzene	**5.1**	Arithmetic Mean	**5.22**	5	0.5
				Geometric Mean	**5.10**	5	0.5
MW-24D	11/3/2011	Vinyl Chloride	**2.68**			0.2	0.02
MW-24D	6/13/2012	Vinyl Chloride	**1.8**			0.2	0.02
MW-24D	11/15/2012	Vinyl Chloride	**1.5**			0.2	0.02
MW-24D	6/19/2013	Vinyl Chloride	**1.8**	Arithmetic Mean	**1.95**	0.2	0.02
				Geometric Mean	**1.90**	0.2	0.02
Residential Area Between Landfill and Grand Avenue							
MW-25C	11/3/2011	Benzene	**8.79**			5	0.5
MW-25C	6/13/2012	Benzene	**6.45**			5	0.5
MW-25C	11/15/2012	Benzene	**5.6**			5	0.5
MW-25C	6/18/2013	Benzene	*4.1*	Arithmetic Mean	**6.24**	5	0.5
				Geometric Mean	**6.01**	5	0.5
MW-25C	11/3/2011	Vinyl Chloride	**0.98**			0.2	0.02
MW-25C	6/13/2012	Vinyl Chloride	**0.71**			0.2	0.02
MW-25C	11/15/2012	Vinyl Chloride	**0.64**			0.2	0.02
MW-25C	6/18/2013	Vinyl Chloride	**0.6**	Arithmetic Mean	**0.73**	0.2	0.02
				Geometric Mean	**0.72**	0.2	0.02

TABLE A.1.a

ENFORCEMENT STANDARD EXCEEDENCES BASED ON RECENT FOUR GROUNDWATER SAMPLING EVENTS FORMER HOLTZ & KRAUSE LANDFILL WAUSAU, WISCONSIN

Well Name	*Sample Date*	*Name*	*Result*	*Comments*	*Recent Four Event Mean*	*ES*	*PAL*
Area West of Grand Avenue							
MW-27C	11/3/2011	Tetrachloroethene	**12.5**			5	0.5
MW-27C	6/13/2012	Tetrachloroethene	**10.6**			5	0.5
MW-27C	11/14/2012	Tetrachloroethene	**9.95**			5	0.5
MW-27C	6/17/2013	Tetrachloroethene	*1.4*	Arithmetic Mean	**8.61**	5	0.5
				Geometric Mean	**6.55**	5	0.5
MW-28C	11/3/2011	Vinyl Chloride	**0.75**			0.2	0.02
MW-28C	6/13/2012	Vinyl Chloride	*0.08*	ND, 1/2 LOD		0.2	0.02
MW-28C	11/14/2012	Vinyl Chloride	*0.08*	ND, 1/2 LOD		0.2	0.02
MW-28C	6/17/2013	Vinyl Chloride	*0.09*	ND, 1/2 LOD		0.2	0.02
				Arithmetic Mean	**0.25**	0.2	0.02
				Geometric Mean	*0.14*	0.2	0.02

Notes:

Bold font	Individual result exceeds ES
Itallic font	Individual result exceeds PAL
LOD	Limit of detection
NA	Not analyzed
ES	Enforcement standard
PAL	Preventative Action Limit

Monitoring Wells with PAL Exceedences 2009 to 2013
Former Holtz Krause Landfill

Class	*Parameter Description*	*Common Name*	*Sample Date*	*Conc*	*PAL*	*ENF_STD*	*Result Units*
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/22/2009	*3.67*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/28/2010	*4.31*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/28/2010	*4.31*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/28/2011	*3.58*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/28/2011	*3.58*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-12B	6/13/2012	*3.9*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/22/2009	*6.55*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/29/2010	*7.53*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/29/2010	*7.53*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/29/2011	*5.62*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/29/2011	*5.62*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-21A	6/12/2012	*7.5*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-22B	6/20/2009	**13**	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-22B	6/28/2010	**16**	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-22B	6/28/2010	**16**	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-22B	6/28/2011	**15.2**	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-22B	6/28/2011	**15.2**	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24B	6/20/2009	*7.48*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24B	6/29/2010	*7.58*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24B	6/29/2010	*7.58*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24B	6/29/2011	*8.13*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24B	6/29/2011	*8.13*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/20/2009	*3.46*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/29/2010	*3.77*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/29/2010	*3.77*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/29/2011	*3.48*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/29/2011	*3.48*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/13/2012	*2.9*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-24C	6/21/2012	*4.1*	1	10	ug/L

Monitoring Wells with PAL Exceedences 2009 to 2013
Former Holtz Krause Landfill

Class	*Parameter Description*	*Common Name*	*Sample Date*	*Conc*	*PAL*	*ENF_STD*	*Result Units*
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/19/2009	*2.67*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/19/2009	*2.56*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/27/2010	*2.83*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/27/2010	*2.83*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/27/2010	*2.83*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/27/2010	*2.83*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/28/2011	*2.66*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/28/2011	*2.66*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-4B	6/13/2012	*2.9*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/20/2009	*7.39*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/27/2010	*9.29*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/27/2010	*9.29*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/29/2011	*8.47*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/29/2011	*8.47*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8B	6/13/2012	*7.1*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/20/2009	*2.39*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/27/2010	*2.49*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/27/2010	*2.49*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/29/2011	*2.98*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/29/2011	*2.98*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/29/2011	*2.89*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/29/2011	*2.89*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/13/2012	*2.3*	1	10	ug/L
I	ARSENIC, DISSOLVED (UG/L AS)	MW-8C	6/13/2012	*2.5*	1	10	ug/L
I	ARSENIC, TOTAL (UG/L AS)	MW-24B	6/19/2013	*7.5 J*	1	10	ug/L
I	ARSENIC, TOTAL (UG/L AS)	MW-24B	6/19/2013	*7.5 J*	1	10	ug/L
I	ARSENIC, TOTAL (UG/L AS)	MW-24B	6/19/2013	< 20	1	10	ug/L
I	ARSENIC, TOTAL (UG/L AS)	MW-24B	6/19/2013	< 20	1	10	ug/L
I	CADMIUM, TOTAL (UG/L CD)	MW-8C	6/19/2013	*0.68 J*	0.5	5	ug/L
I	CADMIUM, TOTAL (UG/L CD)	MW-8C	6/19/2013	*0.68 J*	0.5	5	ug/L

Monitoring Wells with PAL Exceedences 2009 to 2013
Former Holtz Krause Landfill

Class	*Parameter Description*	*Common Name*	*Sample Date*	*Conc*	*PAL*	*ENF_STD*	*Result Units*
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/20/2009	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	12/31/2009	*0.64 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	*0.52 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	*0.52 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/3/2011	*0.77 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/12/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	*0.37 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	*0.38 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/22/2009	*0.42 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*0.5 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*0.5 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*0.33 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*0.33 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/3/2011	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/15/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	< 1	0.5	5	ug/L

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O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	8/4/2009	*0.5 J*	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	0.41 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	0.41 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	0.41 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	0.41 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	0.33 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	0.33 J	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/3/2011	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/13/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/14/2012	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	< 1	0.5	5	ug/L
O	1,2-DICHLOROETHANE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	1/2/2009	*1.73*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/23/2009	*0.72*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	12/29/2009	0.29 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/30/2010	< 0.67	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/30/2010	< 0.67	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/29/2011	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/29/2011	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	11/3/2011	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/12/2012	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	11/15/2012	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/18/2013	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/18/2013	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/22/2009	*1.98*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	12/30/2009	*1.67*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2010	*2.11*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2010	*2.11*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2011	*2.59*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2011	*2.59*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	11/3/2011	*2.59*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/13/2012	*3.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	11/15/2012	*2.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/19/2013	*2.3*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/19/2013	*2.3*	0.5	5	ug/L

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O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/20/2009	*3.75*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	12/31/2009	*3.03*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	*3.36*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	*3.36*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	*3.16*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	*3.16*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/3/2011	*2.37*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/12/2012	*2.4*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	*2.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	*2.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	*2.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	*2.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	*2.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	*2.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/20/2009	**5.61**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	12/31/2009	**5.6**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	**5.41**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	**5.41**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	*3.26*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	*3.26*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/3/2011	*3.22*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/13/2012	*2.9*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/15/2012	*4.8*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	*2.2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	*2.2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	*2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	*2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/20/2009	**7.44**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	12/31/2009	**7.89**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	**7.87**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	**7.87**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	**6.04**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	**6.04**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	**6.61**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	**6.55**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/13/2012	**5.6**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/15/2012	*3.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/19/2013	**5.1**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/19/2013	**5.1**	0.5	5	ug/L

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O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/20/2009	**5.94**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	12/31/2009	**5.11**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**5.64**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**5.64**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	**5**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	**5**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/3/2011	**5.79**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/13/2012	*4.8*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/15/2012	*3*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/19/2013	*4.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/19/2013	*4.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**12.2**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**12.1**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/22/2009	**9.13**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**9.38**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**9.17**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**8.5**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**8.5**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**8.7**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**8.7**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**8.47**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**8.47**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/3/2011	**8.79**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	**6.5**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	**6.4**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/15/2012	**5.6**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	*4.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	*4.1*	0.5	5	ug/L

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O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	1/2/2009	*3.19*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/22/2009	*1.43*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	12/29/2009	*0.72*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/30/2010	0.27 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/30/2010	0.27 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/28/2011	0.2 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/28/2011	0.2 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/3/2011	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/3/2011	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/13/2012	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/15/2012	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/18/2013	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/18/2013	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	8/4/2009	*1.25*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	*1.15*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	*1.15*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	*0.94*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	*0.94*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	*1.06*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	*1.06*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/3/2011	**5.98**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/13/2012	*4*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/14/2012	*3.4*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	*2.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	*2.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2009	*0.8*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2009	*0.84*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	12/30/2009	0.38 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	*0.99*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	*0.99*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	*1.03*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	*1.03*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/28/2011	0.3 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/28/2011	0.3 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	11/3/2011	0.48 J	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/13/2012	< 1	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	11/14/2012	*1.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2013	*1.7*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2013	*1.7*	0.5	5	ug/L

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Class	*Parameter Description*	*Common Name*	*Sample Date*	*Conc*	*PAL*	*ENF_STD*	*Result Units*
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/20/2009	*2.99*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	12/30/2009	*3.01*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	*3.59*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	*3.59*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	*2.94*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	*2.94*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/3/2011	*3.61*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/13/2012	*3.2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/14/2012	*3.1*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/19/2013	*2.9*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/19/2013	*2.9*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/20/2009	**8.09**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	12/30/2009	**7.63**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	**9.1**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	**9.1**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**5.38**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**5.38**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**5.43**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**5.43**	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/3/2011	*4.07*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	*3.2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	*3.2*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/15/2012	*3.6*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/19/2013	*4.7*	0.5	5	ug/L
O	BENZENE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/19/2013	*4.7*	0.5	5	ug/L

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Class	*Parameter Description*	*Common Name*	*Sample Date*	*Conc*	*PAL*	*ENF_STD*	*Result Units*
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	1/2/2009	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	1/2/2009	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/22/2009	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	12/29/2009	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	12/29/2009	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	7/1/2010	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	7/1/2010	< 0.67	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/28/2011	< 1	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/28/2011	< 1	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/28/2011	*0.2 J*	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/28/2011	*0.2 J*	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	11/3/2011	< 1	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/13/2012	< 4	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/13/2012	< 4	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	11/15/2012	< 4	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/18/2013	< 1	0.04	0.4	ug/L
O	CIS-1,3-DICHLOROPROPENE IN WHL WTR SAMPLE (UG/L)	MW-25C	6/18/2013	< 1	0.04	0.4	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	8/4/2009	**25.2**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	1/1/2010	**17.1**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	1/1/2010	**17.1**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/30/2010	**17.1**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/30/2010	**17.1**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/28/2011	**14**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/28/2011	**14**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	11/3/2011	**12.5**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/13/2012	**10.5**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/13/2012	**10.7**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	11/14/2012	**9.9**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	11/14/2012	**10**	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/17/2013	*1.4*	0.5	5	ug/L
O	TETRACHLOROETHYLENE IN WHOLE WATER SAMPLE (UG/L)	MW-27C	6/17/2013	*1.4*	0.5	5	ug/L

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O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	1/2/2009	*14*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/23/2009	*10.1*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	12/29/2009	3.92 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/30/2010	2.17 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/30/2010	2.17 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/29/2011	3.31 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/29/2011	3.31 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	11/3/2011	2.08 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	6/12/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-11C	11/15/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/20/2009	*10.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	12/31/2009	9.29	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	7.61	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	7.61	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	6.1 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	6.1 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/3/2011	6.79	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/12/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/20/2009	*13.7*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	12/31/2009	*13.9*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	*12.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	*12.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	*22.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	*22.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/3/2011	*12.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/13/2012	*14*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/15/2012	**59.8**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/20/2009	*44.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	12/31/2009	*32.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	*26.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	*26.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	*28.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	*28.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	*40.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	*37.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/13/2012	**51.9**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/15/2012	*14.1*	10	50	ug/L

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O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/20/2009	*38.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	12/31/2009	*37.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**52.8**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**52.8**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	*41.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	*41.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/3/2011	*39.9*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/13/2012	*38.7*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/15/2012	*41.2*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**74.7**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**75.5**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/22/2009	**56.6**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**58.5**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**57.2**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**56.8**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**56.8**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*39.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*39.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*45*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	*45*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/3/2011	*40.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	*32.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	*33*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/15/2012	*27.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	1/2/2009	**67.4**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/22/2009	*41.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	12/29/2009	*23.8*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/30/2010	9.08	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/30/2010	9.08	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/28/2011	4.83 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/28/2011	4.83 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/3/2011	2.82 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/3/2011	2.76 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	6/13/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-26C	11/15/2012	< 10	10	50	ug/L

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O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	8/4/2009	*34.9*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	*34*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	*34*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	*29.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	*29.3*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	**53.6**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	**53.6**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/3/2011	**52.1**	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/13/2012	*39*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/14/2012	*43.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/20/2009	8.5	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	12/30/2009	7.09	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	*10.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	*10.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	*10.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	*10.4*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/3/2011	*10.7*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/13/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/14/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/20/2009	*15.9*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	12/30/2009	*13*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	*16.1*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	*16.1*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	*11.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	*11.6*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	*12.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	*12.5*	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/3/2011	6.08 J	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	< 10	10	50	ug/L
O	TETRAHYDROFURAN IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/15/2012	< 10	10	50	ug/L

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O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	8/4/2009	*2.7*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	1/1/2010	*2.27*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	1/1/2010	*2.27*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/30/2010	*2.37*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/30/2010	*2.37*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/28/2011	*2.54*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/28/2011	*2.54*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	11/3/2011	*2.1*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/13/2012	*2.1*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/13/2012	*2.2*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	11/14/2012	*2*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	11/14/2012	*2.2*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/17/2013	*2.4*	0.5	5	ug/L
O	TRICHLOROETHYLENE (TCE) IN WHOLE WTR SAMPLE (UG/L)	MW-27C	6/17/2013	*2.4*	0.5	5	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/22/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	12/30/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2011	**0.34 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/28/2011	**0.34 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	11/3/2011	**0.49 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	11/15/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/19/2013	**0.25 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-12B	6/19/2013	**0.25 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/20/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	12/31/2009	**0.2 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/28/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/3/2011	**0.2 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/12/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	11/14/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-22B	6/17/2013	< 1	0.02	0.2	ug/L

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O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/20/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	12/31/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	**0.26 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2010	**0.26 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	**0.33 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/29/2011	**0.33 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	11/15/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/20/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	12/31/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	**0.31 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/29/2011	**0.31 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	11/15/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24C	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/20/2009	**2.84**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	12/31/2009	**2.21**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**2.83**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2010	**2.83**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	**2.48**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/29/2011	**2.48**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/3/2011	**2.68**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/13/2012	**1.8**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	11/15/2012	**1.5**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/19/2013	**1.8**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-24D	6/19/2013	**1.8**	0.02	0.2	ug/L

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O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**0.6 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	1/2/2009	**0.6 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/22/2009	**0.65 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**0.66 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	12/29/2009	**0.68**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**0.65 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	7/1/2010	**0.65 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**1.03**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**1.03**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**1.03**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/28/2011	**1.03**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/3/2011	**0.98 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	**0.66**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/13/2012	**0.75**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	11/15/2012	**0.64**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	**0.6 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-25C	6/18/2013	**0.6 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	8/4/2009	**1.78**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	**1.5**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	1/1/2010	**1.5**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	**1.89**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/30/2010	**1.89**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	**0.98 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/28/2011	**0.98 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/3/2011	**0.75 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	11/14/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-28C	6/17/2013	< 1	0.02	0.2	ug/L

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O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	12/30/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/28/2011	**0.51 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/28/2011	**0.51 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	11/14/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-4B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/20/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	12/30/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	**0.25 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/27/2010	**0.25 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/29/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	11/14/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8B	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/20/2009	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	12/30/2009	**0.2 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/27/2010	< 0.67	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**0.45 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**0.45 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**0.34 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/29/2011	**0.34 J**	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/3/2011	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/13/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	11/15/2012	< 0.4	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/19/2013	< 1	0.02	0.2	ug/L
O	VINYL CHLORIDE IN WHOLE WATER SAMPLE (UG/L)	MW-8C	6/19/2013	< 1	0.02	0.2	ug/L

ATTACHMENT A.2

PRE-REMEDIAL SOIL ANALYTICAL TABLE

Soil tables are not provided because the RI data did not identify soil contamination outside the landfill boundaries. The landfill cap remedy involved the import of 5 feet (or more) of clean fill over the landfill

ATTACHMENT A.3

POST-REMEDIAL SOIL ANALYTICAL TABLE

Soil tables are not provided because the RI data did not identify soil contamination outside the landfill boundaries. The landfill cap remedy involved the import of 5 feet (or more) of clean fill over the landfill

ATTACHMENT A.4

PRE AND POST REMAINING SOIL CONTAMINATION SOIL ANALYTICAL TABLE

Soil tables are not provided because the RI data did not identify soil contamination outside the landfill boundaries. The landfill cap remedy involved the import of 5 feet (or more) of clean fill over the landfill

ATTACHMENT A.5

VAPOR ANALYTICAL TABLE

As discussed in Section 3.D, there is no completed pathway for VOC vapors. Landfill gas data are included in Attachment A.8.

TABLE A.6.a

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Holtz and Krause Landfill

Wausau, Wisconsin

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Environmental Services

TABLE A.6.a

Technical Memorandum No. 2 Migration Pathway Assessment and Contaminant Characterization

Holtz and Krause Landfill

Wausau, Wisconsin

Volume 1 of 2

Prepared for

Wisconsin Department of Natural Resources
and
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Parameter	Units	USEPA Contract Required Detection Limits	GMSW1	GMSW2	GMSW3	GMSW4	GMSW5	GMSW6	GMSW6 (Mat. Spke)
VOLATILE ORGANIC COMPOUNDS									
Chloromethane	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Methylene Chloride	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethene (total)	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Chloroform	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	ug/l	10	<10 (r)	<10 (r)	<10 (r)	<10 (r)	<10 (r)	<10 (r)	<10 (r)
1,1,1-Trichloroethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Benzene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Bromoform	ug/l	5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Toluene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Styrene	ug/l	5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	ug/l	5	<5	<5	<5	<5	<5	<5	<5
SEMI-VOLATILE ORGANIC COMPOUNDS									
Phenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
bis(2-Chloroethyl)Ether	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2-Chlorophenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzyl Alcohol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW1	GMSW2	GMSW3	GMSW4	GMSW5	GMSW6	GMSW6 (Mat. Spke)
2-Methylphenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
bis(2-Chloroisopropyl)Ether	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Methylphenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-Propylamine	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Isophorone	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzoic Acid	ug/l	50	<50	<50	<50	<50	<50	2 J	<50
bis(2-Chloroethoxy)Methane	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Chloroaniline	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-Methylphenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	ug/l	50	<50	<50	<50	<50	<50	<50	<50
2-Chloronaphthalene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2-Nitroaniline	ug/l	50	<50	<50	<50	<50	<50	<50	<50
Dimethyl Phthalate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
3-Nitroaniline	ug/l	50	<50	<50	<50	<50	<50	<50	<50
Acenaphthene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	ug/l	50	<50	<50	<50	<50	<50	<50	<50
4-Nitrophenol	ug/l	50	<50	<50	<50	<50	<50	<50	<50
Dibenzofuran	ug/l	10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Diethylphthalate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl-phenylether	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Fluorene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Nitroaniline	ug/l	50	<50	<50	<50	<50	<50	<50	<50
4,6-Dinitro-2-Methylphenol	ug/l	50	<50	<50	<50	<50	<50	<50	<50
N-Nitrosodiphenylamine (1)	ug/l	10	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl-phenylether	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	ug/l	50	<50	<50	<50	<50	<50	<50	<50
Phenanthrene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Anthracene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Di-n-Butylphthalate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Pyrene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Butylbenzylphthalate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
3,3'-Dichlorobenzidine	ug/l	20	<20	<20	<20	<20	<20	<20	<20

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW1	GMSW2	GMSW3	GMSW4	GMSW5	GMSW6	GMSW6 (Mat. Spke)
Benzo(a)Anthracene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Chrysene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)Phthalate	ug/l	10	<12 B	<10 B	<10 B	<10 B	<10 B	<10 B	<10 B
Di-n-Octyl Phthalate	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)Fluoranthene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)Fluoranthene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)Pyrene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)Pyrene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)Anthracene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)Perylene	ug/l	10	<10	<10	<10	<10	<10	<10	<10
PESTICIDES									
alpha-BHC	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
beta-BHC	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
delta-BHC	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
gamma-BHC (Lindane)	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
Heptachlor	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
Aldrin	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
Heptachlor epoxide	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
Endosulfan I	ug/l	0.05	<0.053	<0.050	<0.050	<0.050	<0.053	<0.053	<0.050
Dieldrin	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
4,4'-DDE	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
Endrin	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
Endosulfan II	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
4,4'-DDD	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
Endosulfan Sulfate	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
4,4-DDT	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
Methoxychlor	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Endrin ketone	ug/l	0.10	<0.11	<0.10	<0.10	<0.10	<0.11	<0.11	<0.10
alpha-Chlordane	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
gamma-Chlordane	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Toxaphene	ug/l	1.0	<1.1	<1.0	<1.0	<1.0	<1.1	<1.1	<1.0
PCBs									
Aroclor-1016	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Aroclor-1221	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Aroclor-1232	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Aroclor-1242	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Aroclor-1248	ug/l	0.5	<0.53	<0.50	<0.50	<0.50	<0.53	<0.53	<0.50
Aroclor-1254	ug/l	1.0	<1.1	<1.0	<1.0	<1.0	<1.1	<1.1	<1.0
Aroclor-1260	ug/l	1.0	<1.1	<1.0	<1.0	<1.0	<1.1	<1.1	<1.0
INORGANICS									
Aluminum	ug/l	200	<32.0	<32.0	<32.0	60.6	<32.0	85.0	NR
Antimony	ug/l	60	<23.0	<23.0	<23.0	<23.0	<23.0	<23.0	NR

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW1	GMSW2	GMSW3	GMSW4	GMSW5	GMSW6	GMSW6 (Mat. Spke)
Arsenic	ug/l	10	<1.0	<1.0	2.2	1.7	<1.0	<1.0	NR
Barium	ug/l	200	34.4	58.1	13.3 (u)	57.7	67.0	16.5 (u)	NR
Beryllium	ug/l	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR
Cadmium	ug/l	5	<3.0	<3.0	<3.0	8.9	<3.0	<3.0	NR
Calcium	ug/l	5000	18600	18000	24900	16300	19800	7560	NR
Chromium	ug/l	10	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	NR
Cobalt	ug/l	50	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	NR
Copper	ug/l	25	9.5 (u)	8.0 (u)	6.1 (u)	6.7 (u)	<6.0	<6.0	NR
Iron	ug/l	100	256	128	192	196	339	1260	NR
Lead	ug/l	5	<1.0 (j)	<1.0 (j)	<1.0 (j)	1.5 (j)	<1.0 (j)	4.9 (j)	NR
Magnesium	ug/l	5000	8190	5700	13100	4410	5960	1500	NR
Manganese	ug/l	15	30.4	13.4	40.6	34.6	44.2	162	NR
Mercury	ug/l	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NR
Nickel	ug/l	40	<12.0	<12.0	<12.0	<12.0	<12.0	<12.0	NR
Potassium	ug/l	5000	1690	3650	1840	3190	4660	3590	NR
Selenium	ug/l	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR
Silver	ug/l	10	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NR
Sodium	ug/l	5000	77100	82300	70000	96300	82400	68100	NR
Thallium	ug/l	10	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)	NR
Vanadium	ug/l	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NR
Zinc	ug/l	20	5.5	4.2 (u)	<3.0	3.3 (u)	5.5 (u)	15.5 (u)	NR
Cyanide	ug/l	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	NR
INDICATOR PARAMETERS									
Alkalinity	mg/l	NE	56.3	33.2	106	12.3	14.2	32.2	NA
Chloride	mg/l	NE	19.7	35.6	16.5	65.4	60.4	6.4	NA
Sulfate	mg/l	NE	7.0	13.2	7.5	21.0	13.1	7.0	NA
COD	mg/l	NE	11.1	7.0	9.8	5.8	<5	32.6	NA
Hardness	mg/l	NE	80.2	68.4	116	58.9	73.9	25.1	NA
Temperature*	degrees F	NE	43.7	41.6	46.4	47.3	43.6	43.5	NA
Conductivity*	umohs/cm**	NE	332	444	450	479	508	158	NA
pH*	pH units	NE	7.53	7.50	8.47	7.34	7.49	7.74	NA

TABLE A.6.a

Notes:
- NE = Criteria not established.
- NA = Parameters were not analyzed.
- NR = Results were not reported.
- * = Field measurements.
- ** = Corrected to 25 degrees Centigrade.

Specific quantitation limits are highly dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technically achievable. Soil and sediment samples are analyzed on a wet-weight basis, however, the quantitation limits are calcuated on a dry-weight basis and may be higher than the contract limits.

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Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW6 (Spke Dup)	GMSW7	GMSW8	GMSW9	GMSW9 (Duplicate)
VOLATILE ORGANIC COMPOUNDS							
Chloromethane	ug/l	10	<10	<10	<10	<10	<10 (j)
Bromomethane	ug/l	10	<10	<10	<10	<10	<10 (j)
Vinyl Chloride	ug/l	10	<10	<10	<10	<10	<10 (j)
Chloroethane	ug/l	10	<10	<10	<10	<10	<10 (j)
Methylene Chloride	ug/l	5	<5	<5	<5	<5	<5 (j)
Acetone	ug/l	10	<10	<10	<10	12	<10 (j)
Carbon Disulfide	ug/l	5	<5	<5	<5	<5	<5 (j)
1,1-Dichloroethene	ug/l	5	<5	<5	<5	<5	<5 (j)
1,1-Dichloroethane	ug/l	5	<5	<5	<5	<5	<5 (j)
1,2-Dichloroethene (total)	ug/l	5	<5	<5	<5	<5	<5 (j)
Chloroform	ug/l	5	<5	<5	<5	<5	<5 (j)
1,2-Dichloroethane	ug/l	5	<5	<5	<5	<5	<5 (j)
2-Butanone	ug/l	10	<10 (r)	<10 (r)	<10 (r)	<10 (r)	<10 (r)
1,1,1-Trichloroethane	ug/l	5	<5	<5	<5	<5	<5 (j)
Carbon Tetrachloride	ug/l	5	<5	<5	<5	<5	<5 (j)
Vinyl Acetate	ug/l	10	<10	<10	<10	<10	<10 (j)
Bromodichloromethane	ug/l	5	<5	<5	<5	<5	<5 (j)
1,2-Dichloropropane	ug/l	5	<5	<5	<5	<5	<5 (j)
cis-1,3-Dichloropropene	ug/l	5	<5	<5	<5	<5	<5 (j)
Trichloroethene	ug/l	5	<5	<5	<5	<5	<5 (j)
Dibromochloromethane	ug/l	5	<5	<5	<5	<5	<5 (j)
1,1,2-Trichloroethane	ug/l	5	<5	<5	<5	<5	<5 (j)
Benzene	ug/l	5	<5	<5	<5	<5	<5 (j)
Trans-1,3-Dichloropropene	ug/l	5	<5	<5	<5	<5	<5 (j)
Bromoform	ug/l	5	<5	<5	<5	<5	<5 (j)
4-Methyl-2-Pentanone	ug/l	10	<10	<10	<10	<10	<10 (j)
2-Hexanone	ug/l	10	<10	<10	<10	<10	<10 (j)
Tetrachloroethene	ug/l	5	<5	<5	<5	<5	<5 (j)
1,1,2,2-Tetrachloroethane	ug/l	5	<5	<5	<5	<5	<5 (j)
Toluene	ug/l	5	<5	<5	<5	<5	<5 (j)
Chlorobenzene	ug/l	5	<5	<5	<5	<5	<5 (j)
Ethylbenzene	ug/l	5	<5	<5	<5	<5	<5 (j)
Styrene	ug/l	5	<5	<5	<5	<5	<5 (j)
Total Xylenes	ug/l	5	<5	<5	<5	<5	<5 (j)
SEMI-VOLATILE ORGANIC COMPOUNDS							
Phenol	ug/l	10	<10	<10	<10	<10	<11
bis(2-Chloroethyl)Ether	ug/l	10	<10	<10	<10	<10	<11
2-Chlorophenol	ug/l	10	<10	<10	<10	<10	<11
1,3-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<11
1,4-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<11
Benzyl Alcohol	ug/l	10	<10	<10	<10	<10	<11
1,2-Dichlorobenzene	ug/l	10	<10	<10	<10	<10	<11

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW6 (Spke Dup)	GMSW7	GMSW8	GMSW9	GMSW9 (Duplicate)
2-Methylphenol	ug/l	10	<10	<10	<10	<10	<11
bis(2 Chloroisopropyl)Ether	ug/l	10	<10	<10	<10	<10	<11
4-Methylphenol	ug/l	10	<10	<10	<10	<10	<11
N-Nitroso-di-n-Propylamine	ug/l	10	<10	<10	<10	<10	<11
Hexachloroethane	ug/l	10	<10	<10	<10	<10	<11
Nitrobenzene	ug/l	10	<10	<10	<10	<10	<11
Isophorone	ug/l	10	<10	<10	<10	<10	<11
2-Nitrophenol	ug/l	10	<10	<10	<10	<10	<11
2,4-Dimethylphenol	ug/l	10	<10	<10	<10	<10	<11
Benzoic Acid	ug/l	50	3 J	<50	<50	2 J	<55
bis(2-Chloroethoxy)Methane	ug/l	10	<10	<10	<10	<10	<11
2,4-Dichlorophenol	ug/l	10	<10	<10	<10	<10	<11
1,2,4-Trichlorobenzene	ug/l	10	<10	<10	<10	<10	<11
Naphthalene	ug/l	10	<10	<10	<10	<10	<11
4-Chloroaniline	ug/l	10	<10	<10	<10	<10	<11
Hexachlorobutadiene	ug/l	10	<10	<10	<10	<10	<11
4-Chloro-3-Methylphenol	ug/l	10	<10	<10	<10	<10	<11
2-Methylnaphthalene	ug/l	10	<10	<10	<10	<10	<11
Hexachlorocyclopentadiene	ug/l	10	<10	<10	<10	<10	<11
2,4,6-Trichlorophenol	ug/l	10	<10	<10	<10	<10	<11
2,4,5-Trichlorophenol	ug/l	50	<50	<50	<50	<50	<55
2-Chloronaphthalene	ug/l	10	<10	<10	<10	<10	<11
2-Nitroaniline	ug/l	50	<50	<50	<50	<50	<55
Dimethyl Phthalate	ug/l	10	<10	<10	<10	<10	<11
Acenaphthylene	ug/l	10	<10	<10	<10	<10	<11
2,6-Dinitrotoluene	ug/l	10	<10	<10	<10	<10	<11
3-Nitroaniline	ug/l	50	<50	<50	<50	<50	<55
Acenaphthene	ug/l	10	<10	<10	<10	<10	<11
2,4-Dinitrophenol	ug/l	50	<50	<50	<50	<50	<55
4-Nitrophenol	ug/l	50	<50	<50	<50	<50	<55
Dibenzofuran	ug/l	10	<10	<10	<10	<10	<11
2,4-Dinitrotoluene	ug/l	10	<10	<10	<10	<10	<11
Diethylphthalate	ug/l	10	<10	<10	<10	<10	<11
4-Chlorophenyl-phenylether	ug/l	10	<10	<10	<10	<10	<11
Fluorene	ug/l	10	<10	<10	<10	<10	<11
4-Nitroaniline	ug/l	50	<50	<50	<50	<50	<55
4,6-Dinitro-2-Methylphenol	ug/l	50	<50	<50	<50	<50	<55
N-Nitrosodiphenylamine (1)	ug/l	10	<10	<10	<10	<10	<11
4-Bromophenyl-phenylether	ug/l	10	<10	<10	<10	<10	<11
Hexachlorobenzene	ug/l	10	<10	<10	<10	<10	<11
Pentachlorophenol	ug/l	50	<50	<50	<50	<50	<55
Phenanthrene	ug/l	10	<10	<10	<10	<10	<11
Anthracene	ug/l	10	<10	<10	<10	<10	<11
Di-n-Butylphthalate	ug/l	10	<10	<10	<10	<10	<11
Fluoranthene	ug/l	10	<10	<10	<10	<10	<11
Pyrene	ug/l	10	<10	<10	<10	<10	<11
Butylbenzylphthalate	ug/l	10	<10	<10	<10	2	<11
3,3'-Dichlorobenzidine	ug/l	20	<20	<20	<20	<20	<22

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW6 (Spke Dup)	GMSW7	GMSW8	GMSW9	GMSW9 (Duplicate)
Benzo(a)Anthracene	ug/l	10	<10	<10	<10	<10	<11
Chrysene	ug/l	10	<10	<10	<10	<10	<11
bis(2-Ethylhexyl)Phthalate	ug/l	10	<10 B	<10 B	<10 B	<10 B	<10 B
Di-n-Octyl Phthalate	ug/l	10	<10	<10	<10	<10	<11
Benzo(b)Fluoranthene	ug/l	10	<10	<10	<10	<10	<11
Benzo(k)Fluoranthene	ug/l	10	<10	<10	<10	<10	<11
Benzo(a)Pyrene	ug/l	10	<10	<10	<10	<10	<11
Indeno(1,2,3-cd)Pyrene	ug/l	10	<10	<10	<10	<10	<11
Dibenz(a,h)Anthracene	ug/l	10	<10	<10	<10	<10	<11
Benzo(g,h,i)Perylene	ug/l	10	<10	<10	<10	<10	<11
PESTICIDES							
alpha-BHC	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
beta-BHC	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
delta-BHC	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
gamma-BHC (Lindane)	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
Heptachlor	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
Aldrin	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
Heptachlor epoxide	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
Endosulfan I	ug/l	0.05	<0.053	<0.052	<0.056	<0.057	<0.060
Dieldrin	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
4,4'-DDE	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
Endrin	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
Endosulfan II	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
4,4'-DDD	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
Endosulfan Sulfate	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
4,4-DDT	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
Methoxychlor	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Endrin ketone	ug/l	0.10	<0.11	<0.10	<0.11	<0.11	<0.12
alpha-Chlordane	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
gamma-Chlordane	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Toxaphene	ug/l	1.0	<1.1	<1.0	<1.1	<1.1	<1.2
PCBs							
Aroclor-1016	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Aroclor-1221	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Aroclor-1232	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Aroclor-1242	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Aroclor-1248	ug/l	0.5	<0.53	<0.52	<0.56	<0.57	<0.60
Aroclor-1254	ug/l	1.0	<1.1	<1.0	<1.1	<1.1	<1.2
Aroclor-1260	ug/l	1.0	<1.1	<1.0	<1.1	<1.1	<1.2
INORGANICS							
Aluminum	ug/l	200	NR	<32.0	<32.0	60.2	51.6
Antimony	ug/l	60	NR	<23.0	<23.0	<23.0	<23.0

TABLE A.6.a

Appendix I. Analytical Results from Surface Water Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSW6 (Spke Dup)	GMSW7	GMSW8	GMSW9	GMSW9 (Duplicate)
Arsenic	ug/l	10	NR	<1.0	<1.0	<1.0	<1.0
Barium	ug/l	200	NR	12.1 (u)	191	301	299
Beryllium	ug/l	5	NR	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/l	5	NR	<3.0	<3.0	<3.0	<3.0
Calcium	ug/l	5000	NR	17600	50400	85300	87300
Chromium	ug/l	10	NR	<8.0	<8.0	<8.0	<8.0
Cobalt	ug/l	50	NR	<8.0	<8.0	<8.0	<8.0
Copper	ug/l	25	NR	<6.0	<6.0	<6.0	<6.0
Iron	ug/l	100	NR	196	38100	4590	4210
Lead	ug/l	5	NR	1.3 (j)	<1.0 (j)	3.2 (j)	<1.0 (j)
Magnesium	ug/l	5000	NR	13500	19000	43100	40600
Manganese	ug/l	15	NR	21.7	2050	783	645
Mercury	ug/l	0.2	NR	<0.2	<0.2	<0.2	<0.2
Nickel	ug/l	40	NR	<12.0	<12.0	<12.0	<12.0
Potassium	ug/l	5000	NR	2100	9980	68700	64300
Selenium	ug/l	5	NR	<1.0	<1.0	<1.0	<1.0
Silver	ug/l	10	NR	<6.0	<6.0	<6.0	<6.0
Sodium	ug/l	5000	NR	77200	107000	168000	140000
Thallium	ug/l	10	NR	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)	<1.0 (uj)
Vanadium	ug/l	50	NR	<5.0	<5.0	<5.0	<5.0
Zinc	ug/l	20	NR	<3.0	<3.0	5.0	4.8
Cyanide	ug/l	10	NR	<10.0	<10.0	<10.0	<10.0
INDICATOR PARAMETERS							
Alkalinity	mg/l	NE	NA	105	236	619	630
Chloride	mg/l	NE	NA	14.9	74.4	114	116
Sulfate	mg/l	NE	NA	6.5	6.0	7.0	5.5
COD	mg/l	NE	NA	12.3	44.5	99.4	105
Hardness	mg/l	NE	NA	99.6	204	390	385
Temperature*	degrees F	NE	NA	39.9	41.2	47.7	NA
Conductivity*	umohs/cm**	NE	NA	464	1359	2464	NA
pH*	pH units	NE	NA	7.90	6.72	7.00	NA

Notes:
NE = Criteria not established.
NA = Parameters were not analyzed.
NR = Results were not reported.
* = Field measurements.
** = Corrected to 25 degrees Centigrade.

Specific quantitation limits are highly dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technically achievable. Soil and sediment samples are analyzed on a wet-weight basis, however, the quantitation limits are calcuated on a dry-weight basis and may be higher than the contract limits.

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TABLE A.6.a

TABLE A.6.b

Technical Memorandum No. 2 Migration Pathway Assessment and Contaminant Characterization

Holtz and Krause Landfill

Wausau, Wisconsin

Volume 1 of 2

GERAGHTY & MILLER, INC.
Environmental Services

TABLE A.6.b

Technical Memorandum No. 2 Migration Pathway Assessment and Contaminant Characterization

Holtz and Krause Landfill

Wausau, Wisconsin

Volume 1 of 2

Prepared for

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Table 9. Summary of Organic Constituents detected in Sediment Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits (ug/kg)	GMSD1	GMSD2	GMSD3	GMSD4
VOLATILE ORGANIC COMPOUNDS						
Chloromethane	ug/kg	10	<24	<13	<13	<13
Methylene Chloride	ug/kg	5	7 (j)	4 J(j)	2 J(j)	4 J(j)
Acetone	ug/kg	10	<160 (j)	<13 B(j)	23 B(j)	<13 B(j)
Carbon Disulfide	ug/kg	5	<12	<7	<7	<6
2-Butanone	ug/kg	10	55 (j)	<13 J(j)	<13 B(j)	<13 (j)
Benzene	ug/kg	5	<12	<7	<7	<6
Toluene	ug/kg	5	<12	<7	<7	<6
Chlorobenzene	ug/kg	5	<12	<7	<7	<6
Total Xylenes	ug/kg	5	<12	<7	<7	<6
SEMI-VOLATILE ORGANIC COMPOUNDS						
Phenol	ug/kg	330	<1600	<870	<870	<840
2-Chlorophenol	ug/kg	330	<1600	<870	<870	<840
Benzoic Acid	ug/kg	1600	350 J	110 J	220 J	170 J
Napththalene	ug/kg	330	<1600	<870	140 J	<840
Acenaphthene	ug/kg	330	<1600	<870	360 J	<840
Dibenzofuran	ug/kg	330	<1600	<870	180 J	<840
Fluorene	ug/kg	330	<1600	2400	390 J	<840
Phenanthrene	ug/kg	330	<1600	<870	2200	<840
Anthracene	ug/kg	330	<1600	<870	520 J	<840
Di-n-Butylphthalate	ug/kg	330	<1600	<870	<870	<840
Fluoranthene	ug/kg	330	<1600	<870	2400	<840
Pyrene	ug/kg	330	<1600	<870	1600	<840
Benzo(a)Anthracene	ug/kg	330	<1600	<870	900	<840
Chrysene	ug/kg	330	<1600	<870	900	<840
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<1600 B	<870 B	<900 B	<840 B
Di-n-Octyl Phthalate	ug/kg	330	480 J	<870	900	<840
Benzo(b)Fluoranthene	ug/kg	330	<1600	<870	520 J	<840
Benzo(k)Fluoranthene	ug/kg	330	<1600	<870	720 J	<840
Benzo(a)Pyrene	ug/kg	330	<1600	<870	600 J	<840
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<1600	<870	330 J	<840
Benzo(g,h,i)Perylene	ug/kg	330	<1600	<870	310 J	<840

All sediment samples were analyzed for substances on the Target Compound List (TCL).

NA = Parameter was not analyzed.
RE* = Values for volatile organic compounds were obtained from sample re-analysis.
Specific quantitation limits are very dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technially achievable. Soil and sediment samples are analyzed on a wet-weight basis, however the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

Organic constituents highlighted with boxes indicate that the compound was detected. Sediment samples did not contain concentrations of inorganic constituents which were statistically elevated above background concentrations.

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Table 9. Summary of Organic Constituents detected in Sediment Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits (ug/kg)	GMSD5	GMSD6	GMSD7	GMSD7RE*
VOLATILE ORGANIC COMPOUNDS						
Chloromethane	ug/kg	10	<12	<15	<20 (j)	<20 (j)
Methylene Chloride	ug/kg	5	2 J(j)	3 J(j)	<10 (j)	<10 (j)
Acetone	ug/kg	10	<12 (j)	<28 B(j)	<20 B(j)	<27 (j)
Carbon Disulfide	ug/kg	5	<6	<7	<10 (j)	<10 (j)
2-Butanone	ug/kg	10	<12	<15 B(j)	<20 (j)	<20 (j)
Benzene	ug/kg	5	<6	<7 (j)	<10 (j)	<10 (j)
Toluene	ug/kg	5	<6	<7	<10 (j)	<10 (j)
Chlorobenzene	ug/kg	5	<6	<7	<10 (j)	<10 (j)
Total Xylenes	ug/kg	5	<6	<7	<10 (j)	<10 (j)
SEMI-VOLATILE ORGANIC COMPOUNDS						
Phenol	ug/kg	330	<810	160 J	<1300	NA
2-Chlorophenol	ug/kg	330	<810	100 J	<1300	NA
Benzoic Acid	ug/kg	1600	<4000	500 J	390 J	NA
Napththalene	ug/kg	330	<810	<970	<1300	NA
Acenaphthene	ug/kg	330	<810	<970	<1300	NA
Dibenzofuran	ug/kg	330	<810	<970	<1300	NA
Fluorene	ug/kg	330	<810	<970	<1300	NA
Phenanthrene	ug/kg	330	<810	110 J	<1300	NA
Anthracene	ug/kg	330	<810	<970	<1300	NA
Di-n-Butylphthalate	ug/kg	330	<810	<970	<1300	NA
Fluoranthene	ug/kg	330	<810	260 J	220 J	NA
Pyrene	ug/kg	330	<810	260 J	200 J	NA
Benzo(a)Anthracene	ug/kg	330	<810	<970	<1300	NA
Chrysene	ug/kg	330	<810	240 J	<1300	NA
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<810 B	<970	<1300 B	NA
Di-n-Octyl Phthalate	ug/kg	330	<810	6600	<1300	NA
Benzo(b)Fluoranthene	ug/kg	330	<810	220 J	<1300	NA
Benzo(k)Fluoranthene	ug/kg	330	<810	150 J	<1300	NA
Benzo(a)Pyrene	ug/kg	330	<810	160 J	<1300	NA
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<810	<970	<1300	NA
Benzo(g,h,i)Perylene	ug/kg	330	<810	<970	<1300	NA

All sediment samples were analyzed for substances on the Target Compound List (TCL).

NA = Parameter was not analyzed.
RE* = Values for volatile organic compounds were obtained from sample re-analysis.
Specific quantitation limits are very dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technially achievable. Soil and sediment samples are analyzed on a wet-weight basis, however the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

Organic constituents highlighted with boxes indicate that the compound was detected. Sediment samples did not contain concentrations of inorganic constituents which were statistically elevated above background concentrations.

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Table 9. Summary of Organic Constituents detected in Sediment Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits (ug/kg)	GMSD8	GMSD8RE*	GMSD9	GMSD9RE*
VOLATILE ORGANIC COMPOUNDS						
Chloromethane	ug/kg	10	<37 (j)	<37 (j)	<26 (j)	<26 (j)
Methylene Chloride	ug/kg	5	13 J(j)	<19 B(j)	<13 (j)	<13 B(j)
Acetone	ug/kg	10	620 B(j)	630 B(j)	290 B(j)	190 B(j)
Carbon Disulfide	ug/kg	5	5 J(j)	6 J(j)	<13 (j)	<13 (j)
2-Butanone	ug/kg	10	340 B(j)	350 (j)	160 B(j)	180 (j)
Benzene	ug/kg	5	<19 (j)	<19 (j)	29 (j)	31 (j)
Toluene	ug/kg	5	<19 (j)	<19 (j)	3 J(j)	5 J(j)
Chlorobenzene	ug/kg	5	<19 (j)	<19 (j)	41 (j)	64 (j)
Total Xylenes	ug/kg	5	<19 (j)	<19 (j)	100 (j)	140 (j)
SEMI-VOLATILE ORGANIC COMPOUNDS						
Phenol	ug/kg	330	<2400	NA	<1700 (j)	NA
2-Chlorophenol	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzoic Acid	ug/kg	1600	800 J	NA	620 J(j)	NA
Napththalene	ug/kg	330	<2400	NA	460 J(j)	NA
Acenaphthene	ug/kg	330	<2400	NA	<1700 (j)	NA
Dibenzofuran	ug/kg	330	<2400	NA	<1700 (j)	NA
Fluorene	ug/kg	330	<2400	NA	<1700 (j)	NA
Phenanthrene	ug/kg	330	<2400	NA	<1700 (j)	NA
Anthracene	ug/kg	330	<2400	NA	<1700 (j)	NA
Di-n-Butylphthalate	ug/kg	330	<2400	NA	<1700 (j)	NA
Fluoranthene	ug/kg	330	<2400	NA	<1700 (j)	NA
Pyrene	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzo(a)Anthracene	ug/kg	330	<2400	NA	<1700 (j)	NA
Chrysene	ug/kg	330	<2400	NA	<1700 (j)	NA
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<2400 B	NA	<1700 B(j)	NA
Di-n-Octyl Phthalate	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzo(b)Fluoranthene	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzo(k)Fluoranthene	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzo(a)Pyrene	ug/kg	330	<2400	NA	<1700 (j)	NA
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<2400	NA	<1700 (j)	NA
Benzo(g,h,i)Perylene	ug/kg	330	<2400	NA	<1700 (j)	NA

All sediment samples were analyzed for substances on the Target Compound List (TCL).

NA = Parameter was not analyzed.
RE* = Values for volatile organic compounds were obtained from sample re-analysis.
Specific quantitation limits are very dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technially achievable. Soil and sediment samples are analyzed on a wet-weight basis, however the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

Organic constituents highlighted with boxes indicate that the compound was detected. Sediment samples did not contain concentrations of inorganic constituents which were statistically elevated above background concentrations.

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Table 9. Summary of Organic Constituents detected in Sediment Samples, Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits (ug/kg)	GMSD9 (Duplicate)	GMSD9RE* (Duplicate)
VOLATILE ORGANIC COMPOUNDS				
Chloromethane	ug/kg	10	<25 (j)	<25 (j)
Methylene Chloride	ug/kg	5	<13 (j)	<13 B(j)
Acetone	ug/kg	10	190 B(j)	210 B(j)
Carbon Disulfide	ug/kg	5	<13 (j)	<13 (j)
2-Butanone	ug/kg	10	110 B(j)	170 (j)
Benzene	ug/kg	5	31 (j)	22 (j)
Toluene	ug/kg	5	3 J(j)	3 J(j)
Chlorobenzene	ug/kg	5	45 (j)	36 (j)
Total Xylenes	ug/kg	5	100 (j)	85 (j)
SEMI-VOLATILE ORGANIC COMPOUNDS				
Phenol	ug/kg	330	<1600 (j)	NA
2-Chlorophenol	ug/kg	330	<1600 (j)	NA
Benzoic Acid	ug/kg	1600	1400 J(j)	NA
Napththalene	ug/kg	330	470 J(j)	NA
Acenaphthene	ug/kg	330	<1600 (j)	NA
Dibenzofuran	ug/kg	330	<1600 (j)	NA
Fluorene	ug/kg	330	<1600 (j)	NA
Phenanthrene	ug/kg	330	<1600 (j)	NA
Anthracene	ug/kg	330	<1600 (j)	NA
Di-n-Butylphthalate	ug/kg	330	180 J(j)	NA
Fluoranthene	ug/kg	330	<1600 (j)	NA
Pyrene	ug/kg	330	<1600 (j)	NA
Benzo(a)Anthracene	ug/kg	330	<1600 (j)	NA
Chrysene	ug/kg	330	<1600 (j)	NA
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<1600 (j)	NA
Di-n-Octyl Phthalate	ug/kg	330	4900 (j)	NA
Benzo(b)Fluoranthene	ug/kg	330	<1600 (j)	NA
Benzo(k)Fluoranthene	ug/kg	330	<1600 (j)	NA
Benzo(a)Pyrene	ug/kg	330	<1600 (j)	NA
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<1600 (j)	NA
Benzo(g,h,i)Perylene	ug/kg	330	<1600 (j)	NA

All sediment samples were analyzed for substances on the Target Compound List (TCL).

NA = Parameter was not analyzed.
RE* = Values for volatile organic compounds were obtained from sample re-analysis.
Specific quantitation limits are very dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance, and may not have been technially achievable. Soil and sediment samples are analyzed on a wet-weight basis, however the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

☐ Organic constituents highlighted with boxes indicate that the compound was detected. Sediment samples did not contain concentrations of inorganic constituents which were statistically elevated above background concentrations.

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TABLE A.6.b

Technical Memorandum No. 2 Migration Pathway Assessment and Contaminant Characterization

Holtz and Krause Landfill

Wausau, Wisconsin

Volume 2 of 2

GERAGHTY & MILLER, INC.
Environmental Services

TABLE A.6.b

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Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD1	GMSD2	GMSD3	GMSD4	GMSD5	GMSD6	GMSD6 (Mat. Spke)	GMSD6 (Spke. Dup)
VOLATILE ORGANIC COMPOUNDS										
Chloromethane	ug/kg	10	<24	<13	<13	<13	<12	<15	6 J(j)	<15
Bromoethane	ug/kg	10	<24	<13	<13	<13	<12	<15	<15	<15
Vinyl Chloride	ug/kg	10	<24	<13	<13	<13	<12	<15	<15	<15
Chloroethane	ug/kg	10	<24	<13	<13	<13	<12	<15	<15	<15
Methylene Chloride	ug/kg	5	7 (j)	4 J(j)	2 J(j)	4 J(j)	2 J(j)	3 J(j)	4 J(j)	4 J(j)
Acetone	ug/kg	10	<160 (j)	<13 B(j)	23 B(j)	<13 B(j)	<12 (j)	<28 B(j)	<89 B(j)	<18 B(j)
Carbon Disulfide	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
1,1-Dichloroethene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
1,1-Dichloroethane	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
1,2-Dichloroethene (total)	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Chloroform	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
1,2-Dichloroethane	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
2-Butanone	ug/kg	10	55 (j)	<13 J(j)	<13 B(j)	<13 (j)	<12	<15 B(j)	28 B(j)	<15 (r)
1,1,1-Trichloroethane	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Carbon Tetrachloride	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Vinyl Acetate	ug/kg	10	<24	<13	<13	<13	<12	<15 (j)	<15	<15
Bromodichloromethane	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
1,2-Dichloropropane	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
cis-1,3-Dichloropropene	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Trichloroethene	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Dibromochloromethane	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
1,1,2-Trichloroethane	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Benzene	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Trans-1,3-Dichloropropene	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
Bromoform	ug/kg	5	<12	<7	<7	<6	<6	<7 (j)	<7	<7
4-Methyl-2-Pentanone	ug/kg	10	<24	<13	<13	<13	<12	<15	<15	<15
2-Hexanone	ug/kg	10	<24	<13	<13	<13	<12 (j)	<15 (j)	<15	<15
Tetrachloroethene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
1,1,2,2-Tetrachloroethane	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Toluene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Chlorobenzene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Ehtylbenzene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Styrene	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
Total Xylenes	ug/kg	5	<12	<7	<7	<6	<6	<7	<7	<7
SEMI-VOLATILE ORGANIC COMPOUNDS										
Phenol	ug/kg	330	<1600	<870	<870	<840	<810	160 J	<970	<970
bis(2-Chloroethyl)Ether	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2-Chlorophenol	ug/kg	330	<1600	<870	<870	<840	<810	100 J	<970	<970
1,3-Dichlorobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
1,4-Dichlorobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Benzyl Alcohol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970

TABLE A.6.b

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD1	GMSD2	GMSD3	GMSD4	GMSD5	GMSD6	GMSD6 (Mat. Spke)	GMSD6 (Spke. Dup)
1,2-Dichlorobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2-Methylphenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
bix(2-Chloroisopropy)Ether	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
4-Methylphenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
N-Nitroso-Di-n-Propylamine	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Hexachloroethane	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Nitrobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Isophorone	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2-Nitrophenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2,4-Dimethylphenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Benzoic Acid	ug/kg	1600	350 J	110 J	220 J	170 J	<4000	500 J	590 J	370 J
bis(2-Chloroethoxy)Methane	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2,4-Dichlorophenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
1,2,4-Trichlorobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Napththalene	ug/kg	330	<1600	<870	140 J	<840	<810	<970	<970	<970
4-Chloroaniline	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Hexachlorobutadiene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
4-Chloro-3-Methylphenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2-Methylnaphthalene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Hexachlorocyclopentadiene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2,4,6-Trichlorophenol	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2,4,5-Trichlorophenol	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
2-Chloronaphthalene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2-Nitroaniline	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
Dimethyl Phthalate	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Acenapthylene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
2,6-Dinitrotoluene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
3-Nitroaniline	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
Acenaphthene	ug/kg	330	<1600	<870	360 J	<840	<810	<970	<970	<970
2,4-Dinitrophenol	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
4-Nitrophenol	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
Dibenzofuran	ug/kg	330	<1600	<870	180 J	<840	<810	<970	<970	<970
2,4-Dinitrotoluene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Diethylphthalate	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
4-Chlorophenyl-phenylether	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Fluorene	ug/kg	330	<1600	2400	390 J	<840	<810	<970	<970	<970
4-Nitroaniline	ug/kg	1600	<7800	1600	<4200	<4100	<4000	<4700	<4700	<4700
4,6-Dinitro-2-Methylphenol	ug/kg	1600	<7800	<870	<4200	<4100	<4000	<4700	<4700	<4700
N-Nitrosodiphenylamine (1)	ug/kg	330	<1600	<1700	<870	<840	<810	<970	<970	<970
4-Bromophenyl-phenylether	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Hexachlorobenzene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Pentachlorophenol	ug/kg	1600	<7800	<4200	<4200	<4100	<4000	<4700	<4700	<4700
Phenanthrene	ug/kg	330	<1600	<870	2200	<840	<810	110 J	170 J	110 J
Anthracene	ug/kg	330	<1600	<870	520 J	<840	<810	<970	<970	<970
Di-n-Butylphthalate	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Fluoranthene	ug/kg	330	<1600	<870	2400	<840	<810	260 J	430 J	280 J
Pyrene	ug/kg	330	<1600	<870	1600	<840	<810	260 J	<970	<970

TABLE A.6.b

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD1	GMSD2	GMSD3	GMSD4	GMSD5	GMSD6	GMSD6 (Mat. Spke)	GMSD6 (Spke. Dup)
Butylbenzylphthalate	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
3,3'-Dichlorobenzidine	ug/kg	660	<3200	<1700	<1700	<1700	<1600	<1900	<1900	<1900
Benzo(a)Anthracene	ug/kg	330	<1600	<870	900	<840	<810	<970	<970	<970
Chrysene	ug/kg	330	<1600	<870	900	<840	<810	240 J	340 J	230 J
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<1600 B	<870 B	<900 B	<840 B	<810 B	<970	<970 B	<970 B
Di-n-Octyl Phthalate	ug/kg	330	480 J	<870	900	<840	<810	6600	<970	<970
Benzo(b)Fluoranthene	ug/kg	330	<1600	<870	520 J	<840	<810	220 J	330 J	240 J
Benzo(k)Fluoranthene	ug/kg	330	<1600	<870	720 J	<840	<810	150 J	230 J	150 J
Benzo(a)Pyrene	ug/kg	330	<1600	<870	600 J	<840	<810	160 J	240 J	170 J
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<1600	<870	330 J	<840	<810	<970	<970	<970
Dibenz(a,h)Anthracene	ug/kg	330	<1600	<870	<870	<840	<810	<970	<970	<970
Benzo(g,h,i)Perylene	ug/kg	330	<1600	<870	310 J	<840	<810	<970	<970	<970
PESTICIDES										
alpha-BHC	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
beta-BHC	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
delta-BHC	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
gamma-BHC (Lindane)	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
Heptachlor	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
Aldrin	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
Heptachlor epoxide	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
Endosulfan I	ug/kg	8.0	<39 (j)	<21 (j)	<21 (j)	<20 (j)	<20 (j)	<24 (j)	<24 (j)	<23 (j)
Dieldrin	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
4,4'-DDE	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
Endrin	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
Endorsulfan II	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
4,4'-DDD	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
Endosulfan sulface	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
4,4'-DDT	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
Methoxychlor	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Endrin ketone	ug/kg	16.0	<78 (j)	<42 (j)	<42 (j)	<41 (j)	<40 (j)	<47 (j)	<47 (j)	<47 (j)
alpha-Chlordane	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
gamma-Chlordane	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Toxaphene	ug/kg	160.0	<780 (j)	<420 (j)	<420 (j)	<410 (j)	<400 (j)	<470 (j)	<470 (j)	<470 (j)
PCBs										
Aroclor-1016	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Aroclor-1221	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Aroclor-1232	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Aroclor-1242	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Aroclor-1248	ug/kg	80.0	<390 (j)	<210 (j)	<210 (j)	<200 (j)	<200 (j)	<240 (j)	<240 (j)	<230 (j)
Aroclor-1254	ug/kg	160.0	<780 (j)	<420 (j)	<420 (j)	<410 (j)	<400 (j)	<470 (j)	<470 (j)	<470 (j)
Aroclor-1260	ug/kg	160.0	<780 (j)	<420 (j)	<420 (j)	<410 (j)	<400 (j)	<470 (j)	<470 (j)	<470 (j)

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD1	GMSD2	GMSD3	GMSD4	GMSD5	GMSD6	GMSD6 (Mat. Spke)	GMSD6 (Spke. Dup)
INORGANICS										
Aluminum	mg/kg	20.	8890	1540	3030	1420	2150	2940	NR	NR
Antimony	mg/kg	6.	<8.7	<6.9	<5.9	<5.7	<5.6	<6.8	NR	NR
Arsenic	mg/kg	1.	1.9	0.45	1.3	<0.25	<0.24	0.68	NR	NR
Barium	mg/kg	20.	144	13.6	25.6	9.6	13.3	26.9	NR	NR
Beryllium	mg/kg	0.5	0.64	<0.30	0.32	<0.25	<0.24	<0.30	NR	NR
Cadmium	mg/kg	0.5	<1.1	<0.90	<0.77	<0.74	<0.73	<0.89	NR	NR
Calcium	mg/kg	500.	2690	520	1820	888	846	873	NR	NR
Chromium	mg/kg	1.	13.9	3.4	7.1	4.2	4.7	6.5	NR	NR
Cobalt	mg/kg	5.	6.7	<2.4	3.4	2.7	<2.0	2.5	NR	NR
Copper	mg/kg	2.5	48.2	30.3	27.3	22.8	16.4	18.7	NR	NR
Iron	mg/kg	10.	19700	3280	7760	3220	4110	4630	NR	NR
Lead	mg/kg	5.	11.4	2.7	40.2	2.2	1.3	32.2	NR	NR
Magnesium	mg/kg	500.	1820	521	1490	718	992	787	NR	NR
Manganese	mg/kg	1.5	1160	65.6	138	33.3	41.3	84.3	NR	NR
Mercury	mg/kg	0.002	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	NR	NR
Nickel	mg/kg	4.	8.1	<3.6	5.3	3.2	3.7	3.7	NR	NR
Potassium	mg/kg	500.	733	146	265	137	191	228	NR	NR
Selenium	mg/kg	0.5	<0.38	<0.30	<0.26	<0.25	<0.24	<0.30	NR	NR
Silver	mg/kg	1.	<2.3	<1.8	<1.5	<1.5	<1.5	<1.8	NR	NR
Sodium	mg/kg	500.	<1000	<792	<673	<649	<645	<780	NR	NR
Thallium	mg/kg	1.	<0.38	<0.30	<0.26	<0.25	<0.24	<0.30	NR	NR
Vanadium	mg/kg	5.	25.4	5.5	13.5	9.9	9.7	10.0	NR	NR
Zinc	mg/kg	2.	57.3	8.4	26.1	7.3	9.0	48.5	NR	NR
Cyanide	mg/kg	1.	<0.95 (j)	<0.75 (j)	<0.64 (j)	<0.62 (j)	<0.61 (j)	<0.74 (j)	NR	NR
TOC@	mg/kg	NE	63800	9440	6110	4880	6220	4040	NR	NR

Notes:
NE = Criteria are not established.
NR = Results were not reported.
@ = Total organic carbon.
* = Sample required re-analysis for selected parameters due to laboratory QA/QC problems or matrix laboratory.
NA = Parameters were not re-analyzed.
Detection limits for sediments are variable due to moisture content and concentrations of target and non-target compounds.

Specific quantitation limits are highly dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance and may not have been technically achievable. Soil and sediment samples are analyzed on a wet-weight basis; however, the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

611H&Klotus2/SEDSAMP.WK1

TABLE A.6.b

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD7	GMSD7RE*	GMSD8	GMSD8RE*	GMSD9	GMSD9RE*	GMSD9 (Duplicate)	GMSD9RE* (Duplicate)
VOLATILE ORGANIC COMPOUNDS										
Chloromethane	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
Bromoethane	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
Vinyl Chloride	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
Chloroethane	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
Methylene Chloride	ug/kg	5	<10 (j)	<10 (j)	13 J(j)	<19 B(j)	<13 (j)	<13 B(j)	<13 (j)	<13 B(j)
Acetone	ug/kg	10	<20 B(j)	<27 (j)	620 B(j)	630 B(j)	290 B(j)	190 B(j)	190 B(j)	210 B(j)
Carbon Disulfide	ug/kg	5	<10 (j)	<10 (j)	5 J(j)	6 J(j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
1,1-Dichloroethene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
1,1-Dichloroethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
1,2-Dichloroethene (total)	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Chloroform	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
1,2-Dichloroethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
2-Butanone	ug/kg	10	<20 (j)	<20 (j)	340 B(j)	350 (j)	160 B(j)	180 (j)	110 B(j)	170 (j)
1,1,1-Trichloroethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Carbon Tetrachloride	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<25 (j)
Vinyl Acetate	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<13 (j)
Bromodichloromethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
1,2-Dichloropropane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
cis-1,3-Dichloropropene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
Trichloroethene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
Dibromochloromethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
1,1,2-Trichloroethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<25 (j)	<13 (j)
Benzene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	29 (j)	31 (j)	31 (j)	22 (j)
Trans-1,3-Dichloropropene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Bromoform	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
4-Methyl-2-Pentanone	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
2-Hexanone	ug/kg	10	<20 (j)	<20 (j)	<37 (j)	<37 (j)	<26 (j)	<26 (j)	<25 (j)	<25 (j)
Tetrachloroethene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
1,1,2,2-Tetrachloroethane	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Toluene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	3 J(j)	5 J(j)	3 J(j)	3 J(j)
Chlorobenzene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	41 (j)	64 (j)	45 (j)	36 (j)
Ehtylbenzene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Styrene	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	<13 (j)	<13 (j)	<13 (j)	<13 (j)
Total Xylenes	ug/kg	5	<10 (j)	<10 (j)	<19 (j)	<19 (j)	100 (j)	140 (j)	100 (j)	85 (j)
SEMI-VOLATILE ORGANIC COMPOUNDS										
Phenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
bis(2-Chloroethyl)Ether	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2-Chlorophenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
1,3-Dichlorobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
1,4-Dichlorobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Benzyl Alcohol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA

TABLE A.6.b

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD7	GMSD7RE*	GMSD8	GMSD8RE*	GMSD9	GMSD9RE*	GMSD9 (Duplicate)	GMSD9RE* (Duplicate)
1,2-Dichlorobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2-Methylphenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
bix(2-Chloroisopropy)Ether	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
4-Methylphenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
N-Nitroso-Di-n-Propylamine	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Hexachloroethane	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Nitrobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Isophorone	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2-Nitrophenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4-Dimethylphenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Benzoic Acid	ug/kg	1600	390 J	NA	800 J	NA	620 J(j)	NA	1400 J(j)	NA
bis(2-Chloroethoxy)Methane	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4-Dichlorophenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
1,2,4-Trichlorobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Napththalene	ug/kg	330	<1300	NA	<2400	NA	460 J(j)	NA	470 J(j)	NA
4-Chloroaniline	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Hexachlorobutadiene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
4-Chloro-3-Methylphenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2-Methylnaphthalene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Hexachlorocyclopentadiene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4,6-Trichlorophenol	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4,5-Trichlorophenol	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
2-Chloronaphthalene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2-Nitroaniline	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
Dimethyl Phthalate	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Acenapthylene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,6-Dinitrotoluene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
3-Nitroaniline	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
Acenaphthene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4-Dinitrophenol	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
4-Nitrophenol	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
Dibenzofuran	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
2,4-Dinitrotoluene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Diethylphthalate	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
4-Chlorophenyl-phenylether	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Fluorene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
4-Nitroaniline	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
4,6-Dinitro-2-Methylphenol	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
N-Nitrosodiphenylamine (1)	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
4-Bromophenyl-phenylether	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Hexachlorobenzene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Pentachlorophenol	ug/kg	1600	<6500	NA	<12000	NA	<8400 (j)	NA	<8000 (j)	NA
Phenanthrene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Anthracene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Di-n-Butylphthalate	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	180 J(j)	NA
Fluoranthene	ug/kg	330	220 J	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Pyrene	ug/kg	330	200 J	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD7	GMSD7RE*	GMSD8	GMSD8RE*	GMSD9	GMSD9RE*	GMSD9 (Duplicate)	GMSD9RE* (Duplicate)
Butylbenzylphthalate	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
3,3'-Dichlorobenzidine	ug/kg	660	<2700	NA	<4900	NA	<3500 (j)	NA	<3300 (j)	NA
Benzo(a)Anthracene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Chrysene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
bis(2-Ethylhexyl)Phthalate	ug/kg	330	<1300 B	NA	<2400 B	NA	<1700 B(j)	NA	<1600 (j)	NA
Di-n-Octyl Phthalate	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	4900 (j)	NA
Benzo(b)Fluoranthene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Benzo(k)Fluoranthene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Benzo(a)Pyrene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Indeno(1,2,3-cd)Pyrene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Dibenz(a,h)Anthracene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
Benzo(g,h,i)Perylene	ug/kg	330	<1300	NA	<2400	NA	<1700 (j)	NA	<1600 (j)	NA
PESTICIDES										
alpha-BHC	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
beta-BHC	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
delta-BHC	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
gamma-BHC (Lindane)	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
Heptachlor	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
Aldrin	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
Heptachlor epoxide	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
Endosulfan I	ug/kg	8.0	<33 (j)	NA	<59 (j)	NA	<42 (j)	NA	<40 (j)	NA
Dieldrin	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
4,4'-DDE	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
Endrin	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
Endorsulfan II	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
4,4'-DDD	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
Endosulfan sulface	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
4,4'-DDT	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
Methoxychlor	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Endrin ketone	ug/kg	16.0	<65 (j)	NA	<120 (j)	NA	<84 (j)	NA	<80 (j)	NA
alpha-Chlordane	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
gamma-Chlordane	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Toxaphene	ug/kg	160.0	<650 (j)	NA	<1200 (j)	NA	<840 (j)	NA	<800 (j)	NA
PCBs										
Aroclor-1016	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Aroclor-1221	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Aroclor-1232	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Aroclor-1242	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Aroclor-1248	ug/kg	80.0	<330 (j)	NA	<590 (j)	NA	<420 (j)	NA	<400 (j)	NA
Aroclor-1254	ug/kg	160.0	<650 (j)	NA	<1200 (j)	NA	<840 (j)	NA	<800 (j)	NA
Aroclor-1260	ug/kg	160.0	<650 (j)	NA	<1200 (j)	NA	<840 (j)	NA	<800 (j)	NA

Appendix J. Analytical Results from Sediment Samples,
Holtz and Krause Landfill, Wausau, Wisconsin.

Parameter	Units	USEPA Contract Required Detection Limits	GMSD7	GMSD7RE*	GMSD8	GMSD8RE*	GMSD9	GMSD9RE*	GMSD9 (Duplicate)	GMSD9RE* (Duplicate)
INORGANICS										
Aluminum	mg/kg	20.	11600	NA	11900	NA	15200	NA	14000	NA
Antimony	mg/kg	6.	<9.7	NA	<11.9	NA	<12.2	NA	<10.0	NA
Arsenic	mg/kg	1.	3.0	NA	3.1	NA	4.5	NA	3.7	NA
Barium	mg/kg	20.	115	NA	162	NA	256	NA	252	NA
Beryllium	mg/kg	0.5	0.52	NA	0.63	NA	0.65	NA	0.72	NA
Cadmium	mg/kg	0.5	<1.3	NA	<1.6	NA	<1.6	NA	<1.3	NA
Calcium	mg/kg	500.	3720	NA	2260	NA	4570	NA	3880	NA
Chromium	mg/kg	1.	22.6	NA	18.0	NA	22.3	NA	20.9	NA
Cobalt	mg/kg	5.	8.3	NA	8.5	NA	10.9	NA	11.7	NA
Copper	mg/kg	2.5	33.5	NA	41.5	NA	39.1	NA	36.5	NA
Iron	mg/kg	10.	12700	NA	46500	NA	24300	NA	23000	NA
Lead	mg/kg	5.	31.4	NA	17.6	NA	20.1	NA	35.1	NA
Magnesium	mg/kg	500.	2630	NA	2330	NA	3330	NA	3170	NA
Manganese	mg/kg	1.5	245	NA	484	NA	529	NA	489	NA
Mercury	mg/kg	0.002	<0.2	NA	<0.3	NA	<0.3	NA	<0.2	NA
Nickel	mg/kg	4.	10.1	NA	10.2	NA	15.7	NA	14.6	NA
Potassium	mg/kg	500.	529	NA	702	NA	1680	NA	1460	NA
Selenium	mg/kg	0.5	<0.42	NA	<0.52	NA	<0.53	NA	<0.43	NA
Silver	mg/kg	1.	<2.5	NA	<3.1	NA	<3.2	NA	<2.6	NA
Sodium	mg/kg	500.	<1110	NA	<1360	NA	<1400	NA	<1140	NA
Thallium	mg/kg	1.	<0.42	NA	<0.52	NA	<0.53	NA	<0.43	NA
Vanadium	mg/kg	5.	29.7	NA	37.8	NA	38.0	NA	35.9	NA
Zinc	mg/kg	2.	98.9	NA	64.8	NA	81.2	NA	117	NA
Cyanide	mg/kg	1.	<1.1 (j)	NA	<1.3 (j)	NA	<1.3 (j)	NA	<1.1 (j)	NA
TOC@	mg/kg	NE	88900	NA	126000	NA	58200	NA	63600	NA

Notes:
NE = Criteria are not established.
NR = Results were not reported.
@ = Total organic carbon.
* = Sample required re-analysis for selected parameters due to laboratory QA/QC problems or matrix laboratory.
NA = Parameters were not re-analyzed.
Detection limits for sediments are variable due to moisture content and concentrations of target and non-target compounds.

Specific quantitation limits are highly dependent on the concentration of target and non-target compounds, and the nature of sample matrix. The quantitation limits are provided for guidance and may not have been technically achievable. Soil and sediment samples are analyzed on a wet-weight basis; however, the quantitation limits are calculated on a dry-weight basis and may be higher than the contract limits.

611H&Klotus2/SEDSAMP.WK1

ATTACHMENT A.7

GROUNDWATER ELEVATIONS
HOLTZ-KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*GEMS Point ID*	*Reference Elevation (ft AMSL)*	*11/3/2011 Depth to Groundwater (ft BTOC)*	*11/3/2011 Groundwater Elevation (ft AMSL)*	*6/12/2012 Depth to Groundwater (ft BTOC)*	*6/12/2012 Groundwater Elevation (ft AMSL)*	*11/14/2012 Depth to Groundwater (ft BTOC)*	*11/14/2012 Groundwater Elevation (ft AMSL)*	*6/17/2013 Depth to Groundwater (ft BTOC)*	*6/17/2013 Groundwater Elevation (ft AMSL)*
MW-1	100	1223.25	13.73	1209.52	12.19	1211.06	13.10	1210.15	8.86	1214.39
MW-4AR	106	1173.86	8.72	1165.14	9.64	1164.22	9.59	1164.27	8.26	1165.60
MW-4B	107	1173.86	8.72	1165.14	9.70	1164.16	9.62	1164.24	8.31	1165.55
MW-5	108	1174.50	9.63	1164.87	10.59	1163.91	10.40	1164.10	9.29	1165.21
MW-8A	110	1174.81	9.63	1165.18	10.36	1164.45	10.26	1164.55	9.09	1165.72
MW-8B	111	1174.52	9.35	1165.17	10.10	1164.42	9.96	1164.56	8.82	1165.70
MW-8C	112	1174.60	9.43	1165.17	10.18	1164.42	10.05	1164.55	8.91	1165.69
MW-11A	114	1209.60	44.70	1164.90	45.41	1164.19	45.25	1164.35	44.43	1165.17
MW-11B	115	1209.84	44.96	1164.88	45.66	1164.18	45.49	1164.35	44.71	1165.13
MW-11C	116	1210.26	45.37	1164.89	46.09	1164.17	45.90	1164.36	45.12	1165.14
MW-11D	144	1210.25	45.35	1164.90	46.09	1164.16	45.86	1164.39	45.10	1165.15
MW-12A	117	1177.95	12.84	1165.11	13.58	1164.37	20.10	1157.85	12.46	1165.49
MW-12B	118	1177.56	12.44	1165.12	13.19	1164.37	13.00	1164.56	12.06	1165.50
MW-16AR	124	1180.66	15.46	1165.20	16.13	1164.53	15.80	1164.86	15.05	1165.61
MW-16BR	125	1180.76	15.59	1165.17	16.23	1164.53	15.91	1164.85	15.21	1165.55
MW-19A	130	1178.69	12.75	1165.94	12.95	1165.74	12.64	1166.05	12.07	1166.62
MW-19B	131	1178.99	12.28	1166.71	12.61	1166.38	12.25	1166.74	12.78	1166.21
MW-20R	143	1170.28	5.12	1165.16	5.71	1164.57	5.31	1164.97	NM	NM
MW-21A	133	1171.32	6.07	1165.25	6.58	1164.74	6.00	1165.32	5.75	1165.57
MW-21B	134	1171.30	6.00	1165.30	6.51	1164.79	5.96	1165.34	5.69	1165.61
MW-21C	135	1170.82	5.53	1165.29	6.03	1164.79	5.47	1165.35	5.22	1165.60
MW-22A	136	1177.93	12.30	1165.63	12.83	1165.10	12.37	1165.56	11.46	1166.47
MW-22B	137	1177.43	11.79	1165.64	12.34	1165.09	11.91	1165.52	11.17	1166.26
MW-23	138	1174.18	8.70	1165.48	9.34	1164.84	8.60	1165.58	8.26	1165.92
MW-24A	139	1172.70	7.82	1164.88	8.70	1164.00	8.50	1164.20	7.50	1165.20
MW-24B	140	1172.38	7.54	1164.84	8.38	1164.00	8.20	1164.18	7.21	1165.17
MW-24C	141	1172.56	7.71	1164.85	8.57	1163.99	8.37	1164.19	7.38	1165.18
MW-24D	142	1172.40	7.61	1164.79	8.48	1163.92	8.30	1164.10	7.31	1165.09
MW-25C	146	1211.06	46.76	1164.30	47.51	1163.55	47.42	1163.64	46.69	1164.37
MW-25D	145	1211.72	166.32*	*	169.28*	*	157.82*	*	147.67*	*
MW-26C	147	1207.04	42.62	1164.42	43.27	1163.77	43.24	1163.80	43.08	1163.96
MW-27C	148	1210.02	45.62	1164.40	47.23	1162.79	47.19	1162.83	46.81	1163.21
MW-28C	149	1210.96	47.65	1163.31	48.32	1162.64	48.31	1162.65	48.31	1162.65

Notes:

ft AMSL - Feet Above Mean Sea Level
ft BTOC - Feet Below Top of Casing
* - Anomolous water level

ATTACHMENT A.8a

GAS PROBE METHANE LEVELS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Gas Probe	*4/30/2013*	*5/13/2013*	*6/12/2013*	*7/25/2013*	*8/16/2013*	*9/19/2013*	*9/20/2013*	*9/21/2013*	*9/22/2013*	*9/23/2013*	*9/24/2013*
GP1S	0.1	0.1	0.2	0.10	0	0.1	0	0	0	0	0.2
GP1D	0	0.1	0.3	0	0	0	0	0	0	0	0.2
GP2	0	0.2	0.2	0	0.3	0.1	0	0	0	0.1	0.2
GP3S	0	0.2	0.3	0	0	0.2	0	0	0	0	0.3
GP3D	0	0.2	0.3	0	0	0.2	0	0	0	0	0.2
GP5S	0	0.2	0.4	0	0	0.3	0	0	0	0	0.3
GP6	0	0.2	0.3	0	0.1	0.1	0	0	0	0	0.3
GP7R	0		0.4	0	0.1	0.2	0	0	0	0.1	0.3
GP10	0	0.2	0.3	0	0.2	0.1	0	0	0	0	0.2
GP11	0	0.1	0.3	0	0.2	0.1	0	0	0	0	0.3
GP12			0.3	0.1	0.2	0	0	0	0	0.2	0.3
GP13			0.3	0.2	0.1	0	0	0	0	0.2	0.2
GP14			0.2	0.1	0	0	0	0	0	0.1	0.2

GAS PROBE METHANE LEVELS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Gas Probe	*9/25/2013*	*9/26/2013*	*9/27/2013*	*9/28/2013*	*9/29/2013*	*9/30/2013*	*10/1/2013*	*10/2/2013*	*10/7/2013*
GP1S	0	0.2	0.1	0	0	0	0	0.1	0.1
GP1D	0	0.1	0	0.1	0	0	0	0	0.1
GP2	0.1	0.2	0.2	0	0	0.1	0.1	0.3	0.3
GP3S	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1
GP3D	0	0.2	0.1	0	0	0.1	0.1	0.1	0
GP5S	0	0.3	0.2	0	0	0.1	0.2	0.5	0.1
GP6	0	0.2	0.1	0	0	0.3	0	0.3	0.3
GP7R	0	0.3	0.2	0	0	0.2	0.1	0.2	0.1
GP10	0	0.2	0.2	0	0	0.2	0	0.3	0.2
GP11	0	0.3	0.2	0	0.1	0.1	3.7	0.8	0.2
GP12	0.2	0.2	0.2	0	0	0.1	0.1	0.3	0.2
GP13	0.2	0.2	0	0	0	0	0	0.3	0.4
GP14	0.2	0.2	0	0	0	0.1	0	0.2	0.4

Note:

Background readings for methane are 0.0% to 0.3% due to calibration of methane meter.
Flare was shut down for replacement from 9/19/2013 to 10/2/2013
Methane levels are presented in percentage

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKBH0002	15:55	2/9/2012	29.5	27.4	0.6	42.5	1.9	0.04	95	145	150	2596	2686
HKBH0002	10:47	2/27/2012	25.5	27.2	0.8	46.5	1.9	-0.01	90	495	0	7662	0
HKBH0002	11:19	3/20/2012	25.2	30.5	0.5	43.8	2	-0.02	112	0	0	0	0
HKBH0002	12:25	4/24/2012	27.3	27.6	0.6	44.5	0	-2.12	111	0	0	0	0
HKBH0002	9:13	5/22/2012	25.3	26.5	0.6	47.6	2	-0.01	108	0	0	0	0
HKBH0002	9:11	6/25/2012	24.6	26.5	0.3	48.6	1.8	0.19	114	281	278	4196	4151
HKBH0002	7:11	7/23/2012	26.1	28.3	0.5	45.1	1.9	0.14	122	261	230	4135	3644
HKBH0002	6:58	8/13/2012	25.2	26.4	0.6	47.8	1.8	0.21	112	287	297	4391	4544
HKBH0002	6:55	9/5/2012	27.5	26.6	0.8	45.1	2	-0.01	115	0	0	0	0
HKBH0002	7:29	9/19/2012	27.5	28.8	0.5	43.2	1.9	-0.02	102	0	0	0	0
HKBH0002	6:57	9/25/2012	28.9	29.5	0.6	41	1.6	0.23	106	294	316	5157	5543
HKBH0002	7:28	10/24/2012	28.6	31.5	0.4	39.5	2.1	-0.02	110	0	0	0	0
HKBH0002	10:22	10/24/2012	28.4	30.6	0.4	40.6	2.1	0.05	110	140	151	2414	2603
HKBH0002	12:16	10/29/2012	28.8	31.5	0.2	39.5	2	-2.7	110	0	0	0	0
HKBH0002	9:40	12/17/2012	28.2	28.8	0.6	42.4	1.9	0.03	96	119	119	2037	2037
HKBH0002	13:38	1/7/2013	26.9	26.8	0.4	45.9	2	0.18	97	167	167	2315	2315
HKBH0002	10:11	1/29/2013	28.3	29.1	0.3	42.3	2.1	-0.26	98	0	0	0	0
HKBH0002	9:38	2/25/2013	26.9	26.7	0.9	45.5	0	-2.08	90	0	0	0	0
HKBH0002	6:55	3/28/2013	25.4	27	0.8	46.8	2	0.02	88	122	114	1881	1757
HKBH0002	8:48	4/30/2013	27.9	27.7	0.6	43.8	2.2	0.08	110	184	189	3116	3201
HKBH0002	7:13	5/30/2013	24.7	26.1	0.9	48.3	2.1	-0.02	108	0	0	0	0
HKBH0002	13:08	6/5/2013	20.7	22.8	1.6	54.9	1.8	0.03	97	118	118	1482	1482
HKBH0002	11:23	6/13/2013	22.9	25.7	1.4	50	2	0.08	114	159	180	2210	2502
HKBH0002	8:13	7/22/2013	25	26.9	0.6	47.5	2	0.03	112	135	120	2049	1821
HKBH0002	10:21	8/7/2013	25.5	26	2.5	46	2	0.03	115	143	118	2213	1826
HKBH0002	9:47	9/4/2013	26.1	24.6	3.7	45.6	2	0.076	117	140.6	183.6	2230.3	2912.9

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW001W	16:13	2/9/2012	8	21.4	0	70.6	0	0.03	40	4	4	19	19
HKEW001W	13:23	2/28/2012	5.4	20.2	0	74.4	0	0.03	42	3	4	9	13
HKEW001W	11:27	3/20/2012	5.3	23.6	0	71.1	-1.2	0.04	50	3	4	9	12
HKEW001W	12:35	4/24/2012	6.5	20.7	0	72.8	-0.2	0.02	45	3	3	11	11
HKEW001W	9:22	5/22/2012	5.7	19.7	0	74.6	-0.6	0.03	50	9	4	31	13
HKEW001W	9:19	6/25/2012	6.1	20.2	0	73.7	-1.2	0.03	50	4	4	14	14
HKEW001W	7:26	7/23/2012	8.4	21.5	0	70.1	-0.9	0.02	54	2	2	10	10
HKEW001W	7:12	8/13/2012	9.4	20.6	0.1	69.9	-0.8	0.03	54	4	4	22	22
HKEW001W	8:10	9/19/2012	13.4	22.2	0.1	64.3	0.3	0.02	54	2	3	16	24
HKEW001W	7:37	10/24/2012	12	23.8	0.1	64.1	-0.9	0.02	52	2	2	14	14
HKEW001W	9:55	12/17/2012	9.3	21.2	0.3	69.2	-0.9	0.01	40	1	1	5	5
HKEW001W	10:16	1/28/2013	7.2	20.2	0.7	71.9	-1.1	-0.02	40	0	0	0	0
HKEW001W	9:56	2/25/2013	5.7	19.3	0.4	74.6	-0.9	-0.28	40	0	0	0	0
HKEW001W	7:07	3/28/2013	4.6	19.6	0.3	75.5	-1.2	0.02	30	3	3	6	6
HKEW001W	7:53	4/29/2013	3	19.7	0.8	76.5	-1	0.02	50	4	2	7	3
HKEW001W	7:25	5/30/2013	5	17	0.9	77.1	-0.6	0.02	40	2	2	6	6
HKEW001W	11:38	6/13/2013	3.2	15.3	2.4	79.1	-1.2	0.02	56	3	3	5	5
HKEW001W	8:19	7/22/2013	7.7	20	0	72.3	-0.7	0.34	60	20	21	93	98
HKEW001W	12:52	9/4/2013	0.1	0.1	20.8	79	-0.01	-0.009	80.9	0	0	0	0
HKEW002W	13:36	2/10/2012	15	23.6	0	61.4	-1.8	0.01	39	1	1	9	9
HKEW002W	13:30	2/28/2012	13.1	22.3	0.2	64.4	0.3	0	40	0	0	0	0
HKEW002W	11:33	3/20/2012	13.3	23.1	0	63.6	-0.9	0.22	50	17	17	137	137
HKEW002W	12:44	4/24/2012	14	22.1	0	63.9	0.1	0	45	0	0	0	0
HKEW002W	9:32	5/22/2012	12.9	21.4	0	65.7	-0.2	0.01	52	1	1	7	7
HKEW002W	9:32	6/25/2012	14.2	22.4	0	63.4	-1	0	60	0	0	0	0
HKEW002W	7:22	8/13/2012	17.6	23.4	0	59	-0.6	0.01	60	0	1	0	10

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW002W	8:18	9/19/2012	13.7	22.7	0.4	63.2	0.1	0	56	0	0	0	0
HKEW002W	7:45	10/24/2012	20.8	26.5	0.3	52.4	-0.7	0	50	0	0	0	0
HKEW002W	10:02	12/17/2012	18.4	24.6	0.2	56.8	-0.7	-0.21	34	0	0	0	0
HKEW002W	10:23	1/28/2013	6.5	10.5	10.7	72.3	-1	0	34	0	0	0	0
HKEW002W	10:05	2/25/2013	1.8	1.9	17	79.3	-0.6	0	35	0	0	0	0
HKEW002W	7:17	3/28/2013	0	0.1	19.2	80.7	-0.9	-0.01	26	0	0	0	0
HKEW002W	7:58	4/29/2013	11	20.6	1.6	66.8	-0.8	-1.27	52	0	0	0	0
HKEW002W	7:32	5/30/2013	16.2	21.9	0.8	61.1	-0.3	0.01	46	1	1	9	9
HKEW002W	11:45	6/13/2013	12	20.2	2	65.8	-1.2	0.01	60	1	1	7	7
HKEW002W	8:32	7/22/2013	17.2	21.4	0	61.4	0	0	70	0	0	0	0
HKEW002W	10:35	8/7/2013	18.8	22.2	1.9	57.1	-1.1	0	72	0	0	0	0
HKEW002W	7:42	9/4/2013	21.4	26	0.1	52.5	-1.16	-0.007	64.5	0	0	0	0
HKEW003W	12:29	2/27/2012	39.6	29.6	0	30.8	-3.6	0.1	44	12	12	288	288
HKEW003W	11:39	3/20/2012	36.1	33	0	30.9	-1.4	0.1	52	11	11	241	241
HKEW003W	12:51	4/24/2012	28.9	25.4	0	45.7	0.3	0.27	48	19	19	333	333
HKEW003W	9:40	5/22/2012	37.4	28.6	0	34	-0.6	0.08	50	10	10	227	227
HKEW003W	9:40	6/25/2012	38.5	30.5	0	31	-1.4	0.08	54	9	9	210	210
HKEW003W	7:43	7/23/2012	38.3	31.9	0	29.8	-0.9	0.05	58	6	6	139	139
HKEW003W	7:30	8/13/2012	39.4	30.1	0	30.5	-1	0.07	56	9	8	215	191
HKEW003W	9:18	9/19/2012	42	32.1	0.4	25.5	0.1	0.08	55	10	10	255	255
HKEW003W	7:54	10/24/2012	41.3	33.4	0.1	25.2	-1.1	0.06	50	7	8	175	200
HKEW003W	10:10	12/17/2012	41.2	31.6	0	27.2	-1.2	0.08	44	10	10	250	250
HKEW003W	10:33	1/28/2013	40.4	30.7	0.6	28.3	-1.5	0.09	44	11	11	269	269
HKEW003W	10:20	2/25/2013	40	29.9	0.3	29.8	-1.2	0.08	44	10	10	242	242
HKEW003W	7:26	3/28/2013	40.1	30	0.5	29.4	-1.5	0.08	40	10	10	243	243
HKEW003W	8:05	4/29/2013	36	27.9	1.3	34.8	-1.4	0.07	56	8	8	174	174

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW003W	11:53	6/13/2013	23.1	20.9	5.5	50.5	-1.9	0.08	62	9	9	126	126
HKEW003W	8:47	7/22/2013	34.3	28.5	0.7	36.5	-0.6	0.08	63	9	9	187	187
HKEW003W	10:42	8/7/2013	34.8	29	1.2	35	-1.7	0.07	61	8	8	169	169
HKEW003W	7:50	9/4/2013	28.3	26.2	1.1	44.4	-1.28	0.022	60	5	5	86.7	85.4
HKEW004W	13:48	2/10/2012	27.9	26.8	0	45.3	-1.8	0	40	0	0	0	0
HKEW004W	12:52	2/27/2012	27.4	25.7	0	46.9	-2.7	0	44	0	0	0	0
HKEW004W	11:45	3/20/2012	26.8	28.7	0	44.5	-0.8	0.01	48	1	1	16	16
HKEW004W	13:01	4/24/2012	37.1	27.2	0	35.7	0	0.11	55	11	11	247	247
HKEW004W	9:47	5/22/2012	28	25.8	0	46.2	0	0	50	0	0	0	0
HKEW004W	9:47	6/25/2012	29	26.7	0	44.3	-0.9	0	55	0	0	0	0
HKEW004W	7:51	7/23/2012	29	28.1	0	42.9	-0.6	0.01	60	1	1	17	17
HKEW004W	7:38	8/13/2012	29.2	26.1	0.3	44.4	-0.7	0	58	0	0	0	0
HKEW004W	9:24	9/19/2012	32.4	28.4	0	39.2	0.3	0	60	0	0	0	0
HKEW004W	8:01	10/24/2012	31.6	29.6	0.1	38.7	-0.7	0	52	0	0	0	0
HKEW004W	10:18	12/17/2012	31	27.5	0	41.5	-0.6	0.12	39	14	13	263	244
HKEW004W	10:40	1/28/2013	30.1	26.6	0.4	42.9	-1	0.27	36	20	20	365	365
HKEW004W	12:02	2/25/2013	30.1	25.9	0.1	43.9	-0.4	0	36	0	0	0	0
HKEW004W	7:38	3/28/2013	28.7	25.5	0.4	45.4	-1	-0.35	30	0	0	0	0
HKEW004W	8:11	4/29/2013	28.3	25.3	1.2	45.2	-0.7	0.29	52	20	20	343	343
HKEW004W	7:45	5/30/2013	28.2	26.6	0.3	44.9	-0.4	0	50	0	0	0	0
HKEW004W	11:59	6/13/2013	22.3	24	1.2	52.5	-1.2	0	63	0	0	0	0
HKEW004W	8:53	7/22/2013	23.6	22.1	2.5	51.8	-0.2	0	68	0	0	0	0
HKEW004W	10:47	8/7/2013	28	25.7	1.2	45.1	-1.2	0	72	0	0	0	0
HKEW004W	7:58	9/4/2013	40.1	30.1	1.3	28.5	-1.79	0.104	58.6	11.4	11.2	276.5	272.6
HKEW005W	13:57	2/10/2012	23.3	24.4	0	52.3	-1.7	0.02	42	3	3	42	42
HKEW005W	13:00	2/27/2012	22.4	24.9	0	52.7	-2.5	0.02	44	3	3	40	40

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW005W	11:52	3/20/2012	21.5	27.5	0	51	-1	0.03	54	4	4	52	52
HKEW005W	6:27	4/25/2012	20.3	24.3	0.3	55.1	-0.9	0.03	50	4	4	49	49
HKEW005W	9:55	5/22/2012	21.9	23.6	0	54.5	-0.3	0.02	50	2	3	26	39
HKEW005W	9:58	6/25/2012	23.2	24.8	0	52	-1	0.03	54	3	4	42	56
HKEW005W	7:59	7/23/2012	23.6	25.4	0	51	-0.8	0.02	58	2	3	28	42
HKEW005W	7:49	8/13/2012	24.6	24.9	0	50.5	-0.9	0.02	54	4	2	59	29
HKEW005W	9:32	9/19/2012	29.6	26.8	0	43.6	-0.3	0.02	56	2	2	35	35
HKEW005W	8:11	10/24/2012	27.8	27.7	0	44.5	-0.9	0.02	50	2	2	33	33
HKEW005W	10:25	12/17/2012	26.7	27.1	0.2	46	-0.7	0.02	40	2	2	32	32
HKEW005W	10:48	1/28/2013	24.3	26.2	0.6	48.9	-1	0.02	40	2	2	29	29
HKEW005W	12:10	2/25/2013	24.3	24.8	0	50.9	-0.6	0.02	40	1	2	14	29
HKEW005W	7:53	3/28/2013	22.4	25	0.4	52.2	-0.9	-0.2	36	0	0	0	0
HKEW005W	8:18	4/29/2013	16.1	20.9	3.3	59.7	-0.8	0.01	56	1	1	9	9
HKEW005W	7:59	5/30/2013	21.4	23.7	0.9	54	-0.6	0.02	48	2	2	25	25
HKEW005W	12:07	6/13/2013	16.6	19.9	3.4	60.1	-1.3	0.03	60	3	3	30	30
HKEW005W	9:00	7/22/2013	23.6	24.4	0.2	51.8	-0.4	0.02	63	2	2	28	28
HKEW005W	10:56	8/7/2013	23.5	22.6	1.9	52	-1.4	0.02	62	2	2	28	28
HKEW005W	8:05	9/4/2013	34.1	29.4	0.8	35.7	-1.07	0.039	65.8	6.6	6.7	136.5	137.8
HKEW006W	11:59	3/20/2012	26.6	31.6	0	41.8	-0.6	0.03	52	4	3	64	48
HKEW006W	6:34	4/25/2012	26	28	0	46	-0.4	0.03	50	4	4	63	63
HKEW006W	10:01	5/22/2012	24.5	26.7	0	48.8	0	0.04	54	6	6	89	89
HKEW006W	10:05	6/25/2012	23.9	26.6	0	49.5	-0.6	0.03	60	4	4	58	58
HKEW006W	8:08	7/23/2012	24.6	28	0	47.4	-0.6	0.03	58	4	3	59	44
HKEW006W	7:56	8/13/2012	25.2	26.7	0	48.1	-0.6	0.02	60	2	3	30	45
HKEW006W	9:39	9/19/2012	29.3	28.8	0	41.9	-0.2	0.03	66	3	3	53	53
HKEW006W	8:19	10/24/2012	27.3	28.9	0.1	43.7	-0.7	0.02	50	3	3	49	49

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW006W	10:32	12/17/2012	28.8	29.3	0	41.9	-0.4	0.01	45	1	1	17	17
HKEW006W	12:09	1/28/2013	29.6	28.8	0.2	41.4	-0.8	0.01	48	1	1	17	17
HKEW006W	12:19	2/25/2013	28.9	24	0.1	47	-0.2	0.02	40	2	2	35	35
HKEW006W	8:01	3/28/2013	27.5	27.9	0.3	44.3	-0.7	0.02	40	2	2	33	33
HKEW006W	8:26	4/29/2013	25.7	28.6	0.1	45.6	-0.4	0.02	58	2	2	31	31
HKEW006W	8:05	5/30/2013	25.4	27.5	0.3	46.8	-0.3	-0.03	50	0	0	0	0
HKEW006W	12:14	6/13/2013	21.4	27.3	0.5	50.8	-1	0.03	62	2	3	25	38
HKEW006W	13:14	7/22/2013	23	27.8	0	49.2	0.1	0.02	63	3	3	41	41
HKEW006W	11:03	8/7/2013	22.9	26.4	0.6	50.1	-1	0.02	64	2	2	27	27
HKEW006W	8:17	9/4/2013	28.3	27.5	1.1	43.1	-0.9	0.035	61.9	6.2	6.2	107.3	106.8
HKEW007W	13:15	2/27/2012	32.9	27.2	0	39.9	-2.1	0.06	45	7	7	139	139
HKEW007W	12:06	3/20/2012	32.2	31	0	36.8	-0.8	0.04	48	6	6	117	117
HKEW007W	6:42	4/25/2012	33.3	27.8	0	38.9	-0.6	0.04	48	6	4	121	80
HKEW007W	10:08	5/22/2012	34.4	27.7	0	37.9	0	0.05	50	6	6	125	125
HKEW007W	11:32	6/25/2012	33.7	28.6	0	37.7	-0.6	0.04	58	4	4	81	81
HKEW007W	8:14	7/23/2012	32	30	0	38	-0.6	0.04	58	6	5	116	97
HKEW007W	8:03	8/13/2012	31.4	27.8	0	40.8	0	0	58	0	0	0	0
HKEW007W	9:45	9/19/2012	33.1	28.8	0	38.1	-0.2	0.03	54	4	4	80	80
HKEW007W	8:26	10/24/2012	32.5	30	0	37.5	-0.8	0.04	52	5	6	98	118
HKEW007W	10:39	12/17/2012	34	28.8	0.6	36.6	-0.6	0.02	44	3	3	61	61
HKEW007W	12:16	1/28/2013	33.4	28.4	0	38.2	-0.9	0.04	46	4	4	81	81
HKEW007W	12:31	2/25/2013	33	27.5	0	39.5	-0.4	0.04	40	4	5	80	100
HKEW007W	8:17	3/28/2013	33.3	27.9	0.1	38.7	-0.8	-0.84	40	0	0	0	0
HKEW007W	8:32	4/29/2013	34.4	27.5	0	38.1	-0.6	0.03	56	4	4	83	83
HKEW007W	7:53	5/30/2013	33.4	28.4	0.3	37.9	-0.4	0.04	50	4	4	81	81
HKEW007W	12:22	6/13/2013	26.3	23.5	2.4	47.8	-1.2	0.03	68	4	3	63	47

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW007W	13:21	7/22/2013	31.3	28.1	0.1	40.5	0	0.03	72	4	4	76	76
HKEW007W	11:08	8/7/2013	30.6	27.1	1	41.3	-1.2	0.03	68	4	4	74	74
HKEW007W	8:21	9/4/2013	34	29.3	0.8	35.9	-1.06	0.051	68	7.6	7.6	157.2	156.9
HKEW008W	13:23	2/27/2012	6.3	16.9	3.6	73.2	-1.6	0	38	0	0	0	0
HKEW008W	12:12	3/20/2012	8.7	24.1	0	67.2	-0.5	0	58	0	0	0	0
HKEW008W	6:51	4/25/2012	8.9	21.4	0	69.7	-0.4	0	42	0	0	0	0
HKEW008W	11:30	5/22/2012	11.7	21.3	0	67	0.1	0	62	0	0	0	0
HKEW008W	11:38	6/25/2012	10	21.4	0	68.6	-0.4	0	68	0	0	0	0
HKEW008W	8:29	7/23/2012	12	22.8	0	65.2	-0.4	0	58	0	0	0	0
HKEW008W	8:10	8/13/2012	11.9	21.6	0	66.5	-0.4	0	62	0	0	0	0
HKEW008W	9:53	9/19/2012	16.8	24.1	0	59.1	-0.1	0	56	0	0	0	0
HKEW008W	8:34	10/24/2012	11.9	24.3	0	63.8	-0.6	0	52	0	0	0	0
HKEW008W	10:49	12/17/2012	12.1	23.3	0.1	64.5	-0.3	-0.59	38	0	0	0	0
HKEW008W	12:23	1/28/2013	3.6	6.7	13.1	76.6	-0.6	-1.23	48	0	0	0	0
HKEW008W	12:47	2/25/2013	3.1	6.2	13.1	77.6	0	0	36	0	0	0	0
HKEW008W	8:24	3/28/2013	9.5	21.4	0.2	68.9	-0.6	0.04	30	3	3	21	21
HKEW008W	8:39	4/29/2013	10.8	21.3	0.1	67.8	-0.4	0.01	54	1	1	6	6
HKEW008W	8:13	5/30/2013	13.9	21.9	0.3	63.9	-0.3	0	48	0	0	0	0
HKEW008W	12:26	6/13/2013	11.6	20.9	0.7	66.8	-1	0	70	0	0	0	0
HKEW008W	13:25	7/22/2013	15	21.8	0	63.2	0.2	0.02	76	3	3	27	27
HKEW008W	11:14	8/7/2013	12.1	19.2	2.1	66.6	-0.9	0	72	0	0	0	0
HKEW008W	8:26	9/4/2013	12.1	22.4	0.6	64.9	-0.71	0.008	68.4	2.6	2.8	18.8	20.7
HKEW009W	13:30	2/27/2012	13.2	22.9	0	63.9	-1.7	-0.01	40	0	0	0	0
HKEW009W	12:18	3/20/2012	17.3	26	0	56.7	-0.6	0.02	46	2	2	21	21
HKEW009W	6:58	4/25/2012	17.5	23.5	0	59	-0.4	-0.31	46	0	0	0	0
HKEW009W	11:38	5/22/2012	20.2	22.8	0	57	0	0.02	54	3	3	36	36

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW009W	11:45	6/25/2012	17	24.1	0	58.9	-0.5	0.02	68	2	2	20	20
HKEW009W	8:37	7/23/2012	17.8	25.2	0	57	-0.5	0.02	60	2	2	21	21
HKEW009W	8:20	8/13/2012	16.6	24	0.2	59.2	-0.6	0.02	58	2	2	20	20
HKEW009W	11:52	9/20/2012	17.1	25	0.3	57.6	-0.7	0.02	60	2	2	20	20
HKEW009W	8:41	10/24/2012	15.9	25.5	0	58.6	-0.6	0.01	52	2	1	19	9
HKEW009W	10:56	12/17/2012	16.3	24.5	0	59.2	-0.4	0.39	40	24	24	237	237
HKEW009W	12:30	1/28/2013	16.3	23.7	0.1	59.9	-0.7	-0.38	40	0	0	0	0
HKEW009W	12:55	2/25/2013	13.8	22.2	0.3	63.7	-0.1	-0.14	40	0	0	0	0
HKEW009W	8:32	3/28/2013	13.5	21.8	0.8	63.9	-0.6	0.01	32	1	1	8	8
HKEW009W	8:47	4/29/2013	18.5	23.2	0.6	57.7	-0.6	0.01	54	1	1	11	11
HKEW009W	8:20	5/30/2013	19.9	22.9	0.6	56.6	-0.4	0.01	43	1	1	12	12
HKEW009W	12:34	6/13/2013	17.5	22.3	0.9	59.3	-1.1	0.01	52	1	1	10	10
HKEW009W	13:30	7/22/2013	20.9	24.8	0	54.3	0.1	0.01	68	1	1	12	12
HKEW009W	11:21	8/7/2013	20.1	23.9	0.7	55.3	-0.9	0.01	74	1	1	12	12
HKEW009W	8:31	9/4/2013	20.3	25.6	0.6	53.5	-0.76	0.023	67	5	4.9	62	60.8
HKEW010W	13:38	2/27/2012	31.4	27.9	0	40.7	-1.7	0.04	44	6	5	114	95
HKEW010W	13:45	2/27/2012	31	26.8	0	42.2	-1.7	0.03	44	4	4	75	75
HKEW010W	12:24	3/20/2012	30	31.6	0	38.4	-0.7	0.04	48	4	4	72	72
HKEW010W	7:06	4/25/2012	27.6	27.6	0	44.8	-1	0.08	48	10	10	167	167
HKEW010W	11:44	5/22/2012	25.3	26.3	0	48.4	-1	0.21	50	17	16	261	245
HKEW010W	11:53	6/25/2012	24.2	27.1	0	48.7	-1.5	0.22	50	16	17	235	249
HKEW010W	8:46	7/23/2012	23.9	26.8	0	49.3	-1.5	0.21	50	16	16	232	232
HKEW010W	8:28	8/13/2012	22.7	26	0	51.3	-1.5	0.22	50	16	17	220	234
HKEW010W	11:59	9/20/2012	23.7	28	0	48.3	-1.7	0.22	50	16	17	230	244
HKEW010W	8:49	10/24/2012	23.1	28.4	0	48.5	-1.5	0.19	50	16	15	224	210
HKEW010W	11:04	12/17/2012	23.4	26.7	0	49.9	-1.2	0.16	44	14	14	198	198

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW010W	12:38	1/28/2013	22.4	25.1	1.3	51.2	-1.5	0.16	44	15	14	203	190
HKEW010W	13:17	2/25/2013	24	25.3	0.4	50.3	-1	0.16	42	14	15	203	218
HKEW010W	8:48	3/28/2013	24.2	25.6	0.6	49.6	-1.5	0.18	40	16	16	235	235
HKEW010W	8:54	4/29/2013	23.9	26.8	0.1	49.2	-1.4	-1.94	60	0	0	0	0
HKEW010W	8:28	5/30/2013	21.9	23.4	2	52.7	-1.3	0.38	41	23	24	305	319
HKEW010W	12:42	6/13/2013	22.2	25.1	0.6	52.1	-1.8	0.17	60	14	14	188	188
HKEW010W	13:36	7/22/2013	23	26	0.3	50.7	-0.6	0.14	62	13	13	181	181
HKEW010W	11:27	8/7/2013	0.1	0	20.1	79.8	-0.5	0.02	70	2	2	0	0
HKEW010W	8:36	9/4/2013	0.1	0.1	20.9	78.9	-0.26	0.037	64.9	6.2	6.4	0.2	0.2
HKEW011W	8:20	2/28/2012	0.9	15.9	0.7	82.5	-0.8	-0.2	42	0	0	0	0
HKEW011W	12:31	3/20/2012	1.9	16.8	0.6	80.7	-0.3	0	56	1	0	1	0
HKEW011W	7:14	4/25/2012	0.9	15.7	1.2	82.2	-0.4	0	50	0	0	0	0
HKEW011W	11:51	5/22/2012	1	15.3	1.6	82.1	-0.1	0.29	58	19	19	11	11
HKEW011W	12:01	6/25/2012	1	15.6	1.7	81.7	-0.2	0	68	0	0	0	0
HKEW011W	8:55	7/23/2012	1.4	16	1.7	80.9	-0.3	0	58	0	0	0	0
HKEW011W	8:36	8/13/2012	1.6	16.4	1.8	80.2	-0.2	0	68	0	0	0	0
HKEW011W	12:06	9/20/2012	2.2	17.6	1.5	78.7	-0.3	0	62	0	0	0	0
HKEW011W	12:06	9/20/2012	2.2	17.6	1.5	78.7	-0.3	0	62	0	0	0	0
HKEW011W	8:56	10/24/2012	1.9	18.2	0.8	79.1	-0.2	0	60	0	0	0	0
HKEW011W	8:56	10/24/2012	1.9	18.2	0.8	79.1	-0.2	0	60	0	0	0	0
HKEW011W	12:21	12/17/2012	2	17	1.5	79.5	-0.2	-0.14	50	0	0	0	0
HKEW011W	12:21	12/17/2012	2	17	1.5	79.5	-0.2	-0.14	50	0	0	0	0
HKEW011W	12:45	1/28/2013	1.2	16.4	1.4	81	-0.3	-0.48	41	0	0	0	0
HKEW011W	12:45	1/28/2013	1.2	16.4	1.4	81	-0.3	-0.48	41	0	0	0	0
HKEW011W	13:26	2/25/2013	0.8	15.6	1.9	81.7	0	0.04	44	0	4	0	1
HKEW011W	13:26	2/25/2013	0.8	15.6	1.9	81.7	0	0.04	44	0	4	0	1

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW011W	8:55	3/28/2013	0.5	15.3	2.1	82.1	-0.3	0	40	0	0	0	0
HKEW011W	8:55	3/28/2013	0.5	15.3	2.1	82.1	-0.3	0	40	0	0	0	0
HKEW011W	9:00	4/29/2013	0.6	15.1	2	82.3	-0.2	0.33	60	20	20	7	7
HKEW011W	9:00	4/29/2013	0.6	15.1	2	82.3	-0.2	0.33	60	20	20	7	7
HKEW011W	8:37	5/30/2013	1	15.1	1.9	82	-0.1	0	53	0	0	0	0
HKEW011W	8:37	5/30/2013	1	15.1	1.9	82	-0.1	0	53	0	0	0	0
HKEW011W	12:51	6/13/2013	0.4	13.7	3	82.9	-0.4	0.26	64	18	18	4	4
HKEW011W	12:51	6/13/2013	0.4	13.7	3	82.9	-0.4	0.26	64	18	18	4	4
HKEW011W	13:42	7/22/2013	1.2	15.9	1.7	81.2	0	0.01	80	1	1	0	0
HKEW011W	13:42	7/22/2013	1.2	15.9	1.7	81.2	0	0.01	80	1	1	0	0
HKEW011W	12:38	8/7/2013	2.5	16.5	1.7	79.3	-0.4	0	76	0	0	0	0
HKEW011W	12:38	8/7/2013	2.5	16.5	1.7	79.3	-0.4	0	76	0	0	0	0
HKEW011W	8:42	9/4/2013	5.2	19.3	1.1	74.4	-0.51	0.01	68	3.4	3.2	10.7	10.2
HKEW011W	8:42	9/4/2013	5.2	19.3	1.1	74.4	-0.51	0.01	68	3.4	3.2	10.7	10.2
HKEW012W	8:28	2/28/2012	21.1	25.6	0	53.3	-0.2	0	38	0	0	0	0
HKEW012W	12:38	3/20/2012	19.4	23.6	0	57	-0.1	0	60	0	0	0	0
HKEW012W	7:21	4/25/2012	18.9	25.2	0	55.9	-0.1	0	50	0	0	0	0
HKEW012W	11:57	5/22/2012	18	23.6	0	58.4	0.1	0	78	0	0	0	0
HKEW012W	12:08	6/25/2012	14	17.9	5.2	62.9	-0.1	0	82	0	0	0	0
HKEW012W	9:04	7/23/2012	14.1	18.7	4.7	62.5	-0.1	0	88	0	0	0	0
HKEW012W	8:45	8/13/2012	15.9	18.9	4.4	60.8	0	0	74	0	0	0	0
HKEW012W	12:12	9/20/2012	1.6	1.6	17.5	79.3	-0.2	0	60	0	0	0	0
HKEW012W	9:02	10/24/2012	0.1	0.3	18.7	80.9	-0.2	0	60	0	0	0	0
HKEW012W	12:28	12/17/2012	16.8	18.8	4.8	59.6	0	0	38	0	0	0	0
HKEW012W	12:53	1/28/2013	0	0.2	19.1	80.7	-0.2	0	39	0	0	0	0
HKEW012W	13:41	2/25/2013	19.1	21.5	1.9	57.5	0	0	44	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW012W	9:05	3/28/2013	14.2	16.6	6.6	62.6	-0.3	0	38	0	0	0	0
HKEW012W	9:06	4/29/2013	0.5	0.7	18.6	80.2	-0.1	0	62	0	0	0	0
HKEW012W	8:44	5/30/2013	16.8	22	1.8	59.4	0	0	75	0	0	0	0
HKEW012W	12:56	6/13/2013	7.1	13	6.2	73.7	-0.4	0	77	0	0	0	0
HKEW012W	13:47	7/22/2013	21	25.7	0	53.3	0	0.01	85	1	1	12	12
HKEW012W	12:43	8/7/2013	21.1	25	0.3	53.6	-0.5	0	80	0	0	0	0
HKEW012W	8:48	9/4/2013	25.7	27.7	0.3	46.3	-0.37	0.011	70.7	4.2	3.4	64.8	52.3
HKEW013W	8:37	2/28/2012	2.8	17.5	1.9	77.8	-0.2	0	42	1	0	1	0
HKEW013W	12:44	3/20/2012	3.5	18.9	1.8	75.8	-0.2	0.01	60	1	1	2	2
HKEW013W	7:29	4/25/2012	2.9	17.4	1.7	78	-0.1	0.01	54	1	1	1	1
HKEW013W	12:03	5/22/2012	3.4	17.1	1.7	77.8	0	0	66	0	0	0	0
HKEW013W	12:15	6/25/2012	3.7	18.5	1.3	76.5	0	0	70	0	0	0	0
HKEW013W	6:25	7/24/2012	3.5	18.9	1.9	75.7	-0.3	0.01	68	1	1	2	2
HKEW013W	8:52	8/13/2012	5	18.3	1.6	75.1	0	0	70	0	0	0	0
HKEW013W	12:19	9/20/2012	6.1	19.3	1.5	73.1	-0.2	0.01	64	1	1	3	3
HKEW013W	7:35	10/29/2012	4.9	20.3	1	73.8	-0.1	0	56	0	0	0	0
HKEW013W	12:34	12/17/2012	6.5	20.3	1	72.2	0	0	42	0	0	0	0
HKEW013W	12:59	1/28/2013	3.9	18.8	1.8	75.5	-0.2	-0.62	40	0	0	0	0
HKEW013W	9:36	2/27/2013	4.6	18.6	1.6	75.2	0	-0.12	40	0	0	0	0
HKEW013W	9:12	3/28/2013	3	18	2.1	76.9	-0.2	0.01	40	1	1	1	1
HKEW013W	9:13	4/29/2013	2.9	17.1	2.4	77.6	0	0	64	0	0	0	0
HKEW013W	8:50	5/30/2013	3.8	17.4	1.5	77.3	0	-0.01	64	0	0	0	0
HKEW013W	13:01	6/13/2013	2.1	14.4	3.2	80.3	-0.3	0.01	79	1	1	1	1
HKEW013W	13:51	7/22/2013	4.6	19.3	0.4	75.7	0	0	83	0	0	0	0
HKEW013W	12:49	8/7/2013	6.8	19.8	0.3	73.1	-0.4	0.01	78	1	1	4	4
HKEW013W	8:52	9/4/2013	7.2	21	0.8	71	-0.36	0.019	73.1	4.7	4.4	20.5	19

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW014W	8:46	2/28/2012	9.5	22.5	0	68	0	0	30	0	0	0	0
HKEW014W	6:31	3/21/2012	7.6	22.1	1.7	68.6	-0.3	0	62	0	0	0	0
HKEW014W	7:37	4/25/2012	6.9	17.2	4.3	71.6	0	0	52	0	0	0	0
HKEW014W	12:11	5/22/2012	10.2	21.2	0	68.6	0	0	74	0	0	0	0
HKEW014W	12:22	6/25/2012	10.9	21.5	0	67.6	0	0	80	0	0	0	0
HKEW014W	6:34	7/24/2012	10	21.3	1.4	67.3	-0.3	0	70	0	0	0	0
HKEW014W	9:00	8/13/2012	12.2	21.9	0.3	65.6	0	0	70	0	0	0	0
HKEW014W	12:26	9/20/2012	13.3	22.8	0.7	63.2	-0.2	0	60	0	0	0	0
HKEW014W	7:42	10/29/2012	11	23.8	0.3	64.9	-0.2	-0.01	40	0	0	0	0
HKEW014W	12:42	12/17/2012	12	21.7	1.5	64.8	0	0.01	32	0	1	0	7
HKEW014W	13:06	1/28/2013	10.1	23.2	0	66.7	-0.1	0	34	0	0	0	0
HKEW014W	9:43	2/27/2013	6.7	14.4	7.1	71.8	0	-0.09	30	0	0	0	0
HKEW014W	9:20	3/28/2013	6.7	17	5.6	70.7	-0.2	0	42	0	0	0	0
HKEW014W	9:19	4/29/2013	6.6	14.7	6.8	71.9	0	0	62	0	0	0	0
HKEW014W	8:56	5/30/2013	12.6	22	0.3	65.1	0	0	68	0	0	0	0
HKEW014W	13:07	6/13/2013	9.6	16.8	3	70.6	-0.3	0	90	0	0	0	0
HKEW014W	13:57	7/22/2013	11.1	22.2	0	66.7	0.1	0	90	0	0	0	0
HKEW014W	12:57	8/7/2013	13.5	14.5	5	67	-0.3	0	80	0	0	0	0
HKEW014W	8:57	9/4/2013	13.5	18.6	2.3	65.6	-0.31	0.013	69.7	3.8	3.7	31.1	30.4
HKEW015W	8:56	2/28/2012	0.3	15	1.5	83.2	-0.2	0	32	0	0	0	0
HKEW015W	6:38	3/21/2012	0.5	15.5	4.9	79.1	-0.6	-0.01	52	0	0	0	0
HKEW015W	7:44	4/25/2012	1.1	16.3	0.4	82.2	-0.2	0	50	0	0	0	0
HKEW015W	12:17	5/22/2012	1	15.3	1.6	82.1	0	0	72	0	0	0	0
HKEW015W	12:28	6/25/2012	1.1	13.6	5.1	80.2	-0.2	-0.01	72	0	0	0	0
HKEW015W	6:44	7/24/2012	0.9	16	3	80.1	-0.5	0	68	0	0	0	0
HKEW015W	9:06	8/13/2012	2.3	16.3	0.7	80.7	-0.2	0.34	70	21	20	29	27

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW015W	12:32	9/20/2012	3.2	17	0.1	79.7	-0.2	0	60	0	0	0	0
HKEW015W	7:51	10/29/2012	0.3	17.5	0.8	81.4	-0.3	0	48	0	0	0	0
HKEW015W	12:49	12/17/2012	1	18.2	0	80.8	-0.1	-0.46	36	0	0	0	0
HKEW015W	13:14	1/28/2013	2.2	17.8	0	80	-0.2	-0.8	34	0	0	0	0
HKEW015W	9:51	2/27/2013	1.8	17.2	0.2	80.8	0	-0.68	32	0	0	0	0
HKEW015W	9:31	3/28/2013	0.1	14.6	4.1	81.2	-0.3	-0.89	28	0	0	0	0
HKEW015W	9:26	4/29/2013	0.7	15.5	1.2	82.6	-0.2	-0.24	64	0	0	0	0
HKEW015W	9:02	5/30/2013	3.7	15.8	0	80.5	-0.1	0.01	58	1	1	2	2
HKEW015W	13:14	6/13/2013	0.1	11.8	5.8	82.3	-0.5	0	82	0	0	0	0
HKEW015W	14:03	7/22/2013	3.9	17.6	0	78.5	0.2	0	84	0	0	0	0
HKEW015W	13:03	8/7/2013	4	14.6	0.8	80.6	-0.6	-0.01	78	0	0	0	0
HKEW015W	9:02	9/4/2013	1.3	16.2	1.2	81.3	-0.51	0.014	71.4	4	3.8	3.2	3
HKEW016W	9:06	2/28/2012	0.1	14.6	3	82.3	-0.4	0.01	46	1	1	0	0
HKEW016W	6:45	3/21/2012	5.3	22.6	0	72.1	-1.5	0.01	52	1	1	3	3
HKEW016W	7:51	4/25/2012	7.4	20.4	0	72.2	-0.8	0	48	0	0	0	0
HKEW016W	12:29	5/22/2012	7.8	19.2	0.9	72.1	-0.2	0	60	0	0	0	0
HKEW016W	12:35	6/25/2012	7.8	20.7	0	71.5	-0.7	0	60	0	0	0	0
HKEW016W	6:53	7/24/2012	1.3	17.4	1	80.3	-1	0.01	60	1	1	0	0
HKEW016W	9:13	8/13/2012	3.8	17.3	0.1	78.8	-0.4	0	60	0	0	0	0
HKEW016W	12:39	9/20/2012	4.3	17.6	0.1	78	-0.6	0	58	0	0	0	0
HKEW016W	8:00	10/29/2012	0.3	18.8	0.5	80.4	-0.6	-0.01	50	0	0	0	0
HKEW016W	12:56	12/17/2012	2.5	18.6	0.1	78.8	-0.3	0	46	0	0	0	0
HKEW016W	13:22	1/28/2013	5.9	19.4	0	74.7	-0.4	-0.4	40	0	0	0	0
HKEW016W	10:00	2/27/2013	3.7	18.3	0	78	-0.3	-0.12	40	0	0	0	0
HKEW016W	9:39	3/28/2013	0.4	17.3	1.8	80.5	-0.2	-0.05	28	0	0	0	0
HKEW016W	9:32	4/29/2013	4.3	17.9	1.9	75.9	-1.2	0	62	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW016W	9:09	5/30/2013	7.9	14.9	2.1	75.1	-0.6	0	44	0	0	0	0
HKEW016W	13:20	6/13/2013	3.7	12.8	6.1	77.4	-1.4	0	70	0	0	0	0
HKEW016W	14:11	7/22/2013	9.7	19.6	0.3	70.4	0	0.01	78	1	1	5	5
HKEW017W	9:13	2/28/2012	26.4	26.5	0	47.1	-1.5	0.07	40	9	9	144	144
HKEW017W	6:52	3/21/2012	24.8	30.5	0	44.7	-2.5	0.04	48	6	6	90	90
HKEW017W	7:58	4/25/2012	27.8	27.8	0	44.4	-1.6	0.33	44	22	21	371	354
HKEW017W	12:24	5/22/2012	7.5	20.5	0	72	-0.2	0.01	60	1	1	4	4
HKEW017W	12:35	5/22/2012	31	28.3	0	40.7	-0.7	0.04	50	6	6	112	112
HKEW017W	12:41	6/25/2012	32.6	30.2	0	37.2	-1.5	0.04	52	6	6	118	118
HKEW017W	7:01	7/24/2012	32.4	31.4	0	36.2	-2.2	0.04	54	6	6	118	118
HKEW017W	9:21	8/13/2012	34.6	29.6	0	35.8	-1.3	0.04	52	5	5	105	105
HKEW017W	12:46	9/20/2012	36.1	31.5	0	32.4	-1.6	0.04	52	6	6	131	131
HKEW017W	8:08	10/29/2012	30.5	31.8	0.2	37.5	-1.7	0.06	48	8	8	148	148
HKEW017W	13:04	12/17/2012	30.8	30.8	0.1	38.3	-1.2	0.06	40	7	7	130	130
HKEW017W	13:28	1/28/2013	27.6	29.7	0.3	42.4	-1.5	-0.22	40	0	0	0	0
HKEW017W	10:08	2/27/2013	26	27.1	0.4	46.5	-1.2	0.06	38	7	7	110	110
HKEW017W	11:34	3/28/2013	23.1	25.7	0.5	50.7	-1.6	0.26	38	19	19	266	266
HKEW017W	10:48	4/29/2013	24	24.1	2.7	49.2	-2	0.04	68	6	6	87	87
HKEW017W	9:15	5/30/2013	37.2	28.6	0.3	33.9	-1.4	0.04	43	6	6	135	135
HKEW017W	13:25	6/13/2013	31.1	25.2	2.9	40.8	-2.6	0.05	60	6	6	113	113
HKEW017W	14:16	7/22/2013	38.1	30.4	0.3	31.2	-0.4	0.04	60	4	4	92	92
HKEW017W	13:11	8/7/2013	36	27.5	1.8	34.7	-2.5	0.06	62	7	7	153	153
HKEW017W	9:11	9/4/2013	39.4	30.7	0.4	29.5	-2.37	0.072	61.9	9.1	9.2	216.4	219.6
HKEW018W	9:23	2/28/2012	43.5	33.9	0	22.6	-2.5	-0.88	40	0	0	0	0
HKEW018W	6:59	3/21/2012	40.3	38.6	0	21.1	-3.6	0.04	42	6	6	146	146
HKEW018W	8:07	4/25/2012	42	34.2	0	23.8	-2.5	0.03	44	3	4	76	102

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW018W	12:42	5/22/2012	43.7	34.2	0	22.1	-1.4	0.03	50	3	3	79	79
HKEW018W	12:49	6/25/2012	46.3	36.5	0	17.2	-2.4	0.04	50	4	4	112	112
HKEW018W	7:09	7/24/2012	44.2	37.2	0	18.6	-3.1	0.02	52	3	3	80	80
HKEW018W	9:27	8/13/2012	46.4	36	0	17.6	-2.1	0.03	56	4	4	112	112
HKEW018W	6:59	9/24/2012	45.6	36.7	0.5	17.2	-1.1	0.04	55	4	4	110	110
HKEW018W	8:17	10/29/2012	46.6	39	0.1	14.3	-2.4	0.02	48	3	2	84	56
HKEW018W	13:11	12/17/2012	44.9	35.1	0.2	19.8	-1.8	-0.01	40	1	0	27	0
HKEW018W	13:35	1/28/2013	44	34.4	0.3	21.3	-2.2	0.04	40	5	6	133	160
HKEW018W	10:16	2/27/2013	41.2	32.1	0.6	26.1	-1.8	0.02	35	1	2	25	50
HKEW018W	11:40	3/28/2013	42.6	32.2	0.4	24.8	-2.2	0.01	34	1	1	25	25
HKEW018W	10:54	4/29/2013	35.7	28.3	3.7	32.3	-2.6	0.02	70	3	3	65	65
HKEW018W	9:19	5/30/2013	33.1	27	3.2	36.7	-1.7	0.01	54	0	1	0	20
HKEW018W	13:31	6/13/2013	12.3	8.1	15.2	64.4	-3.4	0.01	68	4	1	29	7
HKEW018W	14:21	7/22/2013	43.8	34.9	0.6	20.7	-1	0.01	74	1	1	26	26
HKEW018W	13:17	8/7/2013	43.9	34.5	1.1	20.5	-3.2	0.02	68	3	2	79	53
HKEW018W	9:16	9/4/2013	47	35.9	0.4	16.7	-3.11	0.029	69.1	5.7	5.7	161.8	162.8
HKEW019W	9:30	2/28/2012	39.7	34.1	0	26.2	-2.3	0.09	40	11	11	265	265
HKEW019W	7:06	3/21/2012	38.5	39.5	0	22	-3.4	0.04	48	6	6	140	140
HKEW019W	8:14	4/25/2012	40.2	34	0	25.8	-2.3	0.04	46	4	5	97	122
HKEW019W	12:49	5/22/2012	41.4	34.1	0	24.5	-1.1	0.03	50	4	4	100	100
HKEW019W	12:56	6/25/2012	41.1	35.4	0	23.5	-2	0.03	52	4	4	99	99
HKEW019W	12:28	7/24/2012	38	36.3	0	25.7	-1.6	0.03	54	4	4	92	92
HKEW019W	9:36	8/13/2012	38	33.5	0	28.5	-1.9	0.02	54	3	3	69	69
HKEW019W	7:05	9/24/2012	36.6	34.4	0.1	28.9	-1	0.03	50	4	4	88	88
HKEW019W	8:25	10/29/2012	34.4	36.4	0.1	29.1	-2.2	0.03	46	4	4	83	83
HKEW019W	9:54	1/7/2013	40.3	33.8	0.2	25.7	-1.1	-0.13	40	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW019W	13:43	1/28/2013	38.6	35.2	0.3	25.9	-2.3	0.02	38	2	2	46	46
HKEW019W	10:24	2/27/2013	36.7	34	0.4	28.9	-1.9	0.31	38	21	21	467	467
HKEW019W	11:49	3/28/2013	38.8	33.2	0.5	27.5	-2.2	0.28	34	20	20	471	471
HKEW019W	11:01	4/29/2013	37.3	34.3	2.1	26.3	-2.3	0.33	66	20	20	452	452
HKEW019W	9:25	5/30/2013	33.9	31.3	1.4	33.4	-1.9	0.02	50	3	3	61	61
HKEW019W	10:29	6/14/2013	24.2	23	6.3	46.5	-2	0.03	60	3	3	44	44
HKEW019W	14:25	7/22/2013	33.8	30.2	1.2	34.8	-1	0.02	70	2	2	41	41
HKEW019W	13:24	8/7/2013	36.8	32.5	0.7	30	-3.1	0.03	66	4	4	89	89
HKEW019W	9:21	9/4/2013	34.6	33.3	0.4	31.7	-3.14	0.048	63.3	7.2	7.3	152.1	154.4
HKEW020W	16:30	2/9/2012	40.6	35.9	0	23.5	0	0.05	45	6	6	147	147
HKEW020W	9:44	2/28/2012	41.2	34.7	0	24.1	-1.1	0.04	40	5	5	125	125
HKEW020W	7:14	3/21/2012	39.6	39.4	0	21	-2.3	0.03	48	4	4	96	96
HKEW020W	8:28	4/25/2012	39.7	38.9	0	21.4	-1.2	0.03	48	4	4	96	96
HKEW020W	12:56	5/22/2012	40.4	33.4	0	26.2	0	0.04	52	5	5	122	122
HKEW020W	6:47	6/26/2012	39.9	34.6	0	25.5	-1.4	0.04	50	4	4	96	96
HKEW020W	12:37	7/24/2012	41.8	36.8	0	21.4	-0.4	0.04	56	6	6	152	152
HKEW020W	9:43	8/13/2012	41.5	34.1	0	24.4	-0.9	0.04	58	4	4	100	100
HKEW020W	7:13	9/24/2012	43.2	34.2	0	22.6	0	0.04	50	4	4	104	104
HKEW020W	8:33	10/29/2012	43.1	38.5	0	18.4	-1.3	0.08	46	10	10	261	261
HKEW020W	10:03	1/7/2013	48.1	34.6	0.1	17.2	0	0	40	3	0	87	0
HKEW020W	13:51	1/28/2013	45.4	35	0.7	18.9	-1.6	-0.11	40	0	0	0	0
HKEW020W	10:33	2/27/2013	46.2	35	0.2	18.6	-1.2	0.08	40	10	10	280	280
HKEW020W	11:59	3/28/2013	45.4	34.4	0.8	19.4	-1.4	0.07	36	9	9	248	248
HKEW020W	11:08	4/29/2013	45	34.2	1.6	19.2	-1.9	0.07	64	9	8	245	218
HKEW020W	9:30	5/30/2013	21.8	24.9	1.4	51.9	-1.1	0.07	55	9	9	119	119
HKEW020W	10:34	6/14/2013	22.7	25	3.2	49.1	-1.2	0.08	66	9	9	124	124

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW020W	14:29	7/22/2013	29.9	28.6	0.8	40.7	-0.2	0.08	62	9	9	163	163
HKEW020W	13:29	8/7/2013	30.7	30	0.7	38.6	-1.7	0.05	68	6	6	111	111
HKEW020W	9:26	9/4/2013	32.4	30.2	0.4	37	-2.05	0.087	61.4	10.5	10	206.1	197.3
HKEW021W	13:29	2/10/2012	24.8	26.9	0	48.3	-2.7	0.05	41	7	7	105	105
HKEW021W	9:55	2/28/2012	25.8	26.7	0	47.5	-1.1	0.05	42	6	7	93	109
HKEW021W	7:22	3/21/2012	24.7	30.8	0	44.5	-2.2	0.05	48	6	6	89	89
HKEW021W	8:36	4/25/2012	24.5	25.4	0	50.1	-1.2	0.35	44	22	22	327	327
HKEW021W	13:03	5/22/2012	25.3	26	0	48.7	0	0.02	50	2	2	30	30
HKEW021W	6:55	6/26/2012	25.9	27.9	0	46.2	-1.2	0.02	50	2	2	31	31
HKEW021W	12:44	7/24/2012	28.5	28.8	0	42.7	-0.2	0.02	58	2	2	34	34
HKEW021W	11:05	8/13/2012	30.5	27.8	0	41.7	-0.6	0.01	56	1	1	18	18
HKEW021W	7:21	9/24/2012	32.5	30.1	0	37.4	0.1	0.01	52	1	1	19	19
HKEW021W	8:50	10/29/2012	31.6	31	0	37.4	-1	0.02	48	2	2	38	38
HKEW021W	8:50	10/29/2012	31.6	31	0	37.4	-1	0.02	48	2	2	38	38
HKEW021W	10:12	1/7/2013	33.5	27.3	0	39.2	0	-0.56	40	0	0	0	0
HKEW021W	7:44	1/29/2013	35	30.3	0.2	34.5	0.6	0.02	40	2	2	42	42
HKEW021W	10:42	2/27/2013	28.4	27.5	0.3	43.8	-0.8	0.01	38	1	1	17	17
HKEW021W	12:08	3/28/2013	26.7	27.2	0.1	46	-1.1	0.02	32	3	3	48	48
HKEW021W	11:15	4/29/2013	22.2	24	2.1	51.7	-1.4	0.02	60	4	3	53	40
HKEW021W	9:36	5/30/2013	14.5	20	2.3	63.2	-0.8	0	64	0	0	0	0
HKEW021W	10:39	6/14/2013	11.3	19.9	3	65.8	-0.6	0.01	80	1	1	6	6
HKEW021W	14:33	7/22/2013	22.5	25.2	0	52.3	0	0.01	80	1	1	13	13
HKEW021W	13:36	8/7/2013	25.9	26.1	0.9	47.1	-1.5	0.02	69	2	2	31	31
HKEW021W	9:30	9/4/2013	31.1	27.9	0.4	40.6	-1.72	0.035	65	6.3	6.3	118.2	119.4
HKEW022W	10:04	2/28/2012	7.7	19.5	0.9	71.9	-0.2	-0.71	29	0	0	0	0
HKEW022W	7:29	3/21/2012	3	9.6	10.1	77.3	-1	0	56	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW022W	8:42	4/25/2012	3.5	12.2	6.9	77.4	-0.2	0	48	0	0	0	0
HKEW022W	8:36	5/23/2012	7.2	18.1	1.5	73.2	0	0.01	70	1	1	4	4
HKEW022W	7:04	6/26/2012	5.3	12.1	7.2	75.4	-0.5	0	60	0	0	0	0
HKEW022W	12:51	7/24/2012	12.3	22.5	0	65.2	0.2	0	82	0	0	0	0
HKEW022W	11:12	8/13/2012	12.6	16.8	3.8	66.8	0	0	88	0	0	0	0
HKEW022W	7:32	9/24/2012	18.5	25	0	56.5	0.3	0	46	0	0	0	0
HKEW022W	8:57	10/29/2012	10.3	14.5	5.9	69.3	-0.3	0	38	0	0	0	0
HKEW022W	10:20	1/7/2013	13.6	19.7	0	66.7	0.2	0	26	0	0	0	0
HKEW022W	7:52	1/29/2013	12.1	21.5	0	66.4	0.4	0	38	0	0	0	0
HKEW022W	10:52	2/27/2013	3.5	9.3	8.3	78.9	-0.2	0	28	0	0	0	0
HKEW022W	12:16	3/28/2013	4.2	11.5	7.6	76.7	-0.2	0	28	0	0	0	0
HKEW022W	11:28	4/29/2013	2.3	7.6	10.2	79.9	-0.4	0	62	0	0	0	0
HKEW022W	10:41	5/30/2013	7.7	18.9	0.1	73.3	0	0	71	0	0	0	0
HKEW022W	10:47	6/14/2013	5.6	13.8	5.1	75.5	0	0	80	0	0	0	0
HKEW022W	7:38	7/23/2013	2.8	5.3	15.4	76.5	-0.8	-0.01	71	0	0	0	0
HKEW022W	13:44	8/7/2013	5.6	6.6	13.4	74.4	-0.6	0.01	80	1	1	3	3
HKEW022W	12:56	9/4/2013	0.6	0.9	20	78.5	-0.62	-10.037	75.1	0	0	0	0
HKEW023W	13:20	2/10/2012	14.5	18.1	5.7	61.7	-0.9	0	29	0	0	0	0
HKEW023W	10:12	2/28/2012	15.5	22.8	0.2	61.5	0	-0.16	29	0	0	0	0
HKEW023W	7:36	3/21/2012	5.9	11.6	9.5	73	-0.8	-0.01	58	0	0	0	0
HKEW023W	8:52	4/25/2012	9.9	18	2.9	69.2	0	0	50	0	0	0	0
HKEW023W	8:44	5/23/2012	12.6	20.7	0.2	66.5	0	0	68	0	0	0	0
HKEW023W	7:11	6/26/2012	12.5	20.4	1.6	65.5	-0.3	0	60	0	0	0	0
HKEW023W	12:57	7/24/2012	17.1	24.3	0	58.6	0.3	0	82	0	0	0	0
HKEW023W	11:19	8/13/2012	20.7	22.9	0.3	56.1	0	0	80	0	0	0	0
HKEW023W	7:38	9/24/2012	24	26.8	0	49.2	0.3	0	46	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW023W	9:07	10/29/2012	25.3	27.8	0.3	46.6	-0.1	0	36	0	0	0	0
HKEW023W	10:28	1/7/2013	9.9	18.8	0.1	71.2	0.2	0	30	0	0	0	0
HKEW023W	8:01	1/29/2013	11.1	21.5	0	67.4	0.5	0	34	0	0	0	0
HKEW023W	11:01	2/27/2013	0	0.2	18.5	81.3	-0.1	0	28	0	0	0	0
HKEW023W	12:23	3/28/2013	0	0.1	19.4	80.5	-0.3	0.24	42	19	19	0	0
HKEW023W	11:34	4/29/2013	0.2	0	18.9	80.9	-0.3	0	64	0	0	0	0
HKEW023W	10:48	5/30/2013	0.3	4.2	13	82.5	0	0	71	0	0	0	0
HKEW023W	12:36	6/7/2013	0.8	6	13	80.2	-0.6	0.02	63	2	2	0	0
HKEW023W	10:53	6/14/2013	0	0.2	20.1	79.7	0	0	90	0	0	0	0
HKEW023W	7:43	7/23/2013	0	0.2	20.1	79.7	-0.6	-0.01	68	0	0	0	0
HKEW023W	13:51	8/7/2013	0.3	0	19.8	79.9	-0.2	-0.1	85	0	0	0	0
HKEW023W	13:00	9/4/2013	0	0.2	20.4	79.4	-0.43	0.003	77.1	2	1.8	0	0
HKEW024W	10:19	2/28/2012	6.6	9.1	11.8	72.5	0	0	29	0	0	0	0
HKEW024W	7:44	3/21/2012	12.9	19.1	3.8	64.2	-0.7	0	52	0	0	0	0
HKEW024W	8:59	4/25/2012	11.7	20.1	1.3	66.9	0	0	50	0	0	0	0
HKEW024W	8:51	5/23/2012	13.1	19.7	1.4	65.8	0	0	66	0	0	0	0
HKEW024W	7:18	6/26/2012	11.2	15.1	6.9	66.8	-0.2	0	70	0	0	0	0
HKEW024W	13:04	7/24/2012	20.3	24.6	0	55.1	0.3	-0.01	84	0	0	0	0
HKEW024W	11:26	8/13/2012	23.2	24.1	0	52.7	0	0	80	0	0	0	0
HKEW024W	7:47	9/24/2012	29.1	27.5	0	43.4	0.3	0	42	0	0	0	0
HKEW024W	9:16	10/29/2012	26.2	24.4	2.5	46.9	0	0	32	0	0	0	0
HKEW024W	10:36	1/7/2013	28.4	24.2	0	47.4	0.2	0	30	0	0	0	0
HKEW024W	8:09	1/29/2013	27.6	26.6	0	45.8	0.3	0	36	0	0	0	0
HKEW024W	11:09	2/27/2013	0.8	1.6	18.5	79.1	-0.1	0	30	0	0	0	0
HKEW024W	12:30	3/28/2013	13.3	17	5.1	64.6	-0.1	0.01	32	1	1	8	8
HKEW024W	11:40	4/29/2013	0.2	0	18.9	80.9	-0.2	0	68	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW024W	11:01	5/30/2013	0.4	9.1	14.6	75.9	1.6	0	70	0	0	0	0
HKEW024W	10:59	6/14/2013	11.7	20	0	68.3	0	0	84	0	0	0	0
HKEW024W	7:48	7/23/2013	3.3	4.1	16.6	76	-0.4	0	70	0	0	0	0
HKEW024W	13:56	8/7/2013	9.8	9.6	10.8	69.8	-0.2	0.01	80	1	1	5	5
HKEW024W	13:05	9/4/2013	7.7	7.7	14.3	70.3	-0.25	0.006	75.3	2.3	2.5	10.7	11.8
HKEW025W	10:27	2/28/2012	0	10.9	8.9	80.2	0	-0.01	29	0	0	0	0
HKEW025W	7:52	3/21/2012	0	14.6	3.8	81.6	-1	0	50	0	0	0	0
HKEW025W	9:05	4/25/2012	0	14.4	3.2	82.4	0	0	46	0	0	0	0
HKEW025W	9:01	5/23/2012	0.4	15.8	2.1	81.7	0	0	66	0	0	0	0
HKEW025W	7:27	6/26/2012	0.3	16.8	2.2	80.7	-0.4	0	64	0	0	0	0
HKEW025W	6:21	7/25/2012	0.1	19.7	0.7	79.5	0.2	0	66	0	0	0	0
HKEW025W	11:34	8/13/2012	0.9	18	0.6	80.5	-0.1	-0.01	78	0	0	0	0
HKEW025W	7:54	9/24/2012	0.6	20.9	0	78.5	0.3	0	48	0	0	0	0
HKEW025W	9:25	10/29/2012	0	20.6	0.1	79.3	-0.2	0	38	0	0	0	0
HKEW025W	10:44	1/7/2013	0	16.6	0.7	82.7	0.1	0	30	0	0	0	0
HKEW025W	8:19	1/29/2013	0	17.5	0.9	81.6	0.3	0	31	0	0	0	0
HKEW025W	7:28	2/28/2013	0	4.6	13.9	81.5	-0.9	0	36	0	0	0	0
HKEW025W	6:30	4/1/2013	0	5.9	13.1	81	-1.8	0	42	0	0	0	0
HKEW025W	11:47	4/29/2013	2.5	14.4	0.6	82.5	-0.5	0	64	0	0	0	0
HKEW025W	11:21	5/30/2013	0.6	8.9	14.8	75.7	0.4	0	62	0	0	0	0
HKEW025W	11:05	6/14/2013	0.3	16.4	0.6	82.7	0	0	76	0	0	0	0
HKEW025W	7:55	7/23/2013	1	16.7	1.2	81.1	-0.8	0	70	0	0	0	0
HKEW026W	7:58	3/21/2012	11.5	26	1.2	61.3	-1.3	0	48	0	0	0	0
HKEW026W	9:14	4/25/2012	13.6	25.4	0	61	-0.4	0.09	44	10	10	82	82
HKEW026W	9:08	5/23/2012	13.5	24.3	0.1	62.1	-0.3	0	60	0	0	0	0
HKEW026W	7:35	6/26/2012	14.5	25.9	0	59.6	-0.8	0	60	0	0	0	0
HKEW026W	6:29	7/25/2012	15.5	28.4	0	56.1	0.1	0.05	62	6	6	56	56
HKEW026W	11:40	8/13/2012	20.1	26.2	0.4	53.3	-0.3	0	66	0	0	0	0
HKEW026W	8:03	9/24/2012	21.9	30.7	0	47.4	0.2	0	50	0	0	0	0
HKEW026W	9:34	10/29/2012	23.3	32.9	0.1	43.7	-0.4	0	40	0	0	0	0
HKEW026W	10:52	1/7/2013	17.3	27.2	0.2	55.3	0	-0.14	32	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW026W	8:30	1/29/2013	10.5	26.7	0	62.8	0.2	0	29	0	0	0	0
HKEW026W	7:38	2/28/2013	2.6	6.7	13.8	76.9	-1.5	0	30	0	0	0	0
HKEW026W	11:54	4/29/2013	9.9	20.4	0.6	69.1	-0.9	0	52	0	0	0	0
HKEW026W	11:33	5/30/2013	0.6	8.9	15.2	75.3	0	0	58	0	0	0	0
HKEW026W	11:13	6/14/2013	12.9	21.2	0.6	65.3	0	0.08	78	0	9	0	70
HKEW026W	8:04	7/23/2013	21.1	25.7	0.2	53	-0.9	0	68	0	0	0	0
HKEW027W	10:39	2/28/2012	23.6	28	0	48.4	-0.6	0.08	40	9	9	128	128
HKEW027W	8:05	3/21/2012	23.9	31.3	0	44.8	-2	0.39	44	24	23	348	333
HKEW027W	9:22	4/25/2012	23.1	27.6	0	49.3	-1.2	0.05	44	6	6	84	84
HKEW027W	9:16	5/23/2012	25	28	0	47	-0.5	0.04	48	6	6	91	91
HKEW027W	7:44	6/26/2012	23.9	28.3	0	47.8	-1.2	0.05	50	6	6	87	87
HKEW027W	6:37	7/25/2012	25.1	30.6	0	44.3	0.3	0.04	50	6	6	91	91
HKEW027W	11:48	8/13/2012	26.7	27.6	0	45.7	-0.5	0.05	54	6	6	97	97
HKEW027W	8:11	9/24/2012	8.2	23.6	0	68.2	-0.2	0	50	0	0	0	0
HKEW027W	9:48	10/29/2012	28	32.4	0	39.6	-0.8	0.04	44	6	6	101	101
HKEW027W	12:19	1/7/2013	28.8	28.3	0.2	42.7	0.2	-0.42	42	0	0	0	0
HKEW027W	8:40	1/29/2013	31.1	32	0	36.9	0.3	-0.31	40	0	0	0	0
HKEW027W	7:51	2/28/2013	26.6	27.6	1.2	44.6	-2.2	-0.3	35	0	0	0	0
HKEW027W	6:47	4/1/2013	24.4	27	1.2	47.4	-2.8	-0.05	38	0	0	0	0
HKEW027W	12:17	4/29/2013	26.7	27.5	1.2	44.6	-1	0.02	66	1	2	16	32
HKEW027W	11:39	5/30/2013	0.6	9	15.5	74.9	0	0	41	0	0	0	0
HKEW027W	11:36	6/14/2013	24.1	27.5	0.1	48.3	-0.2	0.01	60	1	1	14	14
HKEW027W	8:11	7/23/2013	0.1	7.7	11.2	81	-1.5	0.08	64	10	9	0	0
HKEW028W	10:47	2/28/2012	1.1	18.8	2.1	78	-0.8	0.01	40	1	1	0	0
HKEW028W	8:12	3/21/2012	2.8	21	0.5	75.7	-2.1	0.01	44	0	1	0	1
HKEW028W	9:29	4/25/2012	2.6	19.7	0.1	77.6	-1.5	0.01	45	1	1	1	1
HKEW028W	9:23	5/23/2012	4	19.7	0.1	76.2	-0.8	0	56	0	0	0	0
HKEW028W	8:32	6/26/2012	2.8	20.2	0	77	-1	0.01	58	1	1	1	1
HKEW028W	6:47	7/25/2012	6.2	23.3	0	70.5	-0.2	0	60	0	0	0	0
HKEW028W	11:55	8/13/2012	6.2	20.2	0	73.6	-0.7	0.01	62	1	1	3	3
HKEW028W	8:23	9/24/2012	29	31.3	0	39.7	0.3	0.05	50	6	6	105	105

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW028W	9:55	10/29/2012	5	23.9	0.1	71	-1.3	0.01	48	1	1	3	3
HKEW028W	12:27	1/7/2013	5.8	20.8	0.2	73.2	-3.4	0.21	42	17	16	59	56
HKEW028W	8:50	1/29/2013	11.8	23.7	0.4	64.1	-3.9	0.15	50	14	14	100	100
HKEW028W	8:01	2/28/2013	5.6	19.7	2.5	72.2	-5.4	0.15	50	13	13	44	44
HKEW028W	6:57	4/1/2013	5.8	16.3	5.7	72.2	-6.2	0.11	48	12	12	42	42
HKEW028W	12:23	4/29/2013	9.5	19.6	3.4	67.5	-4.2	0.12	64	12	12	69	69
HKEW028W	11:48	5/30/2013	0.6	9.4	15.9	74.1	0	0	57	0	0	0	0
HKEW028W	11:24	6/14/2013	6.6	15.3	5.3	72.8	-6.4	0	80	0	0	0	0
HKEW028W	8:17	7/23/2013	8.4	19.4	3.4	68.8	-7.8	0	67	0	0	0	0
HKEW029W	10:54	2/28/2012	6.4	23.1	0.8	69.7	-0.6	0.01	38	0	1	0	3
HKEW029W	8:19	3/21/2012	11.1	26.7	0	62.2	-2	0.01	42	1	1	6	6
HKEW029W	9:46	4/26/2012	7	21.7	0.5	70.8	-3	0.01	42	1	1	4	4
HKEW029W	9:30	5/23/2012	11.8	23.2	0	65	-0.5	0.02	50	2	2	14	14
HKEW029W	8:39	6/26/2012	9.7	23.7	0	66.6	-0.8	0.01	54	1	1	5	5
HKEW029W	6:55	7/25/2012	13	26.6	0	60.4	0	0.01	56	1	1	7	7
HKEW029W	12:02	8/13/2012	14	24.2	0	61.8	-0.5	0.01	56	1	1	8	8
HKEW029W	8:31	9/24/2012	16.9	27.4	0	55.7	0	0.01	50	1	1	10	10
HKEW029W	11:14	10/29/2012	12.1	26.2	0.5	61.2	-0.6	0.01	44	1	1	7	7
HKEW029W	11:15	10/29/2012	12.1	26.2	0.5	61.2	-0.5	0.01	44	1	1	7	7
HKEW029W	12:35	1/7/2013	10	22.8	0	67.2	0	-0.2	39	0	0	0	0
HKEW029W	8:59	1/29/2013	12.5	26.1	0	61.4	0	0	40	1	0	7	0
HKEW029W	8:10	2/28/2013	6.2	21.7	0.8	71.3	-1.9	0	34	0	0	0	0
HKEW029W	7:05	4/1/2013	7.7	21.2	2	69.1	-2.9	0.01	30	0	0	0	0
HKEW029W	12:29	4/29/2013	13.2	22.7	1.2	62.9	-1.2	0	64	0	0	0	0
HKEW029W	11:54	5/30/2013	0.5	9	16.1	74.4	0	0	50	0	0	0	0
HKEW029W	11:28	6/14/2013	6.6	21.1	0.3	72	-0.6	0.01	73	1	1	4	4
HKEW029W	8:21	7/23/2013	8.1	20	1.9	70	-1.6	0.01	63	1	1	4	4
HKEW030W	12:39	2/28/2012	33.2	33.9	0.4	32.5	0	0.02	40	2	2	40	40
HKEW030W	9:54	3/21/2012	30.7	38.4	0	30.9	-1.9	0.01	48	1	1	18	18
HKEW030W	9:52	4/26/2012	30.1	32.7	0.2	37	-3.4	0.01	40	1	1	18	18
HKEW030W	9:38	5/23/2012	30.7	32.7	0	36.6	-0.4	0.02	48	1	2	18	37

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW030W	8:46	6/26/2012	31.8	33.6	0	34.6	-0.6	0.01	54	1	1	19	19
HKEW030W	7:05	7/25/2012	31	35.3	0	33.7	0.3	0.01	54	1	1	18	18
HKEW030W	12:10	8/13/2012	34.6	34	0	31.4	-0.4	0.01	58	1	1	21	21
HKEW030W	8:44	9/24/2012	39	37.4	0	23.6	0.3	0.02	52	2	2	47	47
HKEW030W	11:24	10/29/2012	40.9	40.3	0	18.8	-0.5	0.02	46	2	2	49	49
HKEW030W	12:47	1/7/2013	32.6	32.9	0	34.5	0	0.3	40	20	20	395	395
HKEW030W	9:09	1/29/2013	31.9	35.7	0	32.4	0.1	0.02	42	2	2	38	38
HKEW030W	8:21	2/28/2013	28.9	32.4	0.6	38.1	-2.2	0.01	36	1	1	17	17
HKEW030W	7:13	4/1/2013	28.1	33.5	0.3	38.1	-3.1	0.14	32	18	13	307	221
HKEW030W	12:37	4/29/2013	27.7	31.4	0.9	40	-1.2	0.01	60	1	1	16	16
HKEW030W	12:06	5/30/2013	0.6	8.8	16.1	74.5	0	0	43	0	0	0	0
HKEW030W	11:43	6/14/2013	23.7	28.5	0.8	47	-0.7	0.02	68	2	2	28	28
HKEW030W	8:27	7/23/2013	12.1	14	10.9	63	-2	0.02	60	2	2	14	14
HKEW030W	9:35	8/8/2013	27.2	31.7	0.4	40.7	-1	0.02	60	2	2	33	33
HKEW030W	13:13	9/4/2013	31	32.3	0.4	36.3	-1.45	0.011	63.9	3.3	3.4	62.4	64.4
HKEW031W	12:47	2/28/2012	34.9	33.1	0.5	31.5	0	0.02	42	3	3	63	63
HKEW031W	10:01	3/21/2012	32	37.8	0	30.2	-2.3	0.03	44	4	4	77	77
HKEW031W	9:58	4/26/2012	31.4	32.6	0.1	35.9	-3.8	0.03	44	4	4	76	76
HKEW031W	10:49	5/23/2012	31.7	32.6	0	35.7	-0.6	0.02	50	2	2	38	38
HKEW031W	8:52	6/26/2012	31.8	33.9	0	34.3	-0.9	0.02	50	2	2	38	38
HKEW031W	7:12	7/25/2012	30.9	34.7	0	34.4	0.2	0.02	52	2	3	37	56
HKEW031W	12:18	8/13/2012	34.2	33.1	0	32.7	-0.6	0.01	68	1	1	20	20
HKEW031W	8:52	9/24/2012	36.9	35.5	0	27.6	0.2	0.01	50	1	1	22	22
HKEW031W	11:32	10/29/2012	38.2	38.7	0	23.1	-0.6	0.01	48	1	1	23	23
HKEW031W	12:57	1/7/2013	37	33.2	0	29.8	-0.4	0.14	40	14	14	314	314
HKEW031W	9:20	1/29/2013	37.7	35.2	0.3	26.8	-0.3	0.13	40	13	13	297	297
HKEW031W	8:32	2/28/2013	34.5	32.8	0.7	32	-3	0.12	38	13	12	272	251
HKEW031W	7:20	4/1/2013	30.9	31.8	1.7	35.6	-3.8	0.09	36	12	11	225	206
HKEW031W	12:43	4/29/2013	31.4	31.8	1.9	34.9	-1.8	0.14	62	13	13	247	247
HKEW031W	12:15	5/30/2013	0.5	8.7	16.2	74.6	0	0	45	0	0	0	0
HKEW031W	11:47	6/14/2013	33.2	34.1	0	32.7	-1.5	0.07	58	8	8	161	161

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW031W	8:33	7/23/2013	20.8	23.2	5.2	50.8	-2.9	0.13	58	12	12	151	151
HKEW031W	9:28	8/8/2013	25.2	26.8	2.9	45.1	-1.9	0.14	55	13	13	198	198
HKEW031W	13:17	9/4/2013	31.5	34.9	0.4	33.2	-2.35	0.142	60.6	12.8	12.7	244.9	243.8
HKEW032W	12:54	2/28/2012	16	25.8	0.2	58	0	0.28	30	0	0	0	0
HKEW032W	10:08	3/21/2012	0.1	0.2	18.9	80.8	-1.4	0	64	0	0	0	0
HKEW032W	10:06	4/26/2012	0	0.2	19.2	80.6	-2.5	0	42	0	0	0	0
HKEW032W	10:56	5/23/2012	0.4	0.2	19	80.4	-0.1	0	72	0	0	0	0
HKEW032W	9:00	6/26/2012	2.1	2.2	16.7	79	-0.2	-0.01	76	0	0	0	0
HKEW032W	7:21	7/25/2012	23.4	33.1	0	43.5	0.4	0	68	0	0	0	0
HKEW032W	12:26	8/13/2012	11.2	9.5	12.3	67	0	0	84	0	0	0	0
HKEW032W	8:58	9/24/2012	34.5	37.1	0	28.4	0.3	0	50	0	0	0	0
HKEW032W	11:40	10/29/2012	0.1	0.2	19.2	80.5	0	0	44	0	0	0	0
HKEW032W	13:04	1/7/2013	1.7	3.4	16.8	78.1	0	0.83	25	0	0	0	0
HKEW032W	9:30	1/29/2013	16.2	27.2	0.3	56.3	0.2	0	30	0	0	0	0
HKEW032W	8:43	2/28/2013	0	0.1	19.2	80.7	-1.4	0	32	0	0	0	0
HKEW032W	7:31	4/1/2013	0	0.2	18.9	80.9	-2.1	0.01	26	0	0	0	0
HKEW032W	7:36	4/30/2013	0	0	19	81	-0.4	0	66	0	0	0	0
HKEW032W	12:24	5/30/2013	0.5	8.3	16.2	75	0	0	74	0	0	0	0
HKEW032W	12:09	6/14/2013	0.1	0	20.6	79.3	-0.2	0	94	0	0	0	0
HKEW032W	8:41	7/23/2013	0.1	0.2	20.2	79.5	-1.3	0	68	0	0	0	0
HKEW032W	9:41	8/8/2013	0.1	0.1	20	79.8	-0.4	0	78	0	0	0	0
HKEW032W	13:26	9/4/2013	0.1	0.1	20.5	79.3	-0.84	0	68.9	0	0.5	0	0
HKEW033W	13:01	2/28/2012	34.9	32.9	1	31.2	0.3	-0.39	30	0	0	0	0
HKEW033W	10:15	3/21/2012	13.9	15.3	11.3	59.5	-1.3	0	62	0	0	0	0
HKEW033W	10:13	4/26/2012	0	0.1	19.5	80.4	-1.9	0	50	0	0	0	0
HKEW033W	11:03	5/23/2012	29	31.6	0.6	38.8	0	0	62	0	0	0	0
HKEW033W	9:07	6/26/2012	29.9	31.7	1.6	36.8	-0.3	0.01	74	1	1	18	18
HKEW033W	7:31	7/25/2012	28	31.5	3	37.5	0.6	0	68	0	0	0	0
HKEW033W	12:36	8/13/2012	39	36.1	0.4	24.5	0	0	82	0	0	0	0
HKEW033W	9:06	9/24/2012	46.1	39.5	0	14.4	0.5	0	50	0	0	0	0
HKEW033W	11:47	10/29/2012	48.6	40.3	0.8	10.3	0	0	44	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW033W	13:12	1/7/2013	47.4	37.5	0.6	14.5	0.2	-0.24	30	0	0	0	0
HKEW033W	9:39	1/29/2013	44.7	37.6	0.7	17	0.3	0	32	0	0	0	0
HKEW033W	8:53	2/28/2013	35.7	31.8	2.8	29.7	-1.5	0.01	25	0	0	0	0
HKEW033W	7:40	4/1/2013	14.9	16.3	9.7	59.1	-2.1	-0.01	24	0	0	0	0
HKEW033W	7:42	4/30/2013	14.4	17.8	8.8	59	-0.4	-0.01	58	0	0	0	0
HKEW033W	12:34	5/30/2013	0.7	8.4	16.2	74.7	0.2	0	73	0	0	0	0
HKEW033W	11:52	6/14/2013	6.3	5.5	15.2	73	-0.2	0	84	0	0	0	0
HKEW033W	8:50	7/23/2013	5.7	5.7	17	71.6	-1.5	0	70	0	0	0	0
HKEW033W	9:49	8/8/2013	2.6	2	18.8	76.6	-0.7	0	75	0	0	0	0
HKEW033W	13:31	9/4/2013	0.5	0.3	20.2	79	-1.04	0.316	80.6	21.3	19.1	6.8	6.1
HKEW034W	13:08	2/28/2012	28.5	37	0	34.5	0.4	0	34	0	0	0	0
HKEW034W	10:21	3/21/2012	0.2	0.2	19	80.6	-1	0	68	0	0	0	0
HKEW034W	10:17	4/26/2012	0	0.1	19.5	80.4	-1.9	0	48	0	0	0	0
HKEW034W	11:11	5/23/2012	1.2	0.5	18.5	79.8	0	0	72	0	0	0	0
HKEW034W	9:16	6/26/2012	1.1	0.4	17.9	80.6	0	0	78	0	0	0	0
HKEW034W	7:40	7/25/2012	35.1	37.9	0.1	26.9	0.6	0	70	0	0	0	0
HKEW034W	12:43	8/13/2012	9.6	4.3	14.9	71.2	0	0	88	0	0	0	0
HKEW034W	9:13	9/24/2012	44.8	39	0	16.2	0.4	0	50	0	0	0	0
HKEW034W	11:55	10/29/2012	30.7	27	4.5	37.8	0	0	42	0	0	0	0
HKEW034W	13:20	1/7/2013	19.6	22.6	0	57.8	0.2	0	30	0	0	0	0
HKEW034W	9:48	1/29/2013	25.2	29.3	0	45.5	0.4	0	34	0	0	0	0
HKEW034W	9:04	2/28/2013	0	0.2	19.1	80.7	-0.9	0	30	0	0	0	0
HKEW034W	7:51	4/1/2013	0	0.2	19.4	80.4	-1.4	0	32	0	0	0	0
HKEW034W	7:48	4/30/2013	0.1	0.1	19.4	80.4	-0.2	0	60	0	0	0	0
HKEW034W	12:48	5/30/2013	0.6	7.9	16	75.5	0	0	75	0	0	0	0
HKEW034W	12:04	6/14/2013	0.4	0.3	19.8	79.5	0	0	92	0	0	0	0
HKEW034W	9:00	7/23/2013	0.1	0.2	20.3	79.4	-1	0.02	72	2	2	0	0
HKEW034W	9:55	8/8/2013	1.1	0.7	19.4	78.8	-0.4	0.01	81	1	1	0	0
HKEW034W	13:37	9/4/2013	0	0.1	20.4	79.5	-0.39	-0.004	85.3	0	0	0	0
HKEW035W	13:14	2/28/2012	23	31.3	0.6	45.1	0.2	0	34	0	0	0	0
HKEW035W	10:27	3/21/2012	12.3	19.4	8	60.3	-0.5	0	70	0	0	0	0

TABLE A.8.b

LANDFILL GAS OPERATIONAL DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*Time*	*Date*	*CH_4 (%)*	*CO_2 (%)*	*O_2 (%)*	*Balance (%)*	*Static Pressure (in H_2O)*	*Differential Pressure (in H_2O)*	*Temperature (°F)*	*Reference Flow (cfm)*	*Adjusted Flow (cfm)*	*Reference Energy (Calorie)*	*Adjusted Energy (Calorie)*
HKEW035W	10:22	4/26/2012	2.5	3.7	17	76.8	-1.1	0	50	0	0	0	0
HKEW035W	11:18	5/23/2012	20.3	28.7	0.1	50.9	0	0	72	0	0	0	0
HKEW035W	9:24	6/26/2012	25.1	30.7	0	44.2	0	0	80	0	0	0	0
HKEW035W	7:50	7/25/2012	29.3	33.5	0	37.2	0.3	0	70	0	0	0	0
HKEW035W	12:50	8/13/2012	36.7	33.1	0.2	30	0	0	90	0	0	0	0
HKEW035W	9:21	9/24/2012	44.1	36.7	0.1	19.1	0.3	0.02	52	1	2	26	53
HKEW035W	12:02	10/29/2012	47.8	41.3	0.2	10.7	0	0.01	44	0	1	0	29
HKEW035W	13:28	1/7/2013	32.5	32.7	0.6	34.2	0.1	0	30	0	0	0	0
HKEW035W	9:59	1/29/2013	30.4	35.6	0.3	33.7	0.3	0	36	0	0	0	0
HKEW035W	9:12	2/28/2013	23	28.9	4.5	43.6	-0.6	0	28	0	0	0	0
HKEW035W	7:59	4/1/2013	0	0.1	19.5	80.4	-0.7	0	30	0	0	0	0
HKEW035W	7:56	4/30/2013	7.3	17	7.8	67.9	0	0	62	0	0	0	0
HKEW035W	12:57	5/30/2013	0.6	8	16.1	75.3	0	0	78	0	0	0	0
HKEW035W	11:58	6/14/2013	11.8	21.7	3.5	63	0	0	83	0	0	0	0
HKEW035W	9:07	7/23/2013	11.6	15.8	9	63.6	-0.6	0	70	0	0	0	0
HKEW035W	10:01	8/8/2013	0.2	0	19.9	79.9	-0.2	0	80	0	0	0	0
HKEW035W	13:42	9/4/2013	10.3	9.1	14.6	66	-0.25	0	85.1	0	0	0	0
HKEW036W	13:57	9/4/2013	32.1	29.7	0.3	37.9	-1.32	0.02	66.8	4.4	4.6	85.4	90.2
HKEW037W	13:51	9/4/2013	36.5	31.3	0.4	31.8	-4.31	-0.003	78.5	0	0	0	0
HKEW038W	9:37	9/4/2013	1.3	10.2	8.3	80.2	-8.12	0.01	72.1	3.3	3.2	2.5	2.4

ATTACHMENT A.8.c

LANDFILL GAS VOLATILE ORGANIC COMPOUND DATA (2012-2013)
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Location	*BH-2*			*BH-2*			*EW-20W*			*EW-20W*			*EW-21W*			*EW-21W*			*EW-27W*			*EW-27W*			*EW-3W*			*EW-3W*			*EW-5W*			*EW-5W*			*EW-6W*			*EW-6W*		
WDNR ID#	*400*			*400*			*420*			*420*			*421*			*421*			*427*			*427*			*403*			*403*			*405*			*405*			*406*			*406*		
Date Sampled	*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*			*3/20/12*			*6/19/13*		
Lab	*Siemens*			*Pace*			*Siemens*			*Pace*			*Siemens*			*Pace*			*Siemens*			*Pace*			*Siemens*			*Pace*			*Siemens*			*Pace*			*Siemens*			*Pace*		
Method	*8260B*			*TO-15*			*8260B*			*TO-15*			*8260B*			*TO-15*			*8260B*			*TO-15*			*8260B*			*TO-15*			*8260B*			*TO-15*			*8260B*			*TO-15*		
Analyte	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*	*Result*	*RL*	*Units*
1,1,1-Trichloroethane		1.56	PPMV		43.6	ug/m3		1.56	PPMV	49.3	34.3	ug/m3		1.56	PPMV		47.8	ug/m3		1.56	PPMV		38.3	ug/m3		1.56	PPMV		43.6	ug/m3		1.56	PPMV		40	ug/m3		1.56	PPMV		40	ug/m3
1,1,2,2-Tetrachloroethane					27.4	ug/m3					21.5	ug/m3					30.1	ug/m3					24.1	ug/m3					27.4	ug/m3					25.1	ug/m3					25.1	ug/m3
1,1,2-Trichloroethane		1.19	PPMV		21.6	ug/m3		1.19	PPMV		17	ug/m3		1.19	PPMV		23.7	ug/m3		1.19	PPMV		19	ug/m3		1.19	PPMV		21.6	ug/m3		1.19	PPMV		19.8	ug/m3		1.19	PPMV		19.8	ug/m3
1,1,2-Trichlorotrifluoroethane					62.8	ug/m3					49.4	ug/m3					68.9	ug/m3					55.2	ug/m3					62.8	ug/m3					57.6	ug/m3					57.6	ug/m3
1,1-Dichloroethane		1.61	PPMV		32.2	ug/m3		1.61	PPMV		25.3	ug/m3		1.61	PPMV		35.3	ug/m3		1.61	PPMV		28.3	ug/m3		1.61	PPMV		32.2	ug/m3		1.61	PPMV		29.5	ug/m3		1.61	PPMV		29.5	ug/m3
1,1-Dichloroethylene in Air		1.64	PPMV		31.8	ug/m3		1.64	PPMV		25	ug/m3		1.64	PPMV		34.9	ug/m3		1.64	PPMV		28	ug/m3		1.64	PPMV		31.8	ug/m3		1.64	PPMV		29.2	ug/m3		1.64	PPMV		29.2	ug/m3
1,2,4-Trichlorobenzene					59.3	ug/m3					46.6	ug/m3					65.1	ug/m3					52.1	ug/m3					59.3	ug/m3					54.4	ug/m3					54.4	ug/m3
1,2,4-Trimethylbenzene				2910	39.2	ug/m3				2700	30.8	ug/m3				1890	43	ug/m3				2840	34.5	ug/m3				1790	39.2	ug/m3				3170	36	ug/m3				1040	36	ug/m3
1,2-Dibromo-3-Chloropropane (DBCP) in Air		2.25	PPMV					2.25	PPMV					2.25	PPMV					2.25	PPMV					2.25	PPMV					2.25	PPMV					2.25	PPMV			
1,2-Dibromoethane (EDB)		0.651	PPMV		61.2	ug/m3		0.651	PPMV		48.2	ug/m3		0.651	PPMV		67.2	ug/m3		0.651	PPMV		53.9	ug/m3		0.651	PPMV		61.2	ug/m3		0.651	PPMV		56.2	ug/m3		0.651	PPMV		56.2	ug/m3
1,2-Dichloroethane in Air		1.24	PPMV		16.1	ug/m3		1.24	PPMV		12.7	ug/m3		1.24	PPMV		17.7	ug/m3		1.24	PPMV		14.2	ug/m3		1.24	PPMV		16.1	ug/m3		1.24	PPMV		14.8	ug/m3		1.24	PPMV		14.8	ug/m3
1,2-Dichloroethylene (cis)		1.64	PPMV		31.8	ug/m3		1.64	PPMV		25	ug/m3		1.64	PPMV		34.9	ug/m3		1.64	PPMV		28	ug/m3		1.64	PPMV		31.8	ug/m3		1.64	PPMV		29.2	ug/m3		1.64	PPMV		29.2	ug/m3
1,2-Dichloroethylene (trans)		2.14	PPMV		31.8	ug/m3		2.14	PPMV		25	ug/m3		2.14	PPMV		34.9	ug/m3		2.14	PPMV		28	ug/m3		2.14	PPMV		31.8	ug/m3		2.14	PPMV		29.2	ug/m3		2.14	PPMV		29.2	ug/m3
1,2-Dichloropropane in Air		1.41	PPMV		36.9	ug/m3		1.41	PPMV		29	ug/m3		1.41	PPMV		40.5	ug/m3		1.41	PPMV		32.4	ug/m3		1.41	PPMV		36.9	ug/m3		1.41	PPMV		33.9	ug/m3		1.41	PPMV		33.9	ug/m3
1,3 Butadiene					17.7	ug/m3					13.9	ug/m3					19.4	ug/m3					15.5	ug/m3					17.7	ug/m3					16.2	ug/m3					16.2	ug/m3
1,3,5-Trimethylbenzene				1390	39.2	ug/m3				997	30.8	ug/m3				1050	43	ug/m3				1230	34.5	ug/m3				1360	39.2	ug/m3				1330	36	ug/m3				394	36	ug/m3
2-Butanone		8.19	PPMV		23.5	ug/m3		8.19	PPMV		18.5	ug/m3		8.19	PPMV		25.9	ug/m3		8.19	PPMV	61.3	20.7	ug/m3		8.19	PPMV		23.5	ug/m3		8.19	PPMV		21.6	ug/m3		8.19	PPMV		21.6	ug/m3
2-Hexanone					32.6	ug/m3					25.6	ug/m3					35.8	ug/m3					28.7	ug/m3					32.6	ug/m3					29.9	ug/m3					29.9	ug/m3
2-Propanol					19.6	ug/m3					15.4	ug/m3					21.5	ug/m3					17.3	ug/m3					19.6	ug/m3					18	ug/m3					18	ug/m3
4-Ethyltoluene				2200	39.2	ug/m3				1300	30.9	ug/m3				976	43.1	ug/m3				1720	34.5	ug/m3				1770	39.2	ug/m3				2010	36	ug/m3				446	36	ug/m3
4-Methyl-2-pentanone (MIBK)					32.6	ug/m3					25.6	ug/m3					35.8	ug/m3					28.7	ug/m3					32.6	ug/m3					29.9	ug/m3					29.9	ug/m3
Acetone		45.5	PPMV		18.8	ug/m3		45.5	PPMV		14.8	ug/m3		45.5	PPMV		20.7	ug/m3		45.5	PPMV		16.6	ug/m3		45.5	PPMV		18.8	ug/m3		45.5	PPMV		17.3	ug/m3		45.5	PPMV		17.3	ug/m3
Benzene in Air		1.57	PPMV	1310	12.8	ug/m3	0.375	1.57	PPMV	1760	10	ug/m3	0.348	1.57	PPMV	1230	14	ug/m3		1.57	PPMV	607	11.2	ug/m3	0.344	1.57	PPMV	1680	12.8	ug/m3		1.57	PPMV	1490	11.7	ug/m3		1.57	PPMV	532	11.7	ug/m3
Benzyl Chloride					41.2	ug/m3					32.4	ug/m3					45.2	ug/m3					36.2	ug/m3					41.2	ug/m3					37.8	ug/m3					37.8	ug/m3
Bromodichloromethane in Air		0.97	PPMV		53.4	ug/m3		0.97	PPMV		42	ug/m3		0.97	PPMV		58.6	ug/m3		0.97	PPMV		46.9	ug/m3		0.97	PPMV		53.4	ug/m3		0.97	PPMV		49	ug/m3		0.97	PPMV		49	ug/m3
Bromomethane in Air		4.25	PPMV		31	ug/m3		4.25	PPMV		24.4	ug/m3		4.25	PPMV		34	ug/m3		4.25	PPMV		27.3	ug/m3		4.25	PPMV		31	ug/m3		4.25	PPMV		28.5	ug/m3		4.25	PPMV		28.5	ug/m3
Carbon Disulfide		5.35	PPMV	147	24.7	ug/m3		5.35	PPMV	678	19.4	ug/m3		5.35	PPMV	29.1	27.1	ug/m3		5.35	PPMV	37.6	21.7	ug/m3		5.35	PPMV	369	24.7	ug/m3		5.35	PPMV	52.9	22.7	ug/m3		5.35	PPMV		22.7	ug/m3
Carbon Tetrachloride in Air		0.795	PPMV		25.1	ug/m3		0.795	PPMV		19.8	ug/m3		0.795	PPMV		27.6	ug/m3		0.795	PPMV		22.1	ug/m3		0.795	PPMV		25.1	ug/m3		0.795	PPMV		23.1	ug/m3		0.795	PPMV		23.1	ug/m3
Chlorobenzene in Air		1.09	PPMV	2020	36.9	ug/m3		1.09	PPMV	2410	29	ug/m3		1.09	PPMV	1200	40.5	ug/m3		1.09	PPMV	1900	32.4	ug/m3		1.09	PPMV	1100	36.9	ug/m3		1.09	PPMV	2010	33.9	ug/m3		1.09	PPMV	536	33.9	ug/m3
Chloroethane in Air		4.36	PPMV	170	21.2	ug/m3		4.36	PPMV	1240	16.7	ug/m3		4.36	PPMV	124	23.3	ug/m3		4.36	PPMV		18.6	ug/m3		4.36	PPMV	316	21.2	ug/m3		4.36	PPMV	142	19.5	ug/m3		4.36	PPMV		19.5	ug/m3
Chloroform in Air		1.02	PPMV		38.8	ug/m3		1.02	PPMV		30.6	ug/m3		1.02	PPMV		42.7	ug/m3		1.02	PPMV		34.2	ug/m3		1.02	PPMV		38.8	ug/m3		1.02	PPMV		35.7	ug/m3		1.02	PPMV		35.7	ug/m3
Chloromethane in Air		3.15	PPMV		16.5	ug/m3		3.15	PPMV		13	ug/m3		3.15	PPMV		18.1	ug/m3		3.15	PPMV		14.5	ug/m3		3.15	PPMV		16.5	ug/m3		3.15	PPMV		15.1	ug/m3		3.15	PPMV		15.1	ug/m3
cis-1,3-Dichloropropene in Air		1.1	PPMV		36.1	ug/m3		1.1	PPMV		28.4	ug/m3		1.1	PPMV		39.6	ug/m3		1.1	PPMV		31.8	ug/m3		1.1	PPMV		36.1	ug/m3		1.1	PPMV		33.1	ug/m3		1.1	PPMV		33.1	ug/m3
Cyclohexane				7560	549	ug/m3				11100	432	ug/m3				8810	603	ug/m3				7180	483	ug/m3				12500	549	ug/m3				5650	504	ug/m3				1330	25.2	ug/m3
Dibromochloromethane in Air		1.59	PPMV		67.9	ug/m3		1.59	PPMV		53.4	ug/m3		1.59	PPMV		74.5	ug/m3		1.59	PPMV		59.7	ug/m3		1.59	PPMV		67.9	ug/m3		1.59	PPMV		62.3	ug/m3		1.59	PPMV		62.3	ug/m3
Dibromomethane in Air		1.59	PPMV					1.59	PPMV					1.59	PPMV					1.59	PPMV					1.59	PPMV					1.59	PPMV					1.59	PPMV			
Dichlorodifluoromethane in Air	0.402	1.01	PPMV	806	39.6	ug/m3	1.92	1.01	PPMV	5460	624	ug/m3	0.306	1.01	PPMV	958	43.5	ug/m3		1.01	PPMV	542	34.9	ug/m3	0.353	1.01	PPMV	1050	39.6	ug/m3	0.44	1.01	PPMV	746	36.4	ug/m3		1.01	PPMV	487	36.4	ug/m3
Dichloromethane in Air		1.87	PPMV		27.9	ug/m3		1.87	PPMV		21.9	ug/m3		1.87	PPMV		30.6	ug/m3		1.87	PPMV	498	24.5	ug/m3		1.87	PPMV		27.9	ug/m3		1.87	PPMV		25.6	ug/m3		1.87	PPMV		25.6	ug/m3
Dichlorotetrafluoroethane				1400	55.7	ug/m3				4500	877	ug/m3				1570	61.2	ug/m3				503	49	ug/m3				1070	55.7	ug/m3				1400	51.1	ug/m3				601	51.1	ug/m3
Ethanol					14.9	ug/m3					11.7	ug/m3					16.4	ug/m3					13.1	ug/m3					14.9	ug/m3					13.7	ug/m3					13.7	ug/m3
Ethyl acetate					28.6	ug/m3					22.5	ug/m3					31.5	ug/m3					25.2	ug/m3					28.6	ug/m3					26.3	ug/m3					26.3	ug/m3
Ethylbenzene in Air	1.53	1.15	PPMV	18700	691	ug/m3	0.575	1.15	PPMV	3100	27.2	ug/m3	1.31	1.15	PPMV	3250	37.9	ug/m3	0.237	1.15	PPMV	4560	30.4	ug/m3	2.11	1.15	PPMV	16100	691	ug/m3	1.91	1.15	PPMV	27300	634	ug/m3	2.14	1.15	PPMV	39900	634	ug/m3
Fluorotrichloromethane in Air		0.89	PPMV	116	44.7	ug/m3		0.89	PPMV	2950	35.2	ug/m3		0.89	PPMV		49.1	ug/m3		0.89	PPMV	1330	39.4	ug/m3		0.89	PPMV		44.7	ug/m3		0.89	PPMV		41.1	ug/m3		0.89	PPMV		41.1	ug/m3
Hexachloro-1,3-butadiene					86.3	ug/m3					67.9	ug/m3					94.8	ug/m3					75.9	ug/m3					86.3	ug/m3					79.2	ug/m3					79.2	ug/m3
m&p-Xylene in Air	2.19	1.77	PPMV	39400	1380	ug/m3	1.08	1.77	PPMV	20000	1090	ug/m3	0.956	1.77	PPMV	6550	75.8	ug/m3	0.439	1.77	PPMV	24800	1220	ug/m3	2.12	1.77	PPMV	29700	1380	ug/m3	1.85	1.77	PPMV	31200	1270	ug/m3	1.4	1.77	PPMV	5490	63.4	ug/m3
m-Dichlorobenzene in Air		0.832	PPMV		47.9	ug/m3		0.832	PPMV		37.7	ug/m3		0.832	PPMV		52.6	ug/m3		0.832	PPMV		42.1	ug/m3		0.832	PPMV		47.9	ug/m3		0.832	PPMV		43.9	ug/m3		0.832	PPMV		43.9	ug/m3
Methyl Tert-Butyl Ether (MTBE) in Air		2.77	PPMV		28.6	ug/m3		2.77	PPMV		22.5	ug/m3		2.77	PPMV		31.5	ug/m3		2.77	PPMV		25.2	ug/m3		2.77	PPMV		28.6	ug/m3		2.77	PPMV		26.3	ug/m3		2.77	PPMV		26.3	ug/m3
Naphthalene in Air		3.15	PPMV		42	ug/m3		3.15	PPMV		33	ug/m3		3.15	PPMV		46.1	ug/m3		3.15	PPMV		36.9	ug/m3		3.15	PPMV		42	ug/m3		3.15	PPMV		38.5	ug/m3		3.15	PPMV	75.4	38.5	ug/m3
n-Heptane				16300	651	ug/m3				26200	513	ug/m3				19400	715	ug/m3				21100	573	ug/m3				18300	651	ug/m3				13100	598	ug/m3				2150	29.9	ug/m3
n-Hexane				15000	565	ug/m3				16700	445	ug/m3				8280	621	ug/m3				7530	497	ug/m3				42100	565	ug/m3				22700	519	ug/m3				3440	25.9	ug/m3
o-Dichlorobenzene in Air		2.25	PPMV		47.9	ug/m3		2.25	PPMV		37.7	ug/m3		2.25	PPMV		52.6	ug/m3		2.25	PPMV		42.1	ug/m3		2.25	PPMV		47.9	ug/m3		2.25	PPMV		43.9	ug/m3		2.25	PPMV		43.9	ug/m3
o-Xylene in Air	0.297	1.15	PPMV	3810	34.5	ug/m3		1.15	PPMV	1210	27.2	ug/m3		1.15	PPMV	658	37.9	ug/m3		1.15	PPMV	974	30.4	ug/m3	0.311	1.15	PPMV	3930	34.5	ug/m3	0.334	1.15	PPMV	4490	31.7	ug/m3		1.15	PPMV	384	31.7	ug/m3
p-Dichlorobenzene in Air		2.25	PPMV	381	47.9	ug/m3		2.25	PPMV	403	37.7	ug/m3		2.25	PPMV	373	52.6	ug/m3		2.25	PPMV	235	42.1	ug/m3		2.25	PPMV	235	47.9	ug/m3		2.25	PPMV		43.9	ug/m3		2.25	PPMV	93.9	43.9	ug/m3
Propylene				6630	275	ug/m3				5480	216	ug/m3				1720	15.1	ug/m3					12.1	ug/m3				23300	275	ug/m3					12.6	ug/m3					12.6	ug/m3
Styrene in Air		1.17	PPMV		34.1	ug/m3		1.17	PPMV		26.9	ug/m3		1.17	PPMV		37.5	ug/m3		1.17	PPMV		30	ug/m3		1.17	PPMV		34.1	ug/m3		1.17	PPMV		31.3	ug/m3		1.17	PPMV		31.3	ug/m3
Tetrachloroethylene in Air		0.737	PPMV		27	ug/m3		0.737	PPMV		21.3	ug/m3		0.737	PPMV		29.7	ug/m3		0.737	PPMV		23.8	ug/m3		0.737	PPMV		27	ug/m3		0.737	PPMV		24.8	ug/m3		0.737	PPMV		24.8	ug/m3
Tetrahydrofuran		11.4	PPMV		23.5	ug/m3		11.4	PPMV		18.5	ug/m3		11.4	PPMV		25.9	ug/m3		11.4	PPMV		20.7	ug/m3		11.4	PPMV	2280	23.5	ug/m3		11.4	PPMV		21.6	ug/m3		11.4	PPMV		21.6	ug/m3
Toluene in Air		1.72	PPMV	1240	30.2	ug/m3		1.72	PPMV	903	23.8	ug/m3		1.72	PPMV	1570	33.2	ug/m3		1.72	PPMV	215	26.6	ug/m3		1.72	PPMV	972	30.2	ug/m3		1.72	PPMV	418	27.7	ug/m3		1.72	PPMV	102	27.7	ug/m3
trans-1,3-Dichloropropene in Air		1.43	PPMV		36.1	ug/m3		1.43	PPMV		28.4	ug/m3		1.43	PPMV		39.6	ug/m3		1.43	PPMV		31.8	ug/m3		1.43	PPMV		36.1	ug/m3		1.43	PPMV		33.1	ug/m3		1.43	PPMV		33.1	ug/m3
Tribromomethane in Air		0.484	PPMV		82.4	ug/m3		0.484	PPMV		64.8	ug/m3		0.484	PPMV		90.5	ug/m3		0.484	PPMV		72.5	ug/m3		0.484	PPMV		82.4	ug/m3		0.484	PPMV		75.6	ug/m3		0.484	PPMV		75.6	ug/m3
Trichloroethene		1.21	PPMV	47.2	21.6	ug/m3		1.21	PPMV	73.9	17	ug/m3		1.21	PPMV	33.4	23.7	ug/m3		1.21	PPMV		19	ug/m3		1.21	PPMV	73.9	21.6	ug/m3		1.21	PPMV	35.4	19.8	ug/m3		1.21	PPMV		19.8	ug/m3
Vinyl acetate					28.1	ug/m3					22.1	ug/m3					30.9	ug/m3					24.7	ug/m3					28.1	ug/m3					25.8	ug/m3					25.8	ug/m3
Vinyl Chloride in Air		1.96	PPMV		10.2	ug/m3		1.96	PPMV		8	ug/m3		1.96	PPMV		11.2	ug/m3		1.96	PPMV		9	ug/m3		1.96	PPMV		10.2	ug/m3		1.96	PPMV		9.4	ug/m3		1.96	PPMV		9.4	ug/m3
Carbon Dioxide in Air	28	5.01	%	24	2.4	%	38.6	10	%	24.7	1.9	%	27.8	10	%	20.9	3.1	%	26.9	10	%	7.7	2.4	%	32.3	10	%	23.5	2.5	%	27.5	10	%	22.4	3.8	%	30.8	10	%	25	3.1	%
Carbon Monoxide					0.48	%					0.39	%					0.62	%					0.49	%					0.5	%					0.76	%					0.61	%
Methane in Air	26.9	0.05	%	25	4.8	%	46.1	0.1	%	27.2	3.9	%	27.5	0.1	%	15	6.2	%	24.1	0.1	%		4.9	%	42.3	0.1	%	30.2	5	%	24.1	0.1	%	22.5	7.6	%	30	0.1	%	23.5	6.1	%
Nitrogen				49.7	9.5	%				46.9	7.8	%				62.2	12.5	%				91.8	9.8	%				44.7	9.9	%				54.3	15.3	%				51.4	12.2	%
Oxygen in Air	1.27		%		2.4	%			%		1.9	%			%		3.1	%			%		2.4	%			%		2.5	%			%		3.8	%			%		3.1	%

ATTACHMENT A.8.d

MANN KENDALL ANALYSIS AT SELECT WELLS FOR SELECT PARAMETERS
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

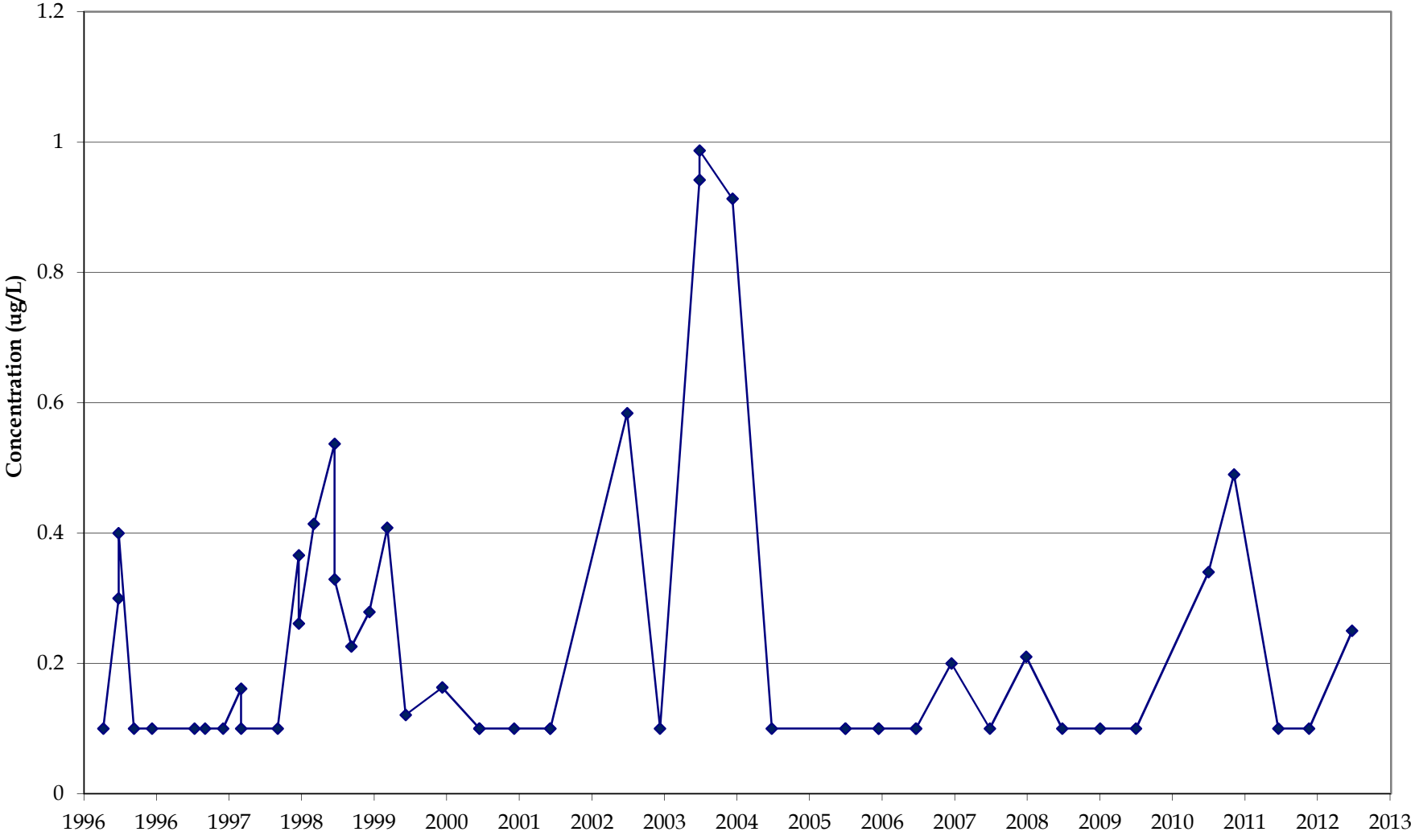
									Mann-Kendall Trend test		
Well	***Unit***	***Analand***	***Most Recent Concentration***	***Number of Sampling Rounds***	***Date Range***	***Data Set*** [1]	***Percent non-detects***	***Method***	***Statistic*** [2]	***Probability*** [3]	***Conclusion***
MW-12B	µg/L	Vinyl Chloride	0.25	18	1996 - 2013	18	44%	Mann-Kendall	-15	0.578	No trend identified
MW-22B	µg/L	Arsenic	15.2	16	1996 -2011	16	0%	Mann-Kendall	20	0.392	No trend identified
MW-24C	µg/L	Benzene	5.1	18	1996 - 2013	18	0%	Mann-Kendall	-37	0.173	No trend identified
MW-24D	µg/L	Vinyl Chloride	1.8	18	1996 - 2013	18	0%	Mann-Kendall	-97	0.000	**Decreasing Trend**
MW-25C	µg/L	Benzene	4.1	8	2006 - 2013	8	0%	Mann-Kendall	-22	0.009	**Decreasing Trend**
MW-25C	µg/L	Vinyl Chloride	0.6	8	2006 - 2013	8	13%	Mann-Kendall	14	0.108	No trend identified
MW-27C	µg/L	Tetrachloroethene	1.4	8	2009 - 2013	8	0%	Mann-Kendall	-27	0.001	**Decreasing Trend**
MW-28C	µg/L	Vinyl Chloride	ND(0.1)	8	2009 - 2013	8	38%	Mann-Kendall	-21	0.011	**Decreasing Trend**

Notes:

(1) - If more than one sample was collected in any given year, the average observation for that year is calculated except for MW-27C (Tetrachloroethene and MW-28C (Vinyl Chloride) where each sample was treated individually
Duplicate samples were averaged.
Non-detect results are treated as half the detection limit
(2) - Calculated as the sum of the signs of all possible pair-wise data comparisons
(3) - Probability of significance: A 95 percent confidence was used for all sets of data

ATTACHMENT A.8.e.1

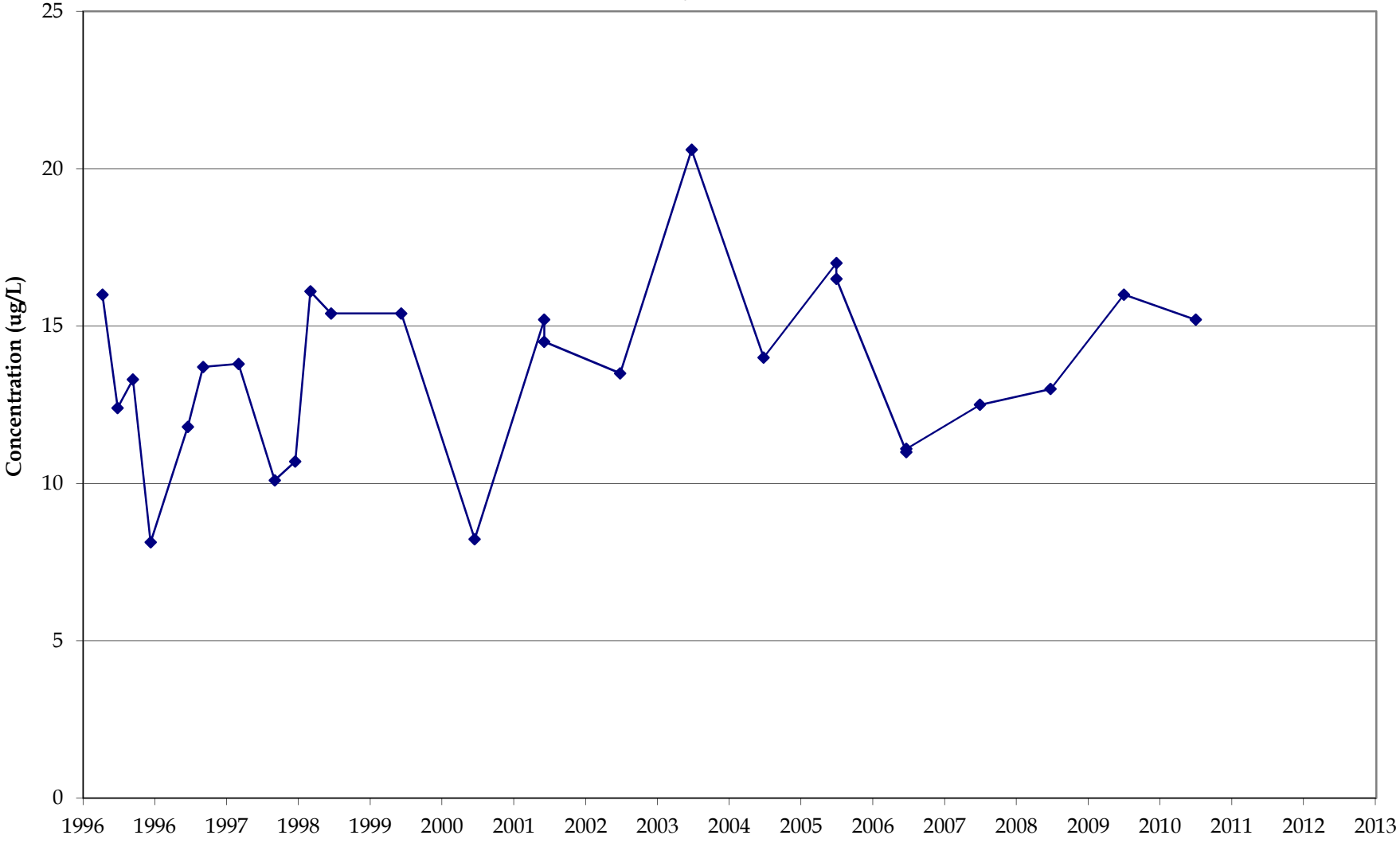
VINYL CHLORIDE CONCENTRATION OVER TIME AT MW-12B
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



Non detects plotted at half of the WDNR
Enforcement Standard for Vinyl Chloride (0.2 ug/L)

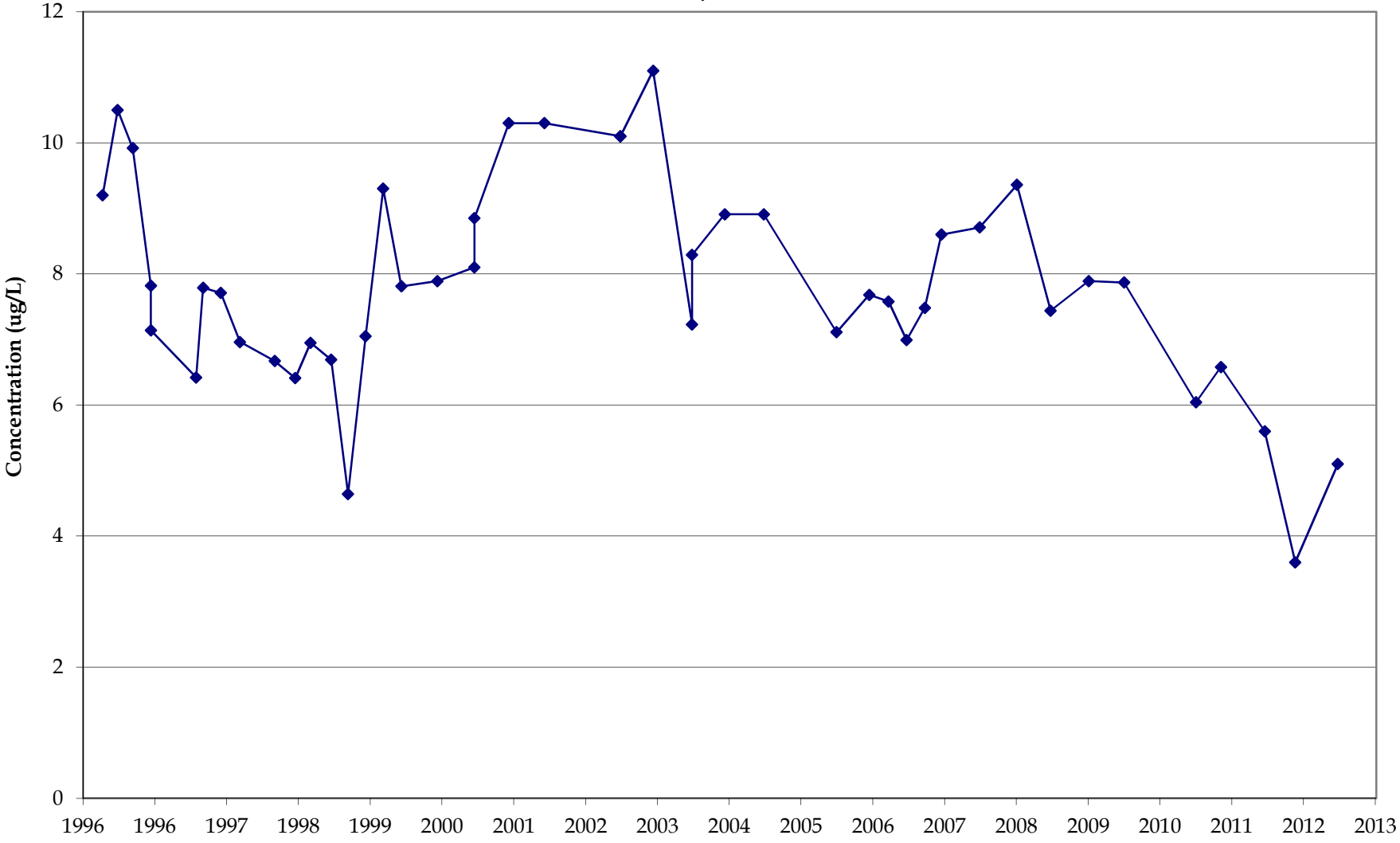
ATTACHMENT A.8.e.2

ARSENIC CONCENTRATION OVER TIME AT MW-22B
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



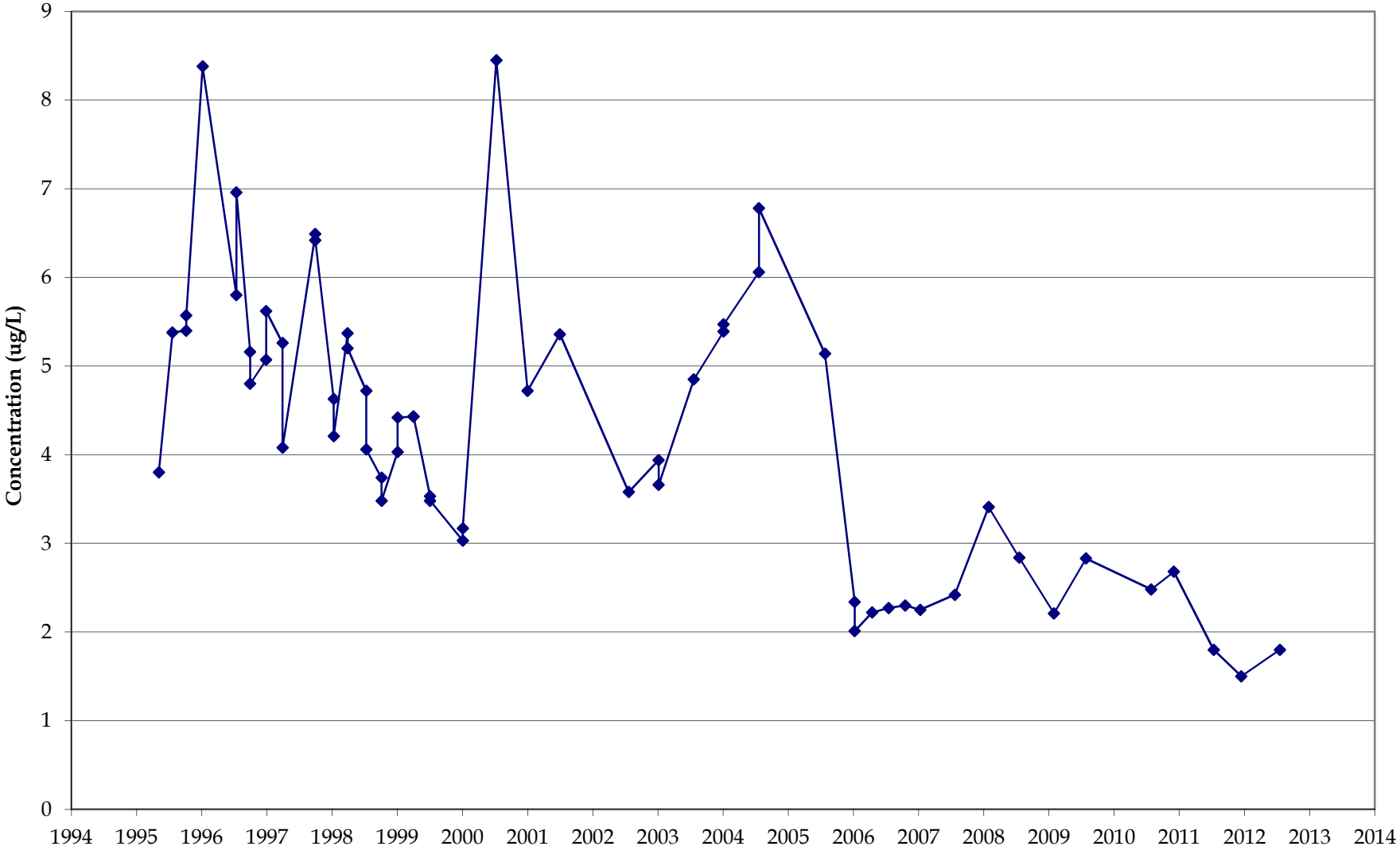
ATTACHMENT A.8.e.3

BENZENE CONCENTRATION OVER TIME AT MW-24C
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



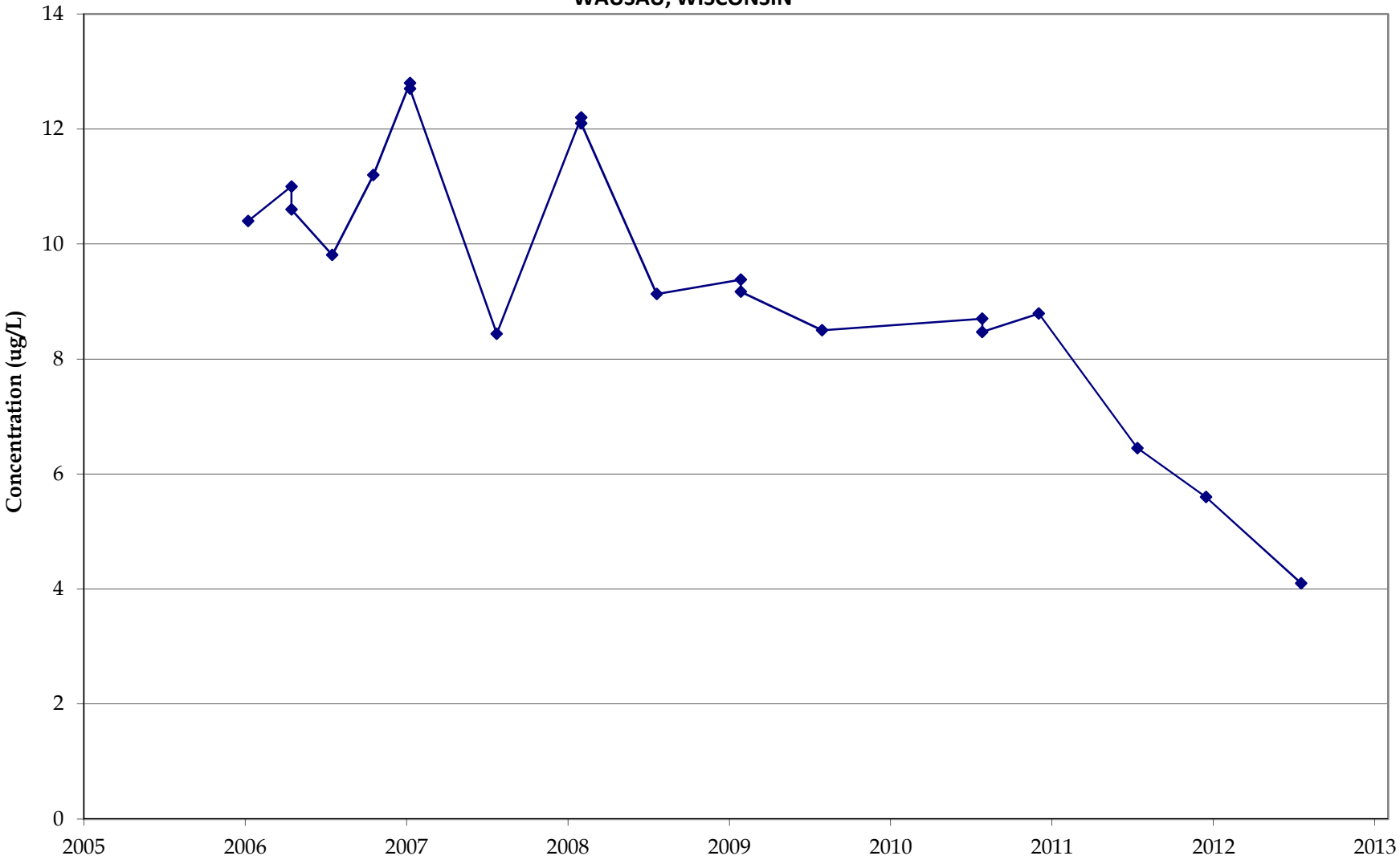
ATTACHMENT A.8.e.4

VINYL CHLORIDE CONCENTRATION OVER TIME AT MW-24D
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



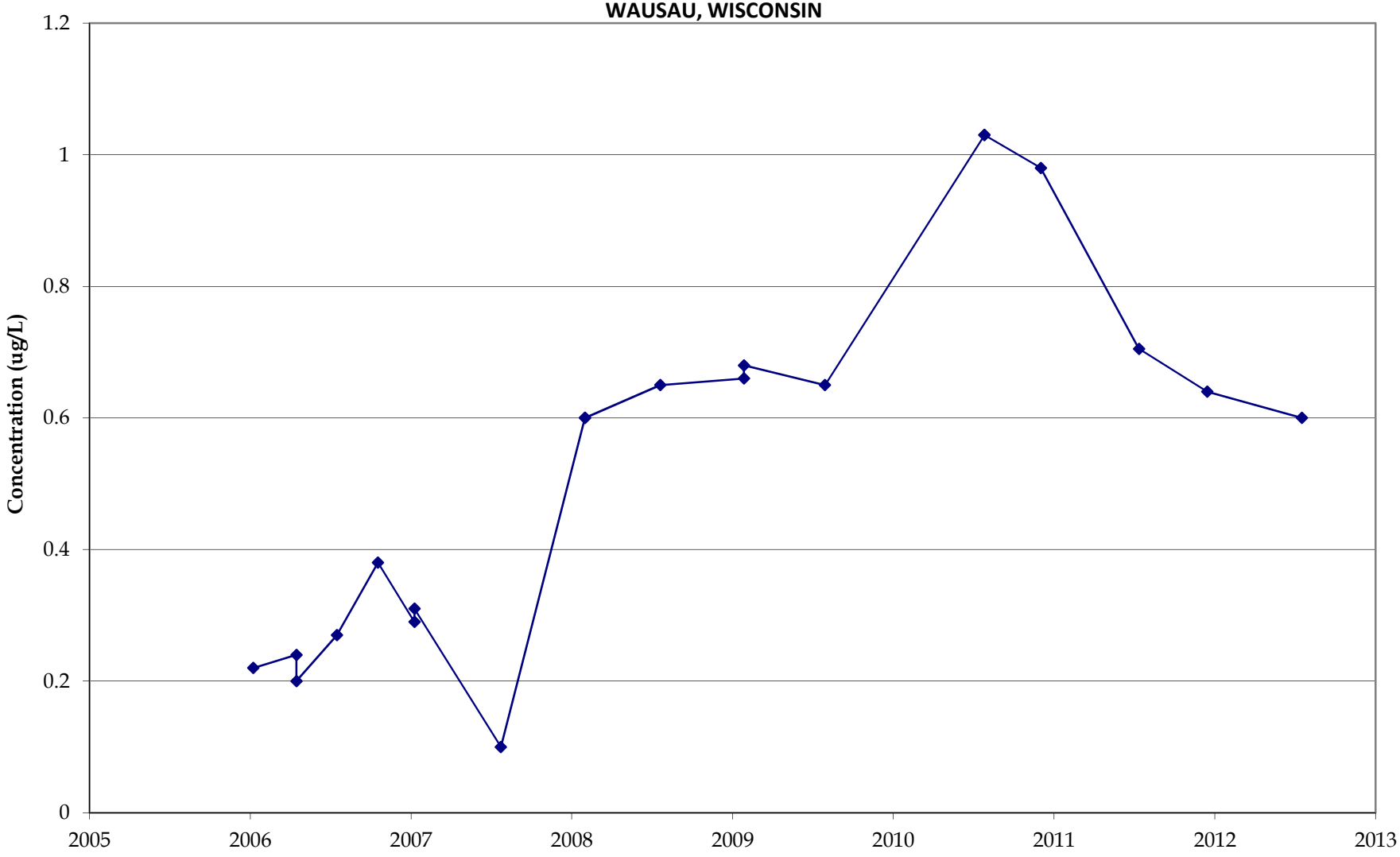
ATTACHMENT A.8.e.5

BENZENE CONCENTRATION OVER TIME AT MW-25C
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



ATTACHMENT A.8.e.6

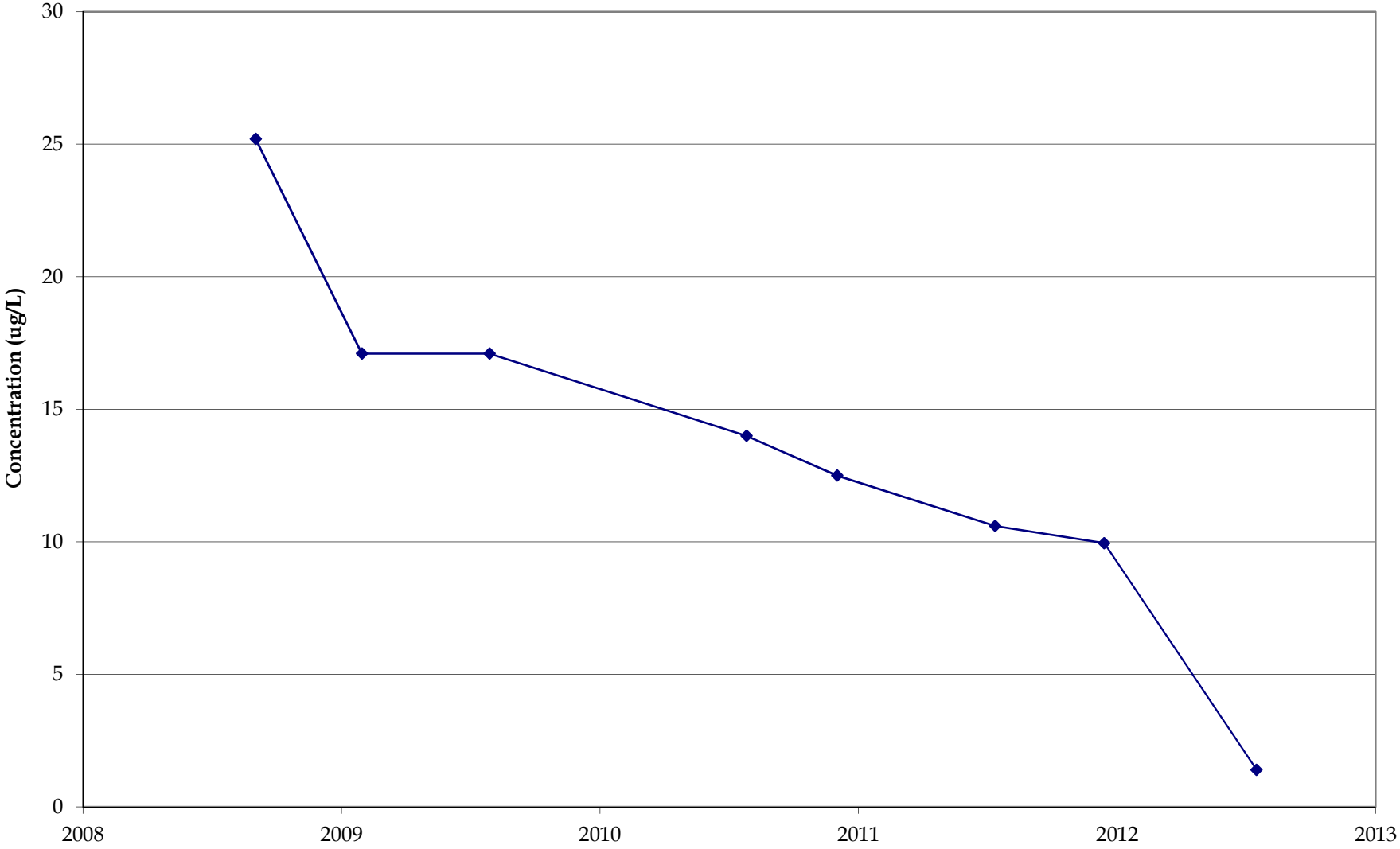
VINYL CHLORIDE CONCENTRATION OVER TIME AT MW-25C
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



Non detects plotted at half of the WDNR
Enforcement Standard for Vinyl Chloride (0.2 ug/L)

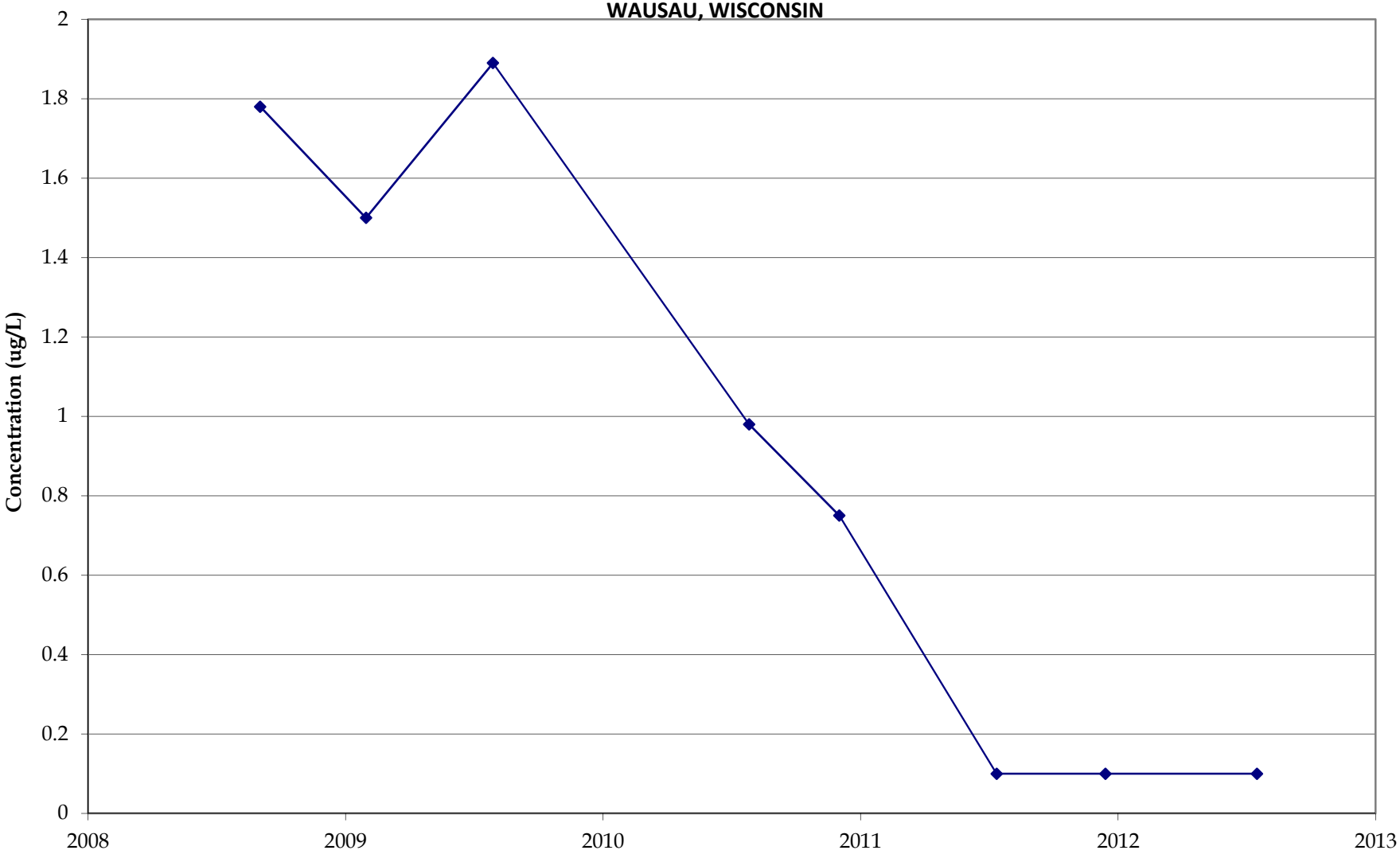
ATTACHMENT A.8.e.7

TETRACHLOROETHENE CONCENTRATION OVER TIME AT MW-27C
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

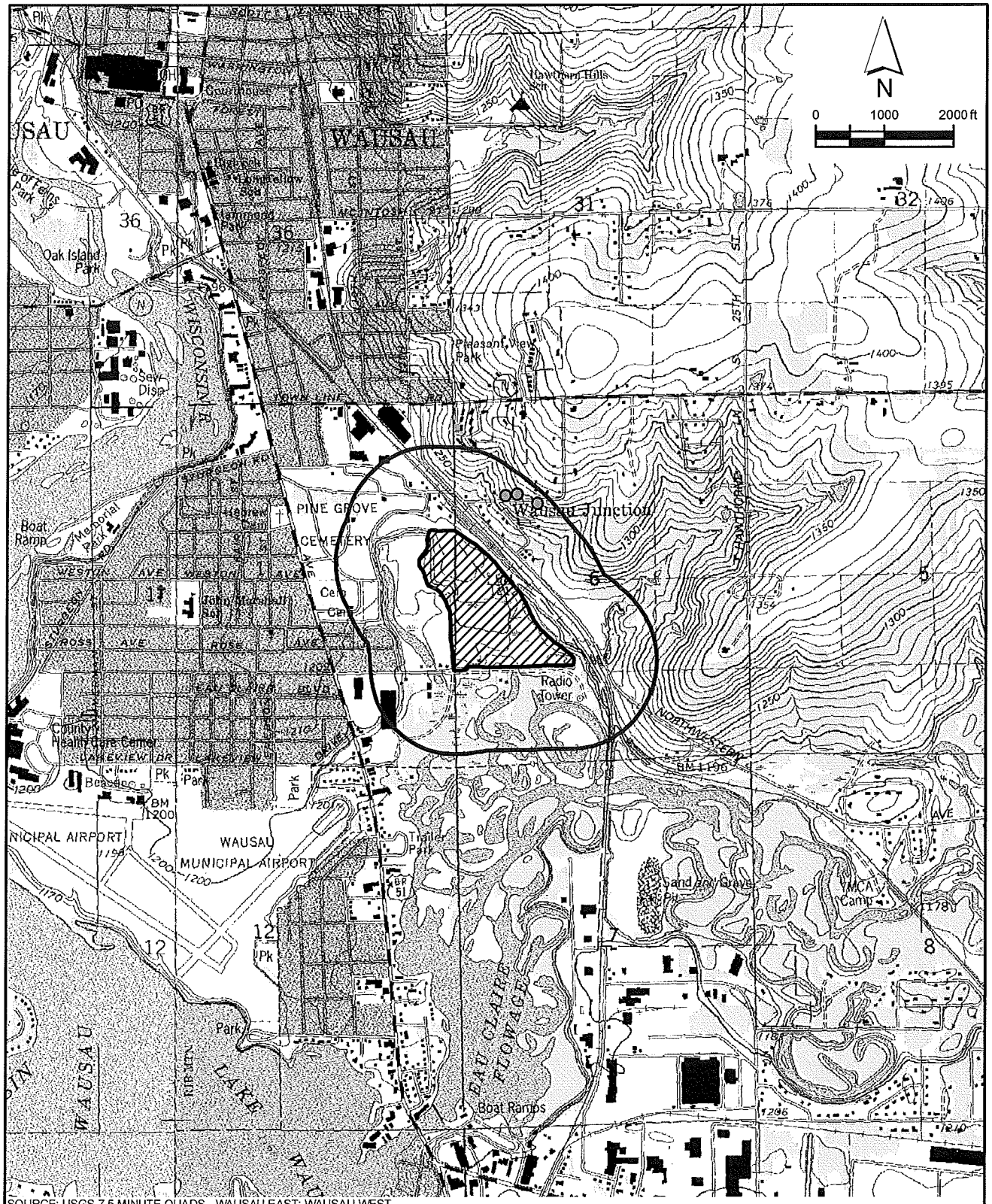


ATTACHMENT A.8.e.8

VINYL CHLORIDE CONCENTRATION OVER TIME AT MW-28C
HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN



Non detects plotted at half of the WDNR
Enforcement Standard for Vinyl Chloride (0.2 ug/L)



SOURCE: USGS 7.5 MINUTE QUADS - WAUSAU EAST; WAUSAU WEST

LEGEND

- POTABLE WELL WITHIN 1200 FEET
- 1200-FOOT RADIUS FROM SITE
- SITE BOUNDARY

CRA

figure B.1.A

LOCATION MAP

HOLTZ KRAUSE LANDFILL

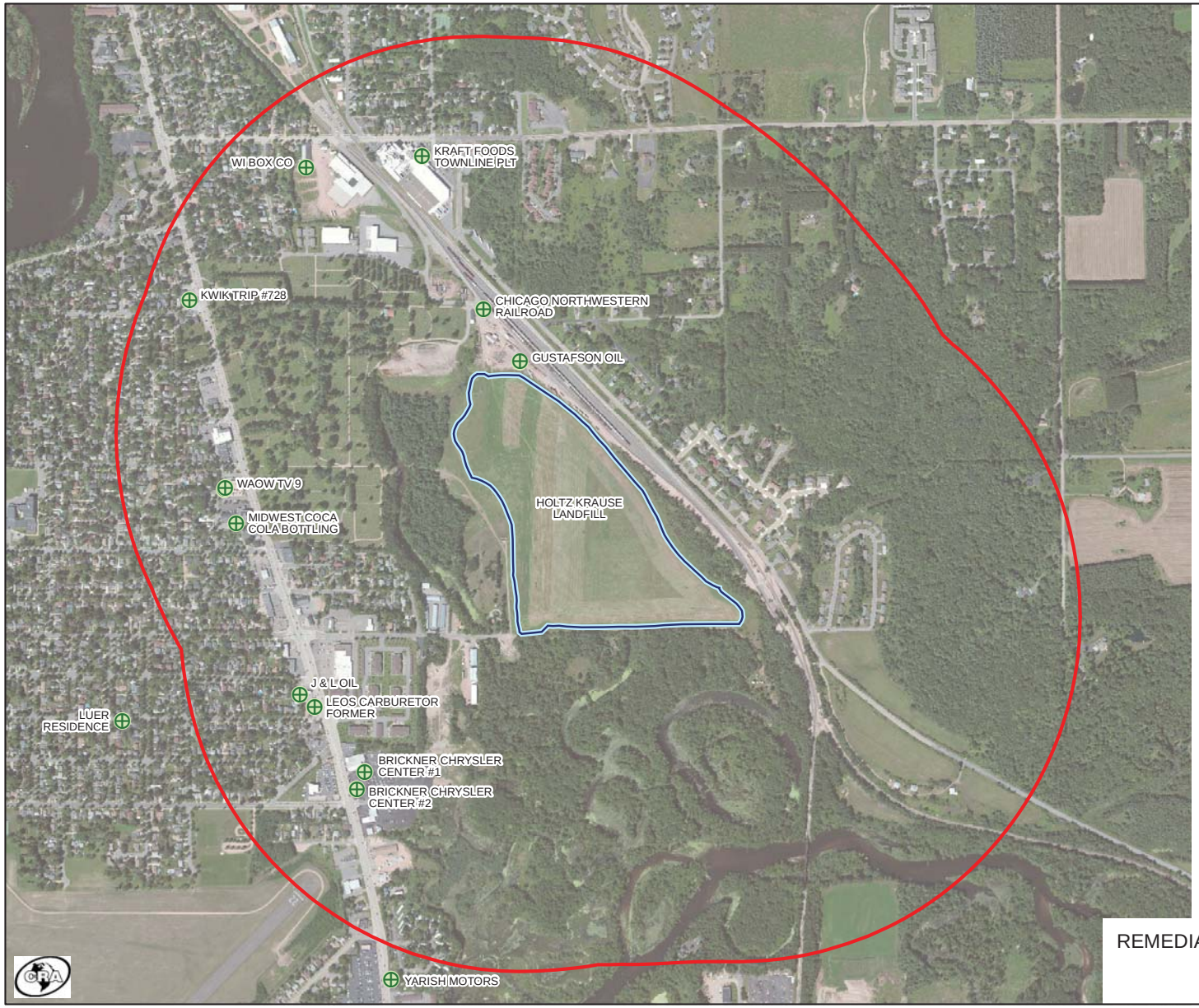
Wausau, Wisconsin

074702-60(018)GIS-SP001 SEP 27/2013

074702-60(018)GIS-SP014 OCT 29/2013

figure B.1.B

DETAILED SITE MAP
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin



N

0 400 800 ft

LEGEND

- CLOSED SITE LOCATION (COMPLETED CLEANUP)
- OPEN SITE BOUNDARY (ONGOING CLEANUP)
- HALF-MILE RADIUS FROM HOLTZ KRAUSE LANDFILL

figure B.1.C

REMEDIATION & REDEVELOPMENT SITES
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP015 OCT 03/2013

B.2.a,b,c.

Soil figures are not presented because the RI did not identify soil contamination outside the landfill boundary. Also, the landfill cap remedy involved the import of 5 feet (or more) of clean fill over the landfill.

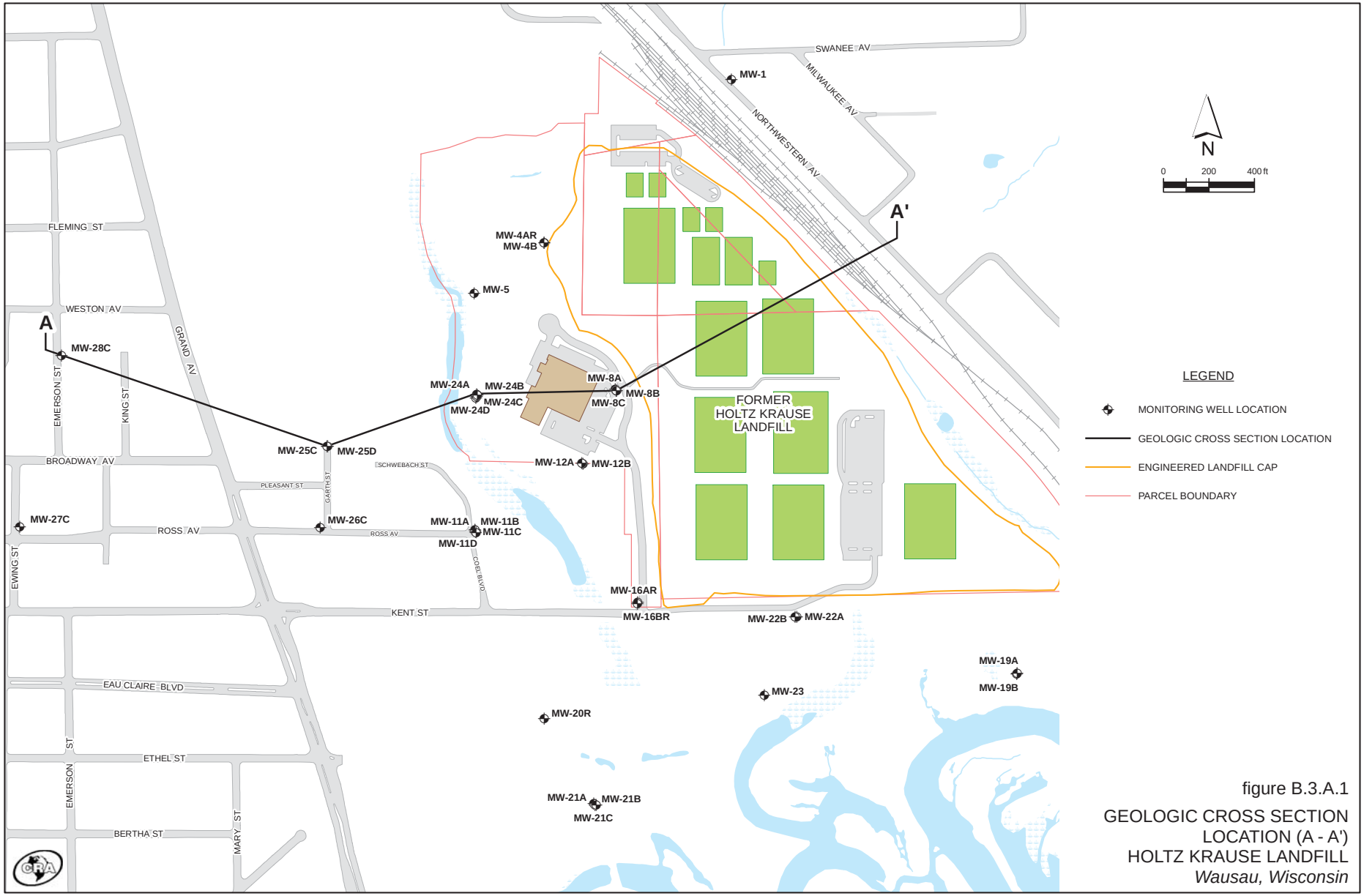
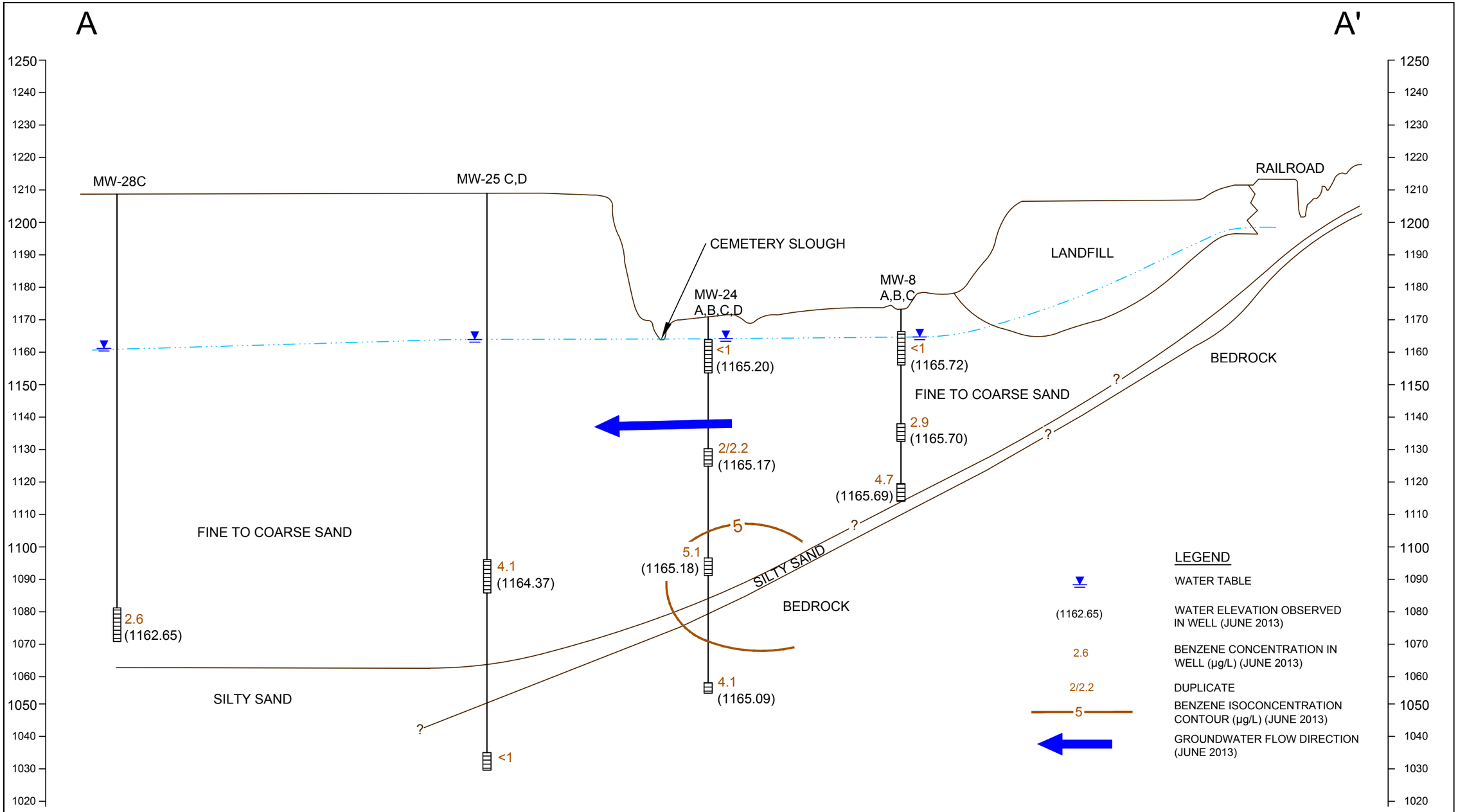


figure B.3.A.1

GEOLOGIC CROSS SECTION LOCATION (A - A')
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP012 OCT 29/2013



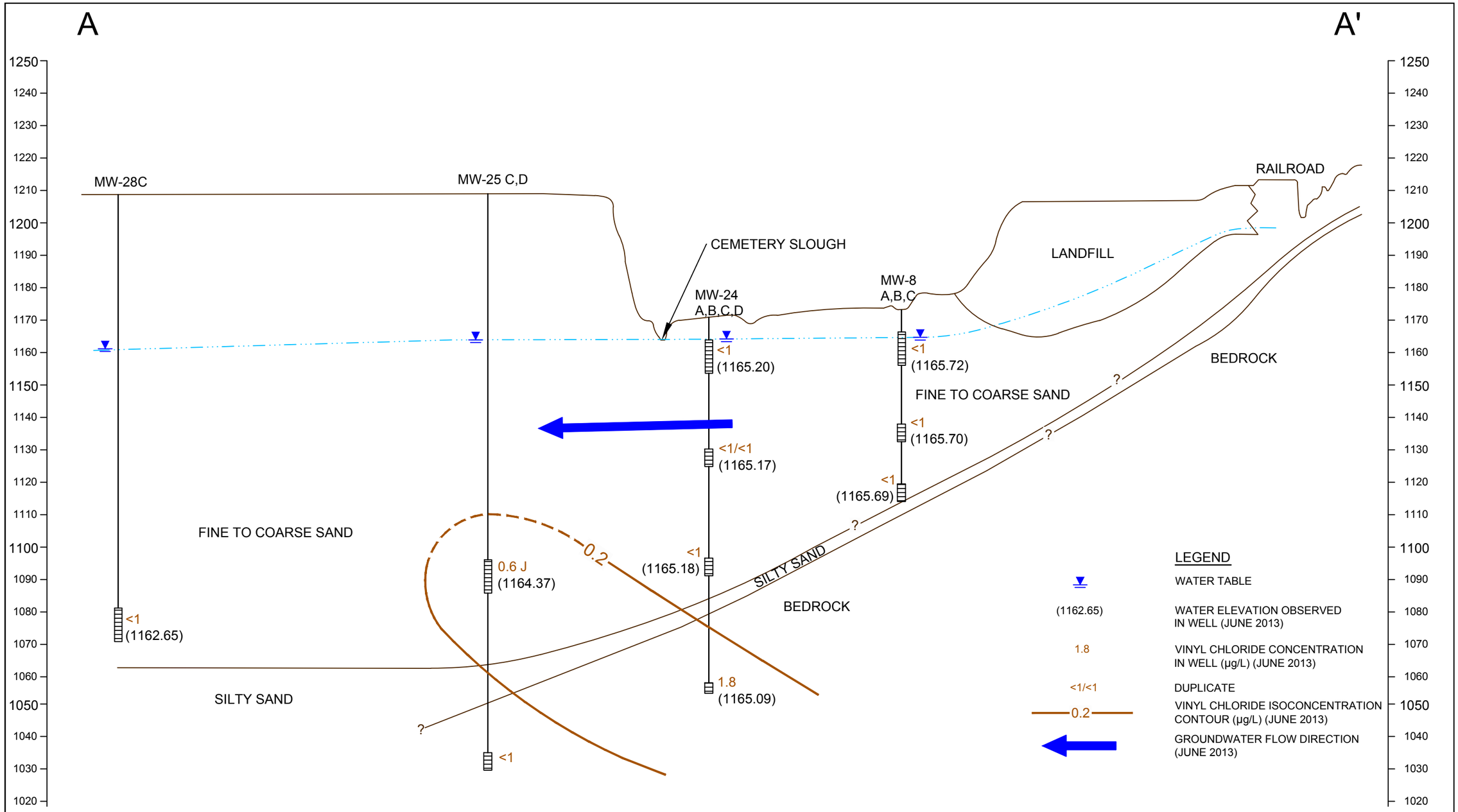
GEOLOGIC CROSS-SECTION A-A'
HORIZONTAL SALE: 1=300
VERTICAL SCALE: 1=30

figure B.3.A.2

BENZENE CONCENTRATIONS IN GROUNDWATER
WITHIN GEOLOGICAL CROSS-SECTION A-A' (JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

BASE FOR CROSS SECTION: AECOM, PRJ.60139813, FIG. 10, 4/6/2010.

074702-60(018)GN-SC001 OCT 28/2013



GEOLOGIC CROSS-SECTION A-A'
HORIZONTAL SALE: 1=300
VERTICAL SCALE: 1=30

figure B.3.A.3

VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER WITHIN GEOLOGICAL CROSS-SECTION A-A' (JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

BASE FOR CROSS SECTION: AECOM, PRJ.60139813, FIG. 10, 4/6/2010.

074702-60(018)GN-SC002 OCT 28/2013

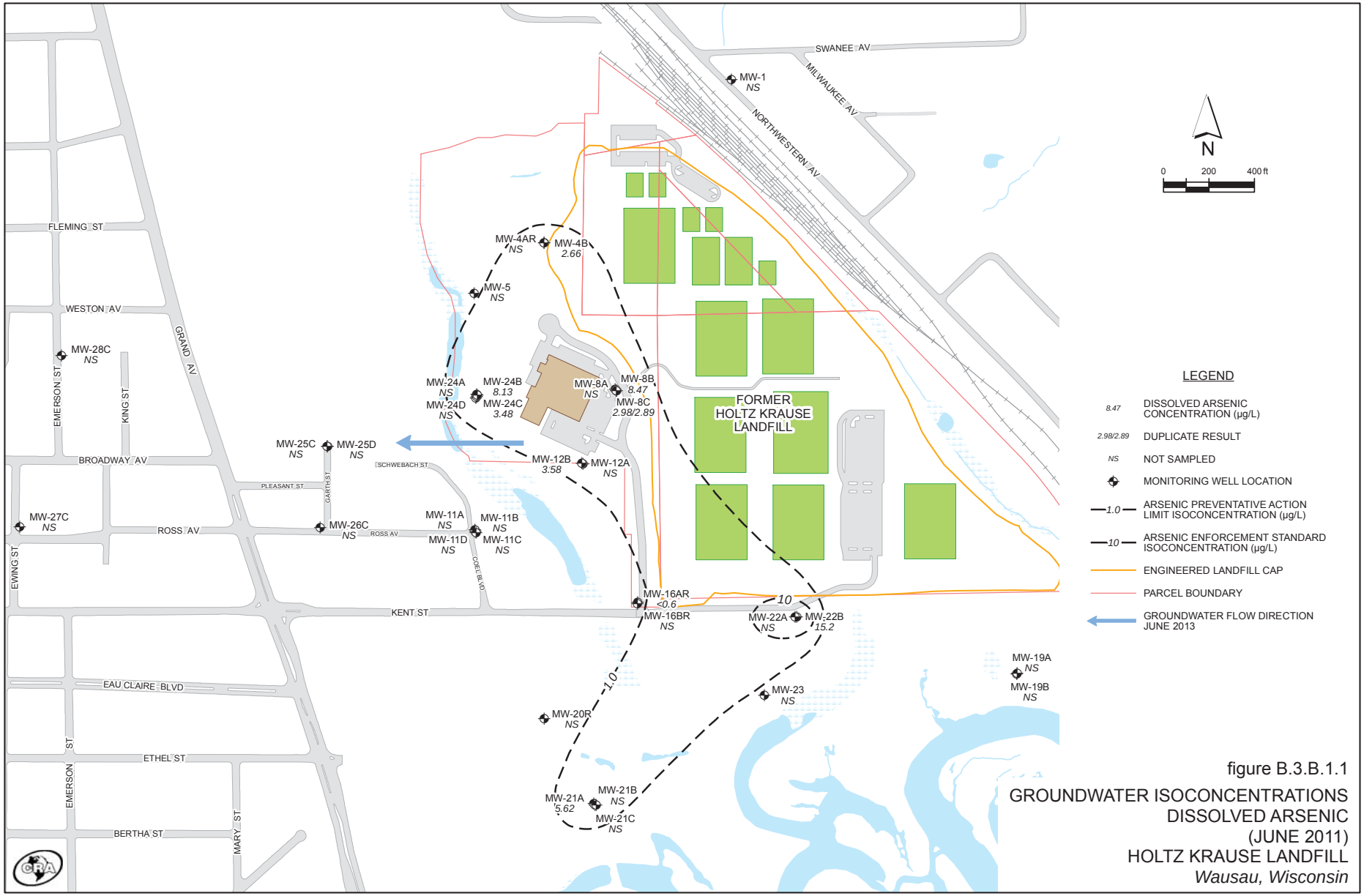


figure B.3.B.1.1

GROUNDWATER ISOCONCENTRATIONS
DISSOLVED ARSENIC
(JUNE 2011)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP003 OCT 29/2013

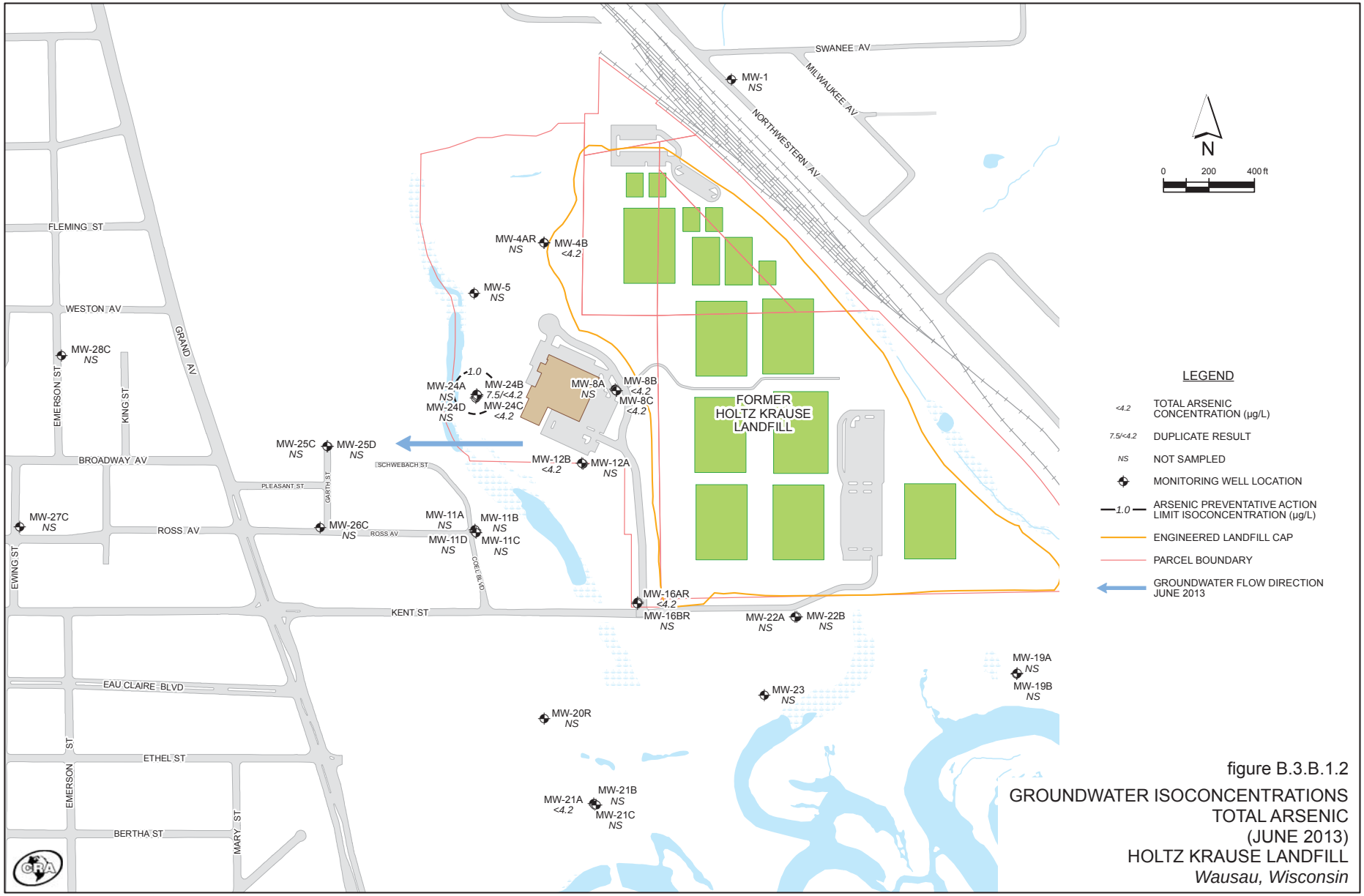


figure B.3.B.1.2

GROUNDWATER ISOCONCENTRATIONS
TOTAL ARSENIC
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP004 OCT 29/2013

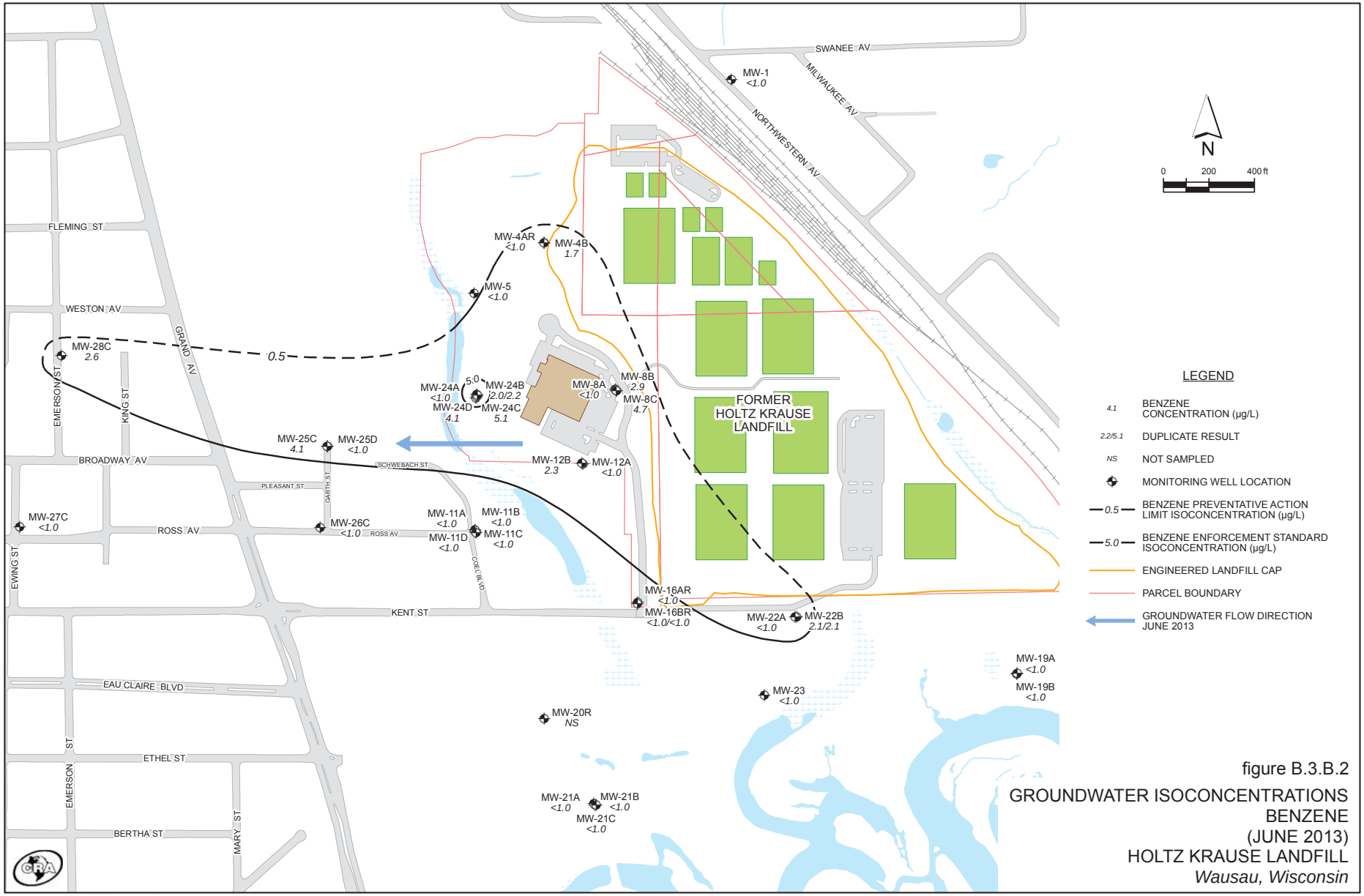


figure B.3.B.2

GROUNDWATER ISOCONCENTRATIONS
BENZENE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP005 OCT 30/2013

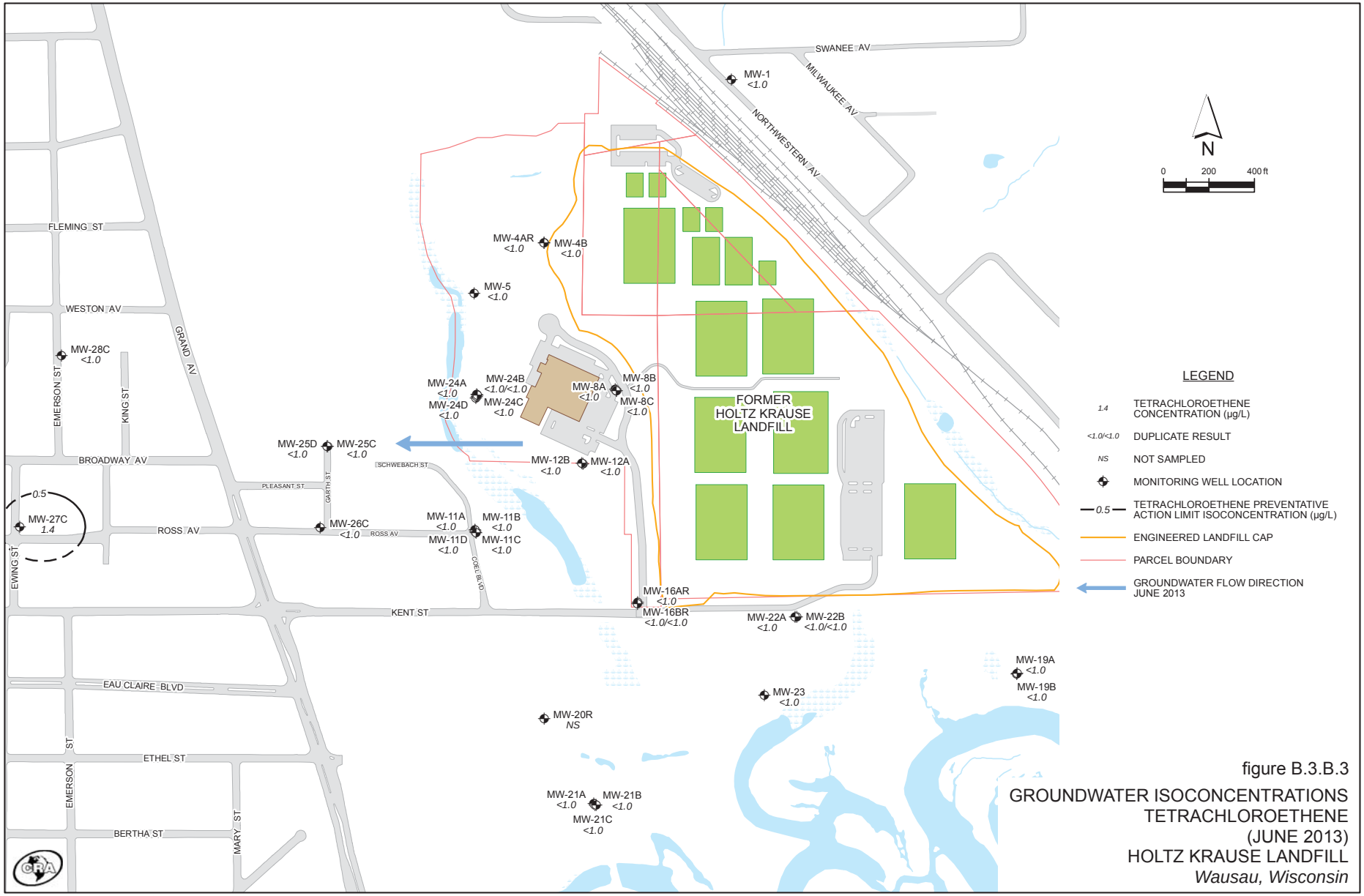


figure B.3.B.3

GROUNDWATER ISOCONCENTRATIONS
TETRACHLOROETHENE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP006 OCT 29/2013

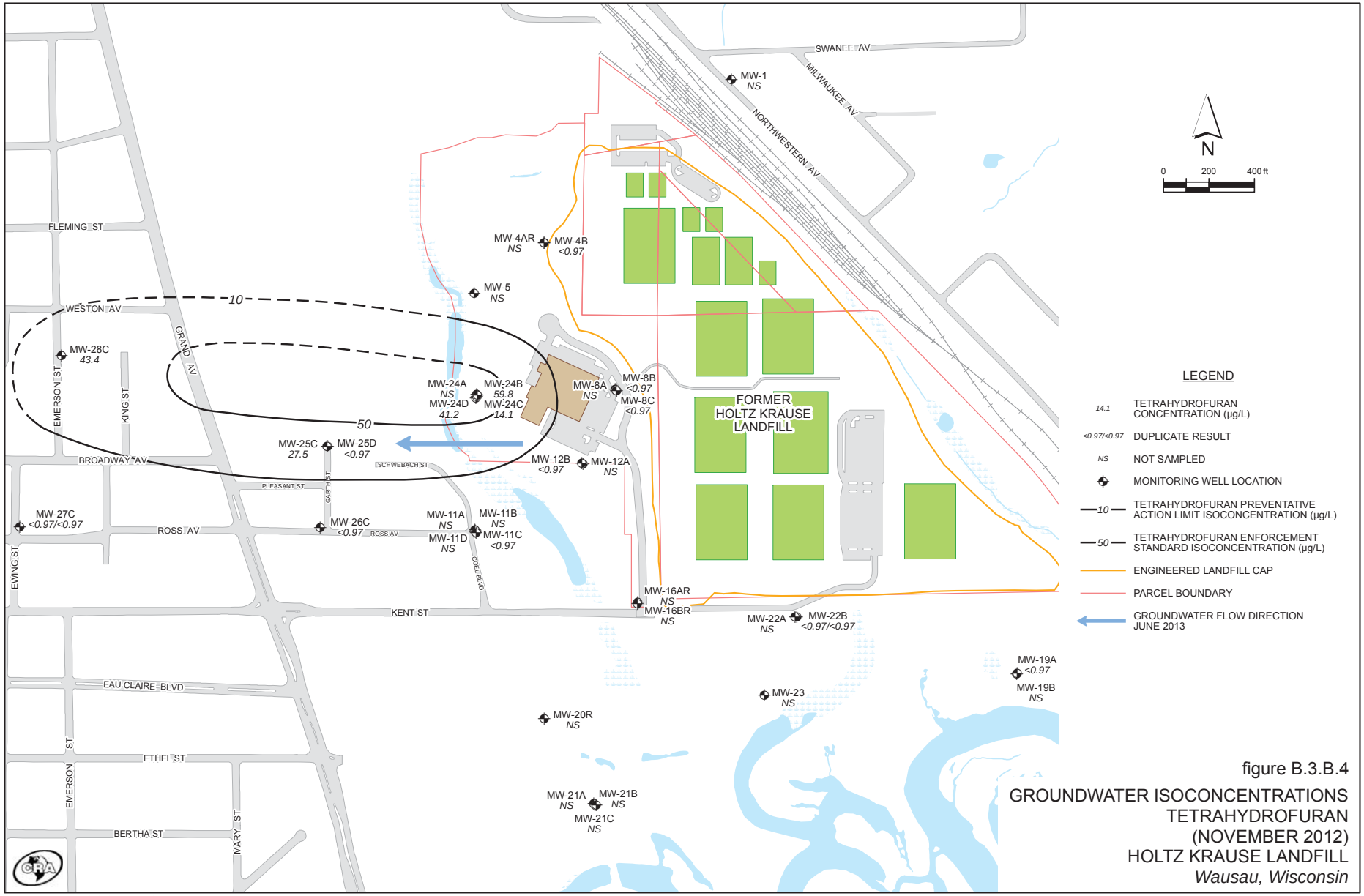


figure B.3.B.4

GROUNDWATER ISOCONCENTRATIONS
TETRAHYDROFURAN
(NOVEMBER 2012)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP007 OCT 29/2013

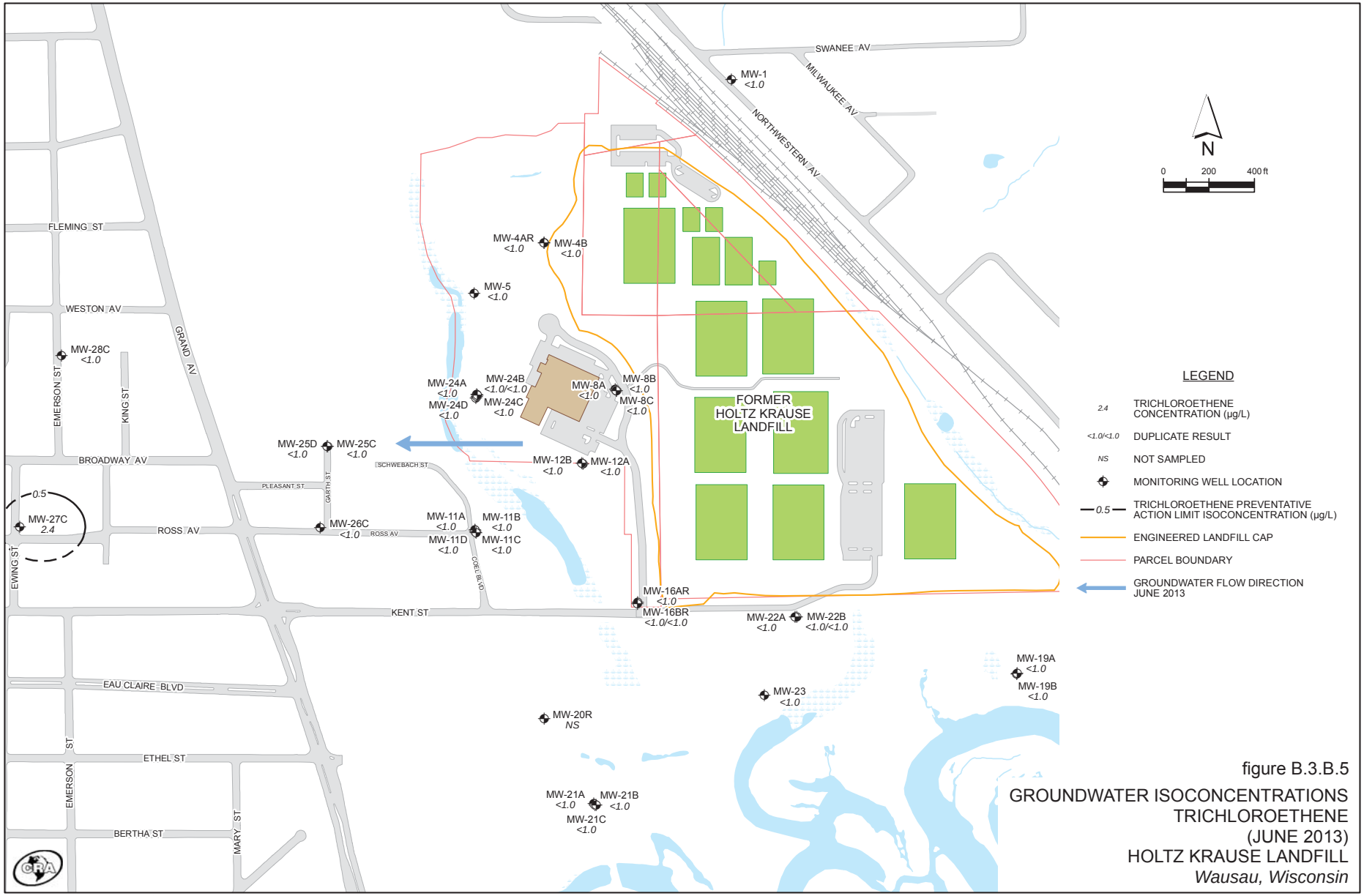


figure B.3.B.5

GROUNDWATER ISOCONCENTRATIONS
TRICHLOROETHENE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP008 OCT 29/2013

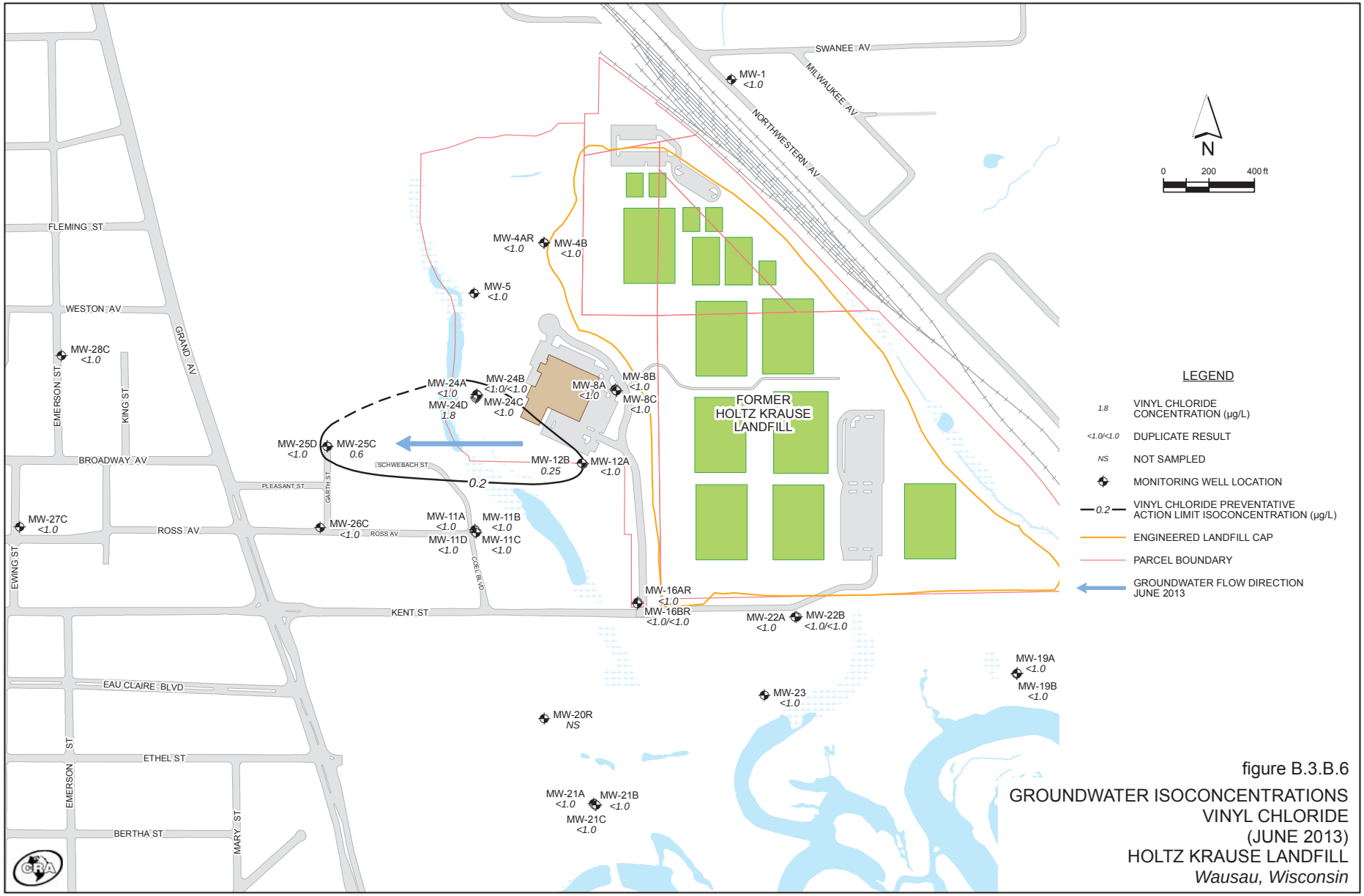


figure B.3.B.6

GROUNDWATER ISOCONCENTRATIONS
VINYL CHLORIDE
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP009 OCT 29/2013

figure B.3.C.1

SHALLOW GROUNDWATER ELEVATIONS
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP010 OCT 29/2013

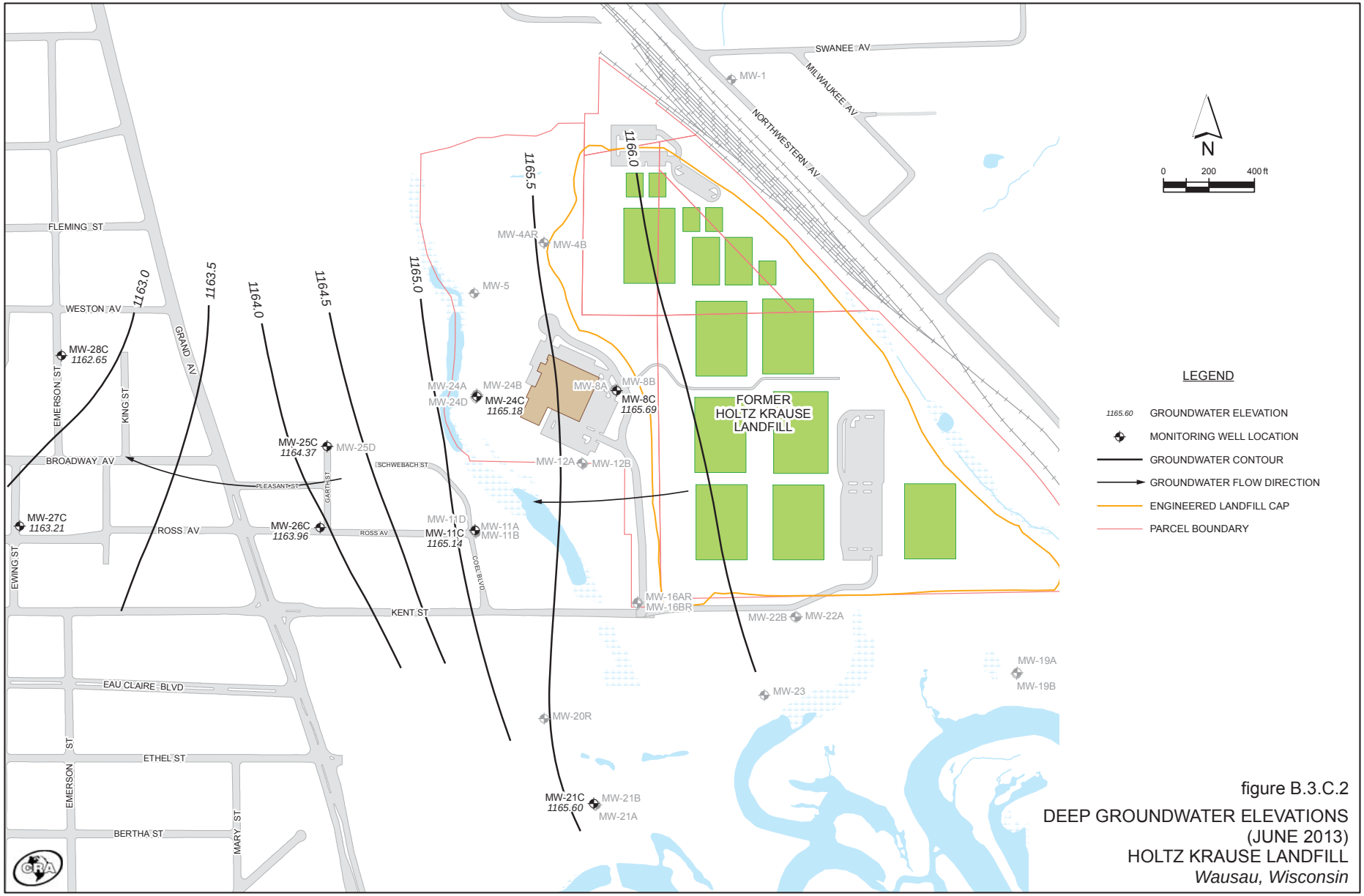


figure B.3.C.2

DEEP GROUNDWATER ELEVATIONS
(JUNE 2013)
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP011 OCT 29/2013

figure B.3.D

MONITORING WELL LOCATIONS
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(MISC010)GIS-SP001 NOV 19/2013

B.4.a.

No vapor intrusion is present at this site.

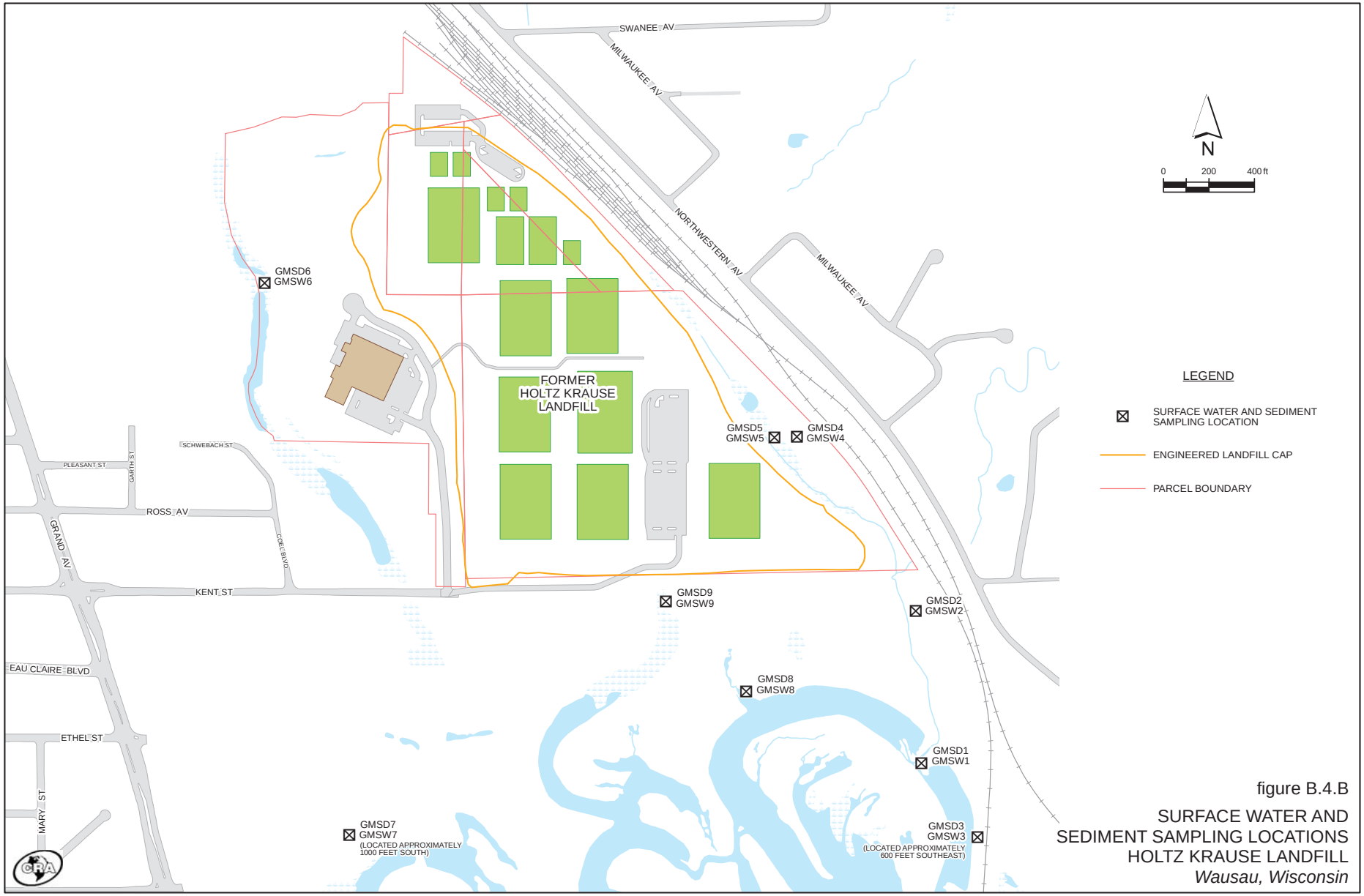


figure B.4.B

SURFACE WATER AND
SEDIMENT SAMPLING LOCATIONS
HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP013 OCT 29/2013

LEGEND

- GAS EXTRACTION WELL
- GAS PROBE LOCATION
- GAS EXTRACTION HEADER
- SOCCER FIELD
- CURLING CLUB
- FUTURE PAVED ROADWAY

figure B.4.C.1

SITE FEATURES
FORMER HOLTZ KRAUSE LANDFILL
Wausau, Wisconsin

074702-60(018)GIS-SP016 OCT 17/2013

From: Kevin Fabel [mailto:Kevin.Fabel@ci.wausau.wi.us]
Sent: Tuesday, September 10, 2013 4:04 PM
To: Frehner, Ron
Cc: Lori Wunsch; Brad Marquardt; Kevin Fabel
Subject: RE: Holtz Krause Well Search

Ron,

Attached is the map with private well addresses which were identified in the City's database.

Below is a description of the addresses found in the data base located on the map inside the search area:

220 E Ross Av – Abandoned 10/21/99

1401 Northwestern Ave – Letter sent ordering to abandon – 8/14/12
1413 Northwestern Ave – Inspection 4/12/12 – No Well Found
1501 Northwestern Ave – No Well Found
1511 Northwestern Ave – Abandoned – 7/8/09
1601 Northwestern Ave – Abandoned – 3/24/07
1607 Northwestern Ave – Abandoned – 9/16/05
1615 Northwestern Ave – Letter sent ordering to abandon – 9/4/12

1605 Laughlin St – Abandoned – 5/3/00

1502 Milwaukee Ave – Well Suspected on Property
1510 Milwaukee Ave – Well Suspected on Property
1522 Milwaukee Ave – Well Suspected on Property
1530 Milwaukee Ave – Well Suspected on Property
1532 Milwaukee Ave – Well Suspected on Property

1310 Swanee Ave – Abandoned – 4/20/12
1409 Swanee Ave – Abandoned – No Date Given
1412 Swanee Ave – Abandoned – No Date Given
1413 Swanee Ave – Abandoned – No Date Given

The addresses you have for Swanee in the e-mail below are not located in the City of Wausau – Those would be either the Town or Village of Weston.

Thanks,

Kevin

From: Frehner, Ron [mailto:rfrehner@craworld.com]
Sent: Tuesday, September 10, 2013 2:49 PM
To: Kevin Fabel
Subject: FW: Holtz Krause Well Search

Question – Does the City allow people to keep their wells? See below

From: Ahrens, Chuck
Sent: Tuesday, September 10, 2013 2:23 PM
To: Frehner, Ron
Subject: Holtz Krause Well Search

These are the addresses for wells identified in the WDNR database within 1200 feet. This database only includes well records from 1988 through December 2011. The database was searched by Section, Township, and Range (Sec 1, T28N, R7E and Section 6, T28N, R8E). I also did a "spot check" search by City and Street Name for several of the streets east and west of the landfill.

1432 Swanee Ave.
1506 Swanee Ave.
1609 Swanee Ave.
1603 Milwaukee Ave.
1413 Northwestern Ave.
1511 Northwestern Ave.
1607 Northwestern Ave.
1605 Laughlin St.

These 8 residences are all upgradient from the landfill, east of the railroad tracks.

Charles Ahrens
Conestoga-Rovers & Associates (CRA)
1801 Old Highway 8 NW, Suite 114
St Paul, MN 55112

Direct: 651.639.0439 ext. 310
Main: 651.639.0913
Fax: 651.639.0923
Email: cahrens@craworld.com
www.craworld.com

Perform every task the safe way, the right way, every time!

CRA is an Equal Opportunity Employment Employer

==========

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==========

074702-60(MISC008)GIS-SP003 SEP 10/2013

No wells in database
WELL Listed - Abandoned or no well found on inspection
Suspected wells, letters to abandon, or permitted wells

Documentation of Remedial Action (Attachment C)

DISCLAIMER

Documents contained in Attachment C of the Case Closure – GIS Registry (Form 4400-202) are not included in the electronic version (GIS Registry Packet) available on RR Sites Map to limit file size.

For information on how to obtain a copy or to review the file, please contact the Remediation & Redevelopment (RR) Environmental Program Associate (EPA) at dnr.wi.gov/topic/Brownfields/Contact.html

WISCONSIN
DEPT. OF NATURAL RESOURCES

ATTACHMENT D

MAINTENANCE PLAN

The Table of Contents is provided here because the Operation and Maintenance Plan is a large document and has been submitted separately.

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Attachment E.1

Monitoring Well Information
Well Logs for:

- **MW-2**
- **MW-15**
- **MW-20**

IMPROPERLY ABANDONED
MONITORING WELL

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well GMMW2 Project/No. HOLTZ AND KRAUSE/WI08901 Page 1 of 1
Site Location WAUSAU, WISCONSIN Drilling Started 2:05 Drilling Completed 3:30
Total Depth Drilled 15 feet Hole Diameter 8 inches Type of Sample/ Coring Device STAINLESS SPLITSPOON
Length and Diameter of Coring Device 2' X 2" Sample Interval 5 FEET
Drilling Fluid Used NONE Drilling Method HOLLOW STEM AUGER
Drilling Contractor WISCONSIN TEST DRILLING Driller MIKE Helper BOB
Prepared By MARK RUTKOWSKI Hammer Weight 140 Hammer Drop 30 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
1	3	2.0	2-3-4-6	Tan to light brown to brown sand (SP) subrounded to rounded, some sub angular clasts 77% quartz with approximately 3 % feldspar. Sample taken.
6	8	1.1	15-22-12-13	0-0.2 same as above. 0.2-1.1 coarse sand and gravel (SP) poorly sorted 3/8" to 1-1/4" clasts of quartz, granite pebbles, feldspar, estimated water at 6 feet.
9	11	0.75	11-12-13-15	Fine sand (SP). Static water level 6.45 feet.
11	15	--		Blind drilling to set well screen. Sample taken at 9-11 ft interval for grain size analysis.

IMPROPERLY ABANDONED
MONITORING WELL

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well GMMW15 Project/No. HOLTZ AND KRAUSE/WI08901 Page 1 of 1
Site Location WAUSAU, WISCONSIN Drilling Started 10/11 3:40 Drilling Completed 10/12 9:00
Total Depth Drilled 36 feet Hole Diameter 8 inches Type of Sample/ Coring Device STAINLESS SPLITSPOON
Length and Diameter of Coring Device 2' X 2" SPLIT SPOON Sample Interval 5
Drilling Fluid Used NONE Drilling Method HOLLOW STEM AUGER
Drilling Contractor WISCONSIN TEST DRILLING Driller MIKE Helper BOB
Prepared By ERIC CARMAN Hammer Weight 140 Hammer Drop 30 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	1			Blind drill.
1	3	1	2-4-4-7	1-1.5 blind silty topsoil (ML-SP) 1.5-2 brown fine well sorted, sand (SP). OVA = 0
6	8	2	13-7-14-19	As above. OVA = 0
11	13	2	10-13-14-13	Brown fine to medium poorly sorted well rounded sand, quartz 95 percent (SW). OVA = 0.
16	18	2	7-12-22-26	As above.
21	23	2	9-7-11-15	As above.
26	28	2	8-15-28-29	As above (moist).
31	33			As above (wet spoon).
34	36	1.7	6-6-12-26 8:10	Medium dense, brown, very fine to fine sand, trace silt, wet. (SW) End of boring 40 ft.

IMPROPERLY ABANDONED
MONITORING WELL

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well GMMW20 Project/No. HOLTZ AND KRAUSE/WI08901 Page 1 of 1
Site Location WAUSAU, WISCONSIN Drilling Started 10/3/89 Drilling Completed 10/3/89
Total Depth Drilled 13.9 feet Hole Diameter 8 inches Type of Sample/ Coring Device STAINLESS SPLITSPOON
Length and Diameter of Coring Device 2' X 2" Sample Interval 5
Drilling Fluid Used NONE Drilling Method HOLLOW STEM AUGER
Drilling Contractor WISCONSIN TEST DRILLING Driller PAUL Helper RANDY
Prepared By TODD UDVIG Hammer Weight 140 Hammer Drop 30 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
1	3	0.9	2-7-6-8	Fine to coarse sand, little gravel brown, (SP).
6	8	0.9	3-13-7-18	Fine to coarse brown sand, little gravel (SP).
11	13	0.8	12-18-29-25	Fine to coarse brown sand, little gravel (SP).

Efforts To Account For Monitoring Wells

In order to confirm the existence of monitoring wells that were existing and abandoned as of October 2013, the following documents were consulted:

- Geraghty & Miller Remedial Investigation (RI) Boring and Well Logs
- Construction Documentation Report: Groundwater Monitoring Well and Gas Probe Installation and Abandonment Logs (Dames & Moore, 1995 Appendix L)
- 2010 Five Year Review
- 2011 Annual Monitoring Report
- E-mail correspondence with the City of Wausau and AECOM

The Geraghty & Miller RI logs were used as a record of location and depth of monitoring wells.

The 1995 Appendix L of Dames & Moore *Construction Documentation Report: Landfill Cap & Gas extraction System* includes boring logs, as well as most of the abandonment logs for the monitoring wells no longer being used in the annual groundwater monitoring program.

The 2010 Five Year Review by AECOM on behalf of the City of Wausau. Included in the report is mention of four additional monitoring wells identified as MW-25C, MW-26C, MW-27C and MW-28C. These wells were added to the list of monitoring wells subjected to semi-annual groundwater monitoring associated with that Holtz and Krause Landfill site. This document lists several wells to be removed from the annual monitoring program, as well as recommends the abandonment of MW-3R. The abandonment record for MW-3R was provided to CRA by AECOM by email in October 2013.

The 2011 Annual Monitoring Report prepared by the City of Wausau included water levels. Hence, each well with a water level was identified as active.

In August, 2013, CRA conducted a physical inspection of many of the active monitoring wells with Boart Longyear in order to obtain a quote to abandon the active wells.

Attached to this report is the spreadsheet used to finalize the list of active wells, along with the source of the information. As of October, 2013 three monitoring wells could not be accounted for. According to the City of Wausau, MW-2 was buried under the snow dump area. MW-15 and MW-20 are listed as abandoned on the AECOM documents. As of October, 2013, AECOM has been unable to locate the abandonment logs.

Notifications were sent out to property owners for well locations MW-2, MW-15 and MW-20 identifying that these wells are "lost" and that if found abandonment is the responsibility of the property owner.

TABLE E.2a

MONITORING WELL INVENTORY-ACTIVE WELLS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well	*Screen Length*	*Top of Casing Elevation (ft)*	*Depth (ft)*	*Reference for Well Log*
MW-1	10	1223.25	24	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-4AR	10	1173.86	18	Construction Documentation Report (Appendix L), 2011 Annual Monitoring Report
MW-4B	5	1173.86	41	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-5	10	1174.5	18	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-8A	10	1174.81	16	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-8B	5	1174.52	40	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-8C	5	1174.6	60	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-11A	10	1209.6	54	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-11B	5	1209.84	75	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-11C	5	1210.26	114	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-11D	5	1210.25	165	2011 Annual Monitoring Report
MW-12A	10	1177.95	20	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-12B	5	1177.56	45	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-16AR	10	1180.66	23.5	2011 Annual Monitoring Report
MW-16BR	5	1180.76	47.8	2011 Annual Monitoring Report
MW-19A	10	1178.69	19	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-19B	5	1178.99	44	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-20R	5	1170.28	50	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-21A	10	1171.32	14	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-21B	5	1171.3	38	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report

TABLE E.2a

MONITORING WELL INVENTORY-ACTIVE WELLS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well	*Screen Length*	*Top of Casing Elevation (ft)*	*Depth (ft)*	*Reference for Well Log*
MW-21C	5	1170.82	57	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-22A	10	1177.93	18	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-22B	5	1177.43	40	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-23	10	1174.18	15	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-24A	10	1172.7	15	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-24B	5	1172.38	45	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-24C	5	1172.56	86	Geraghty & Miller RI Boring Logs, 2011 Annual Monitoring Report
MW-24D	10	1172.4	116	2011 Annual Monitoring Report
MW-25D	5	1211.72	180	2011 Annual Monitoring Report
MW-25C	10	1211.06	125	2010 Five Year Review, 2011 Annual Monitoring Report
MW-26C	10	1207.04	118	2010 Five Year Review, 2011 Annual Monitoring Report
MW-27C	10	1210.02	137	2010 Five Year Review, 2011 Annual Monitoring Report
MW-28C	10	1210.96	139	2010 Five Year Review, 2011 Annual Monitoring Report

TABLE E.2b

MONITORING WELL INVENTORY-ABANDONED WELLS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well	*Status*	*Documentation*	*Abandonment Log?*	*Notes*
MW3A	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW3A(I)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW3B(I)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW3B(II)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW3B(III)	Abandoned	Construction Documentation Report (Appendix L)	Yes	MW3B(III) is the same as MW3B
MW3R	Abandoned	AECOM	Yes	
MW4A	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW4B (I)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW6(I)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW7	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW9	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW13	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW14(I)	Abandoned	Geraghty & Miller RI Boring Logs	Yes	
MW14(II)	Abandoned	Construction Documentation Report (Appendix L)	Yes	MW 14 (II) is the same as MW14
MW16A	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW16B	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW17A	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW17B	Abandoned	Construction Documentation Report (Appendix L)	Yes	

TABLE E.2b

MONITORING WELL INVENTORY-ABANDONED WELLS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well	*Status*	*Documentation*	*Abandonment Log?*	*Notes*
MW17C	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MW18	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-1	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-2	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-3	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-4	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-5	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-6	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-7	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-8	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-9	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-10	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-11	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-13	Abandoned	Construction Documentation Report (Appendix L)	Yes	
RW-14	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MTW6	Abandoned	Construction Documentation Report (Appendix L)	Yes	
MTW-10	Abandoned	Construction Documentation Report (Appendix L)	Yes	

TABLE E.2c

MONITORING WELL INVENTORY-NO ABANDONED LOGS
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

Well	***Status***	***Abandonment Log?***
MW2	No abandonment log	Buried According to City
MW15	No abandonment log	AECOM listed as abandoned
MW20	No abandonment log	AECOM listed as abandoned

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Impacted Property Notification Information

Form 4400-246 (R 10/12)

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, where specific circumstances exist at the time of case closure. This form applies to situations where: (1) the party conducting the cleanup does not own the source property; (2) contamination has impacted a neighboring property to a certain degree; and (3) not all monitoring wells can/will be abandoned at the time of closure. A letter notifying these property owners is required of the responsible party if certain circumstances exist. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) specifies those notification requirements. A model "Template for Notification of Residual Contamination and Continuing Obligations" (PUB-RR-919) can be downloaded at: http://dnr.wi.gov/files/PDF/pubs/rr/RR919.pdf. 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. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS No.	Activity Name
02-37-000007	Holtz & Krause

						Letter Sent To:			Reasons Letter Sent:							
ID	Impacted Property Address	Parcel No.	Date of Letter	WTMX	WTMY	Source Property Owner is not RP	Right of Way Government or Other	Impacted Off-Site Property Owner	Groundwater Exceeds ES	Residual Soil Exceeds Standards	Cap/Engineerd Control	Industrial Use Soil Standards	Vapor System in Place	Vapor Asmt Needed if use Changes	Structural Impediment	Lost, Transferred or Open Wells
A	1233 Junction St., Wausau, WI 54403	291-2807-011-0922	10/01/2013	550753	496390	X					X					
B	1237 Junction St., Wausau, WI 54403	291-2807-011-0924	10/01/2013	550746	496235	X					X					
C	600 E Kent St., Wausau, WI 54403	291-2808-062-0999	10/01/2013	550857	496190	X					X					
D	1500 Northwestern Ave., Wausau, WI 54403	291-2808-062-0992	10/01/2013	550923	496240	X					X					
E	602 E Kent St., Wausau, WI 54403	291-2808-063-0999	10/01/2013	551040	495917	X					X					
F	1920 Curling Way, Wausau, WI 54403	291-2807-014-0900	10/01/2013	550639	496109	X			X		X					X
G	N/A (Kent Street East of Curling Way)	N/A	10/01/2013	551107	495740		X		X		X					
H	N/A (Curling Way R.O.W.)	N/A	09/03/2013	550768	495891		X		X							

02-37-000007
BRRTS No.

Holtz & Krause
Activity (Site) Name

Impacted Property Notification Information

Form 4400-246 (R 10/12)

						Letter Sent To:			Reasons Letter Sent:							
ID	Impacted Property Address	Parcel No.	Date of Letter	WTMX	WTMY	Source Property Owner is not RP	Right of Way Government or Other	Impacted Off-Site Property Owner	Groundwater Exceeds ES	Residual Soil Exceeds Standards	Cap/Engineerd Control	Industrial Use Soil Standards	Vapor System In Place	Vapor Asmt Needed if use Changes	Structural Impediment	Lost, Transferred or Open Wells
I	N/A (Northwestern Ave R.O.W.)	N/A	10/01/2013	551396	495919		X									X
J	2313 Grandview Dr	291-2807-014-0895	10/01/2013	550750	495569			X								X

SOURCE PROPERTY

A,D

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
10/15/2012 11:30:37 AM
MICHAEL J. SYDOW, REGISTER OF DEEDS

State Bar of Wisconsin Form 1-2003
WARRANTY DEED

Document Number

Document Name

DOC# 1632243

Michael J. Sydow

Recording Area

Name and Return Address
Marathon County
500 Forest Street
Wausau, WI 54403

THIS DEED, made between HOLTZ & KRAUSE REAL ESTATE DEVELOPMENT, INC., a Wisconsin corporation ("Grantor," whether one or more), and MARATHON COUNTY, a Municipal corporation of the State of Wisconsin ("Grantee," whether one or more).

Grantor, for a valuable consideration, conveys to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Marathon County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

See attached legal description as Exhibit A.

TRANSFER
$ 6.76. 80/AA
FEE

$30 charged T.T. CR 676. 80A

See attached Exhibit A.
Parcel Identification Number (PIN)

This is not homestead property.
(is) (is not)

Grantor warrants that the title to the Property is good, indefeasible in fee simple and free and clear of encumbrances except: oany municipal and zoning ordinances and agreements entered under them, recorded easements for the distribution of utility and municipal services, recorded building and use restrictions and covenants, and general taxes levied in the year of closing.

Dated October 12, 2012.

Holtz & Krause Real Estate Development, Inc.

(SEAL) * Leonard Salzman, President (SEAL)

(SEAL) * (SEAL)

AUTHENTICATION

Signature(s)

authenticated on

*

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, authorized by Wis. Stat. § 706.06)

THIS INSTRUMENT DRAFTED BY:
Rebecca L. Pilgrim
Attorney at Law

ACKNOWLEDGMENT

STATE OF WISCONSIN)
MARATHON COUNTY) ss.

Personally came before me on October 12, 2012, the above-named Leonard Salzman, President of Holtz & Krause Real Estate Development, Inc., to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

* Rebecca L. Pilgrim
Notary Public, State of Wisconsin
My Commission (is permanent) (expires:)

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

WARRANTY DEED
* Type name below signatures.

© 2003 STATE BAR OF WISCONSIN

FORM NO. 1-2003

SOURCE PROPERTY

A, D

Exhibit A.

Legal Description
MARATHON COUNTY/HOLTZ & KRAUSE REAL ESTATE DEVELOPMENT, INC., a Wisconsin corporation

Lot one (1) of Certified Survey Map No. 3862 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 14 of Certified Survey Maps on page 160, as Document No. 837035; being a part of the Southeast quarter (SE ¼) of the Northeast quarter (NE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East, and part of the South one-half (S ½) of the Northwest fractional quarter (NW fr'l ¼) of Section six (6), Township twenty-eight (28) North, Range eight (8) East, in the City of Wausau, Marathon County, Wisconsin; subject to easements of record.

Tax Key: 2807-011-922 PIN: 37-291-4-2807-011-0922 ✓SE NE + S½ NW
DLC 1-28-7 DLC 6-28-8

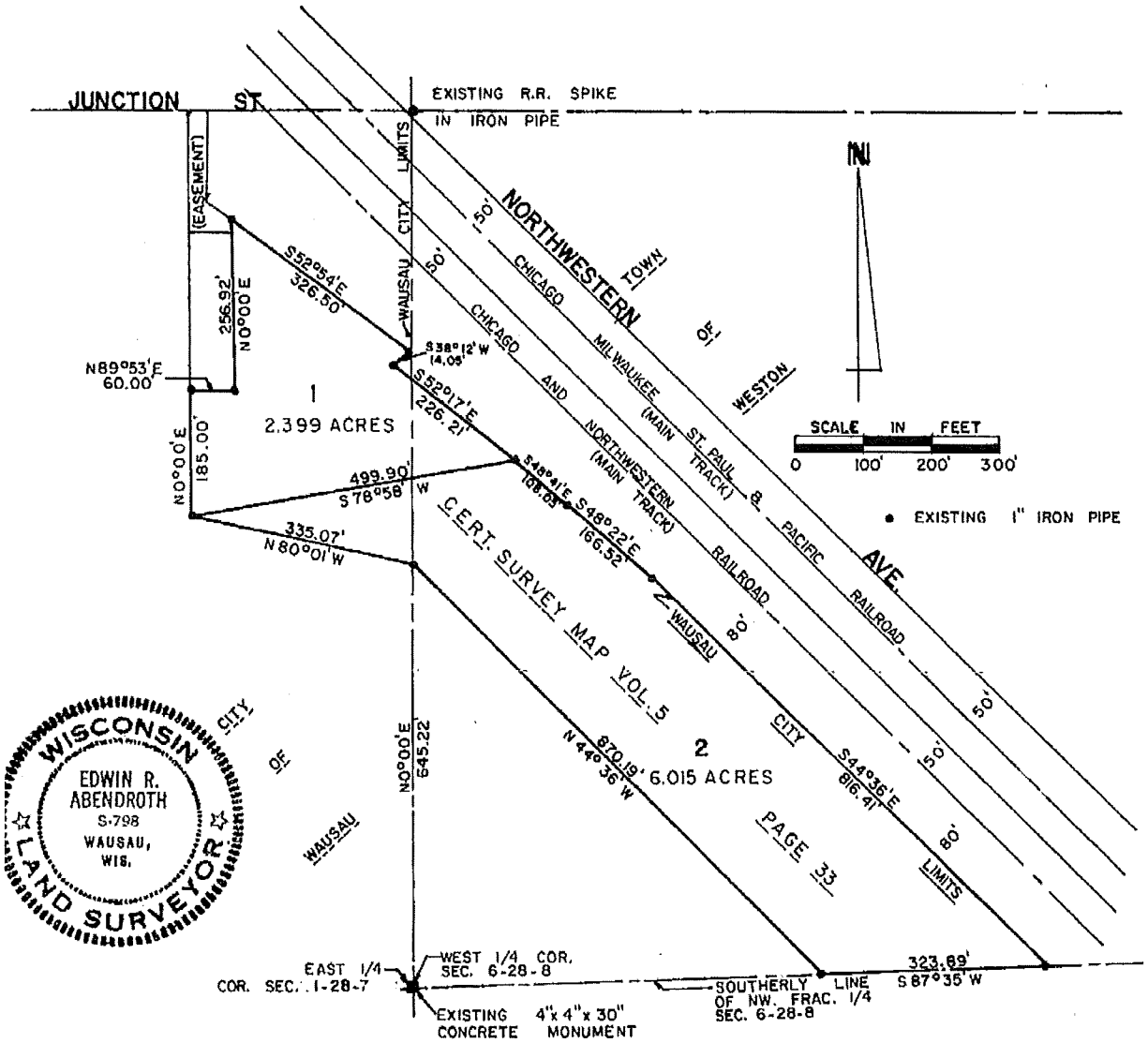
Together with a perpetual non-exclusive easement for driveway purposes for the benefit of Parcels one (1) and two (2) of Certified Survey Map No. 3862 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 14 of Certified Survey Maps on page 160, as Document No. 837035, as described in Deed recorded in said Register's office in Record Book 52 on page 222, as Document No. 597309.

291-2808-062-0992
Easement Pin

DOC# 1632243

SOURCE PROPERTY A, D

837035 3862



CERTIFIED SURVEY MAP FOR THOMAS KRAUSE

I, Edwin R. Abendroth, registered land surveyor, hereby certify that I have surveyed and mapped by the order of Thomas Krause, that part of the SE¼ of the NE¼, Section 1, Township 28 North, Range 7 East and a part of the South ½ of the NW fractional ¼ Section 6, Township 28 North, Range 8 East, all in the City of Wausau, Marathon County, Wisconsin, described as follows: Commencing at the East ¼ corner of said Section 1; thence N0°00'E, 645.22 feet to the point of beginning; thence N80°01'W, 335.07 feet; thence N0°00'E, 185.00 feet; thence N89°53'E, 60.00 feet; thence N0°00'E, 256.92 feet to the southerly right of way line of the Chicago and Northwestern Railway; thence S52°54'E, along said railway right of way line, 326.50 feet; thence continuing along the same said railway right of way line on the following five described courses, thence S38°12'W, 14.05 feet; thence S52°17'E, 226.21 feet; thence along the arc of a curve to the right, whose chord bears S48°41'E, 102.05 feet; thence S48°22'E, 166.52 feet; thence S44°36'E, 816.41 feet to the southerly line of the NW fractional ¼ of said Section 6; thence S87°35'W, along said southerly ¼ line, 323.89 feet; thence N44°36'W, 870.19 feet to the point of beginning.

That such map is a correct representation of all exterior boundaries of the land surveyed.

That I have fully complied with the provisions of Section 236.34 of the Wisconsin Statutes.

Prepared By:
WISCONSIN VALLEY SURVEYORS

Edwin R. Abendroth
Edwin R. Abendroth RLS No. S-798
August 12, 1985

SOURCE PROPERTY

A, D

837035

'85 AUG 29 PM 2 40

REGISTER'S OFFICE
Marathon County, Wis.
Received for Record this _____
day of _____ A.D. 19____
at ____ o'clock ____ M and recorded
in Vol. #14 of CSM
on page 160
Robert Kennedy
Register

WVS
4.00 Chg

SOURCE PROPERTY

B - E

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
10/15/2012 11:30:37 AM
MICHAEL J. SYDOW, REGISTER OF DEEDS

State Bar of Wisconsin Form 1-2003
WARRANTY DEED

Document Number | Document Name

DOC# 1632244

Michael J. Sydow

THIS DEED, made between HOLTZ & KRAUSE CONTRACTORS, INC., a Wisconsin corporation ("Grantor," whether one or more), and MARATHON COUNTY, a Municipal corporation of the State of Wisconsin ("Grantee," whether one or more).

Grantor, for a valuable consideration, conveys to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Marathon County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

See attached legal description as Exhibit A.

Recording Area

Name and Return Address
Marathon County
500 Forest Street
Wausau, WI 54403

430 CAL RATED TIT. CK 139.20

TRANSFER
$ 139.20
FEE

See attached Exhibit A.
Parcel Identification Number (PIN)

This is not homestead property.
(is) (is not)

Grantor warrants that the title to the Property is good, indefeasible in fee simple and free and clear of encumbrances except: any municipal and zoning ordinances and agreements entered under them, recorded easements for the distribution of utility and municipal services, recorded building and use restrictions and covenants, and general taxes levied in the year of closing.

Dated October 12, 2012.

Holtz & Krause Contractors, Inc., a Wisconsin corporation
By:

* _____ (SEAL)

* Leonard Salzman, President (SEAL)

* _____ (SEAL)

* _____ (SEAL)

AUTHENTICATION

Signature(s) _____

authenticated on _____

* _____

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, _____ authorized by Wis. Stat. § 706.06)

THIS INSTRUMENT DRAFTED BY:
Rebecca L. Pilgrim
Attorney at Law

ACKNOWLEDGMENT

STATE OF WISCONSIN)
MARATHON COUNTY) ss.

Personally came before me on 10-12-2012, the above-named Leonard Salzman, President of Holtz & Krause Contractors, Inc., a Wisconsin corporation to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

* Rebecca L. Pilgrim
Notary Public, State of Wisconsin
My Commission (is permanent) (expires: _____)

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

© 2003 STATE BAR OF WISCONSIN

* Type name below signatures.

SOURCE PROPERTY

B - E

Exhibit A.

Legal Description
MARATHON COUNTY/HOLTZ & KRAUSE CONTRACTORS, INC., a Wisconsin corporation

Lot two (2) of Certified Survey Map No. 3862 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 14 of Certified Survey Maps on page 160, as Document No. 837035; being a part of the Southeast quarter (SE ¼) of the Northeast quarter (NE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East, and part of the South one-half (S ½) of the Northwest fractional quarter (NW fr'l ¼) of Section six (6), Township twenty-eight (28) North, Range eight (8) East, in the City of Wausau, Marathon County, Wisconsin; subject to easements of record; and

Parcel one (1) of Certified Survey Map No. 7192 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 27 of Certified Survey Maps on page 175, as Document No. 989218; excepting the South four (4) rods thereof; being a part of the Southeast quarter (SE ¼) of the Northeast quarter (NE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East, part of the South one-half (S ½) of the Northwest fractional quarter (NW fr'l ¼); part of the North one-half (N ½) of the Southwest fractional quarter (SW fr'l ¼); and part of the Northwest quarter (NW ¼) of the Southeast quarter (SE ¼) of Section six (6), Township twenty-eight (28) North, Range eight (8) East, in the City of Wausau, Marathon County, Wisconsin; subject to easements of record.

Together with a perpetual non-exclusive easement for driveway purposes for the benefit of Parcels one (1) and two (2) of Certified Survey Map No. 3862 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 14 of Certified Survey Maps on page 160, as Document No. 837035, as described in Deed recorded in said Register's office in Record Book 52 on page 222, as Document No. 597309. 291-2808-062-0992 Easement Pin

Tax Key: 2808-063-999	PIN: 37-291-4-2808-063-0999	✓N1/2 SW + NW SE
2808-062-999	37-291-4-2808-062-0999	✓S1/2 NW
2808-062-992	37-291-4-2808-062-0992	✓SENE + S1/2 NW
2807-011-924	37-291-4-2807-011-0924	✓SENE

DOC# 1632244

SOURCE PROPERTY

B - E

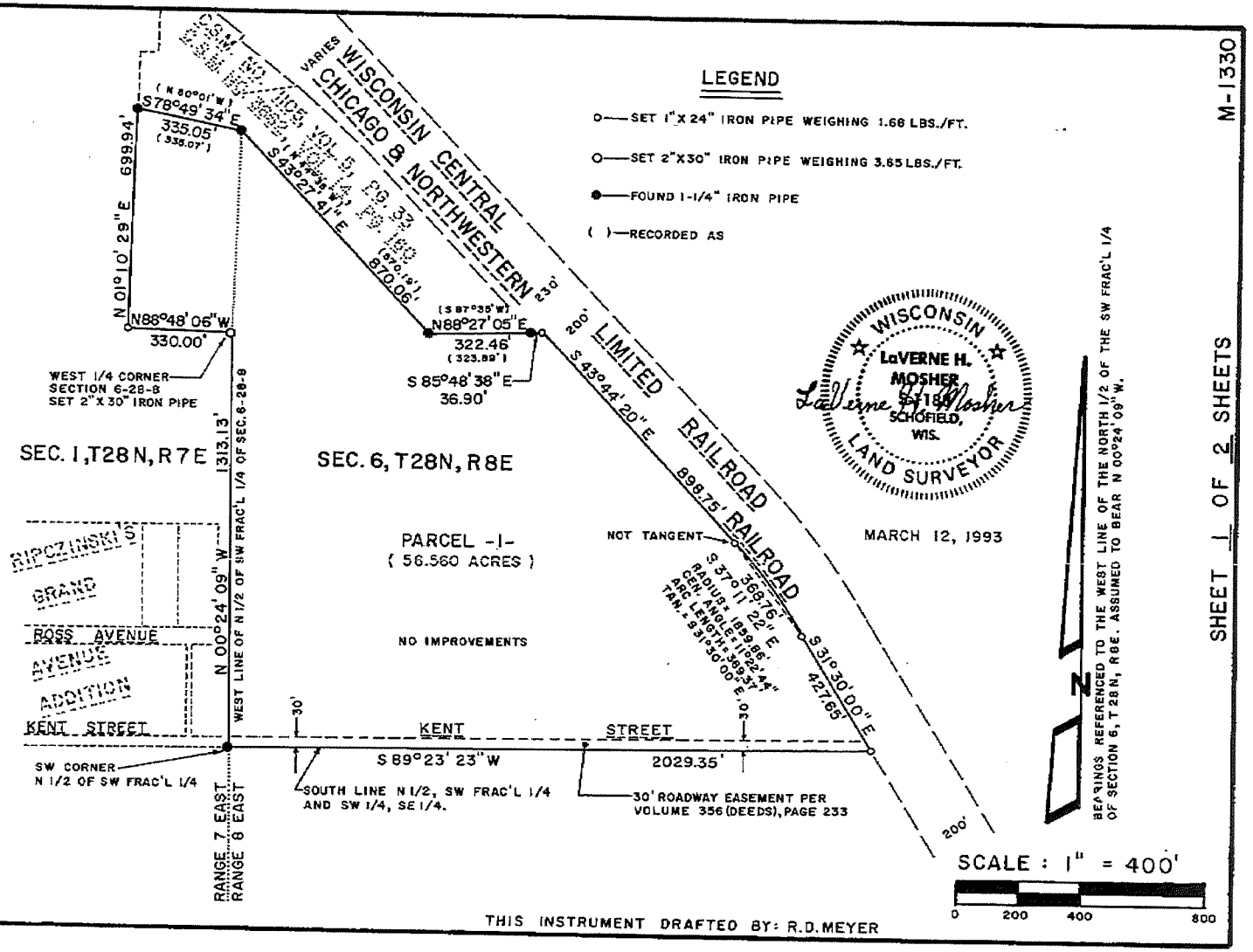
MARATHON COUNTY CERTIFIED SURVEY MAP

Of part of the Southeast ¼ of the Northeast ¼ of Section 1, Township 28 North, Range 7 East, City of Wausau, Marathon County, Wisconsin; also part of the South ½ of the Northwest fractional ¼; also part of the North ½ of the Southwest fractional ¼ and also part of the Southwest ¼ of the Southeast ¼; all in Section 6, Township 28 North, Range 8 East, City of Wausau, Marathon County, Wisconsin.

37.291.4 - 2808.062.0999 S½ - N½N½
37.291.4 . 2808.063.0999 N½ - S½N½
37.291.4 2807.011.0924

7192

M-1330



THIS INSTRUMENT DRAFTED BY: R.D. MEYER

SHEET 1 OF 2 SHEETS

JOHN ROBINSON WHJC
2612 NORTH 18

SOURCE PROPERTY B - E

MARATHON COUNTY CERTIFIED SURVEY MAP

I, LaVerne H. Mosher, Registered Land Surveyor, hereby certify: That I have surveyed, divided and mapped that part of the Southeast ¼ of the Northeast ¼ of Section 1, Township 28 North, Range 7 East, City of Wausau, Marathon County, Wisconsin; also part of the South ½ of the North-West fractional ¼; also part of the North ½ of the Southwest fractional ¼ and also part of the Southwest ¼ of the Southeast ¼; all in Section 6, Township 28 North, Range 8 East, City of Wausau, Marathon County, Wisconsin, described as follows:

Beginning at the West ¼ corner of said Section 6, Township 28 North, Range 8 East; thence N 88° 48' 06" W, 330.00 feet; thence N 01° 10' 29" E, 699.94 feet, thence S 78° 49' 34" E, 335.05 feet; thence S 43° 27' 41" E, 870.06 feet; thence N 88° 27' 05" E, 322.46 feet; thence S 85° 48' 38" E, 36.90 feet to the Southwesterly right-of-way line of the Wisconsin Central Limited Railroad and also the Chicago & Northwestern Railroad; thence S 43° 44' 20" E along the said Southwesterly right-of-way line of the Wisconsin Central Limited and Chicago & Northwestern Railroads, 898.75 feet; thence continuing along the said Southwesterly right-of-way line of the Wisconsin Central Limited and Chicago & Northwestern Railroads, along the arc of a curve, concave Southwesterly, having a radius of 1859.86 feet, whose long chord bears S 37° 11' 22" E, 368.76 feet; thence continuing along the said Southwesterly right-of-way line of the said Wisconsin Central Limited and Chicago & Northwestern Railroads along a line bearing S 31° 30' 00" E, 427.65 feet to a point on the South line of the said Southwest ¼ of the Southeast ¼ of said Section 6; thence S 89° 23' 23" W along the South line of the said Southwest ¼ of the Southeast ¼ and also along the South line of the said North ½ of the Southwest fractional ¼ of said Section 6, 2029.35 feet to the Southwest corner of the said North ½ of the Southwest fractional ¼; thence N 00° 24' 09" W along the West line of the said North ½ of the Southwest fractional ¼, 1313.13 feet to the point of beginning. Said described parcel is subject to roadway, driveway and utility easements of record and usage.

That I have made such survey, land division and plat by the direction of John Robinson and the Holtz-Krause Landfill Steering Committee.

That such plat is a correct representation of all exterior boundaries of the land surveyed and the subdivision thereof made.

That I have fully complied with the provisions of Chapter 236.34 of the Wisconsin Statutes, Chapter A-E 7 of the Wisconsin Administrative Code, and the Subdivision Regulations of the City of Wausau in surveying, dividing and mapping the same.

Dated this 12th day of March, 1993.

WISCONSIN LaVERNE H. MOSHER S-1188 SCHOFIELD, WIS. LAND SURVEYOR

LaVerne H. Mosher

LaVerne H. Mosher
R.L.S. No. S-1188

Prepared by:
LHM SURVEYING
4203 Schofield Avenue
Schofield WI 54476

Prepared for:
Holtz-Krause Landfill Steering Committee - John Robinson
P.O. Box 31
Wausau WI 54402-0031

SHEET 2 OF 2 SHEETS

SOURCE PROPERTY

B - E

0989218
JOHN ROBINSON 7192
REGISTER'S OFFICE
RECD FOR REC'D
MARATHON CO, WI
03-15-1993 08:32 AM

AND RECD IN VOL. 27
OF CSM ON PAGE 175

Michael J. Sydow
REGISTER

Pd ck 12.00

SOURCE PROPERTY

F.

CORRECTION DEED

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
09/07/2011 4:11:09 PM
MICHAEL J. SYDOW, REGISTER OF DEEDS

Document Number

State Bar of Wisconsin Form 3 - 2003

QUIT CLAIM DEED

Document Name

DOC# 1603108

THIS DEED, made between Wausau Cemetery Association, a Wisconsin non-profit corporation ("Grantor," whether one or more), and Wausau Curling Club, Inc., a Wisconsin non-profit corporation ("Grantee," whether one or more),

Michael J. Sydow

Grantor, quit claims to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Marathon County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

See legal description on attached Addendum.

Recording Area

Name and Return Address
Attorney Cal R. Tillisch
Goyke, Tillisch & Higgins, LLP
P.O. Box 2188
Wausau, WI 54402-2188

37-291-4-2807-014-0903 (P)
0902 (C)
Parcel Identification Number (PIN)

This is not homestead property.
(is) (is not)

N1/2 NESE

FEE
#77.25
EXEMPT

Dated May 5, 2011

Wausau Cemetery Association

* By Melvin L. Sandquist (SEAL)
President and Authorized Representative

* (SEAL)

* By Donald Howard (SEAL)
Authorized Representative Treas

* (SEAL)

AUTHENTICATION

Signature(s) of Melvin L. Sandquist, Pres & Auth Rep + Donald Howard, Auth. Rep + Treas of Wausau Cemetery Assoc. authenticated on May 5, 2011

* Cal R. Tillisch

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, authorized by Wis. Stat. § 706.06)

ACKNOWLEDGMENT

STATE OF WISCONSIN
Marathon COUNTY } ss.

Personally came before me on _____, the above-named _____

to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

*

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

THIS INSTRUMENT DRAFTED BY:

Attorney Cal R. Tillisch
P.O. Box 2188, Wausau, WI 54402-2188

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

*Type name below signatures.

Goyke Tillisch & Higgins LLP 816 N 3rd St Wausau, WI 54403
Cal Tillisch
Phone: 715-849-8100 Fax: 715-849-8102
Produced with ZipForm® by zipLogix 18070 Fifteen Mile Road, Fraser, Michigan 48026 www.zipLogix.com
Unitled

SOURCE PROPERTY F.

ATTACHMENT TO CORRECTION DEED--QUIT CLAIM DEED

WAUSAU CEMETERY ASSOCIATION/WAUSAU CURLING CLUB, INC.

LEGAL DESCRIPTION

The North one-half (N ½) of the Northeast quarter (NE ¼) of the Southeast quarter (SE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East

and the Southeast quarter (SE1/4) of the Northeast quarter (NE1/4) of Section One (1), Township twenty-eight (28) North, Range seven (7) East lying easterly of the center line of the Eau Claire River "slough" (a/k/a Eau Claire River flowage) and southerly of the high bank located north of such Eau Claire River "slough" except the north 300 feet thereof, all in the City of Wausau, Marathon County, Wisconsin.

Use. This property is deeded to the Wausau Curling Club, Inc., a not for profit Wisconsin Corporation to be used to construct a new building for the sport of curling and any other improvements or facilities or purposes as are approved by the Wausau Curling Club, Inc. Board of Directors based upon the following required approval process: a 75% vote of all of the Wausau Curling Club, Inc.'s Board of Directors (i.e. 7 out of 9 votes) taken on a roll call basis by three (3) separate and distinct Board of Directors meetings properly noticed with each such meeting held at least 30 days apart and as long as such use(s), purposes, improvements or facilities are by or for the Wausau Curling Club, Inc. or for the benefit of other nonprofit, charitable or civic type functions or organizations.

Protected Area. The land along the westerly edge of this property (being the land immediately to the East of and within seventy five feet (75') of the ordinary high water mark of the Eau Claire River Flowage ("slough") shall be a "Protected Area." Such "Protected Area" shall generally be maintained in its natural state with trees and vegetation. Pathways, walkways, trails or other uses, may be built, cut through, established or maintained through such Protected Area as long as such Protected Area generally preserves a significant amount of trees and natural vegetation. The purpose of this "Protected Area" restriction is to maintain a natural visual buffer of trees and vegetation for the benefit of the view from the Wausau Cemetery Association land (a/k/a Pine Grove Cemetery) which land is generally located to the West of such "slough." Any alternations to this Protected Area restriction that would violate this restriction can only be made with the signed written consent of a majority vote of the Board of Directors of the Wausau Cemetery Association which written consent must then be recorded in the office of the Register of Deeds to be effective and allow such change in this Protected Area restriction.

Reversion. In the event that the Wausau Curling Club, Inc. ceases to exist or ceases to operate a building used for dedicated winter curling on this land, then the land shall revert to the Wausau Cemetery Association.

Use of conference room/meeting room. The Wausau Cemetery Association reserves the perpetual right to have reasonable use of a board room, classroom or meeting room at a facility constructed on the land by the Wausau Curling Club, Inc. as long as such use does not unreasonably interfere with curling at the facility. The Wausau Cemetery Association will make every reasonable effort to schedule such meeting so as to not interfere with curling activities at such facility.

DOC# 1603108

SOURCE PROPERTY

F.

DOCUMENT NO.

STATE BAR OF WISCONSIN FORM 1—1982
WARRANTY DEED

THIS SPACE RESERVED FOR RECORDING DATA

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
12/28/2010 10:37:37 AM
MICHAEL J. SYDOW, REGISTER OF DEEDS

DOC # 1586905

Michael J. Sydow

This Deed, made between ROMAN R. PRZYBYLSKI a single person, Grantor, and WAUSAU CURLING CLUB, INC., a non-profit corporation, Grantee,

Witnesseth, That the said Grantor, for a valuable consideration ROMAN R. PRZYBYLSKI conveys to Grantee the following described real estate in Marathon County, State of Wisconsin:

RETURN TO Carl R. Tillisch - atty
816 N. 3rd St. Wausau, WI.

Ck 30.00

Tax Parcel No:

FEE

#77.25 (13)
EXEMPT

PIN: 37.291.4.2807.014.0032 ✓ Lot 2
37.291.4.2807.014.0035 ✓ Lot 3

#6470

Lot two (2) in Block four (4); and

Lot three (3) in Block five (5) of Ripczinske's Grand Avenue Addition, in the City of Wausau.

This is (is) (is not) homestead property.

Together with all and singular the hereditaments and appurtenances thereunto belonging;
And Roman R. Przybylski warrants that the title is good, indefeasible in fee simple and free and clear of encumbrances except any easements, restrictions or reservations of record or by use; and any portions thereof used for highway purposes;
and will warrant and defend the same.

Dated this 3rd day of May, 1994

(SEAL) Roman Przybylski (SEAL)
* * Roman R. Przybylski
(SEAL) (SEAL)
* *

AUTHENTICATION

Signature(s) Roman R. Przybylski
authenticated this 3rd day of May, 1994.
*
TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, James P. Lonsdorf authorized by § 706.06, Wis. Stats.)

THIS INSTRUMENT WAS DRAFTED BY
Atty. James P. Lonsdorf of
Lonsdorf & Andraski
Wausau, WI 54403
(Signatures may be authenticated or acknowledged. Both are not necessary.)

ACKNOWLEDGMENT

STATE OF WISCONSIN } ss.
Marathon County.
Personally came before me this day of 19.94 the above named Roman R. Przybylski,
to me known to be the person who executed the foregoing instrument and acknowledge the same.
*
Notary Public Marathon County, Wis.
My Commission is permanent. (If not, state expiration date: , 19.)

*Names of persons signing in any capacity should be typed or printed below their signatures.

SOURCE PROPERTY

F.

STATE OF WISCONSIN - MARATHON COU
RECORDED
12/28/2010 10:37:37 AM
MICHAEL J. SYDOW, REGISTER OF DEE

QUIT CLAIM DEED

Document Number

000# 1586906

Michael J. Sydow

This Deed, made between Roman R. Przybylski, Grantor, and Wausau Curling Club, Inc., a Wisconsin non-profit corporation, Grantee, Grantor, quit claims to Grantee, the following described real estate in Marathon County, State of Wisconsin: (if more space is needed, please attach addendum)

See attached legal description

FEE

#77.25 (13)
EXEMPT

Recording Area

Name and Return Address
Attorney Cal R. Tillisch
Goyke, Tillisch & Higgins, LLP
P.O. Box 2188
Wausau, WI 54402-2188

Cal 30.00

~~Part of~~ 291-2807-014-0035 Lot 3
~~Part of~~ 291-2807-014-0032 " 2

Parcel Identification Number (PIN) #6470

This is not homestead property
~~(is)~~ (is not)

Together with all appurtenant rights, title and interests.

Dated this 17 day of December, 2010.

(USE BLACK INK FOR ALL WRITING)

Roman R. Przybylski
* Roman R. Przybylski

*

*

*

AUTHENTICATION

Signature(s)

authenticated this _____ day of _____, _____

*

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, authorized by §706.06, Wis. Stats.)

THIS INSTRUMENT WAS DRAFTED BY

Attorney Cal R. Tillisch
816 N. Third Street, Wausau, WI

ACKNOWLEDGMENT

STATE OF WISCONSIN)
)ss.
Marathon County.

Personally came before me this 17 day of December, 2010 the above named Roman R. Przybylski

to me known to be the person who executed the foregoing instrument and acknowledged the same.

Cal R. Tillisch
* Cal R. Tillisch
Notary Public, State of Wisconsin
My Commission is permanent (or expires: date)

(Signatures may be authenticated or acknowledged. Both are not necessary.)

*Names of persons signing in this capacity must be typed or printed below their signature.

SOURCE PROPERTY

F.

Lot three (3) in Block five (5) of Ripczinske's Grand Avenue Addition, including the north one half (N ½) of vacated Ross Avenue lying south of said Lot, including the vacated thirty three (33) feet lying east of said Lot, in the City of Wausau, Marathon County, Wisconsin.

AND

Lot two (2) in Block four (4) of Ripczinske's Grand Avenue Addition, including the south one half (S ½) of vacated Ross Avenue lying north of said Lot, also the east ten (10) feet of the vacated portion lying west of said Lot, in the City of Wausau, Marathon County, Wisconsin.

DOC# 1586906

HOLTZ & KRAUSE LANDFILL/ROMAN R. PRZYBYLSKI
RIGHT OF POSSESSION AGREEMENT

THIS AGREEMENT (hereinafter referred to as the "Agreement") made and effective as of the 30 day of May, 1994, by Roman R. Przybylski ("Owner") and Holtz Krause Landfill Cleanup Steering Committee, an unincorporated association ("Occupant").

W I T N E S S E T H :

WHEREAS, Owner presently owns and holds title to certain real property (the "Property," which term shall include all easements, rights-of-way and other appurtenances), located in the City of Wausau, Marathon County, State of Wisconsin, which is described on Exhibit A attached hereto and is incorporated herein; and

WHEREAS, the Property is partially adversely impacted by certain environmental conditions, and adjoins the Holtz & Krause Landfill and as a result thereof, the State of Wisconsin Department of Natural Resources ("DNR") has taken action to have the Property and adjoining landfill remediated; and

WHEREAS, Occupant, pursuant to a Consent Decree entered into with DNR (the "DNR Decree"), requires the right to possession, occupancy and use of the Property in order to allow certain environmental remediation work to be performed on the Property consistent with the Record of Decision ("ROD") issued by DNR and to provide for the ongoing operation and maintenance of such work, and Owner is willing to grant Occupant such right; and

THEREFORE, in consideration of the mutual promises and covenants contained in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties agree as follows:

(1) Right of Possession. Owner hereby irrevocably grants and conveys to Occupant, its agents, contractors, employees and designees, the complete and exclusive right of possession, occupancy and use of the Property during the term set forth below for the purpose of allowing it to perform its environmental remediation work as required by DNR and ongoing operation and maintenance duties related thereto, and all uses incidental or in any matter relating thereto. Owner and Occupant acknowledge that during the remediation work access to the Property is restricted in accordance with the health and safety requirements of the Occupational Safety and Health Administration and the health and safety plan required by DNR or of the Occupant.

PIN: 291-2807-014-0032, 291-2807-014-0035

SOURCE PROPERTY F.

(2) Ongoing Duty to Convey Title. Owner and Occupant acknowledge it is in their mutual best interest to arrange for a third party to take title to the Property as soon as practical. Therefore, Owner agrees that it will upon at least 10 days' notice execute a warranty deed in the form set forth on Exhibit B attached hereto, which is incorporated herein, and a form Wisconsin real estate transfer return conveying the Property to a grantee designated by Occupant. Occupant or the grantee shall be responsible for all recording and transfer fees. The foregoing shall not imply that Occupant has a duty to take title or designate a grantee to take title to the Property. Further, Owner and Occupant acknowledge that the Property has no value because the costs required to be expended for the environmental work far exceed the fair market value of the Property if it were free of environmental conditions. Therefore, no additional sums will be due and owing Owner for the conveyance described above. In no event will Occupant or any other person or entity (other than Owner) be considered the owner of the Property, whether by equitable conversion or otherwise, unless title is conveyed as set forth above.

(3) Default. Owner shall also be responsible for all costs and expenses incurred by Occupant as a result of a default under this Agreement, including but not limited to reasonable attorneys' fees. The rights and remedies set forth in this Agreement shall not be exclusive and are in addition to and not in lieu of any other rights or remedies which are available to Occupant at law or in equity, including but not limited to the right to specific performance. All rights and remedies in Occupant shall be cumulative and may be exercised and enforced concurrently and whenever and as often as occasion therefor arises.

(4) Insurance Proceeds. Owner agrees to assign to Occupant the proceeds of any and all insurance policies issued to Owner which may provide coverage for environmental conditions on the Property.

(5) Other Property. It is understood that waste materials associated with the landfill are located on some of the Property.

(6) Covenant Not to Sue. Occupant covenants not to sue Owner for any claims it or they may have against Owner arising out of the environmental conditions on the Property or on any Additional Property, including but not limited to the environmental investigation and any and all remedial work done or to be done on the Property or any Additional Property, provided that Owner complies with all of the terms and conditions of this Agreement.

(7) Consent Decree. Occupant shall use its best efforts to assist Owner in allowing Owner to become a signatory to the DNR Decree currently lodged with the United States District Court for the Western District of Wisconsin, encaptioned State of Wisconsin v. 10-13 Club, et al., Case No. 94-C-0248C. The DNR Decree requires the signatories to undertake certain tasks to remediate the environmental conditions on the Property and any Additional Property. As between the Occupant and its members and Owner, the obligation of Owner in fulfilling the terms and condition of the DNR Decree shall be to comply with the terms and conditions of this Agreement. It is understood and agreed that if Owner is complying with this Agreement, Occupant's members shall take the necessary actions and be responsible for complying with the terms and conditions of the DNR Decree.

(8) Governmental Approval/Access. Occupant will be responsible for obtaining any required approvals from appropriate governmental and/or regulatory agencies having jurisdiction over the remediation activities undertaken or permitted by Occupant. Owner hereby grants the right of access to the State of Wisconsin and its contractors. It is understood that Occupant is not DNR's representative with respect to the remedial activities.

(9) Representations and Warranties. Owner represents and warrants as follows:

(a) Neither the signing of this Agreement nor compliance with it by Owner will result in a breach of any term or condition of or constitute a default under the terms of any agreement to which Owner is a party or by which Owner may be bound.

(b) There are no suits filed or claims made, pending or threatened against Owner or the Property that in any way jeopardize the ability of Occupant to in any way possess, use or occupy the Property.

(c) Occupant shall have the right to quiet enjoyment of the Property undisturbed by Owner or anyone claiming or acting by, through or under Owner.

(10) Cooperation. Owner will cooperate, in good faith, with Occupant in the matters set forth in this Agreement.

(11) Property Matters. Occupant shall not be responsible for the payment of any real estate taxes or assessments related to the Property. Owner and Occupant shall cooperate in having the City of Wausau reduce the assessment of the Property and any Additional Property because the environmental condition of the Property (and any Additional Property).

(12) Notices. All notices and other communications required under this Agreement shall be in writing and mailed in the United States mail, postage prepaid, addressed to Owner or Occupant, as the case may be, at the address set forth below, or at such other address as either party may designate:

(a) If to Owner, then to:

Roman R. Przybylski
404 N. Kent Street
Wausau, WI 54403

(b) If to Occupant, then to:

Holtz & Krause Steering Committee
c/o John Robinson
P.O. Box 31
Wausau, WI 54402-0031

(13) Modification. Neither this Agreement nor any term or condition may be modified or amended, except by an agreement in writing, executed and delivered by the party against whom enforcement of such modification or amendment is sought.

(14) Successors; Assigns. This Agreement and all of its terms and conditions shall be binding upon and inure to the benefit of the parties and their respective successors and assigns and shall run with the land. In particular, Occupant shall be permitted to assign any or all of its rights.

(15) Headings. The headings of the paragraphs and subparagraphs of this Agreement are for purposes of convenience only and shall in no way affect the interpretation of any of the terms or conditions of this Agreement.

(16) Notice of Record. Owner and Occupant agree that it may be necessary for Occupant to record a notice of the DNR Decree in the office of the Register of Deeds for Marathon County and Occupant shall ensure that the recording of said notice is indexed to the title of Owner so as to provide notice to third parties of the issuance and terms of the DNR Decree with respect to Owner's property.

(17) Term. The term of this Agreement shall commence as of the date first above written and shall end on January 1, 1999, subject to the extension by Occupant at Occupant's sole option, if Occupant is delayed in its remediation operating and maintenance activities on the Property for any reason.

VOL 675 PAGE 35

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives, sealed and delivered as of the day and year first above written.

ROMAN R. PRZYBYLSKI, a/k/a
Roman Przybylski

HOLTZ & KRAUSE LANDFILL STEERING COMMITTEE

By _____
Its Chairman David Eisenreich

State of Wisconsin)
) ss.
County of Marathon)

Personally came before me this 3rd day of May, 1994, the above-named Roman R. Przybylski, to me known to be the person who executed the foregoing document and acknowledged the same.

Name: James P. Lonsdorf
Notary Public, State of Wisconsin
County of Marathon
My Commission: Permanent

State of Wisconsin)
) ss.
County of Marathon)

Personally came before me this 3rd day of May, 1994, the above-named, David Eisenreich, to me known to be the Chairman of the Holtz & Krause Landfill Steering Committee, who executed the foregoing document on behalf of such Committee and acknowledged the same.

Name: James P. Lonsdorf
Notary Public, State of Wisconsin
County of Marathon
My Commission: Permanent

This instrument was drafted by and after recording should be returned to James P. Lonsdorf, of Lonsdorf & Andraski, 610 Jackson Street, P.O. Box 872, Wausau, WI 54402-0872.

PIN: 291-2807-014-0032, 291-2807-014-0035

SOURCE PROPERTY F.

VOL 675 PAGE 36

EXHIBIT A - TO HOLTZ & KRAUSE LANDFILL/
ROMAN R. PRZYBYLSKI RIGHT OF POSSESSION AGREEMENT

LEGAL DESCRIPTION

Lot two (2) in Block four (4); and

Lot three (3) in Block five (5) of Ripczinske's Grand Avenue Addition, in the City of Wausau.

(c/k/a 404 E. Kent St. and 340 E. Ross Ave., respectively)

PIN: 37.291.4.2807.014.0032
37.291.4.2807.014.0035 # 6470

Exhibit: A

PIN: 291-2807-014-0032, 291-2807-014-0035

SOURCE PROPERTY F.

DOCUMENT NO. STATE BAR OF WISCONSIN FORM 1—1969

THIS SPACE RESERVED FOR RECORDING DATA

WARRANTY DEED

VOL 675 PAGE 37

This Deed, made between ROMAN R. PRZYBYLSKI, a single person, Grantor, and, Grantee,

Witnesseth, That the said Grantor, for a valuable consideration conveys to Grantee the following described real estate in Marathon County, State of Wisconsin:

RETURN TO

Tax Parcel No.

PIN: 37.201.4.2807.014.0032
37.201.4.2807.014.0035

#6470

Lot two (2) in Block four (4); and

Lot three (3) in Block five (5) of Hipczinsko's Grand Avenue Addition, in the City of Wausau.

This is (is not) homestead property.

Together with all and singular the hereditaments and appurtenances thereunto belonging;

And Roman R. Przybylski warrants that the title is good, indefeasible in fee simple and free and clear of encumbrances except

any easements, restrictions or reservations of record or by use; and any portions thereof used for highway purposes;

and will warrant and defend the same.

Dated this day of 19 04

(SEAL) (SEAL)

Roman R. Przybylski (SEAL)

(SEAL)

AUTHENTICATION

Signature(s)

authenticated this day of 19

TITLE: MEMBER STATE BAR OF WISCONSIN

(If not, authorized by § 706.06, Wis. Stats.)

THIS INSTRUMENT WAS DRAFTED BY

Atty. James P. Longdorf of Longdorf & Andrasko, Wausau, WI 54403

(Signatures may be authenticated or acknowledged. Both are not necessary.)

ACKNOWLEDGMENT

STATE OF WISCONSIN

Marathon County. } ss.

Personally came before me this day of 19 04 the above named Roman R. Przybylski

to me known to be the person who executed the foregoing instrument and acknowledged the same.

Notary Public Marathon County, Wis.
My Commission is permanent. (If not, state expiration date: 19)

(Name of persons signing in any capacity should be typed or printed below their signature.)

WARRANTY DEED STATE BAR OF WISCONSIN FORM No. 1—1969

Exhibit B-1

Wisconsin Legal Blank Co. Inc. Milwaukee, Wis.

OFF-SOURCE J PROPERTY

IMPROPERLY ABANDONED MONITORING WELL

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
02/26/2013 4:08:04 PM
MICHAEL J. SYDOW, REGISTER OF DEEDS

DOCUMENT NO.

STATE BAR OF WISCONSIN FORM 1-2003

WARRANTY DEED

Document Name

DOC # 1642764

THIS DEED made between **Kevin D. Matzke** ("Grantor," whether one or more) and **Grandview Storage, LLC** ("Grantee," whether one or more),

Grantor, for valuable consideration conveys to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in **MARATHON** County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

Michael J. Sydow

TRANSFER

$ 30.00
FEE

RETURN TO 00130165 - CJT
Grandview Storage
2313 Grand View Dr.
Wausau WI 54403

Pd CK $30.00 TT $30.00

Tax Parcel No: 37.291.4.2807.014.0898

Outlot one (1) of Certified Survey Map No. 16497 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 76 of Certified Survey Maps on Page 146, as Document No. 1640401; being a part of the Southeast Quarter (SE ¼) of the Southeast Quarter (SE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East, in the City of Wausau, Marathon County, Wisconsin.

This **is not** homestead property.
(is)(is not)

Grantor warrants that the title to the Property is good, indefeasible in fee simple and free and clear of encumbrances except: municipal and zoning ordinances and agreements entered under them, recorded easements for the distribution of utility and municipal services, recorded building and use restrictions and covenants, and general taxes levied in the year of closing and will warrant and defend the same.

Dated this 20th day of **February, 2013.**

_____ (SEAL)
* _____

Kevin D. Matzke (SEAL)
*Kevin D. Matzke

_____ (SEAL)
* _____

_____ (SEAL)
* _____

AUTHENTICATION

Signature(s) _____

authenticated this day of , 2013

* _____

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, _____
authorized by § 706.06, Wis. Stats.)

THIS INSTRUMENT WAS DRAFTED BY

Paul E. Duerst

Attorney at Law

*Type name below signature.

ACKNOWLEDGMENT

STATE OF WISCONSIN
Marathon County } ss.

Personally came before me this 20th day of **February, 2013** the above named **Kevin D. Matzke** to me known to be the person() who executed the foregoing instrument and acknowledge the same.

Samantha K.
* _____
Notary Public State of Wisconsin.
My Commission (is permanent) (expires: 6/9/13)

SAMANTHA K. SYBEL
NOTARY PUBLIC
STATE OF WISCONSIN

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE; THIS IS A STANDARD FORM, ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

SWS Vision Form SDD03WI Rev. 08/27/2007

OFF-SOURCE J PROPERTY

IMPROPERLY ABANDONED MONITORING WELL

STATE OF WISCONSIN - MARATHON COUNTY
RECORDED
01/21/2008 4:12:54 PM
MICHAEL J. SYDOW, REGISTER OF DEEDS

DOC# 1499758

State Bar of Wisconsin Form 3-2003
QUIT CLAIM DEED

Document Number | Document Name

Michael J. Sydow

Recording Area

Name and Return Address
Abby Bank
2100 Stewart Ave
Wausau WI 54401
pick #11

291-2807-014-0905 ✓ Lot 1
Parcel Identification Number (PIN)

This ___ is not ___ homestead property.
(is) (is not)

291.4.2807.014.0904 ✓
0.L.1

1493265

THIS DEED, made between EUGENE R. CROOKS and CAROL L. CROOKS, husband and wife ("Grantor," whether one or more), and GRANDVIEW STORAGE LLC, a Wisconsin limited liability company ("Grantee," whether one or more).

Grantor quit claims to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Marathon County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

Lot one (1) and Outlot one (1) of Certified Survey Map No. 14998 recorded in the office of the Register of Deeds for Marathon County, Wisconsin, in Volume 67 of Certified Survey Maps on page 80; being part of the Southeast quarter (SE ¼) of the Southeast quarter (SE ¼) of Section one (1), Township twenty-eight (28) North, Range seven (7) East, in the City of Wausau, Marathon County, Wisconsin.

FEE
#77.25 (15S
EXEMPT
77 exempt

Dated 1-18-08

(SEAL) _____ (SEAL)
* _____ * EUGENE R. CROOKS

(SEAL) _____ (SEAL)
* _____ * CAROL L. CROOKS

AUTHENTICATION

Signature(s) _____
authenticated on _____

* _____

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, _____
authorized by Wis. Stat. § 706.06)

THIS INSTRUMENT DRAFTED BY:
Attorney Patrick C. Rowe

ACKNOWLEDGMENT

STATE OF WISCONSIN)
) ss.
Marathon COUNTY)

Personally came before me on _____,
the above-named EUGENE R. CROOKS and CAROL L. CROOKS
to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Joe West
* Joe West
Notary Public, State of Wisconsin
My Commission (is permanent) (expires: 10/2010)

NOTARY PUBLIC STATE OF WISCONSIN

(Signatures may be authenticated or acknowledged. Both are not necessary.)
NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.
© 2003 STATE BAR OF WISCONSIN
QUIT CLAIM DEED FORM NO. 3-2003
* Type name below signatures.

OFF-SOURCE J PROPERTY

IMPROPERLY ABANDONED MONITORING WELL

STATE OF WISCONSIN - MARATHON COUNTY
CSM FILED VOL 76 PAGE 146
01/28/2013 8:15:24 AM
MICHAEL J. SYDOW, REGISTER OF DEEDS

16497

R1640401 1 2

DOC# 1640401

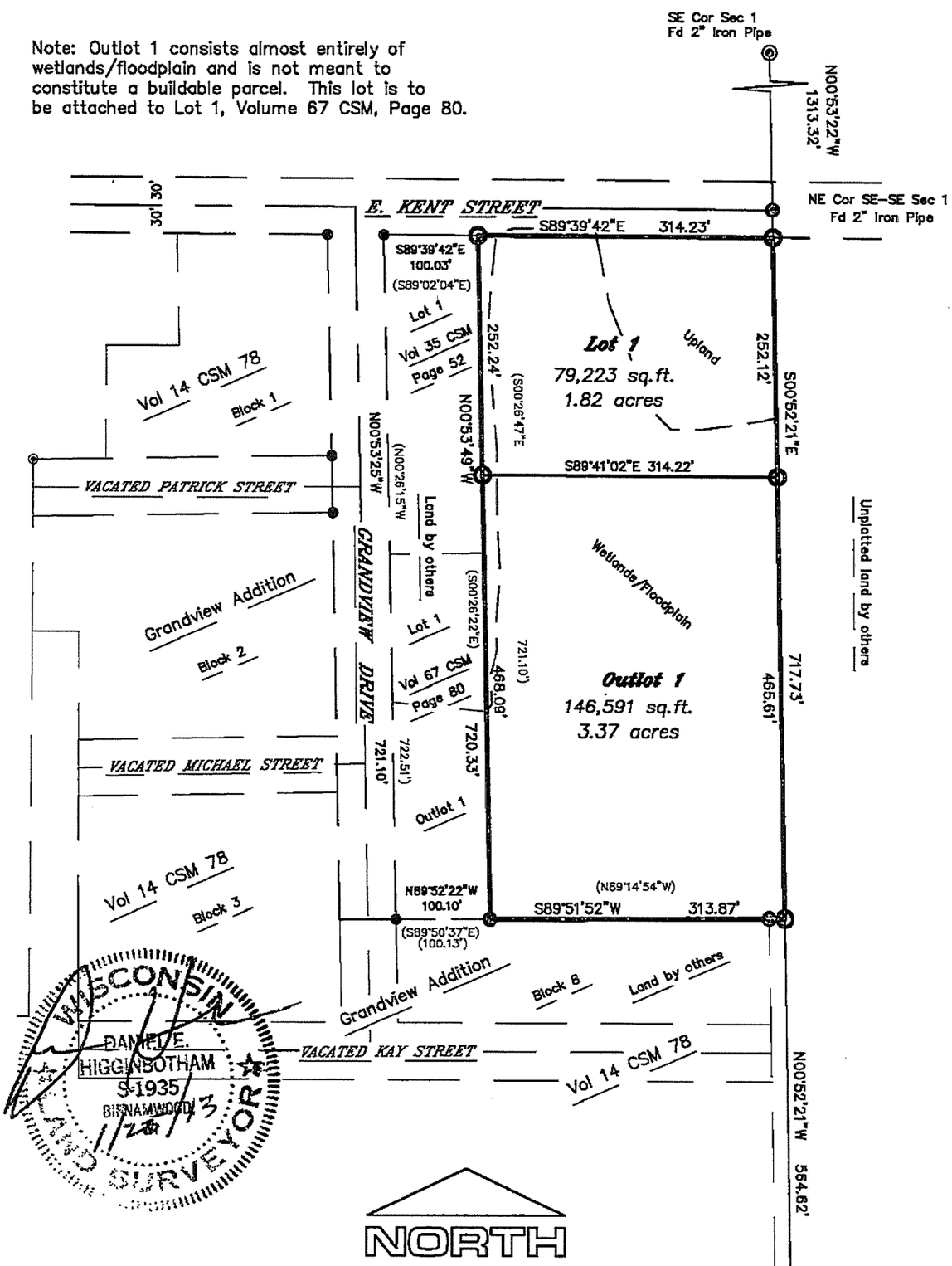
Chg 30.00 Plover River Land
Chg 3.00 " " copy Michael J. Sydow

CERTIFIED SURVEY MAP NO. 16497 VOL 76 PAGE 146

OF PART OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 1, TOWNSHIP 28 NORTH, RANGE 7 EAST, CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN,

Lot 1: 291.4 2807.014.0897
Outlot 1: 291.4 2807.014.0898

Note: Outlot 1 consists almost entirely of wetlands/floodplain and is not meant to constitute a buildable parcel. This lot is to be attached to Lot 1, Volume 67 CSM, Page 80.



- 3/4" X 24" IRON ROD WEIGHING 1.68 LBS/LINEAL FOOT SET
- FOUND 2.25" OD I. PIPE
- FOUND 1.25" OD I. PIPE
- FOUND PK NAIL OR RR SPIKE
- FOUND GOV'T CORNER
- () RECORD DATA

GRAPHIC SCALE

0 75 150 300

1 inch = 150 ft.

BEARINGS ARE REFERENCED TO THE EAST LINE OF THE SE 1/4 OF SEC 1 ASSUMED TO BEAR N 0° 52' 21" W

SHEET 1 OF 2

SURVEY PROVIDED BY:

PLOVER RIVER LAND CO., INC. P4225 PINEVIEW RD BIRNAMWOOD WI 54414 (715)449-2229

OVERALL.DWG 1-19-13 2:16:20 pm EST

OFF-SOURCE
J
PROPERTY

IMPROPERLY ABANDONED
MONITORING WELL

MARATHON COUNTY CERTIFIED SURVEY MAP

I, Daniel E. Higginbotham, Registered Land Surveyor, hereby certify:

That I have surveyed and mapped by the order of Kevin Matzke, a parcel of land being part of the Southeast ¼ of the Southeast ¼ of Section 1, Township 28 North, Range 7 East, City of Wausau, Marathon County more particularly described as follows:

Commencing at the Southeast corner of Section 1; thence N 0° 52' 21" W, 564.62 feet along the East line of the Southeast ¼ of Section 1 to the point of beginning of the parcel herein described; thence S 89° 51' 52" W, 313.87 feet along the North line of Block 8 of Grandview Addition and the Easterly extension thereof to the Southeast corner of Outlot 1, Volume 67 Certified Survey Maps, Page 80; thence N 0° 53' 49" W, 720.33 feet along the East line of said Certified Survey Map and the Northerly extension thereof to the Southerly R/W of Kent Street; thence S 89° 39' 42" E, 314.23 feet along the Southerly R/W of Kent Street to the East line of the Southeast ¼ of Section 1; thence S 0° 52' 21" E, 717.73 feet along the East line of the Southeast ¼ of Section 1 to the point of beginning of the parcel herein described.

Said parcel contains 226,174 Square Feet or 5.19 Acres.
Subject to all roadways and easements of record.

That such plat is a correct representation of all exterior boundaries of the land surveyed and the subdivision thereof made to the best of my knowledge and belief;

That I have fully complied with the provisions of Chapter 236.34 of the Wisconsin Statutes.

Dated this 17th day of January, 2013.

WISCONSIN
DANIEL E. HIGGINBOTHAM
S-1935
BIRNAMWOOD, WI
LAND SURVEYOR

R.L.S. No. S-1935

Prepared by:
Plover River Land Co., Inc.
P4225 Pineview Rd.
Birnamwood, WI 54414

Prepared for:
Kevin Matzke
6812 Apache Lane
Weston, WI 54476

Sheet 2 of 2 Sheets

I _____
ZONING ADMINISTRATOR
BEING DULY APPOINTED BY THE COMMON COUNCIL, DO HEREBY CERTIFY THE ATTACHED CERTIFIED SURVEY MAP HAS BEEN REVIEWED AND THERE ARE NO OBJECTIONS TO RECORDING THIS CERTIFIED SURVEY BY THE REGISTER OF DEEDS' OFFICE.

DATE 1-23-2013

DOC# 1640401

OFF-SOURCE J PROPERTY

IMPROPERLY ABANDONED MONITORING WELL

14998

Lot1: 291.4.2807.014.0905
Outlot1: 291.4.2807.014.0904

STATE OF WISCONSIN - MARATHON COUNTY
CSM FILED VOL 67 PAGE 80
10/23/2007 3:23:47 PM
MICHAEL J. GYDOW, REGISTER OF DEEDS
Pd ck 13-

DOC # 1493265

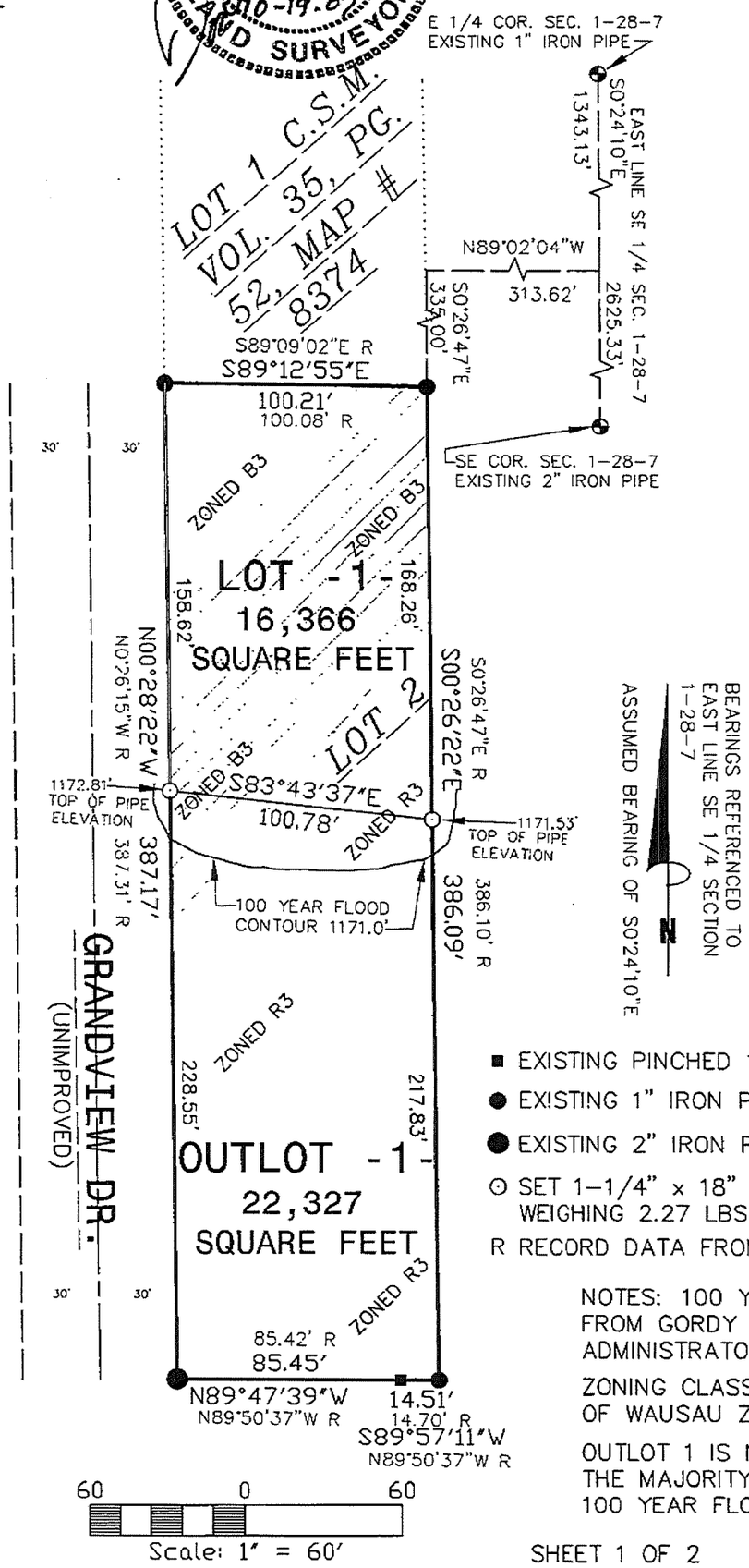
Michael J. Gydow

WISCONSIN DAVID L. OSTERBRINK S-2014 WAUSAU WIS. 10-19-07 LAND SURVEYOR

LOT 1 C.S.M. VOL. 35, PG. 52, MAP # 8374

10/03/21

CERTIFIED SURVEY MAP BEING LOT 2 OF CERTIFIED SURVEY MAP RECORDED IN VOLUME 35, PAGE 52, MAP # 8874 LOCATED IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 1, TOWNSHIP 28 NORTH, RANGE 7 EAST, CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN.



- ■ EXISTING PINCHED 1" IRON PIPE
- ● EXISTING 1" IRON PIPE
- ● EXISTING 2" IRON PIPE
- ⊙ SET 1-1/4" x 18" IRON PIPE WEIGHING 2.27 LBS. / LIN. FT.
- R RECORD DATA FROM C.S.M. VOL. 35, PG. 52

NOTES: 100 YEAR FLOOD ELEVATION OBTAINED FROM GORDY POPKO, CITY OF WAUSAU ZONING ADMINISTRATOR.

ZONING CLASSIFICATIONS SCALED FROM CITY OF WAUSAU ZONING MAPS.

OUTLOT 1 IS NOT A BUILDABLE LOT BECAUSE THE MAJORITY OF THE LOT IS BELOW THE 100 YEAR FLOOD ELEVATION.

SHEET 1 OF 2

OFF-SOURCE J PROPERTY

IMPROPERLY ABANDONED MONITORING WELL

CERTIFIED SURVEY MAP

I, David L. Osterbrink, Registered Land Surveyor, hereby certify that I have surveyed, divided and mapped at the direction of Eugene and Carol Crooks, owners, Lot 2 of Certified Survey Map recorded in Volume 35, Page 52, Map # 8874, located in the Southeast ¼ of the Southeast ¼ of Section 1, Township 28 North, Range 7 East, City of Wausau, Marathon County, Wisconsin, described as follows,

Commencing at the East ¼ corner of said Section 1; thence S0°24'10"E along the East line of the Southeast ¼ of Section 1, 1343.13 feet; thence N89°02'04"W, 313.62 feet; thence S0°26'47"E, 335.00 feet to the intersection with the South line of Lot 1 of Certified Survey Map recorded in Volume 35, Page 52, Map # 8374 and the point of beginning; thence S0°26'22"E, 386.09 feet; thence S89°57'11"W, 14.51 feet; thence N89°47'39"W, 85.45 feet to the intersection with the East right-of-way of Grandview Drive (unimproved); thence N0°28'22"W along said right-of-way, 387.17 feet to the intersection with the South line of Lot 1 of Certified Survey Map recorded in Volume 35, Page 52, Map # 8374; thence S89°12'55"E along said line, 100.21 feet to the point of beginning.

Subject to easements and roadways of record.

That such map is a correct representation of all exterior boundaries of the land surveyed. That I have fully complied with the provisions of Section 236.34 of the Wisconsin Statutes. That this survey is correct to the best of my knowledge and belief.

Prepared by:
Northwoods Surveying LLC
623 Jefferson Street
Wausau, Wisconsin 54403
(715) 845-1249

David L. Osterbrink RLS No. S-2014
October 19, 2007

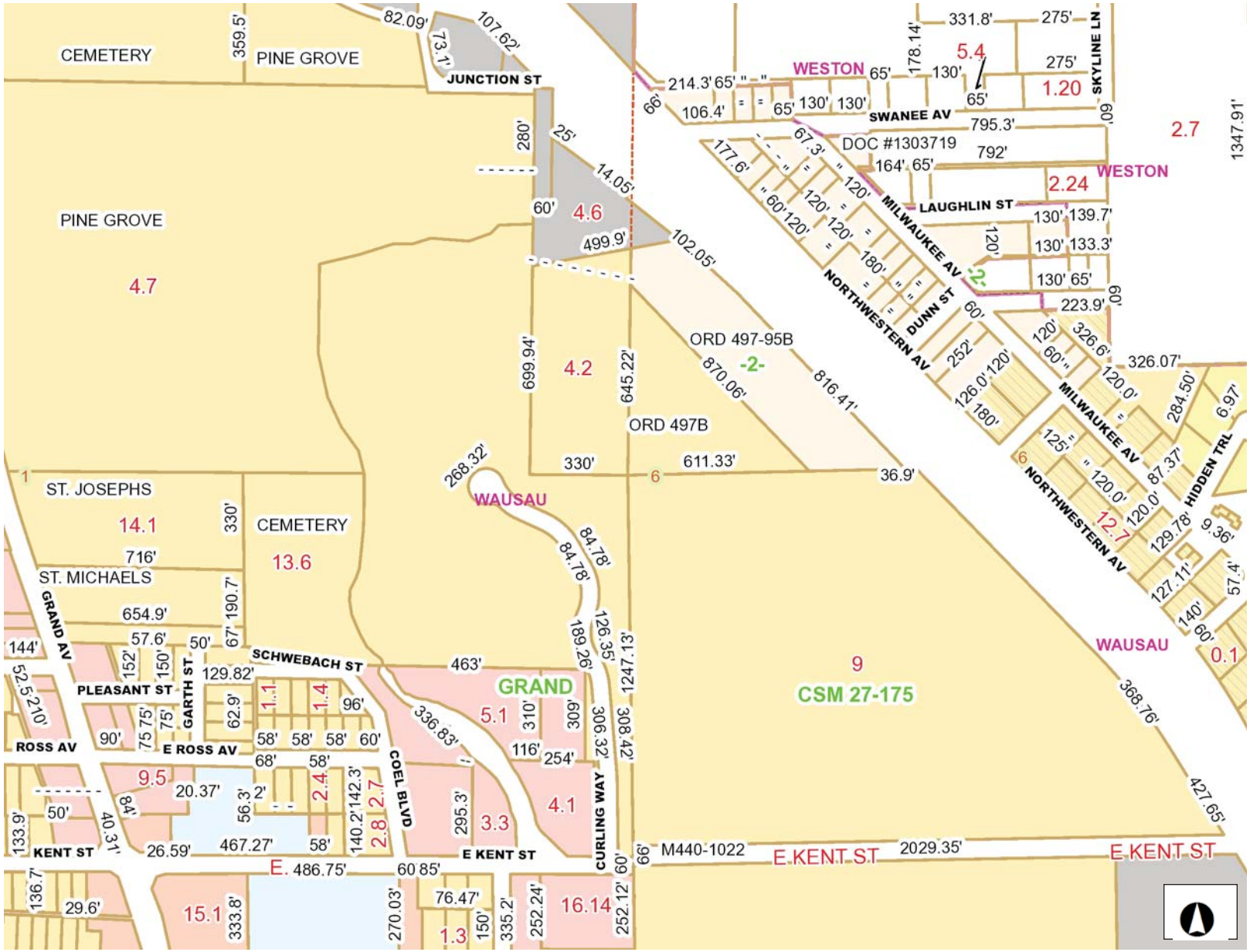
WISCONSIN
DAVID L. OSTERBRINK
S-2014
WAUSAU
WIS.
LAND SURVEYOR

CITY OF WAUSAU ZONING ADMINISTRATOR CERTIFICATE

I, _____ being duly appointed by the Common Council do hereby certify the attached Certified Survey Map has been reviewed and there are no objections to recording this Certified Survey in the Register of Deeds Office.

DOC # 1493265

Land Information Mapping System



Legend

- Parcels
- Land Hooks
- Section Lines/Numbers
- Road Names
- Named Places
- Municipalities
- Wausau Zoning
  - R1 - Single Family Residential
  - R2 - Single Family Residential
  - R3 - Two Family Residential
  - R31 - Two Family Residential
  - R4 - General Residential
  - R41 - Limited General Residential
  - R42 - Medium Density Residential
  - B1 - Neighborhood Shopping
  - B2 - Community Service
  - B3 - General Commercial
  - B41 - Central Business
  - B42 - Central Business
  - B43 - Central Business
  - M1 - Limited Industrial
  - M2 - General Industrial
  - IP - Industrial Park
  - M1P - Limited Industrial Park
  - IR - Interchange Residential
  - IB - Interchange Business
  - IM - Interchange Industrial
  - UDD - Unified Development Dist

250.00 0 250.00 Feet

User_Defined_Lambert_Conformal_Conic

DISCLAIMER: The information and depictions herein are for informational purposes and Marathon County-City of Wausau specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Marathon County-City of Wausau will not be responsible for any damages which result from third party use of the information and depictions herein or for use which ignores this warning.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Signed Statement

The Case Closure documentation provides legal descriptions and deeds for the Source Properties and Other Impacted Properties, as presented in Attachment G.

I believe that these deeds and legal descriptions accurately describe the contaminated properties.

Dave Eisenreich

Dave Eisenreich
Holtz Krause Steering Committee