GIS REGISTRY
Cover Sheet

May, 2009
(RR 5367)

Source Property Information

CLOSURE DATE: Feb 11, 2010

BRRTS #: 06-60-202664

FID #: 460032430

ACTIVITY NAME: C. Reiss Coal Co./Sheboygan Lakefront Property

DATCP #:

PROPERTY ADDRESS: 1011 S. 8th Street and 820 Indiana Avenue

COMM #:

MUNICIPALITY: Sheboygan

PARCEL ID #: See attachment

***WTM COORDINATES:**

X: 704586 Y: 366269

** 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)

Contaminated Media:

☒ Groundwater Contamination > ES *(236)*

☐ Contamination in ROW

☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property")*

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

☐ Contamination in ROW

☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property")*

Land Use Controls:

☐ N/A *(Not Applicable)*

☐ 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)*

*(**note:** maintenance plan for groundwater or direct contact)*

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government or economic development corporation)*

Monitoring Wells:

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

○ Yes ● No ○ N/A

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

GIS Registry Checklist

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

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

BRRTS #: 06-60-202664 PARCEL ID #: See attached page for list of parcel identification numbers

ACTIVITY NAME: Former C. Reiss Coal Co. / Sheboygan Lakefront WTM COORDINATES: X: See Y: page

CLOSURE DOCUMENTS (the Department adds these items to the final GIS packet for posting on the Registry)

- [X] **Closure Letter**
- [X] **Maintenance Plan** (*if activity is closed with a land use limitation or condition (land use control) under s. 292.12, Wis. Stats.*)
- [ ] **Conditional Closure Letter**
- [X] **Certificate of Completion (COC)** for VPLE sites

SOURCE LEGAL DOCUMENTS

- [X] **Deed:** The most recent deed as well as legal descriptions, for the **Source Property** (where the contamination originated). Deeds for other, off-source (off-site) properties are located in the **Notification** section.
  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.*
- [ ] **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)).

  Figure #: **Title:**
- [X] **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description accurately describes the correct contaminated property.

MAPS (meeting the visual aid requirements of s. NR 716.15(2)(h))

Maps must be no larger than 8.5 x 14 inches unless the map is submitted electronically.

- [X] **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 parcels. If groundwater standards are exceeded, include the location of all potable wells within 1200 feet of the site.
  Note: *Due to security reasons municipal wells are not identified on GIS Packet maps. However, the locations of these municipal wells must be identified on Case Closure Request maps.*

  Figure #: 1 **Title: Site Location Map**
- [X] **Detailed Site Map:** A map that shows all relevant features (buildings, roads, individual property boundaries, 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 s. NR 720.09, 720.11 and 720.19.

  Figure #: **Title: See attached page**
- [X] **Soil Contamination Contour Map:** For sites closing with residual soil contamination, <u>this map is to show the location of all contaminated soil and a single contour</u> 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 s. NR 720.09, 720.11 and 720.19.

  Figure #: **Title: See attached page**

BRRTS #: 06-60-202664 ACTIVITY NAME: Former C. Reiss Coal Co. / Sheboygan Lakefront

MAPS (continued)

☒ **Geologic Cross-Section Map:** A map showing the source location and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL). If groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES) when closure is requested, show the source location and vertical extent, water table and piezometric elevations, and locations and elevations of geologic units, bedrock and confining units, if any.

Figure #: 3 **Title: Geologic Cross Location Map [for Property #2]**

Figure #: 4 **Title: Geologic Cross Sections A-A' and B-B' [for Property #2]**

☒ **Groundwater Isoconcentration Map:** For sites closing with residual groundwater contamination, this map shows the horizontal extent of all groundwater contamination exceeding a ch. NR140 Preventive Action Limit (PAL) and an Enforcement Standard (ES). Indicate the direction and date of groundwater flow, based on the most recent sampling data.
Note: *This is intended to show the total area of contaminated groundwater.*

Figure #: **Title: See attached page**

☒ **Groundwater Flow Direction Map:** A map that represents groundwater movement at the site. If the flow direction varies by more then 20° over the history of the site, submit 2 groundwater flow maps showing the maximum variation in flow direction.

Figure #: 3 **Title: Groundwater Contour Map (July 19 & 20, 2005) [for Property #1]**

Figure #: 2 **Title: Groundwater Contour Map (12-28-06) [for Property #2]**

TABLES (meeting the requirements of s. NR 716.15(2)(h)(3))

Tables must be no larger than 8.5 x 14 inches unless the table is submitted electronically. Tables must not contain shading and/or cross-hatching. The use of **BOLD** or *ITALICS* is acceptable.

☒ **Soil Analytical Table:** A table showing remaining soil contamination with analytical results and collection dates.
Note: This is one table of results for the contaminants of concern. Contaminants of concern are those that were found during the site investigation, that remain after remediation. It may be necessary to create a new table to meet this requirement.

Table #: **Title: See attached page**

☒ **Groundwater Analytical Table:** Table(s) that show the most recent analytical results and collection dates, for all monitoring wells and any potable wells for which samples have been collected.

Table #: **Title: See attached page**

☒ **Water Level Elevations:** Table(s) that show the previous four (at minimum) water level elevation measurements/dates from all monitoring wells. If present, free product is to be noted on the table.

Table #: **Title: See attached page**

IMPROPERLY ABANDONED MONITORING WELLS

For each monitoring well not properly abandoned according to requirements of s. NR 141.25 include the following documents.
Note: *If the site is being listed on the GIS Registry for only an improperly abandoned monitoring well you will only need to submit the documents in this section for the GIS Registry Packet.*

☐ **Not Applicable**

☒ **Site Location Map:** A map showing all surveyed monitoring wells with specific identification of the monitoring wells which have not been properly abandoned.
Note: *If the applicable monitoring wells are distinctly identified on the Detailed Site Map this Site Location Map is not needed.*

Figure #: **Title:**

☒ **Well Construction Report:** Form 4440-113A for the applicable monitoring wells.

☐ **Deed:** The most recent deed as well as legal descriptions for each property where a monitoring well was not properly abandoned.

☐ **Notification Letter:** Copy of the notification letter to the affected property owner(s).

BRRTS #: 06-60-202664 ACTIVITY NAME: Former C. Reiss Coal Co. / Sheboygan Lakefront

NOTIFICATIONS

Source Property

☐ **Letter To Current Source Property Owner:** If the source property is owned by someone other than the person who is applying for case closure, include a copy of the letter notifying the current owner of the source property that case closure has been requested.

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying current source property owner.

Off-Source Property

Group the following information per individual property and label each group according to alphabetic listing on the "Impacted Off-Source Property" attachment.

☐ **Letter To "Off-Source" Property Owners:** Copies of all letters sent by the Responsible Party (RP) to owners of properties with groundwater exceeding an Enforcement Standard (ES), and to owners of properties that will be affected by a land use control under s. 292.12, Wis. Stats.
Note: *Letters sent to off-source properties regarding residual contamination must contain standard provisions in Appendix A of ch. NR 726.*

Number of "Off-Source" Letters:

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying any off-source property owner.

☐ **Deed of "Off-Source" Property:** The most recent deed(s) as well as legal descriptions, for all affected deeded **off-source property(ies).** This does not apply to right-of-ways.
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.*

☒ **Letter To "Governmental Unit/Right-Of-Way" Owners:** Copies of all letters sent by the Responsible Party (RP) to a city, village, municipality, state agency or any other entity responsible for maintenance of a public street, highway, or railroad right-of-way, within or partially within the contaminated area, for contamination exceeding a groundwater Enforcement Standard (ES) and/or soil exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).

Number of "Governmental Unit/Right-Of-Way Owner" Letters: 1

PARCEL IDENTIFICATION NUMBERS

59281-300200
59281-300210
59281-300220
59281-300020
59281-300090
59281-300100
59281-321300
59281-321310
59281-505730
59281-505740
59281-505750

WTM COORDINATES

Property #1: 704586 , 366269
Property #2: 704053, 365959

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN
DEPT. OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128
FAX 414-263-8606
Telephone 414-263-8500
TTY Access via relay - 711

February 11, 2010

Ms. Paulette Enders
Redevelopment Authority of the City of Sheboygan
807 Center Avenue
Sheboygan, WI 53081

Subject: A *Certificate of Completion* for the Environmental Investigation and Cleanup of Property Owned by the Redevelopment Authority of the City of Sheboygan referred to as the former C. Reiss Coal Co./Sheboygan Lakefront property located at 1011 South 8th St. and 820 Indiana Avenue, Sheboygan, Wisconsin

Dear Ms. Enders:

The Department of Natural Resources ("the Department") has received your request for issuance of a *Certificate of Completion* for the environmental investigation and cleanup of property owned by the Redevelopment Authority of the City of Sheboygan located at 1011 South 8th St. and 820 Indiana Avenue, Sheboygan, Wisconsin, referred to in this letter as "the Property". You have requested that the Department determine whether the Redevelopment Authority of the City of Sheboygan has met the requirements under s. 292.15(2), Wis. Stats., for issuance of a *Certificate of Completion.*

The Property is an irregular-shaped parcel of real property encompassing approximately 43 acres identified by Sheboygan County parcel identification numbers 59281-300200, 59281-300210, 59281-300220, 59281-300020, 59281-300090, 59281-300100, 59281-300300, 59281-300310, 59281-505730, 59281-505740 and 59281-505750.

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 the conditions in s. 292.15(2), Wis. Stats., have been met. Attached is the *Certificate of Completion* for this Property.

The Department appreciates the work undertaken by the Redevelopment Authority of the City of Sheboygan to investigate and cleanup contamination associated with the Property. The exemption provided by the *Certificate of Completion* applies to any successor or assignee of the Redevelopment Authority of the City of Sheboygan if the successor or assignee complies with the appropriate conditions, pursuant to s. 292.15(3), Wis. Adm. Code. If you have any questions or concerns regarding this letter or the *Certificate of Completion*, please call me at (414) 263-8533.

Sincerely,

Nancy D. Ryan

Nancy D. Ryan, Hydrogeologist
Remediation and Redevelopment

Attachment: *Certificate of Completion*

cc: SER site file
Land Recycling Program

State of Wisconsin
Department of Natural Resources

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

Whereas, **the Redevelopment Authority of the City of Sheboygan** has applied for an exemption from liability under s. 292.15, Wis. Stats., for the property located at **1011 South 8th Street and 820 Indiana Avenue, Sheboygan**, which is commonly referred to as the former C. Reiss Coal Co./Sheboygan Lakefront property further described in the legal description found on Attachment A ("the Property");

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

Whereas, **the Redevelopment Authority of the City of Sheboygan** has submitted to the WDNR certain investigation reports and a remedial action plan for the Property which comply with the requirements set forth in chs. NR 700-754, Wis. Adm. Code, consisting of the documents and reports listed in Attachment B;

Whereas, in accordance with s. 292.15(2)(ae), Wis. Stats., the WDNR has determined that an environmental investigation has been conducted which adequately identified and evaluated the nature and extent of the hazardous substance discharges on the Property and WDNR has approved of the site investigation and remedial action plan for the Property;

Whereas, **the Redevelopment Authority of the City of Sheboygan** has paid to WDNR the appropriate insurance fee and has submitted a complete insurance application form to obtain coverage under the state'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, the Property with soil contamination that exceeds residual contaminant levels ("RCLs") under ch. NR 720, Wis. Adm. Code and groundwater contamination that exceeds a ch. NR 140 enforcement standard, will be included on the department's geographic information system registry of closed remediation sites and the voluntary party has submitted all the information to the WDNR necessary to be included on this registry pursuant to s. NR 726.05(3)(a)4., Wis. Adm. Code;

Whereas, on February 12, 2009, WDNR issued a case closure letter for the Property (Attachment C). The closure determination was based on a land use plan of mixed use development, that did not include single family residential use. The WDNR closure letter requires maintenance of engineered controls in order to minimize infiltration of water for the purpose of preventing further degradation of groundwater quality that would violate groundwater quality standards in ch. NR 140, Wis. Adm. Code, and to prevent direct contact with residual soil contamination that might otherwise pose a threat to public health, safety or welfare. The case closure letter described the following requirements to which current and future owners of the Property shall adhere to:

Cover or Barrier

Pursuant to s. 292.12(2)(a), Wis. Stats., the engineered barrier consisting of asphalt and concrete pavements, building floor slabs and a soil cover system that currently exists in the locations shown on the attached map shall be maintained in compliance with the attached maintenance plan (attached to the closure letter in attachment C) 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 residual soil contamination that might otherwise pose a threat to human health. If soil in the specific locations described above is excavated in the future, the Property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present, the Property owner at the time of excavation will need to determine whether the material would be considered solid or hazardous waste and ensure that any transportation, storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the Property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The attached maintenance plan and inspection log shall be maintained by the City of Sheboygan, kept up-to-date and, and the inspection log need only be submitted to the Department upon request.

Prohibited Activities

The following activities are prohibited on any portion of the Property where pavement, a building foundation, soil cover, engineered cap or other barrier is required as shown on the attached map, unless prior written approval has been obtained from the WDNR: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; or 6) construction or placement of a building or other structure.

Seawall

The seawall that currently exists along the Property boundary with the Sheboygan River as shown on the attached map shall be maintained in compliance with the **attached maintenance plan** (attached to closure letter in Attachment C) in order to serve as a physical barrier to limit river water influx into the site, groundwater discharge from the site and erosion of contaminated soil from the site. The attached maintenance plan and inspection log are to be maintained by the City of Sheboygan, kept up-to-date, and the inspection log need only be submitted to the Department upon request.

Remaining Residual Groundwater Contamination

Groundwater impacted by volatile organic compounds contamination greater than enforcement standards set forth in ch. NR140, Wis. Adm. Code, is present on the Property. For more detailed information regarding the locations where groundwater samples have been collected (i.e., monitoring well locations) and the associated contaminant concentrations, refer to the Remediation and Redevelopment Program's GIS Registry at the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm.

Monitoring Wells that could not be properly abandoned

Sigma Environmental Services notified the Department that Monitoring well(s) MW-109, MW-112, MW-113, MW-116, MW-203, MW-303 located on Property #1 and monitoring wells MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 located on Property #2 could not be properly abandoned because they had been lost due to being paved over, covered or removed during site development activities. Your consultant has made a reasonable effort to locate the lost wells to determine whether they properly abandoned but has been unsuccessful in those efforts. The owner of this Property is responsible under s. 292.11, Stats for any discharges of hazardous substances that are caused if those monitoring wells create a conduit for contaminants to enter groundwater. This Certificate of Completion does not provide a liability exemption from any hazardous substance discharge that occurs after the approval of the site investigation. If in the future any of the lost groundwater monitoring wells are found, the owner of the Property shall notify the WDNR, shall properly abandon the wells in compliance with the requirements in ch. NR 141, Wis. Adm. Code, and submit the required documentation of that abandonment to the WDNR.

Whereas, on Feb 12. 2009, the WDNR granted an exemption under NR 140.28(2)(a) for having iron, manganese, chloride and sulfate in groundwater above ch. NR 141, Wis. Adm. Code public welfare enforcements standards;

Whereas, if the requirements of case closure are not followed, or if the Property is used for single family housing without the prior approval of the WDNR, 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 WDNR determined that response actions necessary to restore the environment to the extent practicable with respect to the discharges and minimize the harmful effects from the discharges to the air, land, and waters of the state were completed, except with respect to groundwater contaminated with trichloroethene above ch. NR 140, Wis. Adm. Code, enforcement standard that WDNR has determined will be brought into compliance through natural attenuation, in accordance with rules promulgated by WDNR.

Therefore, based upon the information that has been submitted to the WDNR, the WDNR hereby certifies that the response actions set forth in the WDNR approved remedial action plan for the Property and any other necessary response actions have been completed, except with respect to trichloroethene contaminated groundwater above ch. NR 140, Wis. Adm. Code, enforcement standards that WDNR has determined will be brought into compliance through natural attenuation, in accordance with rules promulgated by WDNR.

Upon issuance of this Certificate, **the Redevelopment Authority of the City of Sheboygan** and the 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 department approved the environmental investigation required under s. 292.15(2)(ae)1., Wis. Stats. However, **the Redevelopment Authority of the City of Sheboygan** and a person otherwise qualified for protection under s. 292.15(3), Wis. Stats., 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 conditions in this Certificate, the February 12, 2009 case closure letter and maintenance plan [Attachment C], s. 292.12, Wis. Stats., and administrative rules promulgated by the WDNR. Any releases 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 fails, the insurance coverage under s. 292.15(2)(ae)3m., Wis. Stats., may be used to cover the costs of complying with s. 292.11(2), 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 knowing failure to disclose material information or under circumstances in which **the Redevelopment Authority of the City of Sheboygan** 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 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 3rd day of February, 2010.

Matthew Frank, Secretary
Wisconsin Department of Natural Resources

ATTACHMENT A
LEGAL PROPERTY DESCRIPTION
Former C. Reiss Coal Co./Sheboygan Lakefront Property

See Attached Exhibit "1" and "1-A"

ATTACHMENT B
INVESTIGATION AND REMEDIAL ACTION PLAN REPORTS
Former C. Reiss Coal Co./Sheboygan Lakefront Property

1. Phase II Subsurface Contaminant Assessment, C. Reiss Coal Facility. April 13, 1992. STS.

2. Volumes 1 and 2, Phase III Contamination Assessment and Remedial Action Plan – Koch Carbon Inc. C. Reiss Coal Co. Facility, Sheboygan, WI. STS Consultants. April 1993.

3. Environmental Site Assessment. C. Reiss Coal Co.-Sheboygan Lakefront Property. May 1998. Rust Environment & Infrastructure.

4. Site Investigation Report, The C. Reiss Coal Company-Sheboygan Lakefront Property. April 1999. EarthTech, Inc.

5. Remedial Action Plan. Sheboygan Lakefront Property. August 2000. EarthTech, Inc.

6. Remedial Action Plan. Sheboygan Lakefront Property, Sheboygan, WI. Vol. 1 and 2. June 2001. EarthTech, Inc.

7. Soil, Surface Water, and Groundwater Investigation Reports. The C. Reiss Coal Company-Sheboygan Lakefront Property. Vol. 1 and 2. October 2001. EarthTech, Inc.

8. Former C. Reiss Coal-Sheboygan Lakefront Property. Revisions to Soil Excavation areas in Remedial Action Plan. May 29, 2002. Sigma Environmental Services.

9. Berm Soil Management Plan, Former C. Reiss Coal & Bulge Properties, Sheboygan, WI. September 27, 2002. Sigma Environmental Services.

10. Material Handling and Engineered Barrier Plan. Former C. Reiss Coal Co. Property-Harbor Centre South Pier Remediation and Redevelopment Project, Sheboygan, WI. May 19, 2003. Sigma Environmental Services.

11. Remedial Action Completion Report. Excavation of Impacted Soil Areas and Berm Soil Management Activities. Sheboygan Harbor Centre South Pier Project. December 15, 2003. Sigma Environmental Services.

12. Engineered Barriers and Post-Remediation Groundwater Monitoring Update Report. Sheboygan Harbor Centre South Pier District, Sheboygan, WI. March 11, 2005. Sigma Environmental Services.

13. Phase II Subsurface Investigation Report, NW Corner of 8th St. and Indiana Ave., Sheboygan. October 7, 2003. Sigma Environmental Services.

14. Report of a Phase I Environmental Site assessment. NW Corner of 8th St. and Indiana Ave., Sheboygan. March 18, 2004. Sigma Environmental Services.

15. Subsurface Investigation Report and Conceptual Remedial Action Plan, Former C. Reiss Coal Property #2, NW Corner of 8th St. and Indiana Ave., Sheboygan. June 9, 2005. Sigma Environmental Services.

16. Post-Remediation Groundwater Monitoring Update. Sheboygan Harbor Centre South Pier District, Sheboygan, WI. September 28, 2005. Sigma Environmental Services.

17. Site Investigation Groundwater monitoring update. Former C. Reiss Coal Property #2, NW Corner of 8th St. and Indiana Ave., Sheboygan. April 6, 2006. Sigma Environmental Services.

18. Direct Contact Remedial Action Plan for Administration Building area, Former C. Reiss Coal Property – Property #1. July 6, 2006. Sigma Environmental Services.

19. Remedial Action Plan, Former C. Reiss Coal Property #2, NW corner of 8th St. and Indiana Ave., Sheboygan. August 2006. Sigma Group.

20. Project Status and Groundwater Monitoring Update. Former C. Reiss Coal Company Property #2. Northwest Corner of 8th St. and Indiana Ave., Sheboygan, WI. January 29, 2007. The Sigma Group.

21. Request for Case Closure for Former C. Reiss Coal Co./Sheboygan Lakefront Property #1 – 1011 S. 8th St., Sheboygan, WI. Property #2 – 820 Indiana Ave., Sheboygan, WI. November 17, 2008. Sigma Group

ATTACHMENT C
Closure letter with Barrier and Seawall Maintenance Plans
Former C. Reiss Coal Co./Sheboygan Lakefront Property

See attached February 12, 2009 Case Closure letter

EXHIBIT "1"

Legal Description of the Premises

Parcel 1:

Lots One (1), Two (2), Three (3), Four (4), Five (5) and Six (6) of Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan, Wisconsin.

Also, that part of vacated South Seven Street between the South line of the Sheboygan River and the North line of East Water Street, which lies adjacent to Lot One (1), Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan.

Tax Key Number: 300220

Parcel 2:

All of Lots Seven (7), Eight (8), Nine (9) and Ten (10), of Block Two Hundred Thirty-nine (239) of the Original Plat of the City of Sheboygan, Wisconsin.

Tax Key Number: 300210

Parcel 3:

Lots Eleven (11) and Twelve (12), of Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan, Wisconsin. Excepting that portion taken by the City of Sheboygan for street purposes as described in an Award of Damages, dated January 17, 1995, recorded in the Office of the Register of Deeds for Sheboygan County, Wisconsin, in Volume 1378 of Records, at Pages 535/6, as document #1420646, as follows: Commencing at the southwest corner of Block 239 and said Lot 12; thence N01°36'20" W along the east right-of-way line of South 8th Street and the west line of Lot 12 a distance of 18.13 feet; thence N88°35'44"E 48.31 feet to the northerly right-of-way line of Water Street; thence along said right-of-way S67°59'49"W 51.54 feet to the point of commencement.

Tax Key Number: 300200

Parcel 4:

Parts of Lots 3, 4, 5, and 6, all in Block 241 of the Original Plat of Sheboygan, located in the City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Commencing at the original SW corner of said Block 241; thence N01°-36'-20" W, along the east right-of-way line of S. 9th Street, 5.43 feet to the Point of Beginning of this description; thence continuing N01°-36-20" W, along said east right-of-way, 61.47 feet to the NW corner of said Block 241, and the south right-of-way line of East Water Street; thence S89°-29'-40" E, along the south right-of-way line of East Water Street, 213.19 feet to a point on the arc of a curve

to the right, having its radius point bearing northwesterly, 403.50 feet; thence southwesterly 89.06 feet along the arc of said curve, the long chord of which bears S58°-42'-49" W, 88.88 feet to a point of compound curvature, the radius point of the following curve bearing northwesterly, 118.50 feet; thence southwesterly 48.45 feet along the arc of said curve, the long chord of which bears S76°-44'-58" W, 48.11 feet to the end of said curve; thence S88°-27'-44" W, 88.71 feet to the Point of Beginning and the end of this description.

Tax Key Number: 505730 and 505740

Parcel 5:

Part of Lots 1 and 2, and all of Lots 3, 4, 5, and 6, all in Block 242 of the Original Plat of Sheboygan, located in the City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Beginning at the SW corner of said Block 242; thence N01°-36'-20" W, along the east right-of-way line of S 9th Street, 210 feet, more or less, to the southerly normal high water mark of the Sheboygan River, said point also being the NW corner of said Block 242; thence southeasterly, along said normal high water mark of the Sheboygan River, 349.39 feet to a point which is 18.00 feet west of the east line of said Block 242; thence S01°-36'-20" E, 46 feet, more or less, to a point which is 18.00 feet west of the east line of said Block 242, and 108.18 feet north of the south line of said Block 242; thence S89°-29'-25" E, 10.26 feet to a point on the arc of a curve to the right, having its radius point bearing northwesterly, 403.50 feet; thence southwesterly 122.21 feet along the arc of said curve, the long chord of which bears S27°-52'-49" W, 121.74 feet to the south line of said Block 242 and the north right-of-way line of East Water Street; thence N89°-29'-40" W, along said south line of Block 242, 293.31 feet to the Point of Beginning and the end of this description.

Tax Key Number: 505750

Parcel 6:

All of Block 207, all of Block 208, all of Block 209, all of Block 235, all of Block 236, all of Lots 1 through 10, Block 239, part of vacated East Water Street, part of vacated Maryland Avenue, part of vacated New Jersey Avenue, part of vacated S. 5th Street, part of vacated S. 6th Street, all in the Original Plat of Sheboygan, and also part of Government Lot 6 of Section 23, and part of unplatted lands located in the NEl/4 of Section 26, all in Tl5N, R23E, City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Commencing at the SW corner of said Block 239; thence N01°-36'-20" W, along the east right-of-way line of S. 8th Street and the west line of said Block 239, 18.13 feet to the Point of Beginning of this description; thence continuing N01°-36'-20" W, along the west line of said Block 239, 129 feet, more or less, to the normal high water mark of the Sheboygan River and the NW corner of said Block 239; thence northeasterly, 3183 feet, more or less, along the normal high water mark of the Sheboygan River; thence S09°-20'-55" E, 5 feet more or less, to a point which is N50°-57'-56" E, 2911.97 feet from said SW corner of Block 239; thence S09°-20'-55"

E, 426.26 feet; thence S41°-10'-33" W, 751.41 feet; thence S31°-08°-20" W, 98.52 feet; thence S34°-37'-55" W, 329.79 feet; thence S43°-31'-12" W, 161.04 feet to the beginning of a curve to the right, having its radius point bearing northwesterly, 131.00 feet; thence southwesterly, 75.01 feet along the arc of said curve, the long chord of which bears S59°-55'-25" W, 73.99 feet to the end of said curve; thence S76°-19'-38" W, 212.56 feet to the north right-of-way line of Illinois Avenue, at a point which is N88°-33'-11" E, 424.16 feet from a 2" diameter iron pipe marking the SE corner of Block 236 of the Original Plat of Sheboygan; thence S88°-33'-11" W, along the north right-of-way line of Illinois Avenue, 703.17 feet to the northwesterly right-of-way line of East Water Street; thence S35°-00'-42" W, along said northwesterly right-of-way line 30.07 feet; thence S49°-25'-48" W, along said northwesterly right-of-way line, 130.94 feet; thence S67°-59'-49" W, along said northwesterly right-of-way line, 376.62 feet; thence S88°-35'-32" w, 48.31 feet to the Point of Beginning and the end of this description.

Tax Key Numbers: 300020, 300090 (Home Security Company), 300100, 321300, and 321310 (Home Security Company)

EXHIBIT "1-A"

Block 242, Original Plat of the City of Sheboygan except that part of Lots 1 and 2 described as: Commencing at the Southeast Corner of said Lot 1; thence North 89° 29' 25" W. 67.71' along the South line of Lots 1 and 2; thence nearly 122.20' along the arc of a curve to the left having a radius of 403.50'. the Chord of which bears North 27° 53' 00" E 121.73'; thence North 89° 29' 25" W. 10' 26"; thence N 1° 36' 20" W. 45' 00" to the South line of the Sheboygan River; thence South 80° 26' 18" E 18.33' downstream along the shore of the river to the E Line of Lot 1; thence South 1° 36' 20" E 150.30' along the E line of Lot 1 to the point of beginning.

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128
FAX 414-263-8606
Telephone 414-263-8500
TTY Access via relay - 711

February 12, 2009

Ms. Paulette Enders
Redevelopment Authority of the City of Sheboygan
807 Center Avenue
Sheboygan, WI 53081

SUBJECT: Final Case Closure with Land Use Limitations or Conditions
Former C. Reiss Coal Co./Sheboygan Lakefront Property, Property #1, 1011 S. 8th St. and Property #2, 820 Indiana Ave., Sheboygan, WI
WDNR BRRTS Activity #: 02-60-000470 (Property #1) and 02-60-529018 (Property #2) FID#460032430

Dear Ms. Enders:

On January 8, 2009, a request for closure of the above referenced cases was presented to the Wisconsin Department of Natural Resources (the Department) Southeast Region Closure Committee. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases.

Based on the correspondence and data provided, it appears that your case meets the requirements of ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time.

GIS Registry

The conditions of case closure set out below in this letter require that your site be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

- Residual soil contamination exists that must be properly managed should it be excavated or removed
- Pavement, an engineered cover or a soil barrier must be maintained over contaminated soil and the state must approve any changes to this barrier
- The seawall that borders the Sheboygan River on Property #1 must be maintained
- Groundwater contamination is present above Chapter NR 140 enforcement standards
- One or more monitoring wells were not located and must be properly abandoned if found

Information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm. If your property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior 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. This form can be obtained on-line at http://dnr.wi.gov/org/water/dwg/3300254.pdf or at the web address listed above for the GIS Registry.

Closure Conditions

Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which the Redevelopment Authority of the City of Sheboygan and any subsequent property owners must adhere. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. It is the Department's intent to conduct inspections in the future to ensure that the conditions included in this letter including compliance with referenced maintenance plans are met.

Cover or Barrier

Pursuant to s. 292.12(2)(a), Wis. Stats., the engineered barrier consisting of asphalt and concrete pavements, building floor slabs and a soil cover system that currently exists in the locations shown on the attached map shall be maintained in compliance with the **attached 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 residual soil contamination that might otherwise pose a threat to human health. If soil in the specific locations described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present, the property owner at the time of excavation will need to determine whether the material would be considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The attached maintenance plan and inspection log shall be maintained by the City of Sheboygan, kept up-to-date and, and the inspection log need only be submitted to the Department upon request.

Prohibited Activities

The following activities are prohibited on any portion of the property where [pavement, a building foundation, soil cover, engineered cap or other barrier] is required as shown on the attached map, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; or 6) construction or placement of a building or other structure.

Seawall

The seawall that currently exists along the property boundary with the Sheboygan River as shown on the attached map shall be maintained in compliance with the **attached maintenance plan** in order to serve as a physical barrier to limit river water influx into the site, groundwater discharge from the site and erosion of contaminated soil from the site. The attached maintenance plan and inspection log are to be maintained by the City of Sheboygan, kept up-to-date, and the inspection log need only be submitted to the Department upon request.

Remaining Residual Groundwater Contamination

Groundwater impacted by volatile organic compounds contamination greater than enforcement standards set forth in ch. NR140, Wis. Adm. Code, is present on the contaminated property. For more detailed information regarding the locations where groundwater samples have been collected (i.e., monitoring well locations) and the associated contaminant concentrations, refer to the Remediation and Redevelopment Program's GIS Registry at the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm.

Monitoring Wells that could not be properly abandoned

Your consultant, Sigma Environmental Services notified the Department that monitoring well(s) MW-109, MW-112, MW-113, MW-116, MW-203, MW-303 located on Property #1 and monitoring wells MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 located on Property #2 could not be properly abandoned because they had been lost due to being paved over, covered or removed during site development activities. Your consultant has made a reasonable effort to locate the lost wells to determine whether they properly abandoned but has been unsuccessful in those efforts. You need to understand that in the future you may be held liable for any problems associated with monitoring wells if they create a conduit for contaminants to enter groundwater. If in the future any of the lost groundwater monitoring wells are found, the then current owner of the subject property will be required to notify the Department and to properly abandon the wells in compliance with the requirements in ch. NR 141, Wis. Adm. Code, and to submit the required documentation of that abandonment to the Department.

Because these lost monitoring wells were not properly abandoned, your site will be listed on the DNR Remediation and Redevelopment GIS Registry.

Chapter NR 140, Wis. Adm. Code Exemption

Recent groundwater monitoring data at this site indicates exceedances of one or more of the ch. NR 140, Wis. Adm. Code, public welfare enforcement standards for iron, manganese, chloride and sulfate at monitoring wells MW-7, MW-108R, MW-9R, MW-110A, MW-111R, MW-112R, MW-113R, MW-114, MW-115, PZ-115A, MW-116R, PZ-116A, MW-117, MW-203R, MW-301-R, MW-302, MW-303, MW-304, MW-305, MW-306 on Property #1 and MW-1, MW-2, MW-3R, MW-5R, MW-6R and MW-7R on Property #2. The Department may grant an exemption for a substance of public welfare concern, or nitrate, pursuant to s. NR 140.28(2)(a), Wis. Adm. Code, if actions have been taken to achieve the lowest possible concentration for that substance which is technically and economically feasible and the existing or anticipated increase in the concentration of that substance does not present a threat to public health or welfare.

Based on the information you provided, the Department believes that the above criteria have been or will be met. Therefore, pursuant to s. NR 140.28(2)(a), Wis. Adm. Code, an exemption to the enforcement standards is granted for iron, manganese, chloride and sulfate at the above-referenced wells. This letter serves as your exemption.

The Department 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 Nancy Ryan at (920) 892-8756 ext. 3025.

Sincerely,

Frances M. Koonce

Frances M. Koonce
Southeast Region Remediation & Redevelopment Sub-team Team Supervisor

cc: SER site file ✓
Adam Roder, Sigma Environmental Services
Bill Phelps, WDNR, DG/2

ENGINEERED BARRIER MAINTENANCE PLAN
FORMER C. REISS COAL COMPANY PROPERTIES #1 AND #2
HARBOR CENTRE SOUTH PIER DISTRICT
1011 S. 8TH STREET & 820 INIDANA AVENUE, SHEGOYGAN, WISCONSIN 53081
VPLE BRRTS #06-60-202664
FEBRUARY 2009

Property #1 and Property #2 have been developed under direction of the Redevelopment Authority of the City of Sheboygan. Property #1 has been improved with asphalt and concrete pavements, sidewalks, multiple buildings with concrete floor slabs, and a soil cover system in green space areas to limit exposure to residual contamination in underlying soil and limit precipitation infiltration in the central area of the site. Property #2 has also been improved with asphalt and concrete pavements, sidewalks, one a building with a concrete floor slab, and a soil cover system in green space areas to limit exposure to residual contamination in underlying soil. An overview of these surface cover systems is provided below:

- Roadways consist of 8 inches of concrete pavement installed over approximately 10 inches of gravel base course.
- Parking lots consist of a minimum of 3 inches of asphalt pavement installed over approximately 9 inches of gravel base course.
- Sidewalks consist of approximately 4 inches of concrete pavement installed over several inches of gravel base course.
- Building floor slabs consist of approximately 6 inches of concrete installed over at least 9 inches of gravel base course.
- The soil cover system consists of 1.5 feet of clean imported soil covered with 6 inches of vegetated topsoil. In most cases the 1.5 feet zone of clean soil consists of silty clay or clay. In the central area of Property #1 as shown in **Figure 1**, the 1.5-foot thick zone of clean soil increases to 2 feet in order to limit precipitation infiltration; this zone of soil is compacted clay that meets the grain size specifications set forth in Wisconsin Administrative Code, Chapter NR 504.06(2)(a)1 for landfill liners. This 2-foot thick layer of compacted clay is also covered with 6 inches of vegetated topsoil.

These site improvements that serve as engineered barriers are depicted on **Figure 1** ("Engineered Barrier Map for Property #1") and **Figure 2** ("Engineered Barrier Map for Property #2") and cannot be disturbed without prior approval from the Wisconsin Department of Natural Resources (WDNR).

While construction is complete at Property #2 as of the date of this document, it is expected that additional construction will occur on Property #1. Any future alterations to the engineered barrier system on Property #1 must be pre-approved by the WDNR and follow the conditions set forth in this Engineered Barrier Maintenance Plan. The normal operation of the engineered barriers will serve as a physical barrier between site soils and typical, non-invasive users of the site and limit precipitation infiltration into the subsurface. The engineered barriers will function as intended unless disturbed.

Disturbance Management

The City of Sheboygan and any subsequent property owner will take the following steps to assure that uncontrolled disturbances of the engineered barrier do not occur:

- The WDNR's case closure documents and Geographic Information System (GIS) Registry will establish any future land use, development, and management restrictions for the site. This Engineered Barrier Maintenance Plan will be incorporated into the case closure documents and/or GIS Registry, which will together identify the environmental impacts, the nature of the engineered barriers, and the requirements regarding the management of impacted soils.

- A copy of this Engineered Barrier Maintenance Plan will be available from the City of Sheboygan (and any subsequent property owner) to all interested parties.

- A copy of this Engineered Barrier Maintenance Plan will be provided to all utility companies seeking easements for the purpose of installing utilities at the site.

- A copy of this Engineered Barrier Maintenance Plan will be provided to all contractors and repair workers, including utility and landscaping services, for construction and repair activities that may disturb the subsurface soil.

Inspections of Engineered Barriers

Inspections will be performed by the City of Sheboygan or its agents to assure that the engineered barriers are functioning as planned:

- Inspections of the engineered barriers will be performed on an approximately annual basis for all accessible areas. Inspections should be completed when the ground surface is readily visible and free of visual impediments (e.g., snow, parking lots completely filled with parked vehicles, etc.).

- As necessary, the engineered barriers will be repaired to maintain integrity. Repairs may include, but are not limited to, the following:

    - Patching, sealing, or replacing asphalt and concrete pavements where it has cracked or otherwise broken to expose underlying soil;

    - Patching, sealing, or replacing concrete floor slabs within buildings where it has cracked or otherwise broken to expose underlying soil; and

    - Filling low spots in greenspace areas with clean topsoil and stabilizing the area with vegetation to match the surrounding ground cover.

- An inspection log will be maintained to record any disturbances of the engineered barriers and the steps that have been taken to maintain the integrity of the engineered barriers. The inspection log will be made available for inspection by representatives of the WDNR upon reasonable prior request. The on-site inspection log will be maintained by the City of Sheboygan and any subsequent property owner as long as inspection and maintenance of the engineered barriers are

required. An example inspection log page is included with this Engineered Barrier Maintenance Plan.

Planned Breaches of Engineered Barriers

In the event an engineered barrier is breached, the following precautions shall be taken:

- The excavation zone and any soils excavated will be secured from public access until the engineered barrier is restored.

- The City of Sheboygan (or subsequent property owner) will make soil data available to workers who will penetrate the engineered barrier to allow for appropriate health and safety planning.

- All material excavated from beneath an engineered barrier will be returned to the excavation prior to the restoration of the engineered barrier. While on-site, the excavated soil will be placed on an impervious surface (e.g., asphalt pavement, concrete pavement, or plastic) and covered with plastic. Excess soil that cannot be returned to the excavation will be sampled and disposed of at a licensed landfill facility in accordance with applicable solid and/or hazardous waste rules and regulations.

- The engineered barrier will be restored in accordance with the "Material Handling & Engineered Barrier Plan..." dated May 19, 2003 (as approved by the Wisconsin Department of Natural Resources on May 21, 2003) and as summarized within this Engineered Barrier Maintenance Plan to meet original conditions as soon as possible.

- Details of the engineered barrier breach, the handling of excavated soils, individuals responsible for the work, and the restoration of the engineered barrier shall be recorded in the engineered barrier maintenance log.

Protocol for Management of Buried Underground Piping

Some of the underground piping associated with former bulk petroleum aboveground storage tanks (ASTs) has been abandoned in-place at Property #1. The former ASTs and piping locations as determined from the best available drawings are depicted on Figure 3 ("Former AST & Potential Underground Piping Map").

The environmental issues associated with the remnant underground piping may include the possibility of asbestos wrap around the piping and the potential for residual petroleum hydrocarbon liquid remaining within the piping. In order to maintain environmental and human safety if the underground piping from the former bulk petroleum AST system is encountered during future excavation work, the following protocol shall be implemented:

- Municipal, state, and/or federal rules and regulations regarding proper asbestos abatement and disposal shall be followed during all activities that disturb the piping. Municipal, state, and/or federal rules and regulations regarding proper petroleum hydrocarbon product management and disposal shall be followed during all activities that disturb the piping.

- A qualified environmental professional shall be retained to conduct and monitor the activities.

- Any residual free liquids within the piping shall be contained in storage containers of sufficient size and composition such that the liquid may be temporarily stored within the container; the liquid shall then be disposed at a licensed treatment/disposal facility.

- Once all available free liquids from within the piping have been adequately removed, the end(s) of the piping shall be sealed with 3,000 psi concrete such that a plug at least one foot in thickness seals the end(s) of the piping.

- The excavation shall be backfilled with the excavated soil if suitable for compaction and post-excavation land uses and the engineered barrier shall be reconstructed as described above in the "Planned Breaches of Engineered Barriers" section.

- The excavated portion of piping shall be disposed of at a landfill facility that is licensed to accept asbestos-containing waste.

Amendments

The Engineered Barrier Maintenance Plan may be amended or withdrawn upon written approval from the WDNR or its successor agency.

Contact Information

- For responsible party and owner information contact:
  Redevelopment Authority of the City of Sheboygan
  c/o Department of City Development
  807 Center Avenue
  Sheboygan, WI 53081
  Telephone: (920) 459-3379
  Contact: Ms. Paulette Enders, Director of Planning and Development

- For environmental consultant information contact:
  Sigma Environmental Services, Inc.
  1300 West Canal Street
  Milwaukee, WI 53233
  Telephone: (414) 643-4200
  Contact: Mr. Adam Roder, P.E.

- For Wisconsin Department of Natural Resources information contact:
  Wisconsin Department of Natural Resources
  Plymouth Service Center
  11555 Pilgrim Parkway
  Plymouth, WI 53073
  Telephone: (920) 892-8756 x 3025
  Contact: Ms. Nancy Ryan

ENGINEERED BARRIER INSPECTION LOG
FORMER C. REISS COAL COMPANY PROPERTIES #1 AND #2
HARBOR CENTRE SOUTH PIER DISTRICT
1011 S. 8TH STREET & 820 INIDANA AVENUE, SHEGOYGAN, WISCONSIN 53081
VPLE BRRTS #06-60-202664

Inspection Date	Inspector	Condition of Cap	Recommendations	Have recommendations from previous inspection been implemented?

City of Sheboygan
spirit on the lake

SHEBOYGAN RIVER

STA. 0+00 (FOR START OF SEAWALL INSPECTIONS)

CONCRETE TRAIL

EXPOSED REVETMENT

ASPHALT TRAIL

LAKE MICHIGAN

SHORELINE (VARIES)

APPROXIMATE LIMIT OF SOIL FROM FORMER BERMS (AS PLACED IN MARCH 2003) WITH IMPERMEABLE ENGINEERED BARRIERS

BURIED REVETMENT

EXTENT OF SOIL COVER SYSTEM, PAVEMENT, AND BUILDING FLOOR SLAB ENGINEERED BARRIERS

LEGEND

⊙,⊙ = FORMER MONITORING WELLS

⊙,⊙ = FORMER PIEZOMETER LOCATIONS

N

0 150 ft.

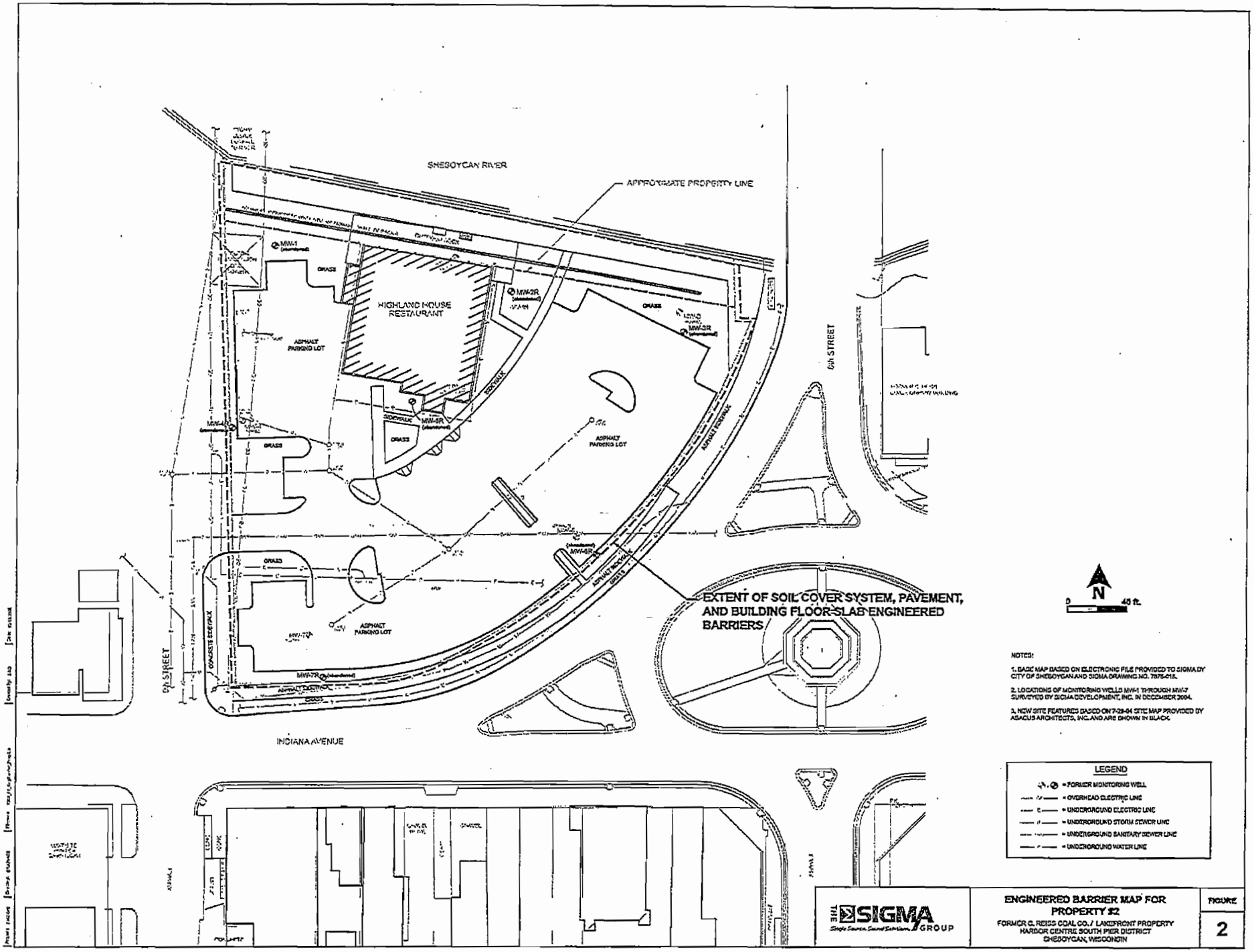
NOTE: BASEMAP IS SIGMA DRAWING NO. 7302-046

THE SIGMA GROUP

ENGINEERED BARRIER MAP FOR PROPERTY #1

FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN

FIGURE 1



NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN AND SIGMA DRAWING NO. 7976-01B.

2. LOCATIONS OF MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

3. NEW SITE FEATURES BASED ON 7-29-04 SITE MAP PROVIDED BY ABACUS ARCHITECTS, INC. AND ARE SHOWN IN BLACK.

LEGEND

- = FORMER MONITORING WELL
- = OVERHEAD ELECTRIC LINE
- = UNDERGROUND ELECTRIC LINE
- = UNDERGROUND STORM SEWER LINE
- = UNDERGROUND SANITARY SEWER LINE
- = UNDERGROUND WATER LINE

THE SIGMA GROUP
Single Source. Sound Solution.

ENGINEERED BARRIER MAP FOR PROPERTY #2

FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN

FIGURE
2

City of Sheboygan
spirit on the lake

SHEBOYGAN RIVER

SHEBOYGAN RIVER

LAKE MICHIGAN

MW-301R
MW-301
MW-108R
MW-107
MW-305
MW-302
MW-113R
MW-113
MW-11R
MW-12
PZ-113A
MW-115
MW-114
PZ-116A
MW-116R
MW-109R
MW-204
MW-203
MW-306
MW-203R
MW-106

LEGEND

⊗ = FORMER MONITORING WELL

⊙ = FORMER PIEZOMETER LOCATION

—— = POTENTIAL PIPE LOCATION

N

0 150 ft.

NOTE: BASEMAP IS SIGMA DRAWING NO. 7302-046, NO. 7302-030 AND NO. 7302-039.

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FORMER AST & POTENTIAL UNDERGROUND PIPING MAP

FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN

FIGURE 3

SEAWALL MAINTENANCE PLAN
FORMER C. REISS COAL COMPANY PROPERTY #1
HARBOR CENTRE SOUTH PIER DISTRICT
1011 S. 8TH STREET, SHEGOYGAN, WISCONSIN 53081
VPLE BRRTS #06-60-202664
OCTOBER 2008

The northern and western edges of Property #1 border the Sheboygan River. Between March and October 2003, a new seawall (steel sheet piles with a concrete cap and integrated promenade walkway) was installed along the entire length of Property #1. The new seawall was installed just outboard of the previous wood pile and steel sheet pile seawalls, beginning at the base of South Pier and extending west past the 8th Street bridge. The void between the new steel sheet piles and existing retaining structure was filled with low-strength slurry. In addition to providing the structural stability needed to develop Property #1 adjacent to the Sheboygan River, the interlocking sheet piles used to construct the seawall provide a physical barrier to limit river water influx into the site and groundwater discharge (particularly chloride) from the site.

Seawall Management

The City of Sheboygan and any subsequent property owner will take the following steps to assure that uncontrolled disturbances of the seawall do not occur:

- The Wisconsin Department of Natural Resources' (WDNR's) case closure documents and Geographic Information System (GIS) Registry will establish any future land use, development, and management restrictions for the site. This Seawall Maintenance Plan will be incorporated into the case closure documents and/or GIS Registry, which will together identify the environmental impacts and the requirements regarding the management of the seawall relative to the environmental impacts.

- A copy of this Seawall Maintenance Plan will be available from the City of Sheboygan (and any subsequent property owner) to all interested parties.

- A copy of this Seawall Maintenance Plan will be provided to all contractors and repair workers for construction and/or repair activities that may disturb the seawall.

Inspections of Seawall

Inspections will be performed by the City of Sheboygan or its agents to assure that the seawall is functioning as planned. Observations should be referenced by station numbers, with an origin at the base of South Pier (i.e., Sta. 0+00) and continuing to the 8th Street bridge.

- Visual inspections of the seawall above the river's water line, concrete cap, and promenade walkway will be performed on an annual basis for all accessible areas. Areas of inspection may include, but are not limited to: ultrasonic thickness measurements of the steel sheet piles near the water line, and identifying missing bolts in the seawall; rust, dents, or other holes in the seawall; cracks in concrete components; and subsidence of the promenade walkway or other soil areas inland

of the seawall. Inspections should be completed when the ground surface and seawall is readily visible and free of visual impediments (e.g., snow, ice, etc.).

- Underwater inspections of the seawall below the river's water line will be performed after any river dredging operations adjacent to the site or if visual inspections show evidence of potentially more significant problems that require an underwater inspection. At a minimum, an underwater inspection will be performed every five (5) years. Areas of inspection may include, but are not limited to: depth measurements to river sediments, tapping the face of the sheet piles with a hammer to estimate the "soundness" of the steel, and any visual observations allowed by water clarity.

- As necessary, the seawall will be repaired to maintain integrity. Repairs may include, but are not limited to, the following:

    - Grouting open holes in the sheet piles or joints between sheet piles;

    - Repairing or replacing any loose wood fenders;

    - Repairing sections of steel sheet piles; and

    - Repairing concrete components of the cap and/or promenade walkway that experience deterioration or subsidence.

- An inspection log of the visual inspections will be maintained to record any disturbances to the seawall and the steps that have been taken to maintain the integrity of the seawall. A brief report should also be generated for each underwater inspection that documents the locations of observations, inspection and test results, and recommendations for repairs. The inspection log and underwater inspection reports will be made available for review by representatives of the WDNR upon reasonable prior request. The documentation will be maintained as long as inspection and maintenance of the seawall are required for environmental purposes. An example inspection log page is included with this Seawall Maintenance Plan.

<u>Amendments</u>
The Seawall Maintenance Plan may be amended or withdrawn upon written approval from the WDNR or its successor agency.

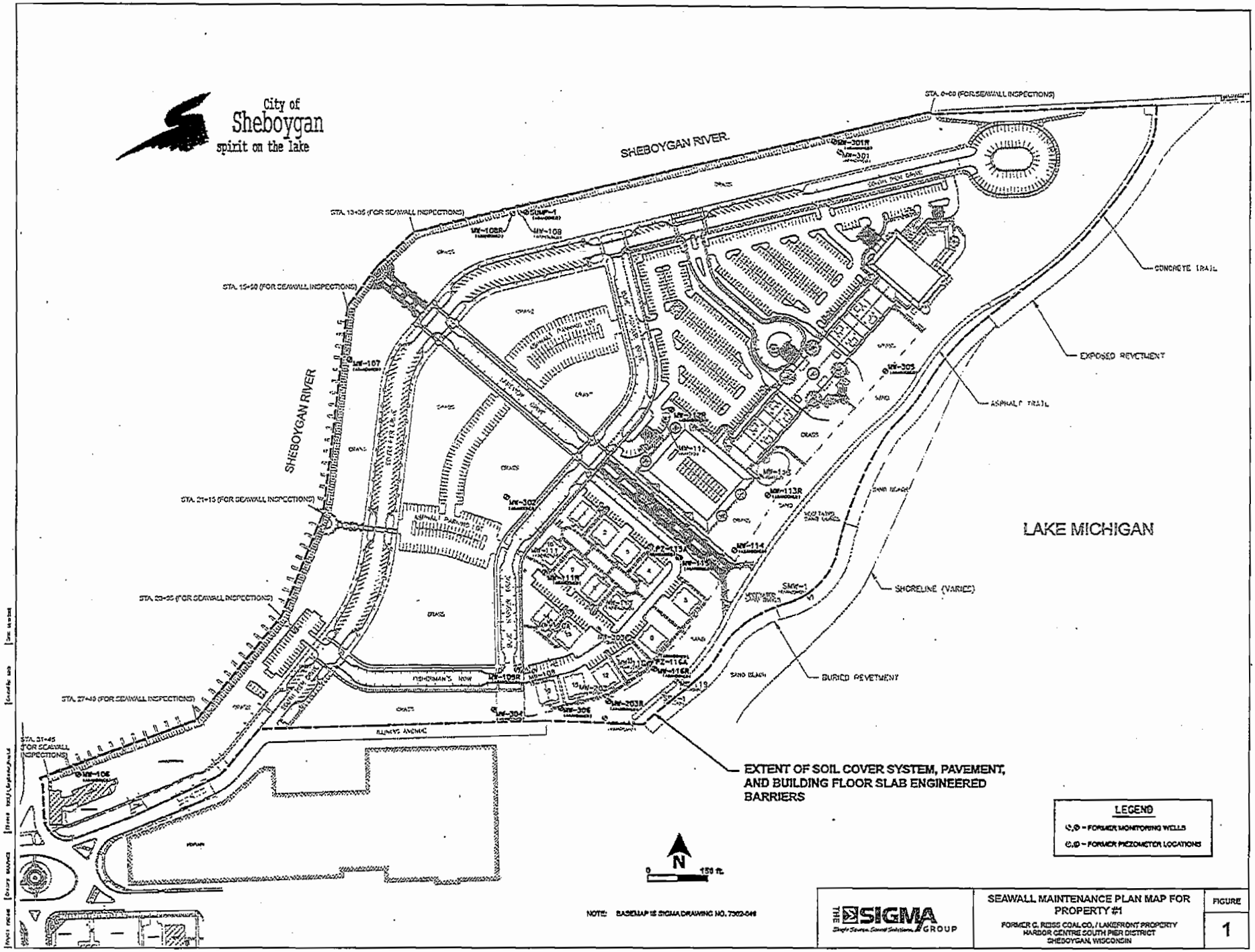
<u>Contact Information</u>
- For responsible party and owner information contact:
    Redevelopment Authority of the City of Sheboygan
    c/o Department of City Development
    807 Center Avenue
    Sheboygan, WI 53081
    Telephone: (920) 459-3379
    Contact: Ms. Paulette Enders, Director of Planning and Development

- For environmental consultant information contact:
  Sigma Environmental Services, Inc.
  1300 West Canal Street
  Milwaukee, WI 53233
  Telephone: (414) 643-4200
  Contact: Mr. Adam Roder, P.E.

- For Wisconsin Department of Natural Resources information contact:
  Wisconsin Department of Natural Resources
  Plymouth Service Center
  11555 Pilgrim Parkway
  Plymouth, WI 53073
  Telephone: (920) 892-8756 x 3025
  Contact: Ms. Nancy Ryan

SEAWALL INSPECTION LOG
FORMER C. REISS COAL COMPANY PROPERTY #1
HARBOR CENTRE SOUTH PIER DISTRICT
1011 S. 8TH STREET, SHEGOYGAN, WISCONSIN 53081
VPLE BRRTS #06-60-202664

Inspection Date	Inspector	Condition of Seawall	Recommendations	Have recommendations from previous inspection been implemented?


City of
Sheboygan
spirit on the lake
SHEBOYGAN RIVER
SHEBOYGAN RIVER
STA. 0+00 (FOR SEAWALL INSPECTIONS)
STA. 13+35 (FOR SEAWALL INSPECTIONS)
STA. 15+50 (FOR SEAWALL INSPECTIONS)
STA. 21+15 (FOR SEAWALL INSPECTIONS)
STA. 23+35 (FOR SEAWALL INSPECTIONS)
STA. 27+40 (FOR SEAWALL INSPECTIONS)
STA. 31+45 (FOR SEAWALL INSPECTIONS)
CONCRETE TRAIL
EXPOSED REVETMENT
ASPHALT TRAIL
LAKE MICHIGAN
SHORELINE (VARIES)
BURIED REVETMENT
EXTENT OF SOIL COVER SYSTEM, PAVEMENT, AND BUILDING FLOOR SLAB ENGINEERED BARRIERS
LEGEND
⊙,⊙ – FORMER MONITORING WELLS
⊙,⊙ – FORMER PIEZOMETER LOCATIONS
N
0
150 ft.
NOTE: BASEMAP IS SIGMA DRAWING NO. 7362-048
THE SIGMA GROUP
SEAWALL MAINTENANCE PLAN MAP FOR PROPERTY #1
FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN
FIGURE
1

Former C. Reiss coal Co Property #1

Parcel Identification Numbers

59281-300200
59281-300210
59281-300220
59281-300020
59281-300090
59281-300100
59281-300300
59281-300310

Former C. Reiss coal Co Property #2

Parcel Identification Numbers

59281-505730
59281-505740
59281-505750

1698798

SHEBOYGAN COUNTY, WI
RECORDED ON

07/29/2003 09:46AM

DARLENE J. NAVIS
REGISTER OF DEEDS

RECORDING FEE: 35.00
TRANSFER FEE:

STAFF ID 2
TRANS # 26217

OF PAGES: 13

FEE
77.25(3)
EXEMPT

Document Number

AMENDED LIMITED WARRANTY DEED

Document Title

Recording Area

Name and Return Address
City Attorney
807 Center Ave.
Sheboygan, WI 53081-4414

59281-300200, 300210, 300220,
300020, 300090, 300100, 321300,
321310, 505730, 505740 and 505750

Parcel Identification Number (PIN)

This information must be completed by submitter: document title, name & return address, and PIN (if required). Other information such as the granting clause, legal description, etc. may be placed on this first page of the document or may be placed on additional pages of the document. Note: Use of this cover page adds one page to your document and $2.00 to the recording fee. Wisconsin Statutes, §9.17. WRDA 2/96

SCF-3122

AMENDED LIMITED WARRANTY DEED

The C. Reiss Coal Company, a Wisconsin corporation, having an address of P.O. Box 688, Sheboygan, Wisconsin 53082-0688, (hereinafter referred to as "Grantor"), in consideration of the sum of Ten Dollars ($10.00) and other good, valuable, and sufficient consideration, the receipt of which is hereby acknowledged, does hereby grant, bargain, sell, and convey to The Redevelopment Authority of the City of Sheboygan, Wisconsin, a municipal corporation (hereinafter referred to as "Grantee"), all right, title and interest of the Grantor in and to the real estate and appurtenant improvements, described as follows (hereinafter "the Property"):

Tax Parcel Nos. 300200, 300210, 300220, 300020, 300090, 300100, 321300, 321310, 505730, 505740, and 505750

See Exhibit "1" attached hereto and made a part hereof by reference;

SUBJECT, however, to all covenants, rights of way, easements, restrictions, and reservations of record, and further subject to Covenants #1, #2, #3, and #4 attached hereto as Exhibit 2 and made a part hereof by reference, and being further subject to all taxes and assessments, general and special, not now due and payable.

Grantor, for itself, its successors and assigns, does hereby covenant and represent to the Grantee, its successors and assigns, that the Grantor has not made, done, executed, or suffered any act or thing whereby the title to the Property has been encumbered in any manner whatsoever except as stated herein, and that Grantor will warrant and defend title to the Property against all persons lawfully claiming to derive title by, through, or under the Grantor, but not otherwise.

Further, Grantor does hereby place the following covenants and restrictions on the Property and by recording this Limited Warranty Deed, Grantee, for itself, its successors and assigns, agrees that the benefits and burdens of such covenants and restrictions shall attach to the Property and run with the land in perpetuity until released or discharged in writing and filed of record by Grantor, its successors or assigns:

See Exhibit "2" hereto attached and made a part hereof by reference.

Dated this 14th day of July, 2003.

Grantor:

THE C. REISS COAL COMPANY

By: William Reiss Jr.
Name: William Reiss Jr
Title: President

This Amended Limited Warranty Deed is executed to clarify paragraph C. on page 969 of Limited Warranty Deed Recorded at Volume 1890 Pages 960-971 of the Records of the Register of Deeds of Sheyboygan County, Wisconsin.

STATE OF WISCONSIN
) ss:
COUNTY OF SHEBOYGAN)

BE IT REMEMBERED that on this 14th day of JULY, 2003, before me, the undersigned, a Notary Public in and for the County and State aforesaid, personally came WILLIAM REISS, JR, who is personally known and who acknowledged himself to be a duly authorized representative of The C. Reiss Coal Company, a Wisconsin corporation, and that being duly authorized to do so, he executed the foregoing instrument on behalf of The C. Reiss Coal Company.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal on the day and year last above written.

My Appointment Expires:

7/1/07

Gertrude A. Rufnick
Notary Public

EXHIBIT "1"

Legal Description of the Premises

Parcel 1:

Lots One (1), Two (2), Three (3), Four (4), Five (5) and Six (6) of Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan, Wisconsin.

Also, that part of vacated South Seven Street between the South line of the Sheboygan River and the North line of East Water Street, which lies adjacent to Lot One (1), Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan.

Tax Key Number: 300220

Parcel 2:

All of Lots Seven (7), Eight (8), Nine (9) and Ten (10), of Block Two Hundred Thirty-nine (239) of the Original Plat of the City of Sheboygan, Wisconsin.

Tax Key Number: 300210

Parcel 3:

Lots Eleven (11) and Twelve (12), of Block Two Hundred Thirty-nine (239), of the Original Plat of the City of Sheboygan, Wisconsin. Excepting that portion taken by the City of Sheboygan for street purposes as described in an Award of Damages, dated January 17, 1995, recorded in the Office of the Register of Deeds for Sheboygan County, Wisconsin, in Volume 1378 of Records, at Pages 535/6, as document #1420646, as follows: Commencing at the southwest corner of Block 239 and said Lot 12; thence N01°36'20" W along the east right-of-way line of South 8th Street and the west line of Lot 12 a distance of 18.13 feet; thence N88°35'44"E 48.31 feet to the northerly right-of-way line of Water Street; thence along said right-of-way S67°59'49"W 51.54 feet to the point of commencement.

Tax Key Number: 300200

Parcel 4:

Parts of Lots 3, 4, 5, and 6, all in Block 241 of the Original Plat of Sheboygan, located in the City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Commencing at the original SW corner of said Block 241; thence N01°-36'-20" W, along the east right-of-way line of S. 9th Street, 5.43 feet to the Point of Beginning of this description; thence continuing N01°-36-20" W, along said east right-of-way, 61.47 feet to the NW corner of said Block 241, and the south right-of-way line of East Water Street; thence S89°-29'-40" E, along the south right-of-way line of East Water Street, 213.19 feet to a point on the arc of a curve

to the right, having its radius point bearing northwesterly, 403.50 feet; thence southwesterly 89.06 feet along the arc of said curve, the long chord of which bears S58°-42'-49" W, 88.88 feet to a point of compound curvature, the radius point of the following curve bearing northwesterly, 118.50 feet; thence southwesterly 48.45 feet along the arc of said curve, the long chord of which bears S76°-44'-58" W, 48.11 feet to the end of said curve; thence S88°-27'-44" W, 88.71 feet to the Point of Beginning and the end of this description.

Tax Key Number: 505730 and 505740

Parcel 5:

Part of Lots 1 and 2, and all of Lots 3, 4, 5, and 6, all in Block 242 of the Original Plat of Sheboygan, located in the City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Beginning at the SW corner of said Block 242; thence N01°-36'-20" W, along the east right-of-way line of S 9th Street, 210 feet, more or less, to the southerly normal high water mark of the Sheboygan River, said point also being the NW corner of said Block 242; thence southeasterly, along said normal high water mark of the Sheboygan River, 349.39 feet to a point which is 18.00 feet west of the east line of said Block 242; thence S01°-36'-20" E, 46 feet, more or less, to a point which is 18.00 feet west of the east line of said Block 242, and 108.18 feet north of the south line of said Block 242; thence S89°-29'-25" E, 10.26 feet to a point on the arc of a curve to the right, having its radius point bearing northwesterly, 403.50 feet; thence southwesterly 122.21 feet along the arc of said curve, the long chord of which bears S27°-52'-49" W, 121.74 feet to the south line of said Block 242 and the north right-of-way line of East Water Street; thence N89°-29'-40" W, along said south line of Block 242, 293.31 feet to the Point of Beginning and the end of this description.

Tax Key Number: 505750

Parcel 6:

All of Block 207, all of Block 208, all of Block 209, all of Block 235, all of Block 236, all of Lots 1 through 10, Block 239, part of vacated East Water Street, part of vacated Maryland Avenue, part of vacated New Jersey Avenue, part of vacated S. 5th Street, part of vacated S. 6th Street, all in the Original Plat of Sheboygan, and also part of Government Lot 6 of Section 23, and part of unplatted lands located in the NEl/4 of Section 26, all in Tl5N, R23E, City of Sheboygan, Sheboygan County, Wisconsin, and being more particularly described as:

Commencing at the SW corner of said Block 239; thence N01°-36'-20" W, along the east right-of-way line of S. 8th Street and the west line of said Block 239, 18.13 feet to the Point of Beginning of this description; thence continuing N01°-36'-20" W, along the west line of said Block 239, 129 feet, more or less, to the normal high water mark of the Sheboygan River and the NW corner of said Block 239; thence northeasterly, 3183 feet, more or less, along the normal high water mark of the Sheboygan River; thence S09°-20'-55" E, 5 feet more or less, to a point which is N50°-57'-56" E, 2911.97 feet from said SW corner of Block 239; thence S09°-20'-55"

E, 426.26 feet; thence S41°-10'-33" W, 751.41 feet; thence S31°-08°-20" W, 98.52 feet; thence S34°-37'-55" W, 329.79 feet; thence S43°-31'-12" W, 161.04 feet to the beginning of a curve to the right, having its radius point bearing northwesterly, 131.00 feet; thence southwesterly, 75.01 feet along the arc of said curve, the long chord of which bears S59°-55'-25" W, 73.99 feet to the end of said curve; thence S76°-19'-38" W, 212.56 feet to the north right-of-way line of Illinois Avenue, at a point which is N88°-33'-11" E, 424.16 feet from a 2" diameter iron pipe marking the SE corner of Block 236 of the Original Plat of Sheboygan; thence S88°-33'-11" W, along the north right-of-way line of Illinois Avenue, 703.17 feet to the northwesterly right-of-way line of East Water Street; thence S35°-00'-42" W, along said northwesterly right-of-way line 30.07 feet; thence S49°-25'-48" W, along said northwesterly right-of-way line, 130.94 feet; thence S67°-59'-49" W, along said northwesterly right-of-way line, 376.62 feet; thence S88°-35'-32" w, 48.31 feet to the Point of Beginning and the end of this description.

Tax Key Numbers: 300020, 300090 (Home Security Company), 300100, 321300, and 321310 (Home Security Company)

EXHIBIT "1-A"

EXHIBIT "1-A"

Block 242, Original Plat of the City of Sheboygan except that part of Lots 1 and 2 described as: Commencing at the Southeast Corner of said Lot 1; thence North 89° 29' 25" W. 67.71' along the South line of Lots 1 and 2; thence nearly 122.20' along the arc of a curve to the left having a radius of 403.50'. the Chord of which bears North 27° 53' 00" E 121.73'; thence North 89° 29' 25" W. 10' 26"; thence N 1° 36' 20" W. 45' 00" to the South line of the Sheboygan River; thence South 80° 26' 18" E 18.33' downstream along the shore of the river to the E Line of Lot 1; thence South 1° 36' 20" E 150.30' along the E line of Lot 1 to the point of beginning.

EXHIBIT "2"

RESTRICTIVE COVENANTS

As a material part of the consideration received by Grantor for the grant, bargain, sale and conveyance of the Property to Grantee pursuant to this Limited Warranty Deed, it is understood and agreed that all future development, use, possession and ownership of the Property shall be subject to the following limitations and restrictions, which shall attach to and run with the land:

COVENANT #1:

A. No temporary or permanent water or other well shall be constructed, drilled, dug, bored or otherwise placed upon the Property or any part thereof unless permitted in writing in advance by the Wisconsin Department of Natural Resources ("WDNR"), its successors or assigns (except that a groundwater monitoring well that is installed and maintained in accordance with s. NR 141 shall not require specific approval).

B. No person owning, leasing, renting, letting, using, occupying, accessing or improving the Property shall excavate or grade the final engineered barrier, place fill on the capped area, plow the capped area for agricultural cultivation or construct or install a building or other structure with a foundation that would sit or be placed withing the cap or cover unless prior written approval is obtained from WDNR, its successors or assigns. No person owning, leasing, renting, letting, using, occupying, accessing, or improving the property shall drill, dig, bore or otherwise access the soil lying below the WDNR approved engineered barrier to be placed over the surface of the Property by Grantee and/or its successors and assigns as contemplated under Covenant #2 hereof, it being the intention of the Grantor and Grantee that no person shall ever come into physical contact with the soil lying below the WDNR approved engineered barrier to be placed over the surface of the Property by Grantee; except that it is permissible: a) for any hydrogeologist, scientist or professional engineer to collect samples or conduct remedial activities in accordance with s. NR712 and other applicable health and safety rules, laws, regulations and ordinances; and b) for sewers and utilities to be constructed,

repaired, maintained, replaced and removed, provided that adequate precautions are taken to ensure that no person comes into physical contact with the soil or water lying below the engineered barrier described above; or c) where permitted in writing in advance by WDNR, its successors or assigns.

C. Grantor, its successors or assigns, including their designated representatives, shall, upon reasonable advance written notice, have a continuing right of reasonable access to the Property from time to time for the purpose of conducting, sampling, testing, monitoring, analyzing and/or remediating of the groundwater and/or soil and in order to determine the status of any environmental condition existing on the Property from and after the date of this Limited Warranty Deed. Without limitation of any other covenants and agreements set forth in this Limited Warranty Deed, Grantor, its successors and assigns, shall have a continuing right, but not the obligation, to participate in any future environmental investigation, monitoring, evaluation, analysis, planning and/or remediation affecting the Property or any part thereof.

D. Grantee, its successors and assigns, including their designated representatives, shall have a continuing right of reasonable access to the Property from time to time for the purpose of conducting sampling, testing, monitoring, analyzing and/or remediating of the groundwater and/or the soil and in order to determine the status of any environmental condition existing on the Property from and after the date of this Limited Warranty Deed, including, without limitation, the right of access to the Property for the purposes of remediating any environmental condition affecting the Property or any part thereof.

E. Grantor, including its successors or assigns, the City of Sheboygan, Wisconsin, and the WDNR, including their respective successors and assigns, shall each have a non-exclusive continuing right, but not the obligation, to enforce the limitations and restrictions in paragraph A. of this Covenant #1. Grantee, its successors and assigns, shall have a non-exclusive obligation to enforce this Covenant #1.

COVENANT #2:

A. Grantee, on behalf of itself and its successors and assigns, hereby covenants and agrees that promptly following the date of this Limited Warranty Deed, but in any event prior to any grant, sale, conveyance, lease, use or improvement of the Property for residential purposes, it will cause any and all portions of the surface of the Property zoned for or to be used for residential purposes, and all other portions of the surface of the Property as required in the Remedial Action Plan approved by the WDNR, assigned document no. 460032430, as may be amended from time to time (the "RAP") to be evenly covered with an engineered barrier in compliance with the RAP. The obligation to provide the engineered barrier is an ongoing obligation to place, replace and/or repair such barrier. In the event any portions of the Property originally proposed to be used for non-residential purposes are subsequently proposed to be used for residential purposes, Grantee, its successors and assigns, covenant and agree to place, replace and/or repair the engineered barrier to the condition required by the WDNR. At no time shall soil from below the engineered barrier be permanently placed on top of the engineered barrier.

B. Grantee, on behalf of itself and its successors and assigns, shall inspect, use, repair and maintain the seawall along the northerly and westerly boundaries of the Property as required by the RAP.

C. Notwithstanding the foregoing, that portion of the Property described on Exhibit "1-A" shall not be used for residential purposes. Any other portion of the Property not described on Exhibit "1-A" may be used for residential purposes, provided however, that any use of Property not described on Exhibit "1-A" for single family residential purposes shall require that i) the provisions of paragraph A. immediately above are complied with and ii) such single family residential use be permitted by the WDNR in writing prior to such intended single family residential use.

D. Grantor, its successor and assigns, the City of Sheboygan, Wisconsin, and the WDNR, including their respective successors and assigns, shall each have a non-exclusive continuing right to enforce the limitations and restrictions in paragraph A. of this Covenant #2. Grantee, its successors and assigns, shall have a non-exclusive obligation to enforce the limitations and restrictions in paragraph A. of this Covenant #2.

COVENANT #3:

A. Grantee, its successors and assigns, shall fully and completely comply with, at its sole cost and expense, the RAP, and all amendments thereto.

B. Grantor, its successors and assigns, the City of Sheboygan, Wisconsin and WDNR, including their respective successors and assigns, shall each have a non-exclusive continuing right to enforce this Covenant #3.

COVENANT #4:

Neither Grantee, nor its successors and assigns, shall use the Property for a purpose or purposes which shall compete with a purpose of Grantor's business as it is constituted on the date of this Limited Warranty Deed (purchase, sale, storage and handling of bulk commodities) for a period of twenty-five (25) years from the date of this deed, except that the following purposes shall be permissible during such twenty-five (25) year period: unloading, storing and disposition of road salt for streets and roads within the boundaries of the County of Sheboygan; unloading, storing and disposition of materials for public improvement projects within the boundaries of the City of Sheboygan; unloading, storing and disposition of materials for public improvement projects within the boundaries of the City of Sheboygan.

Any person or entity subject to the restrictions and limitations set forth in Covenants #1, #2, #3 and #4 hereof, who directly or indirectly violates or fails to perform any of such restrictions and limitations shall indemnify, defend and hold Grantor, its successors and assigns, harmless from and against all claims, causes of action, liabilities, damages, costs and expenses (including reasonable attorneys' fees and expenses) arising out of any such failure to comply with the restrictions and limitations set forth in Covenants #1, #2, #3 and #4 hereof. The benefits and burdens of these Covenants shall attach to and run with the land and shall be binding upon Grantee, its successors and assigns, and any other person or entity who at any time may claim any estate or interest in the Property, including, without limitation, any right of ownership, or any right to lease, rent, use, occupy, access or improve the Property or any part thereof.

STATEMENT BY RESPONSIBLE PARTY

The Redevelopment Authority of the City of Sheboygan, the responsible party for the property located at 1011 S. 8th Street and 820 Indiana Avenue, Sheboygan, Wisconsin states that the legal description provided to the Wisconsin Department of Natural Resources in this case closure request and Geographic Information System (GIS) Registry packet for WDNR BRRTS #06-60-202664 is complete and accurate to the best of our knowledge.

Jaulette Enders
Signature of Representative for Responsible Party

11-7-08
Date

MAPS

Detailed Site Map

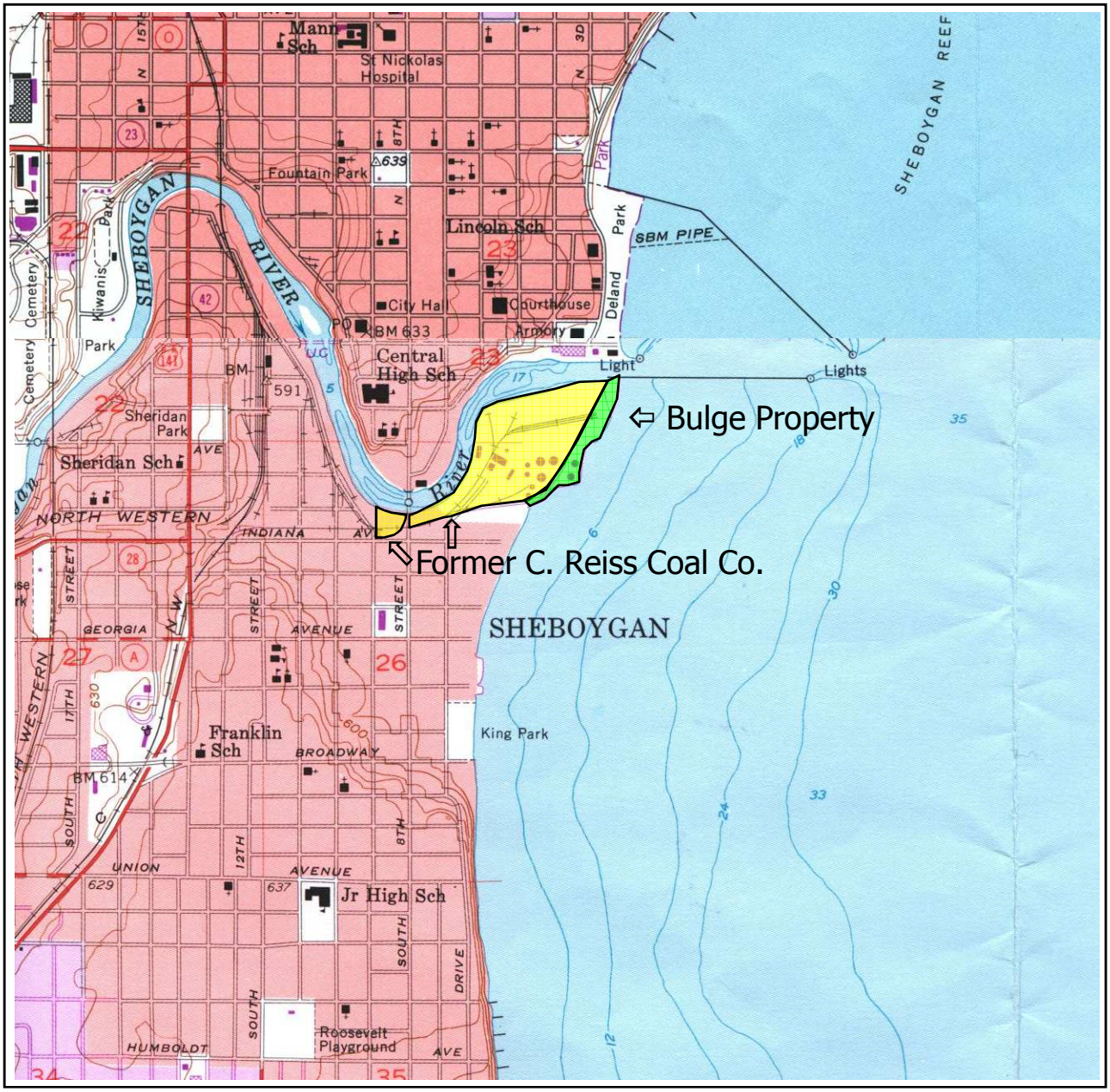
Figure 2 - Site Plan Map [for Property #1]
Figure 2 - Site Plan Map [for Property #2]

Soil Contamination Contour Map

Soil Quality Maps were not prepared by the previous consultant investigating Property #1.
Figure 1 - Site Plan / Soil Boring Location Map [for Property #1]
Figure 3 - Site Conditions Prior to 2003/2004 Redevelopment [shows locations of Excavation Areas 1, 2, and 5 on Property #1]
Figure 2 - Post-Remediation Soil Sample Locations - Excavation Area 1 [for Property #1]
Figure 3 - Post-Remediation Soil Sample Locations - Excavation Area 2 [for Property #1]
Figure 4 - Post-Remediation Soil Sample Locations - Excavation Area 5 [for Property #1]
Figure 4 - Soil Quality Map (VOCs) [for Property #2]
Figure 5 - Soil Quality Map (SVOCs) [for Property #2]
Figure 6 - Soil Quality Map (Metals) [for Property #2]

Groundwater Isoconcentration Map

Figure 4 - Groundwater Quality Map [for Property #1]
Figure 3 - Groundwater Quality Map [for Property #2]



NE ¼ of NW ¼ of Section 26, NE ¼ of Section 26, and SE ¼ of Section 23, T 15 N, R 23 E
Adapted from U.S.G.S. 7.5 minute series, Sheboygan North (1954, revised 1994) and Sheboygan South (1954, photorevised 1973), Wisconsin, quadrangles.

SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

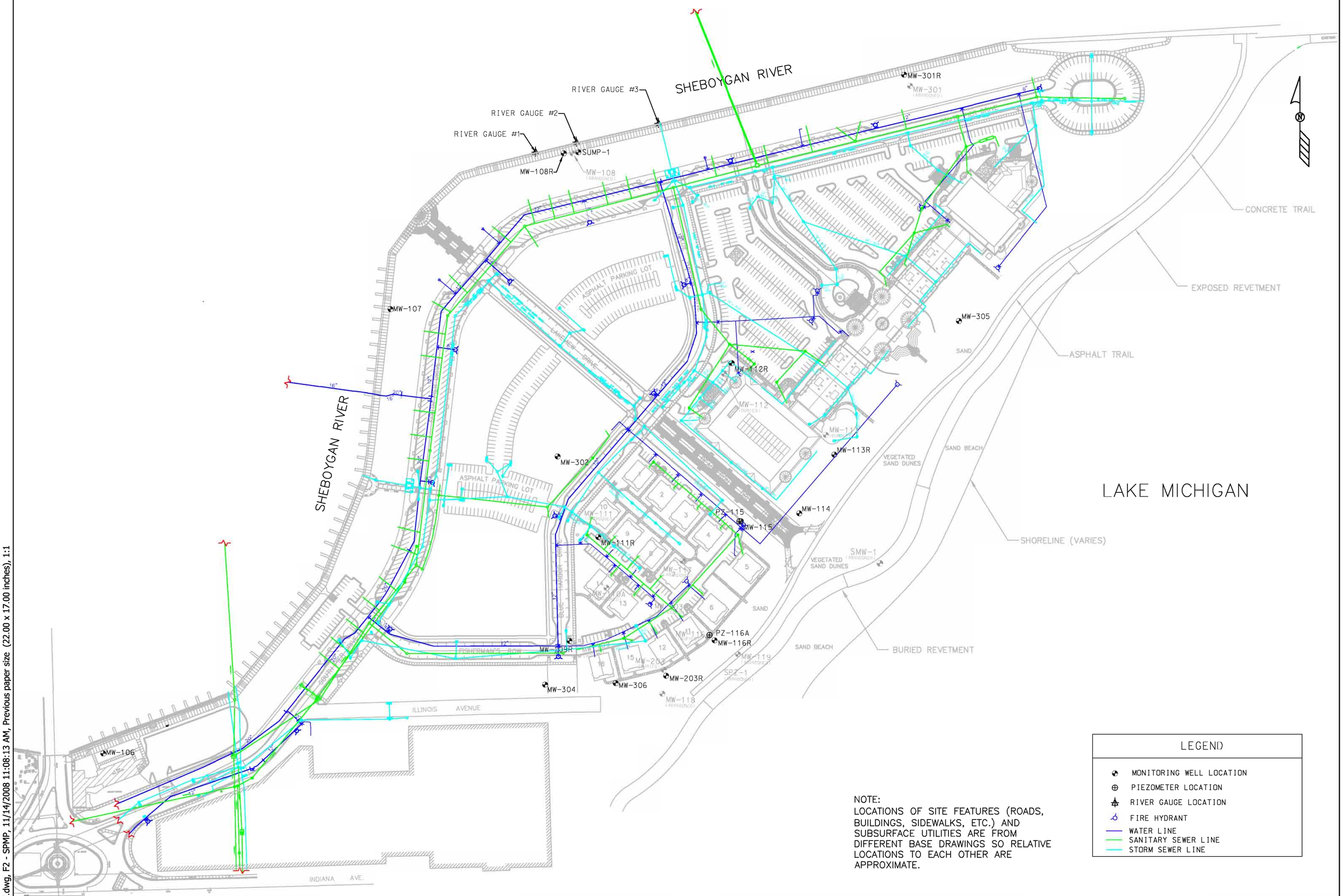
CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

N

Figure 1. Site Location Map
Former C. Reiss Coal Co. / Sheboygan Lakefront
1011 S. 8th Street & 820 Indiana Avenue
Sheboygan, Wisconsin 53081

THE SIGMA GROUP
Single Source. Sound Solutions.

7302 Fig 1 Site Loc Map.ppt



NOTE:
LOCATIONS OF SITE FEATURES (ROADS, BUILDINGS, SIDEWALKS, ETC.) AND SUBSURFACE UTILITIES ARE FROM DIFFERENT BASE DRAWINGS SO RELATIVE LOCATIONS TO EACH OTHER ARE APPROXIMATE.

LEGEND

- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- RIVER GAUGE LOCATION
- FIRE HYDRANT
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE

THE SIGMA GROUP
Single Source. Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, Wisconsin 53233
Phone: 414-643-4200
Fax: 414-643-4210

SCALE – 1" = 150'
0' 75' 150' 225' 300'

NO	DATE	REVISIONS	BY	APVD

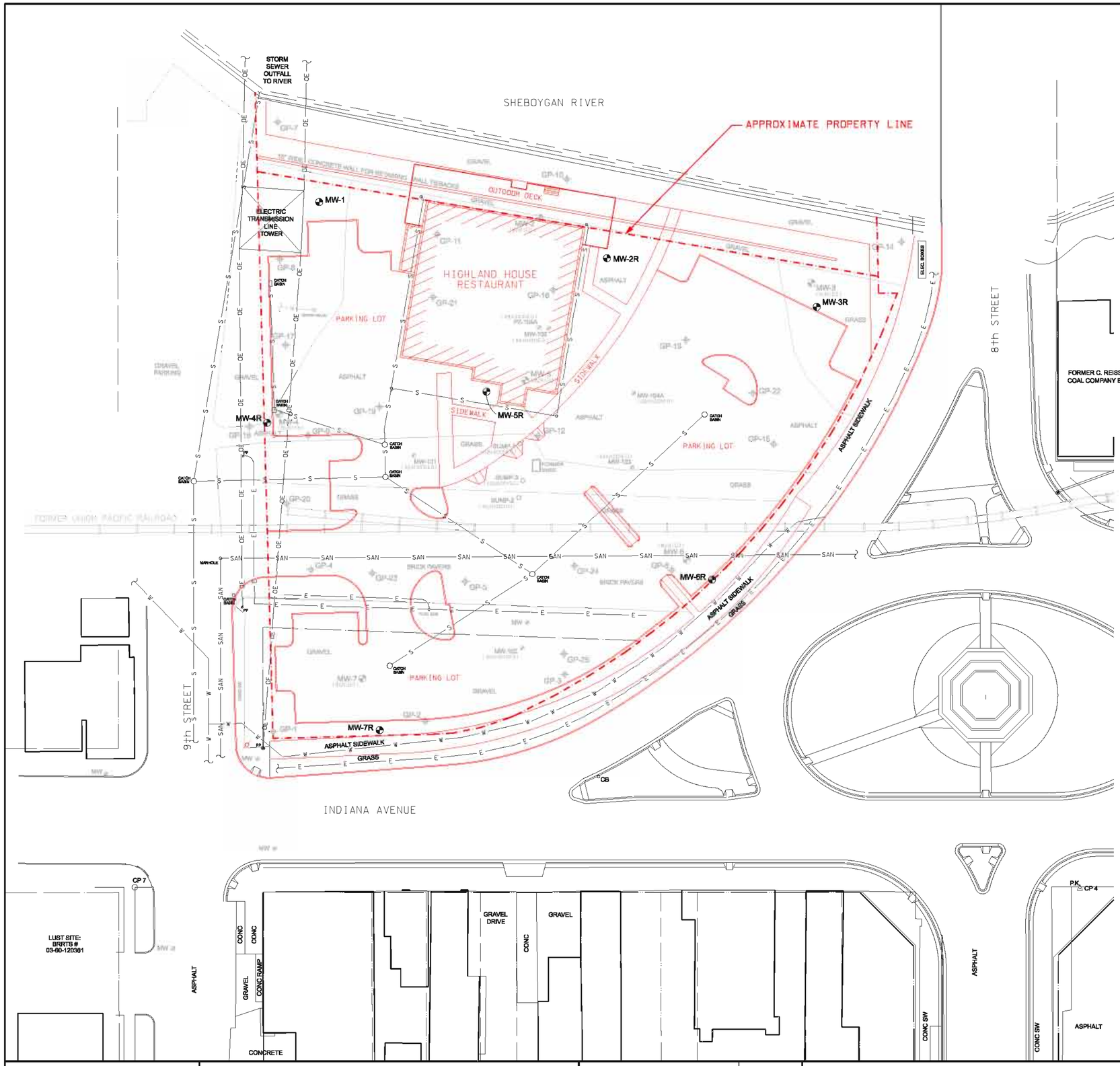
	NAME:	DATE:
DRAWN BY:	SJGJ	10/21/08
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WI
SITE PLAN MAP

DRAWING NUMBER
7302–047

FIGURE 2

K:\CTYOFSHE\7302-047.dwg, F2 - SPMP, 11/14/2008 11:08:13 AM, Previous paper size (22.00 x 17.00 inches), 1:1



LEGEND

- GP = GEOPROBE SOIL BORING LOCATION
- = ABANDONED SUMP LOCATION
- MW = SIGMA MONITORING WELL LOCATION
- = ABANDONED MONITORING WELL LOCATION
- DE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- SAN = UNDERGROUND SANITARY SEWER LINE
- W = UNDERGROUND WATER LINE

NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.
3. NEW SITE FEATURES BASED ON 7-28-04 SITE MAP PROVIDED BY ABACUS ARCHITECTS, INC. AND ARE SHOWN IN RED (EXCEPT FOR NEW ON-SITE STORM SEWER SYSTEM).

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

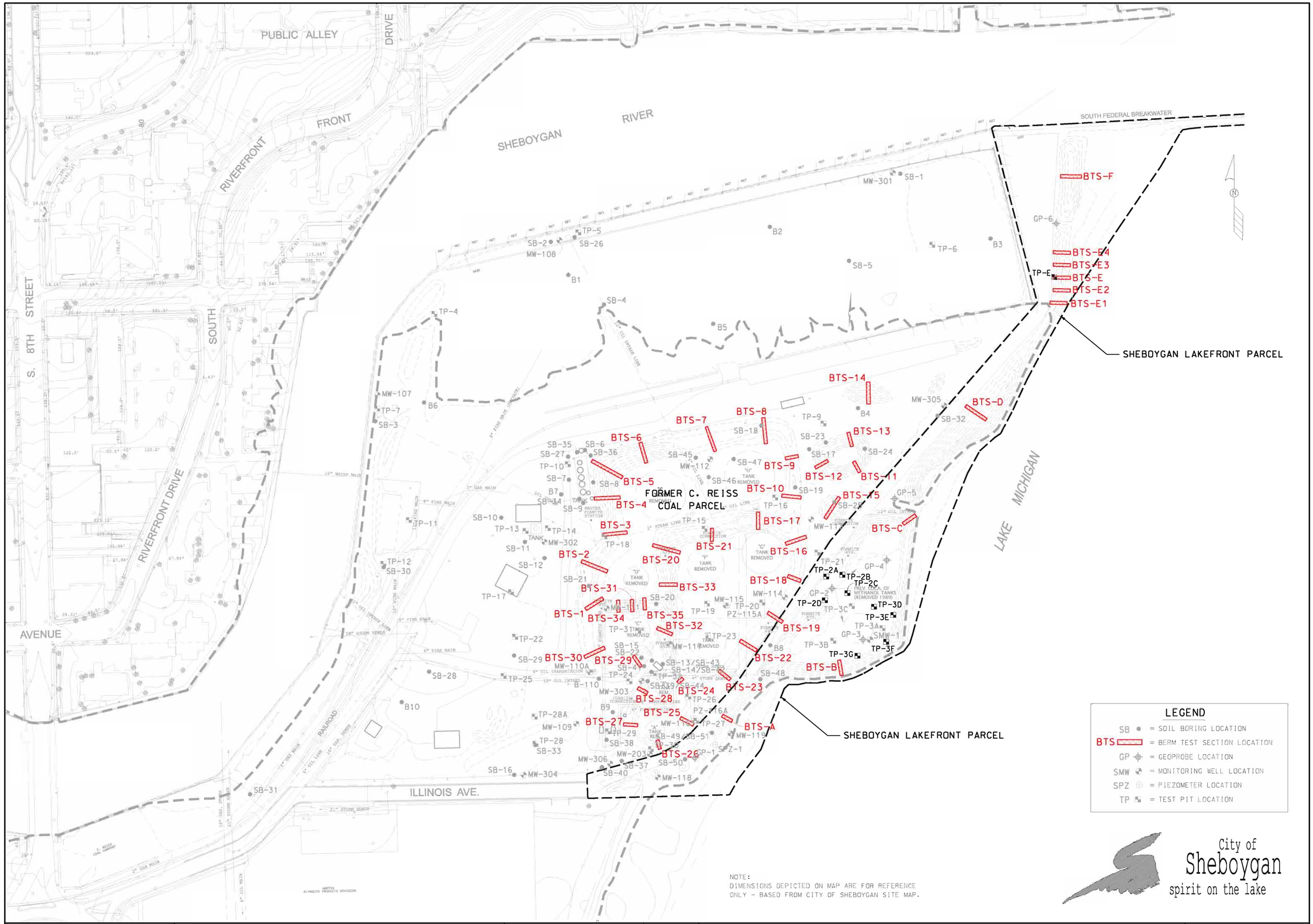
NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	12-29-04
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
SITE PLAN MAP

DRAWING NUMBER
7875-018

FIGURE 1



SIGMA ENVIRONMENTAL SERVICES INC.
220 EAST RYAN ROAD
OAK CREEK, WISCONSIN 53154
PHONE : (414) 768 - 7144
1-800-732-4671

SCALE - 1" = 150'- 0"
0' 75' 150' 225' 300'

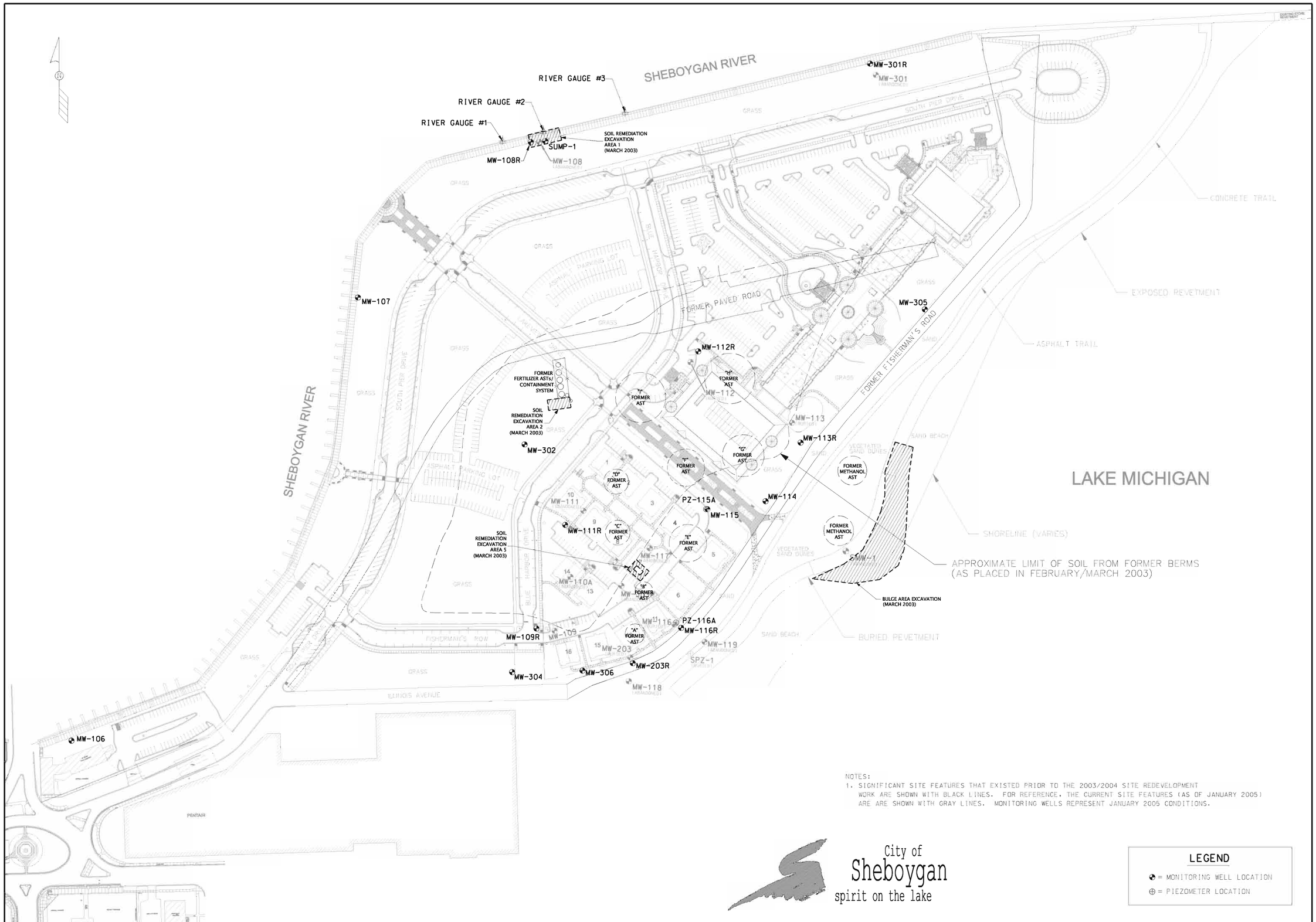
NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	9-26-02
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

FORMER C. REISS COAL AND BULGE PROPERTY
SHEBOYGAN, WISCONSIN
SITE PLAN / SOIL BORING LOCATION MAP

DRAWING NUMBER
7302-018

FIGURE 1



NOTES:
1. SIGNIFICANT SITE FEATURES THAT EXISTED PRIOR TO THE 2003/2004 SITE REDEVELOPMENT WORK ARE SHOWN WITH BLACK LINES. FOR REFERENCE, THE CURRENT SITE FEATURES (AS OF JANUARY 2005) ARE ARE SHOWN WITH GRAY LINES. MONITORING WELLS REPRESENT JANUARY 2005 CONDITIONS.

City of Sheboygan
spirit on the lake

LEGEND
◉ = MONITORING WELL LOCATION
⊕ = PIEZOMETER LOCATION

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 150'-0" 0' 75' 150' 225' 300'

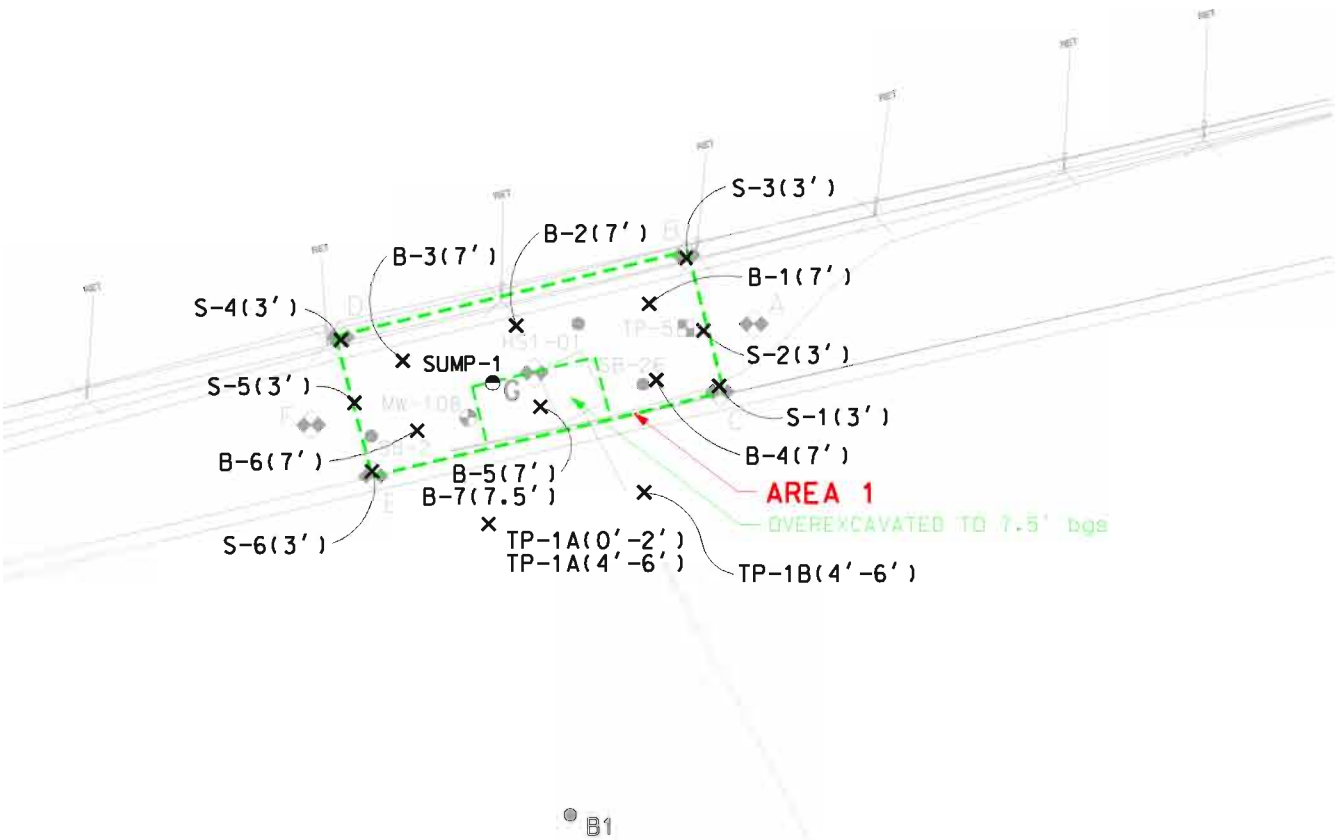
NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	1-18-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN
SITE CONDITIONS PRIOR TO 2003/2004 REDEVELOPMENT

DRAWING NUMBER
7302-039

FIGURE 3



LEGEND

× = POST-REMEDIATION SOIL SAMPLE LOCATION (DEPTH IN FEET BELOW GROUND SURFACE)

◓ = SUMP LOCATION (SIGMA)

● = SOIL BORING LOCATION (OTHERS)

= MONITORING WELL LOCATION (OTHERS)

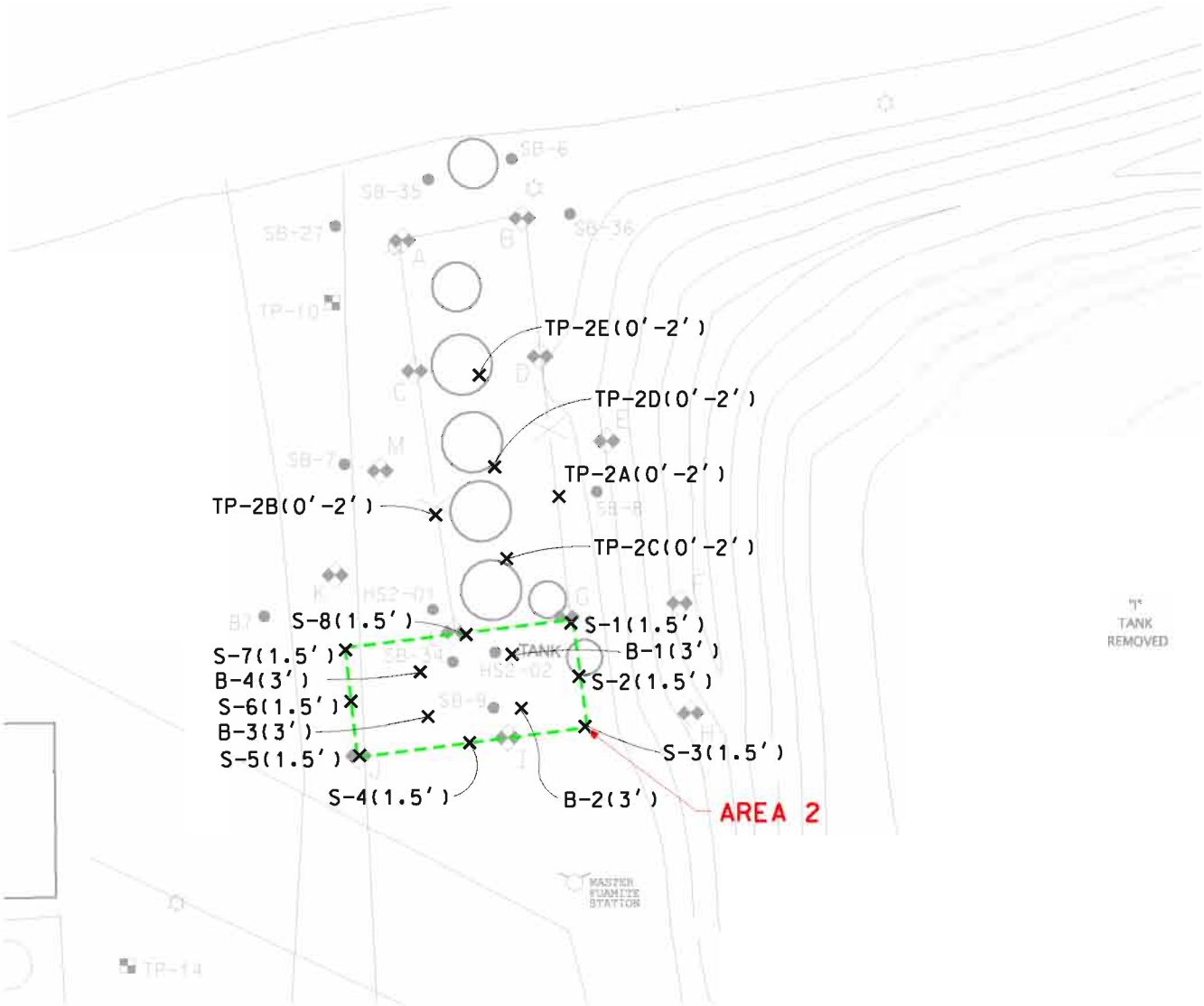
= TEST PIT LOCATION (OTHERS)

= TEST PIT LOCATION (SIGMA)

- - - - - - = "HOT SPOT" SOIL EXCAVATION AREA

N

FORMER C. REISS COAL/ SHEBOYGAN LAKEFRONT PROPERTY			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-17-03	DR. BY: BEB	DR.# 7302-027	SCALE: 1" = 40'
POST-REMEDIATION SOIL SAMPLE LOCATIONS - EXCAVATION AREA 1			FIGURE 2



LEGEND

× = POST-REMEDIATION SOIL SAMPLE LOCATION (DEPTH IN FEET BELOW GROUND SURFACE)

● = SOIL BORING LOCATION (OTHERS)

= MONITORING WELL LOCATION (OTHERS)

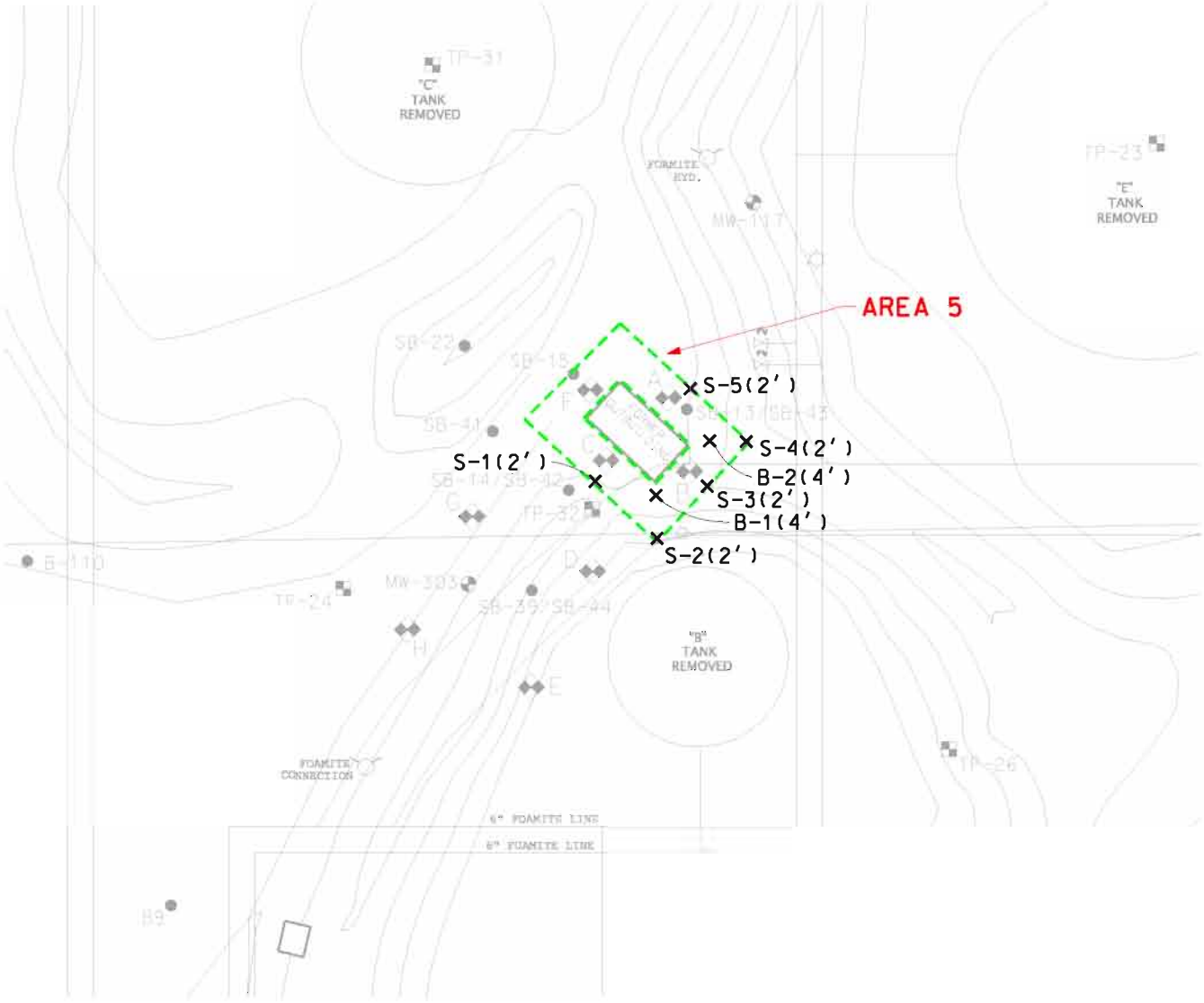
= TEST PIT LOCATION (OTHERS)

= TEST PIT LOCATION (SIGMA)

- - - - - = "HOT SPOT" SOIL EXCAVATION AREA

N

FORMER C. REISS COAL/ SHEBOYGAN LAKEFRONT PROPERTY			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-17-03	DR. BY: BEB	DR.# 7302-028	SCALE: 1" = 40'
POST-REMEDIATION SOIL SAMPLE LOCATIONS - EXCAVATION AREA 2			FIGURE 3



LEGEND

× = POST-REMEDIATION SOIL SAMPLE LOCATION (DEPTH IN FEET BELOW GROUND SURFACE)

● = SOIL BORING LOCATION (OTHERS)

= MONITORING WELL LOCATION (OTHERS)

= TEST PIT LOCATION (OTHERS)

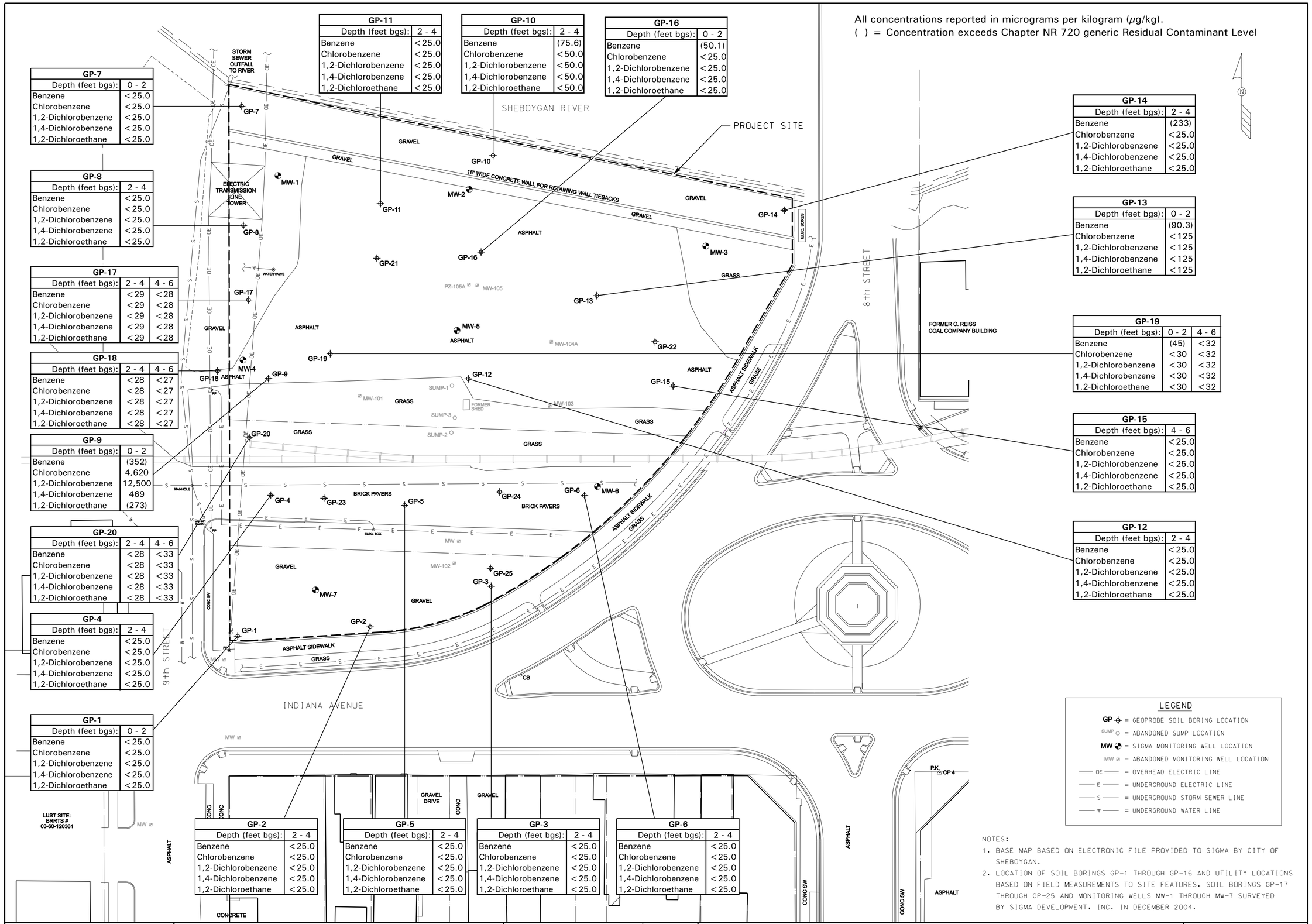
= TEST PIT LOCATION (SIGMA)

= "HOT SPOT" SOIL EXCAVATION AREA

N

FORMER C. REISS COAL/ SHEBOYGAN LAKEFRONT PROPERTY			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-17-03	DR. BY: BEB	DR.# 7302-029	SCALE: 1" = 40'
POST-REMEDIATION SOIL SAMPLE LOCATIONS - EXCAVATION AREA 5			FIGURE 4

All concentrations reported in micrograms per kilogram (μg/kg).
( ) = Concentration exceeds Chapter NR 720 generic Residual Contaminant Level



GP-7	
Depth (feet bgs):	0 - 2
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-8	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-17		
Depth (feet bgs):	2 - 4	4 - 6
Benzene	<29	<28
Chlorobenzene	<29	<28
1,2-Dichlorobenzene	<29	<28
1,4-Dichlorobenzene	<29	<28
1,2-Dichloroethane	<29	<28

GP-18		
Depth (feet bgs):	2 - 4	4 - 6
Benzene	<28	<27
Chlorobenzene	<28	<27
1,2-Dichlorobenzene	<28	<27
1,4-Dichlorobenzene	<28	<27
1,2-Dichloroethane	<28	<27

GP-9	
Depth (feet bgs):	0 - 2
Benzene	(352)
Chlorobenzene	4,620
1,2-Dichlorobenzene	12,500
1,4-Dichlorobenzene	469
1,2-Dichloroethane	(273)

GP-20		
Depth (feet bgs):	2 - 4	4 - 6
Benzene	<28	<33
Chlorobenzene	<28	<33
1,2-Dichlorobenzene	<28	<33
1,4-Dichlorobenzene	<28	<33
1,2-Dichloroethane	<28	<33

GP-4	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-1	
Depth (feet bgs):	0 - 2
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-11	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-10	
Depth (feet bgs):	2 - 4
Benzene	(75.6)
Chlorobenzene	<50.0
1,2-Dichlorobenzene	<50.0
1,4-Dichlorobenzene	<50.0
1,2-Dichloroethane	<50.0

GP-16	
Depth (feet bgs):	0 - 2
Benzene	(50.1)
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-14	
Depth (feet bgs):	2 - 4
Benzene	(233)
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-13	
Depth (feet bgs):	0 - 2
Benzene	(90.3)
Chlorobenzene	<125
1,2-Dichlorobenzene	<125
1,4-Dichlorobenzene	<125
1,2-Dichloroethane	<125

GP-19		
Depth (feet bgs):	0 - 2	4 - 6
Benzene	(45)	<32
Chlorobenzene	<30	<32
1,2-Dichlorobenzene	<30	<32
1,4-Dichlorobenzene	<30	<32
1,2-Dichloroethane	<30	<32

GP-15	
Depth (feet bgs):	4 - 6
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-12	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-2	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-5	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-3	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

GP-6	
Depth (feet bgs):	2 - 4
Benzene	<25.0
Chlorobenzene	<25.0
1,2-Dichlorobenzene	<25.0
1,4-Dichlorobenzene	<25.0
1,2-Dichloroethane	<25.0

LEGEND

- GP = GEOPROBE SOIL BORING LOCATION
- SUMP = ABANDONED SUMP LOCATION
- MW = SIGMA MONITORING WELL LOCATION
- MW = ABANDONED MONITORING WELL LOCATION
- OE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- W = UNDERGROUND WATER LINE

NOTES:
1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

SIGMA
ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

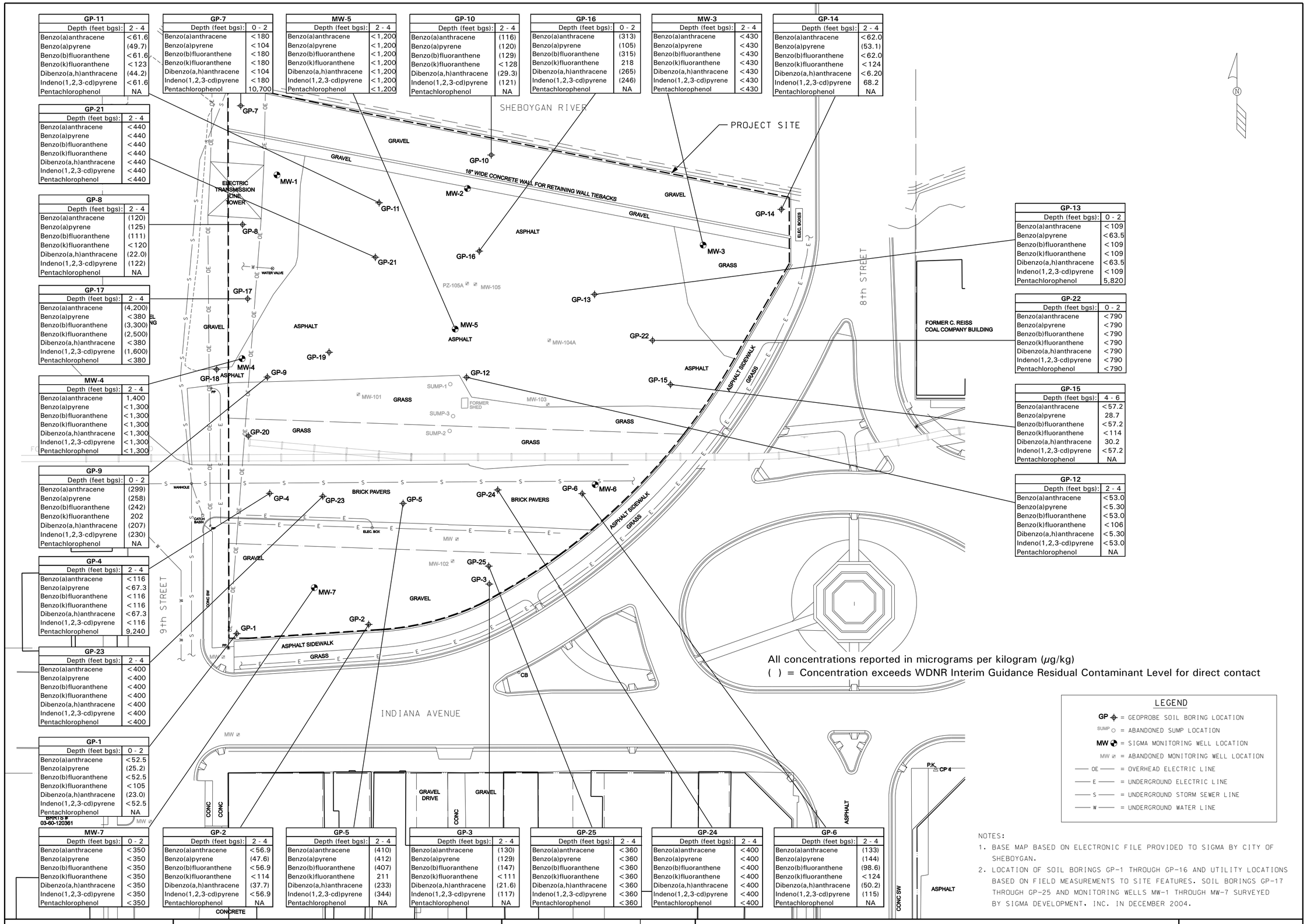
NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	3-3-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
SOIL QUALITY MAP (VOCs)

DRAWING NUMBER
7875-006

FIGURE 4



GP-11	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<61.6
Benzo(a)pyrene	(49.7)
Benzo(b)fluoranthene	<61.6
Benzo(k)fluoranthene	<123
Dibenzo(a,h)anthracene	(44.2)
Indeno(1,2,3-cd)pyrene	<61.6
Pentachlorophenol	NA

GP-7	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	<180
Benzo(a)pyrene	<104
Benzo(b)fluoranthene	<180
Benzo(k)fluoranthene	<180
Dibenzo(a,h)anthracene	<104
Indeno(1,2,3-cd)pyrene	<180
Pentachlorophenol	10,700

MW-5	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<1,200
Benzo(a)pyrene	<1,200
Benzo(b)fluoranthene	<1,200
Benzo(k)fluoranthene	<1,200
Dibenzo(a,h)anthracene	<1,200
Indeno(1,2,3-cd)pyrene	<1,200
Pentachlorophenol	<1,200

GP-10	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(116)
Benzo(a)pyrene	(120)
Benzo(b)fluoranthene	(129)
Benzo(k)fluoranthene	<128
Dibenzo(a,h)anthracene	(29.3)
Indeno(1,2,3-cd)pyrene	(121)
Pentachlorophenol	NA

GP-16	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	(313)
Benzo(a)pyrene	(105)
Benzo(b)fluoranthene	(315)
Benzo(k)fluoranthene	218
Dibenzo(a,h)anthracene	(265)
Indeno(1,2,3-cd)pyrene	(246)
Pentachlorophenol	NA

MW-3	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<430
Benzo(a)pyrene	<430
Benzo(b)fluoranthene	<430
Benzo(k)fluoranthene	<430
Dibenzo(a,h)anthracene	<430
Indeno(1,2,3-cd)pyrene	<430
Pentachlorophenol	<430

GP-14	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<62.0
Benzo(a)pyrene	(53.1)
Benzo(b)fluoranthene	<62.0
Benzo(k)fluoranthene	<124
Dibenzo(a,h)anthracene	<6.20
Indeno(1,2,3-cd)pyrene	68.2
Pentachlorophenol	NA

GP-21	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<440
Benzo(a)pyrene	<440
Benzo(b)fluoranthene	<440
Benzo(k)fluoranthene	<440
Dibenzo(a,h)anthracene	<440
Indeno(1,2,3-cd)pyrene	<440
Pentachlorophenol	<440

GP-8	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(120)
Benzo(a)pyrene	(125)
Benzo(b)fluoranthene	(111)
Benzo(k)fluoranthene	<120
Dibenzo(a,h)anthracene	(22.0)
Indeno(1,2,3-cd)pyrene	(122)
Pentachlorophenol	NA

GP-17	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(4,200)
Benzo(a)pyrene	<380
Benzo(b)fluoranthene	(3,300)
Benzo(k)fluoranthene	(2,500)
Dibenzo(a,h)anthracene	<380
Indeno(1,2,3-cd)pyrene	(1,600)
Pentachlorophenol	<380

MW-4	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	1,400
Benzo(a)pyrene	<1,300
Benzo(b)fluoranthene	<1,300
Benzo(k)fluoranthene	<1,300
Dibenzo(a,h)anthracene	<1,300
Indeno(1,2,3-cd)pyrene	<1,300
Pentachlorophenol	<1,300

GP-9	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	(299)
Benzo(a)pyrene	(258)
Benzo(b)fluoranthene	(242)
Benzo(k)fluoranthene	202
Dibenzo(a,h)anthracene	(207)
Indeno(1,2,3-cd)pyrene	(230)
Pentachlorophenol	NA

GP-4	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<116
Benzo(a)pyrene	<67.3
Benzo(b)fluoranthene	<116
Benzo(k)fluoranthene	<116
Dibenzo(a,h)anthracene	<67.3
Indeno(1,2,3-cd)pyrene	<116
Pentachlorophenol	9,240

GP-23	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<400
Benzo(a)pyrene	<400
Benzo(b)fluoranthene	<400
Benzo(k)fluoranthene	<400
Dibenzo(a,h)anthracene	<400
Indeno(1,2,3-cd)pyrene	<400
Pentachlorophenol	<400

GP-1	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	<52.5
Benzo(a)pyrene	(25.2)
Benzo(b)fluoranthene	<52.5
Benzo(k)fluoranthene	<105
Dibenzo(a,h)anthracene	(23.0)
Indeno(1,2,3-cd)pyrene	<52.5
Pentachlorophenol	NA

GP-13	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	<109
Benzo(a)pyrene	<63.5
Benzo(b)fluoranthene	<109
Benzo(k)fluoranthene	<109
Dibenzo(a,h)anthracene	<63.5
Indeno(1,2,3-cd)pyrene	<109
Pentachlorophenol	5,820

GP-22	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	<790
Benzo(a)pyrene	<790
Benzo(b)fluoranthene	<790
Benzo(k)fluoranthene	<790
Dibenzo(a,h)anthracene	<790
Indeno(1,2,3-cd)pyrene	<790
Pentachlorophenol	<790

GP-15	
Depth (feet bgs):	4 - 6
Benzo(a)anthracene	<57.2
Benzo(a)pyrene	28.7
Benzo(b)fluoranthene	<57.2
Benzo(k)fluoranthene	<114
Dibenzo(a,h)anthracene	30.2
Indeno(1,2,3-cd)pyrene	<57.2
Pentachlorophenol	NA

GP-12	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<53.0
Benzo(a)pyrene	<5.30
Benzo(b)fluoranthene	<53.0
Benzo(k)fluoranthene	<106
Dibenzo(a,h)anthracene	<5.30
Indeno(1,2,3-cd)pyrene	<53.0
Pentachlorophenol	NA

All concentrations reported in micrograms per kilogram (μg/kg)
( ) = Concentration exceeds WDNR Interim Guidance Residual Contaminant Level for direct contact

MW-7	
Depth (feet bgs):	0 - 2
Benzo(a)anthracene	<350
Benzo(a)pyrene	<350
Benzo(b)fluoranthene	<350
Benzo(k)fluoranthene	<350
Dibenzo(a,h)anthracene	<350
Indeno(1,2,3-cd)pyrene	<350
Pentachlorophenol	<350

GP-2	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<56.9
Benzo(a)pyrene	(47.6)
Benzo(b)fluoranthene	<56.9
Benzo(k)fluoranthene	<114
Dibenzo(a,h)anthracene	(37.7)
Indeno(1,2,3-cd)pyrene	<56.9
Pentachlorophenol	NA

GP-5	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(410)
Benzo(a)pyrene	(412)
Benzo(b)fluoranthene	(407)
Benzo(k)fluoranthene	211
Dibenzo(a,h)anthracene	(233)
Indeno(1,2,3-cd)pyrene	(344)
Pentachlorophenol	NA

GP-3	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(130)
Benzo(a)pyrene	(129)
Benzo(b)fluoranthene	(147)
Benzo(k)fluoranthene	<111
Dibenzo(a,h)anthracene	(21.6)
Indeno(1,2,3-cd)pyrene	(117)
Pentachlorophenol	NA

GP-25	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<360
Benzo(a)pyrene	<360
Benzo(b)fluoranthene	<360
Benzo(k)fluoranthene	<360
Dibenzo(a,h)anthracene	<360
Indeno(1,2,3-cd)pyrene	<360
Pentachlorophenol	<360

GP-24	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	<400
Benzo(a)pyrene	<400
Benzo(b)fluoranthene	<400
Benzo(k)fluoranthene	<400
Dibenzo(a,h)anthracene	<400
Indeno(1,2,3-cd)pyrene	<400
Pentachlorophenol	<400

GP-6	
Depth (feet bgs):	2 - 4
Benzo(a)anthracene	(133)
Benzo(a)pyrene	(144)
Benzo(b)fluoranthene	(98.6)
Benzo(k)fluoranthene	<124
Dibenzo(a,h)anthracene	(50.2)
Indeno(1,2,3-cd)pyrene	(115)
Pentachlorophenol	NA

LEGEND

- GP = GEOPROBE SOIL BORING LOCATION
- SUMP = ABANDONED SUMP LOCATION
- MW = SIGMA MONITORING WELL LOCATION
- MW = ABANDONED MONITORING WELL LOCATION
- OE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- W = UNDERGROUND WATER LINE

NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

SIGMA
ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

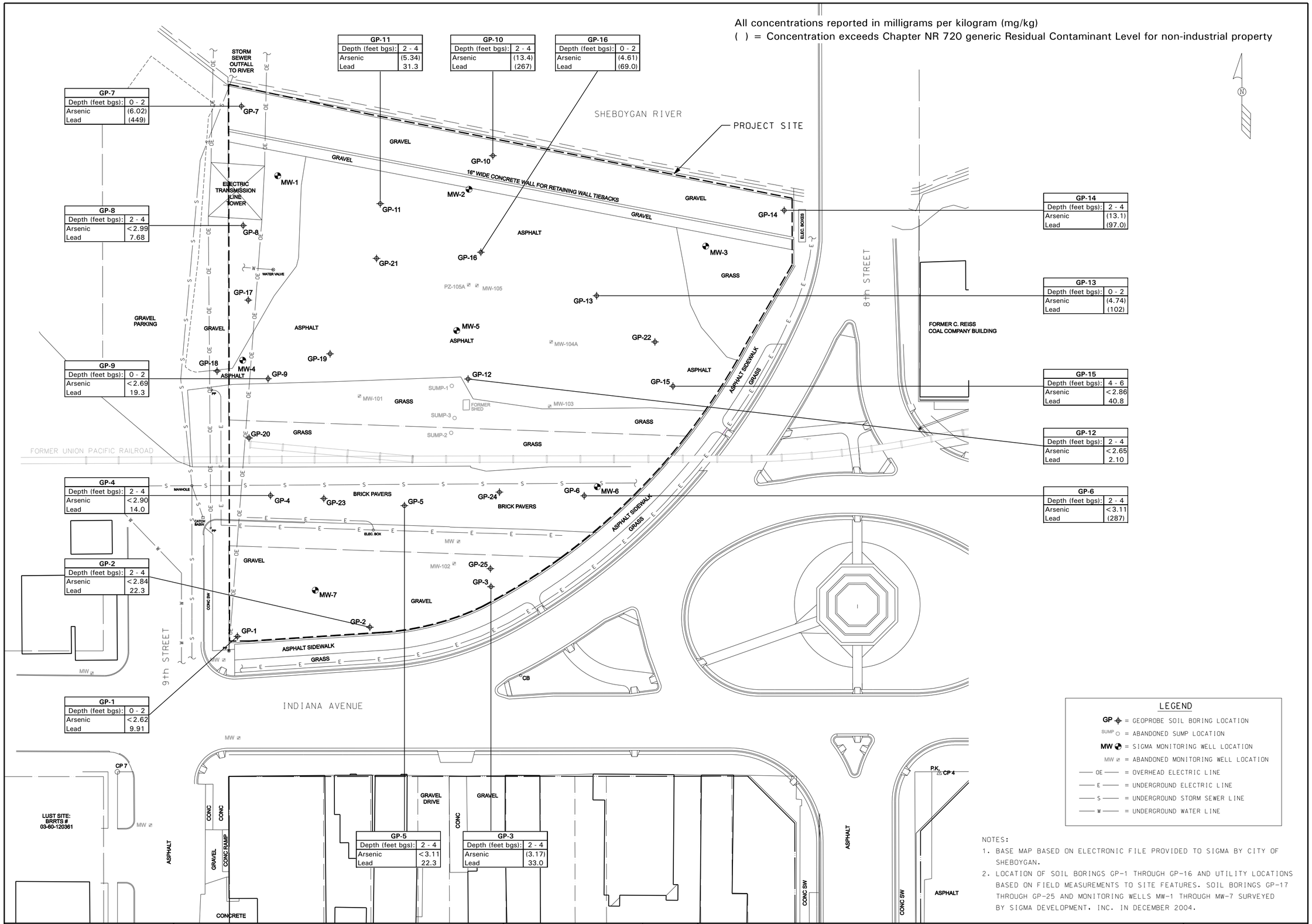
	NAME:	DATE:
DRAWN BY:	BEB	3-4-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
SOIL QUALITY MAP (SVOCs)

DRAWING NUMBER
7875-007

FIGURE 5

All concentrations reported in milligrams per kilogram (mg/kg)
( ) = Concentration exceeds Chapter NR 720 generic Residual Contaminant Level for non-industrial property



GP-7	
Depth (feet bgs):	0 - 2
Arsenic	(6.02)
Lead	(449)

GP-8	
Depth (feet bgs):	2 - 4
Arsenic	<2.99
Lead	7.68

GP-9	
Depth (feet bgs):	0 - 2
Arsenic	<2.69
Lead	19.3

GP-4	
Depth (feet bgs):	2 - 4
Arsenic	<2.90
Lead	14.0

GP-2	
Depth (feet bgs):	2 - 4
Arsenic	<2.84
Lead	22.3

GP-1	
Depth (feet bgs):	0 - 2
Arsenic	<2.62
Lead	9.91

GP-11	
Depth (feet bgs):	2 - 4
Arsenic	(5.34)
Lead	31.3

GP-10	
Depth (feet bgs):	2 - 4
Arsenic	(13.4)
Lead	(267)

GP-16	
Depth (feet bgs):	0 - 2
Arsenic	(4.61)
Lead	(69.0)

GP-14	
Depth (feet bgs):	2 - 4
Arsenic	(13.1)
Lead	(97.0)

GP-13	
Depth (feet bgs):	0 - 2
Arsenic	(4.74)
Lead	(102)

GP-15	
Depth (feet bgs):	4 - 6
Arsenic	<2.86
Lead	40.8

GP-12	
Depth (feet bgs):	2 - 4
Arsenic	<2.65
Lead	2.10

GP-6	
Depth (feet bgs):	2 - 4
Arsenic	<3.11
Lead	(287)

GP-5	
Depth (feet bgs):	2 - 4
Arsenic	<3.11
Lead	22.3

GP-3	
Depth (feet bgs):	2 - 4
Arsenic	(3.17)
Lead	33.0

LEGEND

- GP = GEOPROBE SOIL BORING LOCATION
- SUMP = ABANDONED SUMP LOCATION
- MW = SIGMA MONITORING WELL LOCATION
- MW = ABANDONED MONITORING WELL LOCATION
- OE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- W = UNDERGROUND WATER LINE

NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

SIGMA
ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

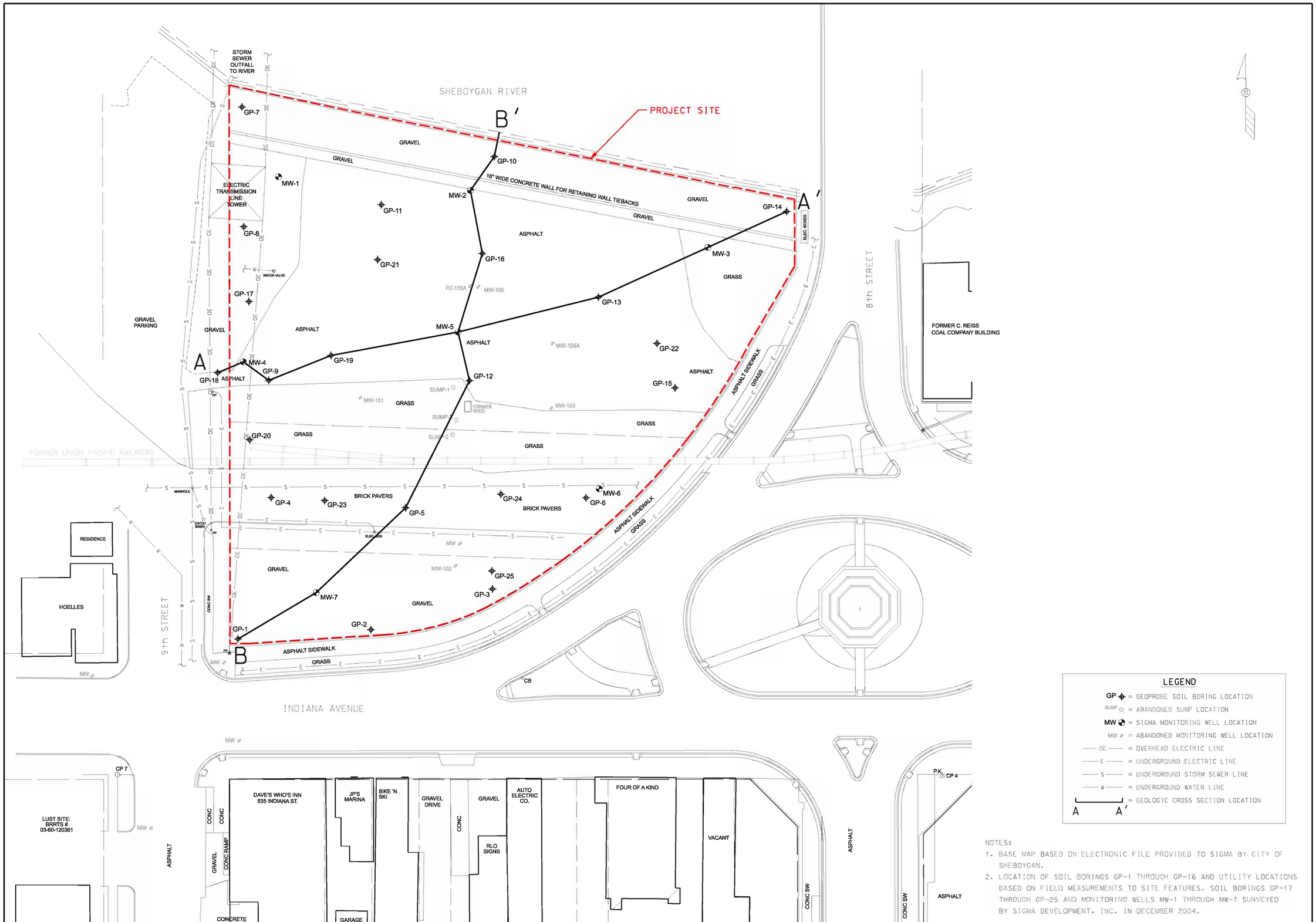
NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	3-4-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
SOIL QUALITY MAP (METALS)

DRAWING NUMBER
7875-008

FIGURE 6



NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

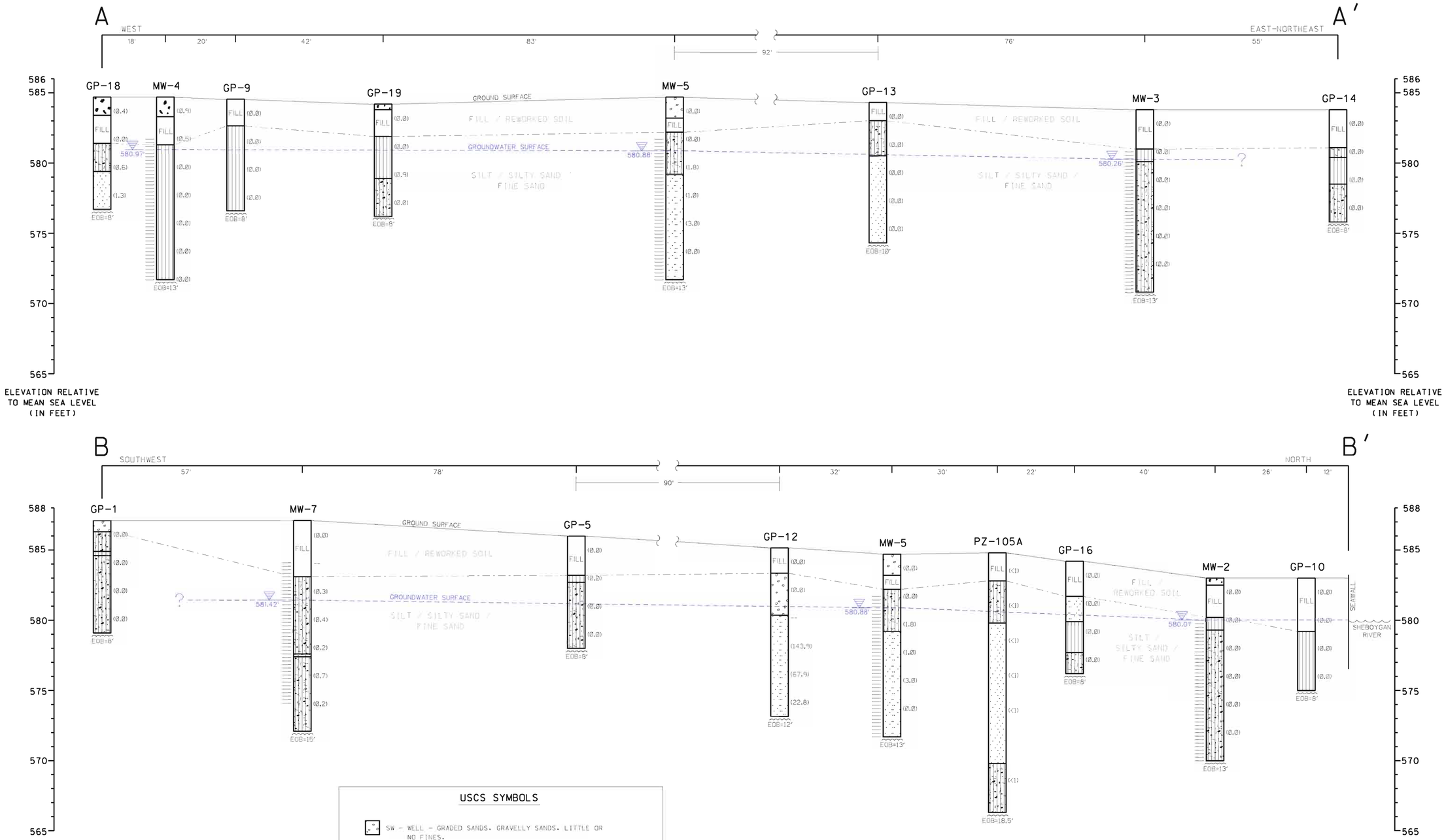
NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	3-3-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
GEOLOGIC CROSS SECTION LOCATION MAP

DRAWING NUMBER
7875-005

FIGURE 3



USCS SYMBOLS

- SW – WELL – GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
- SP – POORLY – GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
- SM – SILTY – SANDS, SAND – SILT MIXTURES.
- ML – INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
- GW – WELL – GRADED GRAVELS, GRAVEL – SAND MIXTURES LITTLE OR NO FINES.

LEGEND

= WELL SCREEN INTERVAL

= STATIC WATER LEVEL MEASURED 12-21-04 (FEET MEAN SEA LEVEL)

= INFERRED SOIL CONTACT

FILL = REWORKED GRAVEL, SAND, SILT, CLAY; FOUNDRY SAND; BRICK FRAGMENTS; CINDERS; WOOD DEBRIS

NOTES:
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

HORIZONTAL SCALE
1" = 20'- 0"
0' 10' 20' 30' 40'

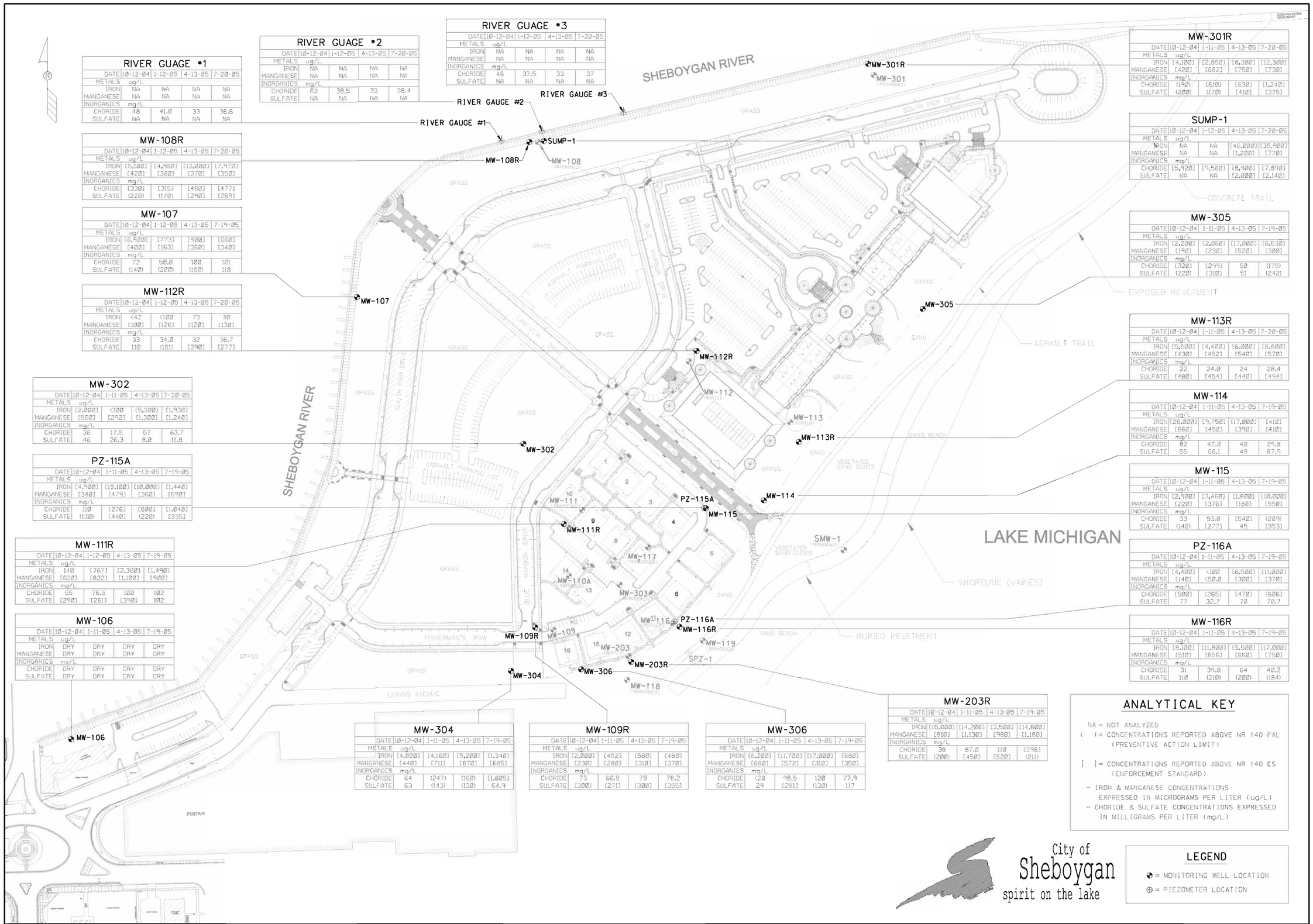
NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	3-3-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
GEOLOGIC CROSS SECTIONS A -A' AND B - B'

DRAWING NUMBER
7875-004

FIGURE 4



RIVER GUAGE #1

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	48	41.0	33	36.6
SULFATE	NA	NA	NA	NA

RIVER GUAGE #2

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	63	38.5	33	38.4
SULFATE	NA	NA	NA	NA

RIVER GUAGE #3

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	46	37.5	33	37
SULFATE	NA	NA	NA	NA

MW-108R

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	[5,100]	[4,980]	[13,000]	[7,970]
MANGANESE	[420]	[360]	[370]	[350]
INORGANICS mg/L				
CHORIDE	[330]	[315]	[480]	[477]
SULFATE	(220)	(170)	[290]	[269]

MW-107

DATE	10-12-04	1-12-05	4-13-05	7-19-05
METALS ug/L				
IRON	[6,900]	[773]	[900]	[660]
MANGANESE	[400]	[163]	[360]	[340]
INORGANICS mg/L				
CHORIDE	72	50.0	100	101
SULFATE	(140)	(200)	(160)	118

MW-112R

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	<42	<100	73	30
MANGANESE	[100]	[126]	[120]	[130]
INORGANICS mg/L				
CHORIDE	33	34.0	32	36.7
SULFATE	110	(181)	[390]	[277]

MW-302

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	(2,000)	<100	[5,300]	[1,930]
MANGANESE	[560]	[292]	[1,300]	[1,240]
INORGANICS mg/L				
CHORIDE	36	17.5	57	63.7
SULFATE	46	26.3	8.0	11.8

PZ-115A

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,900]	[15,100]	[10,000]	[1,440]
MANGANESE	[340]	[479]	[360]	[690]
INORGANICS mg/L				
CHORIDE	110	[276]	[600]	[1,040]
SULFATE	(130)	[440]	(220)	[335]

MW-111R

DATE	10-12-04	1-12-05	4-13-05	7-19-05
METALS ug/L				
IRON	140	[767]	[2,300]	[1,490]
MANGANESE	[630]	[822]	[1,100]	[900]
INORGANICS mg/L				
CHORIDE	55	76.5	100	102
SULFATE	[290]	[261]	[390]	102

MW-106

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	DRY	DRY	DRY	DRY
MANGANESE	DRY	DRY	DRY	DRY
INORGANICS mg/L				
CHORIDE	DRY	DRY	DRY	DRY
SULFATE	DRY	DRY	DRY	DRY

MW-304

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,000]	[4,160]	[5,200]	[1,340]
MANGANESE	[440]	[711]	[870]	[685]
INORGANICS mg/L				
CHORIDE	64	(247)	(160)	[1,005]
SULFATE	63	(143)	(130)	64.9

MW-109R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,000]	[452]	[580]	[480]
MANGANESE	[230]	[280]	[310]	[370]
INORGANICS mg/L				
CHORIDE	73	66.5	75	78.2
SULFATE	[300]	[271]	[300]	[355]

MW-306

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[6,200]	[11,700]	[17,000]	[680]
MANGANESE	[680]	[572]	[310]	[350]
INORGANICS mg/L				
CHORIDE	<20	98.5	120	77.9
SULFATE	24	[281]	(130)	117

MW-203R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[15,000]	[14,200]	[3,500]	[14,600]
MANGANESE	[810]	[1,130]	[980]	[1,180]
INORGANICS mg/L				
CHORIDE	38	87.0	110	[296]
SULFATE	(200)	[450]	[520]	(211)

MW-301R

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	[4,100]	[2,850]	[8,300]	[12,300]
MANGANESE	[420]	[682]	[750]	[730]
INORGANICS mg/L				
CHORIDE	(190)	[610]	[630]	[1,240]
SULFATE	(200)	(170)	[410]	[375]

SUMP-1

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	[46,000]	[35,900]
MANGANESE	NA	NA	[1,200]	[770]
INORGANICS mg/L				
CHORIDE	(5,920)	[4,500]	[8,900]	[7,890]
SULFATE	NA	NA	[2,000]	[2,140]

MW-305

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,200]	[2,060]	[17,000]	[6,530]
MANGANESE	[190]	[230]	[520]	[300]
INORGANICS mg/L				
CHORIDE	[320]	[299]	50	(175)
SULFATE	(220)	[310]	51	(242)

MW-113R

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	[5,500]	[4,400]	[6,000]	[6,800]
MANGANESE	[430]	[452]	[540]	[570]
INORGANICS mg/L				
CHORIDE	22	24.0	24	28.4
SULFATE	[480]	[454]	[440]	[494]

MW-114

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[28,000]	[9,750]	[17,000]	[410]
MANGANESE	[660]	[450]	[390]	[410]
INORGANICS mg/L				
CHORIDE	82	47.0	40	29.8
SULFATE	55	68.1	49	87.9

MW-115

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,900]	[3,460]	[1,800]	[10,000]
MANGANESE	[220]	[376]	[180]	[550]
INORGANICS mg/L				
CHORIDE	33	53.0	[540]	(209)
SULFATE	(140)	[277]	45	[353]

PZ-116A

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,400]	<100	[6,500]	[11,000]
MANGANESE	[140]	<50.0	[300]	[370]
INORGANICS mg/L				
CHORIDE	[500]	[265]	[470]	[606]
SULFATE	77	32.7	70	70.7

MW-116R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[8,100]	[11,800]	[5,500]	[17,000]
MANGANESE	[510]	[656]	[660]	[750]
INORGANICS mg/L				
CHORIDE	31	39.0	64	40.2
SULFATE	110	(210)	(200)	(184)

ANALYTICAL KEY

NA = NOT ANALYZED

( ) = CONCENTRATIONS REPORTED ABOVE NR 140 PAL (PREVENTIVE ACTION LIMIT)

[ ] = CONCENTRATIONS REPORTED ABOVE NR 140 ES (ENFORCEMENT STANDARD)

- IRON & MANGANESE CONCENTRATIONS EXPRESSED IN MICROGRAMS PER LITER (ug/L)
- CHORIDE & SULFATE CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER LITER (mg/L)

City of Sheboygan
spirit on the lake

LEGEND

= MONITORING WELL LOCATION

⊕ = PIEZOMETER LOCATION

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 150'- 0"
0' 75' 150' 225' 300'

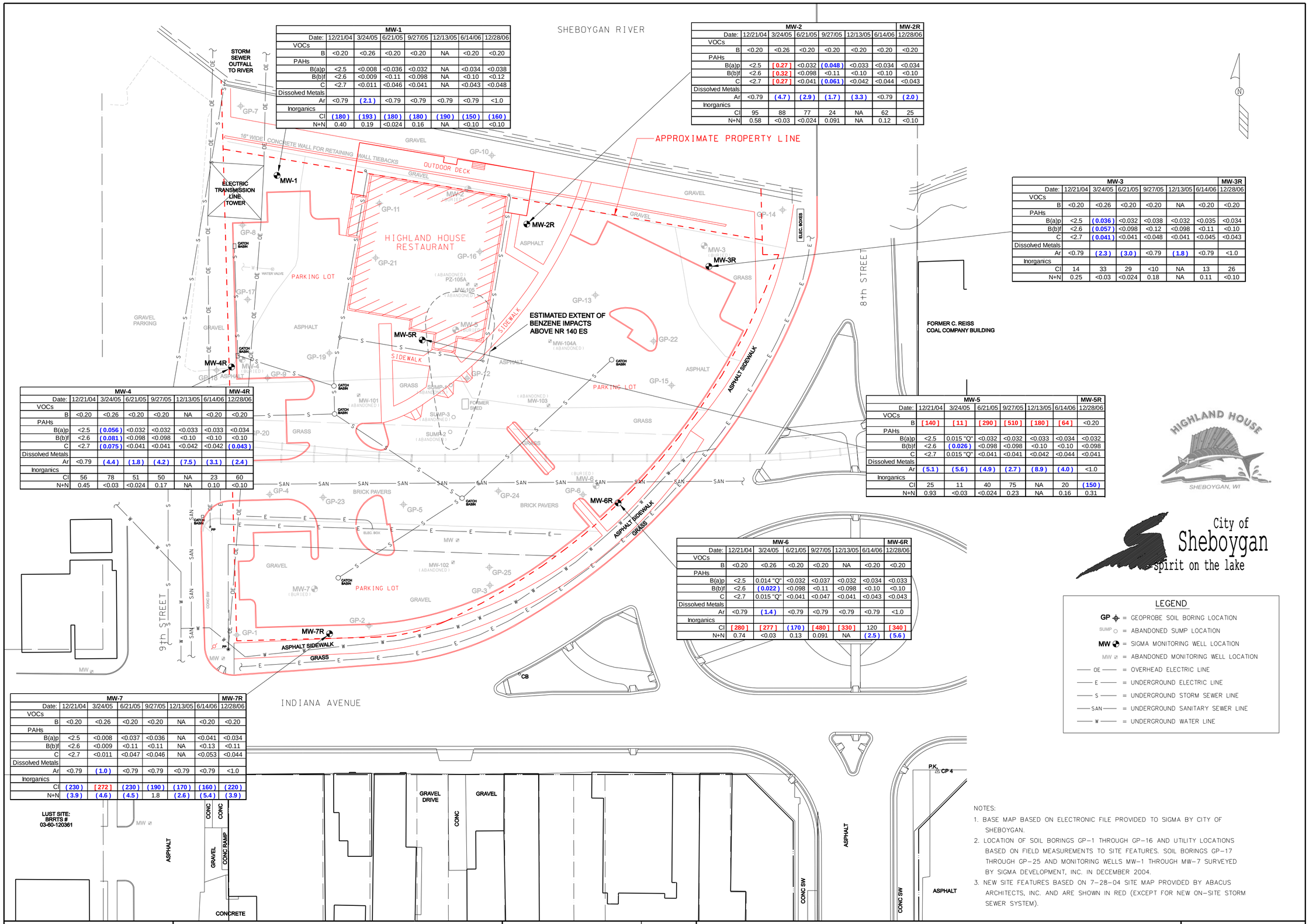
NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	8-24-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN
GROUNDWATER QUALITY MAP

DRAWING NUMBER
7302-043

FIGURE 4



MW-1							
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20
PAHs							
B(a)p	<2.5	<0.008	<0.036	<0.032	NA	<0.034	<0.038
B(b)f	<2.6	<0.009	<0.11	<0.098	NA	<0.10	<0.12
C	<2.7	<0.011	<0.046	<0.041	NA	<0.043	<0.048
Dissolved Metals							
Ar	<0.79	(2.1)	<0.79	<0.79	<0.79	<0.79	<1.0
Inorganics							
Cl	(180)	(193)	(180)	(180)	(190)	(150)	(160)
N+N	0.40	0.19	<0.024	0.16	NA	<0.10	<0.10

MW-2							MW-2R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	<0.20	<0.20	<0.20
PAHs							
B(a)p	<2.5	[0.27]	<0.032	(0.048)	<0.033	<0.034	<0.034
B(b)f	<2.6	[0.32]	<0.098	<0.11	<0.10	<0.10	<0.10
C	<2.7	[0.27]	<0.041	(0.061)	<0.042	<0.044	<0.043
Dissolved Metals							
Ar	<0.79	(4.7)	(2.9)	(1.7)	(3.3)	<0.79	(2.0)
Inorganics							
Cl	95	88	77	24	NA	62	25
N+N	0.58	<0.03	<0.024	0.091	NA	0.12	<0.10

MW-3							MW-3R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20
PAHs							
B(a)p	<2.5	(0.036)	<0.032	<0.038	<0.032	<0.035	<0.034
B(b)f	<2.6	(0.057)	<0.098	<0.12	<0.098	<0.11	<0.10
C	<2.7	(0.041)	<0.041	<0.048	<0.041	<0.045	<0.043
Dissolved Metals							
Ar	<0.79	(2.3)	(3.0)	<0.79	(1.8)	<0.79	<1.0
Inorganics							
Cl	14	33	29	<10	NA	13	26
N+N	0.25	<0.03	<0.024	0.18	NA	0.11	<0.10

MW-4							MW-4R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20
PAHs							
B(a)p	<2.5	(0.056)	<0.032	<0.032	<0.033	<0.033	<0.034
B(b)f	<2.6	(0.081)	<0.098	<0.098	<0.10	<0.10	<0.10
C	<2.7	(0.075)	<0.041	<0.041	<0.042	<0.042	(0.043)
Dissolved Metals							
Ar	<0.79	(4.4)	(1.8)	(4.2)	(7.5)	(3.1)	(2.4)
Inorganics							
Cl	56	78	51	50	NA	23	60
N+N	0.45	<0.03	<0.024	0.17	NA	0.10	<0.10

MW-5							MW-5R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	[140]	[11]	[290]	[510]	[180]	[64]	<0.20
PAHs							
B(a)p	<2.5	0.015 "Q"	<0.032	<0.032	<0.033	<0.034	<0.032
B(b)f	<2.6	(0.026)	<0.098	<0.098	<0.10	<0.10	<0.098
C	<2.7	0.015 "Q"	<0.041	<0.041	<0.042	<0.044	<0.041
Dissolved Metals							
Ar	(5.1)	(5.6)	(4.9)	(2.7)	(8.9)	(4.0)	<1.0
Inorganics							
Cl	25	11	40	75	NA	20	(150)
N+N	0.93	<0.03	<0.024	0.23	NA	0.16	0.31

MW-6							MW-6R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20
PAHs							
B(a)p	<2.5	0.014 "Q"	<0.032	<0.037	<0.032	<0.034	<0.033
B(b)f	<2.6	(0.022)	<0.098	<0.11	<0.098	<0.10	<0.10
C	<2.7	0.015 "Q"	<0.041	<0.047	<0.041	<0.043	<0.043
Dissolved Metals							
Ar	<0.79	(1.4)	<0.79	<0.79	<0.79	<0.79	<1.0
Inorganics							
Cl	[280]	[277]	(170)	[480]	[330]	120	[340]
N+N	0.74	<0.03	0.13	0.091	NA	(2.5)	(5.6)

MW-7							MW-7R
Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06
VOCs							
B	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20
PAHs							
B(a)p	<2.5	<0.008	<0.037	<0.036	NA	<0.041	<0.034
B(b)f	<2.6	<0.009	<0.11	<0.11	NA	<0.13	<0.11
C	<2.7	<0.011	<0.047	<0.046	NA	<0.053	<0.044
Dissolved Metals							
Ar	<0.79	(1.0)	<0.79	<0.79	<0.79	<0.79	<1.0
Inorganics							
Cl	(230)	[272]	(230)	(190)	(170)	(160)	(220)
N+N	(3.9)	(4.6)	(4.5)	1.8	(2.6)	(5.4)	(3.9)

HIGHLAND HOUSE
SHEBOYGAN, WI

City of Sheboygan
spirit on the lake

LEGEND

- GP = GEOPROBE SOIL BORING LOCATION
- SUMP = ABANDONED SUMP LOCATION
- MW = SIGMA MONITORING WELL LOCATION
- MW = ABANDONED MONITORING WELL LOCATION
- OE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- SAN = UNDERGROUND SANITARY SEWER LINE
- W = UNDERGROUND WATER LINE

NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN.
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.
3. NEW SITE FEATURES BASED ON 7-28-04 SITE MAP PROVIDED BY ABACUS ARCHITECTS, INC. AND ARE SHOWN IN RED (EXCEPT FOR NEW ON-SITE STORM SEWER SYSTEM).

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

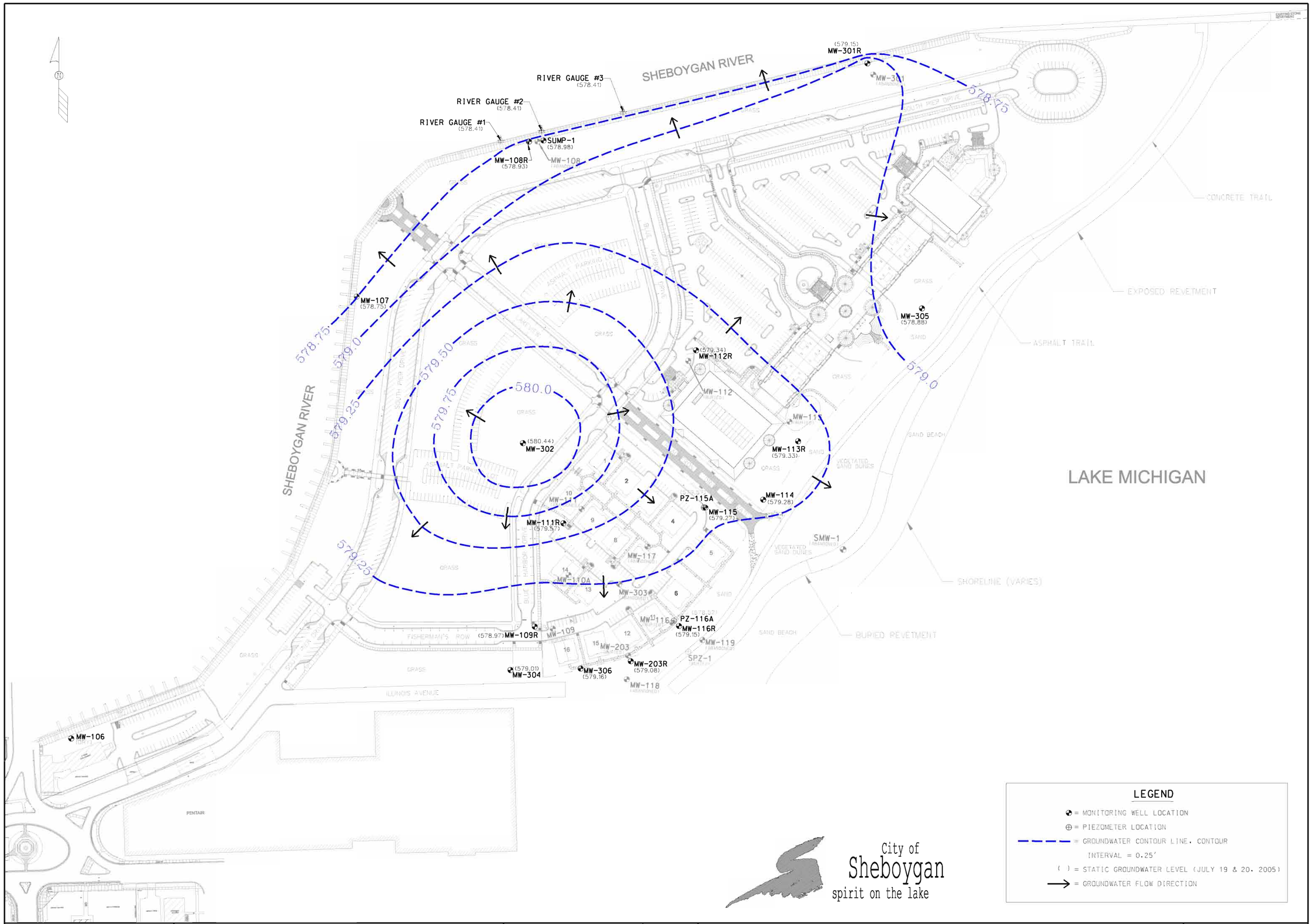
NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	12-29-06
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
GROUNDWATER QUALITY MAP

DRAWING NUMBER
7875-019

FIGURE 3



SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 150'- 0"
0' 75' 150' 225' 300'

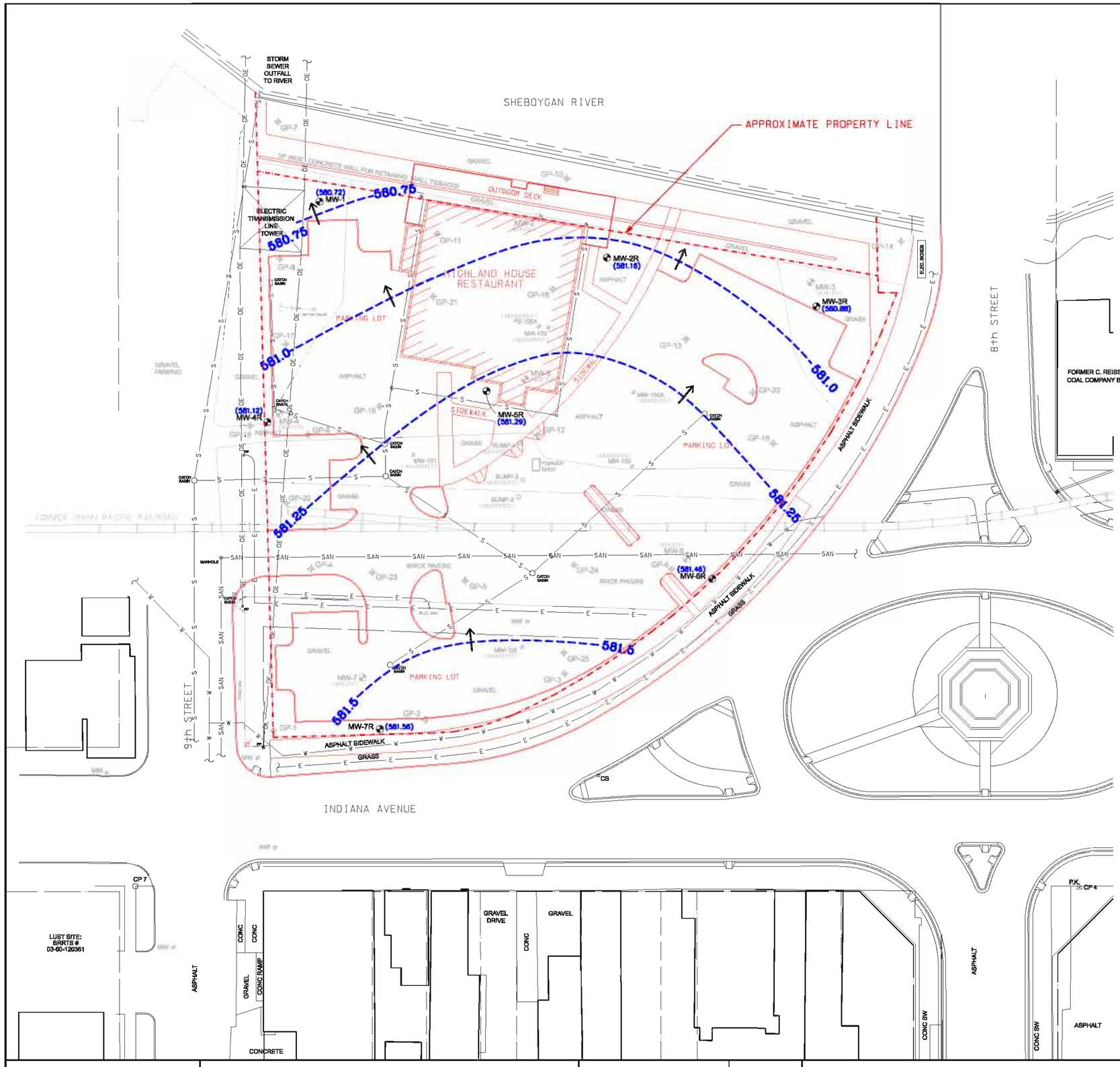
NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	8-24-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN
GROUNDWATER CONTOUR MAP (JULY 19 & 20, 2005)

DRAWING NUMBER
7302-045

FIGURE 3



HIGHLAND HOUSE
SHEBOYGAN, WI

City of Sheboygan
spirit on the lake

LEGEND

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- S = UNDERGROUND STORM SEWER LINE
- SAN = UNDERGROUND SANITARY SEWER LINE
- W = UNDERGROUND WATER LINE
- = GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = 0.25'
- ( ) = STATIC GROUNDWATER LEVEL (12-28-06)
- → = GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN
2. LOCATION OF SOIL BORINGS GP-1 THROUGH GP-16 AND UTILITY LOCATIONS BASED ON FIELD MEASUREMENTS TO SITE FEATURES. SOIL BORINGS GP-17 THROUGH GP-25 AND MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.
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1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 40'- 0" 0' 20' 40' 60' 80'

NO	DATE	REVISIONS	BY	APVD
1	1-26-05	ADDED GEOPROBES & MONITORING WELLS GP-17 - GP-25 & MW-1 - MW-7	BEB	

	NAME:	DATE:
DRAWN BY:	BEB	12-29-06
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

CITY OF SHEBOYGAN - ORIGINAL C. REISS COAL PARCEL
NORTHWEST CORNER OF 8th STREET & INDIANA AVENUE, SHEBOYGAN, WI
GROUNDWATER CONTOUR MAP (12-28-06)

DRAWING NUMBER
7875-017

FIGURE 2

Table 1 and 2 for Property #1 were removed from the GIS packet but are available in the case file

TABLES

Soil Analytical Table

Table 1 - 1992 and 1996 Soil Sampling Summary [for Property #1]
Table 2 - 1998/1999 Soil Sampling Summary [for Property #1]
Table 3 - 2000 Soil Sampling Summary [for Property #1]
Table 4 - September 2000 Arsenic Soil Sampling Summary [for Property #1]
Table 5 - September 2000 PAH Soil Sampling Summary [for Property #1]
Table 5 - Berm Soil Analytical Results - Former C. Reiss Coal Company Property [for Property #1]
Table 1 - Post Remediation Soil Quality Data - Excavation Area 1 (Nitrogen & Chloride) [for Property #1]
Table 2 - Post Remediation Soil Quality Data - Excavation Area 2 (Nitrogen) [for Property #1]
Table 3 - Post Remediation Soil Quality Data - Excavation Area 5 (VOCs) [for Property #1]
Table 2 - Soil Quality Results [for Property #2]

Groundwater Analytical Table

Table 2 - Groundwater Quality Results - Detected Compounds [for Property #1]
Table 2 - Groundwater Quality Results [for Property #2]

Water Elevations

Table 1 - Static Water Level Measurements [for Property #1]
Table 1 - Static Groundwater Elevations [for Property #2]

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	1C		2C [d]		3C		4C		4-1 [c]		4-2	
Metals (mg/kg)													
Aluminum		4250	=	3720	=	7820	=	6180	=	3540	=	4460	=
Antimony		0.55	B	0.47	U	0.49	U	0.5	B	0.47	U	0.39	U
Arsenic	0.039 (b)	5.4	=	14.9	=	2.6	=	5.7	=	1.8	=	1.6	=
Barium		46.3	=	124	=	59.8	=	133	=	105	=	68	=
Beryllium		0.17	B	0.58	=	0.37	B	0.75	=	0.07	B	0.2	B
Cadmium	8	0.37	=	0.49	=	0.38	=	0.59	=	0.18	=	0.22	=
Calcium		85700	=	25400	=	25500	=	59500	=	126000	=	89300	=
Chromium, total	16,000 (tri); 14 (hex)	7.6	=	13.1	=	28.3	=	14.2	=	12.1	=	10.1	=
Cobalt		5.5	=	4.6	=	4.6	=	4.3	=	2.7	=	3.1	=
Copper		16.1	=	34.3	=	17.9	=	29.3	=	19	=	14.2	=
Iron		8360	=	15200	=	11400	=	12400	=	6610	=	7160	=
Lead	50	5.9	=	90.1	=	33.4	=	57.4	=	24.3	=	22.3	=
Magnesium		50800	=	13000	=	16100	=	35100	=	74900	=	53500	=
Manganese		249	=	173	=	278	=	261	=	157	=	187	=
Mercury		0.11	=	0.19	=	0.17	=	0.81	=	0.03	B	0.02	U
Nickel		10.1	=	11.1	=	10.5	=	10.8	=	7.4	=	7.2	=
Potassium		890	=	562	=	1190	=	1340	=	829	=	968	=
Selenium		0.58	=	1.2	=	0.19	U	0.55	=	0.18	U	0.15	U
Silver		0.03	U	0.05	B	0.07	B	0.05	U	0.05	U	0.04	U
Sodium		246	=	632	=	685	=	933	=	608	=	584	=
Thallium		0.31	U	0.41	U	0.43	U	0.42	B	0.41	U	0.33	U
Vanadium		14.6	=	12.6	=	22.6	=	21.1	=	16.5	=	19.3	=
Zinc		49.8	=	108	=	50.5	=	232	=	31.1	=	31.6	=
Miscellaneous (mg/kg)													
Nitrate		1.2	=	1.4	=	2.1	=	1.7	=	1.1	U	1.9	=
Nitrite		1.3	=	1.1	U	1.1	U	1.1	U	1.1	U	0.97	=
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		9.2	=	8	=	8.1	=	8.2	=	8.7	=	8.5	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.83	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U
Acenaphthylene	18	0.42	U	0.91	=	0.42	U	0.42	U	0.42	U	0.42	U
Anthracene	5000	0.067	=	0.237	=	0.051	=	0.099	=	0.029	=	0.036	=
Benzo (a) anthracene	0.088	0.216	=	0.702	=	0.16	=	0.212	=	0.128	=	0.135	=
Benzo (a) pyrene	0.0088	0.236	=	1.002	=	0.215	=	0.261	=	0.154	=	0.176	=
Benzo (b) fluoranthene	0.088	0.187	=	0.426	=	0.162	=	0.201	=	0.14	=	0.151	=
Benzo (g,h,i) perylene	1.8	0.147	=	0.611	=	0.148	=	0.205	=	0.102	=	0.151	=
Benzo (k) fluoranthene	0.88	0.108	=	0.505	=	0.101	=	0.118	=	0.07	=	0.079	=
Chrysene	8.8	0.234	=	0.892	=	0.211	=	0.296	=	0.158	=	0.189	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
Fluoranthene	600	0.624	=	2.734	=	0.651	=	1.053	=	0.409	=	0.57	=
Fluorene	600	0.083	U	0.083	U	0.083	U	0.083	U	0.083	U	0.083	U
Indeno (1,2,3-cd) pyrene	0.088	0.078	=	0.357	=	0.042	U	0.042	U	0.042	U	0.042	U
Naphthalene	20	0.42	U	0.73	=	0.42	U	0.42	U	0.42	U	0.42	U
Phenanthrene	18	0.255	=	1.337	=	0.392	=	0.797	=	0.241	=	0.293	=
Pyrene	500	0.23	=	2.689	=	0.327	=	0.399	=	0.219	=	0.252	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
1,2-Dichlorobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
1,3-Dichlorobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
1,4-Dichlorobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2,4,5-Trichlorophenol		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
2,4,6-Trichlorophenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2,4-Dichlorophenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2,4-Dimethylphenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	1C		2C [d]		3C		4C		4-1 [e]		4-2	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
2,4-Dinitrotoluene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2,6-Dinitrotoluene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2-Chloronaphthalene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2-Chlorophenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2-Methylnaphthalene	600	0.38	U	1.4	=	0.26	J	0.97	=	0.26	J	0.3	J
2-Methylphenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
2-Nitroaniline		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
2-Nitrophenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
3,3'-Dichlorobenzidine		0.77	U	0.74	U	0.74	U	0.72	U	0.72	U	0.67	U
3-Nitroaniline		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
4,6-Dinitro-2-methylphenol		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
4-Bromophenyl-phenylether		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
4-Chloro-3-methylphenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
4-Chloroaniline		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
4-Chlorophenyl-phenylether		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
4-Methylphenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
4-Nitroaniline		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
4-Nitrophenol		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
Acenaphthene	900	0.38	U	0.061	J	0.37	U	0.36	U	0.36	U	0.33	U
Acenaphthylene	18	0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Anthracene	5000	0.38	U	0.23	J	0.37	U	0.14	J	0.36	U	0.33	U
Benzidine		3.8	U	3.7	U	3.7	U	3.6	U	3.6	U	3.3	U
Benzo (a) anthracene	0.088	0.25	J	0.56	=	0.16	J	0.4	=	0.16	J	0.2	J
Benzo (a) pyrene	0.0088	0.27	J	0.57	=	0.17	J	0.36	J	0.19	J	0.22	J
Benzo (b) fluoranthene	0.088	0.29	J	0.56	=	0.21	J	0.34	J	0.17	J	0.23	J
Benzo (g,h,i) perylene	1.8	0.18	J	0.53	=	0.14	J	0.32	J	0.36	U	0.18	J
Benzo (k) fluoranthene	0.88	0.15	J	0.42	=	0.1	J	0.34	J	0.14	J	0.16	J
Benzoic acid		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
Benzyl alcohol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
bis(2-Chloroethoxy)methane		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
bis(2-Chloroethyl)ether		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
bis(2-Ethylhexyl)phthalate		0.38	U	0.35	J	0.18	J	0.24	J	0.36	U	0.14	J
Butylbenzylphthalate		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Carbazole		0.38	U	0.1	J	0.37	U	0.36	U	0.36	U	0.33	U
Chrysene	8.8	0.28	J	0.8	=	0.21	J	0.59	=	0.21	J	0.24	J
Dibenzo (a,h) anthracene [c]	0.0088	0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Dibenzofuran		0.38	U	0.4	=	0.071	J	0.27	J	0.072	J	0.089	J
Diethylphthalate		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Dimethylphthalate		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Di-n-butylphthalate		0.38	U	0.15	J	0.37	U	0.13	J	0.36	U	0.33	U
Di-n-octylphthalate		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Fluoranthene	600	0.39	=	1	=	0.34	J	0.69	=	0.28	J	0.31	J
Fluorene	600	0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Hexachlorobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Hexachlorobutadiene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Hexachlorocyclopentadiene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Hexachloroethane		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.16	J	0.37	J	0.13	J	0.26	J	0.13	J	0.12	J
Isophorone		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Naphthalene	20	0.38	U	0.69	=	0.14	J	0.54	=	0.13	J	0.15	J
Nitrobenzene		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
N-Nitroso-di-n-propylamine		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
N-Nitrosodiphenylamine		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Pentachlorophenol		1.9	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
Phenanthrene	18	0.31	J	1.6	=	0.33	J	1	=	0.31	J	0.44	=
Phenol		0.38	U	0.37	U	0.37	U	0.36	U	0.36	U	0.33	U
Pyrene	500	0.54	=	1	=	0.28	J	0.75	=	0.36	J	0.44	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	1C		2C [d]		3C		4C	4-1 [e]		4-2	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,1,2,2-Tetrachloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,1,2-Trichloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,1-Dichloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,1-Dichloroethene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,2-Dichloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,2-Dichloroethene (total)		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,2-Dichloropropane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
2-Hexanone		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
4-Methyl-2-pentanone		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Acetone		0.01	=	0.02	=	0.024	=		0.005	U	0.005	U
Benzene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Bromodichloromethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Bromoform		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Bromomethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Carbon disulfide		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Carbon tetrachloride		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Chlorobenzene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Chloroethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Chloroform		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Chloromethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
cis-1,3-Dichloropropene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Dibromochloromethane		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
DRO												
Ethylbenzene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Isopropylbenzene												
Methylene chloride		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Tetrachloroethene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Toluene		0.004	U	0.006	J	0.001	J		0.005	U	0.005	U
trans-1,3-Dichloropropene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Trichloroethene		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Vinyl chloride		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.004	U	0.008	U	0.007	U		0.005	U	0.005	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	4-3		4-4		4-5		4-6		5C		5-1	
Metals (mg/kg)													
Aluminum		13600	=	3930	=	5880	=	3020	=	4590	=	4140	=
Antimony		4.9	=	0.6	B	0.91	B	1.2	B	1	B	2.2	=
Arsenic	0.039 (b)	6.1	=	6.3	=	8.6	=	8.3	=	3	=	6.3	=
Barium		245	=	112	=	211	=	76.8	=	104	=	172	=
Beryllium		1.9	=	0.72	=	0.81	=	0.71	=	0.28	B	0.63	=
Cadmium	8	0.71	=	0.67	=	0.62	=	1.5	=	0.42	=	0.79	=
Calcium		22100	=	31800	=	87800	=	12700	=	58000	=	25900	=
Chromium, total	16,000 (tri); 14 (hex)	12.1	=	15.2	=	17	=	12.9	=	12.5	=	16.5	=
Cobalt		4.3	=	3.5	=	3.4	=	4.6	=	3	=	3.8	=
Copper		62.3	=	27.3	=	32.6	=	41.5	=	27.7	=	48.2	=
Iron		9840	=	11500	=	7450	=	21500	=	9010	=	15500	=
Lead	50	139	=	132	=	63.6	=	84.8	=	67.5	=	200	=
Magnesium		3450	=	18000	=	48400	=	6370	=	33800	=	11700	=
Manganese		246	=	149	=	265	=	228	=	218	=	264	=
Mercury		0.06	=	0.04	=	0.05	=	0.05	=	0.7	=	0.08	=
Nickel		12.1	=	9.8	=	9.7	=	12.3	=	8.4	=	13	=
Potassium		763	=	767	=	2320	=	454	=	848	=	815	=
Selenium		0.9	=	1	=	1.1	=	2	=	0.2	B	0.87	=
Silver		0.05	U	0.04	B	0.05	B	0.05	B	0.04	B	0.15	B
Sodium		1330	=	605	=	874	=	1240	=	590	=	748	=
Thallium		0.46	U	0.38	U	0.44	U	0.44	U	0.4	U	0.48	U
Vanadium		30.2	=	15.5	=	21.7	=	13.3	=	15.2	=	16.6	=
Zinc		131	=	98.8	=	65.4	=	943	=	96.5	=	195	=
Miscellaneous (mg/kg)													
Nitrate		3	=	1.7	=	1.7	=	1.1	=	1.6	=	2.5	=
Nitrite		1.1	U	1	U	1.1	U	1.1	U	0.96	U	1.2	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.3	=	8.3	=	8.3	=	8.2	=	8.2	=	8.2	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U
Acenaphthylene	18	0.42	U	0.98	=	0.42	U	3.85	=	0.42	U	0.46	=
Anthracene	5000	0.038	=	0.187	=	0.122	=	0.202	=	0.084	=	0.214	=
Benzo (a) anthracene	0.088	0.19	=	0.434	=	0.297	=	0.391	=	0.246	=	0.614	=
Benzo (a) pyrene	0.0088	0.241	=	0.547	=	0.389	=	0.576	=	0.341	=	0.686	=
Benzo (b) fluoranthene	0.088	0.268	=	0.351	=	0.375	=	0.426	=	0.325	=	0.629	=
Benzo (g,h,i) perylene	1.8	0.158	=	0.411	=	0.286	=	0.73	=	0.241	=	0.43	=
Benzo (k) fluoranthene	0.88	0.123	=	0.188	=	0.165	=	0.212	=	0.172	=	0.298	=
Chrysene	8.8	0.277	=	0.708	=	0.411	=	0.984	=	0.305	=	0.774	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
Fluoranthene	600	0.935	=	2.582	=	1.407	=	3.433	=	0.9	=	2.172	=
Fluorene	600	0.083	U	0.083	U	0.083	U	0.083	U	0.083	U	0.083	U
Indeno (1,2,3-cd) pyrene	0.088	0.143	=	0.23	=	0.222	=	0.389	=	0.163	=	0.397	=
Naphthalene	20	0.42	U	0.56	=	0.42	U	1.26	=	0.42	U	0.42	U
Phenanthrene	18	0.497	=	1.39	=	0.828	=	2.584	=	0.535	=	1.115	=
Pyrene	500	0.318	=	0.715	=	0.524	=	1.087	=	0.415	=	0.975	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
1,2-Dichlorobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
1,3-Dichlorobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
1,4-Dichlorobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2,4,5-Trichlorophenol		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
2,4,6-Trichlorophenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2,4-Dichlorophenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2,4-Dimethylphenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	4-3		4-4		4-5		4-6		5C		5-1	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
2,4-Dinitrotoluene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2,6-Dinitrotoluene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2-Chloronaphthalene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2-Chlorophenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2-Methylnaphthalene	600	0.88	=	1.9	=	0.76	=	5.9	D	0.46	=	1.1	=
2-Methylphenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
2-Nitroaniline		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
2-Nitrophenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
3,3'-Dichlorobenzidine		0.75	U	0.73	U	0.74	U	0.74	U	0.67	U	0.82	U
3-Nitroaniline		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
4,6-Dinitro-2-methylphenol		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
4-Bromophenyl-phenylether		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
4-Chloro-3-methylphenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
4-Chloroaniline		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
4-Chlorophenyl-phenylether		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
4-Methylphenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
4-Nitroaniline		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
4-Nitrophenol		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
Acenaphthene	900	0.37	U	0.1	J	0.088	J	0.37	U	0.34	U	0.41	U
Acenaphthylene	18	0.37	U	0.36	U	0.083	J	0.37	U	0.34	U	0.41	U
Anthracene	5000	0.37	U	0.28	J	0.23	J	0.49	=	0.092	J	0.16	J
Benzidine		3.7	U	3.6	U	3.7	U	3.7	U	3.4	U	4.1	U
Benzo (a) anthracene	0.088	0.23	J	0.8	=	0.64	=	0.33	=	0.34	=	0.6	=
Benzo (a) pyrene	0.0088	0.2	J	0.7	=	0.69	=	0.69	=	0.38	=	0.63	=
Benzo (b) fluoranthene	0.088	0.35	J	0.72	=	0.68	=	0.81	=	0.43	=	0.59	=
Benzo (g,h,i) perylene	1.8	0.19	J	0.75	=	0.42	=	1	=	0.32	J	0.44	=
Benzo (k) fluoranthene	0.88	0.14	J	0.33	J	0.33	J	0.41	=	0.25	J	0.43	=
Benzoic acid		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
Benzyl alcohol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
bis(2-Chloroethoxy)methane		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
bis(2-Chloroethyl)ether		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
bis(2-Ethylhexyl)phthalate		0.37	U	0.59	=	0.28	J	0.28	J	0.28	J	0.22	J
Butylbenzylphthalate		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Carbazole		0.37	U	0.13	J	0.11	J	0.21	J	0.34	U	0.069	J
Chrysene	8.8	0.4	=	1.2	=	0.79	=	1.7	=	0.44	=	0.87	=
Dibenzo (a,h) anthracene [c]	0.0088	0.37	U	0.22	J	0.18	J	0.21	J	0.34	U	0.17	J
Dibenzofuran		0.27	J	0.55	=	0.24	J	1.2	=	0.13	J	0.34	J
Diethylphthalate		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Dimethylphthalate		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Di-n-butylphthalate		0.11	J	0.33	J	0.1	J	0.31	J	0.13	J	0.25	J
Di-n-octylphthalate		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Fluoranthene	600	0.36	J	1.2	=	1	=	0.84	=	0.58	=	0.93	=
Fluorene	600	0.37	U	0.15	J	0.13	J	0.18	J	0.34	U	0.41	U
Hexachlorobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Hexachlorobutadiene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Hexachlorocyclopentadiene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Hexachloroethane		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.17	J	0.42	=	0.37	J	0.46	=	0.3	J	0.41	J
Isophorone		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Naphthalene	20	0.57	=	1.1	=	0.47	=	2.9	=	0.25	J	0.74	=
Nitrobenzene		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
N-Nitroso-di-n-propylamine		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
N-Nitrosodiphenylamine		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Pentachlorophenol		1.9	U	1.8	U	1.8	U	1.9	U	1.7	U	2	U
Phenanthrene	18	0.74	=	2.3	=	1.6	=	4.5	=	0.6	=	1.4	=
Phenol		0.37	U	0.36	U	0.37	U	0.37	U	0.34	U	0.41	U
Pyrene	500	0.42	=	1.5	=	1.3	=	2.4	=	0.57	=	1.2	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	4-3		4-4		4-5		4-6		5C	5-1	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,1,2,2-Tetrachloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,1,2-Trichloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,1-Dichloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,1-Dichloroethene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,2-Dichloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,2-Dichloroethene (total)		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,2-Dichloropropane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
2-Hexanone		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
4-Methyl-2-pentanone		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Acetone		0.01	U	0.055	=	0.007	U	0.051	=		0.025	=
Benzene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Bromodichloromethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Bromoform		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Bromomethane		0.01	U	0.014	=	0.007	U	0.01	U		0.013	=
Carbon disulfide		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Carbon tetrachloride		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Chlorobenzene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Chloroethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Chloroform		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Chloromethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
cis-1,3-Dichloropropene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Dibromochloromethane		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
DRO												
Ethylbenzene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Isopropylbenzene												
Methylene chloride		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Tetrachloroethene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Toluene		0.01	U	0.008	J	0.002	J	0.003	J		0.017	=
trans-1,3-Dichloropropene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Trichloroethene		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Vinyl chloride		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.01	U	0.009	U	0.007	U	0.01	U		0.011	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	5-2		5-3		5-4		5-5		5-6		6C	
Metals (mg/kg)													
Aluminum		3700	=	5610	=	7280	=	10500	=	2190	=	4360	=
Antimony		1	B	1.1	B	0.36	B	0.62	B	0.39	U	0.42	U
Arsenic	0.039 (b)	1.9	=	1.4	=	3.6	=	5	=	0.78	=	3.2	=
Barium		47.1	=	237	=	85	=	135	=	10	=	155	=
Beryllium		0.03	U	0.45	=	0.41	=	0.71	=	0.02	U	0.22	B
Cadmium	8	0.42	=	0.7	=	0.3	=	0.45	=	0.13	B	0.27	=
Calcium		96600	=	43400	=	57800	=	34200	=	144000	=	96800	=
Chromium, total	16,000 (tri); 14 (hex)	10.2	=	24.3	=	17.1	=	22	=	4.3	=	9.7	=
Cobalt		3	=	3.5	=	4.8	=	5.6	=	1.7	=	2.7	=
Copper		25.7	=	34.7	=	23	=	33.3	=	9.1	=	19.3	=
Iron		7720	=	10200	=	11900	=	17400	=	4050	=	7380	=
Lead	50	70.7	=	150	=	49.3	=	70.9	=	4	=	67.9	=
Magnesium		59400	=	24800	=	31000	=	18600	=	84500	=	56500	=
Manganese		192	=	231	=	230	=	359	=	117	=	213	=
Mercury		0.04	=	0.12	=	0.02	B	0.03	B	0.02	U	0.04	=
Nickel		9.3	=	9.7	=	12.5	=	14.4	=	4.9	=	7.3	=
Potassium		629	=	952	=	1900	=	1560	=	598	=	1070	=
Selenium		0.17	U	0.5	=	0.14	U	0.32	B	0.15	U	0.16	U
Silver		0.06	B	0.08	B	0.03	U	0.05	U	0.04	U	0.04	U
Sodium		604	=	628	=	744	=	908	=	497	=	596	=
Thallium		0.39	U	0.34	U	0.31	U	0.43	U	0.34	U	0.36	U
Vanadium		13.7	=	15.2	=	21.2	=	25.6	=	9.3	=	14.9	=
Zinc		121	=	107	=	52	=	81.4	=	10.3	=	48.5	=
Miscellaneous (mg/kg)													
Nitrate		1.2	=	1.4	=	1.7	=	1.1	U	1.1	=	1.1	=
Nitrite		0.95	U	0.96	U	1	U	1.1	U	1	U	0.97	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.3	=	8.1	=	8.2	=	8.2	=	8.7	=	9.3	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.42	U	0.42	U	0.42	U	0.42	U	0.042	U	0.42	U
Acenaphthylene	18	0.42	U	0.42	U	0.42	U	0.42	U	0.042	U	0.42	U
Anthracene	5000	0.017	U	0.208	=	0.139	=	0.076	=	0.0017	U	0.521	=
Benzo (a) anthracene	0.088	0.113	=	0.507	=	0.409	=	0.267	=	0.0042	U	0.964	=
Benzo (a) pyrene	0.0088	0.21	=	0.5994	=	0.44	=	0.344	=	0.0042	U	0.941	=
Benzo (b) fluoranthene	0.088	0.262	=	0.33	=	0.414	=	0.314	=	0.0017	U	0.478	=
Benzo (g,h,i) perylene	1.8	0.206	=	0.371	=	0.277	=	0.27	=	0.0067	U	0.539	=
Benzo (k) fluoranthene	0.88	0.101	=	0.26	=	0.209	=	0.151	=	0.0017	U	0.445	=
Chrysene	8.8	0.207	=	0.643	=	0.48	=	0.343	=	0.005	=	1.032	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.055	=	0.051	=	0.049	=	0.004	U	0.107	=
Fluoranthene	600	0.307	=	1.76	=	1.514	=	0.846	=	0.0042	U	2.873	=
Fluorene	600	0.083	U	0.083	U	0.083	U	0.083	U	0.0083	U	0.127	=
Indeno (1,2,3-cd) pyrene	0.088	0.155	=	0.428	=	0.235	=	0.201	=	0.0042	U	0.42	=
Naphthalene	20	0.42	U	0.42	U	0.42	U	0.42	U	0.042	U	0.42	U
Phenanthrene	18	0.139	=	1.157	=	0.699	=	0.456	=	0.0072	=	2.108	=
Pyrene	500	0.166	=	0.862	=	0.731	=	0.452	=	0.0083	U	2.276	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
1,2-Dichlorobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
1,3-Dichlorobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
1,4-Dichlorobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2,4,5-Trichlorophenol		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
2,4,6-Trichlorophenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2,4-Dichlorophenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2,4-Dimethylphenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	5-2		5-3		5-4		5-5		5-6		6C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
2,4-Dinitrotoluene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2,6-Dinitrotoluene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2-Chloronaphthalene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2-Chlorophenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2-Methylnaphthalene	600	0.33	U	0.56	=	0.43	=	0.68	=	0.34	U	0.19	J
2-Methylphenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
2-Nitroaniline		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
2-Nitrophenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
3,3'-Dichlorobenzidine		0.66	U	0.69	U	0.7	U	0.76	U	0.69	U	0.67	U
3-Nitroaniline		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
4,6-Dinitro-2-methylphenol		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
4-Bromophenyl-phenylether		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
4-Chloro-3-methylphenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
4-Chloroaniline		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
4-Chlorophenyl-phenylether		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
4-Methylphenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
4-Nitroaniline		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
4-Nitrophenol		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
Acenaphthene	900	0.33	U	0.34	U	0.12	J	0.1	J	0.34	U	0.34	U
Acenaphthylene	18	0.33	U	0.056	J	0.35	U	0.38	U	0.34	U	0.34	U
Anthracene	5000	0.33	U	0.12	J	0.26	J	0.25	J	0.34	U	0.13	J
Benzidine		3.3	U	3.4	U	3.5	U	3.8	U	3.4	U	3.4	U
Benzo (a) anthracene	0.088	0.1	J	0.52	=	0.56	=	0.67	=	0.34	U	0.395	=
Benzo (a) pyrene	0.0088	0.19	J	0.57	=	0.58	=	0.74	=	0.34	U	0.39	=
Benzo (b) fluoranthene	0.088	0.26	J	0.71	=	0.4	=	0.61	=	0.34	U	0.31	J
Benzo (g,h,i) perylene	1.8	0.18	J	0.44	=	0.33	J	0.59	=	0.34	U	0.3	J
Benzo (k) fluoranthene	0.88	0.091	J	0.24	J	0.43	=	0.62	=	0.34	U	0.4	=
Benzoic acid		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
Benzyl alcohol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
bis(2-Chloroethoxy)methane		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
bis(2-Chloroethyl)ether		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
bis(2-Ethylhexyl)phthalate		0.15	J	0.66	=	0.18	J	0.16	J	0.34	U	0.25	J
Butylbenzylphthalate		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Carbazole		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Chrysene	8.8	0.19	J	0.72	=	0.65	=	0.74	=	0.34	U	0.43	=
Dibenzo (a,h) anthracene [c]	0.0088	0.33	U	0.17	J	0.14	J	0.13	J	0.34	U	0.34	U
Dibenzofuran		0.33	U	0.19	J	0.18	J	0.22	J	0.34	U	0.076	J
Diethylphthalate		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Dimethylphthalate		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Di-n-butylphthalate		0.33	U	0.33	J	0.079	J	0.084	J	0.34	U	0.09	J
Di-n-octylphthalate		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Fluoranthene	600	0.17	J	0.76	=	1.1	=	1	=	0.34	U	0.72	=
Fluorene	600	0.33	U	0.34	U	0.13	J	0.14	J	0.34	U	0.34	U
Hexachlorobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Hexachlorobutadiene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Hexachlorocyclopentadiene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Hexachloroethane		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.14	J	0.39	=	0.35	J	0.47	=	0.34	U	0.32	J
Isophorone		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Naphthalene	20	0.11	J	0.39	=	0.27	J	0.4	=	0.34	U	0.12	J
Nitrobenzene		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
N-Nitroso-di-n-propylamine		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
N-Nitrosodiphenylamine		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Pentachlorophenol		1.6	U	1.7	U	1.8	U	1.9	U	1.7	U	1.7	U
Phenanthrene	18	0.19	J	1	=	1.4	=	1.4	=	0.34	U	0.64	=
Phenol		0.33	U	0.34	U	0.35	U	0.38	U	0.34	U	0.34	U
Pyrene	500	0.22	J	1.1	=	1.4	=	1.5	=	0.34	U	0.7	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	5-2		5-3		5-4		5-5		5-6		6C	
VOCs (mg/kg)													
1,1,1-Trichloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,1,2,2-Tetrachloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,1,2-Trichloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,1-Dichloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,1-Dichloroethene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,2-Dichloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,2-Dichloroethene (total)		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,2-Dichloropropane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
1,2,4-Trimethylbenzene													
1,3,5-Trimethylbenzene													
2-Butanone		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
2-Hexanone		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
4-Methyl-2-pentanone		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Acetone		0.005	U	0.02	=	0.014	=	0.008	=	0.009	=	0.014	=
Benzene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Bromodichloromethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Bromoform		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Bromomethane		0.005	U	0.008	U	0.005	U	0.003	J	0.004	U	0.006	U
Carbon disulfide		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Carbon tetrachloride		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Chlorobenzene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Chloroethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Chloroform		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Chloromethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
cis-1,3-Dichloropropene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Dibromochloromethane		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
DRO													
Ethylbenzene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Isopropylbenzene													
Methylene chloride		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
n-Butylbenzene													
n-Propylbenzene													
p-Isopropyltoluene													
s-Butylbenzene													
t-Butylbenzene													
Styrene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Tetrachloroethene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Toluene		0.001	J	0.002	J	0.001	J	0.002	J	0.001	J	0.001	J
trans-1,3-Dichloropropene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Trichloroethene		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Vinyl chloride		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U
Xylene, -o													
Xylenes, -m, -p													
Xylene (total)		0.005	U	0.008	U	0.005	U	0.007	U	0.004	U	0.006	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	7C		8C		9C		10C		11C		12C	
Metals (mg/kg)													
Aluminum		2200	=	4440	=	3660	=	4000	=	4070	=	5370	=
Antimony		0.57	U	0.84	B	0.91	B	0.5	U	0.52	U	0.52	U
Arsenic	0.039 (b)	1.9	=	2.1	=	2.6	=	6.5	=	4.9	=	2.7	=
Barium		14.1	=	85.1	=	76.6	=	230	=	63.8	=	39.6	=
Beryllium		0.09	B	0.18	B	0.19	B	0.3	=	0.27	=	0.24	B
Cadmium	8	0.03	U	0.33	=	0.32	=	0.02	U	0.02	U	0.02	U
Calcium		72900	=	76200	=	96800	=	71000	=	35500	=	72600	=
Chromium, total	16,000 (tri); 14 (hex)	4.8	=	10.5	=	15.6	=	8.1	=	11.2	=	13.8	=
Cobalt		1.6	=	3	=	2.6	=	3.2	=	2.8	=	3.3	=
Copper		10.5	=	21	=	18.5	=	17.7	=	14.8	=	15.4	=
Iron		4330	=	7230	=	7490	=	12300	=	8700	=	8860	=
Lead	50	18.6	=	31.9	=	39.9	=	40.5	=	36.8	=	18.6	=
Magnesium		46200	=	43300	=	53100	=	38400	=	20300	=	44500	=
Manganese		83.5	=	157	=	145	=	153	=	129	=	179	=
Mercury		0.02	U	0.16	=	0.1	=	0.1	=	0.06	=	0.03	B
Nickel		3.9	=	8.1	=	7	=	7.2	=	6.9	=	8.5	=
Potassium		466	=	866	=	679	=	1100	=	1210	=	1390	=
Selenium		0.12	U	0.18	U	0.18	U	0.13	U	0.12	U	0.13	U
Silver		0.19	U	0.04	U	0.05	U	0.17	U	0.17	U	0.17	U
Sodium		425	=	614	=	586	=	745	=	570	=	620	=
Thallium		0.31	U	0.4	U	0.41	U	0.27	U	0.28	U	0.28	U
Vanadium		8	=	16.7	=	13.8	=	13.8	=	12.1	=	14.5	=
Zinc		23.5	=	55.3	=	68.1	=	182	=	83.7	=	55	=
Miscellaneous (mg/kg)													
Nitrate		1	U	1.1	=	0.97	U	1	U	0.99	U	0.99	U
Nitrite		1	U	0.98	U	0.97	U	1	U	0.99	U	0.99	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.4	=	8.3	=	8.4	=	8.3	=	8.2	=	8.3	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.083	U	0.42	U	0.42	U	0.421	=	0.088	=	0.083	U
Acenaphthylene	18	0.179	=	0.42	U	0.42	U	1.08	=	0.368	=	0.189	=
Anthracene	5000	0.011	=	0.062	=	0.088	=	1.027	=	0.3189	=	0.0782	=
Benzo (a) anthracene	0.088	0.0395	=	0.245	=	0.278	=	1.65	=	1.038	=	0.1588	=
Benzo (a) pyrene	0.0088	0.0502	=	0.326	=	0.355	=	1.759	=	1.244	=	0.2024	=
Benzo (b) fluoranthene	0.088	0.0509	=	0.302	=	0.296	=	1.33	=	1.3	=	0.1543	=
Benzo (g,h,i) perylene	1.8	0.0671	=	0.3	=	0.319	=	0.951	=	0.845	=	0.144	=
Benzo (k) fluoranthene	0.88	0.0154	=	0.197	=	0.174	=	0.798	=	0.6	=	0.1177	=
Chrysene	8.8	0.0439	=	0.3	=	0.331	=	1.673	=	1.217	=	0.2043	=
Dibenzo (a,h) anthracene [c]	0.0088	0.004	U	0.04	U	0.04	U	0.204	=	0.147	=	0.02	U
Fluoranthene	600	0.2292	=	0.772	=	1.034	=	5.293	=	3.06	=	0.6739	=
Fluorene	600	0.0083	U	0.083	U	0.083	U	0.48	=	0.1068	=	0.0325	=
Indeno (1,2,3-cd) pyrene	0.088	0.0265	=	0.202	=	0.151	=	0.728	=	0.589	=	0.085	=
Naphthalene	20	0.077	=	0.42	U	0.42	U	0.983	=	0.149	=	0.096	=
Phenanthrene	18	0.1001	=	0.414	=	0.611	=	4.978	=	1.785	=	0.4047	=
Pyrene	500	0.0687	=	0.462	=	0.514	=	4.497	=	2.204	=	0.305	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
1,2-Dichlorobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
1,3-Dichlorobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
1,4-Dichlorobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2,4,5-Trichlorophenol		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
2,4,6-Trichlorophenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2,4-Dichlorophenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2,4-Dimethylphenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [(a)]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	7C		8C		9C		10C		11C		12C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
2,4-Dinitrotoluene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2,6-Dinitrotoluene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2-Chloronaphthalene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2-Chlorophenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2-Methylnaphthalene	600	0.35	U	0.25	J	0.44	=	0.68	=	0.36	=	0.29	J
2-Methylphenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
2-Nitroaniline		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
2-Nitrophenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
3,3'-Dichlorobenzidine		0.69	U	0.71	U	0.67	U	0.72	U	0.7	U	0.73	U
3-Nitroaniline		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
4,6-Dinitro-2-methylphenol		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
4-Bromophenyl-phenylether		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
4-Chloro-3-methylphenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
4-Chloroaniline		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
4-Chlorophenyl-phenylether		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
4-Methylphenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
4-Nitroaniline		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
4-Nitrophenol		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
Acenaphthene	900	0.35	U	0.35	U	0.34	U	0.31	J	0.17	J	0.36	U
Acenaphthylene	18	0.35	U	0.069	J	0.066	J	0.16	J	0.35	U	0.36	U
Anthracene	5000	0.35	U	0.1	J	0.094	J	0.91	=	0.52	=	0.12	J
Benzidine		3.5	U	3.5	U	3.4	U	3.6	U	3.5	U	3.6	U
Benzo (a) anthracene	0.088	0.059	J	0.44	=	0.38	=	2.2	=	0.96	=	0.32	J
Benzo (a) pyrene	0.0088	0.12	J	0.5	=	0.45	=	2.1	=	0.95	=	0.36	J
Benzo (b) fluoranthene	0.088	0.13	J	0.45	=	0.5	=	2.1	=	0.88	=	0.37	=
Benzo (g,h,i) perylene	1.8	0.35	U	0.35	=	0.31	J	1.2	=	0.72	=	0.25	J
Benzo (k) fluoranthene	0.88	0.095	J	0.4	=	0.25	J	0.92	=	0.5	=	0.12	J
Benzoic acid		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
Benzyl alcohol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethoxy)methane		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethyl)ether		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
bis(2-Ethylhexyl)phthalate		0.35	U	0.4	=	0.34	U	0.36	U	0.35	=	0.36	U
Butylbenzylphthalate		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Carbazole		0.35	U	0.35	U	0.055	J	0.28	J	0.13	J	0.36	U
Chrysene	8.8	0.087	J	0.49	=	0.45	=	2.3	=	1	=	0.35	J
Dibenzo (a,h) anthracene [c]	0.0088	0.35	U	0.13	J	0.13	J	0.53	=	0.29	=	0.36	U
Dibenzofuran		0.35	U	0.081	J	0.12	J	0.36	=	0.16	J	0.077	J
Diethylphthalate		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Dimethylphthalate		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Di-n-butylphthalate		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Di-n-octylphthalate		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Fluoranthene	600	0.35	U	0.9	=	0.81	=	3.5	=	1.5	=	0.5	=
Fluorene	600	0.35	U	0.35	U	0.34	U	0.36	=	0.16	J	0.36	U
Hexachlorobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Hexachlorobutadiene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Hexachlorocyclopentadiene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Hexachloroethane		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.35	U	0.37	=	0.32	J	1.2	=	0.7	=	0.23	J
Isophorone		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Naphthalene	20	0.11	J	0.13	J	0.22	J	0.5	=	0.28	J	0.15	J
Nitrobenzene		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
N-Nitroso-di-n-propylamine		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
N-Nitrosodiphenylamine		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Pentachlorophenol		1.7	U	1.8	U	1.7	U	1.8	U	1.7	U	1.8	U
Phenanthrene	18	0.094	J	0.52	=	0.66	=	4.4	=	1.9	=	0.57	=
Phenol		0.35	U	0.35	U	0.34	U	0.36	U	0.35	U	0.36	U
Pyrene	500	0.35	U	0.78	=	0.69	=	5	=	2.5	=	0.74	=

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	7C		8C		9C		10C		11C		12C	
VOCs (mg/kg)													
1,1,1-Trichloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,1,2,2-Tetrachloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,1,2-Trichloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,1-Dichloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,1-Dichloroethene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,2-Dichloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,2-Dichloroethene (total)		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,2-Dichloropropane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
1,2,4-Trimethylbenzene													
1,3,5-Trimethylbenzene													
2-Butanone		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
2-Hexanone		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
4-Methyl-2-pentanone		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Acetone		0.006	U	0.006	U	0.03	=	0.006	U	0.006	U	0.005	U
Benzene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Bromodichloromethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Bromoform		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Bromomethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Carbon disulfide		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Carbon tetrachloride		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Chlorobenzene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Chloroethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Chloroform		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Chloromethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
cis-1,3-Dichloropropene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Dibromochloromethane		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
DRO													
Ethylbenzene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Isopropylbenzene													
Methylene chloride		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
n-Butylbenzene													
n-Propylbenzene													
p-Isopropyltoluene													
s-Butylbenzene													
t-Butylbenzene													
Styrene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Tetrachloroethene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Toluene		0.006	U	0.006	U	0.002	J	0.006	U	0.006	U	0.005	U
trans-1,3-Dichloropropene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Trichloroethene		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Vinyl chloride		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U
Xylene, -o													
Xylenes, -m, -p													
Xylene (total)		0.006	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	13C		14C		15C		15D [f]		16C		17C	
Metals (mg/kg)													
Aluminum		2900	=	2460	=	3800	=	4690	=	3170	=	4440	=
Antimony		0.61	U	0.58	U	0.42	U	0.46	U	0.42	U	2.4	=
Arsenic	0.039 (b)	5.6	=	3.9	=	4.2	=	5.7	=	2.1	=	3.5	=
Barium		81.9	=	54.2	=	104	=	74.5	=	52	=	88.1	=
Beryllium		0.23	B	0.21	B	0.24	B	0.28	B	0.1	B	0.34	B
Cadmium	8	0.03	U	0.03	U	0.45	=	0.43	=	0.38	=	0.42	=
Calcium		34000	=	50500	=	89400	=	90300	=	118000	=	89100	=
Chromium, total	16,000 (tri); 14 (hex)	11	=	5.6	=	8.3	=	9.1	=	7.6	=	11.3	=
Cobalt		2.6	=	1.7	=	2.8	=	2.7	=	1.8	=	3	=
Copper		24.7	=	21.8	=	18.9	=	18	=	15.5	=	19.4	=
Iron		11200	=	6980	=	8090	=	9480	=	4950	=	8620	=
Lead	50	99.6	=	69.4	=	57	=	54.5	=	59.1	=	61	=
Magnesium		17700	=	31000	=	52600	=	52900	=	68300	=	49200	=
Manganese		135	=	87.2	=	131	=	136	=	122	=	194	=
Mercury		0.06	=	0.03	B	0.07	=	0.19	=	0.28	=	0.04	=
Nickel		6.5	=	4.4	=	7.8	=	7.9	=	5.6	=	8.3	=
Potassium		515	=	545	=	760	=	758	=	645	=	929	=
Selenium		0.14	U	0.12	U	0.51	=	0.2	B	0.18	B	0.27	B
Silver		0.2	U	0.2	U	0.04	U	0.04	U	0.04	U	0.05	U
Sodium		585	=	511	=	639	=	666	=	575	=	621	=
Thallium		0.33	U	0.32	U	0.36	U	0.4	U	0.36	U	0.42	U
Vanadium		10.3	=	8.8	=	13.3	=	14.5	=	13.1	=	16.5	=
Zinc		129	=	40	=	73.2	=	74.6	=	45.5	=	89.2	=
Miscellaneous (mg/kg)													
Nitrate		1.1	=	0.97	U	1.1	=	1.1	=	1.5	=	1.3	=
Nitrite		1	U	0.97	U	1	U	1	U	1.1	U	1.2	=
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.4	=	8.3	=	8.2	=	8.3	=	8.2	=	8.4	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.757	=	0.124	=	0.42	U	0.42	U	0.42	U	0.42	U
Acenaphthylene	18	0.846	=	0.423	=	0.68	=	0.67	=	0.68	=	0.8	=
Anthracene	5000	1.377	=	0.4185	=	0.326	=	0.309	=	0.312	=	0.356	=
Benzo (a) anthracene	0.088	1.779	=	0.895	=	1.039	=	0.959	=	1.099	=	0.853	=
Benzo (a) pyrene	0.0088	1.906	=	1.097	=	1.353	=	1.262	=	1.244	=	0.962	=
Benzo (b) fluoranthene	0.088	1.298	=	0.826	=	0.765	=	1.09	=	1.071	=	0.816	=
Benzo (g,h,i) perylene	1.8	1.074	=	0.881	=	0.785	=	0.911	=	0.86	=	0.58	=
Benzo (k) fluoranthene	0.88	0.737	=	0.492	=	0.66	=	0.745	=	0.758	=	0.445	=
Chrysene	8.8	1.925	=	0.907	=	1.245	=	1.17	=	1.16	=	0.99	=
Dibenzo (a,h) anthracene [c]	0.0088	0.216	=	0.133	=	0.109	=	0.13	=	0.178	=	0.082	=
Fluoranthene	600	5.394	=	2.479	=	3.335	=	3.51	=	3.176	=	3.253	=
Fluorene	600	0.7522	=	0.1657	=	0.093	=	0.083	U	0.083	U	0.114	=
Indeno (1,2,3-cd) pyrene	0.088	1.002	=	0.631	=	0.643	=	0.619	=	0.625	=	0.512	=
Naphthalene	20	0.717	=	0.267	=	0.42	U	0.42	U	0.42	U	0.42	U
Phenanthrene	18	6.552	=	1.87	=	2.032	=	1.787	=	1.949	=	1.926	=
Pyrene	500	4.148	=	1.973	=	2.64	=	2.593	=	2.706	=	1.529	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
1,2-Dichlorobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
1,3-Dichlorobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
1,4-Dichlorobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2,4,5-Trichlorophenol		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4,6-Trichlorophenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2,4-Dichlorophenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2,4-Dimethylphenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	13C		14C		15C		15D [f]		16C		17C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4-Dinitrotoluene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2,6-Dinitrotoluene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2-Chloronaphthalene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2-Chlorophenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2-Methylnaphthalene	600	0.53	J	0.57	=	0.88	=	0.62	=	0.68	=	0.94	=
2-Methylphenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
2-Nitroaniline		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2-Nitrophenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
3,3'-Dichlorobenzidine		3.7	U	0.68	U	0.7	U	0.71	U	0.7	U	0.71	U
3-Nitroaniline		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4,6-Dinitro-2-methylphenol		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Bromophenyl-phenylether		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
4-Chloro-3-methylphenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
4-Chloroaniline		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
4-Chlorophenyl-phenylether		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
4-Methylphenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
4-Nitroaniline		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Nitrophenol		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Acenaphthene	900	1.8	U	0.32	J	0.18	J	0.074	J	0.079	J	0.21	J
Acenaphthylene	18	1.8	U	0.21	J	0.24	J	0.28	J	0.55	=	0.12	J
Anthracene	5000	0.42	J	0.94	=	0.47	=	0.42	=	0.64	=	0.72	=
Benzidine		18	U	3.4	U	3.5	U	3.6	U	3.5	U	3.6	U
Benzo (a) anthracene	0.088	0.83	J	3.1	=	1.5	=	1.6	=	1.7	=	2.5	=
Benzo (a) pyrene	0.0088	0.98	J	3.3	=	1.6	=	1.5	=	1.7	=	2.4	=
Benzo (b) fluoranthene	0.088	0.88	J	3.3	=	1.8	=	1.9	=	2.3	=	2.5	=
Benzo (g,h,i) perylene	1.8	0.79	J	2.7	=	0.91	=	0.91	=	0.86	=	1.1	=
Benzo (k) fluoranthene	0.88	0.32	J	2.1	=	1	=	0.82	=	0.88	=	1.5	=
Benzoic acid		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Benzyl alcohol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethoxy)methane		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethyl)ether		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
bis(2-Ethylhexyl)phthalate		1.8	U	0.34	U	0.17	J	0.14	J	0.12	J	0.26	J
Butylbenzylphthalate		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Carbazole		1.8	U	0.43	=	0.26	J	0.27	J	0.52	=	0.24	J
Chrysene	8.8	0.89	J	2.9	=	1.7	=	1.7	=	1.8	=	2.6	=
Dibenzo (a,h) anthracene [c]	0.0088	0.29	J	0.82	=	0.42	=	0.47	=	0.45	=	0.55	=
Dibenzofuran		1.8	U	0.31	J	0.34	J	0.24	J	0.5	=	0.36	=
Diethylphthalate		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Dimethylphthalate		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Di-n-butylphthalate		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.22	J
Di-n-octylphthalate		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Fluoranthene	600	1.6	J	5.4	=	3.3	=	3.1	=	4	=	4.2	=
Fluorene	600	1.8	U	0.44	=	0.25	J	0.19	J	0.47	=	0.29	J
Hexachlorobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Hexachlorobutadiene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Hexachlorocyclopentadiene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Hexachloroethane		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.7	J	2.8	=	1.2	=	1.1	=	1.2	=	1.4	=
Isophorone		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Naphthalene	20	0.31	J	0.39	=	0.52	=	0.37	=	0.52	=	0.5	=
Nitrobenzene		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
N-Nitroso-di-n-propylamine		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
N-Nitrosodiphenylamine		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Pentachlorophenol		9.3	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Phenanthrene	18	1.6	J	4.7	=	2.7	=	2.5	=	3.5	=	3.6	=
Phenol		1.8	U	0.34	U	0.35	U	0.36	U	0.35	U	0.36	U
Pyrene	500	2	=	18	D	3.1	=	3	=	3	=	5.1	D

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	13C		14C		15C		15D [f]	16C		17C	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,1,2,2-Tetrachloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,1,2-Trichloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,1-Dichloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,1-Dichloroethene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,2-Dichloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,2-Dichloroethene (total)		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,2-Dichloropropane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
2-Hexanone		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
4-Methyl-2-pentanone		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Acetone		0.005	U	0.007	U	0.029	=		0.006	U	0.038	=
Benzene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Bromodichloromethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Bromoform		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Bromomethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Carbon disulfide		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Carbon tetrachloride		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Chlorobenzene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Chloroethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Chloroform		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Chloromethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
cis-1,3-Dichloropropene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Dibromochloromethane		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
DRO												
Ethylbenzene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Isopropylbenzene												
Methylene chloride		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Tetrachloroethene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Toluene		0.005	U	0.007	U	0.002	J		0.006	U	0.002	J
trans-1,3-Dichloropropene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Trichloroethene		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Vinyl chloride		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.005	U	0.007	U	0.006	U		0.006	U	0.006	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	18C		19C		19D		20C		21C		22C	
Metals (mg/kg)													
Aluminum		4200	=	4190	=	3570	=	4080	=	4200	=	4470	=
Antimony		0.94	B	0.37	B	0.74	B	0.57	B	0.47	B	0.37	U
Arsenic	0.039 (b)	11.3	=	4.9	=	4.8	=	4.8	=	3.2	=	6.8	=
Barium		55.7	=	85.8	=	77.9	=	51.7	=	85.5	=	52.1	=
Beryllium		0.34	=	0.97	=	0.84	=	0.22	B	0.37	=	0.32	=
Cadmium	8	0.43	=	0.66	=	0.65	=	0.23	=	0.18	=	0.36	=
Calcium		51000	=	51600	=	48400	=	70700	=	33000	=	61600	=
Chromium, total	16,000 (tri); 14 (hex)	12.7	=	16.5	=	21.9	=	7.5	=	7.1	=	11.9	=
Cobalt		3.7	=	3.9	=	3.6	=	3.3	=	2.1	=	3.7	=
Copper		25.1	=	57.9	=	54.8	=	21.2	=	18.9	=	21	=
Iron		10900	=	11600	=	12300	=	8640	=	12600	=	13300	=
Lead	50	116	=	65.7	=	64.9	=	46.3	=	41.7	=	39.3	=
Magnesium		30400	=	29900	=	27900	=	38300	=	17200	=	37700	=
Manganese		207	=	155	=	147	=	146	=	126	=	146	=
Mercury		0.05	=	0.03	B	0.09	=	0.04	=	0.1	=	0.04	=
Nickel		9	=	13.3	=	17.3	=	10.8	=	5.6	=	9.8	=
Potassium		858	=	608	=	570	=	799	=	552	=	1070	=
Selenium		0.78	=	0.49	=	0.77	=	0.26	B	0.14	U	0.33	B
Silver		0.04	U	0.06	B	0.04	U	0.03	U	0.04	U	0.04	U
Sodium		265	=	668	=	648	=	273	=	159	=	218	=
Thallium		0.85	U	0.32	U	0.4	U	0.3	U	0.32	U	0.32	U
Vanadium		15.1	=	14.6	=	14.8	=	15	=	13.9	=	16.9	=
Zinc		80.8	=	125	=	148	=	51.9	=	50.9	=	76.7	=
Miscellaneous (mg/kg)													
Nitrate		2.1	=	1	=	1.1	U	1.1	=	1.5	=	1	=
Nitrite		1.1	U	1	U	1.1	U	1	U	0.95	U	0.99	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		9.4	=	8.3	=	7.6	=	10.8	=	8.3	=	8.2	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.83	U	0.42	U	0.42	U	6.9	=	0.83	U	0.83	U
Acenaphthylene	18	1.21	=	1.05	=	0.93	=	7.66	=	0.76	=	0.84	=
Anthracene	5000	0.114	=	0.074	=	0.113	=	56.12	=	0.585	=	0.113	=
Benzo (a) anthracene	0.088	0.283	=	0.209	=	0.285	=	60.1	=	1.531	=	0.329	=
Benzo (a) pyrene	0.0088	0.474	=	0.698	=	1.202	=	47.49	=	2.114	=	0.359	=
Benzo (b) fluoranthene	0.088	0.305	=	0.266	=	0.323	=	37.41	=	1.584	=	0.391	=
Benzo (g,h,i) perylene	1.8	0.257	=	0.258	=	0.37	=	16.92	=	1.167	=	0.247	=
Benzo (k) fluoranthene	0.88	0.132	=	0.118	=	0.168	=	24.07	=	0.97	=	0.186	=
Chrysene	8.8	0.328	=	0.281	=	0.369	=	55.78	=	2.103	=	0.424	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.04	U	0.763	=	4.99	=	0.155	=	0.04	U
Fluoranthene	600	1.497	=	1.95	=	2.048	=	181.5	=	5.207	=	1.683	=
Fluorene	600	0.083	U	0.083	U	0.083	U	20.48	=	0.152	=	0.083	U
Indeno (1,2,3-cd) pyrene	0.088	0.117	=	0.21	=	0.312	=	15.17	=	0.922	=	0.195	=
Naphthalene	20	0.43	=	0.42	U	0.45	=	3.28	=	0.42	U	0.42	U
Phenanthrene	18	0.852	=	0.709	=	0.98	=	160	=	3.096	=	0.978	=
Pyrene	500	0.47	=	0.491	=	0.575	=	94.81	=	3.303	=	0.586	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,2-Dichlorobenzene		0.95	=	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,3-Dichlorobenzene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,4-Dichlorobenzene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4,5-Trichlorophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4,6-Trichlorophenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4-Dichlorophenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4-Dimethylphenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	18C		19C		19D		20C		21C		22C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4-Dinitrotoluene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,6-Dinitrotoluene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Chloronaphthalene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Chlorophenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Methylnaphthalene	600	0.77	=	1.1	=	1.5	=	0.43	=	0.35	U	0.53	=
2-Methylphenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2-Nitrophenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
3,3'-Dichlorobenzidine		0.77	U	0.68	U	0.72	U	0.73	U	0.7	U	0.72	U
3-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4,6-Dinitro-2-methylphenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Bromophenyl-phenylether		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chloro-3-methylphenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chloroaniline		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chlorophenyl-phenylether		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Methylphenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Nitrophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Acenaphthene	900	0.38	U	0.059	J	0.086	J	0.33	J	0.28	J	0.36	U
Acenaphthylene	18	0.2	J	0.34	U	0.36	U	0.59	=	0.12	J	0.36	U
Anthracene	5000	0.26	J	0.11	J	0.17	J	2.3	=	0.88	=	0.14	J
Benzidine		3.8	U	3.4	U	3.6	U	3.6	U	3.5	U	3.6	U
Benzo (a) anthracene	0.088	0.58	=	0.51	=	0.76	=	9.9	D	2.5	=	0.63	=
Benzo (a) pyrene	0.0088	0.73	=	1.9	=	3.6	=	8.5	D	3	=	0.45	=
Benzo (b) fluoranthene	0.088	0.67	=	0.92	=	0.6	=	7	D	2	=	0.48	=
Benzo (g,h,i) perylene	1.8	0.59	=	1.6	=	0.36	U	7	=	1.2	=	0.31	J
Benzo (k) fluoranthene	0.88	0.45	=	0.27	J	0.52	=	4.1	=	1.36	=	0.2	J
Benzoic acid		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Benzyl alcohol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethoxy)methane		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethyl)ether		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Ethylhexyl)phthalate		0.22	J	0.14	J	0.15	J	0.34	J	0.3	J	0.22	J
Butylbenzylphthalate		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Carbazole		0.38	U	0.34	U	0.36	U	0.31	J	0.29	J	0.36	U
Chrysene	8.8	0.79	=	0.9	=	1.6	=	8.4	D	2.2	=	0.5	=
Dibenzo (a,h) anthracene [c]	0.0088	0.33	J	0.34	U	0.36	U	1.2	=	0.36	U	0.17	J
Dibenzofuran		0.22	J	0.31	J	0.33	J	0.5	=	0.24	J	0.17	J
Diethylphthalate		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Dimethylphthalate		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Di-n-butylphthalate		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Di-n-octylphthalate		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Fluoranthene	600	0.63	=	0.36	=	0.42	=	15	D	4.2	=	0.68	=
Fluorene	600	0.38	U	0.34	U	0.1	J	0.73	=	0.28	J	0.36	U
Hexachlorobenzene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachlorobutadiene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachlorocyclopentadiene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachloroethane		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.42	=	0.33	J	0.36	U	1.4	=	1.3	=	0.32	J
Isophorone		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Naphthalene	20	0.46	=	0.6	=	0.67	=	0.33	J	0.2	J	0.28	J
Nitrobenzene		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
N-Nitroso-di-n-propylamine		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
N-Nitrosodiphenylamine		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Pentachlorophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Phenanthrene	18	0.87	=	1.3	=	1.3	=	9.4	D	3.3	=	0.92	=
Phenol		0.38	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Pyrene	500	1	=	1.1	=	2	=	17	D	4.6	=	0.97	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	18C		19C		19D	20C		21C		22C	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,1,2,2-Tetrachloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,1,2-Trichloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,1-Dichloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,1-Dichloroethene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,2-Dichloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,2-Dichloroethene (total)		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,2-Dichloropropane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
2-Hexanone		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
4-Methyl-2-pentanone		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Acetone		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Benzene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Bromodichloromethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Bromoform		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Bromomethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Carbon disulfide		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Carbon tetrachloride		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Chlorobenzene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Chloroethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Chloroform		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Chloromethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
cis-1,3-Dichloropropene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Dibromochloromethane		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
DRO												
Ethylbenzene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Isopropylbenzene												
Methylene chloride		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Tetrachloroethene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Toluene		0.006	U	0.007	U		0.007	U	0.008	U	0.02	=
trans-1,3-Dichloropropene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Trichloroethene		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Vinyl chloride		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.006	U	0.007	U		0.007	U	0.008	U	0.006	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	23C		24C		25C		25D		26C		27C	
Metals (mg/kg)													
Aluminum		2140	=	1800	=	5620	=	5620	=	8190	=	4980	=
Antimony		0.6	U	0.53	U	0.54	U	0.51	U	0.61	U	0.6	U
Arsenic	0.039 (b)	5	=	3.1	=	9.1	=	5.4	=	16.3	=	9.8	=
Barium		25.5	=	18.4	=	45.5	=	57	=	55.9	=	44.6	=
Beryllium		0.17	B	0.15	B	0.34	=	0.38	=	1.1	=	0.57	=
Cadmium	8	0.03	U	0.03	U	0.18	=	0.33	=	0.03	U	0.06	B
Calcium		54600	=	30800	=	47600	=	49200	=	36400	=	39300	=
Chromium, total	16,000 (tri); 14 (hex)	4.9	=	6.4	=	35.4	=	49.3	=	15.7	=	12.8	=
Cobalt		1.7	=	1.9	=	4	=	4.3	=	4.1	=	3.5	=
Copper		12.2	=	10.3	=	26.9	=	34.3	=	15.6	=	18.5	=
Iron		8520	=	7990	=	18100	=	21100	=	15600	=	14700	=
Lead	50	20.7	=	20.7	=	33.8	=	51.2	=	27.1	=	40.4	=
Magnesium		38200	=	19300	=	31100	=	28500	=	27900	=	21600	=
Manganese		108	=	87.6	=	412	=	487	=	173	=	137	=
Mercury		0.02	U	0.06	=	0.06	=	0.05	=	0.04	=	0.04	=
Nickel		4	=	4.5	=	11.3	=	12.3	=	11.8	=	9.9	=
Potassium		521	=	468	=	1080	=	1180	=	1440	=	873	=
Selenium		0.13	U	0.13	B	0.67	U	0.13	U	0.13	U	0.29	B
Silver		0.2	U	0.18	U	0.18	U	0.17	U	0.21	U	0.2	U
Sodium		445	=	391	=	824	=	888	=	737	=	666	=
Thallium		0.33	U	0.29	U	0.29	U	0.28	U	0.33	U	0.32	U
Vanadium		8.2	=	9.6	=	17.5	=	15.7	=	20.9	=	17.6	=
Zinc		22.9	=	37.1	=	164	=	222	=	56.4	=	65	=
Miscellaneous (mg/kg)													
Nitrate		1.1	U	1.4	=	0.96	U	1.2	=	1	U	1.1	=
Nitrite		1.1	U	0.93	U	0.96	U	0.94	U	1	U	1.1	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.2	=	8.6	=	8.3	=	8.3	=	8.4	=	7.8	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.219	=	0.083	U	0.083	U	0.083	U	0.083	U	0.083	U
Acenaphthylene	18	0.569	=	0.384	=	0.472	=	0.467	=	0.692	=	0.656	=
Anthracene	5000	0.5405	=	0.0278	=	0.0796	=	0.0964	=	0.1155	=	0.0814	=
Benzo (a) anthracene	0.088	0.9117	=	0.0808	=	0.2023	=	0.2613	=	0.2708	=	0.1949	=
Benzo (a) pyrene	0.0088	1.016	=	0.1202	=	0.184	=	0.306	=	0.308	=	0.21	=
Benzo (b) fluoranthene	0.088	0.778	=	0.0673	=	0.1511	=	0.1904	=	0.166	=	0.136	=
Benzo (g,h,i) perylene	1.8	0.638	=	0.0464	=	0.132	=	0.185	=	0.152	=	0.114	=
Benzo (k) fluoranthene	0.88	0.454	=	0.0365	=	0.1204	=	0.1561	=	0.1	=	0.079	=
Chrysene	8.8	0.973	=	0.1017	=	0.22	=	0.331	=	0.279	=	0.218	=
Dibenzo (a,h) anthracene [c]	0.0088	0.113	=	0.004	U	0.02	U	0.02	U	0.064	=	0.04	U
Fluoranthene	600	2.825	=	0.6315	=	1.06	=	1.264	=	0.9296	=	0.9255	=
Fluorene	600	0.2741	=	0.0186	=	0.0301	=	0.0327	=	0.0448	=	0.0374	=
Indeno (1,2,3-cd) pyrene	0.088	0.429	=	0.062	=	0.111	=	0.201	=	0.098	=	0.042	U
Naphthalene	20	0.345	=	0.26	=	0.204	=	0.199	=	0.684	=	0.676	=
Phenanthrene	18	3.145	=	0.3563	=	0.5314	=	0.5367	=	0.855	=	0.7462	=
Pyrene	500	2.65	=	0.2718	=	0.296	=	0.4346	=	0.294	=	0.256	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,2-Dichlorobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,3-Dichlorobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1,4-Dichlorobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4,5-Trichlorophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4,6-Trichlorophenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4-Dichlorophenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,4-Dimethylphenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [(a)]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	23C		24C		25C		25D		26C		27C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2,4-Dinitrotoluene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2,6-Dinitrotoluene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Chloronaphthalene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Chlorophenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Methylnaphthalene	600	0.75	=	0.68	=	0.41	=	0.57	U	2.3	=	2	=
2-Methylphenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
2-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
2-Nitrophenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
3,3'-Dichlorobenzidine		0.74	U	0.67	U	0.71	U	0.72	U	0.71	U	0.72	U
3-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4,6-Dinitro-2-methylphenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Bromophenyl-phenylether		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chloro-3-methylphenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chloroaniline		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Chlorophenyl-phenylether		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Methylphenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
4-Nitroaniline		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
4-Nitrophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Acenaphthene	900	0.14	J	0.34	U	0.36	U	0.36	J	0.082	J	0.36	U
Acenaphthylene	18	0.1	J	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Anthracene	5000	0.32	J	0.34	U	0.1	J	0.74	=	0.16	J	0.14	J
Benzidine		3.7	U	3.4	U	3.6	U	3.6	U	3.5	U	3.6	U
Benzo (a) anthracene	0.088	1	=	0.1	J	0.28	J	1.4	=	0.47	=	0.36	J
Benzo (a) pyrene	0.0088	1	=	0.11	J	0.33	J	1.2	=	0.43	=	0.32	J
Benzo (b) fluoranthene	0.088	1.1	=	0.34	U	0.26	J	1.2	=	0.3	J	0.31	J
Benzo (g,h,i) perylene	1.8	0.8	=	0.34	U	0.3	J	0.78	=	0.32	J	0.22	J
Benzo (k) fluoranthene	0.88	0.81	=	0.34	U	0.15	J	0.74	=	0.23	J	0.16	J
Benzoic acid		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Benzyl alcohol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethoxy)methane		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Chloroethyl)ether		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
bis(2-Ethylhexyl)phthalate		0.37	U	0.34	U	0.32	J	0.27	J	0.14	J	0.14	J
Butylbenzylphthalate		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Carbazole		0.33	J	0.34	U	0.36	U	0.33	J	0.12	J	0.11	J
Chrysene	8.8	1.1	=	0.13	J	0.36	=	1.4	=	0.53	=	0.44	=
Dibenzo (a,h) anthracene [c]	0.0088	0.18	J	0.34	U	0.36	U	0.19	J	0.14	J	0.086	J
Dibenzofuran		0.27	J	0.18	J	0.12	J	0.32	J	0.53	=	0.46	=
Diethylphthalate		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Dimethylphthalate		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Di-n-butylphthalate		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Di-n-octylphthalate		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Fluoranthene	600	2.1	=	0.34	U	0.33	J	2.5	=	0.46	=	0.41	=
Fluorene	600	0.19	J	0.34	U	0.36	U	0.29	J	0.11	J	0.094	J
Hexachlorobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachlorobutadiene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachlorocyclopentadiene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Hexachloroethane		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.84	=	0.34	U	0.2	J	0.77	J	0.22	J	0.18	J
Isophorone		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Naphthalene	20	0.39	=	0.37	=	0.23	J	0.39	=	1.3	=	1.2	=
Nitrobenzene		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
N-Nitroso-di-n-propylamine		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
N-Nitrosodiphenylamine		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Pentachlorophenol		1.9	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U
Phenanthrene	18	2.4	=	0.4	=	0.53	=	3.2	=	1.4	=	1.1	=
Phenol		0.37	U	0.34	U	0.36	U	0.36	U	0.35	U	0.36	U
Pyrene	500	2.7	=	0.34	U	0.53	=	2.7	=	0.79	=	0.59	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	23C		24C		25C		25D	26C		27C	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,1,2,2-Tetrachloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,1,2-Trichloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,1-Dichloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,1-Dichloroethene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,2-Dichloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,2-Dichloroethene (total)		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,2-Dichloropropane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
2-Hexanone		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
4-Methyl-2-pentanone		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Acetone		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Benzene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Bromodichloromethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Bromoform		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Bromomethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Carbon disulfide		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Carbon tetrachloride		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Chlorobenzene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Chloroethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Chloroform		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Chloromethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
cis-1,3-Dichloropropene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Dibromochloromethane		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
DRO												
Ethylbenzene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Isopropylbenzene												
Methylene chloride		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Tetrachloroethene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Toluene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
trans-1,3-Dichloropropene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Trichloroethene		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Vinyl chloride		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.007	U	0.006	U	0.005	U		0.005	U	0.006	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	28C		29C		29D		30C		31C		31D	
Metals (mg/kg)													
Aluminum		2860	=	3050	=	2650	=	1890	=	2570	=	3660	=
Antimony		0.51	U	0.65	U	0.57	U	0.6	U	0.56	B	0.44	U
Arsenic	0.039 (b)	3.4	=	6.8	=	10.5	=	5.2	=	3.1	=	3.2	=
Barium		19.2	=	47	=	44.6	=	14.4	=	33.2	=	40.1	=
Beryllium		0.11	B	0.37	=	0.3	=	0.17	B	0.2	B	0.26	B
Cadmium	8	1.1	=	0.11	B	0.03	B	0.03	U	0.31	=	0.36	=
Calcium		113000	=	32600	=	29400	=	68400	=	84000	=	87900	=
Chromium, total	16,000 (tri); 14 (hex)	11.2	=	7.6	=	7.5	=	4.4	=	13	=	14.8	=
Cobalt		3.6	=	2.7	=	2.4	=	3	=	2.2	=	2.5	=
Copper		23.5	=	21.9	=	19.5	=	10.5	=	13.9	=	13.9	=
Iron		22100	=	15100	=	13800	=	8600	=	7540	=	8170	=
Lead	50	14.5	=	34.2	=	28.2	=	13.6	=	25.3	=	33.7	=
Magnesium		69100	=	23100	=	28000	=	41600	=	51500	=	50300	=
Manganese		474	=	114	=	93.9	=	111	=	115	=	128	=
Mercury		0.02	U	0.07	=	0.07	=	0.02	U	0.02	U	0.02	B
Nickel		9.9	=	7.9	=	7.3	=	5.6	=	7.5	=	7.2	=
Potassium		1000	=	885	=	639	=	514	=	582	=	775	=
Selenium		0.6	U	0.41	=	0.62	=	0.13	U	0.28	B	0.17	U
Silver		0.17	U	0.22	U	0.19	U	0.2	U	0.04	U	0.04	U
Sodium		622	=	572	=	652	=	453	=	236	=	390	=
Thallium		0.28	U	0.35	U	0.31	U	0.32	U	0.4	U	0.38	U
Vanadium		8.8	=	12.1	=	11.7	=	6.9	=	13.5	=	14.5	=
Zinc		26.9	=	67.7	=	48.5	=	33.9	=	45.5	=	57.5	=
Miscellaneous (mg/kg)													
Nitrate		0.92	U	2.5	=	2	=	1.1	U	1	=	1.1	=
Nitrite		0.92	U	1.1	U	0.92	U	1.1	U	0.93	U	0.95	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.4	=	8.1	=	8	=	8.2	=	9.1	=	8.6	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.083	U	0.083	U	0.083	U	0.083	U	0.83	U	0.83	U
Acenaphthylene	18	0.107	=	2.35	=	2.13	=	0.233	=	1.53	=	1.78	=
Anthracene	5000	0.0108	=	0.1322	=	0.1075	=	0.027	=	0.111	=	0.122	=
Benzo (a) anthracene	0.088	0.0368	=	0.346	=	0.282	=	0.0766	=	0.304	=	0.295	=
Benzo (a) pyrene	0.0088	0.0391	=	0.44	=	0.409	=	0.1051	=	0.417	=	0.38	=
Benzo (b) fluoranthene	0.088	0.0321	=	0.343	=	0.306	=	0.0859	=	0.286	=	0.241	=
Benzo (g,h,i) perylene	1.8	0.104	=	0.142	=	0.124	=	0.049	=	0.292	=	0.276	=
Benzo (k) fluoranthene	0.88	0.0173	=	0.147	=	0.132	=	0.0376	=	0.142	=	0.14	=
Chrysene	8.8	0.0408	=	0.316	=	0.474	=	0.0855	=	0.445	=	0.468	=
Dibenzo (a,h) anthracene [c]	0.0088	0.02	U	0.04	U	0.04	U	0.02	U	0.04	U	0.04	U
Fluoranthene	600	0.1422	=	3.093	=	2.801	=	0.4412	=	2.434	=	2.843	=
Fluorene	600	0.0083	U	0.0895	=	0.0757	=	0.0135	=	0.083	U	0.083	U
Indeno (1,2,3-cd) pyrene	0.088	0.021	U	0.167	=	0.166	=	0.063	=	0.199	=	0.176	=
Naphthalene	20	0.042	U	1.17	=	1.11	=	0.122	=	0.6	=	0.78	=
Phenanthrene	18	0.0869	=	1.479	=	1.252	=	0.2294	=	1.306	=	1.373	=
Pyrene	500	0.063	=	0.666	=	0.559	=	0.1934	=	0.475	=	0.451	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
1,2-Dichlorobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
1,3-Dichlorobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
1,4-Dichlorobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2,4,5-Trichlorophenol		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
2,4,6-Trichlorophenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2,4-Dichlorophenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2,4-Dimethylphenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	28C		29C		29D		30C		31C		31D	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
2,4-Dinitrotoluene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2,6-Dinitrotoluene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2-Chloronaphthalene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2-Chlorophenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2-Methylnaphthalene	600	0.34	U	3.6	=	3.4	=	0.42	=	0.6	=	0.55	=
2-Methylphenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
2-Nitroaniline		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
2-Nitrophenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
3,3'-Dichlorobenzidine		0.67	U	3.7	U	3.5	U	0.75	U	0.67	U	0.69	U
3-Nitroaniline		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
4,6-Dinitro-2-methylphenol		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
4-Bromophenyl-phenylether		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
4-Chloro-3-methylphenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
4-Chloroaniline		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
4-Chlorophenyl-phenylether		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
4-Methylphenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
4-Nitroaniline		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
4-Nitrophenol		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
Acenaphthene	900	0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Acenaphthylene	18	0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Anthracene	5000	0.34	U	1.8	U	1.8	U	0.38	U	0.2	J	0.34	U
Benzidine		3.4	U	18	U	18	U	3.8	U	3.4	U	3.4	U
Benzo (a) anthracene	0.088	0.082	J	0.83		0.51	J	0.17	J	0.27	J	0.52	J
Benzo (a) pyrene	0.0088	0.13	J	0.68	J	0.672	J	0.13	J	0.38	J	0.28	J
Benzo (b) fluoranthene	0.088	0.12	J	0.45	J	0.56	J	0.15	J	0.25	J	0.2	J
Benzo (g,h,i) perylene	1.8	0.22	J	0.42	J	0.48	J	0.14	J	0.31	J	0.32	J
Benzo (k) fluoranthene	0.88	0.34	U	0.8	J	0.19	J	0.11	J	0.1	J	0.34	J
Benzoic acid		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
Benzyl alcohol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
bis(2-Chloroethoxy)methane		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
bis(2-Chloroethyl)ether		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
bis(2-Ethylhexyl)phthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.13	J	0.34	U
Butylbenzylphthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Carbazole		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Chrysene	8.8	0.11	J	1.5	J	1.2	J	0.2	J	0.42	=	0.32	=
Dibenzo (a,h) anthracene [c]	0.0088	0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Dibenzofuran		0.34	U	0.9	J	0.82	J	0.12	J	0.2	J	0.18	J
Diethylphthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Dimethylphthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Di-n-butylphthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Di-n-octylphthalate		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Fluoranthene	600	0.11	J	0.44	J	0.4	J	0.27	J	0.3	J	0.26	J
Fluorene	600	0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Hexachlorobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Hexachlorobutadiene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Hexachlorocyclopentadiene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Hexachloroethane		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.34	U	1.8	U	0.29	J	0.38	U	0.17	J	0.16	J
Isophorone		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Naphthalene	20	0.34	U	2.1	=	2	=	0.21	J	0.35	=	0.3	J
Nitrobenzene		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
N-Nitroso-di-n-propylamine		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
N-Nitrosodiphenylamine		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Pentachlorophenol		1.7	U	9.2	U	8.8	U	1.9	U	1.7	U	1.7	U
Phenanthrene	18	0.13	J	2.8	=	2.4	=	0.47	=	0.89	=	0.74	=
Phenol		0.34	U	1.8	U	1.8	U	0.38	U	0.34	U	0.34	U
Pyrene	500	0.16	J	1.6	J	1.3	J	0.36	J	0.51	=	0.37	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	28C		29C		29D	30C		31C		31D
VOCs (mg/kg)											
1,1,1-Trichloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
1,1,2,2-Tetrachloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
1,1,2-Trichloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
1,1-Dichloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
1,1-Dichloroethene		0.005	U	0.006	U		0.013	U	0.006	U	
1,2-Dichloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
1,2-Dichloroethene (total)		0.005	U	0.006	U		0.013	U	0.006	U	
1,2-Dichloropropane		0.005	U	0.006	U		0.013	U	0.006	U	
1,2,4-Trimethylbenzene											
1,3,5-Trimethylbenzene											
2-Butanone		0.005	U	0.006	U		0.013	U	0.006	U	
2-Hexanone		0.005	U	0.006	U		0.013	U	0.006	U	
4-Methyl-2-pentanone		0.005	U	0.006	U		0.013	U	0.006	U	
Acetone		0.005	U	0.006	U		0.013	U	0.006	U	
Benzene		0.005	U	0.006	U		0.013	U	0.006	U	
Bromodichloromethane		0.005	U	0.006	U		0.013	U	0.006	U	
Bromoform		0.005	U	0.006	U		0.013	U	0.006	U	
Bromomethane		0.005	U	0.006	U		0.013	U	0.006	U	
Carbon disulfide		0.005	U	0.006	U		0.013	U	0.006	U	
Carbon tetrachloride		0.005	U	0.006	U		0.013	U	0.006	U	
Chlorobenzene		0.005	U	0.006	U		0.013	U	0.006	U	
Chloroethane		0.005	U	0.006	U		0.013	U	0.006	U	
Chloroform		0.005	U	0.006	U		0.013	U	0.006	U	
Chloromethane		0.005	U	0.006	U		0.013	U	0.006	U	
cis-1,3-Dichloropropene		0.005	U	0.006	U		0.013	U	0.006	U	
Dibromochloromethane		0.005	U	0.006	U		0.013	U	0.006	U	
DRO											
Ethylbenzene		0.005	U	0.006	U		0.013	U	0.006	U	
Isopropylbenzene											
Methylene chloride		0.005	U	0.006	U		0.013	U	0.006	U	
n-Butylbenzene											
n-Propylbenzene											
p-Isopropyltoluene											
s-Butylbenzene											
t-Butylbenzene											
Styrene		0.005	U	0.006	U		0.013	U	0.006	U	
Tetrachloroethene		0.005	U	0.006	U		0.013	U	0.006	U	
Toluene		0.005	U	0.006	U		0.013	U	0.006	U	
trans-1,3-Dichloropropene		0.005	U	0.006	U		0.013	U	0.006	U	
Trichloroethene		0.005	U	0.006	U		0.013	U	0.006	U	
Vinyl chloride		0.005	U	0.006	U		0.013	U	0.006	U	
Xylene, -o											
Xylenes, -m, -p											
Xylene (total)		0.005	U	0.006	U		0.013	U	0.006	U	

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	32C		33C		34C		35C		36C		37C	
Metals (mg/kg)													
Aluminum		4220	=	4910	=	3830	=	4620	=	3730	=	1870	=
Antimony		0.46	U	1.2	B	0.86	B	0.43	U	0.44	U	0.38	U
Arsenic	0.039 (b)	39.5	=	4.8	=	33.6	=	19.5	=	42.2	=	8.6	=
Barium		48.6	=	50.1	=	43.6	=	33.1	=	31.7	=	21.1	=
Beryllium		0.25	B	0.56	=	0.63	=	0.51	=	0.72	=	0.66	=
Cadmium	8	0.23	=	0.32	=	0.33	=	0.22	=	0.12	B	0.12	B
Calcium		36100	=	34900	=	43400	=	40900	=	20100	=	55700	=
Chromium, total	16,000 (tri); 14 (hex)	7.6	=	7	=	16	=	11.9	=	12	=	6.7	=
Cobalt		5.7	=	4.5	=	5.2	=	4.2	=	5.4	=	3.3	=
Copper		16.8	=	86.9	=	51.1	=	24	=	31	=	12.6	=
Iron		11000	=	23700	=	21000	=	16700	=	26500	=	10100	=
Lead	50	63.2	=	59.7	=	62	=	22.6	=	30.5	=	10.2	=
Magnesium		17800	=	21500	=	21600	=	24700	=	11200	=	35400	=
Manganese		189	=	166	=	110	=	132	=	75.9	=	75.3	=
Mercury		0.05	=	0.03	B	0.06	=	0.04	B	0.05	=	0.03	B
Nickel		12.5	=	13.1	=	13.1	=	11.9	=	14.1	=	10.7	=
Potassium		812	=	845	=	566	=	736	=	525	=	435	=
Selenium		0.59	=	0.23	B	1.3	=	0.97	=	1.5	=	1.1	=
Silver		0.05	B	0.03	U	0.04	U	0.04	U	0.04	U	0.04	U
Sodium		321	=	375	=	261	=	310	=	407	=	228	=
Thallium		0.4	U	0.31	U	0.35	U	0.37	U	0.38	U	0.33	U
Vanadium		19.8	=	18.2	=	16.1	=	18.3	=	22.4	=	25.4	=
Zinc		65.3	=	251	=	92.5	=	56.9	=	54.9	=	27.7	=
Miscellaneous (mg/kg)													
Nitrate		1.2	U	1.1	U	1.1	U	1	U	1.1	=	1.4	=
Nitrite		1.2	U	1.1	U	1.1	U	1	U	1	U	1.1	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		9	=	8.3	=	8.5	=	8	=	7.8	=	8.8	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U	0.83	U
Acenaphthylene	18	0.42	U	1.42	=	1.61	=	2.31	=	0.91	=	1.79	=
Anthracene	5000	0.144	=	0.278	=	0.19	=	0.154	=	0.1	=	0.246	=
Benzo (a) anthracene	0.088	0.339	=	0.438	=	0.437	=	0.255	=	0.261	=	0.416	=
Benzo (a) pyrene	0.0088	0.32	=	0.392	=	0.466	=	0.276	=	0.232	=	0.37	=
Benzo (b) fluoranthene	0.088	0.299	=	0.279	=	0.346	=	0.188	=	0.176	=	0.234	=
Benzo (g,h,i) perylene	1.8	0.202	=	0.252	=	0.288	=	0.142	=	0.127	=	0.226	=
Benzo (k) fluoranthene	0.88	0.163	=	0.169	=	0.197	=	0.084	=	0.085	=	0.27	=
Chrysene	8.8	0.38	=	0.501	=	0.562	=	0.323	=	0.255	=	0.335	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.157	=	0.04	U	0.04	U	0.04	U	0.063	=
Fluoranthene	600	1.112	=	3.25	=	2.51	=	3.02	=	0.903	=	2.883	=
Fluorene	600	0.083	U	0.105	=	0.083	U	0.083	U	0.083	U	0.114	=
Indeno (1,2,3-cd) pyrene	0.088	0.129	=	0.151	=	0.214	=	0.144	=	0.042	U	0.138	=
Naphthalene	20	0.42	U	0.6	=	0.5	=	0.7	=	0.42	U	0.92	=
Phenanthrene	18	0.52	=	1.509	=	1.296	=	1.655	=	0.804	=	2.537	=
Pyrene	500	0.602	=	0.622	=	0.633	=	0.291	=	0.244	=	0.347	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
1,2-Dichlorobenzene		0.41	U	0.36	U	0.14	J	0.39	U	0.37	U	0.39	U
1,3-Dichlorobenzene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
1,4-Dichlorobenzene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2,4,5-Trichlorophenol		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
2,4,6-Trichlorophenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2,4-Dichlorophenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2,4-Dimethylphenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [(a)]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	32C		33C		34C		35C		36C		37C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
2,4-Dinitrotoluene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2,6-Dinitrotoluene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2-Chloronaphthalene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2-Chlorophenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2-Methylnaphthalene	600	0.41	U	0.52	=	0.53	=	0.65	=	0.52	=	1.2	=
2-Methylphenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
2-Nitroaniline		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
2-Nitrophenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
3,3'-Dichlorobenzidine		0.82	U	0.71	U	0.74	U	0.77	U	0.74	U	0.78	U
3-Nitroaniline		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
4,6-Dinitro-2-methylphenol		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
4-Bromophenyl-phenylether		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
4-Chloro-3-methylphenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
4-Chloroaniline		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
4-Chlorophenyl-phenylether		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
4-Methylphenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
4-Nitroaniline		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
4-Nitrophenol		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
Acenaphthene	900	0.41	U	0.066	J	0.37	U	0.39	U	0.37	U	0.088	J
Acenaphthylene	18	0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Anthracene	5000	0.09	J	0.13	J	0.15	J	0.15	J	0.13	J	0.39	U
Benzidine		4.1	U	3.6	U	3.7	U	3.9	U	3.7	U	3.9	U
Benzo (a) anthracene	0.088	0.25	J	0.28	J	0.32	J	0.18	J	0.4	=	0.4	=
Benzo (a) pyrene	0.0088	0.26	J	0.31	J	0.33	J	0.18	J	0.46	=	0.47	=
Benzo (b) fluoranthene	0.088	0.24	J	0.23	J	0.34	J	0.12	J	0.3	J	0.27	J
Benzo (g,h,i) perylene	1.8	0.41	U	0.3	J	0.34	J	0.2	J	0.35	J	0.35	J
Benzo (k) fluoranthene	0.88	0.41	U	0.092	J	0.13	J	0.39	U	0.11	J	0.39	U
Benzoic acid		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
Benzyl alcohol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
bis(2-Chloroethoxy)methane		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
bis(2-Chloroethyl)ether		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
bis(2-Ethylhexyl)phthalate		0.22	J	0.36	U	0.31	J	0.14	J	0.37	U	0.16	J
Butylbenzylphthalate		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Carbazole		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Chrysene	8.8	0.3	J	0.4	=	0.41	=	0.24	J	0.49	=	0.5	=
Dibenzo (a,h) anthracene [c]	0.0088	0.41	U	0.12	J	0.37	U	0.39	U	0.2	J	0.21	J
Dibenzofuran		0.41	U	0.21	J	0.18	J	0.25	J	0.23	J	0.39	=
Diethylphthalate		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Dimethylphthalate		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Di-n-butylphthalate		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Di-n-octylphthalate		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Fluoranthene	600	0.4	J	0.28	J	0.38	=	0.13	J	0.34	J	0.22	J
Fluorene	600	0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Hexachlorobenzene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Hexachlorobutadiene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Hexachlorocyclopentadiene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Hexachloroethane		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.14	J	0.17	J	0.21	J	0.39	U	0.16	J	0.16	J
Isophorone		0.41	U	0.36	U	0.37	U	0.53	=	0.37	U	0.39	U
Naphthalene	20	0.41	U	0.32	J	0.26	J	0.27	J	0.23	J	0.46	=
Nitrobenzene		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
N-Nitroso-di-n-propylamine		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
N-Nitrosodiphenylamine		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Pentachlorophenol		2.1	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
Phenanthrene	18	0.29	J	0.74	=	0.86	=	0.92	=	0.95	=	1.9	=
Phenol		0.41	U	0.36	U	0.37	U	0.39	U	0.37	U	0.39	U
Pyrene	500	0.48	=	0.41	=	0.47	=	0.28	J	0.54	=	0.43	=

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	32C		33C		34C		35C		36C		37C	
VOCs (mg/kg)													
1,1,1-Trichloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,1,2,2-Tetrachloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,1,2-Trichloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,1-Dichloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,1-Dichloroethene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,2-Dichloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,2-Dichloroethene (total)		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,2-Dichloropropane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
1,2,4-Trimethylbenzene													
1,3,5-Trimethylbenzene													
2-Butanone		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
2-Hexanone		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
4-Methyl-2-pentanone		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Acetone		0.021	=	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Benzene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Bromodichloromethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Bromoform		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Bromomethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Carbon disulfide		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Carbon tetrachloride		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Chlorobenzene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Chloroethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Chloroform		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Chloromethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
cis-1,3-Dichloropropene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Dibromochloromethane		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
DRO													
Ethylbenzene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Isopropylbenzene													
Methylene chloride		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
n-Butylbenzene													
n-Propylbenzene													
p-Isopropyltoluene													
s-Butylbenzene													
t-Butylbenzene													
Styrene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Tetrachloroethene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Toluene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
trans-1,3-Dichloropropene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Trichloroethene		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Vinyl chloride		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U
Xylene, -o													
Xylenes, -m, -p													
Xylene (total)		0.005	U	0.005	U	0.009	U	0.006	U	0.007	U	0.007	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	38C		39C		40C		41C		42C		43C	
Metals (mg/kg)													
Aluminum		1530	=	3460	=	1880	=	1450	=	3340	=	2250	=
Antimony		0.42	U	0.53	U	0.38	U	0.35	U	0.78	B	1	B
Arsenic	0.039 (b)	2.8	=	23.8	=	2.5	=	2.3	=	3.7	=	2.23	=
Barium		15.9	=	23.7	=	10.9	=	19.3	=	37	=	64.6	=
Beryllium		0.44	=	1	=	0.35	=	0.38	=	0.33	B	0.42	=
Cadmium	8	0.15	B	0.29	=	0.08	B	0.21	=	0.25	=	0.08	B
Calcium		63300	=	33700	=	37000	=	26700	=	41000	=	15900	=
Chromium, total	16,000 (tri); 14 (hex)	5.7	=	5.8	=	4.5	=	4.2	=	8.1	=	11.5	=
Cobalt		2.1	=	6.8	=	3.5	=	1.9	=	3.3	=	4.8	=
Copper		11.7	=	30.7	=	14.8	=	7.3	=	17.5	=	27.2	=
Iron		6650	=	20300	=	6800	=	6180	=	10900	=	67500	=
Lead	50	8.3	=	61	=	8.7	=	14.0	=	39.6	=	38.5	=
Magnesium		40300	=	17500	=	18800	=	13800	=	22600	=	8710	=
Manganese		63.4	=	84.3	=	76.1	=	57.8	=	110	=	658	=
Mercury		0.03	B	0.02	B	0.02	U	0.03	U	0.04	=	0.03	B
Nickel		7	=	16.2	=	7.7	=	6.3	=	8.7	=	10.5	=
Potassium		402	=	361	=	257	=	256	=	678	=	400	=
Selenium		0.67	=	1.5	=	0.29	B	0.38	=	0.87	=	0.15	U
Silver		0.04	U	0.05	U	0.04	U	0.03	U	0.5	U	0.05	B
Sodium		292	=	665	=	417	=	415	=	226	=	164	=
Thallium		0.36	U	0.46	U	0.33	U	0.30	U	0.45	U	2.7	B
Vanadium		19.7	=	14.5	=	9.7	=	13.6	=	13.7	=	15	=
Zinc		27.3	=	47.4	=	25.1	=	24.3	=	137	=	73	=
Miscellaneous (mg/kg)													
Nitrate		1	U	2.2	=	1.7	=	1.1	U	1.1	=	1.3	=
Nitrite		1	U	1.3	U	1.1	U	1.1	U	1	U	1.1	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8	=	9.4	=	10.8	=	9.9	=	9.7	=	8.3	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.83	U	0.83	U	0.83	U	0.083	U	0.83	U	0.083	U
Acenaphthylene	18	2.17	=	0.42	U	0.42	U	0.87	=	1.01	=	2.82	=
Anthracene	5000	0.199	=	0.053	=	0.029	=	0.0975	=	0.045	=	0.1433	=
Benzo (a) anthracene	0.088	0.282	=	0.107	=	0.07	=	0.186	=	0.119	=	0.326	=
Benzo (a) pyrene	0.0088	0.267	=	0.13	=	0.097	=	0.175	=	0.14	=	0.384	=
Benzo (b) fluoranthene	0.088	0.184	=	0.078	=	0.069	=	0.16	=	0.108	=	0.271	=
Benzo (g,h,i) perylene	1.8	0.136	=	0.067	U	0.089	=	0.111	=	0.128	=	0.187	=
Benzo (k) fluoranthene	0.88	0.085	=	0.017	U	0.017	U	0.067	=	0.051	=	0.13	=
Chrysene	8.8	0.273	=	0.116	=	0.09	=	0.211	=	0.16	=	0.472	=
Dibenzo (a,h) anthracene [c]	0.0088	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.004	U
Fluoranthene	600	3.233	=	0.671	=	0.39	=	1.697	=	1.535	=	2.929	=
Fluorene	600	0.095	=	0.083	U	0.083	U	0.04	=	0.083	U	0.0786	=
Indeno (1,2,3-cd) pyrene	0.088	0.088	=	0.042	U	0.042	U	0.168	=	0.042	U	0.139	=
Naphthalene	20	0.93	=	0.42	U	0.42	U	0.344	=	0.69	=	0.84	=
Phenanthrene	18	2.177	=	0.46	=	0.279	=	1.083	=	0.825	=	1.573	=
Pyrene	500	0.282	=	0.133	=	0.083	U	0.192	=	0.132	=	0.356	=
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
1,2-Dichlorobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
1,3-Dichlorobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
1,4-Dichlorobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2,4,5-Trichlorophenol		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
2,4,6-Trichlorophenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2,4-Dichlorophenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2,4-Dimethylphenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	38C		39C		40C		41C		42C		43C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
2,4-Dinitrotoluene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2,6-Dinitrotoluene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2-Chloronaphthalene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2-Chlorophenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2-Methylnaphthalene	600	1.6	=	0.29	J	0.21	J	0.87	=	0.47	=	0.76	=
2-Methylphenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
2-Nitroaniline		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
2-Nitrophenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
3,3'-Dichlorobenzidine		0.76	U	0.84	U	0.76	U	0.74	U	0.78	U	0.75	U
3-Nitroaniline		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
4,6-Dinitro-2-methylphenol		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
4-Bromophenyl-phenylether		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
4-Chloro-3-methylphenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
4-Chloroaniline		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
4-Chlorophenyl-phenylether		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
4-Methylphenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
4-Nitroaniline		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
4-Nitrophenol		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
Acenaphthene	900	0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Acenaphthylene	18	0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Anthracene	5000	0.41	=	0.12	J	0.38	U	0.11	J	0.39	U	0.15	J
Benzidine		3.8	U	4.2	U	3.8	U	3.7	U	3.9	U	3.8	U
Benzo (a) anthracene	0.088	0.39	=	0.4	J	0.12	J	0.28	J	0.082	J	0.25	J
Benzo (a) pyrene	0.0088	0.38	=	0.38	J	0.12	J	0.25	J	0.081	J	0.3	J
Benzo (b) fluoranthene	0.088	0.18	J	0.28	J	0.38	U	0.18	J	0.39	U	0.22	J
Benzo (g,h,i) perylene	1.8	0.3	J	0.24	J	0.38	U	0.26	J	0.39	U	0.25	J
Benzo (k) fluoranthene	0.88	0.11	J	0.24	J	0.38	U	0.12	J	0.39	U	0.38	U
Benzoic acid		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
Benzyl alcohol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
bis(2-Chloroethoxy)methane		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
bis(2-Chloroethyl)ether		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
bis(2-Ethylhexyl)phthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Butylbenzylphthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Carbazole		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Chrysene	8.8	0.47	=	0.44	=	0.16	J	0.36	J	0.14	J	0.4	=
Dibenzo (a,h) anthracene [c]	0.0088	0.18	J	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Dibenzofuran		0.58	=	0.11	J	0.071	J	0.29	J	0.15	J	0.2	J
Diethylphthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Dimethylphthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Di-n-butylphthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Di-n-octylphthalate		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Fluoranthene	600	0.3	J	0.5	=	0.38	U	0.25	J	0.39	U	0.22	J
Fluorene	600	0.12	J	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Hexachlorobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Hexachlorobutadiene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Hexachlorocyclopentadiene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Hexachloroethane		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.13	J	0.19	J	0.38	U	0.37	U	0.39	U	0.13	J
Isophorone		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Naphthalene	20	0.69	=	0.11	J	0.086	J	0.36	J	0.34	J	0.38	=
Nitrobenzene		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
N-Nitroso-di-n-propylamine		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
N-Nitrosodiphenylamine		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Pentachlorophenol		1.9	U	2.1	U	1.9	U	1.8	U	1.9	U	1.9	U
Phenanthrene	18	2.8	=	0.68	=	0.32	J	1.4	=	0.45	=	0.74	=
Phenol		0.38	U	0.42	U	0.38	U	0.37	U	0.39	U	0.38	U
Pyrene	500	0.52	=	0.76	=	0.38	U	0.44	=	0.39	U	0.34	J

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	38C		39C		40C		41C		42C		43C	
VOCs (mg/kg)													
1,1,1-Trichloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,1,2,2-Tetrachloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,1,2-Trichloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,1-Dichloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,1-Dichloroethene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,2-Dichloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,2-Dichloroethene (total)		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,2-Dichloropropane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
1,2,4-Trimethylbenzene													
1,3,5-Trimethylbenzene													
2-Butanone		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
2-Hexanone		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
4-Methyl-2-pentanone		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Acetone		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Benzene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Bromodichloromethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Bromoform		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Bromomethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Carbon disulfide		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Carbon tetrachloride		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Chlorobenzene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Chloroethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Chloroform		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Chloromethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
cis-1,3-Dichloropropene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Dibromochloromethane		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
DRO													
Ethylbenzene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Isopropylbenzene													
Methylene chloride		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
n-Butylbenzene													
n-Propylbenzene													
p-Isopropyltoluene													
s-Butylbenzene													
t-Butylbenzene													
Styrene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Tetrachloroethene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Toluene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
trans-1,3-Dichloropropene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Trichloroethene		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Vinyl chloride		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U
Xylene, -o													
Xylenes, -m, -p													
Xylene (total)		0.008	U	0.007	U	0.008	U	0.005	U	0.009	U	0.008	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	44C		44D		45C		46C		47C		48C	
Metals (mg/kg)													
Aluminum		3230	=	5300	=	2910	=	3700	=	4180	=	5590	=
Antimony		0.66	B	0.5	U	0.54	U	0.47	U	0.71	U	0.56	U
Arsenic	0.039 (b)	4.3	=	5.7	=	21.2	=	5	=	23	=	23.8	=
Barium		35.5	=	46.7	=	69	=	63.4	=	51.3	=	51.2	=
Beryllium		0.34	B	0.65	=	0.59	=	0.38	=	0.43	=	1.1	=
Cadmium	8	0.1	B	0.14	B	0.08	B	0.46	=	0.03	U	0.55	=
Calcium		50600	=	71000	=	30300	=	64600	=	30200	=	32600	=
Chromium, total	16,000 (tri); 14 (hex)	7.6	=	11.9	=	7.5	=	10.3	=	7.1	=	7.8	=
Cobalt		2.5	=	3.7	=	4.2	=	3.6	=	8.4	=	24.1	=
Copper		10.2	=	13.8	=	21.7	=	21.3	=	24.9	=	50.6	=
Iron		7300	=	11200	=	20800	=	11300	=	17600	=	38900	=
Lead	50	21.7	=	28.9	=	45.3	=	160	=	31.7	=	56	=
Magnesium		30400	=	41900	=	13700	=	36600	=	17300	=	6330	=
Manganese		99.9	=	158	=	107	=	136	=	193	=	234	=
Mercury		0.3	B	0.03	B	0.04	B	0.32	=	0.02	U	0.06	=
Nickel		7.6	=	11.3	=	8.9	=	9.5	=	22.2	=	26.4	=
Potassium		645	=	1030	=	507	=	633	=	479	=	463	=
Selenium		0.5	=	0.35	B	2.3	=	0.5	=	0.32	B	1.4	=
Silver		0.04	U	0.05	U	0.06	B	0.04	U	0.24	U	0.19	U
Sodium		421	=	508	=	356	=	331	=	1060	=	1380	=
Thallium		0.39	U	0.43	U	0.46	U	0.4	U	0.39	U	0.3	U
Vanadium		16.4	=	21.9	=	14.4	=	12.9	=	8.3	=	12.3	=
Zinc		30.9	=	43.5	=	54	=	46.3	=	61.2	=	296	=
Miscellaneous (mg/kg)													
Nitrate		1.1	=	0.97	=	1.6	=	1.2	=	1.2	U	1.1	=
Nitrite		1.1	U	0.94	U	1.1	U	1	U	1.2	U	1	U
Nitrogen, ammonia													
Nitrogen, NO2+NO3, soluble													
pH		8.8	=	8.7	=	10.7	=	10.5	=	8.7	=	8.2	=
Phosphorus, total													
PAH (mg/kg)													
Acenaphthene	900	0.83	U	0.83	U	0.83	U	0.83	U	0.09	=	0.113	=
Acenaphthylene	18	1.7	=	2.33	=	1.41	=	1.73	=	0.24	=	0.552	=
Anthracene	5000	0.164	=	0.189	=	0.112	=	0.103	=	0.2951	=	0.5472	=
Benzo (a) anthracene	0.088	0.39	=	0.402	=	0.219	=	0.294	=	0.6132	=	0.0042	U
Benzo (a) pyrene	0.0088	0.412	=	0.351	=	0.255	=	0.474	=	0.7201	=	0.0042	U
Benzo (b) fluoranthene	0.088	0.238	=	0.257	=	0.175	=	0.192	=	0.5573	=	0.0017	U
Benzo (g,h,i) perylene	1.8	0.195	=	0.233	=	0.174	=	0.254	=	0.2727	=	0.0067	U
Benzo (k) fluoranthene	0.88	0.094	=	0.118	=	0.083	=	0.111	=	0.369	=	0.0017	U
Chrysene	8.8	0.498	=	0.455	=	0.337	=	0.404	=	0.652	=	0.0042	U
Dibenzo (a,h) anthracene [c]	0.0088	0.1	=	0.08	=	0.04	U	0.04	U	0.0654	=	0.004	U
Fluoranthene	600	2.306	=	2.277	=	2.306	=	2.833	=	2.188	=	3.75	=
Fluorene	600	0.083	U	0.083	U	0.083	U	0.083	U	0.1293	=	0.1851	=
Indeno (1,2,3-cd) pyrene	0.088	0.153	=	0.178	=	0.089	=	0.128	=	0.3187	=	0.0042	U
Naphthalene	20	0.92	=	0.87	=	0.76	=	0.76	=	0.122	=	0.249	=
Phenanthrene	18	1.733	=	1.775	=	1.11	=	1.278	=	1.161	=	2.039	=
Pyrene	500	0.297	=	0.402	=	0.32	=	0.372	=	1.102	=	0.0083	U
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
1,2-Dichlorobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
1,3-Dichlorobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
1,4-Dichlorobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
1-Methylnaphthalene	1100												
2,2'-oxybis(1-Chloropropane)		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2,4,5-Trichlorophenol		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
2,4,6-Trichlorophenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2,4-Dichlorophenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2,4-Dimethylphenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U

2000 SOIL SAMPLING SUMMARY [(a)]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	44C		44D		45C		46C		47C		48C	
SVOCs (mg/kg)													
2,4-Dinitrophenol		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
2,4-Dinitrotoluene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2,6-Dinitrotoluene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2-Chloronaphthalene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2-Chlorophenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2-Methylnaphthalene	600	1.2	=	0.95	=	1.4	=	0.68	=	0.52	=	0.58	=
2-Methylphenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
2-Nitroaniline		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
2-Nitrophenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
3,3'-Dichlorobenzidine		0.72	U	0.73	U	0.78	U	0.69	U	0.83	U	0.77	U
3-Nitroaniline		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
4,6-Dinitro-2-methylphenol		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
4-Bromophenyl-phenylether		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
4-Chloro-3-methylphenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
4-Chloroaniline		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
4-Chlorophenyl-phenylether		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
4-Methylphenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
4-Nitroaniline		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
4-Nitrophenol		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
Acenaphthene	900	0.36	U	0.36	U	0.39	U	0.34	U	0.098	J	0.33	J
Acenaphthylene	18	0.36	U	0.36	U	0.39	U	0.34	U	0.17	J	0.095	J
Anthracene	5000	0.19	J	0.12	J	0.24	J	0.13	J	0.41	J	1.6	=
Benzidine		3.6	U	3.6	U	3.9	U	3.4	U	4.1	U	3.8	U
Benzo (a) anthracene	0.088	0.45	=	0.39	=	0.42	=	0.28	J	1.8	=	3.6	=
Benzo (a) pyrene	0.0088	0.53	=	0.44	=	0.43	=	0.3	J	1.8	=	4	=
Benzo (b) fluoranthene	0.088	0.27	J	0.2	J	0.33	J	0.26	J	1.7	=	5.2	=
Benzo (g,h,i) perylene	1.8	0.45	=	0.36	J	0.32	J	0.27	J	1.1	=	3	=
Benzo (k) fluoranthene	0.88	0.17	J	0.36	U	0.14	J	0.075	J	1.5	=	4	=
Benzoic acid		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
Benzyl alcohol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
bis(2-Chloroethoxy)methane		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
bis(2-Chloroethyl)ether		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
bis(2-Ethylhexyl)phthalate		0.36	U	0.36	U	0.59	=	0.22	J	0.36	J	0.4	=
Butylbenzylphthalate		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Carbazole		0.36	U	0.36	U	0.39	U	0.34	U	0.17	J	0.39	=
Chrysene	8.8	0.66	=	0.51	=	0.6	=	0.45	=	1.7	=	4.4	=
Dibenzo (a,h) anthracene [c]	0.0088	0.26	J	0.38	U	0.17	J	0.13	J	0.3	J	1.6	=
Dibenzofuran		0.31	J	0.24	J	0.44	=	0.2	J	0.17	J	0.48	=
Diethylphthalate		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Dimethylphthalate		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Di-n-butylphthalate		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Di-n-octylphthalate		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Fluoranthene	600	0.29	J	0.14	J	0.44	=	0.26	J	3.6	=	21	D
Fluorene	600	0.36	U	0.36	U	0.39	U	0.34	U	0.18	J	0.62	=
Hexachlorobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Hexachlorobutadiene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Hexachlorocyclopentadiene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Hexachloroethane		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.19	J	0.15	J	0.18	J	0.16	J	1.3	=	3.2	=
Isophorone		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Naphthalene	20	0.57	=	0.52	=	0.83	=	0.41	=	0.3	J	0.35	J
Nitrobenzene		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
N-Nitroso-di-n-propylamine		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
N-Nitrosodiphenylamine		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Pentachlorophenol		1.8	U	1.8	U	1.9	U	1.7	U	2.1	U	1.9	U
Phenanthrene	18	1.3	=	0.92	=	1.3	=	0.66	=	1.6	=	16	D
Phenol		0.36	U	0.36	U	0.39	U	0.34	U	0.41	U	0.38	U
Pyrene	500	0.53	=	0.4	=	0.69	=	0.45	=	3.8	=	19	D

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	44C		44D	45C		46C		47C		48C	
VOCs (mg/kg)												
1,1,1-Trichloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,1,2,2-Tetrachloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,1,2-Trichloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,1-Dichloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,1-Dichloroethene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,2-Dichloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,2-Dichloroethene (total)		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,2-Dichloropropane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
2-Butanone		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
2-Hexanone		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
4-Methyl-2-pentanone		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Acetone		0.007	U		0.008	U	0.01	U	0.048	=	0.004	U
Benzene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Bromodichloromethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Bromoform		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Bromomethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Carbon disulfide		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Carbon tetrachloride		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Chlorobenzene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Chloroethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Chloroform		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Chloromethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
cis-1,3-Dichloropropene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Dibromochloromethane		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
DRO												
Ethylbenzene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Isopropylbenzene												
Methylene chloride		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
n-Butylbenzene												
n-Propylbenzene												
p-Isopropyltoluene												
s-Butylbenzene												
t-Butylbenzene												
Styrene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Tetrachloroethene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Toluene		0.007	U		0.014	=	0.01	U	0.008	U	0.004	U
trans-1,3-Dichloropropene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Trichloroethene		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Vinyl chloride		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U
Xylene, -o												
Xylenes, -m, -p												
Xylene (total)		0.007	U		0.008	U	0.01	U	0.008	U	0.004	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	49C		50C		51C	
Metals (mg/kg)							
Aluminum		2550	=	2130	=	3070	=
Antimony		0.58	U	0.57	U	0.72	U
Arsenic	0.039 (b)	10.7	=	29.2	=	16	=
Barium		31.6	=	27.5	=	40.5	=
Beryllium		0.4	=	0.42	=	0.71	=
Cadmium	8	0.03	U	0.03	U	0.15	B
Calcium		23000	=	43000	=	47400	=
Chromium, total	16,000 (tri); 14 (hex)	3.4	=	4	=	8	=
Cobalt		7.7	=	5	=	4	=
Copper		20.4	=	18	=	20.3	=
Iron		15900	=	17100	=	21700	=
Lead	50	10.7	=	16	=	33.3	=
Magnesium		12200	=	41100	=	24200	=
Manganese		81.8	=	72.9	=	94.9	=
Mercury		0.02	B	0.05	=	0.1	=
Nickel		13.6	=	9.6	=	12.8	=
Potassium		181	=	330	=	397	=
Selenium		0.47	=	1.3	=	0.66	=
Silver		0.2	U	0.19	U	0.24	U
Sodium		530	=	507	=	701	=
Thallium		0.31	U	0.31	U	0.39	U
Vanadium		6.4	=	8.9	=	25.5	=
Zinc		55.5	=	31	=	31.9	=
Miscellaneous (mg/kg)							
Nitrate		1.3	=	1.1	=	1.3	U
Nitrite		1.1	U	1.1	U	1.3	U
Nitrogen, ammonia							
Nitrogen, NO2+NO3, soluble							
pH		8.2	=	7.6	=	7.9	=
Phosphorus, total							
PAH (mg/kg)							
Acenaphthene	900	0.083	U	0.083	U	0.153	=
Acenaphthylene	18	0.042	U	0.141	=	0.042	U
Anthracene	5000	0.0017	U	0.043	=	0.1512	=
Benzo (a) anthracene	0.088	0.0097	=	0.0869	=	0.275	=
Benzo (a) pyrene	0.0088	0.0042	U	0.0102	=	0.284	=
Benzo (b) fluoranthene	0.088	0.0133	=	0.0451	=	0.147	=
Benzo (g,h,i) perylene	1.8	0.0067	U	0.046	=	0.135	=
Benzo (k) fluoranthene	0.88	0.0017	U	0.0401	=	0.141	=
Chrysene	8.8	0.0128	=	0.05	=	0.307	=
Dibenzo (a,h) anthracene [c]	0.0088	0.004	U	0.02	U	0.04	U
Fluoranthene	600	0.13	=	0.6674	=	1.268	=
Fluorene	600	0.0083	U	0.0286	=	0.1383	=
Indeno (1,2,3-cd) pyrene	0.088	0.0042	U	0.021	U	0.074	=
Naphthalene	20	0.042	U	0.114	=	0.506	=
Phenanthrene	18	0.0531	=	0.2574	=	0.9241	=
Pyrene	500	0.0181	=	0.066	=	0.246	=
SVOCs (mg/kg)							
1,2,4-Trichlorobenzene		0.38	U	0.38	U	0.46	U
1,2-Dichlorobenzene		0.38	U	0.38	U	0.46	U
1,3-Dichlorobenzene		0.38	U	0.38	U	0.46	U
1,4-Dichlorobenzene		0.38	U	0.38	U	0.46	U
1-Methylnaphthalene	1100						
2,2'-oxybis(1-Chloropropane)		0.38	U	0.38	U	0.46	U
2,4,5-Trichlorophenol		1.9	U	1.9	U	2.3	U
2,4,6-Trichlorophenol		0.38	U	0.38	U	0.46	U
2,4-Dichlorophenol		0.38	U	0.38	U	0.46	U
2,4-Dimethylphenol		0.38	U	0.38	U	0.46	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [(a)]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	49C		50C		51C	
SVOCs (mg/kg)							
2,4-Dinitrophenol		1.9	U	1.9	U	2.3	U
2,4-Dinitrotoluene		0.38	U	0.38	U	0.46	U
2,6-Dinitrotoluene		0.38	U	0.38	U	0.46	U
2-Chloronaphthalene		0.38	U	0.38	U	0.46	U
2-Chlorophenol		0.38	U	0.38	U	0.46	U
2-Methylnaphthalene	600	0.38	U	0.32	J	1	=
2-Methylphenol		0.38	U	0.38	U	0.46	U
2-Nitroaniline		1.9	U	1.9	U	2.3	U
2-Nitrophenol		0.38	U	0.38	U	0.46	U
3,3'-Dichlorobenzidine		0.76	U	0.76	U	0.92	U
3-Nitroaniline		1.9	U	1.9	U	2.3	U
4,6-Dinitro-2-methylphenol		1.9	U	1.9	U	2.3	U
4-Bromophenyl-phenylether		0.38	U	0.38	U	0.46	U
4-Chloro-3-methylphenol		0.38	U	0.38	U	0.46	U
4-Chloroaniline		0.38	U	0.38	U	0.46	U
4-Chlorophenyl-phenylether		0.38	U	0.38	U	0.46	U
4-Methylphenol		0.38	U	0.38	U	0.46	U
4-Nitroaniline		1.9	U	1.9	U	2.3	U
4-Nitrophenol		1.9	U	1.9	U	2.3	U
Acenaphthene	900	0.38	U	0.38	U	0.21	J
Acenaphthylene	18	0.38	U	0.38	U	0.46	U
Anthracene	5000	0.38	U	0.38	U	0.2	J
Benzidine		3.8	U	3.8	U	4.6	U
Benzo (a) anthracene	0.088	0.38	U	0.15	J	0.49	=
Benzo (a) pyrene	0.0088	0.071	J	0.18	J	0.46	J
Benzo (b) fluoranthene	0.088	0.38	U	0.38	U	0.24	J
Benzo (g,h,i) perylene	1.8	0.38	U	0.38	U	0.43	J
Benzo (k) fluoranthene	0.88	0.38	U	0.38	U	0.21	J
Benzoic acid		1.9	U	1.9	U	2.3	U
Benzyl alcohol		0.38	U	0.38	U	0.46	U
bis(2-Chloroethoxy)methane		0.38	U	0.38	U	0.46	U
bis(2-Chloroethyl)ether		0.38	U	0.38	U	0.46	U
bis(2-Ethylhexyl)phthalate		0.18	J	0.38	U	0.46	U
Butylbenzylphthalate		0.38	U	0.38	U	0.46	U
Carbazole		0.38	U	0.38	U	0.13	J
Chrysene	8.8	0.38	U	0.16	J	0.55	=
Dibenzo (a,h) anthracene [c]	0.0088	0.38	U	0.38	U	0.46	U
Dibenzofuran		0.38	U	0.11	J	0.4	J
Diethylphthalate		0.38	U	0.38	U	0.46	U
Dimethylphthalate		0.38	U	0.38	U	0.46	U
Di-n-butylphthalate		0.38	U	0.38	U	0.46	U
Di-n-octylphthalate		0.38	U	0.38	U	0.46	U
Fluoranthene	600	0.38	U	0.096	J	0.3	J
Fluorene	600	0.38	U	0.38	U	0.26	J
Hexachlorobenzene		0.38	U	0.38	U	0.46	U
Hexachlorobutadiene		0.38	U	0.38	U	0.46	U
Hexachlorocyclopentadiene		0.38	U	0.38	U	0.46	U
Hexachloroethane		0.38	U	0.38	U	0.46	U
Indeno (1,2,3-cd) pyrene [c]	0.088	0.38	U	0.38	U	0.14	J
Isophorone		0.38	U	0.38	U	0.46	U
Naphthalene	20	0.38	U	0.16	J	0.38	J
Nitrobenzene		0.38	U	0.38	U	0.46	U
N-Nitroso-di-n-propylamine		0.38	U	0.38	U	0.46	U
N-Nitrosodiphenylamine		0.38	U	0.38	U	0.46	U
Pentachlorophenol		1.9	U	1.9	U	2.3	U
Phenanthrene	18	0.081	J	0.37	J	1	=
Phenol		0.38	U	0.38	U	0.46	U
Pyrene	500	0.38	U	0.16	J	0.69	=

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Analyte	NR 720 Direct Contact Levels	49C		50C		51C	
VOCs (mg/kg)							
1,1,1-Trichloroethane		0.005	U	0.005	U	0.008	U
1,1,2,2-Tetrachloroethane		0.005	U	0.005	U	0.008	U
1,1,2-Trichloroethane		0.005	U	0.005	U	0.008	U
1,1-Dichloroethane		0.005	U	0.005	U	0.008	U
1,1-Dichloroethene		0.005	U	0.005	U	0.008	U
1,2-Dichloroethane		0.005	U	0.005	U	0.008	U
1,2-Dichloroethene (total)		0.005	U	0.005	U	0.008	U
1,2-Dichloropropane		0.005	U	0.005	U	0.008	U
1,2,4-Trimethylbenzene							
1,3,5-Trimethylbenzene							
2-Butanone		0.005	U	0.005	U	0.008	U
2-Hexanone		0.005	U	0.005	U	0.008	U
4-Methyl-2-pentanone		0.005	U	0.005	U	0.008	U
Acetone		0.005	U	0.032	=	0.008	U
Benzene		0.005	U	0.005	U	0.008	U
Bromodichloromethane		0.005	U	0.005	U	0.008	U
Bromoform		0.005	U	0.005	U	0.008	U
Bromomethane		0.005	U	0.005	U	0.008	U
Carbon disulfide		0.005	U	0.005	U	0.008	U
Carbon tetrachloride		0.005	U	0.005	U	0.008	U
Chlorobenzene		0.005	U	0.005	U	0.008	U
Chloroethane		0.005	U	0.005	U	0.008	U
Chloroform		0.005	U	0.005	U	0.008	U
Chloromethane		0.005	U	0.005	U	0.008	U
cis-1,3-Dichloropropene		0.005	U	0.005	U	0.008	U
Dibromochloromethane		0.005	U	0.005	U	0.008	U
DRO							
Ethylbenzene		0.005	U	0.005	U	0.008	U
Isopropylbenzene							
Methylene chloride		0.005	U	0.005	U	0.008	U
n-Butylbenzene							
n-Propylbenzene							
p-Isopropyltoluene							
s-Butylbenzene							
t-Butylbenzene							
Styrene		0.005	U	0.005	U	0.008	U
Tetrachloroethene		0.005	U	0.005	U	0.008	U
Toluene		0.005	U	0.005	U	0.008	U
trans-1,3-Dichloropropene		0.005	U	0.005	U	0.008	U
Trichloroethene		0.005	U	0.005	U	0.008	U
Vinyl chloride		0.005	U	0.005	U	0.008	U
Xylene, -o							
Xylenes, -m, -p							
Xylene (total)		0.005	U	0.005	U	0.008	U

TABLE 3

2000 SOIL SAMPLING SUMMARY [a]
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

[a] Soil samples consist of surface soil samples collected at depth of 0 to 2 feet below ground or pavement surface during July 2000.

[b] The soil cleanup levels for metals are based on Residual Contaminant Levels (RCL) Based on Human Health Risk from Direct Contact Related to Non-Industrial Land Use, Soil Cleanup Standards, Chapter NR 720, Table 2, Wisconsin Administrative Code.

The soil cleanup levels for PAHs are based on Suggested Residual Contaminant Levels (SCL) for PAH Compounds in Soil, Non-Industrial, Direct Contact Pathway from Table 1 in the Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs). Interim Guidance, Wisconsin Department of Natural Resources, Bureau for Remediation and Redevelopment, Publication RR-519-97, April 1997 (corrected).

Results that exceed the RCL or SCL are shaded.

[c] For some samples, results that are qualified as "U" (i.e., not detected) are shaded, because the detection limit exceeds the RCL or SCL.

Qualifiers:

=	Analyte was detected in the sample.
B	Compound was found in the blank and the sample (organics).
B	Result is less than the CRDL, but greater than or equal to the instrument detection limit (inorganics).
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
U	Analyte was not detected at or above reporting limit.

[d] 1C = Composite (C) soil sample from Grid No. 1 (1) as shown on Figure 4.

[e] 4-1 = Discrete soil sample from Grid No. 4.

[f] 15D = Duplicate (D) composite soil sample of composite soil sample 15C from Grid 15.

TABLE 4
SEPTEMBER 2000 ARSENIC SOIL SAMPLING SUMMARY
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WISCONSIN

Grid	Sample	Depth	Sep-00 Sample (mg/kg)	Sep-00 Duplicate (mg/kg)
34	1	A	10.8	
	1	B	2.6	
	2	A	19.0	
	2	B	18.0	7.10
	3	A	8.2	
	3	B	7.1	
	4	A	8.3	
	4	B	85.4	
	5	A	7.6	
	5	B	No Smpl.	
	6	A	8.2	
	6	B	No Smpl.	
	7	A	7.9	
	7	B	3.2	
	8	A	7.8	
	8	B	1.6	2.10
	9	A	3.9	
	9	B	2.2	
35	1	A	7.3	
	1	B	5.3	6.80
	2	A	5.7	
	2	B	8.0	8.40
	2	C	2.4	
	3	A	7.8	
	3	B	<0.94	
	4	A	5.6	
	4	B	16.1	
	5	A	7.7	
	5	B	3.1	
	6	A	9.0	
	6	B	1.8	
	6	C	1.0	
	7	A	7.5	
	7	B	0.65	
	8	A	3.0	
	8	B	3.0	
	9	A	6.5	
	9	B	4.1	6.10
36	1	A	3.2	
	1	B	1.2	
	2	A	9.8	
	2	B	4.7	
	3	A	6.0	
	3	B	86.0	
	4	A	14.2	
	4	B	11.9	14.20
	5	A	5.1	
	5	B	3.0	
	6	A	8.1	
	6	B	6.0	
	7	A	5.1	
	7	B	144	
	8	A	10.3	
	8	B	3.5	12.60
	9	A	3.1	
	9	B	61.2	
	10	A	6.7	
	10	B	6.9	
39	1	A	No Smpl.	
	1	B	No Smpl.	
	2	A	3.0	
	2	B	0.87	
	3	A	4.4	
	3	B	1.6	
	4	A	31.4	
	4	B	1.4	
	5	A	No Smpl.	
	5	B	30.9	
	6	A	No Smpl.	
	6	B	1.0	4.30
	7	A	85.8	
	7	B	0.72	
	8	A	1.1	
	8	B	<0.66	
	9	A	1.1	
	9	B	1.1	
	10	A	16.0	
	10	B	5.0	
43	1	A	8.8	
	1	B	1.3	
	2	A	4.4	
	2	B	10.6	
	3	A	17.0	15.90
	3	B	5.2	
	4	A	5.8	
	4	B	9.1	
	5	A	13.6	
	5	B	5.4	
	6	A	14.8	
	6	B	1.2	
	7	A	2.5	
	7	B	22.7	
	8	A	5.0	
	8	B	9.7	
	9	A	7.8	
	9	B	5.7	
	10	A	8.2	
	10	B	7.0	11.00
45	1	A	9.7	
	1	B	2.1	
	2	A	6.1	
	2	B	1.8	4.50
	3	A	27.3	
	3	B	2.1	
	4	A	4.8	6.30
	4	B	3.9	
	5	A	17.7	
	5	B	2.0	
	6	A	16.5	
	6	B	15.4	
	7	A	62.0	
	7	B	3.9	
	8	A	No Smpl.	
	8	B	14.5	
	9	A	10.3	9.20
	9	B	3.6	

NOTES:
Sample Depth: A = 0 to 2 ft bls, B = 2 to 4 ft bls, c = 4 to 6 ft bls
Results that exceed RCL (0.039 mg/kg) are shaded.

TAb.. 5
SEPTEMBER 2000 PAH SOIL SAMPLING SUMMARY
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WINSCONSIN

Polynuclear Aromatic Hydrocarbons (ug/Kg)

Analyte	NR 720 Direct Contact Levels	20-1A	20-1B	20-2A	20-2B	20-3A	20-3B	20-4A
Naphthalene	20,000	1,200	260 U	550	55 U	460 U	290 J	360 J
Acenaphtylene	18,000	1,400	260 U	540 U	55 U	460 J	1,000	980
Acenaphthene	900,000	2,000	520 U	3,400	110 U	1,700	2,500	2,100
Fluorene	600,000	120	52 U	200	11 U	87 J	230	76 J
Phenanthrene	180,000	2,300	100	2,300	120	1,600	3,800	1,300
Anthracene	5,000,000	410	10 U	290	2.2 U	110	280	140
Fluoranthene	600,000	2,700	26 U	3,700	7.8	2,400	4,000	1,900
Pyrene	500,000	1,800	52 U	2,500	8.0 J	2,000	3,200	1,200
Benzo(a)anthracene	88	540	26 U	1,200	3.2 J	670	880	480
Chrysene	8,800	700	26 U	1,300	6.0	840	1,200	270
Benzo(b)fluoranthene	88	540	300	1,100	37	800	1,000	460
Benzo(k)fluoranthene	880	480	10 U	600	1.9 J	460	600	210
Benzo(a)pyrene	8.8	600	26 U	1,000	4.6 J	920	1,200	440
Dibenzo(a,h)anthracene	8.8	620	100 U	510	22 U	490	600	180 J
Benzo(g,h,i)perylene	1,800	500	41 U	510	5.6 J	620	810	260
Indeno(1,2,3-cd)pyrene	88	450	26 U	720	3.2 J	730	960	320

U = Analyzed, not detected.
J = Estimated
D = Duplicate
Sample depth: A = 0 to 2 ft. bls, B = 2 to 4 ft. bls
Results that exceed RCL are shaded.

TAb.. 5
SEPTEMBER 2000 PAH SOIL SAMPLING SUMMARY
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WINSCONSIN

Polynuclear Aromatic Hydrocarbons (ug/Kg)

Analyte	NR 720 Direct Contact Levels	20-4B	20-5A	20-5B	20-6B	20-6BD	20-7A	20-7B
Naphthalene	20,000	50 U	500 U	230 U	240	480 U	280 U	51 U
Acenaphtylene	18,000	50 U	500 U	570	1,000	370 J	280 U	51 U
Acenaphthene	900,000	130	730 J	1,800	1,700	500 J	360 J	100 U
Fluorene	600,000	10 U	99 U	79	1,100	180	55 U	10 U
Phenanthrene	180,000	48	600	1,300	3,500	600	360	16
Anthracene	5,000,000	5.0	64	110	630	120	37	2.0 U
Fluoranthene	600,000	83	930	2,000	2,900	740	330	6.0
Pyrene	500,000	67	850	1,400	2,300	670	140	4.7
Benzo(a)anthracene	88	29	320	520	1,100	410	77	3.6
Chrysene	8,800	32	340	610	720	280	91	2.8
Benzo(b)fluoranthene	88	30	560	580	210	140	68	26
Benzo(k)fluoranthene	880	13	270	310	150	96 J	29	2.0 U
Benzo(a)pyrene	8.8	34	710	750	440	280	72	2.6
Dibenzo(a,h)anthracene	8.8	20 U	120	240	130	200	110 U	20 U
Benzo(g,h,i)perylene	1,800	24	670	500	200	120	42 J	8.2 U
Indeno(1,2,3-cd)pyrene	88	29	570	640	240 U	240 U	53	5.1 U

U = Analyzed, not detected.
J = Estimated
D = Duplicate
Sample depth: A = 0 to 2 ft. bls, B = 2 to 4 ft. bls
Results that exceed RCL are shaded.

TAL 5
SEPTEMBER 2000 PAH SOIL SAMPLING SUMMARY
SHEBOYGAN LAKEFRONT PROPERTY
SHEBOYGAN, WINSCONSIN

Polynuclear Aromatic Hydrocarbons (ug/Kg)

Analyte	NR 720 Direct Contact Levels	20-8A	20-8B	20-9B	20-9BD	20-10A	20-10B
Naphthalene	20,000	260 U	120	56 U	58 U	260 U	51 U
Acenaphtylene	18,000	290	100 U	56 U	58 U	250 J	49 J
Acenaphthene	900,000	410 J	160 J	90 J	120 U	630	200
Fluorene	600,000	23 J	15 J	13	12 U	38 J	10 J
Phenanthrene	180,000	390	110	210	150	540	160
Anthracene	5,000,000	39	16	7.0	1.4 J	48	20
Fluoranthene	600,000	510	170	48	13	1,000	230
Pyrene	500,000	180	64	38	10 J	750	160
Benzo(a)anthracene	88	120	26	12	5.8 U	350	63
Chrysene	8,800	25 J	24	30	14	540	80
Benzo(b)fluoranthene	88	77	30	87	100	560	70
Benzo(k)fluoranthene	880	30	9.4	7.5	2.0 J	280	36
Benzo(a)pyrene	8.8	87	22	16	5.3 J	540	97
Dibenzo(a,h)anthracene	8.8	74 J	41 U	12 J	23 U	430	39
Benzo(g,h,i)perylene	1,800	42	17	15	8.5 J	370	51
Indeno(1,2,3-cd)pyrene	88	58	14	14	6.8	550	61

U = Analyzed, not detected.
J = Estimated
D = Duplicate
Sample depth: A = 0 to 2 ft. bls, B = 2 to 4 ft. bls
Results that exceed RCL are shaded.

Table 5
Berm Soil Analytical Results - Former C. Reiss Coal Company Property
Sheboygan Lakefront, Sheboygan, Wisconsin
Sigma Project No. 7302

Berm Test Section:		BTS-1	BTS-2	BTS-3	BTS-4	BTS-5	BTS-6	BTS-7	BTS-8	BTS-9	BTS-10	BTS-11	BTS-12	BTS-13	BTS-14	BTS-15	BTS-16	BTS-17	BTS-18	NR 720	NR 746	US EPA Region IX	
Inorganics		04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/02/02	04/03/02	04/03/02	04/03/02	04/03/02	RCL[3]	Table 1[4]	PRG[5]	SSL[6]
Chloride (total)	mg/kg	<35	<35	<34	<33	<34	<33	<36	<36	<40	<36	79 "J"	<34	44 "J"	380	590	<33	<34	<33	NS	NS	NS	NS
Nitrate nitrogen (total)	mg/kg	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	NS	NS	NS	NS
Nitrite Nitrogen (total)	mg/kg	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	NS	NS	NS	NS
Ammonia	mg/kg	<28	<29	<28	<27	<27	<28	<30	<28	<29	<28	<28	NA	<28	<27	<28	<28	<28	<31	NS	NS	NS	NS
Metals (Total)																				Residential RCL[7]	Industrial RCL[8]		
Arsenic	mg/kg	**20**	**3.0**	**11**	**11**	**15**	**10**	**12**	**4.1**	**22**	**8.6**	**17**	**11**	**12**	**8.0**	**26**	**2.2**	**1.2 "J"**	**2.0 "J"**	0.039	1.6	0.39	29
Barium	mg/kg	191	53	35	25	24	29	56	57	78	45	91	35	36	34	25	28	38	39	NS	NS	5,400	1,600
Cadmium	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1.5 "J"	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	8	510	37	8
Chromium	mg/kg	14	13	7.2	5.4	5.9	7.9	14	16	12	12	12	8.5	7.7	10	12	8.6	10	8.8	16,000	NS	210	38
Copper	mg/kg	27	15	17	16	15	21	34	21	34	30	22	8.1	9.7	18	15	14	13	12	NS	NS	2,900	NS
Lead	mg/kg	**55**	21	43	30	24	38	**65**	31	**149**	70	37	7.7	15	**217**	14	38	16	**55**	50	500	400	NS
Mercury	mg/kg	0.073	0.037 "J"	0.049 "J"	0.046 "J"	0.032 "J"	0.108	0.119	0.069	0.077	0.243	0.048 "J"	0.054 "J"	<0.02	0.068	0.026 "J"	0.048 "J"	0.036 "J"	0.083	NS	NS	23	NS
Nickel	mg/kg	17	13	11	7.3	9.0	11	17	15	13	11	21	11	10	8.5	11	8.1	10	8.4	NS	NS	1,600	130
Selenium	mg/kg	0.40	0.092 "J"	0.28	0.31	0.26	0.34	0.21	0.082 "J"	0.56	0.17 "J"	0.54	0.42	0.51	0.25	0.67	0.066 "J"	<0.057	0.074 "J"	NS	NS	390	5
Silver	mg/kg	5.0 "J"	<3	5.6 "J"	6.2 "J"	9.1 "J"	<3	<3	4.9 "J"	<3	<3	<3	<3	4.5 "J"	<3	<3	<3	<3	<3	NS	NS	390	34
Zinc	mg/kg	167	31	71	50	62	50	131	49	735	178	75	36	39	79	37	43	28	54	NS	NS	23,000	12,000
PAHs																				Direct Contact RCL[9]	Migration to Groundwater RCL[10]		
Acenaphthene	µg/kg	43 "J"	<41	76 "J"	88 "J"	84 "J"	150 "J"	110 "J"	91 "J"	92 "J"	42 "J"	220 "J"	270	100 "J"	370 "J"	<41	85 "J"	<41	55 "J"	900,000	38,000	3,700,000	570,000
Acenaphthylene	µg/kg	70 "J"	<42	340	91 "J"	50 "J"	<84	100 "J"	150	110 "J"	53 "J"	<84	<84	<42	<210	<42	65 "J"	<42	43 "J"	18,000	700	NS	NS
Anthracene	µg/kg	130	110 "J"	210	210	200	210 "J"	250	230	270	200	480	490	210	500 "J"	60 "J"	180	<34	140	5,000,000	3,000,000	22,000,000	12,000,000
Benzo(a)anthracene	µg/kg	**340**	**250**	**610**	**420**	**350**	**360**	**530**	**750**	**620**	**660**	**1,200**	**930**	**440**	**1,300**	87 "J"	**360**	<54	**320**	88	17,000	620	2,000
Benzo(a)pyrene	µg/kg	**420**	**270**	**830**	**330**	**330**	**220 "J"**	**470**	**700**	**530**	**590**	**1,000**	**920**	**430**	**1,200**	**110 "J"**	**560**	**60 "J"**	**460**	8.8	48,000	62	8,000
Benzo(b)fluoranthene	µg/kg	**410**	**200**	**1,000**	**360**	**330**	**310**	**670**	**690**	**740**	**600**	**730**	**580**	**360**	**1,200**	86 "J"	**350**	47 "J"	**390**	88	360,000	620	5,000
Benzo(ghi)perylene	µg/kg	240 "J"	150 "J"	700	160 "J"	210 "J"	240 "J"	420 "J"	370	270	410	670	520 "J"	320	760 "J"	130 "J"	330	<82	250 "J"	1,800	6,800,000	NS	NS
Benzo(k)fluoranthene	µg/kg	340	270	480	370	310	<160	<160	730	400	390	**1,000**	690	<79	840 "J"	<79	510	<79	410	880	870,000	6,200	49,000
Chrysene	µg/kg	360	240	730	430	460	420	650	730	670	600	1,300	1,000	480	1,600	110 "J"	370	41 "J"	330	8,800	37,000	62,000	160,000
Dibenzo(a,h)anthracene	µg/kg	<76	<76	**100 "J"**	<76	<76	<150	<150	<76	<76	<76	**220 "J"**	**180 "J"**	**77 "J"**	<380	<76	**120**	<76	**110 "J"**	8.8	38,000	62	2,000
Fluoranthene	µg/kg	890	710	830	670	540	490	860	1,500	1,100	1,400	940	490	360	1,400	110 "J"	980	64 "J"	710	600,000	500,000	2,300,000	4,300,000
Fluorene	µg/kg	68 "J"	<41	110 "J"	110 "J"	100 "J"	150 "J"	130 "J"	150	170	68 "J"	210 "J"	270	120 "J"	370 "J"	47 "J"	88 "J"	<41	49 "J"	600,000	100,000	2,600,000	260,000
Indeno(1,2,3-cd)pyrene	µg/kg	**150 "J"**	**100 "J"**	**370**	**100 "J"**	**100 "J"**	<140	**160 "J"**	**180 "J"**	**150 "J"**	**240**	**200 "J"**	**160 "J"**	83 "J"	**400 "J"**	<69	**240**	<69	**250**	88	680,000	620	14,000
1-Methylnaphthalene	µg/kg	530	100 "J"	2,700	2,200	2,500	3,600	3,800	2,000	2,700	1,200	2,900	4,500	2,300	4,600	470	290	39 "J"	120	1,100,000	23,000	NS	NS
2-Methylnaphthalene	µg/kg	500	82 "J"	2,800	2,200	2,700	3,700	4,300	2,000	2,800	1,100	3,100	5,100	2,500	4,900	620	370	<72	170 "J"	600,000	20,000	NS	NS
Naphthalene	µg/kg	310	51 "J"	1,400	1,000	1,300	1,800	2,000	1,000	1,300	570	1,300	1,900	1,000	2,100	310	200	<40	120 "J"	20,000	400	56,000	84,000
Phenanthrene	µg/kg	1,000	480	2,000	1,800	1,900	2,300	2,700	2,100	2,400	1,400	4,300	5,300	2,000	5,000	290	1,200	80	690	18,000	1,800	NS	NS
Pyrene	µg/kg	620	480	810	590	510	410	720	1,100	900	1,000	1,000	800	540	1,300	160 "J"	790	91 "J"	680	500,000	8,700,000	2,300,000	4,200,000
PVOCs & Detected VOCs																				NR 720 RCL[3]	NR 746 Table 1[4]		
Benzene	µg/kg	<25	<25	**41**	**38**	**44**	**51**	<25	**110**	**39**	**36**	<25	<25	<25	**71**	<25	<25	<25	<25	5.5	8,500	650	30
Ethylbenzene	µg/kg	<25	<25	47	29	61	50	<25	110	46	40	35	<25	<25	140	<25	25	<25	<25	2,900	4,600	230,000	13,000
MTBE	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	NS	NS	NS
Toluene	µg/kg	<25	36	230	140	250	260	38	610	220	210	93	<25	<25	500	36	90	32	25 "J"	1,500	38,000	520,000	12,000
1,2,4-Trimethylbenzene	µg/kg	<25	25 "J"	120	52	190	150	<25	270	120	110	140	<25	<25	530	26 "J"	77	<25	<25	NS	83,000	52,000	NS
1,3,5-Trimethylbenzene	µg/kg	<25	<25	34	<25	73	43	<25	81	36	30	42	<25	<25	150	<25	<25	<25	<25	NS	11,000	21,000	NS
Xylenes (total)	µg/kg	<75	27	370	171	500	410	<75	850	350	320	250	<75	<75	1,080	29	186	<75	<75	4,100	42,000	210,000	210,000
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	25	<25	<25	<25	<25	<25	50	<25	<25	<25	<25	NS	NS	110,000	NS
n-Butylbenzene	µg/kg	<25	<25	<25	<25	31	<25	<25	44	<25	<25	32	<25	<25	110	<25	<25	<25	<25	NS	NS	140,000	NS
1,4-Dichlorobenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	63	<25	<25	<25	<25	NS	NS	370,000	17,000
Isopropylbenzene	µg/kg	<25	<25	<25	<25	29	29	<25	49	<25	<25	27	<25	<25	70	<25	<25	<25	<25	NS	NS	NS	NS
p-Isopropyltoluene	µg/kg	<25	<25	<25	<25	<25	<25	<25	28	<25	<25	<25	<25	<25	72	<25	<25	<25	<25	NS	NS	NS	NS
Naphthalene	µg/kg	<25	56	160	93	170	180	41	330	200	170	120	<25	<25	380	54	54	32	32	NS	2,700	56,000	84,000
n-Propylbenzene	µg/kg	<25	<25	27	<25	39	29	<25	61	30	<25	32	<25	<25	100	<25	<25	<25	<25	NS	NS	140,000	NS
1,1,1-Trichloroethane	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	NS	630,000	2,000
Trichlorofluoromethane	µg/kg	<25	<25	<25	<25	<25	<25	<25	120	44 "J"	<25	<25	<25	<25	<25	<25	41 "J"	<25	<25	NS	NS	390,000	NS

Notes:
1. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NR 720 RCL = WAC, Chapter NR 720 generic Residual Contaminant Level
4. NR 746 Table 1 = WAC, Chapter NR 746 Table 1 ("Indicators of Residual Petroleum Hydrocarbon Product in Soil Pores") Soil Screening Levels
5. US EPA Region IX PRG = Preliminary Remediation Goal for residential soil, developed by US Environmental Protection Agency
6. US EPA Region IX SSL = Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20, developed by US Environmental Protection Agency
7. Residential RCL = WAC, Chapter NR 720 RCL for non-industrial land use (metals only) - RCLs for tri-valent chromium listed
8. Industrial RCL = WAC, Chapter NR 720 RCL for industrial land use (metals only) - RCLs for tri-valent chromium listed
9. Direct Contact RCL = Interim guidance RCL for protection of direct contact with PAH compounds (non-industrial land use), from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
10. Migration to Groundwater RCL = Interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
11. NS = no standard established
12. "J" = Concentration detected between Limit of Detection and Limit of Quantitation
13. Exceedances: **bold** = Concentration exceeds NR 720 RCL, Residential RCL, or Direct Contact RCL
box = Concentration exceeds NR 746 Table 1 for PVOCs, Industrial RCL for metals, DATCP clean up level for nitrogen, or Migration to Groundwater RCL for PAHs

Table 5
Soil Analytical Results - Former C. Reiss Coal Company Property
Sheboygan Lakefront, Sheboygan, Wisconsin
Sigma Project No. 7302

Berm Test Section:		BTS-19	BTS-20	BTS-21	BTS-22	BTS-23	BTS-24	BTS-25	BTS-26	BTS-27	BTS-28	BTS-29	BTS-30	BTS-31	BTS-32	BTS-33	BTS-34	BTS-35	NR 720	NR 746	US EPA Region IX	
Inorganics		04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/04/02	04/04/02	04/04/02	04/04/02	RCL[3]	Table 1[4]	PRG[5]	SSL[6]
Chloride (total)	mg/kg	<34	<35	<32	<34	<35	<34	<34	<34	<34	<34	<35	<34	<35	<35	<35	NA	NA	NS	NS	NS	NS
Nitrate nitrogen (total)	mg/kg	<46	<46	<46	<46	<46	<46	<46	<46	<46	<46	220	<46	<46	<46	<46	NA	NA	NS	NS	NS	NS
Nitrite Nitrogen (total)	mg/kg	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	<44	NA	NA	NS	NS	NS	NS
Nitrogen, Ammonia, Total	mg/kg	<30	<31	<30	<31	<32	<32	<31	<28	<26	<27	<27	<29	<28	<29	<28	<29	<28	NS	NS	NS	NS
Metals (Total)																			Residential RCL[7]	Industrial RCL[8]		
Arsenic	mg/kg	**0.74 "J"**	**1.1 "J"**	<0.65	**1.2 "J"**	**1.3 "J"**	**2.2**	**1.8 "J"**	**2.0 "J"**	**1.8 "J"**	**4.5**	**5.3**	**4.3**	**1.5 "J"**	**2.0 "J"**	**3.6**	NA	NA	0.039	1.6	0.39	29
Barium	mg/kg	40	52	11	43	41	41	54	41	34	44	794	76	53	113	67	NA	NA	NS	NS	5,400	1,600
Cadmium	mg/kg	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	NA	NA	8	510	37	8
Chromium	mg/kg	12	15	4.1	15	15	12	17	14	12	10	13	8.8	15	15	22	NA	NA	16,000	NS	210	38
Copper	mg/kg	14	14	11	14	13	12	16	13	9.9	17	23	14	16	17	20	NA	NA	NS	NS	2,900	NS
Lead	mg/kg	16 "J"	**84**	<6	7.1 "J"	9.4 "J"	17 "J"	8.4 "J"	7.4 "J"	8.5 "J"	47	**91**	32	13	19 "J"	13 "J"	NA	NA	50	500	400	NS
Mercury	mg/kg	0.039 "J"	0.023 "J"	<0.02	0.028 "J"	0.021 "J"	0.033 "J"	0.033 "J"	0.024 "J"	<0.02	0.060 "J"	0.059 "J"	0.052 "J"	0.040 "J"	0.026 "J"	0.035 "J"	NA	NA	NS	NS	23	NS
Nickel	mg/kg	10	14	7.2	12	13	12	15	13	12	11	14	8.8	15	14	22	NA	NA	NS	NS	1,600	130
Selenium	mg/kg	<0.056	<0.058	<0.053	<0.057	<0.058	<0.057	<0.057	<0.057	<0.056	0.094 "J"	0.17 "J"	0.11 "J"	<0.058	<0.058	0.062 "J"	NA	NA	NS	NS	390	5
Silver	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	4.7 "J"	<3	<3	<3	<3	NA	NA	NS	NS	390	34
Zinc	mg/kg	33	27	16	21	22	33	21	20	24	75	354	54	26	100	24	NA	NA	NS	NS	23,000	12,000
PAHs																			Direct Contact RCL[9]	Migration to Groundwater RCL[10]		
Acenaphthene	µg/kg	<41	<41	<41	<41	<41	110 "J"	<41	<41	<41	<41	<41	130 "J"	<41	45 "J"	<41	<41	<41	900,000	38,000	3,700,000	570,000
Acenaphthylene	µg/kg	<42	<42	<42	<42	<42	100 "J"	<42	<42	<42	<42	46 "J"	510	<42	71 "J"	<42	81 "J"	<42	18,000	700	NS	NS
Anthracene	µg/kg	63 "J"	<34	<34	<34	<34	310	<34	<34	<34	<34	76 "J"	540	65 "J"	170	<34	92 "J"	40 "J"	5,000,000	3,000,000	22,000,000	12,000,000
Benzo(a)anthracene	µg/kg	**150 "J"**	<54	<54	<54	<54	**570**	<54	<54	<54	<54	**180**	**1,300**	**150 "J"**	**290**	<54	**230**	81 "J"	88	17,000	620	2,000
Benzo(a)pyrene	µg/kg	**180 "J"**	<59	<59	<59	<59	**780**	<59	<59	<59	<59	**250**	**2,100**	**200**	**490**	<59	**370**	**100 "J"**	8.8	48,000	62	8,000
Benzo(b)fluoranthene	µg/kg	**140**	70 "J"	<42	87 "J"	<42	**590**	<42	<42	<42	<42	**220**	**1,400**	**170**	**340**	<42	**250**	**140**	88	360,000	620	5,000
Benzo(ghi)perylene	µg/kg	130 "J"	<82	<82	<82	<82	420	<82	<82	<82	<82	160 "J"	1,300	140 "J"	410	<82	260 "J"	<82	1,800	6,800,000	NS	NS
Benzo(k)fluoranthene	µg/kg	170 "J"	<79	<79	<79	<79	670	<79	<79	<79	<79	220 "J"	**1,500**	140 "J"	400	<79	360	<79	880	870,000	6,200	49,000
Chrysene	µg/kg	160	41 "J"	<38	45 "J"	<38	570	<38	<38	<38	56 "J"	210	1,400	180	320	<38	280	84 "J"	8,800	37,000	62,000	160,000
Dibenzo(a,h)anthracene	µg/kg	<76	<76	<76	<76	<76	**180 "J"**	<76	<76	<76	<76	<76	**500**	<76	**110 "J"**	<76	**110 "J"**	<76	8.8	38,000	62	2,000
Fluoranthene	µg/kg	300	68 "J"	<42	64 "J"	<42	1,600	<42	<42	<42	92 "J"	360	3,500	370	800	<42	700	150	600,000	500,000	2,300,000	4,300,000
Fluorene	µg/kg	<41	<41	<41	<41	<41	170	<41	<41	<41	<41	<41	240 "J"	<41	58 "J"	<41	46 "J"	<41	600,000	100,000	2,600,000	260,000
Indeno(1,2,3-cd)pyrene	µg/kg	**110 "J"**	<69	<69	<69	<69	**400**	<69	<69	<69	<69	**140 "J"**	**1,000**	**110 "J"**	**280**	<69	**230**	<69	88	680,000	620	14,000
1-Methylnaphthalene	µg/kg	130	120	<37	51 "J"	<37	130	<37	<37	<37	76 "J"	200	390	92 "J"	380	<37	100 "J"	73 "J"	1,100,000	23,000	NS	NS
2-Methylnaphthalene	µg/kg	170 "J"	170 "J"	<72	<72	<72	130 "J"	<72	<72	<72	94 "J"	230	460	100 "J"	440	<72	130 "J"	84 "J"	600,000	20,000	NS	NS
Naphthalene	µg/kg	100 "J"	100 "J"	<40	41 "J"	<40	110 "J"	<40	<40	<40	51 "J"	130	350	60 "J"	260	<40	100 "J"	53 "J"	20,000	400	56,000	84,000
Phenanthrene	µg/kg	300	110	<20	75	<20	1,800	28 "J"	<20	21 "J"	120	410	3,000	450	860	<20	680	190	18,000	1,800	NS	NS
Pyrene	µg/kg	300	94 "J"	<58	74 "J"	<58	1,600	<58	<58	<58	110 "J"	380	3,600	450	730	<58	690	200	500,000	8,700,000	2,300,000	4,200,000
PVOCs & Detected VOCs																			NR 720 RCL[3]	NR 746 Table 1[4]		
Benzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	5.5	8,500	650	30
Ethylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	2,900	4,600	230,000	13,000
MTBE	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	NS	NS	NS
Toluene	µg/kg	29	<25	<25	<25	<25	35	<25	35	<25	110	45	<25	<25	<25	<25	28	33	1,500	38,000	520,000	12,000
1,2,4-Trimethylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	49	35	<25	<25	<25	<25	29	42	NS	83,000	52,000	NS
1,3,5-Trimethylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	11,000	21,000	NS
Xylenes (total)	µg/kg	<75	<75	<75	<75	<75	<75	<75	<75	<75	146	36	<75	<75	<75	<75	<75	93	4,100	42,000	210,000	210,000
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	110,000	NS
n-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	140,000	NS
1,4-Dichlorobenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	370,000	17,000
Isopropylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	NS	NS
p-Isopropyltoluene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	NS	NS
Naphthalene	µg/kg	28	<25	<25	<25	<25	50	<25	29	<25	82	57	<25	<25	<25	<25	NA	NA	NS	2,700	56,000	84,000
n-Propylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	140,000	NS
1,1,1-Trichloroethane	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	290	<25	<25	<25	<25	NA	NA	NS	NS	630,000	2,000
Trichlorofluoromethane	µg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	390,000	NS

Notes:
1. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NR 720 RCL = WAC, Chapter NR 720 generic Residual Contaminant Level
4. NR 746 Table 1 = WAC, Chapter NR 746 Table 1 ("Indicators of Residual Petroleum Hydrocarbon Product in Soil Pores") Soil Screening Levels
5. US EPA Region IX PRG = Preliminary Remediation Goal for residential soil, developed by US Environmental Protection Agency
6. US EPA Region IX SSL = Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20, developed by US Environmental Protection Agency
7. Residential RCL = WAC, Chapter NR 720 RCL for non-industrial land use (metals only) - RCLs for tri-valent chromium listed
8. Industrial RCL = WAC, Chapter NR 720 RCL for industrial land use (metals only) - RCLs for tri-valent chromium listed
9. Direct Contact RCL = Interim guidance RCL for protection of direct contact with PAH compounds (non-industrial land use), from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
10. Migration to Groundwater RCL = Interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
11. NS = no standard established
12. "J" = Concentration detected between Limit of Detection and Limit of Quantitation
13. Exceedances: **bold** = Concentration exceeds NR 720 RCL, Residential RCL, or Direct Contact RCL
box = Concentration exceeds NR 746 Table 1 for PVOCs, Industrial RCL for metals, DATCP clean up level for nitrogen, or Migration to Groundwater RCL for PAHs

Table 5
Berm Soil Analytical Results - Former C. Reiss Coal Company
Sheboygan Lakefront, Sheboygan, Wisconsin
Sigma Project No. 7302

Berm Test Section:		BTS-4	BTS-9	BTS-19	BTS-20	BTS-28	Direct Contact	Migration to	US EPA Region IX	
Detected SVOCs							RCL[7]	Groundwater RCL[8]	PRG[5]	SSL[6]
Acenaphthene	µg/kg	120 "J"	140	<41	<41	<41	900,000	38,000	3,700,000	570,000
Acenaphthylene	µg/kg	110 "J"	130	<42	<42	<42	18,000	700	NS	NS
Anthracene	µg/kg	300	320	51 "J"	<34	<34	5,000,000	3,000,000	22,000,000	12,000,000
Benzo(a)anthracene	µg/kg	**280**	**660**	**170**	<54	<54	88	17,000	620	2,000
Benzo(a)pyrene	µg/kg	**400**	**570**	**170 "J"**	<59	<59	8.8	48,000	62	8,000
Benzo(b)fluoranthene	µg/kg	**410**	**1,000**	**130**	<42	58 "J"	88	360,000	620	5,000
Benzo(ghi)perylene	µg/kg	<82	500	140 "J"	<82	<82	1,800	6,800,000	NS	NS
Benzo(k)fluoranthene	µg/kg	370	<79	180 "J"	<79	<79	880	870,000	6,200	49,000
Benzyl Alcohol	µg/kg	350	<54	<54	<54	<54	NS	NS	18,000,000	NS
Bis(2-ethylhexyl)phthalate	µg/kg	<87	95 "J"	<87	<87	<87	NS	NS	35,000	NS
4-Chloro-3-methylphenol	µg/kg	270	<64	<64	<64	<64	NS	NS	NS	NS
Chrysene	µg/kg	350	760	190	46 "J"	68 "J"	8,800	37,000	62,000	160,000
o-Cresol	µg/kg	76 "J"	66 "J"	<36	<36	<36	NS	NS	NS	NS
m & p-Cresol	µg/kg	150	78 "J"	<42	<42	<42	NS	NS	NS	NS
Dibenzofuran	µg/kg	610	840	51 "J"	<47	<47	NS	NS	290,000	NS
Dibenzo(a,h)anthracene	µg/kg	<76	**160 "J"**	<76	<76	<76	8.8	38,000	62	2,000
1,2-Dichlorobenzene	µg/kg	49 "J"	<18	<18	<18	<18	NS	NS	370,000	17,000
2,4-Dichlorophenol	µg/kg	230 "J"	<100	<100	<100	<100	NS	NS	180,000	1,000
2,4-Dimethylphenol	µg/kg	160 "J"	110 "J"	<76	<76	<76	NS	NS	1,200,000	9,000
Di-n-butyl phthalate	µg/kg	56 "J"	86 "J"	<55	<55	110 "J"	NS	NS	NS	NS
Fluoranthene	µg/kg	810	1,200	290	70 "J"	89 "J"	600,000	500,000	2,300,000	4,300,000
Fluorene	µg/kg	140	160	<41	<41	<41	600,000	100,000	2,600,000	560,000
Indeno(1,2,3-cd)pyrene	µg/kg	**350**	**310**	**91 "J"**	<69	<69	88	680,000	620	14,000
2-Methylnaphthalene	µg/kg	2,500	3,200	160 "J"	170 "J"	89 "J"	600,000	20,000	NS	NS
Naphthalene	µg/kg	1,400	1,800	100 "J"	95 "J"	49 "J"	20,000	400	56,000	84,000
4-Nitrophenol	µg/kg	540	1,500	42 "J"	68 "J"	45 "J"	NS	NS	490,000	NS
n-Nitrosodiphenylamine	µg/kg	400	<66	<66	<66	<66	NS	NS	99,000	1,000
Pentachlorophenol (PCP)	µg/kg	580	<17	<17	<17	<17	NS	NS	3,000	30
Phenanthrene	µg/kg	2,100	2,600	310	110	120	18,000	1,800	NS	NS
Pyrene	µg/kg	680	1,500	360	100 "J"	130 "J"	500,000	8,700,000	2,300,000	4,200,000
2,4,6-Trichlorophenol	µg/kg	170	<48	<48	<48	<48	NS	NS	44,000	200
2,4,5-Trichlorophenol	µg/kg	280	<73	<73	<73	<73	NS	NS	6,100,000	270,000
Pesticides							NR 720 RCL[3]	NR 746 Table 1[4]		
Aldrin	µg/kg	<1.64	<1.79	<0.175	<0.185	<0.167	NS	NS	29	500
a-BHC	µg/kg	<4.03	<4.43	<0.432	<0.456	<0.411	NS	NS	NS	NS
b-BHC	µg/kg	<2.18	<2.39	<0.234	<0.246	<0.222	NS	NS	NS	NS
d-BHC	µg/kg	<5.34	<5.86	<0.572	<0.603	<0.544	NS	NS	NS	NS
g-BHC (Lindane)	µg/kg	<2.62	<2.87	<0.28	<0.296	<0.267	NS	NS	NS	NS
Chlordane	µg/kg	<54.5	<59.8	<5.84	<6.16	<5.56	NS	NS	1,600	10,000
4,4'-DDD	µg/kg	<7.31	<8.01	<0.783	<0.825	<0.744	NS	NS	2,400	16,000
4,4'-DDE	µg/kg	<4.80	<5.26	<0.514	<0.542	<0.489	NS	NS	1,700	54,000
4,4'-DDT	µg/kg	<7.74	<8.49	1.29	2.14	3.72	NS	NS	1,700	32,000
Dieldrin	µg/kg	<2.40	<2.63	<0.257	<0.271	<0.244	NS	NS	30	4
Endosulfan I	µg/kg	<1.96	<2.15	<0.21	<0.222	<0.2	NS	NS	370,000	18,000
Endosulfan II	µg/kg	<5.67	<6.22	<0.607	<0.64	<0.578	NS	NS	370,000	18,000
Endosulfan Sulfate	µg/kg	<6.22	<6.82	<0.666	<0.702	<0.633	NS	NS	NS	NS
Endrin	µg/kg	<3.82	<4.19	<0.409	<0.431	<0.389	NS	NS	18,000	1,000
Endrin Aldehyde	µg/kg	<9.81	<10.8	<1.05	<1.11	<1.00	NS	NS	NS	NS
Heptachlor	µg/kg	<1.09	<1.20	<0.117	<0.123	<0.111	NS	NS	110	23,000
Heptachlor Epoxide	µg/kg	<1.31	<1.44	<0.14	<0.148	<0.133	NS	NS	53	700
Methoxychlor	µg/kg	<46.6	<51.1	<4.99	<5.26	<4.74	NS	NS	310,000	160,000
Toxaphene	µg/kg	<502	<550	<53.7	<56.7	<51.1	NS	NS	440	31,000
Herbicides							NR 720 RCL[3]	NR 746 Table 1[4]		
2,4-D	mg/kg	<0.872	<0.957	<0.0374	<0.0394	<0.0356	NS	NS	690	NS
2,4-DB	mg/kg	<2.73	<2.99	<0.117	<0.123	<0.111	NS	NS	490	NS
2,4,5-T	mg/kg	<0.164	<0.179	<0.00701	<0.00739	<0.00667	NS	NS	610	NS
2,4,5-TP (Silvex)	mg/kg	<0.109	<0.12	<0.00467	<0.00493	<0.00444	NS	NS	490	NS
Dalapon	mg/kg	<2.18	<2.39	<0.0935	<0.0985	<0.0889	NS	NS	1,800	NS
Dicamba	mg/kg	<0.0545	<0.0598	<0.00234	<0.00246	<0.00222	NS	NS	NS	NS
Dichlorprop	mg/kg	<0.818	<0.897	<0.035	<0.0369	<0.0333	NS	NS	NS	NS
Dinoseb	mg/kg	<0.164	<0.179	<0.00701	<0.00739	<0.00667	NS	NS	61	NS
MCPA	mg/kg	<278	<305	<11.9	<12.6	<11.3	NS	NS	31	NS
MCPP	mg/kg	<202	<221	<8.64	<9.11	<8.22	NS	NS	61	NS
PCBs							NR 720 RCL[3]	NR 746 Table 1[4]		
Arochlor 1016	µg/kg	<2	<2	<2	<2	<2	NS	NS	3,900	NS
Arochlor 1221	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS
Arochlor 1232	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS
Arochlor 1242	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS
Arochlor 1248	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS
Arochlor 1254	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS
Arochlor 1260	µg/kg	<2	<2	<2	<2	<2	NS	NS	220	NS

Notes:
1. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NR 720 RCL = WAC, Chapter NR 720 generic Residual Contaminant Level
4. NR 746 Table 1 = WAC, Chapter NR 746 Table 1 ("Indicators of Residual Petroleum Hydrocarbon Product in Soil Pores") Soil Screening Levels
5. US EPA Region IX PRG = Preliminary Remediation Goal for residential soil, developed by US Environmental Protection Agency
6. US EPA Region IX SSL = Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20, developed by US Environmental Protect
7. Direct Contact RCL = Interim guidance RCL for protection of direct contact with PAH compounds (non-industrial land use), from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
8. Migration to Groundwater RCL = Interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
9. NS = no standard established
10. "J" = Concentration detected between Limit of Detection and Limit of Quantitation
11. Exceedances: **bold** = Concentration exceeds NR 720 RCL, Residential RCL, or Direct Contact RCL
box = Concentration exceeds NR 746 Table 1, Industrial RCL, or Migration to Groundwater RCL

Table 1
Post Remediation Soil Quality Data - Excavation Area 1 (Nitrogen & Chloride)
Former C. Reiss Coal Company Property - Sheboygan Lakefront
Sigma Project No. 7302

	Sample Location:		Sidewall Samples						Base Samples							Test Pits				Cleanup Level
	Sample Identification:		**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**S-6**	**B-1**	**B-2**	**B-3**	**B-4**	**B-5**	**B-6**	**B-7**	**TP-1A**		**TP-1B**		
	Sample Depth (feet bgs):		3	3	3	3	3	3	7	7	7	7	7	7	7.5	0 - 2	4 - 6	0 - 2	4 - 6	
	Sample Date:		3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/7/03	3/7/03	3/7/03	3/7/03	
	Parameter	**Units**																		
Mobile Laboratory Results	Ammonia - N	mg/kg	<20	<20	<20	<20	<20	<20	<20	99	<20	<20	820	<20	<20	<20	<20	NA	<20	NS
	Nitrate/Nitrite - N	mg/kg	<20	32	<20	<20	<20	<20	<20	<20	<20	<20	97	<20	<20	<20	<20	NA	<20	NS
	Total Nitrogen	mg/kg	<40	32	<40	<40	<40	<40	<40	99	<40	<40	**917**	<40	<40	<40	<40	NA	<40	100
Fixed Laboratory Results	Ammonia - N	mg/kg	NA	NA	NA	NA	<10	NA	NA	120	NA	NA	---	NA	NA	NA	12 "J"	NA	NA	NS
	Nitrate/Nitrite - N	mg/kg	NA	NA	NA	NA	<10	NA	NA	<10	NA	NA	---	NA	NA	NA	<10	NA	NA	NS
	Total Nitrogen	mg/kg	NA	NA	NA	NA	<20	NA	NA	**120**	NA	NA	---	NA	NA	NA	12	NA	NA	100
	Chloride	mg/kg	49.3	108	513	81.6	119	97.9	910	1,660	274	1,380	---	1,090	227	NA	NA	NA	NA	NS

Notes:
1. Mobile laboratory services provided by ECCS, Inc. of Madison, Wisconsin. Nitrogen analyses were performed using potassium chloride extraction method.
2. 18.8% (3 of 16 samples) were submitted to ECCS, Inc. of Madison, Wisconsin for fixed laboratory analyses.
3. Soil samples analyzed for chloride were submitted for Great Lakes Analytical in Oak Creek, Wisconsin for fixed laboratory analyis.
4. Base sample B-5 that was analyzed in the field exceeded the DATCP clean up level of 100 mg/kg, so it was overexcavated and replaced by sample B-7.
5. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
6. NA = not analyzed. The sample from test pit TP-1B, 0 - 2 feet bgs, was not analyzed because the concrete in this area was 2 feet thick and soil was not present.
7. "J" = result flagged by lab as "estimated" because result is between Method Detection Limit (MDL) and Practical Quantitation Limit (PQL)
8. The Cleanup Level of 100 mg/kg for total nitrogen is based upon DATCP's recommendation to the WDNR in an October 11, 2001 letter.
9. NS = no standard established by DATCP or WDNR
10. Exceedances:

bold, box = Concentration exceeds DATCP-suggest remediation goal of 100 mg/kg for total nitrogen

Table 2
Post Remediation Soil Quality Data - Excavation Area 2 (Nitrogen)
Former C. Reiss Coal Company Property - Sheboygan Lakefront
Sigma Project No. 7302

	Sample Location:		Sidewall Samples								Base Samples				Test Pits					Cleanup Level
	Sample Identification:		**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**S-6**	**S-7**	**S-8**	**B-1**	**B-2**	**B-3**	**B-4**	**TP-2A**	**TP-2B**	**TP-2C**	**TP-2D**	**TP-2E**	
	Sample Depth (feet bgs):		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3	3	3	3	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	
	Sample Date:		3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/6/03	3/7/03	3/7/03	3/7/03	3/7/03	3/7/03	
	Parameter	**Units**																		
Mobile Laboratory Results	Ammonia - N	mg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS
	Nitrate/Nitrite - N	mg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	20	<20	<20	NS
	Total Nitrogen	mg/kg	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	20	<40	<40	100
Fixed Laboratory Results	Ammonia - N	mg/kg	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	<10	NA	NA	NA	NA	NA	<10	NS
	Nitrate/Nitrite - N	mg/kg	NA	NA	NA	NA	NA	NA	<10	NA	NA	NA	<10	NA	NA	NA	NA	NA	<10	NS
	Total Nitrogen	mg/kg	NA	NA	NA	NA	NA	NA	<20	NA	NA	NA	<20	NA	NA	NA	NA	NA	<20	100

Notes:
1. Mobile laboratory services provided by ECCS, Inc. of Madison, Wisconsin. Nitrogen analyses were performed using potassium chloride extraction method.
2. 17.6% (3 of 17 samples) were submitted to ECCS, Inc. of Madison, Wisconsin for fixed laboratory analyses.
3. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
4. NA = not analyzed.
5. The Cleanup Level of 100 mg/kg for total nitrogen is based upon DATCP's recommendation to the WDNR in an October 11, 2001 letter.
6. NS = no standard established
7. Exceedances:

bold, box = Concentration exceeds DATCP-suggest remediation goal of 100 mg/kg for total nitrogen

Table 3
Post Remediation Soil Quality Data - Excavation Area 5 (VOCs)
Former C. Reiss Coal Company Property - Sheboygan Lakefront
Sigma Project No. 7302

Sample Location:		Sidewall Samples					Base Samples		NR 720 RCL
Sample Identification:		**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**B-1**	**B-2**	
Sample Depth (feet bgs):		2	2	2	2	2	4	4	
Sample Date:		3/7/03	3/7/03	3/7/03	3/7/03	3/7/03	3/7/03	3/7/03	
Photoionization Detector	ppm	0	0	0	0	0	0	0	NS
Detected VOCs	**Units**								
Benzene	µg/kg	<25.0	<25.0	<25.0	**30.6**	<25.0	**56.2**	<25.0	5.5
n-Butylbenzene	µg/kg	44.5	45.9	<25.0	36.7	<25.0	<25.0	<25.0	NS
Ethylbezene	µg/kg	66.3	74.9	73.2	62.8	28.4	43.6	<25.0	2,900
p-Isopropyltoluene	µg/kg	31.7	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	NS
Naphthalene	µg/kg	176	417	297	257	149	231	59.0	NS
n-Propylbenzene	µg/kg	42.3	86.9	55.0	47.3	<25.0	26.3	<25.0	NS
Toluene	µg/kg	160	164	150	186	92.9	199	29.5	1,500
Trichloroethene	µg/kg	<25.0	<25.0	33.5	<25.0	<25.0	<25.0	<25.0	NS
1,2,4-Trimethylbenzene	µg/kg	154	161	147	182	71.0	111	30.0	NS
1,3,5-Trimethylbenzene	µg/kg	64.6	67.8	53.3	56.7	<25.0	32.0	<25.0	NS
Xylenes, Total	µg/kg	401	422	351	420	200	333	83.4	4,100

Notes:
1. Laboratory services provided by Great Lakes Analytical of Oak Creek, Wisconsin. VOC analyses were performed in accordance with US EPA Method 8260.
2. ppm = parts per million (PID calibrated to ambient air and span gas of 100 ppm isobutylene)
3. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
4. NR 720 RCL = Wisc. Admin. Code, Chapter NR 720 generic Residual Contaminant Level
5. NS = no standard established
6. Exceedances: **bold, box** = Concentration exceeds NR 720 RCL

Table 2
Soil Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Soil Sample Location:		GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	GP-11	GP-12	GP-13	GP-14	GP-15	GP-16	NR 720 RCL[5]		Calculated RCL[9]	
Sample Depth (feet bgs):		0 - 2	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	0 - 2	2 - 4	0 - 2	2 - 4	2 - 4	2 - 4	0 - 2	2 - 4	4 - 6	0 - 2			Direct Contact	Migration to Groundwater
	Date:	09/02/03	09/02/03	09/02/03	09/02/03	09/02/03	09/02/03	09/02/03	09/03/03	09/02/03	09/03/03	09/03/03	09/02/03	09/02/03	09/03/03	09/02/03	09/03/03				
Photoionization Detector	ppm	0	0	0	0	0	0	0	0	0	0	0	0	107.6	0	0	0	NS		---	---
PVOCs & Detected VOCs																					
Benzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	**352**	**75.6**	<25.0	<25.0	**90.3**	**233**	<25.0	**50.1**	5.5		---	---
Ethylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	87.8	103	<25.0	<25.0	271	154	<25.0	123	2,900		---	---
Methyl-tert-butyl-ether	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	NS		---	---
Toluene	µg/kg	<25.0	<25.0	45.1	30.7	<25.0	<25.0	<25.0	<25.0	784	363	31.4	<25.0	290	1,260	<25.0	248	1,500		---	---
1,2,4-Trimethylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	210	267	<25.0	<25.0	684	412	<25.0	304	NS		---	---
1,3,5-Trimethylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	407	80.8	<25.0	<25.0	230	99.2	<25.0	106	NS		---	---
Xylenes (total)	µg/kg	<25.0	<25.0	42.9	<25.0	<25.0	<25.0	<25.0	<25.0	822	760	36.3	<25.0	977	1,730	<25.0	747	4,100		---	---
Naphthalene	µg/kg	<25.0	<25.0	61.8	108	69.8	<25.0	64.7	77.8	462	449	38.2	<25.0	982	587	<25.0	380	NS		---	---
n-Butylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0	<25.0	424	<25.0	<25.0	48.4	NS		---	---
Chlorobenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	***4,620***	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	NS		26,000[inh]	75
1,2-Dichlorobenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	***12,500***	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	NS		610,000[inh]	910
1,4-Dichlorobenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	***469***	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	NS		2,660[ing]	230
1,2-Dichloroethane	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	**273**	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	4.9		---	---
Isopropylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0	<25.0	<125	65.1	<25.0	95.2	NS		---	---
p-Isopropyltoluene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0	<25.0	<125	<25.0	<25.0	33.6	NS		---	---
n-Propylbenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	26.9	<50.0	<25.0	<25.0	276	70.7	<25.0	78.7	NS		---	---
1,2,4-Trichlorobenzene	µg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	129	<50.0	<25.0	<25.0	<125	<25.0	<25.0	<25.0	NS		36,000[inh]	540
PAHs/Detected SVOCs																		**DC RCL[6]**	**GW RCL[7]**		
Acenaphthene	µg/kg	<105	<114	136	<116	526	138	<180	<120	226	<128	<123	<106	<109	<124	<114	406	900,000	38,000	---	---
Acenaphthylene	µg/kg	<210	<227	<223	<116	<249	<249	<180	<239	<215	<256	<246	<212	<109	<248	<229	<220	18,000	700	---	---
Anthracene	µg/kg	<105	<114	<111	<116	191	<124	<180	<120	172	<128	<123	<106	<109	<124	<114	138	5,000,000	3,000,000	---	---
Benzo(a)anthracene	µg/kg	<52.5	<56.9	**130**	<116	**410**	**133**	<180	**120**	**299**	**116**	<61.6	<53.0	<109	<62.0	<57.2	**313**	88	17,000	---	---
Benzo(a)pyrene	µg/kg	**25.2**	**47.6**	**129**	<67.3	**412**	**144**	<104	**125**	**258**	**120**	**49.7**	<5.30	<63.5	**53.1**	28.7	**105**	8.8	48,000	---	---
Benzo(b)fluoranthene	µg/kg	<52.5	<56.9	**147**	<116	**407**	**98.6**	<180	**111**	**242**	**129**	<61.6	<53.0	<109	<62.0	<57.2	**315**	88	360,000	---	---
Benzo(ghi)perylene	µg/kg	<105	<114	<111	<116	282	127	<180	<120	218	<128	<123	<106	<109	<124	<114	323	1,800	6,800,000	---	---
Benzo(k)fluoranthene	µg/kg	<105	<114	<111	<116	211	<124	<180	<120	202	<128	<123	<106	<109	<124	<114	218	880	870,000	---	---
Chrysene	µg/kg	<105	<114	171	<116	749	225	<180	140	356	<128	<123	<106	<109	<124	<114	698	8,800	37,000	---	---
Dibenzo(a,h)anthracene	µg/kg	**23.0**	**37.7**	**21.6**	<67.3	**233**	**50.2**	<104	**22.0**	**207**	**29.3**	**44.2**	<5.30	<63.5	<6.20	30.2	**265**	8.8	38,000	---	---
Fluoranthene	µg/kg	<105	<114	<111	<116	379	393	<180	290	855	184	<123	<106	<109	<124	<114	1,020	600,000	500,000	---	---
Fluorene	µg/kg	<105	<114	<111	<116	<125	<124	<180	<120	<108	<128	<123	<106	<109	<124	<114	<110	600,000	100,000	---	---
Indeno(1,2,3-cd)pyrene	µg/kg	<52.5	<56.9	**117**	<116	**344**	**115**	<180	**122**	**230**	**121**	<61.6	<53.0	<109	68.2	<57.2	**246**	88	680,000	---	---
1-Methylnaphthalene	µg/kg	<105	<114	<111	NA	<125	<124	NA	<120	<108	<128	<123	<106	<109	<124	<114	<110	1,100,000	23,000	---	---
2-Methylnaphthalene	µg/kg	<105	<114	172	140	463	145	<180	<120	344	559	<123	<106	<109	<124	159	932	600,000	20,000	---	---
Naphthalene	µg/kg	<105	<114	<111	<116	<125	<124	<180	<120	<108	<128	<123	<106	<109	<124	<114	<110	20,000	400	---	---
Phenanthrene	µg/kg	<105	<114	176	443	770	220	300	143	484	219	<123	<106	259	<124	<114	644	18,000	1,800	---	---
Pyrene	µg/kg	<105	<114	188	166	756	226	<180	192	486	161	<123	<106	<109	149	<114	553	500,000	8,700,000	---	---
Pentachlorophenol	µg/kg	NA	NA	NA	***9,240***	NA	NA	***10,700***	NA	NA	NA	NA	NA	***5,820***	NA	NA	NA	NS	NS	266[dc]	1.5
Detected RCRA Metals																		**NR 720 RCL[5]**			
Mercury	mg/kg	0.044	0.117	0.169	0.0719	0.108	0.880	0.115	0.0949	<0.0431	0.0924	0.225	<0.0424	0.0670	0.100	<0.0458	0.0643	NS		2.1[inh]	---
Arsenic	mg/kg	<2.62	<2.84	**3.17**	<2.90	<3.11	<3.11	**6.02**	<2.99	<2.69	**13.4**	**5.34**	<2.65	**4.74**	**13.1**	<2.86	**4.61**	0.039		---	---
Barium	mg/kg	<26.2	36.5	31.2	45.2	<31.1	***2,360***	605	34.8	<26.9	116	32.7	<26.5	67.1	91.0	48.8	60.7	NS		1,100[ing]	---
Cadmium	mg/kg	<0.525	<0.569	<0.557	0.580	<0.623	0.750	0.908	1.09	<0.538	<0.641	<0.616	<0.530	0.672	0.845	<0.572	0.617	8		---	---
Chromium	mg/kg	3.55	5.52	9.49	11.3	6.58	11.1	9.92	9.46	4.17	11.0	8.46	4.02	8.05	13.6	6.36	9.21	16,000		---	---
Lead	mg/kg	9.91	22.3	33.0	14.0	22.3	**287**	**449**	7.68	19.3	**267**	31.3	2.10	**102**	**97.0**	40.8	**69.0**	50		---	---
Inorganics																		**NR 720 RCL[5]**			
Chloride	mg/kg	304	466	362	220	230	149	261	227	194	340	215	244	197	186	200	314	NS		---	---

Notes:
1. All VOCs reported below laboratory detection limits in methanol blank sample submitted with soil samples on September 2 & 3, 2003.
2. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
4. NA = not analyzed
5. NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level. RCLs for metals based on non-industrial land use; RCL for chromium listed for trivalent chromium.
6. DC RCL = Interim guidance RCL for protection of direct contact with PAH compounds (non-industrial land use), from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
7. GW RCL = Interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
8. NS = no standard established
9. Calculated RCL = Residual Contaminant Level calculated in accordance with WDNR default values on EPA Soil Screening Level Web Site as described in WDNR PUB-RR-682 (January 11, 2002)
   Direct Contact RCL shown is lowest calculated RCL of Ingestion ([ing]), Particulate Inhalation, Volatile Inhalation ([inh]), or dermal contact ([dc]) pathways.
   Migration to Groundwater only shown for non-metal compounds.
10. Exceedances: **bold, box** = concentration exceeds NR 720 RCL for PVOCs/VOCs (migration to groundwater pathway) or metals (non-industrial, direct contact pathway) or DC RCL for PAHs
    bold, italics = concentration exceeds calculated RCL for direct contact and/or migration to groundwater pathway

Table 2
Soil Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Soil Sample Location:		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	GP-17		GP-18		GP-19		GP-20		GP-21	GP-22	GP-23	GP-24	GP-25	NR 720 RCL[5]		Calculated RCL[8]	
Sample Depth (feet bgs):		---	---	2 - 4	2 - 4	2 - 4	2 - 4	0 - 2	2 - 4	4 - 6	2 - 4	4 - 6	0 - 2	4 - 6	2 - 4	4 - 6	2 - 4	0 - 2	2 - 4	2 - 4	2 - 4			Direct Contact	Migration to Groundwater
	Date:	11/17/04	11/17/04	11/16/04	11/16/04	11/16/04	11/16/04	11/16/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/16/04	11/16/04	11/16/04				
Photoionization Detector	ppm	---	---	0	0.5	0	0	0	0.6	0.9	0	0.6	0	0.9	0.4	0.4	0	0	0	0	0.9	NS		---	---
PVOCs & Detected VOCs																									
Benzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	**45**	<32	<28	<33	NA	NA	NA	NA	NA	5.5		---	---
Ethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	85	<32	<28	<33	NA	NA	NA	NA	NA	2,900		---	---
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
Toluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	50	<28	<28	<27	303	<32	<28	<33	NA	NA	NA	NA	NA	1,500		---	---
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	46	<28	34	<27	206	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	51	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
Xylenes (total)	µg/kg	NA	NA	NA	NA	NA	NA	NA	100	<39	<39	<38	583	<44	<39	<46	NA	NA	NA	NA	NA	4,100		---	---
Naphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	934	51	266	<27	364	<32	29	<33	NA	NA	NA	NA	NA	NS		---	---
n-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
Chlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		26,000[inh]	75
1,2-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		610,000[inh]	910
1,4-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		2,660[ing]	230
1,2-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	4.9		---	---
Isopropylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	44	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
p-Isopropyltoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
n-Propylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		---	---
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	<29	<28	<28	<27	<30	<32	<28	<33	NA	NA	NA	NA	NA	NS		36,000[inh]	540
PAHs/Detected SVOCs																						**DC RCL[6]**	**GW RCL[7]**		
Acenaphthene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	980	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	900,000	38,000	---	---
Acenaphthylene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	<380	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	18,000	700	---	---
Anthracene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	2,400	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	5,000,000	3,000,000	---	---
Benzo(a)anthracene	µg/kg	NA	NA	<430	**1,400**	<1,200	NA	<350	**4,200**	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	88	17,000	---	---
Benzo(a)pyrene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	<380	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	8.8	48,000	---	---
Benzo(b)fluoranthene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	**3,300**	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	88	360,000	---	---
Benzo(ghi)perylene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	<380	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	1,800	6,800,000	---	---
Benzo(k)fluoranthene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	**2,500**	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	880	870,000	---	---
Chrysene	µg/kg	NA	NA	<430	1,500	<1,200	NA	<350	4,200	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	8,800	37,000	---	---
Dibenzo(a,h)anthracene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	<380	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	8.8	38,000	---	---
Fluoranthene	µg/kg	NA	NA	<430	3,400	<1,200	NA	<350	9,600	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	600,000	500,000	---	---
Fluorene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	1,000	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	600,000	100,000	---	---
Indeno(1,2,3-cd)pyrene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	**1,600**	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	88	680,000	---	---
1-Methylnaphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,100,000	23,000	---	---
2-Methylnaphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	600,000	20,000	---	---
Naphthalene	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	***420***	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	20,000	400	---	---
Phenanthrene	µg/kg	NA	NA	<430	***3,600***	<1,200	NA	<350	***8,200***	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	18,000	1,800	---	---
Pyrene	µg/kg	NA	NA	<430	2,900	<1,200	NA	<350	7,600	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	500,000	8,700,000	---	---
Pentachlorophenol	µg/kg	NA	NA	<430	<1,300	<1,200	NA	<350	<380	NA	NA	NA	NA	NA	NA	NA	<440	<790	<400	<400	<360	NS	NS	266[dc]	1.5
Inorganics																						**NR 720 RCL[b]**			
Nitrate + Nitrite	mg/kg	NA	NA	<2.6	NA	NA	<2.5	13	NA	NA	NA	NA	<2.4	NA	NA	NA	4.6	4.2	NA	NA	NA	NS		---	---

Table 2
Soil Quality Results (Site Investigation)
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Soil Sample Location:		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	GP-17		GP-18		GP-19		GP-20		GP-21	GP-22	GP-23	GP-24	GP-25			
Sample Depth (feet bgs):		---	---	2 - 4	2 - 4	2 - 4	2 - 4	0 - 2	2 - 4	4 - 6	2 - 4	4 - 6	0 - 2	4 - 6	2 - 4	4 - 6	2 - 4	0 - 2	2 - 4	2 - 4	2 - 4	NR 720 RCL[5]	PRG [9]	SSL [10]
Pesticides																								
Aldrin	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	29	500
a-BHC	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	NS	NS
b-BHC	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	NS	NS
d-BHC	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	NS	NS
g-BHC (Lindane)	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	NS	NS
Chlordane	µg/kg	NA	NA	<43	NA	NA	<4.3	<3.6	NA	NA	NA	NA	<20	NA	NA	NA	<4.6	<48	NA	NA	NA	NS	1,600	10,000
4,4'-DDD	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	2,400	16,000
4,4'-DDE	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	1,700	54,000
4,4'-DDT	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	1,700	32,000
Dieldrin	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	30	4
Endosulfan I	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	370,000	18,000
Endosulfan II	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	370,000	18,000
Endosulfan Sulfate	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	NS	NS
Endrin	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	18,000	1,000
Endrin Aldehyde	µg/kg	NA	NA	<42	NA	NA	<4.1	<6.8	NA	NA	NA	NA	<21	NA	NA	NA	<4.4	<47	NA	NA	NA	NS	NS	NS
Heptachlor	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	110	23,000
Heptachlor Epoxide	µg/kg	NA	NA	<22	NA	NA	<2.1	<3.5	NA	NA	NA	NA	<10	NA	NA	NA	<2.3	<25	NA	NA	NA	NS	53	700
Methoxychlor	µg/kg	NA	NA	<220	NA	NA	<21	<35	NA	NA	NA	NA	<100	NA	NA	NA	<23	<250	NA	NA	NA	NS	310,000	160,000
Toxaphene	µg/kg	NA	NA	<4,200	NA	NA	<410	<700	NA	NA	NA	NA	<2,100	NA	NA	NA	<440	<4,700	NA	NA	NA	NS	440	31,000
Herbicides																								
2,4-D	mg/kg	NA	NA	<0.22	NA	NA	<0.21	<0.18	NA	NA	NA	NA	<0.21	NA	NA	NA	1.1	<0.20	NA	NA	NA	NS	690	NS
2,4,5-TP (Silvex)	mg/kg	NA	NA	<0.022	NA	NA	<0.021	<0.018	NA	NA	NA	NA	<0.021	NA	NA	NA	<0.023	<0.020	NA	NA	NA	NS	490	NS
PCBs																								
Arochlor 1016	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	3,900	NS
Arochlor 1221	µg/kg	NA	NA	<42	NA	NA	<41	<35	NA	NA	NA	NA	<51	NA	NA	NA	<44	<38	NA	NA	NA	NS	220	NS
Arochlor 1232	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	220	NS
Arochlor 1242	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	220	NS
Arochlor 1248	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	220	NS
Arochlor 1254	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	220	NS
Arochlor 1260	µg/kg	NA	NA	<22	NA	NA	<21	<18	NA	NA	NA	NA	<25	NA	NA	NA	<23	<20	NA	NA	NA	NS	220	NS

Notes:
1. All VOCs reported below laboratory detection limits in methanol blank sample submitted with November 2004 soil samples.
2. mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
4. NA = not analyzed
5. NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level.
6. DC RCL = Interim guidance RCL for protection of direct contact with PAH compounds (non-industrial land use), from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
7. GW RCL = Interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
8. Calculated RCL = Residual Contaminant Level calculated in accordance with WDNR default values on EPA Soil Screening Level Web Site as described in WDNR PUB-RR-682 (January 11, 2002)
   Direct Contact RCL shown is lowest calculated RCL of Ingestion (^{ing}), Particulate Inhalation, Volatile Inhalation (^{inh}), or dermal contact (^{dc}) pathways.
9. PRG = US EPA Region IX Preliminary Remediation Goal for residential soil
10. SSL = US EPA Region IX Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20
11. NS = no standard established
12. Exceedances: **bold, box** = concentration exceeds NR 720 RCL for PVOCs/VOCs (migration to groundwater pathway) or DC RCL for PAHs
    bold, italics = concentration exceeds GW RCL for PAHs

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-106**							**MW-107**									**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/12/05	4/13/05	7/20/05	**ES**	**PAL**
PVOCs/Detected VOCs																			
Benzene	µg/L	NA	NA	<0.291	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	NA	NA	<0.317	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<5.00	<0.20	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	NA	NA	<10.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<10.00	<0.40	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	<0.299	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	NA	NA	<0.356	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	NA	NA	<5.00	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	2.36 "L,B"	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	<8.00	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<8.00	<0.25	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	<0.364	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	NA	NA	<0.312	Dry	Dry	Dry	Dry	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	0.2	0.02
PAHs																			
Acenaphthene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.34	<5.00	<0.032	<0.016	NS	NS
Acenaphthylene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.71	<5.00	<0.015	<0.012	NS	NS
Anthracene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.039	<5.00	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	ND	ND	<0.100	Dry	Dry	Dry	Dry	ND	ND	0.0097 "J"	ND	<0.100	<0.045	<0.100	<0.009	<0.012	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	<0.0200	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<0.0200	<0.033	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	<0.0200	Dry	Dry	Dry	Dry	ND	ND	ND	ND	***0.0384***	<0.10	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.12	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	<0.100	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<0.100	<0.050	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	ND	ND	<0.0200	Dry	Dry	Dry	Dry	ND	ND	***0.037***	ND	***0.0248***	<0.042	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	<0.100	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	ND	ND	5.05	Dry	Dry	Dry	Dry	ND	ND	0.045 "J"	ND	<5.00	<0.083	<5.00	<0.011	<0.011	400	80
Fluorene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.064	<5.00	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	<0.200	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<0.200	<0.064	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	3.6	ND	ND	ND	<5.00	<0.33	<5.00	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	5.1	ND	0.12 "J"	ND	<5.00	<0.32	<5.00	<0.03	<0.021	NS	NS
Naphthalene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	1.5	ND	ND	<5.00	<0.41	<5.00	<0.023	<0.028	40	8
Phenanthrene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	ND	ND	<5.00	<0.031	<5.00	<0.011	<0.011	NS	NS
Pyrene	µg/L	ND	ND	<5.00	Dry	Dry	Dry	Dry	ND	ND	0.026 "J"	ND	<5.00	<0.045	<5.00	<0.01	<0.01	250	50
Dissolved Metals																			
Arsenic	µg/L	NA	NA	NA	Dry	Dry	Dry	Dry	NA	NA	ND	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	NA	Dry	Dry	Dry	Dry	NA	NA	330	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	NA	Dry	Dry	Dry	Dry	NA	NA	ND	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**925**	Dry	Dry	Dry	Dry	NA	NA	**1,600**	**860**	**1,640**	**6,900**	**773**	**900**	**660**	300*	150*
Manganese	µg/L	NA	NA	**430**	Dry	Dry	Dry	Dry	NA	**840**	**540**	**480**	**444**	**400**	**163**	**360**	**340**	50*	25*
Inorganics																			
Ammonia	mg/L	NA	NA	0.332	Dry	Dry	Dry	Dry	NA	NA	3.7	NA	1.44	1.7	0.343	1.7	2.9	NS	NS
Chloride	mg/L	NA	NA	**378**	Dry	Dry	Dry	Dry	NA	***221***	**250**	**260**	75.0	72	50.0	100	101	250*	125*
Nitrate + Nitrite	mg/L	NA	NA	<0.0500	Dry	Dry	Dry	Dry	NA	NA	0.18	NA	0.155	0.048	0.0800	<0.03	<0.03	10	2
Sulfate	mg/L	NA	NA	***147***	Dry	Dry	Dry	Dry	NA	**540**	**650**	**740**	**588**	***140***	***200***	***160***	118	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-108**					**MW-108R**					**SUMP-1**						**NR 140**	**NR 140**
Analytes	Date:	11/92	4/95	1/97	12/98	2/00	10/12/04	1/12/05	4/13/05	7/20/05	7/05 Dup 2	5/21/03	5/03 Dup 2	10/12/04	1/12/05	4/13/05	7/20/05	**ES**	**PAL**
PVOCs/Detected VOCs																			
Benzene	µg/L	NA	ND	ND	ND	NA	<0.20	<0.500	<0.26	<0.26	<0.26	<0.291	<0.291	NA	NA	NA	NA	5	0.5
Ethylbenzene	µg/L	NA	ND	ND	ND	NA	<0.50	<5.00	<0.3	<0.3	<0.3	<5.00	<5.00	NA	NA	NA	NA	700	140
Methyl-tert-butyl-ether	µg/L	NA	ND	ND	ND	NA	<0.50	<0.290	<0.36	<0.36	<0.36	<0.317	<0.317	NA	NA	NA	NA	60	12
Toluene	µg/L	NA	ND	ND	ND	NA	<0.20	<5.00	<0.52	<0.52	<0.52	<5.00	<5.00	NA	NA	NA	NA	1,000	200
1,2,4-Trimethylbenzene	µg/L	NA	ND	ND	ND	NA	<0.20	<5.00	<0.32	<0.32	<0.32	<5.00	<5.00	NA	NA	NA	NA	NS	NS
1,3,5-Trimethylbenzene	µg/L	NA	ND	ND	ND	NA	<0.20	<5.00	<0.83	<0.83	<0.83	<5.00	<5.00	NA	NA	NA	NA	NS	NS
Total Trimethylbenzene	µg/L	NA	ND	ND	ND	NA	<0.40	<10.00	<1.15	<1.15	<1.15	<10.00	<10.00	NA	NA	NA	NA	480	96
Xylenes, Total	µg/L	NA	ND	ND	ND	NA	<0.50	<5.00	<1.17	<1.17	<1.17	<5.00	<5.00	NA	NA	NA	NA	10,000	1,000
Chloroform	µg/L	NA	NA	NA	ND	NA	<0.20	<0.316	<0.78	<0.78	<0.78	<0.299	<0.299	NA	NA	NA	NA	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	NA	ND	NA	<0.50	<5.0	<0.91	<0.91	<0.91	<5.00	<5.00	NA	NA	NA	NA	850	85
1,2-Dichloroethane	µg/L	NA	NA	NA	ND	NA	<0.50	<0.500	<0.25	<0.25	<0.25	<0.356	<0.356	NA	NA	NA	NA	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	ND	NA	<0.50	<5.00	<0.27	<0.27	<0.27	<5.00	<5.00	NA	NA	NA	NA	70	7
p-Isopropyltoluene	µg/L	NA	NA	NA	ND	NA	7.6	<5.00	1.7	1.6	1.8	<5.00	<5.00	NA	NA	NA	NA	NS	NS
Methylene Chloride	µg/L	NA	NA	NA	ND	NA	<1.0	<0.386	<0.55	<0.55	<0.55	<1.75	<1.75	NA	NA	NA	NA	5	0.5
Naphthalene	µg/L	NA	NA	NA	ND	NA	<0.25	<8.00	<0.85	<0.85	<0.85	<8.00	<8.00	NA	NA	NA	NA	40	8
Trichloroethene	µg/L	NA	NA	NA	ND	NA	<0.20	<0.500	<0.37	<0.37	<0.37	<0.475	<0.475	NA	NA	NA	NA	5	0.5
Vinyl Chloride	µg/L	NA	NA	NA	ND	NA	<0.20	<0.217	<0.16	<0.16	<0.16	<0.312	<0.312	NA	NA	NA	NA	0.2	0.02
PAHs																			
Acenaphthene	µg/L	ND	ND	ND	ND	0.21	<0.33	<5.00	<0.032	<0.016	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	<0.69	<5.00	<0.015	<0.012	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	ND	<0.038	<5.00	<0.013	<0.013	NA	<5.00	NA	NA	NA	NA	NA	3,000	300
Benz(a)anthracene	µg/L	ND	ND	ND	ND	ND	<0.044	<0.100	<0.009	<0.012	NA	<0.100	NA	NA	NA	NA	NA	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	<0.032	<0.0200	<0.008	<0.008	NA	<0.0200	NA	NA	NA	NA	NA	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	ND	<0.098	<0.0200	<0.009	<0.009	NA	<0.0200	NA	NA	NA	NA	NA	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	ND	<0.12	<5.00	<0.01	<0.01	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	ND	<0.049	<0.100	<0.024	<0.009	NA	<0.100	NA	NA	NA	NA	NA	NS	NS
Chrysene	µg/L	ND	ND	ND	ND	ND	<0.041	<0.0200	<0.011	<0.011	NA	<0.0200	NA	NA	NA	NA	NA	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	ND	<0.13	<0.100	<0.009	<0.009	NA	<0.100	NA	NA	NA	NA	NA	NS	NS
Fluoranthene	µg/L	ND	ND	ND	ND	ND	<0.081	<5.00	<0.011	<0.011	NA	<5.00	NA	NA	NA	NA	NA	400	80
Fluorene	µg/L	ND	ND	ND	ND	ND	<0.062	<5.00	<0.015	<0.015	NA	<5.00	NA	NA	NA	NA	NA	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	ND	<0.062	<0.200	<0.015	<0.015	NA	<0.200	NA	NA	NA	NA	NA	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	ND	ND	<0.32	<5.00	<0.018	<0.018	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	ND	<0.31	<5.00	<0.03	<0.021	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
Naphthalene	µg/L	ND	ND	ND	ND	ND	<0.40	<5.00	<0.023	<0.028	NA	<5.00	NA	NA	NA	NA	NA	40	8
Phenanthrene	µg/L	ND	ND	0.17	ND	ND	<0.030	<5.00	<0.011	<0.011	NA	<5.00	NA	NA	NA	NA	NA	NS	NS
Pyrene	µg/L	ND	ND	ND	ND	0.037	<0.044	<5.00	<0.01	<0.01	NA	<5.00	NA	NA	NA	NA	NA	250	50
Dissolved Metals																			
Arsenic	µg/L	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	NA	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	NA	***1.1 "J"***	**15**	<0.14	<5.00	***2.9 "J"***	<0.7	NA	<5	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	NA	**9,200**	**95,000**	**5,100**	**4,980**	**13,000**	**7,970**	NA	**6,470**	NA	NA	NA	**46,000**	**35,900**	300*	150*
Manganese	µg/L	NA	NA	**2,120**	**3,400**	**5,000**	**420**	**360**	**370**	**350**	NA	**2,990**	NA	NA	NA	**1,200**	**770**	50*	25*
Inorganics																			
Ammonia	mg/L	NA	2.17	NA	120	77	0.49	0.572	1.5	2.9	NA	7.21	NA	3.7	3.83	4.3	3.6	NS	NS
Chloride	mg/L	NA	NA	**6,580**	**32,000**	**37,000**	**330**	**315**	**480**	**477**	NA	**3,000**	NA	**5,920**	**9,500**	**8,900**	**7,890**	250*	125*
Nitrate + Nitrite	mg/L	NA	**1,270**	**1,170**	**41**	1.6	0.035	0.211	<0.03	0.33	NA	<0.0500	NA	0.044 "J"	0.124	0.07	0.36	10	2
Sulfate	mg/L	NA	NA	**820**	**4,600**	**3,300**	***220***	***170***	**290**	**269**	NA	***200***	NA	NA	NA	**2,000**	**2,140**	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-109**					**MW-109R**				**MW-110A**					**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	11/92	1/97	12/98	2/00	5/21/03	**ES**	**PAL**
PVOCs/Detected VOCs																	
Benzene	µg/L	ND	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	ND	ND	ND	NA	<0.291	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	ND	ND	ND	NA	<5.00	700	140
Methyl-tert-butyl-ether	µg/L	ND	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	ND	ND	ND	NA	<0.317	60	12
Toluene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	ND	ND	ND	NA	<5.00	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.32	<0.32	ND	ND	ND	NA	<5.00	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	ND	ND	ND	NA	<5.00	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	<0.40	<10.00	<1.15	<1.15	ND	ND	ND	NA	<10.00	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	ND	ND	ND	NA	<5.00	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	NA	NA	ND	NA	<0.299	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	NA	NA	ND	NA	<5.00	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	NA	NA	ND	NA	<0.356	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	NA	NA	ND	NA	<5.00	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	NA	NA	ND	NA	<5.00	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	NA	NA	ND	NA	<1.75	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	<0.25	<8.00	<0.85	<0.85	NA	NA	ND	NA	<8.00	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	NA	NA	ND	NA	<0.475	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	NA	NA	ND	NA	<0.312	0.2	0.02
PAHs																	
Acenaphthene	µg/L	ND	ND	ND	ND	<5.00	<0.33	<5.00	<0.032	<0.016	ND	ND	ND	ND	<5.00	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	<5.00	<0.69	<5.00	<0.015	<0.012	ND	ND	ND	ND	<5.00	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	<5.00	<0.038	<5.00	<0.013	<0.013	0.4	ND	ND	ND	<5.00	3,000	300
Benz(a)anthracene	µg/L	ND	ND	0.026 "J"	0.038	<0.100	<0.044	<0.100	<0.009	<0.012	1.1	ND	ND	ND	<0.100	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	***0.048***	***0.040***	***0.0311***	<0.032	<0.0200	<0.008	<0.008	**1.0**	ND	ND	ND	<0.0200	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	***0.047***	***0.0424***	<0.098	<0.0200	<0.009	<0.009	ND	ND	ND	ND	<0.0200	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	0.035 "J"	0.034	<5.00	<0.12	<5.00	<0.01	<0.01	1.5	ND	ND	ND	<5.00	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	0.028	<0.100	<0.049	<0.100	<0.024	<0.009	ND	ND	ND	ND	<0.100	NS	NS
Chrysene	µg/L	ND	ND	***0.033***	***0.046***	***0.0520***	<0.041	<0.0200	<0.011	<0.011	ND	ND	ND	ND	<0.0200	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	<0.009	ND	ND	ND	ND	<0.100	NS	NS
Fluoranthene	µg/L	ND	ND	ND	0.100	<5.00	<0.081	<5.00	<0.011	<0.011	4.6	0.24	ND	ND	<5.00	400	80
Fluorene	µg/L	ND	ND	ND	ND	<5.00	<0.062	<5.00	<0.015	<0.015	0.7	ND	ND	ND	<5.00	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	0.036	<0.200	<0.062	<0.200	<0.015	<0.015	1.0	ND	ND	ND	<0.200	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	0.12 "J"	ND	<5.00	<0.32	<5.00	<0.018	<0.018	2.8	ND	ND	ND	<5.00	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	0.17	ND	<5.00	<0.31	<5.00	<0.03	<0.021	ND	ND	ND	ND	<5.00	NS	NS
Naphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.40	<5.00	<0.023	<0.028	ND	ND	ND	ND	<5.00	40	8
Phenanthrene	µg/L	ND	ND	ND	0.063	<5.00	<0.030	<5.00	<0.011	<0.011	2.7	ND	ND	ND	<5.00	NS	NS
Pyrene	µg/L	ND	ND	ND	0.099	<5.00	<0.044	<5.00	<0.01	<0.01	4.5	ND	ND	ND	<5.00	250	50
Dissolved Metals																	
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	***8.0 "J"***	ND	<50	10	1
Barium	µg/L	NA	NA	51	NA	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	5	0.5
Iron	µg/L	NA	NA	**6,100**	**6,400**	**4,980**	**2,000**	**452**	**580**	**480**	NA	NA	**15,000**	**13,000**	**8,610**	300*	150*
Manganese	µg/L	NA	**220**	**390**	**190**	**355**	**230**	**280**	**310**	**370**	NA	**770**	**1,000**	**700**	**1,040**	50*	25*
Inorganics																	
Ammonia	mg/L	NA	NA	NA	NA	0.167	<0.10	0.127	0.75	0.75	NA	NA	NA	NA	0.725	NS	NS
Chloride	mg/L	NA	18	9.1	NA	4.00	73	66.5	75	78.2	NA	13	7.5	NA	3.00	250*	125*
Nitrate + Nitrite	mg/L	NA	ND	NA	NA	0.0610	0.032	<0.0500	0.04 "J"	<0.03	NA	ND	NA	NA	0.113	10	2
Sulfate	mg/L	NA	95	36	45	***176***	**300**	**271**	**300**	**355**	NA	93	66	57	69.6	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		MW-111					MW-111R					MW-112						MW-112R					NR 140	NR 140
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/12/05	4/13/05	4/05 Dup 1	7/19/05	11/92	1/97	12/98	3/99	2/00	5/21/03	10/12/04	1/12/05	1/05 Dup 2	4/13/05	7/20/05	**ES**	**PAL**
PVOCs/Detected VOCs																								
Benzene	µg/L	ND	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	<0.26	ND	ND	ND	NA	NA	<0.291	<0.20	<0.500	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	<0.3	ND	ND	ND	NA	NA	<5.00	<0.50	<5.00	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	5.3	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	<0.36	ND	ND	ND	NA	NA	<0.317	<0.50	<0.290	<0.511	<0.36	<0.36	60	12
Toluene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	<0.52	ND	ND	ND	NA	NA	<5.00	<0.20	<5.00	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.32	<0.32	<0.32	ND	ND	ND	NA	NA	<5.00	<0.20	<5.00	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	<0.83	ND	ND	ND	NA	NA	<5.00	<0.20	<5.00	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	<0.40	<10.00	<1.15	<1.15	<1.15	ND	ND	ND	NA	NA	<10.00	<0.40	<10.00	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	<1.17	ND	ND	ND	NA	NA	<5.00	<0.50	<5.00	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	<0.78	NA	NA	ND	NA	NA	<0.299	***4.7***	<0.316	NA	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	<0.91	NA	NA	ND	NA	NA	<5.00	<0.50	<5.0	NA	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	<0.25	NA	NA	ND	NA	NA	<0.356	<0.50	<0.500	NA	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	<0.27	NA	NA	ND	NA	NA	<5.00	<0.50	<5.00	NA	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	<0.5	NA	NA	ND	NA	NA	<5.00	<0.20	<5.00	NA	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	<0.55	NA	NA	ND	NA	NA	<1.75	<1.0	<0.386	NA	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	3.6	<8.00	<0.85	<0.85	<0.85	NA	NA	ND	NA	NA	<8.00	<0.25	<8.00	NA	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	<0.37	NA	NA	ND	NA	NA	<0.475	<0.20	<0.500	NA	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	<0.16	NA	NA	ND	NA	NA	<0.312	<0.20	<0.217	NA	<0.16	<0.16	0.2	0.02
PAHs																				NA				
Acenaphthene	µg/L	ND	ND	ND	ND	<5.00	<0.33	<5.00	0.017 "J"	NA	0.020 "J"	ND	ND	ND	NA	NA	<5.00	<0.34	<5.00	NA	<0.032	<0.016	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	<5.00	<0.69	<5.00	<0.015	NA	0.016 "J"	ND	ND	ND	NA	NA	<5.00	<0.70	<5.00	NA	<0.015	<0.012	NS	NS
Anthracene	µg/L	1.4	0.22	ND	ND	<5.00	<0.038	<5.00	<0.013	NA	<0.013	ND	ND	ND	NA	NA	<5.00	<0.039	<5.00	NA	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	3.7	0.71	ND	0.021	<0.100	<0.044	<0.100	<0.009	NA	<0.012	0.3	ND	ND	NA	NA	<0.100	<0.045	<0.100	NA	<0.009	<0.012	NS	NS
Benzo(a)pyrene	µg/L	**3.6**	**0.66**	ND	***0.022***	***0.0247***	<0.032	***0.0971***	<0.008	NA	<0.008	ND	ND	ND	NA	NA	<0.0200	<0.033	<0.0200	NA	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	**1.3**	**0.43**	ND	ND	***0.0318***	<0.098	***0.0647***	<0.009	NA	<0.009	ND	ND	ND	NA	NA	<0.0200	<0.10	<0.0200	NA	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	2.8	ND	ND	ND	<5.00	<0.12	<5.00	<0.01	NA	<0.01	ND	ND	ND	NA	NA	<5.00	<0.12	<5.00	NA	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	2.1	ND	ND	ND	<0.100	<0.049	<0.100	<0.024	NA	<0.009	ND	ND	ND	NA	NA	<0.100	<0.050	<0.100	NA	<0.024	<0.009	NS	NS
Chrysene	µg/L	**3.3**	**0.45**	ND	***0.024***	***0.0535***	<0.041	***0.0641***	<0.011	NA	<0.011	**0.2**	ND	ND	NA	NA	<0.0200	<0.042	<0.0200	NA	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	NA	<0.009	ND	ND	ND	NA	NA	<0.100	<0.13	<0.100	NA	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	15	1.4	ND	0.051	<5.00	<0.081	<5.00	<0.011	NA	<0.011	ND	ND	ND	NA	NA	<5.00	<0.083	<5.00	NA	<0.011	<0.011	400	80
Fluorene	µg/L	ND	ND	ND	ND	<5.00	<0.062	<5.00	<0.015	NA	<0.015	ND	ND	ND	NA	NA	<5.00	<0.063	<5.00	NA	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	2.4	0.36	ND	0.013	<0.200	<0.062	<0.200	<0.015	NA	<0.015	ND	ND	ND	NA	NA	<0.200	<0.063	<0.200	NA	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.32	<5.00	0.039 "J"	NA	0.022 "J"	ND	ND	ND	NA	NA	<5.00	<0.33	<5.00	NA	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.31	<5.00	0.042 "J"	NA	0.026 "J"	ND	ND	ND	NA	NA	<5.00	<0.32	<5.00	NA	<0.03	<0.021	NS	NS
Naphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.40	<5.00	0.21	NA	0.13	0.3	ND	ND	NA	NA	<5.00	<0.41	<5.00	NA	<0.023	<0.028	40	8
Phenanthrene	µg/L	6.4	0.65	ND	0.043	<5.00	<0.030	<5.00	0.017 "J"	NA	<0.011	0.6	ND	ND	NA	NA	<5.00	<0.031	<5.00	NA	<0.011	<0.011	NS	NS
Pyrene	µg/L	14	1.7	ND	0.059	<5.00	<0.044	<5.00	<0.01	NA	<0.01	1.0	ND	ND	NA	NA	<5.00	<0.045	<5.00	NA	<0.01	<0.01	250	50
Dissolved Metals																								
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	42	NA	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	***1.1 "J"***	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**530**	**720**	106	140	**767**	**2,300**	NA	**1,490**	NA	NA	9.2	NA	NA	<100	<42	<100	NA	73 "J"	30 "J"	300*	150*
Manganese	µg/L	NA	**420**	**310**	**450**	**182**	**630**	**822**	**1,100**	NA	**900**	NA	**240**	**250**	NA	**230**	**250**	**100**	**126**	NA	**120**	**130**	50*	25*
Inorganics																								
Ammonia	mg/L	NA	NA	NA	NA	<0.100	<0.10	0.177	0.83	NA	0.83	NA	NA	11	22	6.0	2.59	6.2	3.40	NA	1.3	2.5	NS	NS
Chloride	mg/L	NA	12	5.4	NA	9.00	55	76.5	100	NA	102	NA	102	***210***	NA	62	23.5	33	34.0	NA	32	36.7	250*	125*
Nitrate + Nitrite	mg/L	NA	ND	NA	NA	0.0500	1.0	0.359	<0.03	NA	0.61	NA	**13**	**870**	**19**	**19**	***2.41***	0.51	0.148	NA	1.17	0.50	10	2
Sulfate	mg/L	NA	120	59	64	83.5	**290**	**261**	**390**	NA	102	NA	**520**	**260**	NA	***200***	**307**	110	***181***	NA	**390**	**277**	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-113**					**MW-113R**					**MW-114**										**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	10/12/04	10/04 Dup 1	1/11/05	4/13/05	7/20/05	11/92	1/97	12/98	2/00	5/21/03	5/03 Dup 1	10/12/04	1/11/05	4/13/05	7/19/05	**ES**	**PAL**
PVOCs/Detected VOCs																							
Benzene	µg/L	ND	ND	ND	NA	<0.291	<0.20	<0.20	<0.500	<0.26	<0.26	ND	ND	ND	NA	<0.291	<0.291	<020	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.50	<0.50	<5.00	<0.3	<0.3	ND	ND	ND	NA	<5.00	<5.00	<0.50	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	6.4	ND	ND	NA	<0.317	<0.50	<0.50	<0.290	<0.36	<0.36	ND	ND	ND	NA	<0.317	<0.317	<0.50	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<0.20	<5.00	<0.52	<0.52	ND	ND	ND	NA	<5.00	<5.00	<0.20	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<0.20	<5.00	<0.32	<0.32	ND	ND	ND	NA	<5.00	<5.00	<0.20	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<0.20	<5.00	<0.83	<0.83	ND	ND	ND	NA	<5.00	<5.00	<0.20	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	<0.40	<0.40	<10.00	<1.15	<1.15	ND	ND	ND	NA	<10.00	<10.00	<0.40	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	<0.50	<0.50	<5.00	<1.17	<1.17	ND	ND	ND	NA	<5.00	<5.00	<0.50	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	<0.20	<0.20	<0.316	<0.78	<0.78	NA	NA	ND	NA	<0.299	<0.299	<0.20	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	<0.50	<0.50	<5.0	<0.91	<0.91	NA	NA	ND	NA	<5.00	<5.00	<0.50	<5.0	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	<0.50	<0.50	<0.500	<0.25	<0.25	NA	NA	ND	NA	<0.356	<0.356	<0.50	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	<0.50	<0.50	<5.00	<0.27	<0.27	NA	NA	ND	NA	<5.00	<5.00	<0.50	<5.00	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	<0.20	<0.20	<5.00	<0.5	<0.5	NA	NA	ND	NA	<5.00	<5.00	<0.20	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	<1.0	<1.0	<0.386	<0.55	<0.55	NA	NA	ND	NA	<1.75	<1.75	<1.0	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	<0.25	<0.25	<8.00	<0.85	<0.85	NA	NA	ND	NA	<8.00	<8.00	<0.25	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	<0.20	<0.20	<0.500	<0.37	<0.37	NA	NA	ND	NA	<0.475	<0.475	<0.20	<0.500	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	<0.20	<0.20	<0.217	<0.16	<0.16	NA	NA	ND	NA	<0.312	<0.312	<0.20	<0.217	<0.16	<0.16	0.2	0.02
PAHs																							
Acenaphthene	µg/L	ND	ND	ND	ND	<5.00	<0.33	NA	<5.00	<0.032	<0.016	ND	ND	ND	0.25	<5.00	NA	<0.33	<5.00	<0.032	0.028 "J"	NS	NS
Acenaphthylene	µg/L	4.9	ND	ND	ND	<5.00	<0.69	NA	<5.00	<0.015	<0.012	ND	ND	ND	ND	<5.00	NA	<0.69	<5.00	<0.015	<0.012	NS	NS
Anthracene	µg/L	8.9	0.21	0.035 "J"	ND	<5.00	<0.038	NA	<5.00	<0.013	<0.013	1.9	ND	ND	ND	<5.00	NA	<0.038	<5.00	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	10.0	0.93	0.023 "J"	ND	<0.100	<0.044	NA	<0.100	<0.009	<0.012	2.9	ND	ND	ND	1.03	NA	<0.044	<0.100	<0.009	0.016 "J"	NS	NS
Benzo(a)pyrene	µg/L	**9.5**	ND	***0.031 "J"***	ND	<0.0200	<0.032	NA	<0.0200	<0.008	<0.008	**2.0**	ND	ND	ND	**1.10**	NA	<0.032	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	**5.7**	ND	0.017 "J"	ND	***0.0206***	<0.098	NA	<0.0200	<0.009	<0.009	ND	ND	ND	ND	**0.736**	NA	<0.098	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	6.1	ND	ND	ND	<5.00	<0.12	NA	<5.00	<0.01	<0.01	1.7	ND	ND	ND	<5.00	NA	<0.12	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	3.5	ND	ND	ND	<0.100	<0.049	NA	<0.100	<0.024	<0.009	0.8	ND	ND	ND	0.394	NA	<0.049	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	**6.8**	0.34	***0.021 "J"***	ND	***0.0309***	<0.041	NA	<0.0200	<0.011	<0.011	**1.8**	ND	ND	ND	**1.20**	NA	<0.041	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	NA	<0.100	<0.009	<0.009	ND	ND	ND	ND	<0.100	NA	<0.13	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	42	1.2	0.068	0.046	<5.00	<0.081	NA	<5.00	<0.011	<0.011	13	ND	0.025 "J"	ND	<5.00	NA	<0.081	<5.00	<0.011	0.016 "J"	400	80
Fluorene	µg/L	11	ND	ND	ND	<5.00	<0.062	NA	<5.00	<0.015	<0.015	2.8	ND	ND	ND	<5.00	NA	<0.062	<5.00	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	5.7	ND	0.033 "J"	ND	<0.200	<0.62	NA	<0.200	<0.015	<0.015	1.7	ND	ND	ND	0.843	NA	<0.062	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	6.8	ND	ND	ND	<5.00	<0.32	NA	<5.00	<0.018	<0.018	2.8	ND	ND	ND	<5.00	NA	<0.32	<5.00	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.31	NA	<5.00	<0.03	<0.021	ND	ND	ND	ND	<5.00	NA	<0.31	<5.00	<0.03	<0.021	NS	NS
Naphthalene	µg/L	***29***	ND	ND	ND	<5.00	<0.40	NA	<5.00	<0.023	<0.028	6.4	ND	ND	ND	<5.00	NA	<0.40	<5.00	0.030 "J"	<0.028	40	8
Phenanthrene	µg/L	35	0.51	0.050 "J"	ND	<5.00	<0.030	NA	<5.00	<0.011	<0.011	8.3	ND	0.23	ND	<5.00	NA	<0.030	<5.00	<0.011	<0.011	NS	NS
Pyrene	µg/L	46	1.0	0.058	0.035	<5.00	<0.044	NA	<5.00	<0.01	<0.01	15	ND	0.022 "J"	0.024	<5.00	NA	<0.044	<5.00	<0.01	0.011 "J"	250	50
Dissolved Metals																							
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	81	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**16,000**	**9,600**	**11,400**	**5,500**	NA	**4,400**	**6,000**	**6,800**	NA	NA	**6,000**	**2,100**	**6,510**	NA	**28,000**	**9,750**	**17,000**	**410**	300*	150*
Manganese	µg/L	NA	**460**	**670**	**570**	**720**	**430**	NA	**452**	**540**	**570**	NA	**320**	**270**	**150**	**684**	NA	**660**	**450**	**390**	**410**	50*	25*
Inorganics																							
Ammonia	mg/L	NA	NA	0.68	NA	1.27	2.6	NA	2.66	2.8	3.2	NA	NA	0.51	NA	21.6	NA	1.1	0.503	1.0	2.5	NS	NS
Chloride	mg/L	NA	63	60	27	17.0	22	NA	24.0	24	28.4	NA	21	38	18	7.00	NA	82	47.0	40	29.8	250*	125*
Nitrate + Nitrite	mg/L	NA	ND	ND	NA	<0.0500	<0.024	NA	<0.0500	<0.03	<0.03	NA	ND	ND	NA	0.153	NA	0.21	0.141	<0.03	0.31	10	2
Sulfate	mg/L	NA	**330**	**790**	**490**	**517**	**480**	NA	**454**	**440**	**494**	NA	20	14	80	***241***	NA	55	68.1	49	87.9	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-115**									**PZ-115A**											**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	4/05 Dup 2	7/19/05	7/05 Dup 1	**ES**	**PAL**
PVOCs/Detected VOCs																							
Benzene	µg/L	ND	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	ND	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	ND	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	1.7	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	ND	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	<0.36	<0.36	60	12
Toluene	µg/L	ND	ND	ND	NA	<5.00	1.0	<5.00	<0.52	<0.52	5.8	ND	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	0.44 "J"	<5.00	<0.32	<0.32	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.32	<0.32	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	0.44	<10.00	<1.15	<1.15	ND	ND	ND	NA	<10.00	<0.40	<10.00	<1.15	<1.15	<1.15	<1.15	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	ND	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	<0.25	<8.00	<0.85	<0.85	NA	NA	ND	NA	<8.00	<0.25	<8.00	<0.85	<0.85	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	<0.16	<0.16	0.2	0.02
PAHs																							
Acenaphthene	µg/L	4.7	3.5	2.1	ND	<5.00	<0.33	<5.00	<0.032	0.042 "J"	ND	ND	ND	NA	<5.00	<0.35	<5.00	<0.032	NA	<0.016	NA	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	<5.00	<0.69	<5.00	<0.015	0.016 "J"	ND	ND	ND	NA	<5.00	<0.72	<5.00	<0.015	NA	<0.012	NA	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	<5.00	<0.038	<5.00	<0.013	<0.013	ND	ND	ND	NA	<5.00	<0.040	<5.00	<0.013	NA	<0.013	NA	3,000	300
Benz(a)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.044	<0.100	<0.009	0.013 "J"	ND	ND	ND	NA	<0.100	<0.046	<0.100	<0.009	NA	<0.012	NA	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	<0.0200	<0.032	<0.0200	<0.008	<0.008	ND	ND	ND	NA	<0.0200	<0.034	<0.0200	<0.008	NA	<0.008	NA	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	<0.0200	<0.098	<0.0200	<0.009	<0.009	ND	ND	ND	NA	<0.0200	<0.10	<0.0200	<0.009	NA	<0.009	NA	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	<5.00	<0.12	<5.00	<0.01	<0.01	ND	ND	ND	NA	<5.00	<0.13	<5.00	<0.01	NA	<0.01	NA	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	<0.100	<0.049	<0.100	<0.024	<0.009	ND	ND	ND	NA	<0.100	<0.051	<0.100	<0.024	NA	<0.009	NA	NS	NS
Chrysene	µg/L	ND	ND	ND	ND	<0.0200	<0.041	<0.0200	<0.011	<0.011	ND	ND	ND	NA	<0.0200	<0.043	<0.0200	<0.011	NA	<0.011	NA	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	<0.009	ND	ND	ND	NA	<0.100	<0.14	<0.100	<0.009	NA	<0.009	NA	NS	NS
Fluoranthene	µg/L	ND	ND	ND	ND	<5.00	<0.081	<5.00	<0.011	<0.011	ND	ND	ND	NA	<5.00	<0.085	<5.00	<0.011	NA	<0.011	NA	400	80
Fluorene	µg/L	ND	ND	ND	ND	<5.00	<0.062	<5.00	<0.015	<0.015	ND	ND	ND	NA	<5.00	<0.065	<5.00	<0.015	NA	<0.015	NA	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	<0.200	<0.062	<0.200	<0.015	<0.015	ND	ND	ND	NA	<0.200	<0.065	<0.200	<0.015	NA	<0.015	NA	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.32	<5.00	<0.018	<0.018	ND	ND	ND	NA	<5.00	<0.34	<5.00	<0.018	NA	<0.018	NA	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.31	<5.00	<0.03	<0.021	1.3	ND	ND	NA	<5.00	<0.33	<5.00	<0.03	NA	<0.021	NA	NS	NS
Naphthalene	µg/L	ND	1.4	1.4	ND	<5.00	<0.40	<5.00	0.085	0.028 "J"	ND	ND	ND	NA	<5.00	<0.42	<5.00	0.028 "J"	NA	<0.028	NA	40	8
Phenanthrene	µg/L	1.7	ND	ND	ND	<5.00	<0.030	<5.00	<0.011	<0.011	ND	ND	ND	NA	<5.00	<0.032	<5.00	<0.011	NA	<0.011	NA	NS	NS
Pyrene	µg/L	ND	ND	ND	0.074	<5.00	<0.044	<5.00	<0.01	<0.01	ND	ND	ND	NA	<5.00	<0.046	<5.00	<0.01	NA	<0.01	NA	250	50
Dissolved Metals																							
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**5,300**	**3,900**	**5,180**	**2,900**	**3,460**	**1,800**	**10,000**	NA	NA	**9,000**	**8,900**	<100	**4,900**	**15,100**	**10,000**	NA	**1,440**	NA	300*	150*
Manganese	µg/L	NA	**310**	**380**	**330**	**732**	**220**	**376**	**180**	**550**	NA	**470**	**410**	**370**	<50	**340**	**479**	**360**	NA	**690**	NA	50*	25*
Inorganics																							
Ammonia	mg/L	NA	NA	NA	NA	4.21	2.6	4.12	2.6	4.5	NA	NA	NA	NA	0.204	0.29 "J"	2.42	2.6	NA	4.4	NA	NS	NS
Chloride	mg/L	NA	83	110	29	9.50	33	53.0	**540**	***209***	NA	**463**	**300**	**320**	2.00	110	**276**	**800**	NA	**1,040**	NA	250*	125*
Nitrate + Nitrite	mg/L	NA	ND	NA	NA	0.0970	0.037	0.0700	0.05 "J"	<0.03	NA	ND	NA	NA	1.27	1.3	0.123	<0.03	NA	0.28	NA	10	2
Sulfate	mg/L	NA	**360**	**500**	**680**	**295**	***140***	**277**	45	**353**	NA	**630**	**700**	**550**	<10.0	***130***	**440**	***220***	NA	**335**	NA	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-116**					**MW-116R**				**PZ-116A**										**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	11/92	1/97	12/98	3/99	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	**ES**	**PAL**
PVOCs/Detected VOCs																						
Benzene	µg/L	ND	ND	ND	ND	<0.291	<0.20	<0.500	<0.26	<0.26	ND	ND	ND	NA	ND	<0.291	<8.0 "M"	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	ND	<5.00	<0.50	<5.00	<0.3	<0.3	ND	ND	ND	NA	ND	<5.00	<20 "M"	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	7.1	ND	ND	ND	<0.317	<0.50	<0.290	<0.36	<0.36	ND	ND	ND	NA	ND	<0.317	<20 "M"	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	ND	ND	ND	ND	<5.00	<0.20	<5.00	<0.52	<0.52	2.9	ND	ND	NA	ND	<5.00	<8.0 "M"	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	ND	<5.00	<0.20	<5.00	<0.32	<0.32	ND	ND	ND	NA	ND	<5.00	<8.0 "M"	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	ND	<5.00	<0.20	<5.00	<0.83	<0.83	ND	ND	ND	NA	ND	<5.00	<8.0 "M"	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	ND	<10.00	<0.40	<10.00	<1.15	<1.15	ND	ND	ND	NA	ND	<10.00	<16 "M"	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	ND	ND	ND	ND	<5.00	<0.50	<5.00	<1.17	<1.17	ND	ND	ND	NA	ND	<5.00	<20 "M"	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	ND	ND	<0.299	<0.20	<0.316	<0.78	<0.78	NA	NA	ND	NA	ND	<0.299	<8.0 "M"	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	ND	<5.00	<0.50	<5.0	<0.91	<0.91	NA	NA	4.0	NA	5.2	5.54	<20 "M"	<5.0	2.4 "J"	2.4 "J"	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	ND	<0.356	<0.50	<0.500	<0.25	<0.25	NA	NA	ND	NA	ND	<0.356	<20 "M"	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	ND	<5.00	<0.50	<5.00	<0.27	<0.27	NA	NA	4.0	NA	4.9	5.23	<20 "M"	<5.00	4.2	5.1	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	ND	<5.00	<0.20	<5.00	<0.5	<0.5	NA	NA	ND	NA	ND	<5.00	<8.0 "M"	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	***0.90***	<1.75	<1.0	<0.386	<0.55	<0.55	NA	NA	ND	NA	0.48	<1.75	<40 "M"	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	ND	ND	<8.00	<0.25	<8.00	<0.85	<0.85	NA	NA	ND	NA	ND	<8.00	<10 "M"	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	***0.80 "J"***	ND	<0.475	<0.20	<0.500	<0.37	<0.37	NA	NA	**17**	**16**	**20**	**5.53**	<8.0 "M"	<0.500	**7.6**	**9.1**	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	ND	<0.312	<0.20	<0.217	<0.16	<0.16	NA	NA	ND	NA	ND	<0.312	<8.0 "M"	<0.217	<0.16	<0.16	0.2	0.02
PAHs																						
Acenaphthene	µg/L	ND	ND	ND	ND	<5.00	<0.34	<5.00	0.20	0.63	ND	ND	ND	NA	NA	<5.00	<0.34	<5.00	<0.032	<0.016	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	<5.00	<0.70	<5.00	0.029 "J"	0.099	ND	ND	ND	NA	NA	<5.00	<0.70	<5.00	<0.015	<0.012	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	<5.00	<0.039	<5.00	<0.013	0.069	ND	ND	ND	NA	NA	<5.00	<0.039	<5.00	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.045	<0.100	<0.009	0.040	ND	ND	ND	NA	NA	<0.100	<0.045	<0.100	<0.009	<0.012	NS	NS
Benzo(a)pyrene	µg/L	**0.2**	ND	ND	ND	***0.0261***	<0.033	<0.0200	<0.008	0.018 "J"	ND	ND	ND	NA	NA	<0.0200	<0.033	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	***0.0226***	<0.10	<0.0200	<0.009	***0.023 "J"***	ND	ND	ND	NA	NA	<0.0200	<0.10	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	<5.00	<0.12	<5.00	<0.01	<0.01	ND	ND	ND	NA	NA	<5.00	<0.12	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	<0.100	<0.050	<0.100	<0.024	0.010 "J"	ND	ND	ND	NA	NA	<0.100	<0.050	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	ND	ND	ND	ND	***0.0309***	<0.042	<0.0200	<0.011	0.019 "J"	ND	ND	ND	NA	NA	<0.0200	<0.042	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	<0.009	ND	ND	ND	NA	NA	<0.100	<0.13	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	ND	ND	0.20	ND	<5.00	<0.083	<5.00	<0.011	0.17	ND	ND	ND	NA	NA	<5.00	<0.083	<5.00	<0.011	<0.011	400	80
Fluorene	µg/L	ND	3.8	1.1	ND	<5.00	<0.063	<5.00	0.093	0.58	ND	ND	ND	NA	NA	<5.00	<0.063	<5.00	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	<0.200	<0.063	<0.200	<0.015	<0.015	ND	ND	ND	NA	NA	<0.200	<0.063	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.33	<5.00	0.022 "J"	0.034 "J"	ND	ND	ND	NA	NA	<5.00	<0.33	<5.00	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.32	<5.00	0.021 "J"	<0.021	ND	ND	ND	NA	NA	<5.00	<0.32	<5.00	<0.03	<0.021	NS	NS
Naphthalene	µg/L	ND	ND	***11***	***16***	<5.00	<0.41	<5.00	0.026 "J"	0.032 "J"	ND	ND	ND	NA	NA	<5.00	<0.41	<5.00	<0.023	<0.028	40	8
Phenanthrene	µg/L	ND	ND	1.2	ND	<5.00	<0.031	<5.00	0.014 "J"	0.058	ND	ND	ND	NA	NA	<5.00	<0.031	<5.00	<0.011	<0.011	NS	NS
Pyrene	µg/L	ND	ND	0.11 "J"	ND	<5.00	<0.045	<5.00	<0.01	0.10	ND	ND	ND	NA	NA	<5.00	<0.045	<5.00	<0.01	<0.01	250	50
Dissolved Metals																						
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	69	NA	NA	NA	NA	NA	NA	NA	NA	***450***	NA	310	<500	200	<500	260	300	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**7,000**	**7,400**	**4,690**	**8,100**	**11,800**	**5,500**	**17,000**	NA	NA	**21,000**	NA	**14,000**	**718**	**4,400**	<100	**6,500**	**11,000**	300*	150*
Manganese	µg/L	NA	**410**	**230**	**300**	**324**	**510**	**656**	**660**	**750**	NA	**550**	**620**	NA	**390**	**236**	**140**	<50.0	**300**	**370**	50*	25*
Inorganics																						
Ammonia	mg/L	NA	NA	0.18	NA	0.195	<0.10	0.421	0.33	0.95	NA	NA	NA	NA	NA	0.921	<0.10	1.08	1.8	2.5	NS	NS
Chloride	mg/L	NA	67	**270**	11	14.0	31	39.0	64	40.2	NA	**1,130**	**1,500**	NA	**670**	**382**	**500**	**265**	**470**	**606**	250*	125*
Nitrate + Nitrite	mg/L	NA	0.07	0.052	NA	0.186	<0.024	0.0900	0.32	0.34	NA	ND	NA	NA	NA	0.353	0.43	0.231	<0.03	<0.03	10	2
Sulfate	mg/L	NA	84	ND	16	44.6	110	***210***	***200***	***184***	NA	120	100	NA	110	46.2	77	32.7	70	70.7	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-117**					**MW-118**	**MW-119**	**NR 140**	**NR 140**
Analytes	Date:	11/92	1/97	12/98	2/00	5/21/03	11/92	11/92	**ES**	**PAL**
PVOCs/Detected VOCs										
Benzene	µg/L	ND	ND	ND	NA	<0.291	ND	ND	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	ND	ND	700	140
Methyl-tert-butyl-ether	µg/L	ND	ND	ND	NA	<0.317	ND	ND	60	12
Toluene	µg/L	ND	ND	ND	NA	<5.00	2.6	5.1	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	56	2.9	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	ND	2.5	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	ND	5.4	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	2.5	1.8	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	NA	NA	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	NA	NA	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	NA	NA	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	NA	NA	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	NA	NA	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	NA	NA	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	NA	NA	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	NA	NA	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	NA	NA	0.2	0.02
PAHs										
Acenaphthene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	NA	ND	ND	3,000	300
Benz(a)anthracene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	NA	ND	ND	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	NA	ND	ND	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Chrysene	µg/L	ND	ND	ND	ND	NA	ND	ND	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Fluoranthene	µg/L	ND	ND	ND	ND	NA	ND	ND	400	80
Fluorene	µg/L	ND	ND	2.0	ND	NA	ND	ND	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	0.94	NA	129	ND	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	NA	117	ND	NS	NS
Naphthalene	µg/L	ND	ND	ND	ND	NA	ND	ND	40	8
Phenanthrene	µg/L	ND	ND	ND	ND	NA	ND	ND	NS	NS
Pyrene	µg/L	ND	ND	ND	0.044	NA	ND	ND	250	50
Dissolved Metals										
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	70	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**12,000**	**20,000**	**14,700**	NA	NA	300*	150*
Manganese	µg/L	NA	**230**	**470**	**390**	**308**	NA	NA	50*	25*
Inorganics										
Ammonia	mg/L	NA	NA	NA	2.0	0.799	NA	NA	NS	NS
Chloride	mg/L	NA	23	23	NA	7.00	NA	NA	250*	125*
Nitrate + Nitrite	mg/L	NA	***3.6***	NA	ND	0.0790	NA	NA	10	2
Sulfate	mg/L	NA	***210***	56	23	83.1	NA	NA	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-203**					**MW-203R**				**MW-301**			**MW-301R**					**NR 140**	**NR 140**
Analytes	Date:	11/96	1/97	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	12/98	2/00	5/21/03	10/12/04	10/04 Dup 2	1/12/05	4/13/05	7/20/05	**ES**	**PAL**
PVOCs/Detected VOCs																				
Benzene	µg/L	ND	ND	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	ND	NA	<0.291	<0.20	<0.20	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<0.3	<0.3	NA	NA	<5.00	<0.50	<0.50	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	ND	ND	ND	NA	<0.317	<0.50	<0.290	<0.36	<0.36	NA	NA	<0.317	<0.50	<0.50	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	2.1	ND	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	ND	NA	<5.00	<0.20	<0.20	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.32	<0.32	NA	NA	<5.00	<0.20	<0.20	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	NA	<5.00	<0.20	<5.00	<0.83	<0.83	NA	NA	<5.00	<0.20	<0.20	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	ND	ND	ND	NA	<10.00	<0.40	<10.00	<1.15	<1.15	NA	NA	<10.00	<0.40	<0.40	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	ND	ND	ND	NA	<5.00	<0.50	<5.00	<1.17	<1.17	NA	NA	<5.00	<0.50	<0.50	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	NA	NA	ND	NA	<0.299	<0.20	<0.316	<0.78	<0.78	---	NA	<0.299	<0.20	<0.20	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	ND	NA	<5.00	<0.50	<0.50	<5.0	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	NA	NA	ND	NA	<0.356	<0.50	<0.500	<0.25	<0.25	---	NA	<0.356	<0.50	<0.50	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	NA	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	ND	NA	<5.00	<0.50	<0.50	<5.00	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	NA	NA	ND	NA	<5.00	<0.20	<5.00	<0.5	<0.5	---	NA	<5.00	<0.20	<0.20	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	NA	NA	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	ND	NA	<1.75	<1.0	<1.0	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	NA	NA	ND	NA	<8.00	<0.25	<8.00	<0.85	<0.85	---	NA	<8.00	<0.25	<0.25	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	NA	NA	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	ND	NA	<0.475	<0.20	<0.20	<0.500	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	NA	NA	ND	NA	<0.312	<0.20	<0.217	<0.16	<0.16	---	NA	<0.312	<0.20	<0.20	<0.217	<0.16	<0.16	0.2	0.02
PAHs																				
Acenaphthene	µg/L	ND	ND	0.92	ND	<5.00	<0.94	<5.00	<0.032	<0.016	ND	ND	<5.00	<0.33	NA	<5.00	<0.032	<0.016	NS	NS
Acenaphthylene	µg/L	ND	ND	ND	ND	<5.00	<2.0	<5.00	<0.015	<0.012	ND	ND	<5.00	<0.69	NA	<5.00	<0.015	<0.012	NS	NS
Anthracene	µg/L	ND	ND	ND	ND	<5.00	<0.11	<5.00	<0.013	<0.013	ND	ND	<5.00	<0.038	NA	<5.00	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.13	<0.100	<0.009	<0.012	0.063	ND	<0.100	<0.044	NA	<0.100	<0.009	<0.012	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	<0.0200	<0.092	<0.0200	<0.008	<0.008	***0.088***	ND	<0.0200	<0.032	NA	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	<0.0200	<0.28	<0.0200	<0.009	<0.009	***0.072***	ND	<0.0200	<0.098	NA	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	<5.00	<0.34	<5.00	<0.01	<0.01	0.042 "J"	ND	<5.00	<0.12	NA	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	<0.100	<0.14	<0.100	<0.024	<0.009	0.033	ND	<0.100	<0.049	NA	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	ND	ND	ND	ND	<0.0200	<0.12	<0.0200	<0.011	<0.011	***0.077***	ND	<0.0200	<0.041	NA	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	ND	ND	<0.100	<0.37	<0.100	<0.009	<0.009	ND	ND	<0.100	<0.13	NA	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	ND	ND	ND	ND	<5.00	<0.23	<5.00	<0.011	<0.011	0.26	ND	<5.00	<0.081	NA	<5.00	<0.011	<0.011	400	80
Fluorene	µg/L	ND	ND	ND	ND	<5.00	<0.18	<5.00	0.017 "J"	<0.015	ND	ND	<5.00	<0.062	NA	<5.00	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	<0.200	<0.18	<0.200	<0.015	<0.015	0.062	ND	<0.200	<0.062	NA	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.92	<5.00	<0.018	<0.018	ND	ND	<5.00	<0.32	NA	<5.00	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	ND	ND	<5.00	<0.89	<5.00	<0.03	<0.021	ND	ND	<5.00	<0.31	NA	<5.00	<0.03	<0.021	NS	NS
Naphthalene	µg/L	ND	1.5	ND	ND	<5.00	<1.1	<5.00	0.024 "J"	<0.028	ND	ND	<5.00	<0.40	NA	<5.00	0.028 "J"	<0.028	40	8
Phenanthrene	µg/L	ND	ND	ND	ND	<5.00	<0.086	<5.00	<0.011	<0.011	0.15	ND	<5.00	<0.030	NA	<5.00	<0.011	<0.011	NS	NS
Pyrene	µg/L	ND	ND	ND	0.064	<5.00	<0.13	<5.00	<0.01	<0.01	0.20	ND	<5.00	<0.044	NA	<5.00	<0.01	<0.01	250	50
Dissolved Metals																				
Arsenic	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	160	NA	NA	NA	NA	NA	NA	64	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**10,000**	**14,000**	**20,100**	**15,000**	**14,200**	**3,500**	**14,600**	**9,400**	**33,000**	**24,200**	**4,100**	NA	**2,850**	**8,300**	**12,300**	300*	150*
Manganese	µg/L	NA	**420**	**450**	**480**	**582**	**810**	**1,130**	**980**	**1,180**	**1,500**	**1,700**	**1,090**	**420**	NA	**682**	**750**	**730**	50*	25*
Inorganics																				
Ammonia	mg/L	NA	NA	NA	NA	0.186	0.36	0.908	0.84	2.1	NA	NA	1.50	3.0	NA	1.63	3.0	2.3	NS	NS
Chloride	mg/L	NA	50	25	NA	5.00	38	87.0	110	**296**	**5,700**	**15,000**	18.5	***190***	NA	**610**	**630**	**1,240**	250*	125*
Nitrate + Nitrite	mg/L	NA	ND	NA	NA	0.0800	0.096	0.370	0.91	0.39	NA	NA	0.111	0.062 "J"	NA	0.229	<0.03	0.35	10	2
Sulfate	mg/L	NA	57	20 "J"	32	40.1	***200***	**450**	**520**	***211***	**1,800**	**1,800**	**954**	***200***	NA	***170***	**410**	**375**	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-302**								**MW-303**			**MW-304**							**NR 140**	**NR 140**
Analytes	Date:	12/98	2/00	5/21/03	10/12/04	1/11/05	1/05 Dup 1	4/13/05	7/20/05	12/98	2/00	5/21/03	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	**ES**	**PAL**
PVOCs/Detected VOCs																					
Benzene	µg/L	ND	NA	<0.291	<0.20	<0.500	<0.500	<0.26	<0.26	ND	NA	<0.291	ND	NA	Dry	<0.20	<0.500	<0.26	<0.26	5	0.5
Ethylbenzene	µg/L	NA	NA	<5.00	<0.50	<5.00	<5.00	<0.3	<0.3	NA	NA	<5.00	NA	NA	Dry	<0.50	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	NA	NA	<0.317	<0.50	<0.290	2.33	<0.36	<0.36	NA	NA	<0.317	NA	NA	Dry	<0.50	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	ND	NA	<5.00	<0.20	<5.00	<5.00	<0.52	<0.52	ND	NA	<5.00	ND	NA	Dry	<0.20	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	NA	NA	<5.00	<0.20	<5.00	<5.00	<0.32	<0.32	NA	NA	<5.00	NA	NA	Dry	<0.20	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	NA	NA	<5.00	<0.20	<5.00	<5.00	<0.83	<0.83	NA	NA	<5.00	NA	NA	Dry	<0.20	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	NA	NA	<10.00	<0.40	<10.00	<10.00	<1.15	<1.15	NA	NA	<10.00	NA	NA	Dry	<0.40	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	NA	NA	<5.00	<0.50	<5.00	<5.00	<1.17	<1.17	NA	NA	<5.00	NA	NA	Dry	<0.50	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	---	NA	<0.299	<0.20	<0.316	NA	<0.78	<0.78	---	NA	<0.299	---	NA	Dry	<0.20	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	ND	NA	<5.00	<0.50	<5.0	NA	<0.91	<0.91	ND	NA	<5.00	ND	NA	Dry	<0.50	<5.0	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	---	NA	<0.356	<0.50	<0.500	NA	<0.25	<0.25	---	NA	<0.356	---	NA	Dry	<0.50	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	ND	NA	<5.00	<0.50	<5.00	NA	<0.27	<0.27	ND	NA	<5.00	ND	NA	Dry	<0.50	<5.00	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	---	NA	<5.00	<0.20	<5.00	NA	<0.5	<0.5	---	NA	<5.00	---	NA	Dry	<0.20	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	ND	NA	<1.75	<1.0	<0.386	NA	<0.55	<0.55	ND	NA	<1.75	ND	NA	Dry	<1.0	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	---	NA	<8.00	<0.25	<8.00	NA	<0.85	<0.85	---	NA	<8.00	---	NA	Dry	<0.25	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	ND	NA	<0.475	<0.20	<0.500	NA	<0.37	<0.37	ND	NA	<0.475	ND	NA	Dry	<0.20	<0.500	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	---	NA	<0.312	<0.20	<0.217	NA	<0.16	<0.16	---	NA	<0.312	---	NA	Dry	<0.20	<0.217	<0.16	<0.16	0.2	0.02
PAHs																					
Acenaphthene	µg/L	ND	ND	<5.00	<0.33	<5.00	NA	<0.032	<0.016	3.4	ND	<5.00	ND	ND	Dry	<0.33	<5.00	<0.032	<0.016	NS	NS
Acenaphthylene	µg/L	ND	ND	<5.00	<0.69	<5.00	NA	<0.015	<0.012	ND	ND	<5.00	ND	ND	Dry	<0.69	<5.00	<0.015	<0.012	NS	NS
Anthracene	µg/L	ND	ND	<5.00	<0.038	<5.00	NA	<0.013	<0.013	ND	ND	<5.00	ND	ND	Dry	<0.038	<5.00	<0.013	<0.013	3,000	300
Benz(a)anthracene	µg/L	ND	ND	<0.100	<0.044	<0.100	NA	<0.009	<0.012	ND	ND	<0.100	ND	ND	Dry	<0.044	<0.100	<0.009	<0.012	NS	NS
Benzo(a)pyrene	µg/L	ND	ND	<0.0200	<0.032	<0.0200	NA	<0.008	<0.008	ND	ND	<0.0200	ND	ND	Dry	<0.032	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	<0.0200	<0.098	<0.0200	NA	<0.009	<0.009	ND	ND	<0.0200	ND	ND	Dry	<0.098	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	ND	ND	<5.00	<0.12	<5.00	NA	<0.01	<0.01	ND	ND	<5.00	ND	ND	Dry	<0.12	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	<0.100	<0.049	<0.100	NA	<0.024	<0.009	ND	ND	<0.100	ND	ND	Dry	<0.049	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	ND	ND	<0.0200	<0.041	<0.0200	NA	<0.011	<0.011	ND	ND	<0.0200	ND	ND	Dry	<0.041	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	<0.100	<0.13	<0.100	NA	<0.009	<0.009	ND	ND	<0.100	ND	ND	Dry	<0.13	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	0.024 "J"	ND	<5.00	<0.081	<5.00	NA	<0.011	<0.011	ND	ND	<5.00	ND	ND	Dry	<0.081	<5.00	<0.011	<0.011	400	80
Fluorene	µg/L	ND	ND	<5.00	<0.062	<5.00	NA	0.047	<0.015	ND	ND	<5.00	ND	ND	Dry	<0.062	<5.00	<0.015	<0.015	400	80
Ideno(1,2,3-cd)pyrene	µg/L	ND	ND	<0.200	<0.062	<0.200	NA	<0.015	<0.015	ND	ND	<0.200	ND	ND	Dry	<0.062	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	<5.00	<0.32	<5.00	NA	<0.018	<0.018	ND	ND	<5.00	ND	ND	Dry	<0.32	<5.00	<0.018	<0.018	NS	NS
2-Methylnaphthalene	µg/L	0.063 "J"	ND	<5.00	<0.31	<5.00	NA	<0.03	<0.021	ND	ND	<5.00	ND	ND	Dry	<0.31	<5.00	<0.03	<0.021	NS	NS
Naphthalene	µg/L	ND	ND	<5.00	<0.40	<5.00	NA	0.026 "J"	<0.028	ND	ND	<5.00	ND	ND	Dry	<0.40	<5.00	<0.023	<0.028	40	8
Phenanthrene	µg/L	ND	ND	<5.00	<0.030	<5.00	NA	<0.011	<0.011	ND	ND	<5.00	ND	ND	Dry	<0.030	<5.00	<0.011	<0.011	NS	NS
Pyrene	µg/L	0.029	ND	<5.00	<0.044	<5.00	NA	<0.01	<0.01	ND	ND	<5.00	ND	ND	Dry	<0.044	<5.00	<0.01	<0.01	250	50
Dissolved Metals																					
Arsenic	µg/L	***8.1 "J"***	ND	<50.0	***2.2 "J"***	<50.0	NA	<7.4	<7.4	ND	NA	NA	ND	NA	Dry	NA	NA	NA	NA	10	1
Barium	µg/L	140	NA	NA	NA	NA	NA	NA	NA	85	NA	NA	110	NA	Dry	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	ND	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	Dry	NA	NA	NA	NA	5	0.5
Iron	µg/L	**350**	**790**	145	**2,000**	<100	NA	**5,300**	**1,930**	**2,300**	**4,100**	**7,870**	**2,600**	**5,200**	Dry	**4,000**	**4,160**	**5,200**	**1,340**	300*	150*
Manganese	µg/L	**1,100**	**810**	**228**	**560**	**292**	NA	**1,300**	**1,240**	**720**	**340**	**464**	**430**	**380**	Dry	**440**	**711**	**870**	**685**	50*	25*
Inorganics																					
Ammonia	mg/L	0.56	NA	0.526	0.27 "J"	0.949	NA	6.7	4.4	NA	NA	0.394	NA	NA	Dry	0.37	0.314	0.68	1.5	NS	NS
Chloride	mg/L	100	68	32.0	36	17.5	NA	57	63.7	18	NA	7.00	ND	NA	Dry	64	***247***	***160***	**1,005**	250*	125*
Nitrate + Nitrite	mg/L	0.032 "J"	NA	<0.0500	0.14	<0.0500	NA	<0.03	<0.03	NA	NA	0.113	NA	NA	Dry	0.12	<0.0500	<0.03	<0.03	10	2
Sulfate	mg/L	25 "J"	27	108	46	26.3	NA	8.0	11.8	***130***	58	94.7	17 "J"	39	Dry	63	***143***	***130***	64.9	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**MW-305**							**MW-306**							**NR 140**	**NR 140**
Analytes	Date:	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	12/98	2/00	5/21/03	10/12/04	1/11/05	4/13/05	7/19/05	**ES**	**PAL**
PVOCs/Detected VOCs																	
Benzene	µg/L	ND	NA	<0.291	<0.20	<0.500	<0.26	<0.26	ND	NA	<0.291	<0.20	<0.500	<0.26	***0.91***	5	0.5
Ethylbenzene	µg/L	NA	NA	<5.00	<0.50	<5.00	<0.3	<0.3	NA	NA	<5.00	<0.50	<5.00	<0.3	<0.3	700	140
Methyl-tert-butyl-ether	µg/L	NA	NA	<0.317	<0.50	<0.290	<0.36	<0.36	NA	NA	<0.317	<0.50	<0.290	<0.36	<0.36	60	12
Toluene	µg/L	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	ND	NA	<5.00	<0.20	<5.00	<0.52	<0.52	1,000	200
1,2,4-Trimethylbenzene	µg/L	NA	NA	<5.00	<0.20	<5.00	<0.32	<0.32	NA	NA	<5.00	<0.20	<5.00	<0.32	<0.32	NS	NS
1,3,5-Trimethylbenzene	µg/L	NA	NA	<5.00	<0.20	<5.00	<0.83	<0.83	NA	NA	<5.00	<0.20	<5.00	<0.83	<0.83	NS	NS
Total Trimethylbenzene	µg/L	NA	NA	<10.00	<0.40	<10.00	<1.15	<1.15	NA	NA	<10.00	<0.40	<10.00	<1.15	<1.15	480	96
Xylenes, Total	µg/L	NA	NA	<5.00	<0.50	<5.00	<1.17	<1.17	NA	NA	<5.00	<0.50	<5.00	<1.17	<1.17	10,000	1,000
Chloroform	µg/L	---	NA	<0.299	<0.20	<0.316	<0.78	<0.78	---	NA	<0.299	<0.20	<0.316	<0.78	<0.78	6	0.6
1,1-Dichloroethane	µg/L	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	ND	NA	<5.00	<0.50	<5.0	<0.91	<0.91	850	85
1,2-Dichloroethane	µg/L	---	NA	<0.356	<0.50	<0.500	<0.25	<0.25	---	NA	<0.356	<0.50	<0.500	<0.25	<0.25	5	0.5
cis-1,2-Dichloroethene	µg/L	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	ND	NA	<5.00	<0.50	<5.00	<0.27	<0.27	70	7
p-Isopropyltoluene	µg/L	---	NA	<5.00	<0.20	<5.00	<0.5	<0.5	---	NA	<5.00	<0.20	<5.00	<0.5	<0.5	NS	NS
Methylene Chloride	µg/L	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	ND	NA	<1.75	<1.0	<0.386	<0.55	<0.55	5	0.5
Naphthalene	µg/L	---	NA	<8.00	<0.25	<8.00	<0.85	<0.85	---	NA	<8.00	<0.25	<8.00	<0.85	<0.85	40	8
Trichloroethene	µg/L	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	ND	NA	<0.475	<0.20	<0.500	<0.37	<0.37	5	0.5
Vinyl Chloride	µg/L	---	NA	<0.312	<0.20	<0.217	<0.16	<0.16	---	NA	<0.312	<0.20	<0.217	<0.16	<0.16	0.2	0.02
PAHs																	
Acenaphthene	µg/L	ND	ND	<5.00	<0.34	<5.00	<0.032	<0.016	ND	ND	<5.00	<0.34	<5.00	0.053	0.15	NS	NS
Acenaphthylene	µg/L	ND	ND	<5.00	<0.72	<5.00	<0.015	<0.012	ND	ND	<5.00	<0.72	<5.00	<0.015	0.038 "J"	NS	NS
Anthracene	µg/L	ND	ND	<5.00	<0.040	<5.00	<0.013	<0.013	ND	ND	<5.00	<0.040	<5.00	0.057	0.019 "J"	3,000	300
Benz(a)anthracene	µg/L	0.098	ND	<0.100	<0.046	<0.100	<0.009	<0.012	0.019 "J"	ND	<0.100	<0.046	<0.100	<0.009	0.018 "J"	NS	NS
Benzo(a)pyrene	µg/L	***0.15***	ND	<0.0200	<0.033	<0.0200	<0.008	<0.008	***0.035 "J"***	ND	<0.0200	<0.033	<0.0200	<0.008	<0.008	0.2	0.02
Benzo(b)fluoranthene	µg/L	ND	ND	<0.0200	<0.10	<0.0200	<0.009	<0.009	ND	ND	<0.0200	<0.10	<0.0200	<0.009	<0.009	0.2	0.02
Benzo(ghi)perylene	µg/L	0.025 "J"	ND	<5.00	<0.12	<5.00	<0.01	<0.01	0.032 "J"	ND	<5.00	<0.12	<5.00	<0.01	<0.01	NS	NS
Benzo(k)fluoranthene	µg/L	ND	ND	<0.100	<0.051	<0.100	<0.024	<0.009	ND	ND	<0.100	<0.051	<0.100	<0.024	<0.009	NS	NS
Chrysene	µg/L	***0.077***	ND	<0.0200	<0.043	<0.0200	<0.011	<0.011	***0.027 "J"***	ND	<0.0200	<0.043	<0.0200	<0.011	<0.011	0.2	0.02
Dibenzo(ah)anthracene	µg/L	ND	ND	<0.100	<0.14	<0.100	<0.009	<0.009	ND	ND	<0.100	<0.14	<0.100	<0.009	<0.009	NS	NS
Fluoranthene	µg/L	0.31	0.030	<5.00	<0.084	<5.00	<0.011	<0.011	ND	ND	<5.00	<0.084	<5.00	<0.011	0.021 "J"	400	80
Fluorene	µg/L	0.027	ND	<5.00	<0.064	<5.00	<0.015	<0.015	ND	ND	<5.00	<0.064	<5.00	0.024 "J"	0.11	400	80
Ideno(1,2,3-cd)pyrene	µg/L	0.099	ND	<0.200	<0.064	<0.200	<0.015	<0.015	ND	ND	<0.200	<0.064	<0.200	<0.015	<0.015	NS	NS
1-Methylnaphthalene	µg/L	ND	ND	<5.00	<0.33	<5.00	<0.018	<0.018	ND	ND	<5.00	<0.33	<5.00	0.23	0.30	NS	NS
2-Methylnaphthalene	µg/L	ND	ND	<5.00	<0.32	<5.00	0.037 "J"	<0.021	ND	ND	<5.00	<0.32	<5.00	0.062 "J"	0.029 "J"	NS	NS
Naphthalene	µg/L	ND	ND	<5.00	<0.42	<5.00	0.046 "J"	<0.028	ND	ND	<5.00	<0.42	<5.00	0.12	0.11	40	8
Phenanthrene	µg/L	0.16	0.012	<5.00	<0.031	<5.00	<0.011	<0.011	0.089	ND	<5.00	<0.031	<5.00	0.024 "J"	0.026 "J"	NS	NS
Pyrene	µg/L	0.25	0.028	<5.00	<0.046	<5.00	<0.01	<0.01	0.068	ND	<5.00	<0.046	<5.00	<0.01	0.021 "J"	250	50
Dissolved Metals																	
Arsenic	µg/L	***8.7 "J"***	ND	<50.0	***2.3 "J"***	<50.0	**22**	<7.4	ND	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	320	NA	NA	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	**2,700**	**1,800**	**1,010**	**2,200**	**2,060**	**17,000**	**6,530**	**2,100**	**5,600**	**6,170**	**6,200**	**11,700**	**17,000**	**680**	300*	150*
Manganese	µg/L	**330**	**150**	**122**	**190**	**230**	**520**	**300**	**560**	**300**	**327**	**680**	**572**	**310**	**350**	50*	25*
Inorganics																	
Ammonia	mg/L	NA	NA	0.896	2.2	2.20	2.5	3.0	1.1	NA	0.448	<0.50	0.423	1.1	3.4	NS	NS
Chloride	mg/L	**2,700**	**2,900**	**520**	**320**	**299**	50	***175***	19	NA	9.50	<20	98.5	120	77.9	250*	125*
Nitrate + Nitrite	mg/L	NA	NA	0.201	0.063 "J"	<0.0500	<0.03	<0.03	0.021 "J"	NA	<0.0500	<0.024	0.133	<0.03	<0.03	10	2
Sulfate	mg/L	**250**	**290**	***221***	***220***	**310**	51	***242***	58	67	58.6	29	**281**	***130***	117	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Monitoring Well:		**SMW-1**	**SPZ-1**		**River Gauge 1**				**River Gauge 2**				**River Gauge 3**				**NR 140**	**NR 140**
Analytes	Date:	7/22/02	7/22/02	5/21/03	10/12/04	1/12/05	4/13/05	7/20/05	10/12/04	1/12/05	4/13/05	7/20/05	10/12/04	1/12/05	4/13/05	7/20/05	**ES**	**PAL**
PVOCs/Detected VOCs																		
Benzene	µg/L	NA	<0.10	<0.291	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Ethylbenzene	µg/L	NA	<0.25	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	140
Methyl-tert-butyl-ether	µg/L	NA	<0.25	<0.317	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60	12
Toluene	µg/L	NA	<0.10	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	200
1,2,4-Trimethylbenzene	µg/L	NA	<0.10	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
1,3,5-Trimethylbenzene	µg/L	NA	<0.10	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Total Trimethylbenzene	µg/L	NA	<0.20	<10.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	480	96
Xylenes, Total	µg/L	NA	<0.25	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	1,000
Chloroform	µg/L	NA	<0.25	<0.299	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	0.6
1,1-Dichloroethane	µg/L	NA	2.0	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	850	85
1,2-Dichloroethane	µg/L	NA	<0.25	<0.356	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
cis-1,2-Dichloroethene	µg/L	NA	3.3	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	7
p-Isopropyltoluene	µg/L	NA	<0.25	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Methylene Chloride	µg/L	NA	1.2 "L"	<1.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Naphthalene	µg/L	NA	<0.25	<8.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40	8
Trichloroethene	µg/L	NA	**5.0**	***0.690***	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Vinyl Chloride	µg/L	NA	<0.25	<0.312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
PAHs																		
Acenaphthene	µg/L	0.93	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Acenaphthylene	µg/L	<0.21	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Anthracene	µg/L	0.18	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,000	300
Benz(a)anthracene	µg/L	0.64	NA	<0.100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(a)pyrene	µg/L	***0.13***	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(b)fluoranthene	µg/L	<0.042	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(ghi)perylene	µg/L	<0.16	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(k)fluoranthene	µg/L	0.070	NA	<0.100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Chrysene	µg/L	***0.10***	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Dibenzo(ah)anthracene	µg/L	<0.080	NA	<0.100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Fluoranthene	µg/L	0.71	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	80
Fluorene	µg/L	0.87	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	80
Ideno(1,2,3-cd)pyrene	µg/L	0.052	NA	<0.200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
1-Methylnaphthalene	µg/L	0.76	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
2-Methylnaphthalene	µg/L	1.2	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Naphthalene	µg/L	0.85	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40	8
Phenanthrene	µg/L	0.54	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Pyrene	µg/L	0.47	NA	<5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	250	50
Dissolved Metals																		
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
Iron	µg/L	NA	NA	**16,600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300*	150*
Manganese	µg/L	NA	NA	**344**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50*	25*
Inorganics																		
Ammonia	mg/L	NA	NA	1.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Chloride	mg/L	NA	NA	**433**	48	41.0	33	36.6	63	38.5	33	38.4	46	37.5	33	37	250*	125*
Nitrate + Nitrite	mg/L	NA	NA	0.0590	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	2
Sulfate	mg/L	NA	NA	113	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	250*	125*

Table 2
Groundwater Quality Results - Detected Compounds
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Notes:
1. Groundwater samples for events through February 2000 were collected by others and data is presented as reported in Earth Tech's June 2001 Remedial Action Plan. Groundwater samples since May 2003 were collected by Sigma Environmental Services, Inc.
2. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
3. mg/L = milligrams per liter (equivalent to parts per million, ppm)
4. ND = Not detected (limits of detection not shown in Earth Tech's June 2001 Remedial Action Plan)
5. --- = No information available from previous Earth Tech reports
6. NA = Not analyzed
7. Laboratory data flags: "J" = Concentration detected between Limit of Detection and Limit of Quantitation
"L" = Concentration detected in sample is characteristic of a laboratory artifact
"B" = Analyte detected in method blank
"M" = matrix interference
8. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
9. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
10. * = NR 140 Public Welfare Groundwater Quality Standard (other ES and PAL values for NR 140 Public Health Groundwater Quality Standards)
11. NS = no standard
12. Trip blank results: 5/21/03 - All VOCs reported below laboratory detection limits.
10/12/04 - All VOCs reported below laboratory detection limits, except methylene chloride (1.1 µg/L, flagged as lab contaminant) and toluene (0.31 µg/L)
1/12/05 - All VOCs reported below laboratory detection limits.
4/13/05 - All VOCs reported below laboratory detection limits.
7/19-20/05 - All VOCs reported below laboratory detection limits.
13. Equipment blank results: 5/21/03 - Equipment blank not used because new disposable bailers used at all wells.
10/12/04 - Equipment blank not used because new disposable peristaltic tubing used to collect samples.
1/12/05 - Equipment blank not used because new disposable peristaltic tubing used to collect samples.
4/13/05 - All VOCs reported below laboratory detection limits, except toluene (0.89 "J" µg/L)
7/19-20/05 - All VOCs reported below laboratory detection limits.
14. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
bold, italics = Concentration exceeds NR 140 PAL
15. Monitoring wells MW-108, MW-118, MW-119, and SMW-1 abandoned prior to May 31, 2003 sampling event. Wells MW-110A, MW-111, MW-112, MW-113, MW-116, MW-117, MW-301, MW-303, and SPZ-1 buried or abandoned in late 2003/early 2004 during site redevelopment.

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well Location:		**MW-1**							**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs										
Benzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.50	<0.50	NA	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.50	<0.50	NA	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.20	<0.20	NA	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	<0.40	<0.40	NA	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<0.50	<0.50	NA	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	NA	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	<0.50	<0.50	NA	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	<0.50	<0.50	NA	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs										
Acenaphthene	µg/L	<2.9	<0.032	<0.37	<0.33	NA	<0.35	<0.39	NS	NS
Acenaphthylene	µg/L	<2.5	<0.015	<0.77	<0.69	NA	<0.73	<0.81	NS	NS
Anthracene	µg/L	<2.1	<0.013	<0.042	0.066 "Q"	NA	<0.040	<0.045	3,000	600
Benzo(a)anthracene	µg/L	<2.7	<0.099	<0.049	0.067 "Q"	NA	<0.046	<0.052	NS	NS
Benzo(a)pyrene	µg/L	<2.5	<0.008	<0.036	<0.032	NA	<0.034	<0.038	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	<0.009	<0.11	<0.098	NA	<0.10	<0.12	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.028 "Q"	<0.13	<0.12	NA	<0.13	<0.14	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	<0.024	<0.054	<0.049	NA	<0.052	<0.058	NS	NS
Chrysene	µg/L	<2.7	<0.011	<0.046	<0.041	NA	<0.043	<0.048	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	<0.009	<0.14	<0.13	NA	<0.14	<0.15	NS	NS
Fluoranthene	µg/L	<2.1	0.015 "Q"	<0.090	<0.081	NA	<0.085	<0.095	400	80
Fluorene	µg/L	<2.1	<0.015	<0.069	<0.062	NA	<0.065	<0.073	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	<0.015	<0.069	<0.062	NA	<0.065	<0.073	NS	NS
1-Methylnaphthalene	µg/L	NA	0.031 "Q"	<0.36	<0.32	NA	<0.34	<0.38	NS	NS
2-Methylnaphthalene	µg/L	<2.2	<0.03	<0.34	<0.31	NA	<0.33	<0.36	NS	NS
Naphthalene	µg/L	<2.7	<0.023	<0.44	<0.40	NA	<0.42	<0.47	40	8
Phenanthrene	µg/L	<2.6	<0.011	<0.033	0.033 "Q"	NA	<0.032	<0.035	NS	NS
Pyrene	µg/L	<2.8	0.024 "Q"	<0.049	0.076 "Q"	NA	<0.046	<0.052	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	3.8 "B"	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	<10.0	<0.020	NA	NA	1	0.1
Dissolved RCRA Metals										
Mercury	µg/L	<0.092	NA	<0.092	<0.092	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***2.1***	<0.79	<0.79	<0.79	<0.79	<1.0	10	1
Barium	µg/L	130	100	110	100	NA	NA	NA	2,000	400
Cadmium	µg/L	<0.14	NA	<0.14	<0.14	NA	NA	NA	5	0.5
Chromium	µg/L	2.5 "Q"	NA	<2.1	4.8 "Q"	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	<1.4	<1.4	NA	NA	NA	15	1.5
Selenium	µg/L	7.3 "Q"	NA	<3.2	<3.2	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	<1.3	<1.3	NA	NA	NA	50	10
Inorganics										
Chloride	mg/L	***180***	***193***	***180***	***180***	***190***	***150***	***160***	250	125
Nitrate + Nitrite	mg/L	0.40	0.19	<0.024	0.16	NA	<0.10	<0.10	10	2
PCBs										
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides										
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	50	5
Pesticides										
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = analyte was detected in associated Method Blank
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well Location:		**MW-2**						**MW-2R**	**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs										
Benzene	µg/L	<0.20	<0.26	<0.20	<0.20	<0.20	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.50	<0.50	<0.50	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.50	<0.50	<0.50	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.20	<0.20	<0.20	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	0.77	<0.20	<0.20	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	0.34 "Q"	<0.20	<0.20	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	1.11	<0.40	<0.40	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<0.50	<0.50	<0.50	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	<0.20	<0.20	<0.20	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	<0.20	<0.20	<0.20	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	<0.20	<0.20	<0.20	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	***0.74 "Q"***	<0.50	<0.50	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs										
Acenaphthene	µg/L	<2.9	0.078	<0.33	<0.38	<0.34	<0.35	<0.35	NS	NS
Acenaphthylene	µg/L	<2.5	0.021 "Q"	<0.69	<0.80	<0.70	<0.73	<0.73	NS	NS
Anthracene	µg/L	<2.1	0.21	<0.038	0.12 "Q"	<0.039	<0.040	<0.040	3,000	600
Benzo(a)anthracene	µg/L	<2.7	0.28	<0.044	0.071 "Q"	<0.045	<0.047	<0.046	NS	NS
Benzo(a)pyrene	µg/L	<2.5	**0.27**	<0.032	***0.048 "Q"***	<0.033	<0.034	<0.034	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	**0.32**	<0.098	<0.11	<0.10	<0.10	<0.10	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.35	<0.12	<0.14	<0.12	<0.13	<0.13	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	0.13	<0.049	<0.057	<0.050	<0.052	<0.052	NS	NS
Chrysene	µg/L	<2.7	**0.27**	<0.041	***0.061 "Q"***	<0.042	<0.044	<0.043	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	0.022 "Q"	<0.13	<0.15	<0.13	<0.14	<0.14	NS	NS
Fluoranthene	µg/L	<2.1	0.93	<0.081	0.22 "Q"	<0.083	<0.086	<0.085	400	80
Fluorene	µg/L	<2.1	0.10	<0.062	0.079 "Q"	<0.063	<0.066	<0.065	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	0.18	<0.062	<0.072	<0.063	<0.066	<0.065	NS	NS
1-Methylnaphthalene	µg/L	NA	0.039 "Q"	<0.32	<0.37	<0.33	<0.34	<0.34	NS	NS
2-Methylnaphthalene	µg/L	<2.2	0.062 "Q"	<0.31	<0.36	<0.32	<0.33	<0.33	NS	NS
Naphthalene	µg/L	<2.7	0.088	<0.40	<0.47	<0.41	<0.43	<0.42	40	8
Phenanthrene	µg/L	<2.6	0.51	<0.030	0.25	<0.031	<0.032	<0.032	NS	NS
Pyrene	µg/L	<2.8	0.80	<0.044	0.21	<0.045	<0.047	<0.046	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5 "B"	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	<10.0	<0.020	NA	NA	1	0.1
Dissolved RCRA Metals										
Mercury	µg/L	<0.092	NA	<0.092	<0.092	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***4.7***	***2.9***	***1.7 "Q"***	***3.3***	<0.79	***2.0 "Q"***	10	1
Barium	µg/L	200	160	170	160	NA	NA	NA	2,000	400
Cadmium	µg/L	0.20 "Q"	NA	<0.14	<0.14	NA	NA	NA	5	0.5
Chromium	µg/L	<2.1	NA	<2.1	<2.1	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	<1.4	<1.4	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	<3.2	<3.2	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	<1.3	<1.3	NA	NA	NA	50	10
Inorganics										
Chloride	mg/L	95	88	77	24	NA	62	25	250	125
Nitrate + Nitrite	mg/L	0.58	<0.03	<0.024	0.091	NA	0.12 "Q"	<0.10	10	2
PCBs										
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides										
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	50	5
Pesticides										
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = laboratory blank is contaminated
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

	Well Location:	**MW-3**						**MW-3R**		**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	12/06 Dup	**ES**	**PAL**
PVOCs & Detected VOCs											
Benzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.50	<0.50	NA	<0.50	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.50	<0.50	NA	<0.50	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.20	<0.20	NA	<0.20	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	<0.40	<0.40	NA	<0.40	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<0.50	<0.50	NA	<0.50	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	NA	<0.25	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	<0.20	<0.20	NA	<0.20	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	<0.50	<0.50	NA	<0.50	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	<0.50	<0.50	NA	<0.50	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs											
Acenaphthene	µg/L	<2.9	<0.032	<0.33	<0.39	<0.33	<0.36	<0.35	NA	NS	NS
Acenaphthylene	µg/L	<2.5	<0.015	<0.69	<0.81	<0.69	<0.75	<0.73	NA	NS	NS
Anthracene	µg/L	<2.1	<0.013	<0.038	<0.045	<0.038	<0.041	<0.040	NA	3,000	600
Benzo(a)anthracene	µg/L	<2.7	<0.099	<0.044	<0.052	<0.044	<0.048	<0.046	NA	NS	NS
Benzo(a)pyrene	µg/L	<2.5	***0.036***	<0.032	<0.038	<0.032	<0.035	<0.034	NA	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	***0.057***	<0.098	<0.12	<0.098	<0.11	<0.10	NA	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.058	<0.12	<0.14	<0.12	<0.13	<0.13	NA	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	0.022 "Q"	<0.049	<0.058	<0.049	<0.053	<0.052	NA	NS	NS
Chrysene	µg/L	<2.7	***0.041***	<0.041	<0.048	<0.041	<0.045	<0.043	NA	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	<0.009	<0.13	<0.15	<0.13	<0.14	<0.14	NA	NS	NS
Fluoranthene	µg/L	<2.1	0.084	<0.081	0.44	<0.081	<0.088	<0.085	NA	400	80
Fluorene	µg/L	<2.1	<0.015	<0.062	<0.073	<0.062	<0.067	<0.065	NA	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	<0.015	<0.062	<0.073	<0.062	<0.067	<0.065	NA	NS	NS
1-Methylnaphthalene	µg/L	NA	0.018 "Q"	<0.32	<0.38	<0.32	<0.35	<0.34	NA	NS	NS
2-Methylnaphthalene	µg/L	<2.2	0.027 "Q"	<0.31	<0.36	<0.31	<0.34	<0.33	NA	NS	NS
Naphthalene	µg/L	<2.7	0.033 "Q"	<0.40	<0.47	<0.40	<0.43	<0.42	NA	40	8
Phenanthrene	µg/L	<2.6	0.036	<0.030	0.24	<0.030	<0.033	<0.032	NA	NS	NS
Pyrene	µg/L	<2.8	0.086	<0.044	0.15 "Q"	<0.044	<0.048	<0.046	NA	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5 "B"	NA	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	<10.0	<0.020	NA	NA	NA	1	0.1
Dissolved RCRA Metals											
Mercury	µg/L	<0.092	NA	<0.092	<0.092	NA	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***2.3***	***3.0***	<0.79	***1.8 "Q"***	<0.79	<1.0	NA	10	1
Barium	µg/L	71	64	70	56	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	<0.14	NA	<0.14	<0.14	NA	NA	NA	NA	5	0.5
Chromium	µg/L	3.5 "Q"	NA	<2.1	<2.1	NA	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	<1.4	<1.4	NA	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	<3.2	<3.2	NA	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	<1.3	<1.3	NA	NA	NA	NA	50	10
Inorganics											
Chloride	mg/L	14	33	29	<10	NA	13	26	NA	250	125
Nitrate + Nitrite	mg/L	0.25	<0.03	<0.024	0.18	NA	0.11 "Q"	<0.10	NA	10	2
PCBs											
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides											
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	NA	50	5
Pesticides											
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = laboratory blank is contaminated
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

	Well Location:	**MW-4**							**MW-4R**	**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	3/05 Dup	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs											
Benzene	µg/L	<0.20	<0.26	<0.26	<0.20	<0.20	NA	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.3	<0.50	<0.50	NA	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.36	<0.50	<0.50	NA	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.52	<0.20	<0.20	NA	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	<0.32	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	<0.83	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	<1.15	<0.40	<0.40	NA	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<1.17	<0.50	<0.50	NA	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	NA	<0.25	<0.25	NA	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	NA	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	NA	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	NA	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	NA	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	NA	<0.50	<0.50	NA	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	NA	<0.50	<0.50	NA	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs											
Acenaphthene	µg/L	<2.9	0.031 "Q"	NA	<0.33	<0.33	<0.34	<0.34	<0.35	NS	NS
Acenaphthylene	µg/L	<2.5	<0.015	NA	<0.69	<0.69	<0.70	<0.70	<0.73	NS	NS
Anthracene	µg/L	<2.1	0.056	NA	<0.038	<0.038	<0.039	<0.039	<0.040	3,000	600
Benzo(a)anthracene	µg/L	<2.7	<0.099	NA	<0.044	<0.044	<0.045	<0.045	0.056 "Q"	NS	NS
Benzo(a)pyrene	µg/L	<2.5	***0.056***	NA	<0.032	<0.032	<0.033	<0.033	<0.034	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	***0.081***	NA	<0.098	<0.098	<0.10	<0.10	<0.10	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.11	NA	<0.12	<0.12	<0.12	<0.12	<0.13	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	0.033	NA	<0.049	<0.049	<0.050	<0.050	<0.052	NS	NS
Chrysene	µg/L	<2.7	***0.075***	NA	<0.041	<0.041	<0.042	<0.042	***0.043 "Q"***	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	<0.009	NA	<0.13	<0.13	<0.13	<0.13	<0.14	NS	NS
Fluoranthene	µg/L	<2.1	0.27	NA	<0.081	<0.081	<0.083	<0.083	0.14 "Q"	400	80
Fluorene	µg/L	<2.1	0.036 "Q"	NA	<0.062	<0.062	<0.063	<0.063	<0.065	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	0.034 "Q"	NA	<0.062	<0.062	<0.063	<0.063	<0.065	NS	NS
1-Methylnaphthalene	µg/L	NA	0.018 "Q"	NA	<0.32	<0.32	<0.33	<0.33	<0.34	NS	NS
2-Methylnaphthalene	µg/L	<2.2	0.031 "Q"	NA	<0.31	<0.31	<0.32	<0.32	<0.33	NS	NS
Naphthalene	µg/L	<2.7	0.042 "Q"	NA	<0.40	<0.40	<0.41	<0.41	<0.42	40	8
Phenanthrene	µg/L	<2.6	0.21	NA	<0.030	<0.030	<0.031	<0.031	0.081 "Q"	NS	NS
Pyrene	µg/L	<2.8	0.29	NA	<0.044	<0.044	<0.045	<0.045	<0.046	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5	NA	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	14	NA	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	NA	<10.0	<0.020	NA	NA	1	0.1
Dissolved RCRA Metals											
Mercury	µg/L	<0.092	NA	NA	<0.092	<0.092	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***4.4***	NA	***1.8 "Q"***	***4.2***	***7.5***	***3.1***	***2.4 "Q"***	10	1
Barium	µg/L	***420***	88	NA	110	110	NA	NA	NA	2,000	400
Cadmium	µg/L	<0.14	NA	NA	<0.14	<0.14	NA	NA	NA	5	0.5
Chromium	µg/L	2.6 "Q"	NA	NA	<2.1	<2.1	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	NA	<1.4	<1.4	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	NA	<3.2	<3.2	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	NA	<1.3	<1.3	NA	NA	NA	50	10
Inorganics											
Chloride	mg/L	56	78	NA	51	50	NA	23	60	250	125
Nitrate + Nitrite	mg/L	0.45	<0.03	NA	<0.024	0.17	NA	0.10 "Q"	<0.10	10	2
PCBs											
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides											
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	NA	50	5
Pesticides											
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = laboratory blank is contaminated
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

	Well Location:	**MW-5**											**MW-5R**	**NR 140**	**NR 140**
Analytes	Date:	12/21/04	12/04 Dup	3/24/05	6/21/05	6/05 Dup	9/27/05	9/05 Dup	12/13/05	12/05 Dup	6/14/06	6/06 Dup	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs															
Benzene	µg/L	**140**	150	**11**	**290**	210	**510**	500	**180**	190	**64**	64	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.50	<0.3	<2.0	0.75 "Q"	0.73 "Q"	0.76 "Q"	<0.50	<0.50	2.8	3.0	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.50	<0.36	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	60	12
Toluene	µg/L	1.9	1.9	0.77 "Q"	3.2	2.3	5.0	4.9	1.9	1.9	0.85	0.84	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	18	17	0.86 "Q"	21	14	38	37	15	14	9.7	9.7	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	2.7	2.6	<0.83	3.3	2.3	6.5	6.5	2.2	1.9	0.60 "Q"	0.46 "Q"	<0.20	NS	NS
Total Trimethylbenzene	µg/L	20.7	19.6	0.86	24.3	16.3	44.5	43.5	17.2	15.9	10.3	10.16	<0.40	480	96
Xylenes, Total	µg/L	5.3	5.2	<1.17	4.2	3.2	7.7	7.4	2.9	2.7	2.1	2.1	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	2.1	2.1	3.5	3.0	2.5	1.7	1.6	2.1	2.0	3.3	3.3	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.20	1.15 "Q"	<0.80	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	0.67	<0.26	<0.80	0.39 "Q"	0.67	0.64 "Q"	0.42 "Q"	0.43 "Q"	0.77	0.74	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	2.9	1.56 "Q"	5.4	3.8	6.7	6.1	2.9	2.8	5.2	5.2	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.20	1.32 "Q"	<0.80	<0.20	<0.20	<0.20	<0.20	<0.20	0.60 "Q"	0.60 "Q"	<0.20	NS	NS
n-Propylbenzene	µg/L	3.7	3.7	1.3 "Q"	5.4	3.8	7.8	7.4	3.6	3.4	6.2	6.2	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.50	<0.45	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs															
Acenaphthene	µg/L	<2.9	NA	<0.032	<0.33	NA	<0.33	NA	<0.34	NA	<0.35	NA	<0.33	NS	NS
Acenaphthylene	µg/L	<2.5	NA	<0.015	<0.69	NA	<0.69	NA	<0.70	NA	<0.73	NA	<0.69	NS	NS
Anthracene	µg/L	<2.1	NA	<0.013	<0.038	NA	<0.038	NA	<0.039	NA	<0.040	NA	<0.038	3,000	600
Benzo(a)anthracene	µg/L	<2.7	NA	<0.099	<0.044	NA	<0.044	NA	<0.045	NA	<0.047	NA	<0.044	NS	NS
Benzo(a)pyrene	µg/L	<2.5	NA	0.015 "Q"	<0.032	NA	<0.032	NA	<0.033	NA	<0.034	NA	<0.032	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	NA	***0.026 "Q"***	<0.098	NA	<0.098	NA	<0.10	NA	<0.10	NA	<0.098	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	NA	0.070	<0.12	NA	<0.12	NA	<0.12	NA	<0.13	NA	<0.12	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	NA	0.011 "Q"	<0.049	NA	<0.049	NA	<0.050	NA	<0.052	NA	<0.049	NS	NS
Chrysene	µg/L	<2.7	NA	0.015 "Q"	<0.041	NA	<0.041	NA	<0.042	NA	<0.044	NA	<0.041	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	NA	<0.009	<0.13	NA	<0.13	NA	<0.13	NA	<0.14	NA	<0.13	NS	NS
Fluoranthene	µg/L	<2.1	NA	0.040	<0.081	NA	<0.081	NA	<0.083	NA	<0.086	NA	<0.081	400	80
Fluorene	µg/L	<2.1	NA	<0.015	<0.062	NA	<0.062	NA	<0.063	NA	<0.066	NA	<0.062	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	NA	0.016 "Q"	<0.062	NA	<0.062	NA	<0.063	NA	<0.066	NA	<0.062	NS	NS
1-Methylnaphthalene	µg/L	NA	NA	0.022 "Q"	<0.32	NA	<0.32	NA	<0.33	NA	<0.34	NA	<0.32	NS	NS
2-Methylnaphthalene	µg/L	<2.2	NA	0.022 "Q"	<0.31	NA	<0.31	NA	<0.32	NA	<0.33	NA	<0.31	NS	NS
Naphthalene	µg/L	<2.7	NA	0.17	<0.40	NA	<0.40	NA	<0.41	NA	<0.43	NA	<0.40	40	8
Phenanthrene	µg/L	<2.6	NA	0.021 "Q"	<0.030	NA	<0.030	NA	<0.031	NA	<0.032	NA	<0.030	NS	NS
Pyrene	µg/L	<2.8	NA	0.061	<0.044	NA	<0.044	NA	<0.045	NA	<0.047	NA	<0.044	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5 "B"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	NA	NA	<10.0	NA	<0.020	NA	NA	NA	NA	1	0.1
Dissolved RCRA Metals															
Mercury	µg/L	<0.092	NA	NA	<0.092	NA	<0.092	NA	NA	NA	NA	NA	NA	2	0.2
Arsenic	µg/L	***5.1***	NA	***5.6***	***4.9***	NA	***2.7 "Q"***	NA	***8.9***	NA	***4.0***	NA	<1.0	10	1
Barium	µg/L	60	NA	35	58	NA	93	NA	NA	NA	NA	NA	NA	2,000	400
Cadmium	µg/L	<0.14	NA	NA	<0.14	NA	<0.14	NA	NA	NA	NA	NA	NA	5	0.5
Chromium	µg/L	3.4 "Q"	NA	NA	<2.1	NA	2.6 "Q"	NA	NA	NA	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	NA	<1.4	NA	<1.4	NA	NA	NA	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	NA	<3.2	NA	<3.2	NA	NA	NA	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	NA	<1.3	NA	<1.3	NA	NA	NA	NA	NA	NA	50	10
Inorganics															
Chloride	mg/L	25	NA	11	40	NA	75	NA	NA	NA	20	NA	***150***	250	125
Nitrate + Nitrite	mg/L	0.93	NA	<0.03	<0.024	NA	0.23	NA	NA	NA	0.16 "Q"	NA	0.31 "Q"	10	2
PCBs															
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides															
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	5
Pesticides															
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = laboratory blank is contaminated
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well Location:		**MW-6**						**MW-6R**	**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs										
Benzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.50	<0.50	NA	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.50	<0.50	NA	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.20	<0.20	NA	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	<0.40	<0.40	NA	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<0.50	<0.50	NA	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	NA	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	<0.50	<0.50	NA	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	<0.50	<0.50	NA	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs										
Acenaphthene	µg/L	<2.9	<0.032	<0.33	<0.38	<0.33	<0.35	<0.34	NS	NS
Acenaphthylene	µg/L	<2.5	<0.015	<0.69	<0.79	<0.69	<0.73	<0.72	NS	NS
Anthracene	µg/L	<2.1	<0.013	<0.038	<0.044	<0.038	<0.040	<0.040	3,000	600
Benzo(a)anthracene	µg/L	<2.7	<0.099	<0.044	<0.051	<0.044	<0.046	<0.046	NS	NS
Benzo(a)pyrene	µg/L	<2.5	0.014 "Q"	<0.032	<0.037	<0.032	<0.034	<0.033	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	***0.022 "Q"***	<0.098	<0.11	<0.098	<0.10	<0.10	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.039	<0.12	<0.14	<0.12	<0.13	<0.12	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	<0.024	<0.049	<0.056	<0.049	<0.052	<0.051	NS	NS
Chrysene	µg/L	<2.7	0.015 "Q"	<0.041	<0.047	<0.041	<0.043	<0.043	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	<0.009	<0.13	<0.15	<0.13	<0.14	<0.14	NS	NS
Fluoranthene	µg/L	<2.1	0.039	<0.081	<0.093	<0.081	<0.085	<0.084	400	80
Fluorene	µg/L	<2.1	<0.015	<0.062	<0.071	<0.062	<0.065	<0.065	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	<0.015	<0.062	<0.071	<0.062	<0.065	<0.065	NS	NS
1-Methylnaphthalene	µg/L	NA	<0.018	<0.32	<0.37	<0.32	<0.34	<0.33	NS	NS
2-Methylnaphthalene	µg/L	<2.2	<0.03	<0.31	<0.36	<0.31	<0.33	<0.32	NS	NS
Naphthalene	µg/L	<2.7	0.027 "Q"	<0.40	<0.46	<0.40	<0.42	<0.42	40	8
Phenanthrene	µg/L	<2.6	0.018 "Q"	<0.030	<0.034	<0.030	<0.032	<0.031	NS	NS
Pyrene	µg/L	<2.8	0.044	<0.044	<0.051	<0.044	<0.046	<0.046	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5 "B"	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	<10.0	<0.020	NA	NA	1	0.1
Dissolved RCRA Metals										
Mercury	µg/L	<0.092	NA	<0.092	<0.092	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***1.4***	<0.79	<0.79	<0.79	<0.79	<1.0	10	1
Barium	µg/L	170	140	86	210	NA	NA	NA	2,000	400
Cadmium	µg/L	0.28 "Q"	NA	<0.14	<0.14	NA	NA	NA	5	0.5
Chromium	µg/L	2.9 "Q"	NA	<2.1	3.9 "Q"	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	***1.6 "Q"***	<1.4	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	<3.2	<3.2	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	<1.3	<1.3	NA	NA	NA	50	10
Inorganics										
Chloride	mg/L	**280**	**277**	***170***	**480**	**330**	120	**340**	250	125
Nitrate + Nitrite	mg/L	0.74	<0.03	0.13	0.091	NA	***2.5***	***5.6***	10	2
PCBs										
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides										
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	50	5
Pesticides										
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
1. Groundwater samples collected by Sigma Environmental Services, Inc.
2. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
3. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
4. NS = no standard
5. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
6. mg/L = milligrams per liter (equivalent to parts per million, ppm)
7. NA = Not Analyzed
8. "Q" = concentration reported between Method Detection Limits and Limit of Quantification.
   "B" = laboratory blank is contaminated
9. Trip blank results: 12/21/04 - All VOCs reported below laboratory detection limits.
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - All VOCs reported below laboratory detection limits.
   6/14/06 - All VOCs reported below laboratory detection limits.
   12/28/06 - All VOCs reported below laboratory detection limits.
10. Equipment blank results: 12/21/04 - All VOCs reported below laboratory detection limits, except benzene (0.37 µg/L) and toluene (0.32 µg/L)
   3/24/05 - All PVOCs reported below laboratory detection limits.
   6/21/05 - All VOCs reported below laboratory detection limits.
   9/27/05 - All VOCs reported below laboratory detection limits.
   12/13/05 - Not used for this sampling event
   6/14/06 - All VOCs reported below laboratory detection limits, except benzene (0.31 "Q" µg/L) and toluene (0.24 "Q" µg/L)
   12/28/06 - All VOCs reported below laboratory detection limits, except benzene (0.45 "Q" µg/L) and toluene (0.26 "Q" µg/L)
11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 2
Groundwater Quality Results
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well Location:		**MW-7**						**MW-7R**	**NR 140**	**NR 140**
Analytes	Date:	12/21/04	3/24/05	6/21/05	9/27/05	12/13/05	6/14/06	12/28/06	**ES**	**PAL**
PVOCs & Detected VOCs										
Benzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	5	0.5
Ethylbenzene	µg/L	<0.50	<0.3	<0.50	<0.50	NA	<0.50	<0.50	700	140
Methyl-tert-butyl-ether	µg/L	<0.50	<0.36	<0.50	<0.50	NA	<0.50	<0.50	60	12
Toluene	µg/L	<0.20	<0.52	<0.20	<0.20	NA	<0.20	<0.20	1,000	200
1,2,4-Trimethylbenzene	µg/L	<0.20	<0.32	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
1,3,5-Trimethylbenzene	µg/L	<0.20	<0.83	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Total Trimethylbenzene	µg/L	<0.40	<1.15	<0.40	<0.40	NA	<0.40	<0.40	480	96
Xylenes, Total	µg/L	<0.50	<1.17	<0.50	<0.50	NA	<0.50	<0.50	10,000	1,000
sec-Butylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	NA	<0.25	<0.25	NS	NS
n-Butylbenzene	µg/L	<0.20	<0.61	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Chlorobenzene	µg/L	<0.20	<0.26	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
Isopropylbenzene	µg/L	<0.20	<0.56	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
p-Isopropyltoluene	µg/L	<0.20	<0.5	<0.20	<0.20	NA	<0.20	<0.20	NS	NS
n-Propylbenzene	µg/L	<0.50	<0.56	<0.50	<0.50	NA	<0.50	<0.50	NS	NS
Tetrachloroethene	µg/L	<0.50	<0.45	<0.50	<0.50	NA	<0.50	<0.50	5	0.5
PAHs & Detected SVOCs										
Acenaphthene	µg/L	<2.9	<0.032	<0.38	<0.37	NA	<0.42	<0.35	NS	NS
Acenaphthylene	µg/L	<2.5	<0.015	<0.79	<0.78	NA	<0.88	<0.74	NS	NS
Anthracene	µg/L	<2.1	<0.013	<0.044	<0.043	NA	<0.049	<0.041	3,000	600
Benzo(a)anthracene	µg/L	<2.7	<0.099	<0.051	<0.049	NA	<0.056	<0.047	NS	NS
Benzo(a)pyrene	µg/L	<2.5	<0.008	<0.037	<0.036	NA	<0.041	<0.034	0.2	0.02
Benzo(b)fluoranthene	µg/L	<2.6	<0.009	<0.11	<0.11	NA	<0.13	<0.11	0.2	0.02
Benzo(ghi)perylene	µg/L	<2.8	0.038	<0.14	<0.13	NA	<0.15	<0.13	NS	NS
Benzo(k)fluoranthene	µg/L	<2.6	<0.024	<0.056	<0.055	NA	<0.063	<0.053	NS	NS
Chrysene	µg/L	<2.7	<0.011	<0.047	<0.046	NA	<0.053	<0.044	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<2.7	<0.009	<0.15	<0.15	NA	<0.17	<0.14	NS	NS
Fluoranthene	µg/L	<2.1	0.017 "Q"	<0.093	<0.091	NA	<0.10	<0.087	400	80
Fluorene	µg/L	<2.1	<0.015	<0.071	<0.070	NA	<0.079	<0.067	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<2.6	<0.015	<0.071	<0.070	NA	<0.079	<0.067	NS	NS
1-Methylnaphthalene	µg/L	NA	<0.018	<0.37	<0.36	NA	<0.41	<0.34	NS	NS
2-Methylnaphthalene	µg/L	<2.2	<0.03	<0.36	<0.35	NA	<0.40	<0.33	NS	NS
Naphthalene	µg/L	<2.7	<0.023	<0.46	<0.45	NA	<0.51	<0.43	40	8
Phenanthrene	µg/L	<2.6	<0.011	<0.034	<0.034	NA	0.25	<0.032	NS	NS
Pyrene	µg/L	<2.8	0.037	<0.051	<0.049	NA	<0.056	<0.047	250	50
Bis(2-ethylhexyl)phthalate	µg/L	<3.1	NA	NA	NA	NA	NA	NA	6	0.6
Di-n-butyl phthalate	µg/L	<2.5 "B"	NA	NA	NA	NA	NA	NA	100	20
N-Nitrosodi-n-propylamine	µg/L	<2.4	NA	NA	NA	NA	NA	NA	NS	NS
Pentachlorophenol	µg/L	<2.8	NA	NA	<10.0	<0.020	NA	NA	1	0.1
Dissolved RCRA Metals										
Mercury	µg/L	<0.092	NA	<0.092	<0.092	NA	NA	NA	2	0.2
Arsenic	µg/L	<0.79	***1.0***	<0.79	<0.79	<0.79	<0.79	<1.0	10	1
Barium	µg/L	150	140	140	150	NA	NA	NA	2,000	400
Cadmium	µg/L	0.24 "Q"	NA	<0.14	0.21 "Q"	NA	NA	NA	5	0.5
Chromium	µg/L	3.4 "Q"	NA	<2.1	6.7 "Q"	NA	NA	NA	100	10
Lead	µg/L	<1.4	NA	<1.4	<1.4	NA	NA	NA	15	1.5
Selenium	µg/L	<3.2	NA	<3.2	<3.2	NA	NA	NA	50	10
Silver	µg/L	<1.3	NA	<1.3	<1.3	NA	NA	NA	50	10
Inorganics										
Chloride	mg/L	***230***	***272***	***230***	***190***	***170***	***160***	***220***	250	125
Nitrate + Nitrite	mg/L	***3.9***	***4.6***	***4.5***	1.8	***2.6 "B"***	***5.4***	***3.9***	10	2
PCBs										
Arochlor 1016	µg/L	<0.10	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/L	<0.49	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/L	<0.027	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/L	<0.085	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/L	<0.065	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/L	<0.098	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/L	<0.091	NA	NA	NA	NA	NA	NA	0.03	0.003
Herbicides										
2,4-D	µg/L	<0.16	NA	NA	NA	NA	NA	NA	70	7
2,4,5-TP (Silvex)	µg/L	<0.05	NA	NA	NA	NA	NA	NA	50	5
Pesticides										
Aldrin	µg/L	<0.003	NA	NA	NA	NA	NA	NA	NS	NS
a-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
b-BHC	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
d-BHC	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
g-BHC (Lindane)	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.2	0.02
Chlordane	µg/L	<0.003	NA	NA	NA	NA	NA	NA	2	0.2
4,4'-DDD	µg/L	<0.001	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDE	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
4,4'-DDT	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Dieldrin	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan I	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan II	µg/L	<0.002	NA	NA	NA	NA	NA	NA	NS	NS
Endosulfan Sulfate	µg/L	<0.021	NA	NA	NA	NA	NA	NA	NS	NS
Endrin	µg/L	<0.004	NA	NA	NA	NA	NA	NA	2	0.4
Endrin Aldehyde	µg/L	<0.004	NA	NA	NA	NA	NA	NA	NS	NS
Heptachlor	µg/L	<0.004	NA	NA	NA	NA	NA	NA	0.4	0.04
Heptachlor Epoxide	µg/L	<0.002	NA	NA	NA	NA	NA	NA	0.2	0.02
Methoxychlor	µg/L	<0.11	NA	NA	NA	NA	NA	NA	40	4
Toxaphene	µg/L	<0.19	NA	NA	NA	NA	NA	NA	3	0.3

Notes:
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11. Exceedances: **bold, box** = Concentration exceeds NR 140 ES
   bold, italics = Concentration exceeds NR 140 PAL

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
MW-106			---	---	---		Nov-92	Sampling event	Well/ground elevations not found in Earth Tech reports
			---	---	---		Jan-97	Sampling event	
			---	---	---		Jan-99	Earth Tech table	
			---	---	---		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.11	---	-8.11		5/21/03	Sigma sampling event	
	589.57	587.7	dry (8.60')				10/12/04	Post-construction sampling event	
			dry (8.60')				1/11/05	Post-construction sampling event	
			dry (8.60')				4/13/05	Post-construction sampling event	
			dry (8.60')				7/19/05	Post-construction sampling event	
MW-107	586.85	583.9	---	---	---	3.7 to 8.7	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Jan-97	Sampling event	
			8.99	6.0	577.86		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	579.39		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			8.19	5.2	578.66		07/19/01	Sigma field work	
			7.09	4.1	579.76		Sep-01	Earth Tech chloride sampling	Depth to gw (from toc) from Earth Tech's 10/01 binder package.
			7.86	---	578.99		5/21/03	Sigma sampling event	
	586.02	586.3	7.36	7.6	578.66	6.1 to 11.1	10/12/04	Post-construction sampling event	
			7.25	7.5	578.77		1/12/05	Post-construction sampling event	
			7.29	7.6	578.73		4/13/05	Post-construction sampling event	
			7.27	7.5	578.75		7/20/05	Post-construction sampling event	
MW-108	587.12	584.1	---	---	---	3.5 to 8.5	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Apr-95	Sampling event	
			---	---	---		Jan-97	Sampling event	
			9.30	6.3	577.82		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	579.00		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.99	5.0	579.13		07/19/01	Sigma field work	
			7.79	4.8	579.33		Sep-01	Earth Tech chloride sampling	Depth to gw (from toc) from Earth Tech's 10/01 binder package.
									Monitoring well MW-108 abandoned on 3/4/03 for remedial Excavation Area 1.
MW-108R	586.01	586.3	7.11	7.4	578.90	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-108R installed on 8/30/04
			7.31	7.6	578.70		1/12/05	Post-construction sampling event	
			7.21	7.5	578.80		4/13/05	Post-construction sampling event	
			7.08	7.4	578.93		7/20/05	Post-construction sampling event	
Sump-1			9.41		-9.41		5/21/03	Sigma sampling event	Sump-1 installed 3/7/03 in backfill of remedial Excavation Area 1.
	586.19	586.5	7.20	7.5	578.99	2.9 to 12.9	10/12/04	Post-construction sampling event	
			7.23	7.5	578.96		1/12/05	Post-construction sampling event	
			7.32	7.6	578.87		4/13/05	Post-construction sampling event	
			7.21	7.5	578.98		7/19/05	Post-construction sampling event	
MW-109	588.19	584.8	---	---	---	1.8 to 6.8	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			7.48	4.1	580.71		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.44		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.66	4.3	580.53		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.17	---	580.02		5/21/03	Sigma sampling event	
									Monitoring well MW-109 was buried during site redevelopment in late April 2004
MW-109R	588.57	588.8	9.23	9.5	579.34	4.0 to 14.0	10/12/04	Post-construction sampling event	Replacement well MW-109R installed on 8/30/04
			9.65	9.9	578.92		1/11/05	Post-construction sampling event	
			9.51	9.8	579.06		4/13/05	Post-construction sampling event	
			9.60	9.9	578.97		7/19/05	Post-construction sampling event	

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
MW-110A	588.44	585.8	---	---	---	4.3 to 9.3	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			7.86	5.3	580.58		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.69		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			8.02	5.4	580.42		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.62	---	579.82		5/21/03	Sigma sampling event	
									Monitoring well MW-110A abandoned on 10/6/03 due to damage from site construction
MW-111	590.89	588.5	---	---	---	5.4 to 10.4	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			10.48	8.1	580.41		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.84		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			10.37	8.0	580.52		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			10.98	---	579.91		5/21/03	Sigma sampling event	
									Monitoring well MW-111 abandoned on 10/6/03 due to damage from site construction
MW-111R	589.41	589.8	9.41	9.8	580.00	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-111R installed on 8/30/04
			9.84	10.2	579.57		1/12/05	Post-construction sampling event	
			9.80	10.2	579.61		4/13/05	Post-construction sampling event	
			9.84	10.2	579.57		7/19/05	Post-construction sampling event	
MW-112	587.31	584.4	---	---	---	3.5 to 8.5	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Jan-97	Sampling event	
			6.42	3.5	580.89		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.52		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			5.40	2.5	581.91		Mar-99	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	---		Feb-00	Sampling event	
			6.52	3.6	580.79		07/19/01	Sigma field work	
			5.55	2.7	581.76		Sep-01	Earth Tech chloride sampling	Depth to gw (from toc) from Earth Tech's 10/01 binder package.
			7.43	---	579.88		5/21/03	Sigma sampling event	
									Monitoring well MW-112 was buried during site redevelopment in late September 2003
MW-112R	589.72	590.1	10.04	10.4	579.68	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-112R installed on 8/30/04
			10.41	10.7	579.31		1/12/05	Post-construction sampling event	
			10.38	10.7	579.34		4/13/05	Post-construction sampling event	
			10.38	10.7	579.34		7/20/05	Post-construction sampling event	
MW-113	587.23	584.6	---	---	---	3.3 to 8.3	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			7.46	4.9	579.77		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.07		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.75	5.1	579.48		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.16	---	579.07		5/21/03	Sigma sampling event	
									Monitoring well MW-113 was buried during site redevelopment by late August 2003
MW-113R	588.38	588.6	8.92	9.2	579.46	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-113R installed on 8/30/04
			9.23	9.5	579.15		1/11/05	Post-construction sampling event	
			8.90	9.1	579.48		4/13/05	Post-construction sampling event	
			9.05	9.3	579.33		7/20/05	Post-construction sampling event	

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
MW-114	590.16	587.6	---	---	---	5.1 to 10.1	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			10.21	7.6	579.95		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.13		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			10.79	8.2	579.37		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			11.03	---	579.13		5/21/03	Sigma sampling event	
	588.29	588.5	8.91	9.2	579.38	6.1 to 11.1	10/12/04	Post-construction sampling event	
			9.16	9.4	579.13		1/11/05	Post-construction sampling event	
			8.79	9.0	579.50		4/13/05	Post-construction sampling event	
			9.01	9.3	579.28		7/19/05	Post-construction sampling event	
MW-115	586.74	584.4	---	---	---	4.4 to 9.4	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			7.23	4.9	579.51		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.39		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.36	5.1	579.38		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			7.70	---	579.04		5/21/03	Sigma sampling event	
	588.98	589.9	9.43	10.4	579.55	9.9 to 14.9	10/12/04	Post-construction sampling event	
			9.77	10.7	579.21		1/11/05	Post-construction sampling event	
			9.57	10.5	579.41		4/13/05	Post-construction sampling event	
			9.71	10.6	579.27		7/19/05	Post-construction sampling event	
PZ-115A	586.72	584.4	---	---	---	13.6 to 18.6	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			9.90	7.6	576.82		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.34		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.22	4.9	579.50		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			7.46	---	579.26		5/21/03	Sigma sampling event	
	589.10	589.6	8.92	9.4	580.18	18.8 to 23.8	10/12/04	Post-construction sampling event	
			9.60	10.1	579.50		1/11/05	Post-construction sampling event	
			9.30	9.8	579.80		4/13/05	Post-construction sampling event	
			9.53	10.1	579.57		7/19/05	Post-construction sampling event	
MW-116	589.06	587.8	---	---	---	6.4 to 11.4	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			8.93	7.6	580.13		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	579.87		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			9.86	8.6	579.20		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			9.85	---	579.21		5/21/03	Sigma sampling event	
									Monitoring well MW-116 was buried during site redevelopment by late August 2003
MW-116R	588.26	588.5	8.93	9.2	579.33	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-116R installed on 8/30/04
			9.19	9.4	579.07		1/11/05	Post-construction sampling event	
			8.82	9.1	579.44		4/13/05	Post-construction sampling event	
			9.11	9.4	579.15		7/19/05	Post-construction sampling event	

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
PZ-116A	589.31	587.7	---	---	---	20.7 to 25.7	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			9.71	8.1	579.60		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	578.84		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			10.65	9.0	578.66		Mar-99	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	---		Feb-00	Sampling event	
			11.17	9.6	578.14		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			11.53	---	577.78		5/21/03	Sigma sampling event	
	590.86	591.2	12.30	12.6	578.56	24.2 to 29.2	10/12/04	Post-construction sampling event	
			12.57	12.9	578.29		1/11/05	Post-construction sampling event	
			12.07	12.4	578.79		4/13/05	Post-construction sampling event	
			12.34	12.7	578.52		7/19/05	Post-construction sampling event	
MW-117	588.87	586.8	---	---	---	5.7 to 10.7	Nov-92	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			8.70	6.6	580.17		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	581.01		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			8.96	6.9	579.91		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			9.27	---	579.60		5/21/03	Sigma sampling event	
									Monitoring well MW-117 was abandoned on 10/6/03 due to damage from site construction
MW-203	586.84	585.5	---	---	---	3.3 to 8.3	Nov-96	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
	(approx)		---	---	---		Jan-97	Sampling event	
			7.40	6.1	579.44		Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	580.04		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	
			7.57	6.3	579.27		07/19/01	Sigma field work	
			---	---	---		Sep-01	Earth Tech chloride sampling	
			7.75	---	579.09		5/21/03	Sigma sampling event	
									Monitoring well MW-203 was buried during site redevelopment in late June 2004
MW-203R	586.00	586.3	6.65	7.0	579.35	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-203R installed on 8/30/04
			6.93	7.3	579.07		1/11/05	Post-construction sampling event	
			6.73	7.1	579.27		4/13/05	Post-construction sampling event	
			6.92	7.2	579.08		7/19/05	Post-construction sampling event	
MW-301	585.53	582.3	5.58	2.3	579.95	3.0 to 13.0	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	579.29		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			6.89	3.6	578.64		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			6.11	2.9	579.42		Sep-01	Earth Tech chloride sampling	Depth to gw (from toc) from Earth Tech's 10/01 binder package.
			7.02	---	578.51		5/21/03	Sigma sampling event	
									Monitoring well MW-301 was abandoned on 10/20/03 due to damage from site construction
MW-301R	585.80	586.5	6.67	7.3	579.13	5.0 to 15.0	10/12/04	Post-construction sampling event	Replacement well MW-301R installed on 8/30/04
			6.90	7.6	578.90		1/12/05	Post-construction sampling event	
			6.61	7.3	579.19		4/13/05	Post-construction sampling event	
			6.65	7.3	579.15		7/20/05	Post-construction sampling event	

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
MW-302	588.48	585.6	6.73	3.8	581.75	3.5 to 8.5	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
	(approx)		---	---	581.65		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			6.35	3.5	582.13		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			---	---	---		Sep-01	Earth Tech chloride sampling	
			6.74	---	581.74		5/21/03	Sigma sampling event	
	588.42	588.8	7.63	8.0	580.79	6.7 to 11.7	10/12/04	Post-construction sampling event	
			7.95	8.3	580.47		1/11/05	Post-construction sampling event	
			8.23	8.6	580.19		4/13/05	Post-construction sampling event	
			7.98	8.3	580.44		7/20/05	Post-construction sampling event	
MW-303	588.41	585.5	8.05	5.2	580.36	4.0 to 9.0	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
	(approx)		---	---	580.47		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			8.48	5.6	579.93		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.74	---	579.67		5/21/03	Sigma sampling event	
									Monitoring well MW-303 was abandoned on 7/19/04 due to damage from site construction
MW-304	588.04	584.6	7.58	4.2	580.46	3.0 to 8.0	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
	(approx)		---	---	580.32		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			7.63	4.2	580.41		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			---	---	---		Sep-01	Earth Tech chloride sampling	
			Dry (8.20')	---	---		5/21/03	Sigma sampling event	
	586.79	587.1	7.41	7.7	579.38	5.5 to 10.5	10/12/04	Post-construction sampling event	
			7.77	8.1	579.02		1/11/05	Post-construction sampling event	
			7.66	8.0	579.13		4/13/05	Post-construction sampling event	
			7.78	8.1	579.01		7/19/05	Post-construction sampling event	
MW-305	587.70	584.5	7.92	4.7	579.78	4.0 to 9.0	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
			---	---	579.22		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			8.79	5.5	578.91		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			8.11	4.9	579.59		Sep-01	Earth Tech chloride sampling	Depth to gw (from toc) from Earth Tech's 10/01 binder package.
			9.00	---	578.70		5/21/03	Sigma sampling event	
	587.21	587.5	8.31	8.6	578.90	7.0 to 12.0	10/12/04	Post-construction sampling event	
			8.55	8.8	578.66		1/11/05	Post-construction sampling event	
			8.10	8.4	579.11		4/13/05	Post-construction sampling event	
			8.33	8.6	578.88		7/19/05	Post-construction sampling event	
MW-306	587.35	584.6	7.35	4.6	580.00	4.0 to 9.0	Dec-98	Sampling event	Depth to gw (from toc) from Earth Tech's 4/99 SI report, App. C
	(approx)		---	---	580.23		Jan-99	Earth Tech table	GW elevation from Earth Tech's 4/99 SI report, Table 6
			---	---	---		Feb-00	Sampling event	Ground elevation from Earth Tech's 4/99 SI report, Table 6
			7.66	4.9	579.69		07/19/01	Sigma field work	Well screen interval as reported on well construction form (Earth Tech 4/99 report)
			---	---	---		Sep-01	Earth Tech chloride sampling	
			8.00	---	579.35		5/21/03	Sigma sampling event	
	589.29	589.5	9.83	10.0	579.46	8.9 to 13.9	10/12/04	Post-construction sampling event	
			10.17	10.4	579.12		1/11/05	Post-construction sampling event	
			10.05	10.2	579.24		4/13/05	Post-construction sampling event	
			10.13	10.3	579.16		7/19/05	Post-construction sampling event	
SMW-1	---	---	8.17	~6.2		3 to 13	07/11/02	Sigma - development	
			8.50	~6.5			07/22/02	Sigma - sampling	Monitoring well SMW-1 destroyed in summer 2002 and abandoned by removal during revetment construction in December 2003.
SPZ-1	---	---	5.74	~2.7		21 to 26	07/11/02	Sigma - development	
			5.96	~3			07/22/02	Sigma - sampling	
			7.05	~4			5/21/03	Sigma sampling event	
									Monitoring well SPZ-1 was buried during revetment construction in early December 2003

Table 1
Static Water Level Measurements
Former C. Reiss Coal Company & Bulge Properties - Sheboygan, Wisconsin
Sigma Project No. 7302

Well ID	Top of Casing Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Estimated Well Screen Invterval (feet bgs)	Date	Comments	Information Source
River Gauge #1	---	585.91	7.47	7.5	578.44		10/12/04	Post-construction sampling event	
			7.78	7.8	578.13		1/12/05	Post-construction sampling event	
			7.41	7.4	578.50		4/13/05	Post-construction sampling event	
			7.50	7.5	578.41		7/20/05	Post-construction sampling event	
River Gauge #2	---	585.84	7.50	7.5	578.34		10/12/04	Post-construction sampling event	
			7.62	7.6	578.22		1/12/05	Post-construction sampling event	
			7.35	7.4	578.49		4/13/05	Post-construction sampling event	
			7.43	7.4	578.41		7/20/05	Post-construction sampling event	
River Gauge #3	---	585.91	7.36	7.4	578.55		10/12/04	Post-construction sampling event	
			7.54	7.5	578.37		1/12/05	Post-construction sampling event	
			7.42	7.4	578.49		4/13/05	Post-construction sampling event	
			7.50	7.5	578.41		7/20/05	Post-construction sampling event	

Notes:
1. Monitoring wells MW-107 through MW-306 were installed by others.
2. Monitoring well SMW-1 and piezometer SPZ-1 were installed by Sigma on July 8, 2002.
3. Top of casing elevations for wells MW-107, MW-108, MW-112, MW-301, and MW-305 from Earth Tech chloride study (documented in binder dated October 2001). Top of casing elevations for remaining wells are approximate, based on surveyed ground surface elevations as reported in Earth Tech SI report and distance from top of casing to ground surface as measured by Sigma in July 2001.
4. Well screen intervals for all wells except MW-301 through MW-306 estimated by back-calculating from the total well depth as measured by Sigma on 7/19/01.
5. feet MSL = feet above Mean Sea Level
6. feet toc = feet below top of casing of monitoring well
7. feet bgs = feet below ground surface
8. Groundwater depth below ground surface not shown for 5/21/03 sampling event because site grades different from site grading/filling activities relative to old survey data.
9. Sigma Development surveyed new monitoring well/river guage/ground surface elevations in September 2004 after construction of Blue Harbor Resort completed and well replacements & repairs completed.

Table 1
Static Groundwater Elevations
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well ID	Date	Ground Surface Elevation (feet MSL)	Casing Elevation (feet MSL)	Depth to Groundwater (feet from toc)	Depth of Well (feet from toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Well Screen Interval (feet bgs)
MW-1	12/21/04	583.2	585.83	5.32	15.75	2.7	580.51	3 to 13
	3/24/05			5.20	15.75	2.6	580.63	
	4/1/05			4.27	---	1.6	581.56	
	4/15/05			5.27	---	2.6	580.56	
	4/21/05			5.27	---	2.6	580.56	
	4/28/05			5.60	---	3.0	580.23	
	6/21/05			6.23	15.74	3.6	579.60	
	9/27/05			5.53	15.75	2.9	580.30	
	12/13/05			5.57	15.75	2.9	580.26	
	6/14/06			5.57		2.9	580.26	
	12/28/06	585.3		5.11		4.5	580.72	5.1 to 13.1
MW-2	12/21/04	583.0	582.71	2.70	12.97	3.0	580.01	3 to 13
	3/24/05			2.75	13.00	3.0	579.96	
	4/1/05			2.49	---	2.8	580.22	
	4/15/05			2.63	---	2.9	580.08	
	4/21/05			2.59	---	2.9	580.12	
	4/28/05			2.75	---	3.0	579.96	
	6/21/05			3.05	12.97	3.3	579.66	
	9/27/05			2.52	13.00	2.8	580.19	
	12/13/05			2.95	13.00	3.2	579.76	
	6/14/06			2.50		2.8	580.21	
MW-2R	12/28/06	585.6	587.97	6.81		4.4	581.16	5.6 to 15.6
MW-3	12/21/04	583.8	583.43	3.17	12.72	3.5	580.26	3 to 13
	3/24/05			3.61	12.75	4.0	579.82	
	4/1/05			3.10	---	3.5	580.33	
	4/15/05			3.19	---	3.6	580.24	
	4/21/05			3.27	---	3.6	580.16	
	4/28/05			3.31	---	3.7	580.12	
	6/21/05			3.93	12.73	4.3	579.50	
	9/27/05			2.97	12.75	3.3	580.46	
	12/13/05			3.51	12.75	3.9	579.92	
	6/14/06			2.95		3.3	580.48	
MW-3R	12/28/06	586.8	589.32	8.44		5.9	580.88	6 to 16
MW-4	12/21/04	584.7	584.40	3.43	12.80	3.8	580.97	3 to 13
	3/24/05			2.67	12.82	3.0	581.73	
	4/1/05			1.58	---	1.9	582.82	
	4/15/05			2.63	---	3.0	581.77	
	4/21/05			3.08	---	3.4	581.32	
	4/28/05			3.40	---	3.7	581.00	
	6/21/05			4.10	12.80	4.4	580.30	
	9/27/05			4.44	12.80	4.8	579.96	
	12/13/05			3.65	12.80	4.0	580.75	
	6/14/06			2.82		3.2	581.58	
MW-4R	12/28/06	585.9	588.25	7.13		4.8	581.12	4.2 to 14.2
MW-5	12/21/04	584.7	584.21	3.33	12.90	3.8	580.88	3 to 13
	3/24/05			3.25	12.88	3.7	580.96	
	4/1/05			2.89	---	3.3	581.32	
	4/15/05			3.30	---	3.7	580.91	
	4/21/05			3.38	---	3.8	580.83	
	4/28/05			3.59	---	4.0	580.62	
	6/21/05			3.93	12.83	4.4	580.28	
	9/27/05			3.94	12.85	4.4	580.27	
	12/13/05			3.69	12.85	4.1	580.52	
	6/14/06			3.00		3.4	581.21	
MW-5R	12/28/06	586.0	587.93	6.64		4.7	581.29	4.3 to 14.3

Table 1
Static Groundwater Elevations
Original C. Reiss Coal Company Property - Northwest Corner of 8th Street & Indiana Avenue, Sheboygan, Wisconsin
Sigma Project No. 7875

Well ID	Date	Ground Surface Elevation (feet MSL)	Casing Elevation (feet MSL)	Depth to Groundwater (feet from toc)	Depth of Well (feet from toc)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet MSL)	Well Screen Interval (feet bgs)
MW-6	12/21/04	587.1	586.43	5.37	12.85	6.0	581.06	3 to 13
	3/24/05			5.46	12.80	6.1	580.97	
	4/1/05			5.14	---	5.8	581.29	
	4/15/05			5.38	---	6.0	581.05	
	4/21/05			5.50	---	6.1	580.93	
	4/28/05			5.68	---	6.3	580.75	
	6/21/05			6.04	12.83	6.7	580.39	
	9/27/05			6.09	12.85	6.7	580.34	
	12/13/05			5.78	12.85	6.4	580.65	
	6/14/06			5.02		5.7	581.41	
MW-6R	12/28/06	587.8	589.83	8.37		6.4	581.46	3.8 to 13.8
MW-7	12/21/04	587.1	586.55	5.13	12.73	5.6	581.42	3 to 13
	3/24/05			5.84	12.74	6.3	580.71	
	4/1/05			5.55	---	6.1	581.00	
	4/15/05			5.44	---	5.9	581.11	
	4/21/05			5.54	---	6.0	581.01	
	4/28/05			5.70	---	6.2	580.85	
	6/21/05			6.13	12.73	6.6	580.42	
	9/27/05			6.12	12.75	6.6	580.43	
	12/13/05			5.66	12.75	6.2	580.89	
	6/14/06			5.00		5.5	581.55	
MW-7R	12/28/06	587.8	589.88	8.32		6.2	581.56	3.8 to 13.8

Notes:
1. Survey of MW-1 through MW-7 performed by Sigma Development, Inc. in December 2004.
2. feet MSL = feet above Mean Sea Level
3. feet from toc = feet below top of casing
4. feet bgs = feet below ground surface
5. Replacement monitoring wells MW-2R through MW-7R installed on December 21, 2006. Elevations at wells MW-2R through MW-7R were surveyed by Sigma Environmental Services, Inc. on December 28, 2006 relative to MW-1 top of casing elevation.

IMPROPERLY ABANDONED MONITORING WELLS

Site Location Map

Figure 1 - Map of Improperly Abandoned Monitoring Wells at Property #1
Figure 2 - Map of Improperly Abandoned Monitoring Wells at Property #2

Well Construction Report

Well construction reports for the following wells are attached:

- Property #1
  - MW-109 – not available
  - MW-112 – not available
  - MW-113 – not available
  - MW-116 – not available
  - MW-203 – not available
  - MW-303

- Property #2
  - MW-2
  - MW-3
  - MW-4
  - MW-5
  - MW-6
  - MW-7

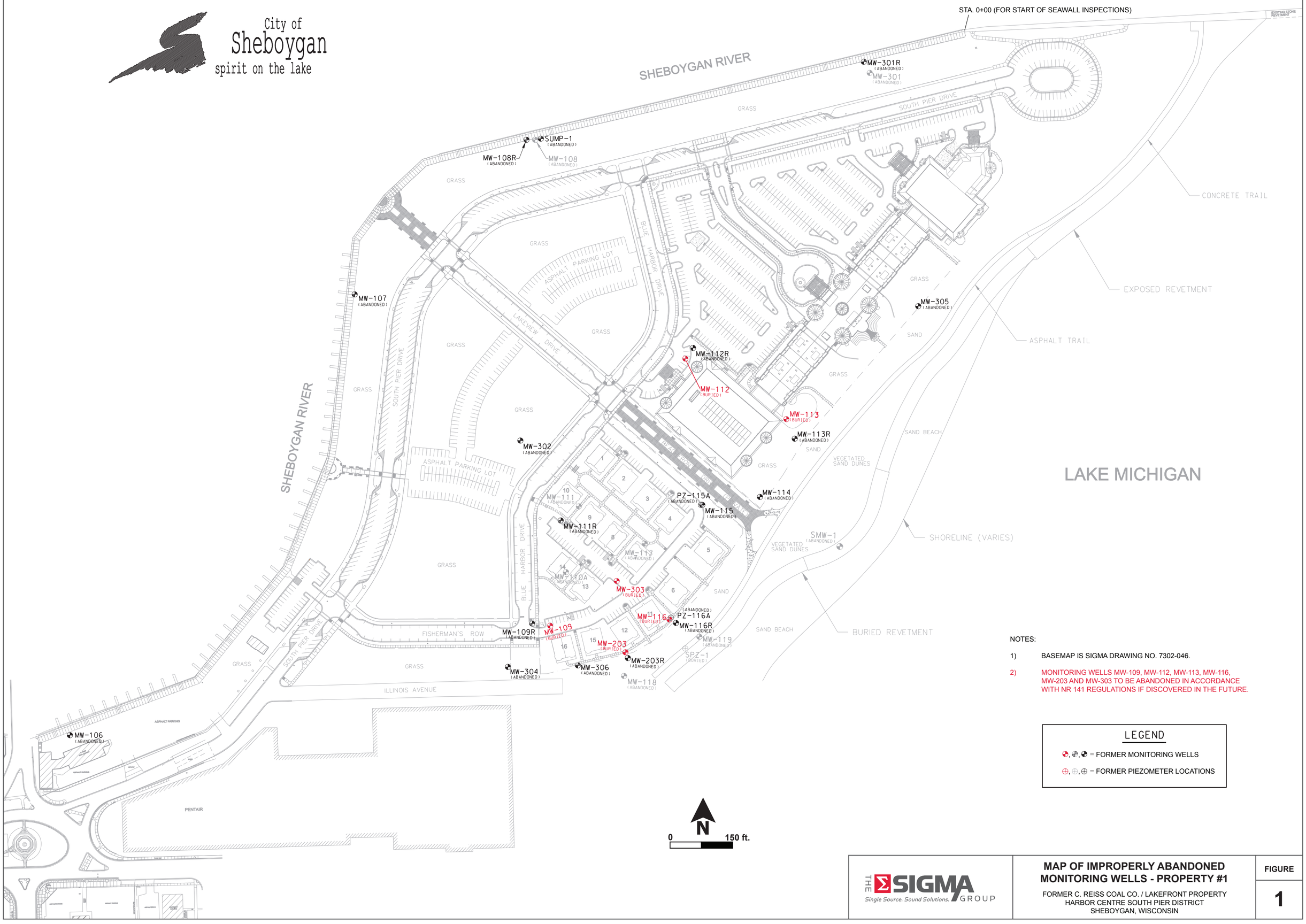
Deed

Refer to deed included with GIS Registry packet.

Notification Letter

Wells that were improperly abandoned were only located on City of Sheboygan property.

City of
Sheboygan
spirit on the lake



NOTES:

1) BASEMAP IS SIGMA DRAWING NO. 7302-046.

2) MONITORING WELLS MW-109, MW-112, MW-113, MW-116, MW-203 AND MW-303 TO BE ABANDONED IN ACCORDANCE WITH NR 141 REGULATIONS IF DISCOVERED IN THE FUTURE.

LEGEND

= FORMER MONITORING WELLS

= FORMER PIEZOMETER LOCATIONS

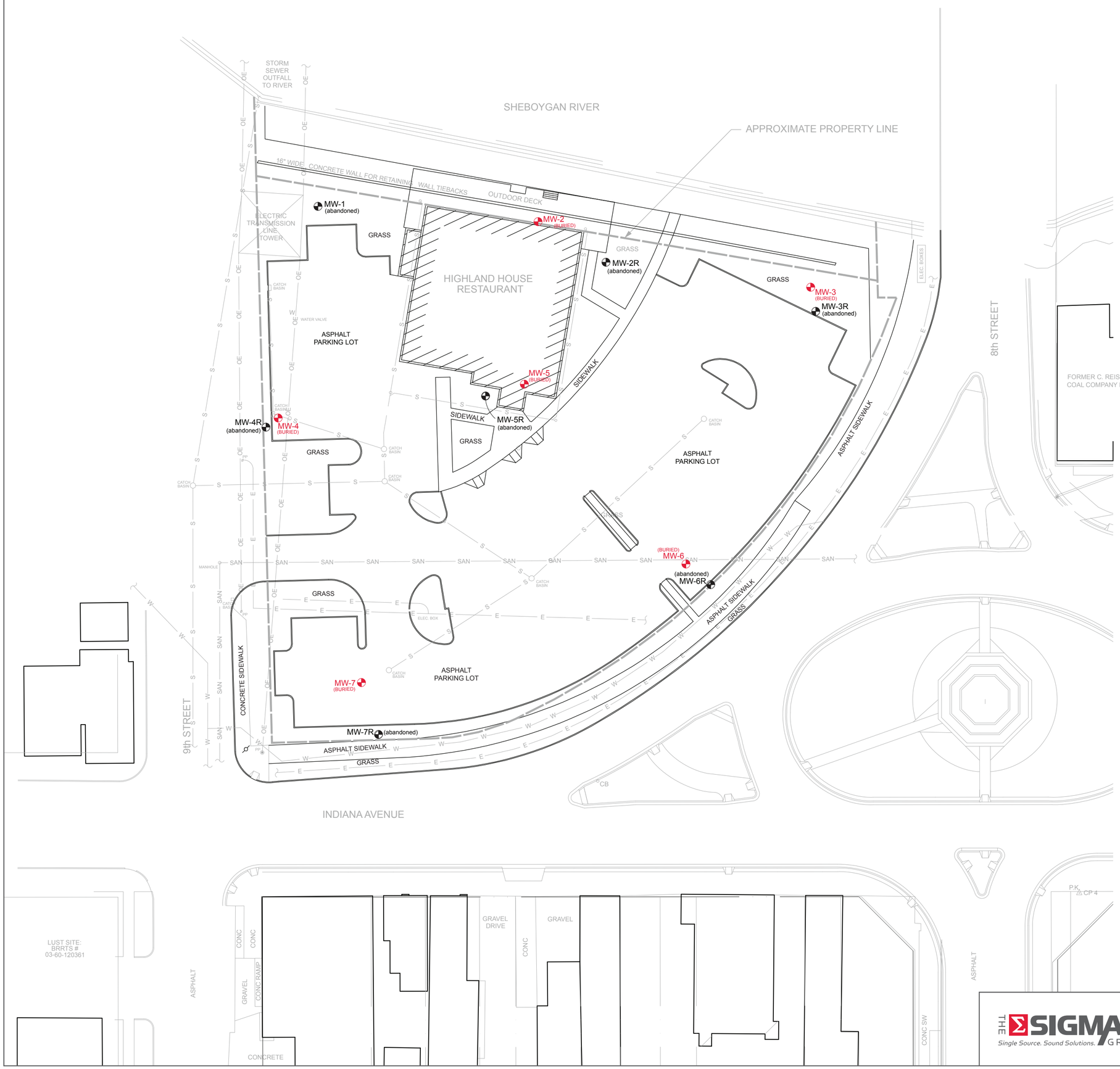
THE SIGMA GROUP
Single Source. Sound Solutions.

MAP OF IMPROPERLY ABANDONED MONITORING WELLS - PROPERTY #1

FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN

FIGURE
1

Project: 7302-080 | Directory: GRAPHICS | Filename: 7302_F1_ImproperWellsAband.ai | Created By: ERO | Date: 10/13/2008



NOTES:

1. BASE MAP BASED ON ELECTRONIC FILE PROVIDED TO SIGMA BY CITY OF SHEBOYGAN AND SIGMA DRAWING NO. 7875-018.

2. MONITORING WELLS MW-1 THROUGH MW-7 SURVEYED BY SIGMA DEVELOPMENT, INC. IN DECEMBER 2004.

3. NEW SITE FEATURES BASED ON 7-28-04 SITE MAP PROVIDED BY ABACUS ARCHITECTS, INC. AND ARE SHOWN IN BLACK.

4. MONITORING WELLS MW-2 THROUGH MW-7 TO BE ABANDONED IN ACCORDANCE WITH NR 141 REGULATIONS IF DISCOVERED IN THE FUTURE.

LEGEND

- = FORMER MONITORING WELL
- OE = OVERHEAD ELECTRIC LINE
- E = UNDERGROUND ELECTRIC LINE
- S = UNDERGROUND STORM SEWER LINE
- SAN = UNDERGROUND SANITARY SEWER LINE
- W = UNDERGROUND WATER LINE

THE SIGMA GROUP
Single Source. Sound Solutions.

MAP OF IMPROPERLY ABANDONED MONITORING WELLS - PROPERTY #2

FORMER C. REISS COAL CO. / LAKEFRONT PROPERTY
HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN

FIGURE
2

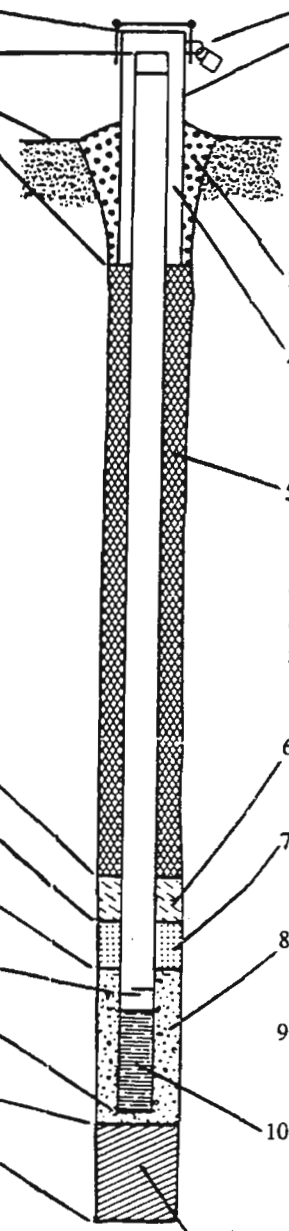
Project: 7392-080 | Directory: GRAPHICS | Filename: 7392_F2_improperWellsAband_Prop2.ai | Created By: ERO | Date: 10/13/2008

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: C. Reiss Coal Co.	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: MW 303
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number: JT766 DNR Well Number: _____
1. Well: Water Table Observation Well ☐ 11; Piezometer ☐ 12	Section Location of Waste/Source: ___1/4 of ___ 1/4 of Sec. ___, T. 15 N, R. 23 ■ E. ☐ W.	Date Well Installed: 12/08/98 (m m / d d / y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ■ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Earth Tech · D Heim; American Soil Probing
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		



A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ■
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ■ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ■ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ■ 99

16. Drilling additives used? ☐ Yes ■ No

Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 2.0 ft.

F. Fine sand, top _____ ft. MSL or 2.5 ft.

G. Filter pack, top _____ ft. MSL or 3.0 ft.

H. Screen joint, top _____ ft. MSL or 4.0 ft.

I. Well bottom _____ ft. MSL or 9.0 ft.

J. Filter pack, bottom _____ ft. MSL or 9.0 ft.

K. Borehole, bottom _____ ft. MSL or 9.5 ft.

L. Borehole, diameter 8 in.

M. O.D. well casing 2.42 in.

N. I.D. well casing 2.02 in.

1. Cap and lock? ■ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ■ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete ☐ 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☐ _____; Other ☐ _____

5. Annular space seal: a. Granular Bentonite ☐ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. Pure Gold Medium Chips Other ■ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint Sand #35/45
b. Volume added ~30 lb ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. Red Flint Sand #30
b. Volume added _____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ■ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: _____
a. Screen type: Factory cut ■ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer Bedrock Enterprises
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.

11. Backfill material (below filter pack): None ☐ 14; Other ■ Red Flint #30 sand

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: David Heim Firm: Earth Tech, Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-2
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH195 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,903 ft. N, 2,572,590 ft. E. S/C/N	Date Well Installed: 11/17/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi, On-Site Environmental Services, Inc.
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 582.97 ft. MSL

B. Well casing, top elevation 582.71 ft. MSL

C. Land surface elevation 583.0 ft. MSL

D. Surface seal, bottom 582.2 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required): NA

E. Bentonite seal, top 582.2 ft. MSL or 0.8 ft.

F. Fine sand, top 580.7 ft. MSL or 2.3 ft.

G. Filter pack, top 580.5 ft. MSL or 2.5 ft.

H. Screen joint, top 580.0 ft. MSL or 3.0 ft.

I. Well bottom 570.0 ft. MSL or 13.0 ft.

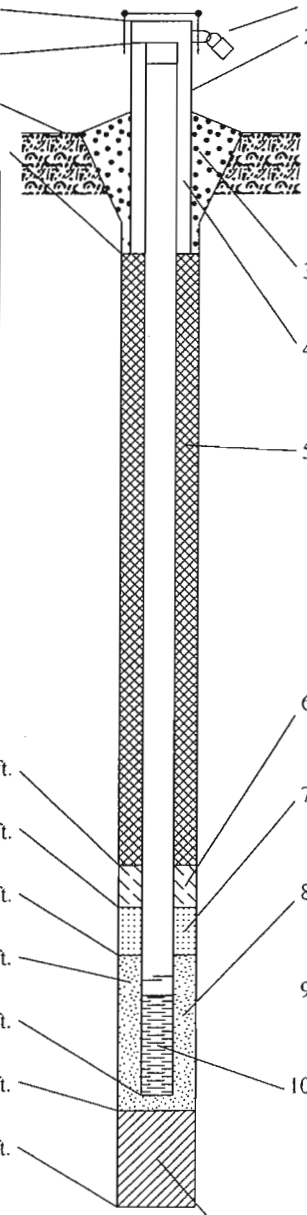
J. Filter pack, bottom 570.0 ft. MSL or 13.0 ft.

K. Borehole, bottom 570.0 ft. MSL or 13.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: compression cap
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 Sand Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio Brand #4000
b. Volume added ____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio Brand #5
b. Volume added ____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Neal Shefchek

Firm: Sigma Environmental Services, Inc
1300 West Canal Street Milwaukee, WI 53233
Tel: (414) 643-4200
Fax: (414) 643-4210

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-3
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH193 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,866 ft. N, 2,572,741 ft. E. S/C/N	Date Well Installed: 11/16/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi, On-Site Environmental Services, Inc.
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 583.90 ft. MSL

B. Well casing, top elevation 583.43 ft. MSL

C. Land surface elevation 583.8 ft. MSL

D. Surface seal, bottom 583.0 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☒ 4 1
____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
NA

E. Bentonite seal, top 583.0 ft. MSL or 0.8 ft.

F. Fine sand, top 581.5 ft. MSL or 2.3 ft.

G. Filter pack, top 581.3 ft. MSL or 2.5 ft.

H. Screen joint, top 580.8 ft. MSL or 3.0 ft.

I. Well bottom 570.8 ft. MSL or 13.0 ft.

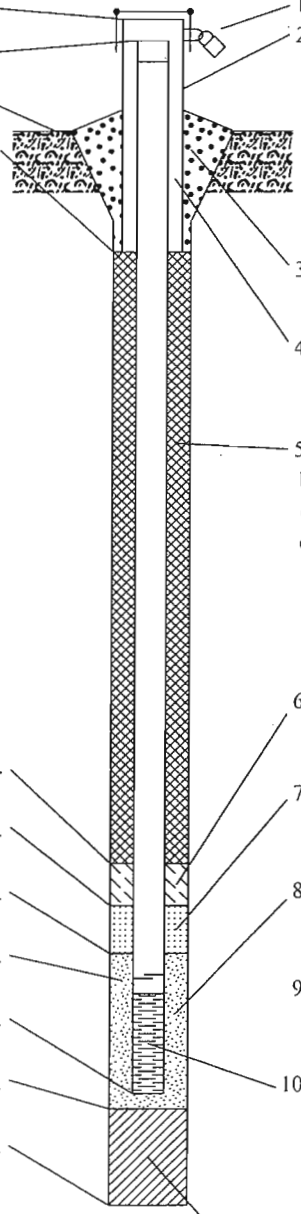
J. Filter pack, bottom 570.8 ft. MSL or 13.0 ft.

K. Borehole, bottom 570.8 ft. MSL or 13.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 0 4
____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: compression cap

3. Surface seal: Bentonite ☐ 3 0
Concrete ☒ 0 1
____ Other ☐ __

4. Material between well casing and protective pipe:
Bentonite ☐ 3 0
Sand Other ☒ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐ __

7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio Brand #4000
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio Brand #5
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐ __

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐ __
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☐ 1 4
____ Other ☒ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Nate Shepherd

Firm: Sigma Environmental Services, Inc
1300 West Canal Street Milwaukee, WI 53233
Tel: (414) 643-4200
Fax: (414) 643-4210

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-4
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH197 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,794 ft. N, 2,572,446 ft. E. S/C/N	Date Well Installed: 11/16/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi
Distance from Waste/Source ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ____ / On-Site Environmental Services, Inc.

A. Protective pipe, top elevation 584.75 ft. MSL

B. Well casing, top elevation 584.40 ft. MSL

C. Land surface elevation 584.7 ft. MSL

D. Surface seal, bottom 583.9 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☒ 4 1
____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
NA

E. Bentonite seal, top 583.9 ft. MSL or 0.8 ft.

F. Fine sand, top 582.4 ft. MSL or 2.3 ft.

G. Filter pack, top 582.2 ft. MSL or 2.5 ft.

H. Screen joint, top 581.7 ft. MSL or 3.0 ft.

I. Well bottom 571.7 ft. MSL or 13.0 ft.

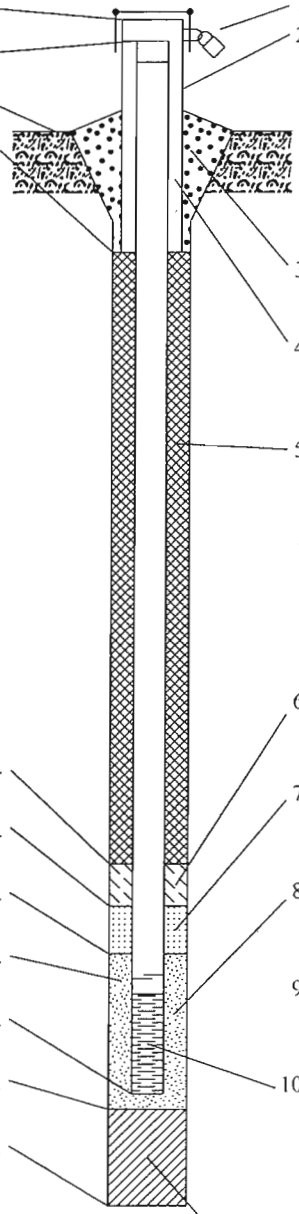
J. Filter pack, bottom 571.7 ft. MSL or 13.0 ft.

K. Borehole, bottom 571.7 ft. MSL or 13.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 0 4 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: compression cap
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☒ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3 0
Sand Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio Brand #4000
b. Volume added ____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio Brand #5
b. Volume added ____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☐ 1 4
____ Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: Sigma Environmental Services, Inc
1300 West Canal Street Milwaukee, WI 53233
Tel: (414) 643-4200
Fax: (414) 643-4210

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-5
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH 196 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,813 ft. N, 2,572,582 ft. E. S/C/N	Date Well Installed: 11/16/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi
Distance from Waste/Source ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ____ / On-Site Environmental Services, Inc.

A. Protective pipe, top elevation 584.64 ft. MSL

B. Well casing, top elevation 584.21 ft. MSL

C. Land surface elevation 584.7 ft. MSL

D. Surface seal, bottom 583.9 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☒ 4 1
____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
NA

E. Bentonite seal, top 583.9 ft. MSL or 0.8 ft.

F. Fine sand, top 582.4 ft. MSL or 2.3 ft.

G. Filter pack, top 582.2 ft. MSL or 2.5 ft.

H. Screen joint, top 581.7 ft. MSL or 3.0 ft.

I. Well bottom 571.7 ft. MSL or 13.0 ft.

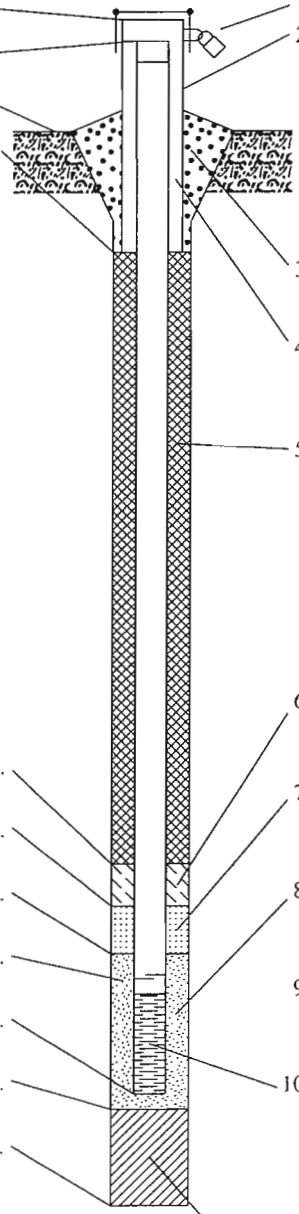
J. Filter pack, bottom 571.7 ft. MSL or 13.0 ft.

K. Borehole, bottom 571.7 ft. MSL or 13.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 0 4
____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: compression cap
3. Surface seal: Bentonite ☐ 3 0
Concrete ☒ 0 1
____ Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☐ 3 0
Sand Other ☒ __
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐ __
7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio Brand #4000 __
b. Volume added ____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio Brand #5 __
b. Volume added ____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐ __
10. Screen material: PVC __
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐ __
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☐ 1 4
____ Other ☒ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature] Firm: Sigma Environmental Services, Inc, 1300 West Canal Street Milwaukee, WI 53233 Tel: (414) 643-4200 Fax: (414) 643-4210

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299. Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-6
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH192 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,713 ft. N, 2,572,672 ft. E. S/C/N	Date Well Installed: 11/16/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi, On-Site Environmental Services, Inc.
Distance from Waste/Source ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 587.12 ft. MSL

B. Well casing, top elevation 586.43 ft. MSL

C. Land surface elevation 587.1 ft. MSL

D. Surface seal, bottom 586.3 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required): NA

E. Bentonite seal, top 586.3 ft. MSL or 0.8 ft.

F. Fine sand, top 584.8 ft. MSL or 2.3 ft.

G. Filter pack, top 584.6 ft. MSL or 2.5 ft.

H. Screen joint, top 584.1 ft. MSL or 3.0 ft.

I. Well bottom 574.1 ft. MSL or 13.0 ft.

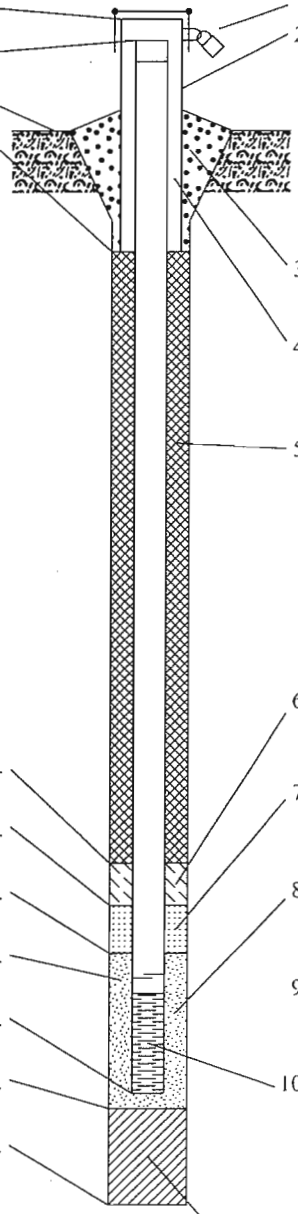
J. Filter pack, bottom 574.1 ft. MSL or 13.0 ft.

K. Borehole, bottom 574.1 ft. MSL or 13.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
   a. Inside diameter: 9.0 in.
   b. Length: 1.0 ft.
   c. Material: Steel ☒ 04; Other ☐
   d. Additional protection? ☒ Yes ☐ No
   If yes, describe: compression cap
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30; Sand; Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
   b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
   c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
   d. ____ % Bentonite . . . Bentonite-cement grout ☐ 50
   e. ____ Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
   b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
   c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
   a. Ohio Brand #4000
   b. Volume added ____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
   a. Ohio Brand #5
   b. Volume added ____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
    a. Screen Type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
    b. Manufacturer ____
    c. Slot size: 0.010 in.
    d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☐ 14; Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: Sigma Environmental Services, Inc, 1300 West Canal Street Milwaukee, WI 53233 Tel: (414) 643-4200 Fax: (414) 643-4210

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State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Original C. Reiss Coal Company Property	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-7
Facility License, Permit or Monitoring No.: -	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PH191 / DNR Well Number:
Facility ID: 460032430	St. Plane 643,647 ft. N, 2,572,492 ft. E. S/C/N	Date Well Installed: 11/16/2004
Type of Well: Well Code 71/dw	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 26, T. 14 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm) Tony Kapugi
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ____ / On-Site Environmental Services, Inc.

A. Protective pipe, top elevation 586.98 ft. MSL

B. Well casing, top elevation 586.55 ft. MSL

C. Land surface elevation 587.1 ft. MSL

D. Surface seal, bottom 586.3 ft. MSL or 0.8 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☒ 4 1
____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
NA

E. Bentonite seal, top 586.3 ft. MSL or 0.8 ft.

F. Fine sand, top 584.8 ft. MSL or 2.3 ft.

G. Filter pack, top 584.6 ft. MSL or 2.5 ft.

H. Screen joint, top 584.1 ft. MSL or 3.0 ft.

I. Well bottom 574.1 ft. MSL or 13.0 ft.

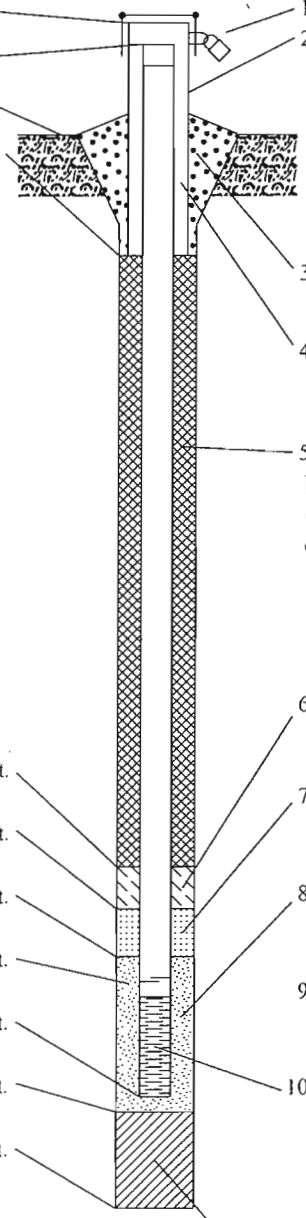
J. Filter pack, bottom 574.1 ft. MSL or 13.0 ft.

K. Borehole, bottom 572.1 ft. MSL or 15.0 ft.

L. Borehole, diameter 8.3 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 0 4
____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: compression cap

3. Surface seal: Bentonite ☐ 3 0
Concrete ☒ 0 1
____ Other ☐ __

4. Material between well casing and protective pipe: Bentonite ☐ 3 0
Sand Other ☒ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. ____ Other ☐ __

7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio Brand #4000
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio Brand #5
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐ __

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐ __
b. Manufacturer ____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☒ 1 4
cave-in Other ☐ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
AJK for Heather Shefbuch	Sigma Environmental Services, Inc 1300 West Canal Street Milwaukee, WI 53233	Tel: (414) 643-4200 Fax: (414) 643-4210

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NOTIFICATIONS

Letter to "Governmental Unit/Right-of-way" Owners

Letter to City of Sheboygan – Department of Public Works attached.

THE SIGMA GROUP
Single Source. Sound Solutions.

11/14

November 14, 2008

Project Reference #7302

Ms. Paulette Enders
Department of Public Works
c/o Department of City Development
807 Center Avenue
Sheboygan, WI 53081

Certified Mail

Subject: Notification of Contamination within Right-of-Way
Former C. Reiss Coal Co. Property #1 - 1011 S. 8th Street, Sheboygan
Harbor Centre South Pier District

Dear Ms. Enders:

After the Redevelopment Authority of the City of Sheboygan (Redevelopment Authority) took ownership of the former C. Reiss Coal Company property referenced above (the "site"), the public right-of-ways were dedicated to the City of Sheboygan for the installation of utility lines, streets, sidewalks, and landscaping. As such, Sigma Environmental Services, Inc. (Sigma) is providing this notice on behalf of the Redevelopment Authority to the Department of Public Works that residual soil and groundwater contamination is located beneath the public right-of-ways. Following is a summary of information that must be disclosed according to the WDNR:

County:	Sheboygan
Roadway:	South Pier Drive, Lakeview Drive, Blue Harbor Drive, Fisherman's Row
Site name:	Former C. Reiss Coal Co. Property #1 / Sheboygan Lakefront
Site address:	1011 S. 8th Street, Sheboygan, WI
BRRTS #:	06-60-202664
PECFA #:	Not applicable
WDNR FID #:	460032430

Owner's name:	Redevelopment Authority of the City of Sheboygan
Owner's address:	807 Center Avenue, Sheboygan, WI 53081
Consulting firm:	Sigma Environmental Services, Inc.
Consultant contact:	Adam J. Roder, P.E.
Consultant address:	1300 West Canal Street, Milwaukee, WI 53233
Phone and fax:	(414) 643-4200 / (414) 643-4210
Email:	aroder@thesigmagroup.com

Soil contamination: Yes
Depth to contaminated soil: Approximately 2 to 10 feet below ground surface (bgs)
Groundwater contamination: Yes
Depth to water table: Approximately 7 to 11 feet bgs

Description of contamination: Volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons, lead, arsenic, nitrogen, chloride, sulfate, manganese, iron.

Summary of cleanup activities: Three source areas of VOC-, nitrogen-, and chloride-impacted soil were excavated in early 2003; site redevelopment in 2003 and 2004 serve as engineered barriers to prevent direct contact and limit precipitation infiltration, and natural attenuation groundwater monitoring was completed after construction.

Groundwater quality map: Attached, see "Groundwater Quality Map"

Soil quality map: A comprehensive soil quality map has not been prepared for the site. Multiple tables and figures with soil quality data are included in the November 2008 case closure request, which is on file with the Department of City Development.

The WDNR will be evaluating the site for case closure in the coming months. As part of the closure process, the site will be listed in the WDNR's Geographic Information System (GIS) Registry for sites with residual soil and groundwater contamination above WDNR standards at the time of closure. Due to the subsurface impacts beneath South Pier Drive, Lakeview Drive, Blue Harbor Drive, and Fisherman's Row, the contamination in the right-of-ways will also be referenced in the GIS Registry.

If future construction activities disturb soil beneath South Pier Drive, Lakeview Drive, Blue Harbor Drive, and/or Fisherman's Row as described above, the excavated soil may be considered a solid and/or special waste and require proper disposal. In addition, if future construction activities require dewatering, or if groundwater is to be otherwise extracted in the vicinity of this area, the groundwater should be sampled and managed in compliance with applicable statutes and rules.

If you have any questions or comments, please contact Sigma at (414) 643-4200.

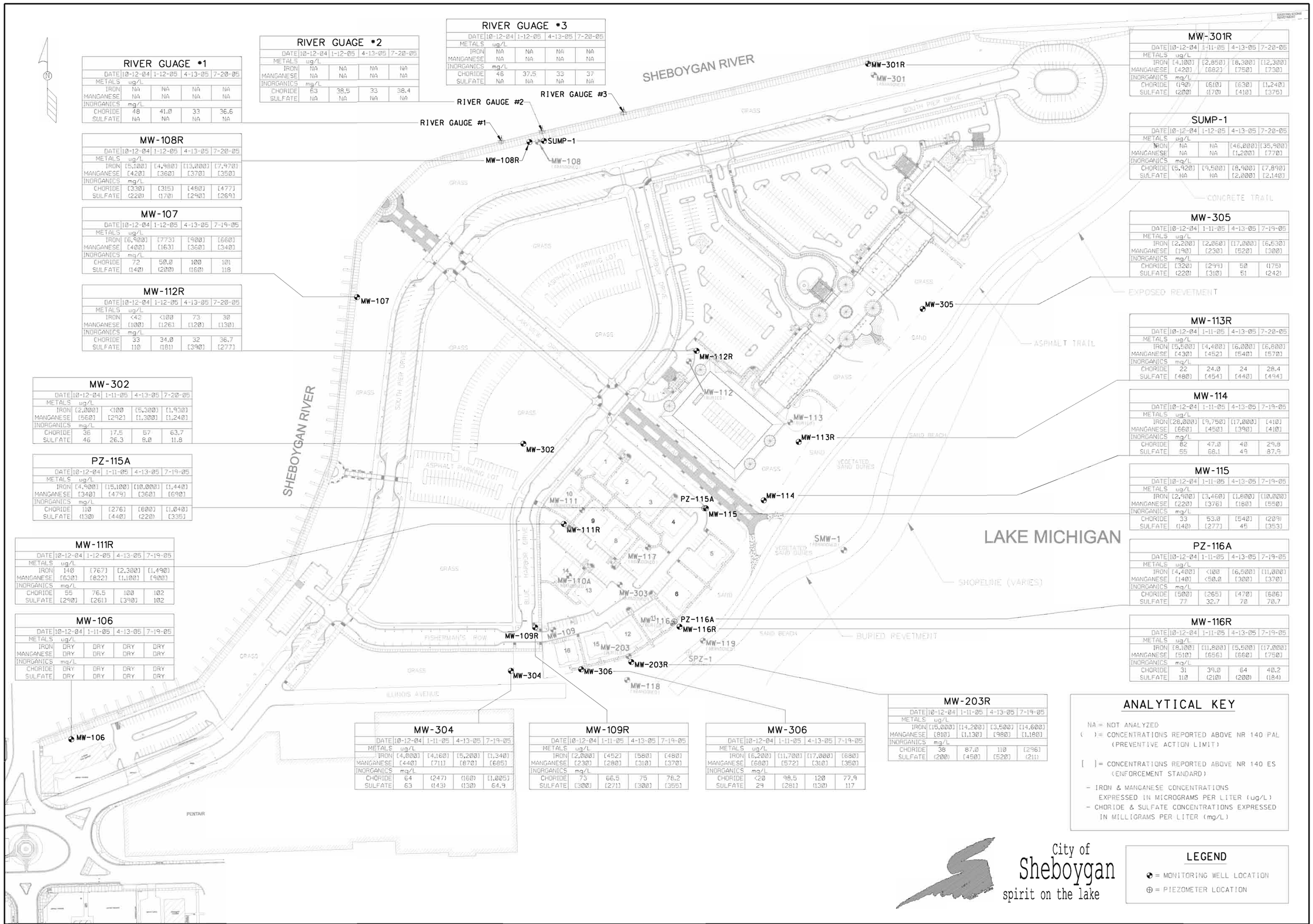
Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

Adam J. Roder

Adam J. Roder, P.E.
Senior Engineer

Enclosures:
Groundwater Quality Map



RIVER GUAGE #1

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	48	41.0	33	36.6
SULFATE	NA	NA	NA	NA

RIVER GUAGE #2

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	63	38.5	33	38.4
SULFATE	NA	NA	NA	NA

RIVER GUAGE #3

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	NA	NA
MANGANESE	NA	NA	NA	NA
INORGANICS mg/L				
CHORIDE	46	37.5	33	37
SULFATE	NA	NA	NA	NA

MW-108R

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	[5,100]	[4,980]	[13,000]	[7,970]
MANGANESE	[420]	[360]	[370]	[350]
INORGANICS mg/L				
CHORIDE	[330]	[315]	[480]	[477]
SULFATE	(220)	(170)	[290]	[269]

MW-107

DATE	10-12-04	1-12-05	4-13-05	7-19-05
METALS ug/L				
IRON	[6,900]	[773]	[900]	[660]
MANGANESE	[400]	[163]	[360]	[340]
INORGANICS mg/L				
CHORIDE	72	50.0	100	101
SULFATE	(140)	(200)	(160)	118

MW-112R

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	<42	<100	73	30
MANGANESE	[100]	[126]	[120]	[130]
INORGANICS mg/L				
CHORIDE	33	34.0	32	36.7
SULFATE	110	(181)	[390]	[277]

MW-302

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	(2,000)	<100	[5,300]	[1,930]
MANGANESE	[560]	[292]	[1,300]	[1,240]
INORGANICS mg/L				
CHORIDE	36	17.5	57	63.7
SULFATE	46	26.3	8.0	11.8

PZ-115A

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,900]	[15,100]	[10,000]	[1,440]
MANGANESE	[340]	[479]	[360]	[690]
INORGANICS mg/L				
CHORIDE	110	[276]	[600]	[1,040]
SULFATE	(130)	[440]	(220)	[335]

MW-111R

DATE	10-12-04	1-12-05	4-13-05	7-19-05
METALS ug/L				
IRON	140	[767]	[2,300]	[1,490]
MANGANESE	[630]	[822]	[1,100]	[900]
INORGANICS mg/L				
CHORIDE	55	76.5	100	102
SULFATE	[290]	[261]	[390]	102

MW-106

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	DRY	DRY	DRY	DRY
MANGANESE	DRY	DRY	DRY	DRY
INORGANICS mg/L				
CHORIDE	DRY	DRY	DRY	DRY
SULFATE	DRY	DRY	DRY	DRY

MW-304

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,000]	[4,160]	[5,200]	[1,340]
MANGANESE	[440]	[711]	[870]	[685]
INORGANICS mg/L				
CHORIDE	64	(247)	(160)	[1,005]
SULFATE	63	(143)	(130)	64.9

MW-109R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,000]	[452]	[580]	[480]
MANGANESE	[230]	[280]	[310]	[370]
INORGANICS mg/L				
CHORIDE	73	66.5	75	78.2
SULFATE	[300]	[271]	[300]	[355]

MW-306

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[6,200]	[11,700]	[17,000]	[680]
MANGANESE	[680]	[572]	[310]	[350]
INORGANICS mg/L				
CHORIDE	<20	98.5	120	77.9
SULFATE	24	[281]	(130)	117

MW-203R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[15,000]	[14,200]	[3,500]	[14,600]
MANGANESE	[810]	[1,130]	[980]	[1,180]
INORGANICS mg/L				
CHORIDE	38	87.0	110	[296]
SULFATE	(200)	[450]	[520]	(211)

MW-301R

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	[4,100]	[2,850]	[8,300]	[12,300]
MANGANESE	[420]	[682]	[750]	[730]
INORGANICS mg/L				
CHORIDE	(190)	[610]	[630]	[1,240]
SULFATE	(200)	(170)	[410]	[375]

SUMP-1

DATE	10-12-04	1-12-05	4-13-05	7-20-05
METALS ug/L				
IRON	NA	NA	[46,000]	[35,900]
MANGANESE	NA	NA	[1,200]	[770]
INORGANICS mg/L				
CHORIDE	(5,920)	[4,500]	[8,900]	[7,890]
SULFATE	NA	NA	[2,000]	[2,140]

MW-305

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,200]	[2,060]	[17,000]	[6,530]
MANGANESE	[190]	[230]	[520]	[300]
INORGANICS mg/L				
CHORIDE	[320]	[299]	50	(175)
SULFATE	(220)	[310]	51	(242)

MW-113R

DATE	10-12-04	1-11-05	4-13-05	7-20-05
METALS ug/L				
IRON	[5,500]	[4,400]	[6,000]	[6,800]
MANGANESE	[430]	[452]	[540]	[570]
INORGANICS mg/L				
CHORIDE	22	24.0	24	28.4
SULFATE	[480]	[454]	[440]	[494]

MW-114

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[28,000]	[9,750]	[17,000]	[410]
MANGANESE	[660]	[450]	[390]	[410]
INORGANICS mg/L				
CHORIDE	82	47.0	40	29.8
SULFATE	55	68.1	49	87.9

MW-115

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[2,900]	[3,460]	[1,800]	[10,000]
MANGANESE	[220]	[376]	[180]	[550]
INORGANICS mg/L				
CHORIDE	33	53.0	[540]	(209)
SULFATE	(140)	[277]	45	[353]

PZ-116A

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[4,400]	<100	[6,500]	[11,000]
MANGANESE	[140]	<50.0	[300]	[370]
INORGANICS mg/L				
CHORIDE	[500]	[265]	[470]	[606]
SULFATE	77	32.7	70	70.7

MW-116R

DATE	10-12-04	1-11-05	4-13-05	7-19-05
METALS ug/L				
IRON	[8,100]	[11,800]	[5,500]	[17,000]
MANGANESE	[510]	[656]	[660]	[750]
INORGANICS mg/L				
CHORIDE	31	39.0	64	40.2
SULFATE	110	(210)	(200)	(184)

ANALYTICAL KEY

NA = NOT ANALYZED

( ) = CONCENTRATIONS REPORTED ABOVE NR 140 PAL (PREVENTIVE ACTION LIMIT)

[ ] = CONCENTRATIONS REPORTED ABOVE NR 140 ES (ENFORCEMENT STANDARD)

- IRON & MANGANESE CONCENTRATIONS EXPRESSED IN MICROGRAMS PER LITER (ug/L)
- CHORIDE & SULFATE CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER LITER (mg/L)

City of Sheboygan
spirit on the lake

LEGEND

= MONITORING WELL LOCATION

⊕ = PIEZOMETER LOCATION

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1" = 150'- 0"
0' 75' 150' 225' 300'

NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	BEB	8-24-05
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

HARBOR CENTRE SOUTH PIER DISTRICT
SHEBOYGAN, WISCONSIN
GROUNDWATER QUALITY MAP

DRAWING NUMBER
7302-043

FIGURE 4