

GIS REGISTRY INFORMATION

SITE NAME: WP&L Coal Gas Site
BRRTS #: 02-54-001302 **FID # (if appropriate):** _____
COMMERCE # (if appropriate): _____
CLOSURE DATE: 29-May-2007
STREET ADDRESS: 111 Shirland Avenue
CITY: Beloit

SOURCE PROPERTY GPS COORDINATES (meters in WTM91 projection): X= 598865 Y= 225426

CONTAMINATED MEDIA: Groundwater Soil Both

OFF-SOURCE GW CONTAMINATION >ES: Yes No

IF YES, STREET ADDRESS 1: _____

GPS COORDINATES (meters in WTM91 projection): X= _____ Y= _____

OFF-SOURCE SOIL CONTAMINATION >Generic or Site-Specific RCL (SSRCL): Yes No

IF YES, STREET ADDRESS 1: _____

GPS COORDINATES (meters in WTM91 projection): X= _____ Y= _____

CONTAMINATION IN RIGHT OF WAY: Yes No

DOCUMENTS NEEDED:

Closure Letter, and any conditional closure letter or denial letter issued	<input checked="" type="checkbox"/>
Copy of any maintenance plan referenced in the final closure letter.	<input checked="" type="checkbox"/>
Copy of (soil or land use) deed notice if any required as a condition of closure	NA
Copy of most recent deed, including legal description, for all affected properties	<input checked="" type="checkbox"/>
Certified survey map or relevant portion of the recorded plat map (if referenced in the legal description) for all affected properties	<input checked="" type="checkbox"/>
County Parcel ID number, if used for county, for all affected properties	<input checked="" type="checkbox"/>
Location Map which outlines all properties within contaminated site boundaries on USGS topographic map or plat map in sufficient detail to permit the parcels to be located easily (8.5x14" if paper copy). If groundwater standards are exceeded, the map must also include the location of all municipal and potable wells within 1200' of the site.	<input checked="" type="checkbox"/>
Detailed Site Map(s) for all affected properties, showing buildings, roads, property boundaries, contaminant sources, utility lines, monitoring wells and potable wells. (8.5x14", if paper copy) This map shall also show the location of all contaminated public streets, highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding ch. NR 140 ESs and soil contamination exceeding ch. NR 720 generic or SSRCLs.	<input checked="" type="checkbox"/>
Tables of Latest Groundwater Analytical Results (no shading or cross-hatching)	<input type="checkbox"/>
Tables of Latest Soil Analytical Results (no shading or cross-hatching)	<input checked="" type="checkbox"/>
Isoconcentration map(s), if required for site investigation (SI) (8.5x14" if paper copy). The isoconcentration map should have flow direction and extent of groundwater contamination defined. If not available, include the latest extent of contaminant plume map.	<input checked="" type="checkbox"/>
GW: Table of water level elevations, with sampling dates, and free product noted if present	<input checked="" type="checkbox"/>
GW: Latest groundwater flow direction/monitoring well location map (should be 2 maps if maximum variation in flow direction is greater than 20 degrees)	<input checked="" type="checkbox"/>
SOIL: Latest horizontal extent of contamination exceeding generic or SSRCLs, with one contour	<input checked="" type="checkbox"/>
Geologic cross-sections, if required for SI. (8.5x14" if paper copy)	<input checked="" type="checkbox"/>
RP certified statement that legal descriptions are complete and accurate	<input checked="" type="checkbox"/>
Copies of off-source notification letters (if applicable)	NA
Letter informing ROW owner of residual contamination (if applicable)(public, highway or railroad ROW)	NA

revised 5/06

Modification actions taken after continuing obligations were applied. Refer to BOTW for further information.



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Lloyd L. Eagan, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TTY Access via relay - 711

May 29, 2007

Mr. Dave Botts
City of Beloit
100 State Street
Beloit, WI 52511

SUBJECT: Final Case Closure with Land Use Limitations or Conditions
WP&L Coal Gas Site, 11 Shirland Avenue, Beloit, WI
WDNR BRRTS Activity #: 02-54-001302

Dear Mr. Botts:

On January 8, 2007, the South Central Region Closure Committee reviewed the above referenced case for closure. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. On January 12, 2007, you were notified that the Closure Committee had granted conditional closure to this case.

On May 22, 2007 the Department received correspondence indicating that you have complied with the requirements of closure. Abandonment forms for the monitoring wells at the site were received on this date.

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.

Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which you 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.

Pursuant to s. 292.12(2)(a), Wis. Stats., the soil cover that currently exists in the location shown on the attached map shall be maintained in compliance with the attached maintenance plan in order 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.

Your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. 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 <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 <http://www.dnr.state.wi.us/org/water/dwg/3300254.pdf> or at the web address listed above for the GIS Registry.

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 Randy Maass at (608) 275-3224.

Sincerely,



Patrick McCutcheon
South Central Region Remediation & Redevelopment Team Supervisor

cc: Dawn Gabardi, Arcadis Inc., 126 N. Jefferson Street, Suite 400, Milwaukee, WI 53202
Wendy Weihemuller, DNR



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
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January 12, 2007

Mr. Dave Bolts
City of Beloit
100 State Street
Beloit, WI 52511

Subject: Conditional Closure Decision With Requirements to Achieve Final Closure
WP&L Coal Gas Site, 111 Shirland Avenue, Beloit, Wisconsin
WDNR BRRTS Activity # 02-54-001302

Dear Mr. Bolts:

On January 8, 2007, the South Central Region Closure Committee reviewed your request for closure of the case described above. The Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. After careful review of the closure request, the Closure Committee has determined that the polycyclic aromatic hydrocarbons (PAHs), petroleum volatile organic compounds (PVOCs), and cyanide contamination on the site from the former operation of a coal gas manufacturing plant appears to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated to Department standards in accordance with s. NR 726.05, Wis. Adm. Code and will be closed if the following conditions are satisfied:

The monitoring wells at the site must be properly abandoned in compliance with ch. NR 141, Wis. Adm. Code. Documentation of well abandonment must be submitted to me on Form 3300-5B found at www.dnr.state.wi.us/org/water/dwq/gw/ or provided by the Department of Natural Resources.

When the above conditions have been satisfied, please submit the appropriate documentation (for example, well abandonment forms, disposal receipts, copies of correspondence, etc.) to verify that applicable conditions have been met, and your case will be closed. Your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. Information that was submitted with your closure request application will be included on the GIS Registry. To review the site on the GIS Registry web page, visit <http://maps.dnr.state.wi.us/brrts>.

Please be aware that the case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment.

We appreciate your efforts to restore the environment at this site. If you have any questions, regarding this letter, please contact me at (608) 275-3224.

Sincerely,

Randy Maass

Randy Maass
Hydrogeologist
Bureau for Remediation & Redevelopment

cc: Edmund Buc, Arcadis G&M, 126 North Jefferson Street, Suite 400 Milwaukee, WI 53202
Wendy Weihemuller, DNR

Cap Maintenance and Soil Management Plan

Former Manufactured Gas
Plant Property
Beloit, Wisconsin

Introduction

This Cap Maintenance and Soil Management Plan is applicable to the former Manufactured Gas Plant (MGP) property located on Shirland Avenue in Beloit, Wisconsin (Figure 1). Figure 2 depicts the boundaries of the property. Investigation activities identified petroleum volatile organic compounds (PVOCs) and polynuclear aromatic hydrocarbons (PAHs) in the soil and groundwater at the property. Remediation has been completed, and a request for project closure has been submitted to the Wisconsin Department of Natural Resources (Department). Although ch. NR 726 closure criteria have been met, PVOCs and PAHs still remain in soil at concentrations exceeding residual contaminant levels (RCLs). This Cap Maintenance and Soil Management Plan has been prepared to manage these residual soil impacts while facilitating use and development of the property in a manner that is protective of human health and the environment.

The purpose of the Cap Maintenance Plan is to describe the procedures and controls that need to be followed to maintain the function of Engineered Barriers currently present or planned for the former MGP property. The Engineered Barriers should limit direct contact exposure to the PVOCs and PAHs in the soil. Engineered Barrier(s) are hereby defined as the following:

- The existing sitewide soil cap, placed on the property by the city of Beloit in 2006.
- Elements of future developments on the property, which may include but are not limited to, building foundations, parking lots, roadways, and landscaping.

The Soil Management Plan is designed to provide a procedure to characterize and manage soils excavated from the affected areas of the former MGP property. Maintaining the function of the Engineered Barriers and managing excavated soils appropriately will provide continued protection of human health and the environment by minimizing potential exposure to the residual contamination in the affected soils.

This Cap Maintenance and Soil Management Plan was prepared to address the entire former MGP property. Investigation activities did identify areas where constituent concentrations are less than the RCLs. Figure 2 presents a summary of soil data and delineates areas where RCL exceedances are present. It is noted that the entire property has been covered with clean soil. This soil cap ranges from 1 to 5 feet in thickness, with an average thickness of approximately 3 feet. Sheet 1 depicts the layout of the sitewide soil cover. This Cap Maintenance and Soil Management Plan has been

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prepared, as a condition of regulatory case closure, to protect human health and the environment to the extent practicable.

This Cap Maintenance and Soil Management Plan presents a summary of the investigation and remediation activities completed at the former MGP property, a description of the areas of the former MGP property affected by this plan, and a description of the procedures to be followed for the inspection and maintenance of the Engineered Barriers. A description of the procedures for modifying, repairing, or penetrating the Engineered Barriers is also presented, with procedures for managing any residual impacted soil encountered during such activities.

A copy of this Cap Maintenance and Soil Management Plan shall at all times be kept on file in the offices of: (1) the Wisconsin Department of Natural Resources (hereinafter, the "Department"), Southern Region; (2) the owner of the former MGP property, its successors and assigns (hereinafter identified collectively as the "Owner"); and (3) the Site manager (if any). The Cap Maintenance and Soil Management Plan shall be made available by Owner to contractors, utilities and maintenance personnel, and any other public or private persons or entities authorized to perform work at the former MGP property.

The Department and its successor and assigns shall be notified of any activity which is not in accordance with this Cap Maintenance and Soil Management Plan.

Overview of Site Conditions

The results of site investigation and remediation activities conducted at the former MGP property are presented in the document entitled "*Project Summary and Request for Site Closure*," dated December 2006. The southern and central portions of the property were occupied by an MGP, which operated from 1902 until approximately 1948. The eastern portion of the property was occupied by a bulk oil storage facility.

The City of Beloit purchased the former MGP property in two phases in 1956 and 1966, and also acquired the northern and eastern portions of the property. The city of Beloit subsequently constructed a wastewater treatment plant on the property. Subsequent treatment plant expansions and improvements occurred at this property until 1991 when operations ceased. The treatment plant buildings remained vacant until 1999, when all of the structures on the property were razed. The property is currently vacant and undeveloped. Most of the ground surface is unpaved, although limited areas of pavement are located in the southern and northern portions of the property. A chain-link fence with locked gates extended around the entire perimeter of the property until 2006. The fence was removed in 2006 during construction of the sitewide soil cap.

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Investigation activities initiated in the 1990s identified constituents in the soil and groundwater that were associated with historical operations and releases from the MGP. The detected constituents of interest included PVOCs and PAHs. A limited area of tar-affected soil was observed in the southern portion of the property, following demolition of the buildings. With the exception of this area, the investigation did not identify discrete source areas. Rather, constituent concentrations are widely distributed across the property and are diffuse in nature. The attached Tables 1 through 4 present the historical soil analytical data collected from the property. A summary of RCL exceedances is presented on Figure 2. Because this document addresses the management of soil, groundwater data is not presented.

Because of the diffuse nature of the identified constituents, ARCADIS developed a sitewide approach for remediation. The site remedy consisted of the following elements:

- The use of natural attenuation to remediate dissolved-phase hydrocarbons in the groundwater.
- Reducing direct contact exposure to diffuse impacts in surficial soils by using Engineered Barriers. Currently, the impacted soil is covered with a sitewide soil cap. Elements of a future site redevelopment (i.e., building foundations, parking lots, landscaping) will also be incorporated into the Engineered Barrier to direct contact.
- Targeted excavation and off-site disposal of the tar-affected soil.

Groundwater monitoring was completed between 1992 and 2006. The groundwater analytical data indicates that constituent concentrations in groundwater are decreasing through natural processes. The area of tar-affected soil was excavated in 2002. Engineering and institutional controls will be utilized to address the direct contact risk associated with the residual constituents in the soil. This Cap Maintenance and Soil Management Plan was prepared to provide a means for using and maintaining the Engineered Barriers.

The elements which are the subject of this Cap Maintenance and Soil Management Plan are the approved Engineered Barriers, consisting of the following:

- The sitewide soil cap, which was constructed by the City of Beloit in 2006.
- Elements of future development at the property. These elements may include, but will not be limited to, building foundations, parking lots, roadways, and landscaping.

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Placement of additional fill material may also be completed as development progresses.

The City of Beloit is seeking closure of this project in an effort to encourage development. The sitewide soil cap will serve as the primary means to limit direct contact with the residual constituents in soil. As development of the property proceeds, the City of Beloit will work with the developer and the Department to utilize elements of the development as Engineered Barriers. This Cap Maintenance and Soil Management Plan was prepared to facilitate each stage of Engineered Barrier implementation as the property progresses from vacant land to productive use.

Required Activities

Annual Inspections. The sitewide soil cap shall be inspected at least annually by the Owner to ensure that the integrity of this Engineered Barrier is maintained and that no significant fissures, cracks or erosional features develop in the Engineered Barrier, which would allow uncontrolled contact with the underlying soil. Any disturbances of the Engineered Barrier or significant fissures, cracks or erosional features in the Engineered Barrier shall be noted. An inspection log, which can be used while observing the Engineered Barrier, is attached to this Cap Maintenance and Soil Management Plan. Upon completion of the inspection by the Owner, a brief report shall be prepared which identifies the date of the inspection, the individuals conducting the inspection, and any observed disturbances of the Engineered Barriers including any significant fissures, cracks or erosional features in the Engineered Barrier. A copy of the inspection report shall be maintained on file by the Owner and the Site manager if any).

Elements of the future development will also serve as Engineered Barriers. A figure illustrating each phase of development shall be appended to this Cap Maintenance and Soil Management Plan to document the shift from use of the fence to other Engineered Barriers. Each figure will denote the location of each Engineered Barrier, which will in turn be added to the inspection process. The Engineered Barrier(s) associated with the development shall be inspected at least annually by the Owner to ensure that the integrity of the Engineered Barrier(s) is maintained and that no significant fissures, cracks or erosional features develop in the Engineered Barrier(s), which would allow uncontrolled contact with the underlying soil. Any disturbances of the Engineered Barrier(s) or significant fissures, cracks or erosional features in the Engineered Barrier(s) shall be noted. An inspection log, which can be used while observing the Engineered Barrier(s), is attached to this Cap Maintenance and Soil Management Plan. Upon completion of the inspection by the Owner, a brief report shall be prepared which identifies the date of the inspection, the individuals conducting the inspection, and any

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observed disturbances of the Engineered Barrier(s) including any significant fissures, cracks or erosional features in the Engineered Barrier(s). A copy of the inspection report shall be maintained on file by the Owner and the Site manager (if any).

Repairs to Engineered Barrier(s). If, during the annual inspection or other routine inspection, the Engineered Barriers are observed to have been disturbed or significant fissures, cracks or erosional features are observed in the Engineered Barrier(s), the Owner shall arrange to have repairs made to such areas, in a manner consistent with this Cap Maintenance and Soil Management Plan. Such repairs shall be carried out within a reasonable period of time, not to exceed one hundred twenty (120) days, subject to weather and seasonal considerations.

Allowed Activities

The following allowed activities must comply with all listed requirements:

1. **Landscaping Maintenance.** Landscaping features may intrude through sitewide soil cap. In the event the Owner desires to install trees, shrubs, fencing or retaining walls, or perform other landscaping, the following steps shall be taken:
 - A) The contractor performing the work shall be provided with a copy of this Cap Maintenance and Soil Management Plan by Owner and shall prepare a health and safety plan, appropriate for the work being performed.
 - B) Any impacted soils which are excavated shall be separated and segregated to the extent practicable so that they may be replaced upon completion of the work. Any such excavation of impacted soils shall be conducted in accordance with the health and safety plan, and all such excavated impacted soils shall be segregated and kept on-site until completion of the work. All excavated impacted soils shall be, at a minimum, placed onto plastic sheeting and covered, or placed into a water-tight container such as a covered roll-off box.
 - C) Upon completion of the work, previously excavated impacted soils may be backfilled. Any previously excavated impacted soils which are not backfilled or otherwise made a part of the cap shall be properly characterized and managed in accordance with state law with notice to the Department.

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- D) A memorandum or report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Cap Maintenance and Soil Management Plan was adhered to in completion of the work. A copy of the report shall be kept on file by the Owner and the Site manager (if any), and shall be made available for inspection by the Department, upon reasonable notice, during the normal business hours.

2. Construction or Installation of Buildings, Structures or Other Improvements. Buildings, structures or other improvements may be constructed or installed in the areas included in this Cap Maintenance and Soil Management Plan using footings or other foundations which are placed into the impacted soils in the following manner:

- A) The contractor performing the work shall be provided with a copy of this Cap Maintenance and Soil Management Plan by Owner and shall prepare a health and safety plan, appropriate to the work being performed.
- B) All materials used in pavement or foundation shall not contain any hazardous substances. Any impacted soils which are excavated shall be separated and segregated to the extent practicable so that they may be replaced upon completion of the work. Any such excavation of impacted soils shall be conducted in accordance with the health and safety plan, and all such excavated impacted soils shall be segregated and kept on-site until completion of the work. All excavated impacted soils shall be, at a minimum, placed onto plastic sheeting and covered, or placed into a water-tight container such as a covered roll-off box.
- C) Upon completion of the work, previously excavated impacted soils may be backfilled. Any previously excavated impacted soils which are not backfilled or otherwise made a part of the cap shall be properly characterized and managed in accordance with state law with notice to the Department.
- D) A memorandum or report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Cap Maintenance and Soil Management Plan was adhered to in completion of the work. A copy of the report shall be kept on file by the Owner and the Site manager (if any), and shall be filed with the Department.

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3. **Replacement and Repair of Engineered Barriers.** If it becomes necessary or desirable to replace or repair the Engineered Barrier(s), the repair or replacement shall be undertaken in the following manner:
- A) The contractor performing the work shall be provided with a copy of this Cap Maintenance and Soil Management Plan by Owner and shall prepare a health and safety plan, appropriate to the work being performed.
 - B) Any impacted soils which are excavated from beneath the Engineered Barriers shall be separated and segregated to the extent practicable so that they may be replaced upon completion of the work. Any such excavation of impacted soils shall be conducted in accordance with the health and safety plan, and all such excavated impacted soils shall be segregated and kept on site until completion of the work.
 - C) Upon completion of the work, previously excavated impacted soils may be placed back into the excavation. The area of the excavation shall be restored in a manner consistent with the original cap condition. Any previously excavated impacted soils which are not placed back in the excavation or which is not otherwise made a part of the cap shall be properly characterized and managed in accordance with state law with notice to the Department.
 - D) A memorandum report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Cap Maintenance Plan was adhered to in completion of the work. A copy of the report shall be kept on file by the Owner and the Site manager (if any), and shall be filed with the Department.
4. **Utility Installations or Repairs.** No utility repairs or installation of new or replacement utilities shall be conducted in the areas included in this Cap Maintenance and Soil Management Plan until after the utility and any contractor(s) for the utility have acknowledged receipt of a copy of this Cap Maintenance and Soil Management Plan. The utility repairs or installation(s) shall be conducted in strict conformance with the standards set forth below with respect to excavations into and/or beneath the Engineered Barrier(s), such excavations are to be undertaken in the following manner:

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- A) The contractor performing the work shall be provided with a copy of this Cap Maintenance and Soil Management Plan by Owner and shall prepare a health and safety plan, appropriate to the work being performed.
 - B) Any impacted soils which are excavated or clean fill above the impacted soils which are excavated, all for purposes of utility installation or repair, shall be separated and segregated to the extent practicable so that they may be replaced upon completion of the work.
 - C) Upon completion of such work, the impacted soils may be placed back into the excavation. Similarly, the clean fill above the impacted soils may be placed back into the excavation in order to bring the excavation back to grade. The area of the excavation shall be restored in a manner consistent with the original cap condition.
 - D) Any excavation of soils beneath the impacted soils shall be conducted in accordance with the health and safety plan. Any such soils excavated from beneath the impacted soils shall be segregated, properly characterized and managed in accordance with state law with notice to the Department. Any other soils which have been commingled, mixed or otherwise have come into contact with soils excavated from beneath impacted soils shall be properly characterized and managed in accordance with state law with notice to the Department. Provided, further, that any groundwater affected by such activities shall be managed in accordance with state law after notice to the Department.
 - E) Clean fill used in connection with utility installation or construction shall not include any granular or porous material but may include low strength flowable fill or other fill with low hydraulic conductivity.
 - G) The utility shall prepare a memorandum report describing the work performed, identifying the person performing the work and the date of the work, and confirming that the Cap Maintenance and Soil Management Plan was adhered to in completion of the work. A copy of the report shall be kept on file with the utility, the Owner and the Site manager (if any), and shall be filed with the Department.
5. **Subsurface Drilling Procedures and Requirements.** During subsurface drilling activities in the areas included in this Cap Maintenance and Soil Management

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Beloit, Wisconsin

Plan, drilling contractors shall at all times maintain compliance with the following requirements to ensure the integrity of the Engineered Barrier(s) and to avoid any potential cross contamination of soils and groundwater:

- A) The contractor performing the work shall be provided with a copy of this Cap Maintenance and Soil Management Plan by Owner and shall prepare a health and safety plan, appropriate to the work being performed. The work shall be supervised on-site by a qualified engineer or geologist.
- B) All contractor personnel conducting or participating in work must be trained in hazardous site work as required by OSHA 29 CFR 1910.120 or its successor regulation. All soil sampling and drilling activities shall be conducted in accordance with ASTM D1586-99 or its successor standard, and the specified environmental requirements contained in this document.
- C) All drill cuttings and water/drilling mud generated during completion of the boring shall be transferred to appropriate 55-gallon drums or other suitable containers for storage, and shall be managed in accordance with state law.
- D) Following completion of the boring and sample collection, the borehole shall be properly abandoned, in accordance with state law, with a cement-based grout mixture pumped from the bottom of the boring to surface elevation concurrently with or prior to withdrawal of casing pipe.
- E) All drill casings, rods, samplers, tools, rig, and any equipment that comes in contact (directly or indirectly) with the subsurface soils and groundwater shall be steam cleaned on-site prior to set up for drilling. The same steam cleaning protocols shall be followed before leaving the Site following completion of work. Steam cleaning shall be conducted in such a manner as to collect and contain residuals (water and soil) to prevent surface soil contamination. Residuals shall be drummed and managed in accordance with state law.
- F) A memorandum report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Cap Maintenance and Soil Management Plan was adhered to in completion of the work. A copy

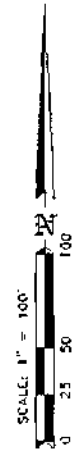
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Beloit, Wisconsin

of the report shall be kept on file by the Owner and the Site manager (if any), and shall be filed with the Department.

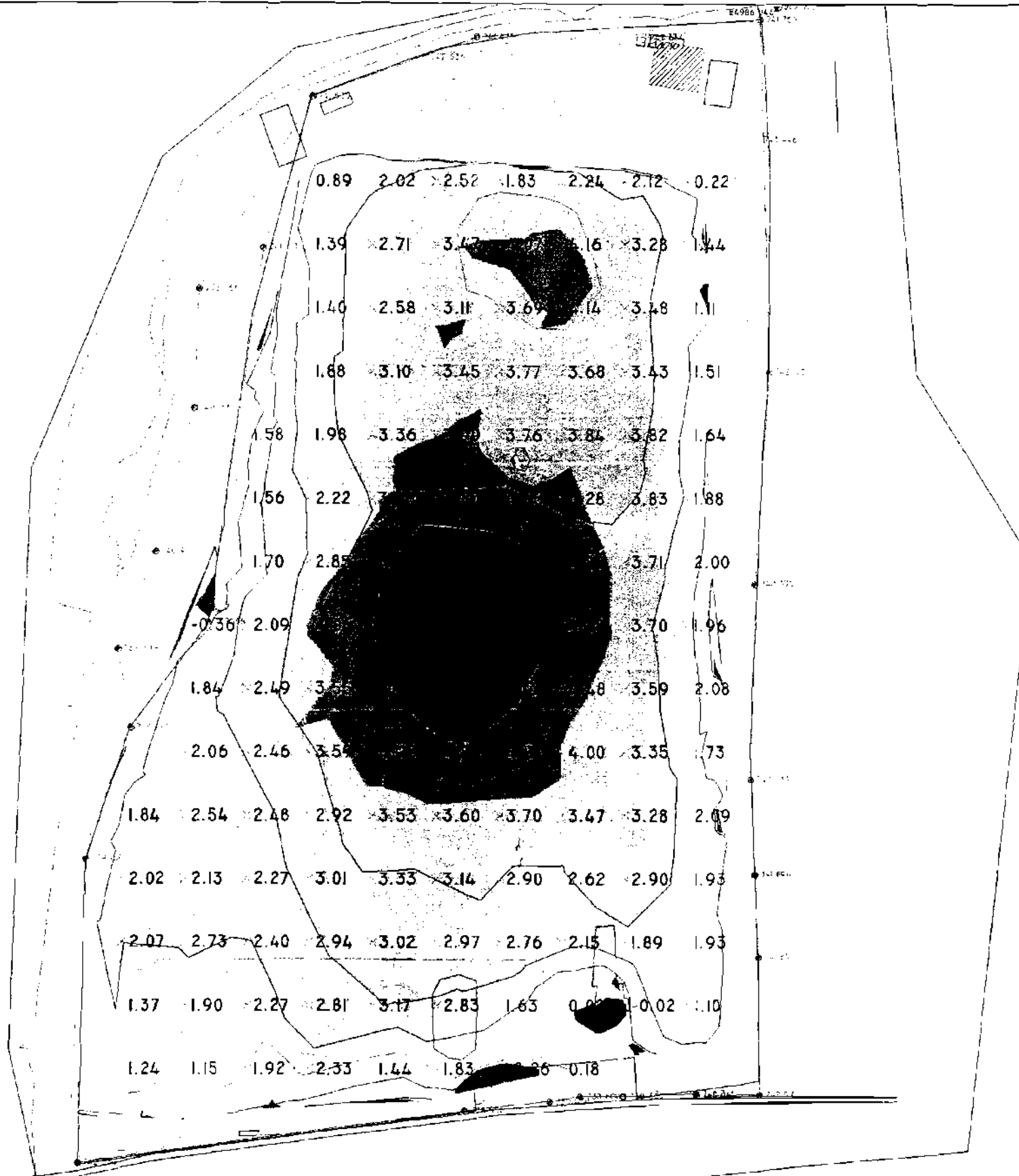
Request for Deviations

Owner shall not conduct any activities at the former MGP property, specifically in the areas included in this Cap Maintenance and Soil Management Plan that are not in compliance with this Cap Maintenance and Soil Management Plan, unless written approval to do so is obtained from the Department.



Soil	Thickness (feet)	Color
CLAY	1.00	■
SAND	1.00	■
GRAVEL	1.00	■
ROCK	1.00	■
GLASS	1.00	■
OTHER	1.00	■

Thickness of soil cap - feet

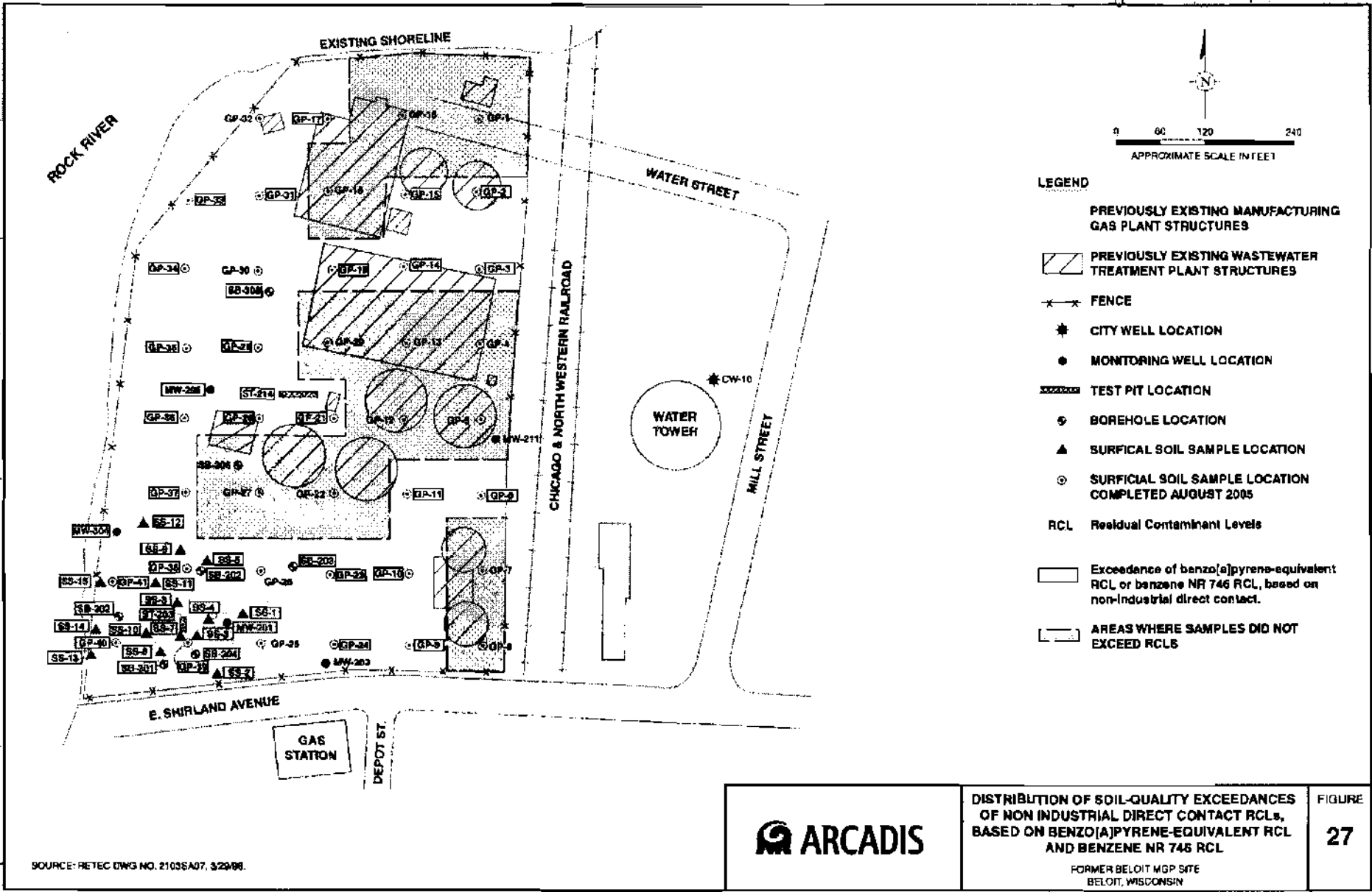


BELOIT
 ENGINEERING DIVISION

DESIGNED BY: LMA	DATE: FEBRUARY 2006
CHECKED BY:	DATE:
REVIEWED BY: LMA	DATE: OCTOBER 2006

PROJECT NAME: MGP SITE SOIL CAP	
OVERVIEW SHEET	
ID: C06-03	SHEET 1 OF 1

DWG DATE: 02/04/07 | FILE NO.: 0101035A07 | DRAWING: EXCEED A1 | CHECKED: DMG | APPROVED: | DRAFTER: LMB



SOURCE: RETEC DWG NO. 2103SA07, 3/29/06.

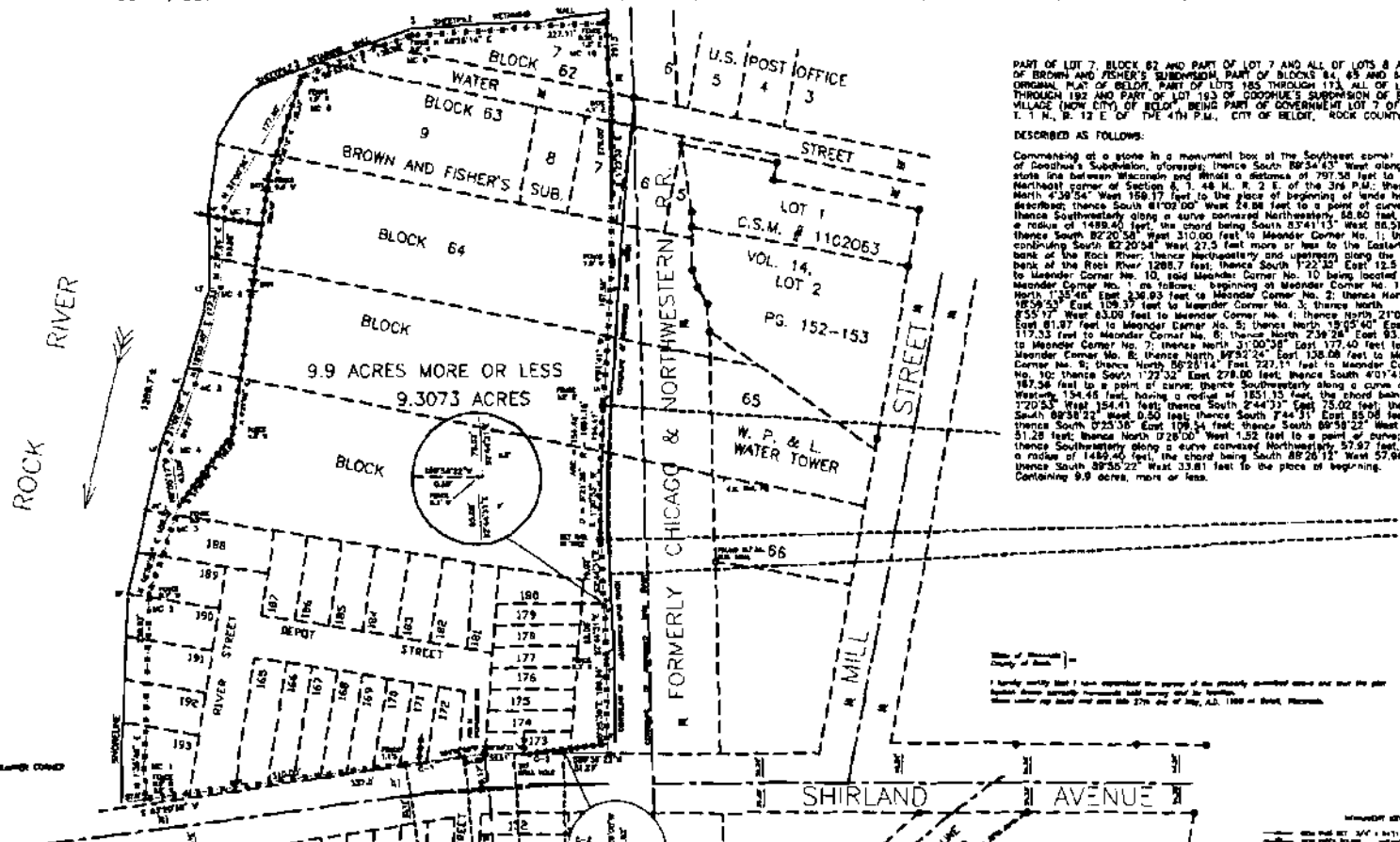
	DISTRIBUTION OF SOIL-QUALITY EXCEEDANCES OF NON INDUSTRIAL DIRECT CONTACT RCLs, BASED ON BENZO(A)PYRENE-EQUIVALENT RCL AND BENZENE NR 746 RCL FORMER BELOIT MGP SITE BELOIT, WISCONSIN	FIGURE 27
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PLAT OF SURVEY OF

PART OF LOT 7, BLOCK 62 AND PART OF LOT 7 AND ALL OF LOTS 8 AND 9, BLOCK 63 OF BROWN AND FISHER'S SUBDIVISION, ALSO PART OF BLOCKS 64, 65 AND 66 OF THE ORIGINAL PLAT BY JOHN HOPKINS, ALSO PART OF LOTS 165 THROUGH 173, ALL OF LOTS 174 THROUGH 192 AND PART OF LOT 193 OF GOODHUES SUBDIVISION OF BLOCKS IN THE VILLAGE (NOW CITY) OF BELOIT, BEING A PART OF GOVERNMENT LOT 7 OF SECTION 35, T. 1 N., R. 12 E. OF THE 4TH P.M., CITY OF BELOIT, ROCK COUNTY, WISCONSIN.

PART OF LOT 7, BLOCK 62 AND PART OF LOT 7 AND ALL OF LOTS 8 AND 9, BLOCK 63 OF BROWN AND FISHER'S SUBDIVISION, PART OF BLOCKS 64, 65 AND 66 OF THE ORIGINAL PLAT BY JOHN HOPKINS, ALSO PART OF LOTS 165 THROUGH 173, ALL OF LOTS 174 THROUGH 192 AND PART OF LOT 193 OF GOODHUES SUBDIVISION OF BLOCKS IN THE VILLAGE (NOW CITY) OF BELOIT, BEING A PART OF GOVERNMENT LOT 7 OF SECTION 35, T. 1 N., R. 12 E. OF THE 4TH P.M., CITY OF BELOIT, ROCK COUNTY, WISCONSIN DESCRIBED AS FOLLOWS:

Commencing at a stone in a monument box at the Southeast corner of Lot 100 of Goodhue's Subdivision, thence South 89°34'45" West along the state line between Wisconsin and Illinois a distance of 797.58 feet to the Northeast corner of Section 6, T. 1 N., R. 12 E. of the 3rd P.M.; thence North 4°30'04" West 159.17 feet to the place of beginning of lands herein described; thence South 81°02'00" West 28.08 feet to a point of curve; thence Southwesterly along a curve concaved Northwesterly, 88.60 feet, having a radius of 1489.40 feet, the chord being South 83°41'13" West 88.59 feet; thence South 82°20'58" West 310.00 feet to Meander Corner No. 1; thence continuing South 82°20'58" West 27.5 feet more or less to the Eastern bank of the Rock River; thence Northwesterly and upstream along the Eastern bank of the Rock River 1288.7 feet; thence South 1°22'32" East 12.5 feet to Meander Corner No. 10, said Meander Corner No. 10 being located from Meander Corner No. 1 as follows: beginning at Meander Corner No. 1; thence North 1°35'46" East 336.03 feet to Meander Corner No. 2; thence North 16°59'53" East 109.37 feet to Meander Corner No. 3; thence North 83°51'17" West 83.09 feet to Meander Corner No. 4; thence North 21°09'08" East 81.97 feet to Meander Corner No. 5; thence North 15°05'40" East 117.53 feet to Meander Corner No. 6; thence North 23°29'24" East 93.88 feet to Meander Corner No. 7; thence North 31°30'58" East 117.40 feet to Meander Corner No. 8; thence North 89°52'24" East 138.08 feet to Meander Corner No. 9; thence North 89°28'14" East 727.11 feet to Meander Corner No. 10; thence South 1°22'32" East 278.00 feet; thence South 4°01'41" West 187.36 feet to a point of curve; thence Southwesterly along a curve concaved Westwardly, 154.48 feet, having a radius of 1851.15 feet, the chord being South 1°22'53" West 154.41 feet; thence South 2°44'31" East 23.02 feet; thence South 89°38'21" West 0.50 feet; thence South 7°44'31" East 85.08 feet; thence South 8°23'08" East 109.34 feet; thence South 89°58'22" West 51.28 feet; thence North 1°28'08" West 1.52 feet to a point of curve; thence Southwesterly along a curve concaved Northwesterly, 57.97 feet, having a radius of 1489.40 feet, the chord being South 89°26'12" West 57.96 feet; thence South 89°58'22" West 33.81 feet to the place of beginning. Containing 9.9 acres, more or less.



ORDER NO. 25002
FOR THE EXAMINING MAP ON
CITY OF BELD
SCALE 1" = 60 FEET
NOV 14 1924

CURVE TABLE

CHORD DIST.	CHORD BEARING	ARC DIST.
C-1 749.78	148.07 S 82° 11' 17" W 88.59	88.60
C-2 1713.27	148.07 S 82° 11' 17" W 88.59	88.60

I certify that I have compared the survey of the property described above and that the plat is a true and correct copy of the original survey made on the 27th day of May, A.D. 1924 at Beloit, Wisconsin.

R.H. BATTERMAN & CO. INC.
LAND SURVEYORS - ENGINEERS - MAPPING
BELOIT, WISCONSIN 53511
(800) 249-4484 (815) 249-4332
FAX (608) 365-1900

LEGAL DESCRIPTION

PARCEL A:

That part of Blocks 64, 65 and 66, Original Plat of the City of Beloit, lying West of the Chicago and North Western Railway Company Railway and of Lots 165 to 193 inclusive, of Goodhue's Subdivision vacated, lying West of the said right of way being bounded on the South by Shirland Avenue of said City of Beloit; on the East by the Westerly right of way line of said Railway Company; on the North by the lands of the City of Beloit Sewage Disposal plant; on the West by the Rock River and more particularly described as follows: Beginning at a point on the Westerly right of way line of the Chicago and North Western Railway Company, 566.3 feet North of the North line of Shirland Avenue, said point being the Southeast corner of City of Beloit sewage plant property; thence N 79°10' W, along the Southerly line of said sewage plant property, 370 feet more or less to the Easterly bank of Rock River; thence Southerly and Southwesterly along the Easterly bank of Rock River to its intersection with the Northerly line of Shirland Avenue; thence Easterly along the Northerly line of Shirland Avenue to its intersection with the Westerly right of way of said Railway Company; thence following said right of way line to the place of beginning.

PARCEL B:

All that part of Blocks 62 and 63, Original Plat and survey made by John Hopkins for Robert P. Crane and others, and that part of Lots 7, 8 and 9, in Block 63 of Fisher and Brown's Subdivision (a/k/a Brown and Fisher's Subdivision) of the Village, now City of Beloit, and all that part of Block 62 of Fisher and Brown's Subdivision (a/k/a Brown and Fisher's Subdivision) of the Village, now City of Beloit, and lying and situate West of the Chicago and Northwestern Railway right of way.

Also that part of the Railroad right of way extending through Block 62, Original Plat, City of Beloit and that part of Lot 7, Block 62, Brown and Fisher's Addition, City of Beloit, Rock County, Wisconsin, lying 30 feet west of the centerline of the main track of the Chicago and Northwestern Railway Company.

PARCEL C:

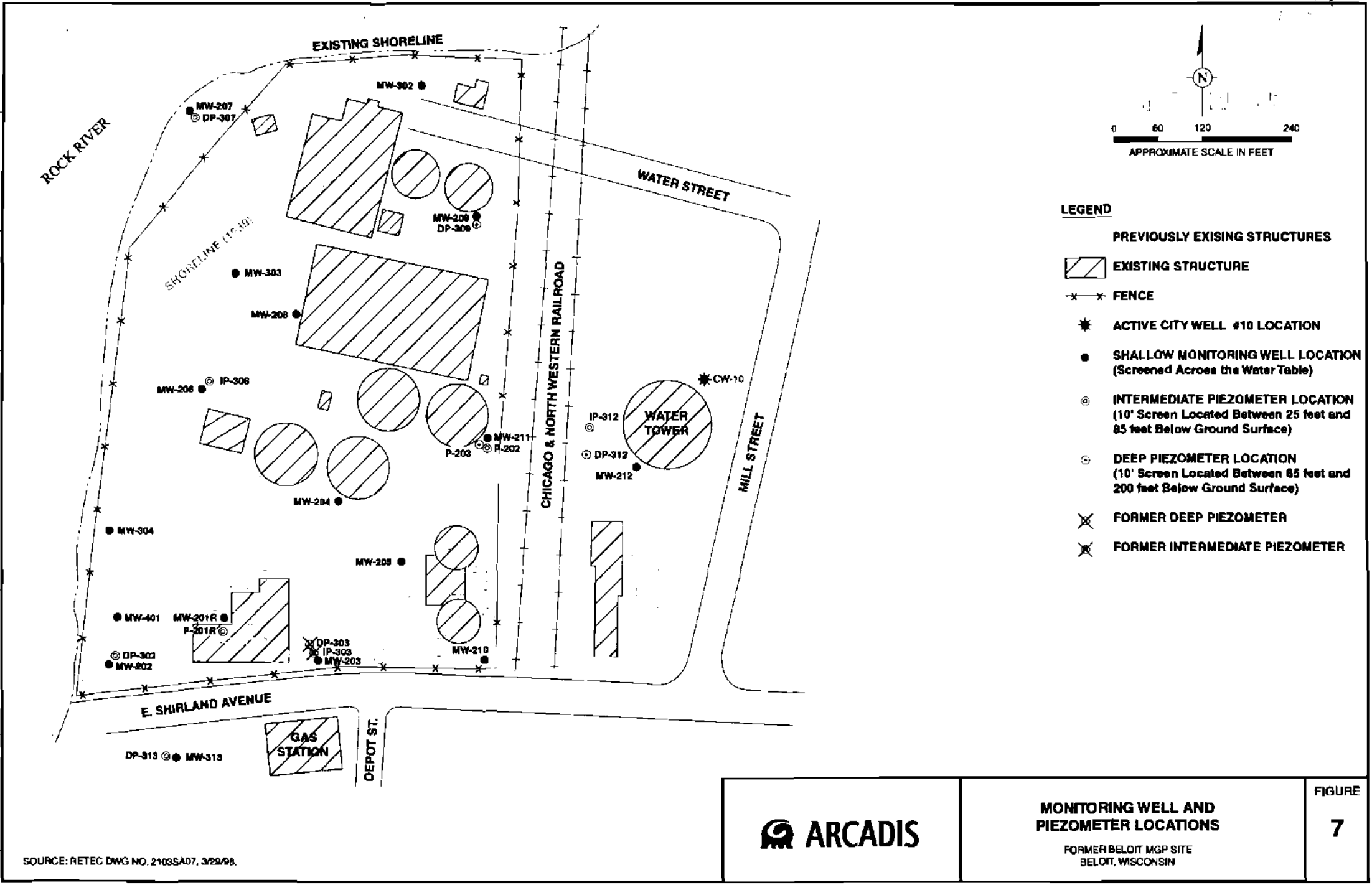
Those parts of Lots 173, 174, 175, 176, 177, 178, 179 and 194, of Goodhue's Subdivision of Blocks in the Village (now City) of Beloit, and that part of Shirland Avenue, described as follows: Beginning at a point in the center line of Shirland Avenue, distant 150 feet Westerly, as measured perpendicularly from the center line of the main track of the Chicago and North Western Railway Company, thence Northerly, parallel with said center line, to the North line of said Lot 179, thence Easterly along said North line, and its Easterly extension, to a point 9 feet Westerly, as measured perpendicularly from the center line of said Railway Company's Track Number I.C.C. 4; thence Southerly, parallel with the center line of said Railway Company's Tracks Numbers I.C.C. 4 and I.C.C. 6 to said center line of Shirland Avenue; thence Westerly along said center line of Shirland Avenue to the point of beginning.

PARCEL D:

That part of the Southeast Quarter of Section 35, Township 1 North, Range 12, East of the Fourth Principal Meridian, bounded and described as follows: Beginning at a point on the North line of Lot 179 of Goodhue's Subdivision of Blocks in the Village (now City) of Beloit, distant 150 feet Westerly, as measured at right angles from the center line of the main track of the Chicago and North Western Railway Company, said point also being the Northwest corner of that certain parcel of land conveyed by said Railway Company to the Pure Oil Company by deed dated July 10, 1963; Thence Easterly along the North line and Easterly extension of said Lot 179, a distance of 100 feet, more or less, to a point distant 8.5 feet Westerly, as measured at right angles, from the center line of a tangent segment of said Railway Company Spur Track I.C.C. No. 3, as now located and established; Thence Northerly along a line parallel with the center line of said Spur Track tangent segment, extended to a point distant 9 feet Westerly, as measured radially, from the center line of a curved segment of said Spur Track; Thence Northerly along a line parallel with the center line of said Spur Track curved segment, to a point distant 30 feet Westerly, as measured at right angles, from the center line of said Railway Company main track, as now located and established; Thence Northerly along a line parallel with said main track center line, as now located and established, to a point on the North line of Lot 7 in Block 63 in Brown and Fisher's Addition to the Village (now City) of Beloit, Wisconsin, said point also being the Northeast corner of a certain parcel of land described in that certain deed from said Railway Company to the City of Beloit, dated November 3, 1964; Thence Southerly and Southwesterly along the Easterly line of said certain parcel of land described in that certain deed to the City of Beloit, to the most Southerly corner thereof, being a point in the Westerly line of the 180-foot right of way of the former Beloit and Madison Railway Company, now the Chicago and North Western Railway Company, across Block 64 of the original plat of Beloit, said point being distant 25 feet Northwesterly, as measured radially, from the center line of said Railway Company's Spur Track I.C.C. 9A, as now located and established; Thence Southerly along the Westerly line of said 180-foot right of way, to a point on the North line of the South Half of Block 65 of said original plat of Beloit; Thence Westerly along said North line to a point on the Westerly line of the 230-foot right of way of said Railway Company, distant 150 feet Westerly as measured at right angles, from the center line of said Railway Company main track; Thence Southerly along said Westerly right of way line, to the point of beginning.

Together with that portion of the railroad right of way lying West of the West line of above described parcel over Lot 7, Block 63, Brown and Fisher's Addition, and over Blocks 64 and 65, Original Plat, City of Beloit, Rock County, Wisconsin.

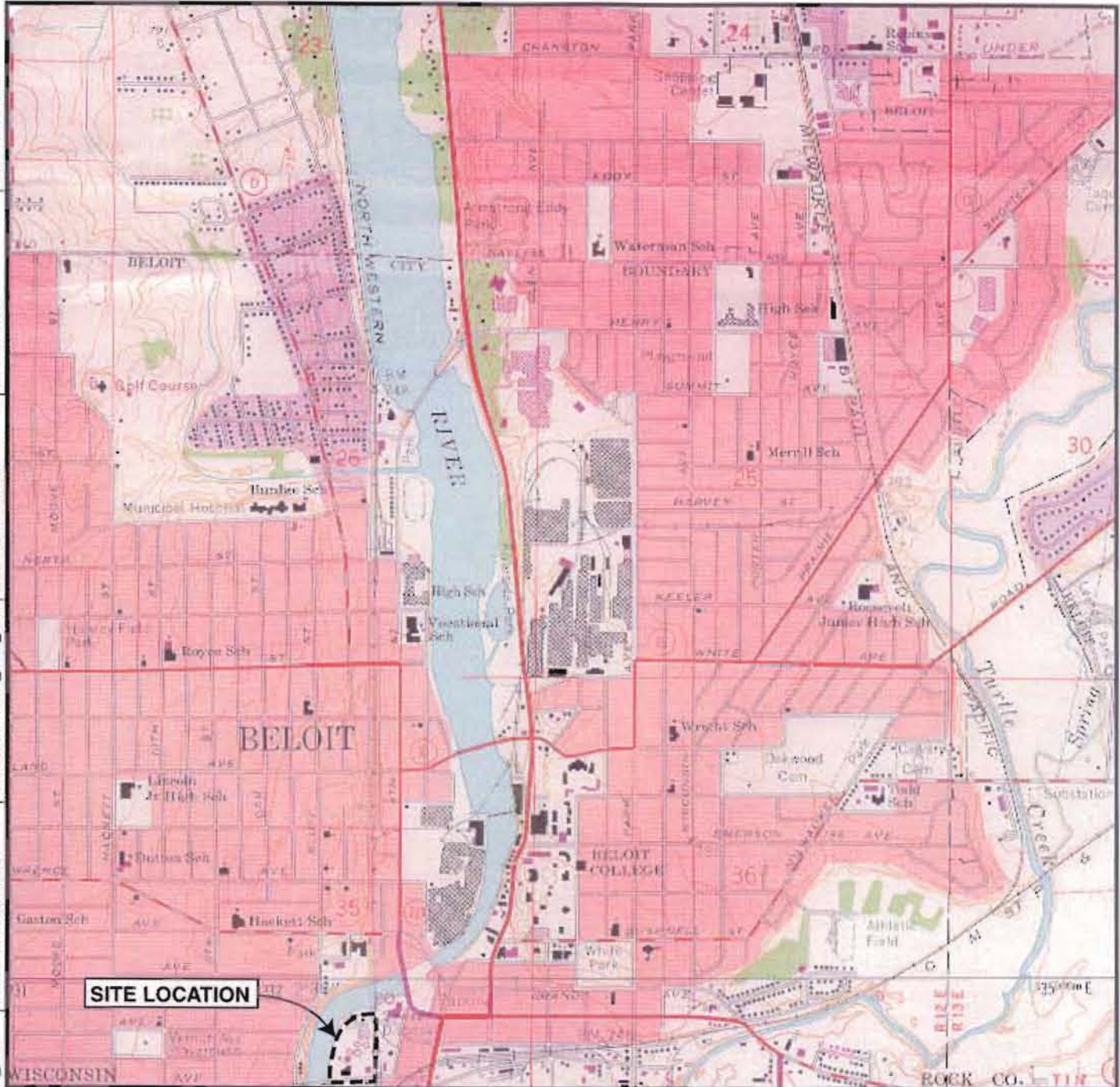
DWG DATE: 12/14/04 | PIN: BEL01M0582MGP_RAP | FILE NO.: GRAPHICS | DRAWING: RMW_PIEZ_2_A | CHECKED: DMG | APPROVED: | DRAFTER: ELSUMB



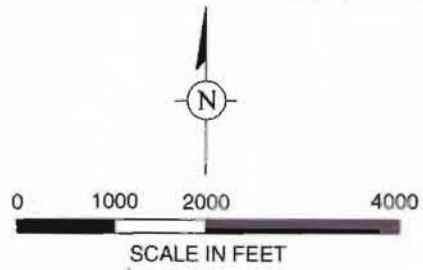
SOURCE: RETEC DWG NO. 2103SA07, 3/29/98.

	MONITORING WELL AND PIEZOMETER LOCATIONS <small>FORMER BELOIT MGP SITE BELOIT, WISCONSIN</small>	FIGURE 7
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DWG DATE: 21JUN02 | PN: BELOITW0592/MGP_RAP | FILE NO.: GRAPHICS | DRAWING: SITE_LOC_2.A1 | CHECKED: KPMS | APPROVED: | DRAFTER: ELS



SOURCE: USGS 7.5 Minute Topographic Map, BELOIT, WISCONSIN Quadrangle, 1976

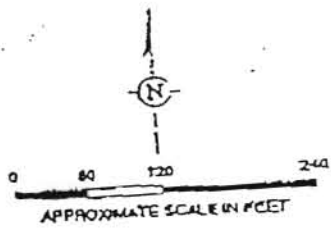
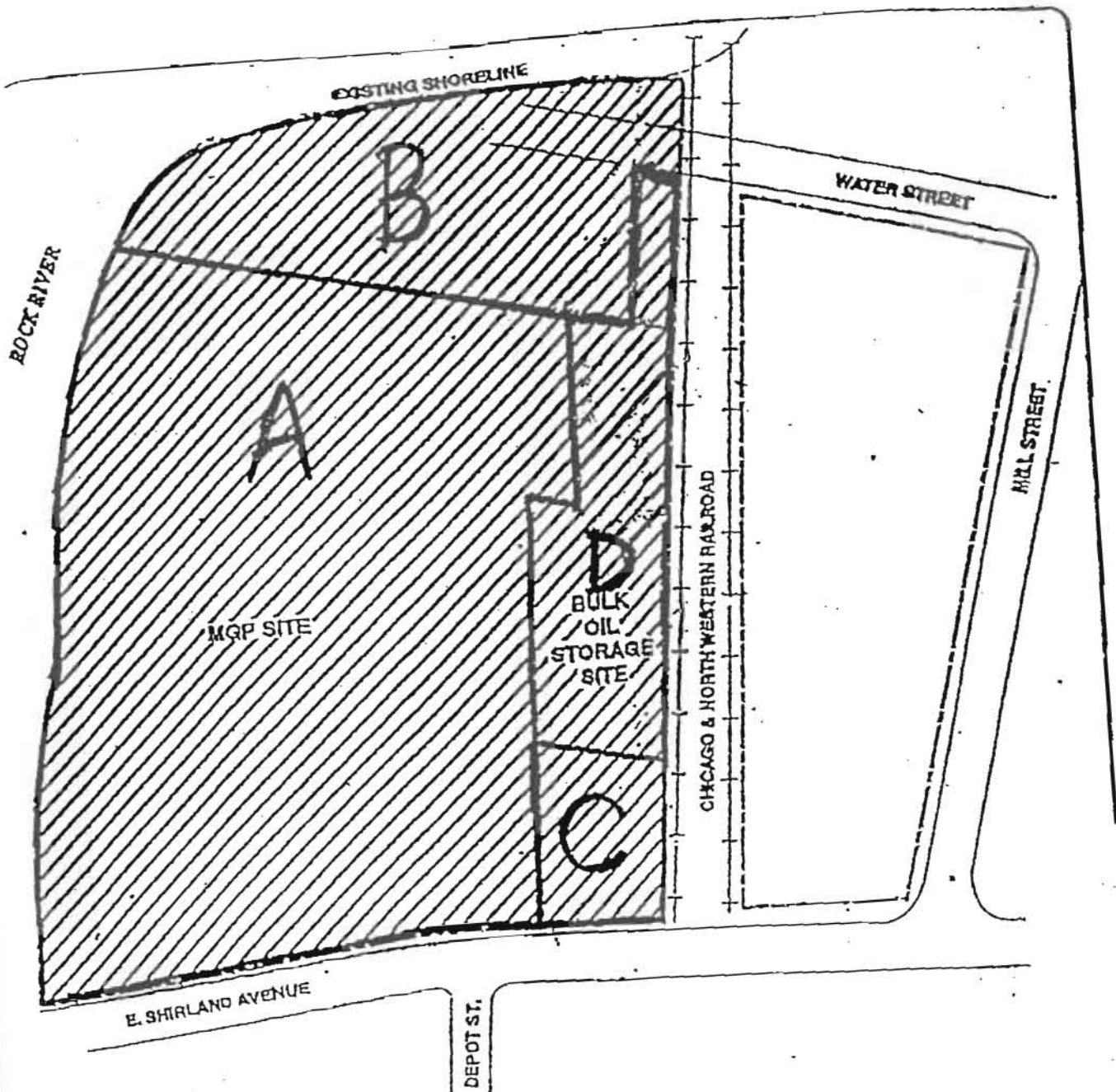




SITE LOCATION MAP

FORMER MANUFACTURED GAS PLANT
BELOIT, WISCONSIN

FIGURE

1



- LEGEND**
-  -Parcel Boundaries
 -  -Described Property

The groundwater analytical results tables are too extensive (36 pages) for inclusion on the GIS Registry.

See Figures 24 and 25 for the most recent groundwater analytical results that exceed PAL/ES.

Consult the site file for the complete groundwater analytical results tables.

Table 8. Summary of Groundwater Elevation Data, Former Manufactured Gas Plant, Beloit, Wisconsin.

Well	Date	TOC Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-201	09/24/98	739.55	6.6	732.95
MW-201R	02/29/00	--	7.57	--
MW-201R	09/09/01	--	7.03	--
MW-201R	03/04/02	--	7.80	--
MW-201K	10/06/03	--	9.96	--
MW-201R	08/08/05	--	9.60	--
MW-202	09/24/98	742.43	9.75	732.68
MW-202	03/01/99	742.43	8.60	733.83
MW-202	09/07/99	742.43	9.68	732.75
MW-202	02/29/00	742.43	8.75	733.68
MW-202	09/09/01	742.43	8.29	734.14
MW-202	03/04/02	742.43	8.71	733.72
MW-202	10/06/03	742.43	10.74	731.69
MW-202	08/08/05	742.43	10.62	731.81
MW-203	09/24/98	742.75	9.62	733.13
MW-203	03/01/99	742.75	8.43	734.32
MW-203	09/07/99	742.75	9.52	733.23
MW-203	03/01/00	742.75	8.31	734.44
MW-203	09/09/01	742.75	5.57	737.18
MW-203	03/04/02	742.75	8.40	734.35
MW-203	10/06/03	742.75	10.99	731.76
MW-203	08/08/05	742.75	10.65	732.10
MW-204	09/24/98	743.23	10.17	733.06
MW-204	03/01/99	743.23	8.87	734.36
MW-204	09/07/99	743.23	10.02	733.21
MW-204	09/09/01	743.23	8.47	734.76
MW-204	03/04/02	743.23	9.40	733.83
MW-204	10/06/03	743.23	11.66	731.57
MW-204	08/08/05	743.23	11.16	732.07
MW-205	09/24/98	740.79	7.14	733.65
MW-205	03/01/99	740.79	5.97	734.82
MW-205	09/07/99	740.79	7.00	733.79
MW-205	09/09/01	740.79	6.11	734.68
MW-205	10/06/03	740.79	9.14	731.65
MW-205	08/08/05	740.79	8.24	732.55
MW-206	09/24/98	742.9	10.13	732.77
MW-206	03/01/99	742.9	8.67	734.23
MW-206	09/07/99	742.9	9.95	732.95
MW-206	09/09/01	742.9	8.36	734.54
MW-206	03/04/02	742.9	9.02	733.88
MW-206	10/06/03	742.9	11.33	731.57
MW-206	08/08/05	742.9	11.11	731.79

Footnotes on Page 5.

Table 8. Summary of Groundwater Elevation Data, Former Manufactured Gas Plant, Beloit, Wisconsin.

Well	Date	TOC Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-207	09/24/98	744.05	11.58	732.47
MW-207	03/01/99	744.05	9.99	734.06
MW-207	09/07/99	744.05	11.47	732.58
MW-207	03/01/00	744.05	9.87	734.18
MW-207	09/09/01	744.05	9.72	734.33
MW-207	03/04/02	744.05	10.12	733.93
MW-207	10/06/03	744.05	12.58	731.47
MW-207	08/08/05	744.05	12.25	731.8
MW-208	09/24/98	745.44	13.01	732.43
MW-208	03/01/99	745.44	11.57	733.87
MW-208	03/01/00	745.44	11.51	733.93
MW-208	09/09/01	745.44	11.72	734.22
MW-208	03/04/02	745.44	11.93	733.51
MW-208	10/06/03	745.44	14.30	731.14
MW-208	08/08/05	745.44	14.05	731.39
MW-209	09/24/98	748.39	15.42	732.97
MW-209	03/01/99	748.39	13.95	734.44
MW-209	09/07/99	748.39	15.27	733.12
MW-209	03/01/00	748.39	13.95	734.44
MW-209	09/09/01	748.39	13.59	734.8
MW-209	03/04/02	748.39	14.26	734.13
MW-209	10/06/03	748.39	16.80	731.59
MW-209	08/08/05	748.39	17.49	730.9
MW-210	09/24/98	742.04	8.83	733.21
MW-210	03/01/99	742.04	7.66	734.38
MW-210	09/07/99	742.04	7.71	734.33
MW-211	09/24/98	743.72	10.57	733.15
MW-211	03/01/99	743.72	9.76	734.46
MW-211	09/07/99	743.72	10.42	733.3
MW-211	09/09/01	743.72	8.89	734.83
MW-211	03/04/02	743.72	9.30	734.47
MW-211	10/06/03	743.72	12.30	731.42
MW-211	08/08/05	743.72	11.60	732.12
MW-212	09/24/98	743.49	10.24	733.25
MW-212	03/01/99	743.49	13.6	729.89
MW-212	09/07/99	743.49	10.09	733.4
MW-212	02/29/00	743.49	9.14	734.35
MW-212	09/09/01	743.49	9.86	733.63
MW-212	10/06/03	743.49	12.40	731.09
MW-212	08/08/05	743.49	11.29	732.20
MW-302	09/24/98	745.26	12.68	732.58
MW-302	03/01/99	745.26	11.04	734.22

Footnotes on Page 5.

Table B. Summary of Groundwater Elevation Data, Former Manufactured Gas Plant, Beloit, Wisconsin.

Well	Date	TOC	Depth to	Groundwater
		Elevation (ft msl)	Water (ft)	Elevation (ft msl)
MW-302	09/07/99	745.26	12.53	732.73
MW-302	09/09/01	745.26	10.76	734.5
MW-302	03/04/02	745.26	11.22	734.04
MW-302	10/06/03	745.26	13.66	731.6
MW-302	08/08/05	745.26	13.78	731.48
MW-303	09/24/98	743.20	10.59	732.61
MW-303	03/01/99	743.20	9.07	734.18
MW-303	09/07/99	743.20	10.38	732.82
MW-303	09/09/01	743.20	8.77	734.48
MW-303	03/04/02	743.20	9.36	733.84
MW-303	10/06/03	743.20	11.71	731.49
MW-303	08/08/05	743.20	11.61	731.59
MW-304	09/24/98	741.84	9.10	732.74
MW-304	03/01/99	741.84	7.81	734.03
MW-304	09/07/99	741.84	9.00	732.84
MW-304	02/29/00	741.84	8.17	733.67
MW-304	09/09/01	741.84	7.57	734.27
MW-304	03/04/02	741.84	8.04	733.8
MW-304	10/06/03	741.84	10.18	731.66
MW-304	08/08/05	741.84	10.08	731.76
MW-313	09/24/98	739.84	6.99	732.85
MW-313	03/01/99	739.84	5.86	733.98
MW-313	09/07/99	739.84	6.91	732.93
MW-313	10/06/03	739.84	8.05	731.79
MW-313	08/08/05	739.84	7.90	731.94
MW-401	02/28/00	--	8.84	--
MW-401	09/09/01	--	8.26	--
MW-401	03/04/02	--	8.85	--
MW-401	10/06/03	--	10.96	--
MW-401	08/08/05	--	10.77	--
IP-303	09/24/98	742.75	9.68	733.07
IP-306	09/24/98	742.36	9.57	732.79
IP-306	03/01/99	742.36	8.13	734.23
IP-306	09/07/99	742.36	9.40	732.96
IP-306	09/09/01	742.36	7.80	734.56
IP-306	03/04/02	742.36	8.50	733.86
IP-306	10/06/03	742.36	10.81	731.55
IP-306	08/08/05	742.36	10.55	731.81
IP-312	09/24/98	744.34	11.96	732.38
IP-312	03/01/99	744.34	14.49	729.85
IP-312	09/07/99	744.34	11	733.34

Footnotes on Page 5.

Table 8. Summary of Groundwater Elevation Data, Former Manufactured Gas Plant, Beloit, Wisconsin.

Well	Date	TOC Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
IP-312	02/29/00	744.34	10.02	734.32
IP-312	09/09/01	744.34	10.46	733.88
IP-312	03/04/02	744.34	10.38	733.96
IP-312	10/06/03	744.34	13.10	731.24
IP-312	08/08/05	744.34	12.13	732.21
P-201	09/24/98	739.86	6.81	733.05
P-201R	02/29/00	--	7.59	--
P-201R	09/09/01	--	7.05	--
P-201R	03/04/02	--	7.84	--
P-201R	10/06/03	--	9.80	--
P-201R	08/08/05	--	9.61	--
P-202	09/24/98	744.06	10.89	733.17
P-202	03/01/99	744.06	9.59	734.47
P-202	09/07/99	744.06	10.75	733.31
P-202	09/09/01	744.06	9.24	734.82
P-202	03/04/02	744.06	9.93	734.13
P-202	10/06/03	744.06	12.55	731.51
P-202	08/08/05	744.06	11.90	732.16
P-203	09/24/98	743.68	10.34	733.34
P-203	03/01/99	743.68	9.05	734.63
P-203	09/07/99	743.68	10.19	733.49
P-203	09/09/01	743.68	8.79	734.89
P-203	03/04/02	743.68	9.15	734.53
P-203	10/06/03	743.68	11.88	731.8
P-203	08/08/05	743.68	11.36	732.32
DP-302	09/24/98	742.45	9.92	732.53
DP-302	09/07/99	742.45	9.52	732.93
DP-302	02/29/00	742.45	8.57	733.88
DP-302	09/09/01	742.45	8.04	734.41
DP-302	03/04/02	742.45	8.58	733.87
DP-303	09/24/98	742.92	9.8	733.12
DP-303	03/04/02	742.92	9.36	733.56
DP-307	09/24/98	743.75	11.25	732.5
DP-307	03/01/99	743.75	9.67	734.08
DP-307	09/07/99	743.75	11.14	732.61
DP-307	03/01/00	743.75	9.51	734.24
DP-307	09/09/01	743.75	9.41	734.34
DP-307	03/04/02	743.75	9.83	733.92
DP-307	10/06/03	743.75	12.22	731.53
DP-307	08/08/05	743.75	12.35	731.4

Footnotes on Page 5.

Table 8. Summary of Groundwater Elevation Data, Former Manufactured Gas Plant, Beloit, Wisconsin.

Well	Date	TOC Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
DP-309	09/24/98	747.62	14.58	733.04
DP-309	03/01/99	747.62	13.14	734.48
DP-309	09/07/99	747.62	14.45	733.17
DP-309	03/01/00	747.62	13.12	734.5
DP-309	09/09/01	747.62	12.84	734.78
DP-309	03/04/02	747.62	13.62	734.00
DP-309	10/06/03	747.62	16.06	731.56
DP-309	08/08/05	747.62	15.68	731.94
DP-312	09/24/98	745.20	13.14	734.06
DP-312	03/01/99	745.20	15.31	729.89
DP-312	09/07/99	745.20	11.33	733.87
DP-312	07/29/00	745.20	10.84	734.36
DP-312	09/09/01	745.20	10.02	735.18
DP-312	03/04/02	745.20	11.15	734.05
DP-312	10/06/03	745.20	14.44	730.76
DP-312	08/08/05	745.20	12.94	732.26
DP-313	09/24/98	739.84	6.92	732.92
DP-313	03/01/99	739.84	5.78	734.06
DP-313	09/07/99	739.84	6.84	733.00
DP-313	10/06/03	739.84	8.00	731.84
DP-313	08/08/05	739.84	7.81	732.03

* Measured from the TOC
 ft Feet
 ft msl Feet mean sea level.
 TOC Top-of-casing.

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Table 12. Summary of Historical Surface Soil Quality Data, Former Beloit Manufactured Gas Plant Site, Beloit, Wisconsin.

Sample Identification:	Proposed	Proposed		ST-203	ST-214	MW-203	MW-204	MW-205	MW-206
Sample Date:	Industrial Direct	Non-Industrial	Groundwater	5/11/90	5/11/90	9/25/92	9/24/92	9/24/92	9/23/92
Sample Depth:	Contact RCL	Direct Contact RCL	Pathway RCL	3 ft.	3 ft.	2-4 ft.	2-4 ft.	1-3 ft.	2-4 ft.
VOCs									
Benzene	-	-	5.5	<50	<50	<50	<50	<50	<50
Ethylbenzene	-	-	2900	<50	<50	<50	<50	<50	<50
Toluene	-	-	1500	<50	<50	<50	<50	<50	<50
Xylenes (Total)	-	-	4100	140	<50	<50	<50	<50	<50
PAHs									
Acenaphthene	60,000,000	900,000	38,000	<9	<22	<1,000	<2,000	<1,000	<1,000
Acenaphthylene	360,000	18,000	700	10	240	<1,000	<2,000	<1,000	<1,600
Anthracene	300,000,000	5,000,000	3,000,000	130	880	<1,000	<2,000	<1,000	<170
Benzo(a)anthracene	3,900	88	17,000	180	2,000	<1,000	3,000	<1,000	260
Benzo(a)pyrene	390	8.8	48,000	130	2,700	<1,000	5,000	<1,000	530
Benzo(b)fluoranthene	3,900	88	360,000	85	1,300	<1,000	7,000	<1,000	240
Benzo(g,h,i)perylene	39,000	1,800	6,800,000	160	<180	<3,000	<6,000	<3,000	450
Benzo(k)fluoranthene	39,000	880	870,000	68	990	<1,000	7,000	<1,000	130
Chrysene	390,000	8,800	37,000	<98	<25	<1,000	3,000	<1,000	170
Dibenzo(a,h)anthracene	390	8.8	38,000	94	<26	<3,000	<6,000	<3,000	<200
Fluoranthene	40,000,000	600,000	500,000	390	3,400	<1,000	3,000	<1,000	<1,600
Fluorene	40,000,000	600,000	100,000	<0.64	750	<1,000	<2,000	<1,000	<530
Indeno(1,2,3)pyrene	3,900	88	680,000	230	<260	<3,000	<6,000	<3,000	320
Naphthalene	110,000	20,000	400	91	360	<1,000	4,000	<1,000	<1,400
Phenanthrene	390,000	18,000	1,800	500	2,900	<1,000	4,000	<1,000	<170
Pyrene	30,000,000	500,000	8,700,000	460	<1,100	<1,000	<1,000	<1,000	510

All concentrations in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

□	Concentration exceeds the proposed industrial direct contact RCL.
100	Concentration exceeds the proposed non-industrial direct contact RCL.
100	Concentration exceeds the proposed or NR 720 groundwater pathway RCL.
-	No standard established.
PAHs	Polycyclic aromatic hydrocarbons.
RCL	Residual contaminant level.
VOCs	Volatile organic compounds.

ARCADIS

Table 12. Summary of Historical Surface Soil Quality Data, Former Beloit Manufactured Gas Plant Site, Beloit, Wisconsin.

Sample Identification:	MW-211	SB-202	SB-203	SB-203	SB-204	SB-301	SB-302	SB-304	SB-305	SB-306	SS-01	SS-02
Sample Date:	9/23/92	9/24/92	9/23/92	9/25/92	9/24/92	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96
Sample Depth:	2-4 ft.	0-2'	0-2'	2-4 ft.	2-4 ft.	0-2'	0-2'	0-2'	0-2'	2-4 ft.	0-2'	0-2'
VOCs												
Benzene	<50	<50	<50	<50	<50	10	19	1	4	2	<1	<1
Ethylbenzene	<50	<50	<50	<50	<50	3	36	7	26	7	<2	<2
Toluene	<50	<50	<50	<50	<50	5	14	<2	4	3	<2	<2
Xylenes (Total)	<50	<50	<50	<50	<50	<2	31	9	26	10	9	<2
PAHs												
Acenaphthene	<84	<2,000	<12,000	<2000	<10,000	<12,000	<120,000	<12,000	<12,000	<1,200	<120,000	<12,000
Acenaphthylene	<120	<2,000	<17,000	<17,000	<10,000	<6,600	<66	<6,600	<6,600	<660	<66	<6,600
Anthracene	<14	<2,000	2,200	2,200	<10,000	<6,600	<66	<6,600	<6,600	<660	<66	<6,600
Benzo(a)anthracene	<10	2,000	13,000	13,000	<10,000	3,700	40,000	1,900	2,900	100	160,000	2,200
Benzo(a)pyrene	<12	<2,000	18,000	18,000	<10,000	4,100	35,000	3,000	3,300	150	90,000	3,000
Benzo(b)fluoranthene	<18	4,000	9,100	9,100	16,000	2,100	24,000	1,200	1,500	69	40,000	2,000
Benzo(g,h,i)perylene	<10	<6,000	21,000	21,000	<30,000	2,200	18,000	1,800	1,800	85	21,000	2,400
Benzo(k)fluoranthene	<6	4,000	4,700	4,700	16,000	2,300	26,000	1,000	1,200	83	45,000	1,700
Chrysene	<10	2,000	13,000	13,000	<10,000	2,600	44,000	<1,000	1,700	<100	71,000	2,300
Dibenzo(a,h)anthracene	<16	<6,000	<2,200	<2,200	<30,000	<200	<2,000	<200	<200	<200	<2,000	<200
Fluoranthene	<120	<2,000	25,000	25,000	<10,000	<6,600	240,000	<6,600	<6,600	<660	300,000	<6,600
Fluorene	<42	<2,000	<5,800	<5,800	<10,000	<1,400	52,000	<1,400	<1,400	<140	81,000	<1,400
Indeno(1,2,3)pyrene	<6	<6,000	12,000	12,000	<30,000	2,200	20,000	1,900	1,900	97	28,000	2,200
Naphthalene	<110	<2,000	<15,000	<15,000	<10,000	19,000	330,000	<6,600	<6,600	<660	<66,000	<6,600
Phenanthrene	<14	2,000	19,000	19,000	<10,000	<6,600	180,000	<6,600	<6,600	<660	210,000	<6,600
Pyrene	<14	5,000	29,000	29,000	13,000	7,900	170,000	3,800	5,900	310	260,000	5,300

All concentrations in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

	Concentration exceeds the proposed industrial direct contact RCL.
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100	Concentration exceeds the proposed non-industrial direct contact RCL.
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<i>100</i>	Concentration exceeds the proposed or NR 720 groundwater pathway RCL.
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-	No standard established.
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PAHs	Polycyclic aromatic hydrocarbons.
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RCL	Residual contaminant level.
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VOCs	Volatile organic compounds.
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ARCADIS

Table 12. Summary of Historical Surface Soil Quality Data, Former Beloit Manufactured Gas Plant Site, Beloit, Wisconsin.

Sample Identification:	SS-03	SS-04	SS-05	SS-06	SS-07	SS-08	SS-09	SS-10	SS-11	SS-12	SS-13	SS-14	SS-15
Sample Date:	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96	1/18/96
Sample Depth:	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
VOCs													
Benzene	2	6	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1
Ethylbenzene	<2	3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	9	24	5	<2	3	<2	<2	<2	<2	11	<2	<2	<2
Xylenes (Total)	4	11	3	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2
PAHs													
Acenaphthene	<120,000	<12,000	<12,000	<12,000	<12,000	<12,000	<12,000	<12,000	<12,000	<12,000	<12,000	<1,200	<1,200
Acenaphthylene	<66,000	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<660	<660
Anthracene	<66,000	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<660	<660
Benzo(a)anthracene	17,000	1,500	1,800	2,200	1,800	1,900	4,700	4,200	410	2,100	840	220	110
Benzo(a)pyrene	19,000	1,600	2,700	2,800	3,600	3,300	5,800	5,800	580	2,900	1,200	230	120
Benzo(b)fluoranthene	10,000	1,000	1,200	1,500	1,700	1,700	3,300	2,400	320	1,800	630	180	110
Benzo(g,h,i)perylene	13,000	940	1,900	1,700	3,200	3,000	7,000	3,300	600	3,100	910	220	110
Benzo(k)fluoranthene	11,000	1,200	1,800	1,800	1,300	1,100	2,600	3,600	240	1,700	410	170	95
Chrysene	17,000	1,400	<1,000	2,100	1,600	1,600	3,000	3,000	<1,000	2,100	<1,000	220	<100
Dibenzo(a,h)anthracene	<2,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<20	<20
Fluoranthene	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	9,200	<6,600	<6,600	<6,600	<6,600	<660	<660
Fluorene	<14,000	<1400	<1,400	<1,400	<1,400	<1,400	<1,400	<1,400	<1,400	<1,400	<1,400	<140	<140
Indeno(1,2,3)pyrene	12,000	1,000	1,800	1,600	2,800	2,700	5,600	3,200	560	2,600	770	190	100
Naphthalene	<66,000	<6,600	<6,600	<6,600	<6,600	<6,600	9,000	<6,600	<6,600	<6,600	<6,600	<660	<660
Phenanthrene	<66,000	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<6,600	<660	<660
Pyrene	44,000	3,500	3,800	5,100	5,800	6,400	11,000	10,000	<1800	5,400	<1800	550	310

All concentrations in micrograms per kilogram ($\mu\text{g}/\text{kg}$)

100	Concentration exceeds the proposed industrial direct contact RCL.
100	Concentration exceeds the proposed non-industrial direct contact RCL.
100	Concentration exceeds the proposed or NR 720 groundwater pathway RCL.
-	No standard established.
PAHs	Polycyclic aromatic hydrocarbons.
RCL	Residual contaminant level.
VOCs	Volatile organic compounds.

ARCADIS

Table 13. Summary of Volatile Organic Compound Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	NR 720	NR 746	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9
Sample Depth	Direct Contact	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	RCL	RCL	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1,2,4-Trimethylbenzene	NE	NE	140	28	240	75	<26	180	<27	<26	<27
1,3,5-Trimethylbenzene	NE	NE	100	<26	99	28	<26	69	<27	<26	<27
Benzene	5.5	1,100	310	31	470	29	<26	240	<27	<26	<27
Ethylbenzene	2,900	NE	300	<26	480	53	<26	110	<27	<26	<27
Methyl-tert-butyl-ether	NE	NE	<26	<26	<26	<26	<26	<26	<27	<26	<27
Toluene	1,500	NE	100	54	490	68	<26	530	<27	<26	33
Xylenes (total)	4,100	NE	290	98	830	160	<79	550	<81	<79	<80

All units in micrograms per kilogram.

100 Concentration exceeds the NR 720 RCL.

Bold Concentration exceeds the NR 746 Table 2 direct contact standard.

NE Not established.

RCL Residual contaminant level.

ARCADIS

Table 13. Summary of Volatile Organic Compound Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-10	GP-11	GP-12	GP-13	GP-14	GP-15	GP-16	GP-17	GP-18	GP-19	GP-20
Sample Depth	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1,2,4-Trimethylbenzene	95	540	<27	<27	1,100	770	69	30	<27	34	<27
1,3,5-Trimethylbenzene	<27	210	<27	<27	440	310	<25	<26	<27	<26	<27
Benzene	30	620	<27	<27	1,800	550	<25	29	<27	120	<27
Ethylbenzene	68	440	<27	<27	1,300	670	<41	<26	<27	30	<27
Methyl-tert-butyl-ether	<27	<27	<27	<27	<27	<26	<25	<26	<27	<26	<27
Toluene	70	980	<27	<27	3,400	1,100	<25	74	<27	170	<27
Xylenes (total)	170	1,800	<80	<80	4,900	2,200	<76	120	<82	150	<80

All units in micrograms per kilogram.

100 Concentration exceeds the NR 720 RCL.

Bold Concentration exceeds the NR 746 Table 2 direct contact standard.

NE Not established.

RCL Residual contaminant level.

ARCADIS

Table 13. Summary of Volatile Organic Compound Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-21	GP-22	GP-23	GP-24	GP-25	GP-26	GP-27	GP-28	GP-29	GP-30	GP-31
Sample Depth	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1,2,4-Trimethylbenzene	860	<27	2,000	89	<26	28	<26	210	39	<26	280
1,3,5-Trimethylbenzene	340	<27	660	<27	<26	<26	<26	74	<26	<26	78
Benzene	650	<27	15,000	<27	<26	<26	<26	390	62	<26	380
Ethylbenzene	1,100	<27	3,000	64	<26	<26	<26	170	33	<26	200
Methyl-tert-butyl-ether	<28	<27	<270	<27	<26	<26	<26	<26	<26	500	<29
Toluene	1,100	<27	27,000	93	<26	56	<26	570	76	<26	260
Xylenes (total)	2,200	<82	15,000	210	<78	110	<78	810	150	<79	370

All units in micrograms per kilogram.

100 Concentration exceeds the NR 720 RCL.

Bold Concentration exceeds the NR 746 Table 2 direct contact standard.

NE Not established.

RCL Residual contaminant level.

ARCADIS

Table 13. Summary of Volatile Organic Compound Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-32	GP-33	GP-34	GP-35	GP-36	GP-37	GP-38	GP-39	GP-40	GP-41
Sample Depth	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1,2,4-Trimethylbenzene	<26	1,500	450	<27	27	130	59	760	840	340
1,3,5-Trimethylbenzene	<26	430	130	<27	<26	48	<28	150	260	120
Benzene	<26	1,800	340	28	<26	190	56	90	100	860
Ethylbenzene	<26	540	200	<27	<26	71	<28	140	120	62
Methyl-tert-butyl-ether	<26	120	<26	<27	<26	<26	<28	<29	<27	<36
Toluene	<26	1,600	1,100	43	<26	330	97	200	750	1,700
Xylenes (total)	<79	2,700	1,800	<80	<78	370	170	670	1,500	1,400

All units in micrograms per kilogram.

100 Concentration exceeds the NR 720 RCL.

Bold Concentration exceeds the NR 746 Table 2 direct contact standard.

NE Not established.

RCL Residual contaminant level.

Table 14. Summary of Polynuclear Aromatic Hydrocarbon Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	Proposed Industrial Direct Contact RCL	Proposed Non-Industrial Direct Contact RCL	Proposed Groundwater Pathway RCL	GP-1 0-2' 8/9/05	GP-2 0-2' 8/9/05	GP-3 0-2' 8/9/05	GP-4 0-2' 8/9/05	GP-5 0-2' 8/9/05
	1-Methylnaphthalene	70,000,000	1,100,000	23,000	380	<310	730	33
2-Methylnaphthalene	40,000,000	600,000	20,000	740	870	2100	100	<26
Acenaphthene	60,000,000	900,000	38,000	<520	<520	<520	<52	<53
Acenaphthylene	360,000	18,000	700	<880	<880	<880	<88	<90
Anthracene	300,000,000	5,000,000	3,000,000	700	730	2,000	19	7.9
Benzo(a)anthracene	3,900	88	17,000	910	1,100	7,800	180	50
Benzo(a)pyrene	390	8.8	48,000	560	810	6,300	130	34
Benzo(b)fluoranthene	3,900	88	360,000	260	410	2,500	71	15
Benzo(g,h,i)perylene	39,000	1,800	6,800,000	320	680	4,200	120	28
Benzo(k)fluoranthene	39,000	880	870,000	370	430	3,500	78	23
Chrysene	390,000	8,800	37,000	600	710	5,500	130	30
Dibenzo(a,h)anthracene	390	8.8	38,000	<78	110	780	20	<7.9
Fluoranthene	40,000,000	600,000	500,000	1,800	1,800	9,700	290	110
Fluorene	40,000,000	600,000	100,000	300	240	1,000	25	18
Indeno(1,2,3-cd)pyrene	3,900	88	680,000	270	540	3,300	87	21
Naphthalene	110,000	20,000	400	670	540	670	<31	<32
Phenanthrene	390,000	18,000	1,800	1,400	1,400	4,500	150	72
Pyrene	30,000,000	500,000	8,700,000	1,400	1,500	9,100	220	65

All units in micrograms per kilogram.

Table 14. Summary of Polynuclear Aromatic Hydrocarbon Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-6 0-2' 8/9/05	GP-7 0-2' 8/9/05	GP-8 0-2' 8/9/05	GP-9 0-2' 8/9/05	GP-10 0-2' 8/9/05	GP-11 0-2' 8/9/05	GP-12 0-2' 8/9/05	GP-13 0-2' 8/9/05	GP-14 0-2' 8/9/05	GP-15 0-2' 8/9/05
	1-Methylnaphthalene	1,300	<33	<32	<320	610	1,900	<32	<32	3,000
2-Methylnaphthalene	3,600	<27	<26	470	<270	1,700	<27	<27	4,600	1,900
Acenaphthene	<520	<54	<53	<530	<540	<1,100	<53	<53	<540	<530
Acenaphthylene	<890	<92	<90	<910	<910	<1,900	<91	<90	<920	<890
Anthracene	260	<5.4	<5.3	150	380	2,000	<5.3	<5.3	670	360
Benzo(a)anthracene	2,800	<5.4	20	1,500	4,200	10,000	16	37	4,900	3,700
Benzo(a)pyrene	2,000	<5.4	26	1,100	1,800	6,400	12	23	2,400	1,800
Benzo(b)fluoranthene	1,000	<5.4	29	480	780	2,400	5.5	10	960	780
Benzo(g,h,i)perylene	2,000	<5.4	35	870	1,200	4,500	11	21	1,600	1,300
Benzo(k)fluoranthene	1,300	<5.4	19	610	1,300	4,600	7.6	15	1,700	1,100
Chrysene	1,800	<5.4	25	950	2,400	5,600	8.6	24	2,600	2,000
Dibenzo(a,h)anthracene	330	<8.1	<7.9	150	290	820	<8.0	<8.0	320	230
Fluoranthene	3,700	<11	47	2,400	7,000	11,000	17	55	9,300	4,100
Fluorene	390	<11	<11	270	880	1,900	<11	<11	1,500	510
Indeno(1,2,3-cd)pyrene	1,300	<5.4	28	620	910	3,800	7.8	16	1,300	1,000
Naphthalene	1,400	<33	<32	<320	430	3,900	<32	<32	7,600	3,300
Phenanthrene	1,800	<5.4	20	1,300	2,500	8,000	12	37	6,800	2,700
Pyrene	3,100	<5.4	33	1,800	4,700	11,000	17	46	6,100	3,000

All units in micrograms per kilogram.

- 100** Concentration exceeds the proposed industrial direct contact RCL.
- 100** Concentration exceeds the proposed non-industrial direct contact RCL.
- 100** Concentration exceeds the proposed groundwater pathway RCL.
- RCL Residual contaminant level.

Table 14. Summary of Polynuclear Aromatic Hydrocarbon Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-16	GP-17	GP-18	GP-19	GP-20	GP-21	GP-22	GP-23	GP-24	GP-25	GP-26
Sample Depth	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1-Methylnaphthalene	1,300	<310	<33	570	<32	1,500	<33	3,800	<330	<31	<31
2-Methylnaphthalene	2,800	1,100	39	1,500	<27	3,400	<27	12,000	770	52	<26
Acenaphthene	<1,300	<510	<54	<520	<54	<1,100	<54	<1,100	<540	<52	<52
Acenaphthylene	<2,200	<870	<92	<890	<91	<1,900	<92	<1,800	<920	<88	<88
Anthracene	<130	330	<5.4	830	<5.4	1,400	<5.4	3,600	160	11	6.9
Benzo(a)anthracene	400	1,900	53	4,000	<5.4	6,700	5.8	19,000	910	110	47
Benzo(a)pyrene	<130	1,100	53	2,100	<5.4	6,000	7.7	11,000	940	76	32
Benzo(b)fluoranthene	<130	590	52	930	<5.4	2,400	5.9	4,900	660	39	16
Benzo(g,h,i)perylene	<130	810	68	1,500	<5.4	3,600	9.4	7,000	940	53	31
Benzo(k)fluoranthene	<130	700	33	1,500	<5.4	3,000	<5.4	7,600	320	45	21
Chrysene	170	1,200	55	2,500	<5.4	4,700	<5.4	12,000	610	74	33
Dibenzo(a,h)anthracene	<190	140	<8.2	250	<8.0	660	<8.2	1,500	130	12	<7.7
Fluoranthene	650	3,900	100	6,600	<11	11,000	<11	31,000	1200	190	71
Fluorene	490	470	<11	750	<11	1,300	<11	5,400	140	13	<10
Indeno(1,2,3-cd)pyrene	140	730	52	1,200	<5.4	3,000	6.9	5,500	670	40	23
Naphthalene	<760	<310	<33	670	<32	2,100	<33	6,200	<330	<31	140
Phenanthrene	360	2,600	37	4,000	<5.4	5,800	6.7	21,000	670	90	38
Pyrene	190	2,500	78	4,400	6.3	9,100	8.4	22,000	880	180	60

All units in micrograms per kilogram.

Table 14. Summary of Polynuclear Aromatic Hydrocarbon Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-27	GP-28	GP-29	GP-30	GP-31	GP-32	GP-33	GP-34	GP-35	GP-36	GP-37
Sample Depth	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05	8/9/05
1-Methylnaphthalene	<31	<4,400	<310	31	4,800	<32	8,000	1,900	<640	<940	640
2-Methylnaphthalene	<26	4,900	<260	110	19,000	72	17,000	6,100	<530	3,300	2,700
Acenaphthene	<52	<7,300	<510	<52	<1,700	<53	<2,300	<1,600	<1,100	<1,600	<1,100
Acenaphthylene	<88	<12,000	<870	<89	<2,900	<89	<3,800	<2,700	<1,800	<2,700	<1,800
Anthracene	<5.2	1,300	300	28	7,000	20	5,000	2,000	130	1,000	840
Benzo(a)anthracene	<5.2	8,700	4,000	260	41,000	160	45,000	7,800	1,500	9,500	11,000
Benzo(a)pyrene	<5.2	8,000	3,300	200	36,000	120	29,000	9,800	1,600	5,300	10,000
Benzo(b)fluoranthene	<5.2	4,200	1,400	110	13,000	87	12,000	4,400	670	2,500	4,700
Benzo(g,h,i)perylene	<5.2	8,100	2,400	180	21,000	100	18,000	7,200	1,500	3,900	9,200
Benzo(k)fluoranthene	<5.2	5,000	2,000	130	20,000	73	19,000	8,100	930	3,800	6,800
Chrysene	<5.2	5,700	2,900	180	31,000	130	25,000	13,000	1,100	5,800	5,700
Dibenzo(a,h)anthracene	<7.8	1,300	420	32	3,600	19	3,600	1,100	230	640	1,500
Fluoranthene	<10	14,000	4,700	360	64,000	310	78,000	36,000	1,700	15,000	12,000
Fluorene	<10	<1,500	410	35	5,800	24	6,900	3,500	<210	2,200	1,100
Indeno(1,2,3-cd)pyrene	<5.2	6,600	1,900	140	16,000	88	14,000	5,600	1,100	2,900	6,300
Naphthalene	<31	<4,400	320	68	4,000	<32	11,000	2,800	<640	1,000	1,100
Phenanthrene	<5.2	1,100	1,400	180	29,000	140	38,000	16,000	660	9,000	4,400
Pyrene	<5.2	10,000	4,200	280	56,000	260	55,000	22,000	1,300	9,900	9,200

All units in micrograms per kilogram.

- Concentration exceeds the proposed industrial direct contact RCL.
- 100** Concentration exceeds the proposed non-industrial direct contact RCL.
- 100* Concentration exceeds the proposed groundwater pathway RCL.
- RCL Residual contaminant level.

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Table 14. Summary of Polynuclear Aromatic Hydrocarbon Surficial Soil Analytical Results, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name	GP-38	GP-39	GP-40	GP-41
Sample Depth	0-2'	0-2'	0-2'	0-2'
Sample Date	8/9/05	8/9/05	8/9/05	8/9/05
1-Methylnaphthalene	<340	94,000	12,000	11,000
2-Methylnaphthalene	<280	140,000	30,000	48,000
Acenaphthene	<570	11,000	13,000	<8,500
Acenaphthylene	<970	<7800	<19,000	<15,000
Anthracene	<57	11,000	8,100	6,800
Benzo(a)anthracene	1,000	37,000	120,000	120,000
Benzo(a)pyrene	640	15,000	17,000	22,000
Benzo(b)fluoranthene	320	6,500	20,000	26,000
Benzo(g,h,i)perylene	690	9,400	19,000	31,000
Benzo(k)fluoranthene	400	9,800	31,000	28,000
Chrysene	610	23,000	67,000	66,000
Dibenzo(a,h)anthracene	130	1,500	8,000	9,300
Fluoranthene	920	150,000	280,000	170,000
Fluorene	<110	41,000	43,000	17,000
Indeno(1,2,3-cd)pyrene	480	6,800	18,000	25,000
Naphthalene	<340	120,000	<6,600	11,000
Phenanthrene	350	130,000	90,000	120,000
Pyrene	800	54,000	150,000	120,000

All units in micrograms per kilogram.

- 100** Concentration exceeds the proposed industrial direct contact RCL.
- 100** Concentration exceeds the proposed non-industrial direct contact RCL.
- 100** Concentration exceeds the proposed groundwater pathway RCL.
- RCL Residual contaminant level.

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	Relative Potency Factor (RPF)	GP-1		GP-2		GP-3		GP-4	
		detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	0.001	380	0.00038	<310	0.000155	730	0.00073	33	0.00033
2-Methylnaphthalene	0.001	740	0.00074	870	0.00087	2100	0.0021	100	0.0001
Acenaphthene	0.001	<520	0.00026	<520	0.00026	<520	0.00026	<52	0.000026
Acenaphthylene	0.001	<880	0.00044	<880	0.00044	<880	0.00044	<88	0.000044
Anthracene	0.010	200	0.002	230	0.0023	2,000	0.02	19	0.00019
Benzo(a)anthracene	0.100	910	0.091	1,100	0.11	7,800	0.78	180	0.018
Benzo(a)pyrene	1.000	560	0.56	810	0.81	6,300	6.3	130	0.13
Benzo(b)fluoranthene	0.100	260	0.026	410	0.041	2,500	0.25	71	0.0071
Benzo(g,h,i)perylene	0.010	320	0.0032	680	0.0068	4,200	0.042	120	0.0012
Benzo(k)fluoranthene	0.010	370	0.0037	430	0.0043	3,500	0.035	78	0.00078
Chrysene	0.001	600	0.0006	710	0.00071	5,500	0.0055	130	0.00013
Dibenzo(a,h)anthracene	1.000	<78	0.039	110	0.11	780	0.78	20	0.02
Fluoranthene	0.001	1,800	0.0018	1,800	0.0018	9,700	0.0097	290	0.00029
Fluorene	0.001	300	0.0003	240	0.00024	1,000	0.001	25	0.000025
Indeno(1,2,3-cd)pyrene	0.100	270	0.027	540	0.054	3,300	0.33	87	0.0087
Naphthalene	0.001	610	0.00061	540	0.00054	670	0.00067	<31	0.0000155
Phenanthrene	0.001	1,400	0.0014	1,400	0.0014	4,500	0.0045	150	0.00015
Pyrene	0.001	1,400	0.0014	1,500	0.0015	9,100	0.0091	220	0.00022
BAP-eq (mg/kg)			0.760		1.15		8.57		0.19

For undetected compounds, the benzo(a)pyrene equivalent concentration was calculated by using one-half of the method detection limit.

- 100 Concentration exceeds the benzo(a)pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.
- 100** Concentration exceeds the benzo(a)pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.
- BAP-eq Benzo(a)pyrene equivalent concentration
- µg/kg micrograms per kilogram
- mg/kg milligrams per kilogram
- RCL Residual contaminant level.

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-5		GP-6		GP-7		GP-8	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<32	0.000016	1,300	0.0013	<33	0.0000165	<32	0.000016
2-Methylnaphthalene	<26	0.000013	3,600	0.0036	<27	0.0000135	<26	0.000013
Acenaphthene	<53	0.0000265	<520	0.00026	<54	0.000027	<53	0.0000265
Acenaphthylene	<90	0.000045	<890	0.000445	<92	0.000046	<90	0.000045
Anthracene	7.9	0.000079	260	0.0026	<5.4	0.000027	<5.3	0.0000265
Benzo(a)anthracene	50	0.005	2,800	0.28	<5.4	0.00027	20	0.002
Benzo(a)pyrene	34	0.034	2,000	2	<5.4	0.0027	26	0.026
Benzo(b)fluoranthene	15	0.0015	1,000	0.1	<5.4	0.00027	29	0.0029
Benzo(g,h,i)perylene	28	0.00028	2,000	0.02	<5.4	0.000027	35	0.00035
Benzo(k)fluoranthene	23	0.00023	1,300	0.013	<5.4	0.000027	19	0.00019
Chrysene	30	0.00003	1,800	0.0018	<5.4	0.0000027	25	0.000025
Dibenzo(a,h)anthracene	<7.9	0.00395	330	0.33	<8.1	0.00405	<7.9	0.00395
Fluoranthene	110	0.00011	3,700	0.0037	<11	0.0000055	47	0.000047
Fluorene	18	0.000018	390	0.00039	<11	0.0000055	<11	0.0000055
Indeno(1,2,3-cd)pyrene	21	0.0021	1,300	0.13	<5.4	0.00027	28	0.0028
Naphthalene	<32	0.000016	1,400	0.0014	<33	0.0000165	<32	0.000016
Phenanthrene	72	0.000072	1,800	0.0018	<5.4	0.0000027	20	0.00002
Pyrene	65	0.000065	3,100	0.0031	<5.4	0.0000027	33	0.000033
BAP-eq (mg/kg)		0.05		2.89		0.01		0.04

For undetected compounds, the benzo(a)pyrene equivalent concentration was calculated by using one-half of the method detection limit.

Concentration exceeds the benzo(a)pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.

100 Concentration exceeds the benzo(a)pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.

BAP-eq Benzo(a)pyrene equivalent concentration

µg/kg micrograms per kilogram

mg/kg milligrams per kilogram

RCL Residual contaminant level.

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-9		GP-10		GP-11		GP-12	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<320	0.00016	610	0.00061	1,900	0.0019	<32	0.000016
2-Methylnaphthalene	470	0.00047	<270	0.000135	1,700	0.0017	<27	0.0000135
Acenaphthene	<530	0.000265	<540	0.00027	<1,100	0.00055	<53	0.0000265
Acenaphthylene	<910	0.000455	<910	0.000455	<1,900	0.00095	<91	0.0000455
Anthracene	150	0.0015	380	0.0038	2,000	0.02	<5.3	0.0000265
Benzo(a)anthracene	1,500	0.15	4,200	0.42	10,000	1	16	0.0016
Benzo(a)pyrene	1,100	1.1	1,800	1.8	6,400	6.4	12	0.012
Benzo(b)fluoranthene	480	0.048	780	0.078	2,400	0.24	5.5	0.00055
Benzo(g,h,i)perylene	870	0.0087	1,200	0.012	4,500	0.045	11	0.00011
Benzo(k)fluoranthene	610	0.0061	1,300	0.013	4,600	0.046	7.6	0.000076
Chrysene	950	0.00095	2,400	0.0024	5,600	0.0056	8.6	0.0000086
Dibenzo(a,h)anthracene	150	0.15	290	0.29	820	0.82	<8.0	0.004
Fluoranthene	2,400	0.0024	7,000	0.007	11,000	0.011	17	0.000017
Fluorene	270	0.00027	880	0.00088	1,900	0.0019	<11	0.0000055
Indeno(1,2,3-cd)pyrene	620	0.062	910	0.091	3,800	0.38	7.8	0.00078
Naphthalene	<320	0.00016	430	0.00043	3,900	0.0039	<32	0.000016
Phenanthrene	1,300	0.0013	2,500	0.0025	8,000	0.008	12	0.000012
Pyrene	1,800	0.0018	4,700	0.0047	11,000	0.011	17	0.000017
BAP-eq (mg/kg)		1.53		2.73		9.00		0.02

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-13		GP-14		GP-15		GP-16	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<32	0.000016	3,000	0.003	1,100	0.0011	1,300	0.0013
2-Methylnaphthalene	<27	0.0000135	4,600	0.0046	1,900	0.0019	2,800	0.0028
Acenaphthene	<53	0.0000265	<540	0.00027	<530	0.000265	<1,300	0.00065
Acenaphthylene	<90	0.000045	<920	0.00027	<890	0.000445	<2,200	0.0011
Anthracene	<5.3	0.0000265	670	0.0067	360	0.0036	<130	0.00065
Benzo(a)anthracene	37	0.0037	4,900	0.49	3,700	0.37	400	0.04
Benzo(a)pyrene	23	0.023	2,400	2.4	1,800	1.8	<130	0.065
Benzo(b)fluoranthene	10	0.001	960	0.096	780	0.078	<130	0.0065
Benzo(g,h,i)perylene	21	0.00021	1,600	0.016	1,300	0.013	<130	0.00065
Benzo(k)fluoranthene	15	0.00015	1,700	0.017	1,100	0.011	<130	0.00065
Chrysene	24	0.000024	2,600	0.0026	2,000	0.002	170	0.00017
Dibenzo(a,h)anthracene	<8.0	0.004	320	0.32	230	0.23	<190	0.095
Fluoranthene	55	0.000055	9,300	0.0093	4,100	0.0041	650	0.00065
Fluorene	<11	0.0000055	1,500	0.0015	510	0.00051	490	0.00049
Indeno(1,2,3-cd)pyrene	16	0.0016	1,300	0.13	1,000	0.1	140	0.014
Naphthalene	<32	0.000016	7,600	0.0076	3,300	0.0033	<760	0.00038
Phenanthrene	37	0.000037	6,800	0.0068	2,700	0.0027	360	0.00036
Pyrene	46	0.000046	6,100	0.0061	3,000	0.003	190	0.00019
BAP-eq (mg/kg)		0.03		3.52		2.62		0.23

For undetected compounds, the benzo[a]pyrene equivalent concentration was calculated by using one-half of the method detection limit.

Concentration exceeds the benzo[a]pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.

100 Concentration exceeds the benzo[a]pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.

BAP-eq Benzo[a]pyrene equivalent concentration

µg/kg micrograms per kilogram

mg/kg milligrams per kilogram

RCL Residual contaminant level.

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-17		GP-18		GP-19		GP-20	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<310	0.000155	<33	0.0000165	570	0.00057	<32	0.000016
2-Methylnaphthalene	1,100	0.0011	39	0.000039	1,500	0.0015	<27	0.0000135
Acenaphthene	<510	0.000255	<54	0.000027	<520	0.00026	<54	0.000027
Acenaphthylene	<870	0.000435	<92	0.000046	<890	0.000445	<91	0.0000455
Anthracene	330	0.0033	<5.4	0.000027	830	0.0083	<5.4	0.000027
Benzo(a)anthracene	1,900	0.19	53	0.0053	4,000	0.4	<5.4	0.00027
Benzo(a)pyrene	1,100	1.1	53	0.053	2,100	2.1	<5.4	0.0027
Benzo(b)fluoranthene	590	0.059	52	0.0052	930	0.093	<5.4	0.00027
Benzo(g,h,i)perylene	810	0.0081	68	0.00068	1,500	0.015	<5.4	0.000027
Benzo(k)fluoranthene	700	0.007	33	0.00033	1,500	0.015	<5.4	0.000027
Chrysene	1,200	0.0012	55	0.000055	2,500	0.0025	<5.4	0.0000027
Dibenzo(a,h)anthracene	140	0.14	<8.2	0.0041	250	0.25	<8.0	0.004
Fluoranthene	3,900	0.0039	100	0.0001	6,600	0.0066	<11	0.0000055
Fluorene	470	0.00047	<11	0.0000055	750	0.00075	<11	0.0000055
Indeno(1,2,3-cd)pyrene	730	0.073	52	0.0052	1,200	0.12	<5.4	0.00027
Naphthalene	<310	0.000155	<33	0.0000165	670	0.00067	<32	0.000016
Phenanthrene	2,600	0.0026	37	0.000037	4,000	0.004	<5.4	0.0000027
Pyrene	2,500	0.0025	78	0.000078	4,400	0.0044	6.3	0.0000063
BAP-eq (mg/kg)		1.59		0.07		3.02		0.01

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Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-21		GP-22		GP-23		GP-24	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	1,500	0.0015	<33	0.0000165	3,800	0.0038	<330	0.000165
2-Methylnaphthalene	3,400	0.0034	<27	0.0000135	12,000	0.012	770	0.00077
Acenaphthene	<1,100	0.00055	<54	0.000027	<1,100	0.00055	<540	0.00027
Acenaphthylene	<1,900	0.00095	<92	0.000046	<1,800	0.0009	<920	0.00046
Anthracene	1,400	0.014	<5.4	0.000027	3,600	0.036	160	0.0016
Benzo(a)anthracene	6,700	0.67	5.8	0.00058	19,000	1.9	910	0.091
Benzo(a)pyrene	6,000	6	7.7	0.0077	11,000	11	940	0.94
Benzo(b)fluoranthene	2,400	0.24	5.9	0.00059	4,900	0.49	660	0.066
Benzo(g,h,i)perylene	3,600	0.036	9.4	0.000094	7,000	0.07	940	0.0094
Benzo(k)fluoranthene	3,000	0.03	<5.4	0.000027	7,600	0.076	320	0.0032
Chrysene	4,700	0.0047	<5.4	0.0000027	12,000	0.012	610	0.00061
Dibenzo(a,h)anthracene	660	0.66	<8.2	0.0041	1,500	1.5	130	0.13
Fluoranthene	11,000	0.011	<11	0.0000055	31,000	0.031	1200	0.0012
Fluorene	1,300	0.0013	<11	0.0000055	5,400	0.0054	140	0.00014
Indeno(1,2,3-cd)pyrene	3,000	0.3	6.9	0.00069	5,500	0.55	670	0.067
Naphthalene	2,700	0.0027	<33	0.0000165	6,200	0.0062	<330	0.000165
Phenanthrene	5,800	0.0058	6.7	0.000067	21,000	0.021	670	0.00067
Pyrene	9,100	0.0091	8.4	0.000084	22,000	0.022	880	0.00088
BAP-eq (mg/kg)		7.99		0.01		15.74		1.31

For undetected compounds, the benzo[a]pyrene equivalent concentration was calculated by using one-half of the method detection limit.

Concentration exceeds the benzo[a]pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.

100 Concentration exceeds the benzo[a]pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.

BAP-eq Benzo[a]pyrene equivalent concentration

µg/kg micrograms per kilogram

mg/kg milligrams per kilogram

RCL Residual contaminant level.

ARCADIS

Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-25		GP-26		GP-27		GP-28	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<31	0.000155	<31	0.000155	<31	0.000155	<4,400	0.0022
2-Methylnaphthalene	52	0.000052	<26	0.000013	<26	0.000013	4,900	0.0049
Acenaphthene	<52	0.000026	<52	0.000026	<52	0.000026	<7,300	0.00365
Acenaphthylene	<88	0.000044	<88	0.000044	<88	0.000044	<12,000	0.0006
Anthracene	11	0.00011	6.9	0.000069	<5.2	0.000026	1,300	0.013
Benzo(a)anthracene	110	0.011	47	0.0047	<5.2	0.00026	8,700	0.87
Benzo(a)pyrene	76	0.076	32	0.032	<5.2	0.0026	8,000	8
Benzo(b)fluoranthene	39	0.0039	16	0.0016	<5.2	0.00026	4,200	0.42
Benzo(g,h,i)perylene	53	0.00053	31	0.00031	<5.2	0.000026	8,100	0.081
Benzo(k)fluoranthene	45	0.00045	21	0.00021	<5.2	0.000026	5,000	0.05
Chrysene	74	0.000074	33	0.000033	<5.2	0.0000026	5,700	0.0057
Dibenzo(a,h)anthracene	12	0.012	<7.7	0.00385	<7.8	0.0039	1,300	1.3
Fluoranthene	190	0.00019	71	0.000071	<10	0.000005	14,000	0.014
Fluorene	13	0.000013	<10	0.000005	<10	0.000005	<1,500	0.00075
Indeno(1,2,3-cd)pyrene	40	0.004	23	0.0023	<5.2	0.00026	6,600	0.66
Naphthalene	<31	0.0000155	140	0.00014	<31	0.0000155	<4,400	0.0022
Phenanthrene	90	0.00009	38	0.000038	<5.2	0.0000026	7,100	0.0071
Pyrene	180	0.00018	60	0.00006	<5.2	0.0000026	10,000	0.01
BAP-eq (mg/kg)		0.11		0.05		0.01		11.45

For undetected compounds, the benzo[a]pyrene equivalent concentration was calculated by using one-half of the method detection limit.

ARCADIS

Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-29		GP-30		GP-31		GP-32	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	<310	0.000155	31	0.000031	4,800	0.0048	<32	0.000016
2-Methylnaphthalene	<260	0.00013	110	0.00011	19,000	0.019	72	0.000072
Acenaphthene	<510	0.000255	<52	0.000026	<1,700	0.00085	<53	0.0000265
Acenaphthylene	<870	0.000435	<89	0.0000445	<2,900	0.00145	<89	0.0000445
Anthracene	300	0.003	28	0.00028	7,000	0.07	20	0.0002
Benzo(a)anthracene	4,000	0.4	260	0.026	41,000	4.1	160	0.016
Benzo(a)pyrene	3,300	3.3	200	0.2	36,000	36	120	0.12
Benzo(b)fluoranthene	1,400	0.14	110	0.011	13,000	1.3	87	0.0087
Benzo(g,h,i)perylene	2,400	0.024	180	0.0018	21,000	0.21	100	0.001
Benzo(k)fluoranthene	2,000	0.02	130	0.0013	20,000	0.2	73	0.00073
Chrysene	2,900	0.0029	180	0.00018	31,000	0.031	130	0.00013
Dibenzo(a,h)anthracene	420	0.42	32	0.032	3,600	3.6	19	0.019
Fluoranthene	4,700	0.0047	360	0.00036	64,000	0.064	310	0.00031
Fluorene	410	0.00041	35	0.000035	5,800	0.0058	24	0.000024
Indeno(1,2,3-cd)pyrene	1,900	0.19	140	0.014	16,000	1.6	88	0.0088
Naphthalene	320	0.00032	68	0.000068	4,000	0.004	<32	0.000016
Phenanthrene	1,400	0.0014	180	0.00018	29,000	0.029	140	0.00014
Pyrene	4,200	0.0042	280	0.00028	56,000	0.056	260	0.00026
BAP-eq (mg/kg)		4.51		0.29		47.30		0.18

For undetected compounds, the benzo[a]pyrene equivalent concentration was calculated by using one-half of the method detection limit.

Concentration exceeds the benzo[a]pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.

100 Concentration exceeds the benzo[a]pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.

BAP-eq Benzo[a]pyrene equivalent concentration

µg/kg micrograms per kilogram

mg/kg milligrams per kilogram

Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-33		GP-34		GP-35		GP-36	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	8,000	0.008	1,900	0.0019	<640	0.00032	<940	0.00047
2-Methylnaphthalene	17,000	0.017	6,100	0.0061	<530	0.000265	3,300	0.0033
Acenaphthene	<2300	0.00115	<1,600	0.0008	<1,100	0.00055	<1,600	0.0008
Acenaphthylene	<3,800	0.0019	<2,700	0.00135	<1,800	0.0009	<2,700	0.00135
Anthracene	5,000	0.05	2,000	0.02	130	0.0013	1,000	0.01
Benzo(a)anthracene	45,000	4.5	7,800	0.78	1,500	0.15	9,500	0.95
Benzo(a)pyrene	29,000	29	9,800	9.8	1,600	1.6	5,300	5.3
Benzo(b)fluoranthene	12,000	1.2	4,400	0.44	670	0.067	2,500	0.25
Benzo(g,h,i)perylene	18,000	0.18	7,200	0.072	1,500	0.015	3,900	0.039
Benzo(k)fluoranthene	19,000	0.19	8,100	0.081	930	0.0093	3,800	0.038
Chrysene	25,000	0.025	13,000	0.013	1,100	0.0011	5,800	0.0058
Dibenzo(a,h)anthracene	3,600	3.6	1,100	1.1	230	0.23	640	0.64
Fluoranthene	78,000	0.078	36,000	0.036	1,700	0.0017	15,000	0.015
Fluorene	6,900	0.0069	3,500	0.0035	<210	0.000105	2,200	0.0022
Indeno(1,2,3-cd)pyrene	14,000	1.4	5,600	0.56	1,100	0.11	2,900	0.29
Naphthalene	11,000	0.011	2,800	0.0028	<640	0.00032	1,000	0.001
Phenanthrene	38,000	0.038	16,000	0.016	660	0.00066	9,000	0.009
Pyrene	55,000	0.055	22,000	0.022	1,300	0.0013	9,900	0.0099
BAP-eq (mg/kg)		40.4		13.0		2.19		7.57

For undetected compounds, the benzo(a)pyrene equivalent concentration was calculated by using one-half of the method detection limit.

- 100 Concentration exceeds the benzo(a)pyrene equivalent industrial direct contact RCL of 3.9 mg/kg.
- BAP-eq Benzo(a)pyrene equivalent concentration
- µg/kg micrograms per kilogram
- mg/kg milligrams per kilogram
- RCL Residual contaminant level.

Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-37		GP-38		GP-39		GP-40	
	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	640	0.00064	<340	0.00017	94,000	0.094	12,000	0.012
2-Methylnaphthalene	2,700	0.0027	<280	0.00014	140,000	0.14	30,000	0.03
Acenaphthene	<1,100	0.00055	<570	0.000285	11,000	0.011	13,000	0.013
Acenaphthylene	<1,800	0.0009	<970	0.000485	<7800	0.0039	<19,000	0.0095
Anthracene	840	0.0084	<57	0.000285	11,000	0.11	8,100	0.081
Benzo(a)anthracene	11,000	1.1	1,000	0.1	37,000	3.7	120,000	12
Benzo(a)pyrene	10,000	10	640	0.64	15,000	15	17,000	17
Benzo(b)fluoranthene	4,700	0.47	320	0.032	6,500	0.65	20,000	2
Benzo(g,h,i)perylene	9,200	0.092	690	0.0069	9,400	0.094	19,000	0.19
Benzo(k)fluoranthene	6,800	0.068	400	0.004	9,800	0.098	31,000	0.31
Chrysene	5,700	0.0057	610	0.00061	23,000	0.023	67,000	0.067
Dibenzo(a,h)anthracene	1,500	1.5	130	0.13	1,500	1.5	8,000	8
Fluoranthene	12,000	0.012	920	0.00092	150,000	0.15	280,000	0.28
Fluorene	1,100	0.0011	<110	0.000055	41,000	0.041	43,000	0.043
Indeno(1,2,3-cd)pyrene	6,300	0.63	480	0.048	6,800	0.68	18,000	1.8
Naphthalene	1,100	0.0011	<340	0.00017	120,000	0.12	<6,600	0.0033
Phenanthrene	4,400	0.0044	350	0.00035	130,000	0.13	90,000	0.09
Pyrene	9,200	0.0092	800	0.0008	54,000	0.054	150,000	0.15
BAP-eq (mg/kg)		13.9		0.97		22.6		42.1

For undetected compounds, the benzo(a)pyrene equivalent concentration was calculated by using one-half of the method detection limit.

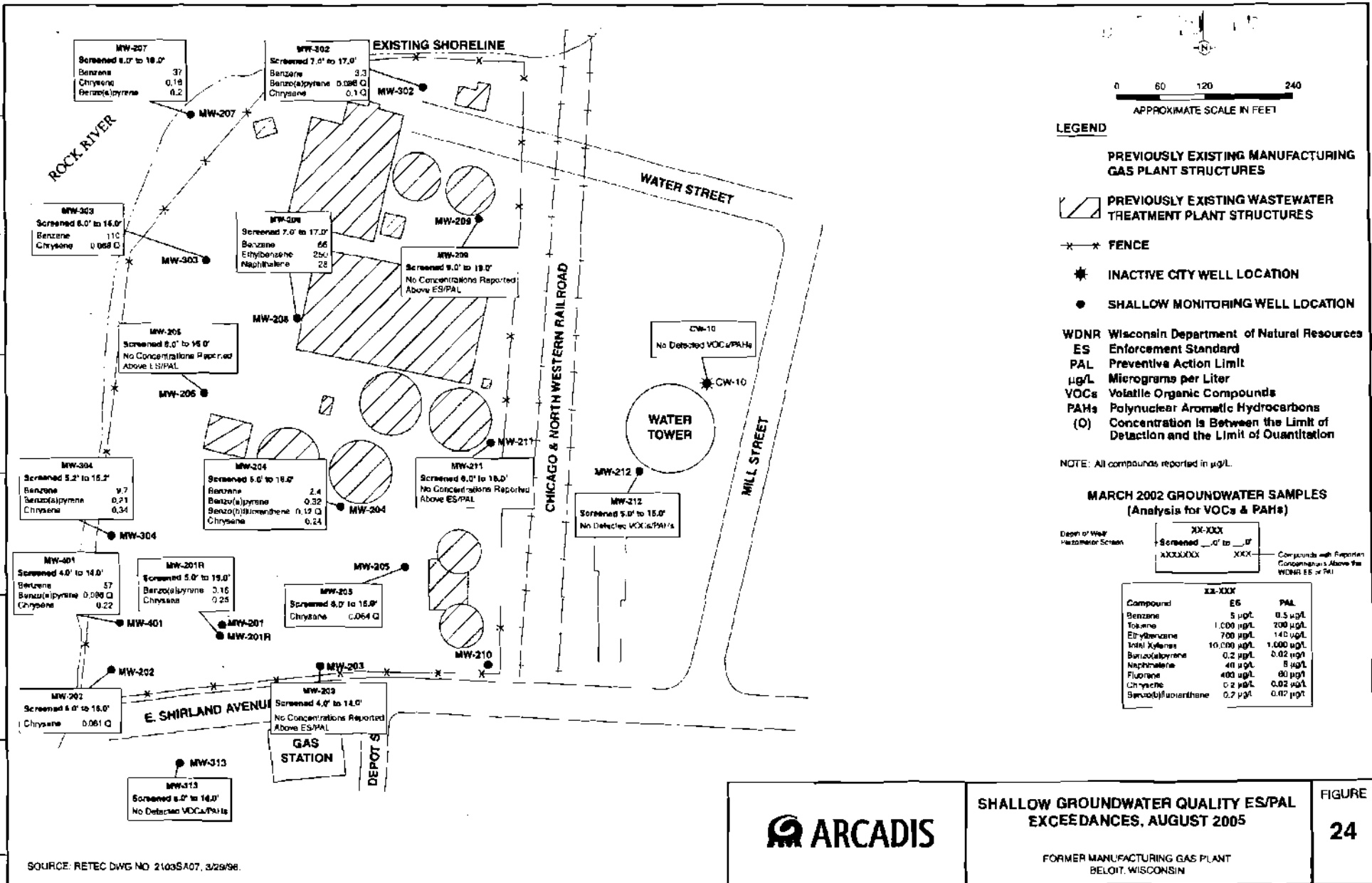
- 100 Concentration exceeds the benzo(a)pyrene equivalent industrial direct contact RCL of 3.9 mg/kg.
- BAP-eq Benzo(a)pyrene equivalent concentration
- µg/kg micrograms per kilogram
- mg/kg milligrams per kilogram
- RCL Residual contaminant level.

Table 15. Calculation of Benzo(a)pyrene Equivalent Concentrations, 2005 Investigation, Former MGP Site, Beloit, Wisconsin.

Boring Name Sample Depth Sample Date	GP-41	
	detected (µg/kg)	BAP-eq (mg/kg)
1-Methylnaphthalene	11,000	0.011
2-Methylnaphthalene	48,000	0.048
Acenaphthene	<8,500	0.00425
Acenaphthylene	<15,000	0.0075
Anthracene	6,800	0.068
Benzo(a)anthracene	120,000	12
Benzo(a)pyrene	22,000	22
Benzo(b)fluoranthene	26,000	2.6
Benzo(g,h,i)perylene	31,000	0.31
Benzo(k)fluoranthene	28,000	0.28
Chrysene	66,000	0.066
Dibenzo(a,h)anthracene	9,300	9.3
Fluoranthene	170,000	0.17
Fluorene	17,000	0.017
Indeno(1,2,3-cd)pyrene	25,000	2.5
Naphthalene	11,000	0.011
Phenanthrene	120,000	0.12
Pyrene	120,000	0.12
BAP-eq (mg/kg)		49.6

For undetected compounds, the benzo(a)pyrene equivalent concentration was calculated by using one-half of the method detection limit.

- 100 Concentration exceeds the benzo(a)pyrene-equivalent industrial direct contact RCL of 3.9 mg/kg.
- 100** Concentration exceeds the benzo(a)pyrene-equivalent non-industrial direct contact RCL of 0.9 mg/kg.
- BAP-eq Benzo(a)pyrene equivalent concentration
- µg/kg micrograms per kilogram
- mg/kg milligrams per kilogram
- RCL Residual contaminant level.

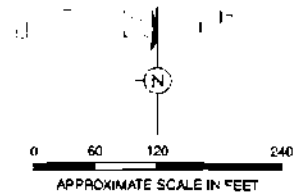
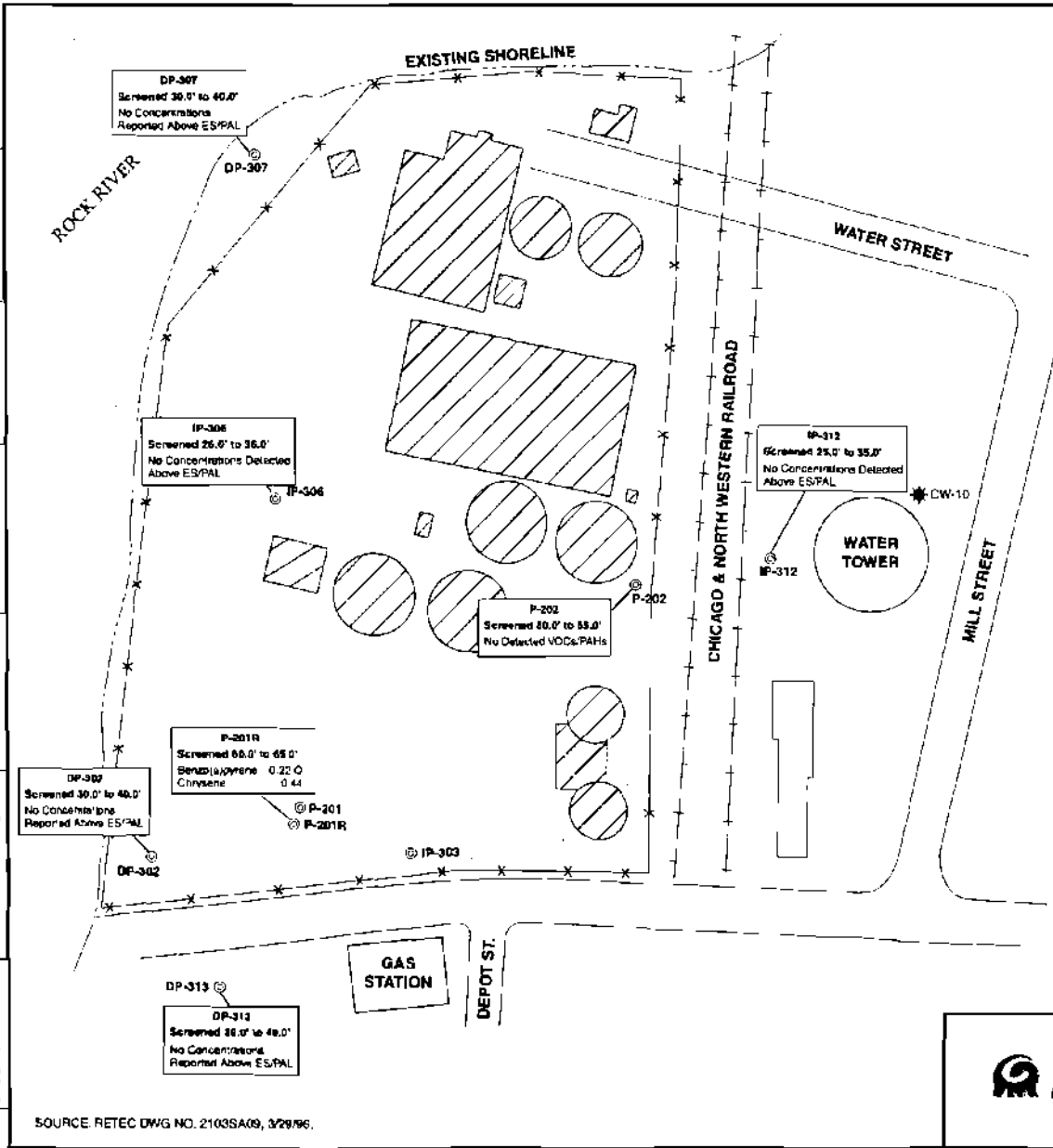


SHALLOW GROUNDWATER QUALITY ES/PAL EXCEEDANCES, AUGUST 2005

FORMER MANUFACTURING GAS PLANT
BELOIT, WISCONSIN

FIGURE
24

DWD DATE: 07/11/05 | PN: BEL01W03W03R02_RAP | FILE NO: GRAPHICS-0000 | DRAWING: INTER_807_A1 | CHECKED: EMT | APPROVED | DRAFTER: ELSVMB



- LEGEND**
- PREVIOUSLY EXISTING MANUFACTURING GAS PLANT STRUCTURES
 - PREVIOUSLY EXISTING WASTEWATER TREATMENT PLANT STRUCTURES
 - FENCE
 - INACTIVE CITY WELL LOCATION
 - INTERMEDIATE PIEZOMETER LOCATION
- WDNR Wisconsin Department of Natural Resources
 ES Enforcement Standard
 PAL Preventive Action Limit
 µg/L Micrograms per Liter
 VOCs Volatile Organic Compounds
 PAHs Polynuclear Aromatic Hydrocarbons
 (Q) Concentration is Between the Limit of Detection and the Limit of Quantitation

NOTE: All Compounds reported in µg/L.

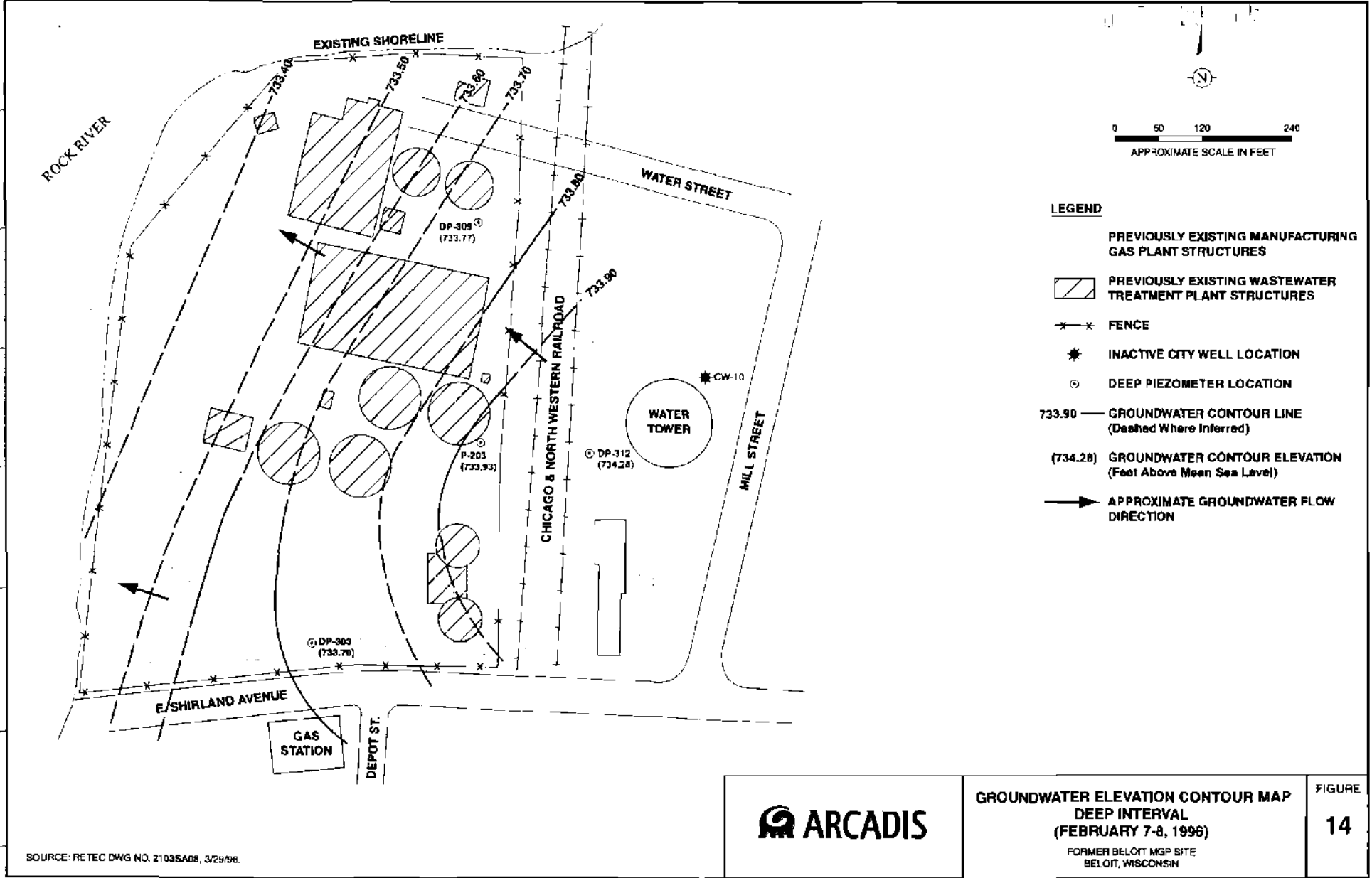
**MARCH 2002 GROUNDWATER SAMPLES
(Analysis for VOCs & PAHs)**

Depth of Well / Piezometer Screen	ES-XXX Screened []' to []' XXXXXXXXXX	XXX	Compounds with Reported Concentrations Above the WDNR ES or PAL															
			<table border="1"> <thead> <tr> <th>Compound</th> <th>ES</th> <th>PAL</th> </tr> </thead> <tbody> <tr> <td>Naphthalene</td> <td>40 µg/L</td> <td>8 µg/L</td> </tr> <tr> <td>Benzo(a)pyrene</td> <td>0.2 µg/L</td> <td>0.02 µg/L</td> </tr> <tr> <td>Benzo(b)fluoranthene</td> <td>0.2 µg/L</td> <td>0.02 µg/L</td> </tr> <tr> <td>Chrysene</td> <td>0.2 µg/L</td> <td>0.02 µg/L</td> </tr> </tbody> </table>	Compound	ES	PAL	Naphthalene	40 µg/L	8 µg/L	Benzo(a)pyrene	0.2 µg/L	0.02 µg/L	Benzo(b)fluoranthene	0.2 µg/L	0.02 µg/L	Chrysene	0.2 µg/L	0.02 µg/L
Compound	ES	PAL																
Naphthalene	40 µg/L	8 µg/L																
Benzo(a)pyrene	0.2 µg/L	0.02 µg/L																
Benzo(b)fluoranthene	0.2 µg/L	0.02 µg/L																
Chrysene	0.2 µg/L	0.02 µg/L																

SOURCE: RETEC DWG NO. 2103SA09, 3/29/96.

	INTERMEDIATE GROUNDWATER QUALITY ES/PAL EXCEEDANCES AUGUST 2005	FIGURE 25
	FORMER MANUFACTURING GAS PLANT BELOIT, WISCONSIN	

DWG DATE: 17AUG00 | P4 BELLOTWISCOMBP_RAP | FILE NO.: GRAPHICSDWG | DRAWING: DEEPA | CHECKED: KP | APPRVT: T. | DRAFTER: CIS

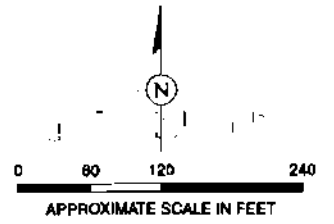
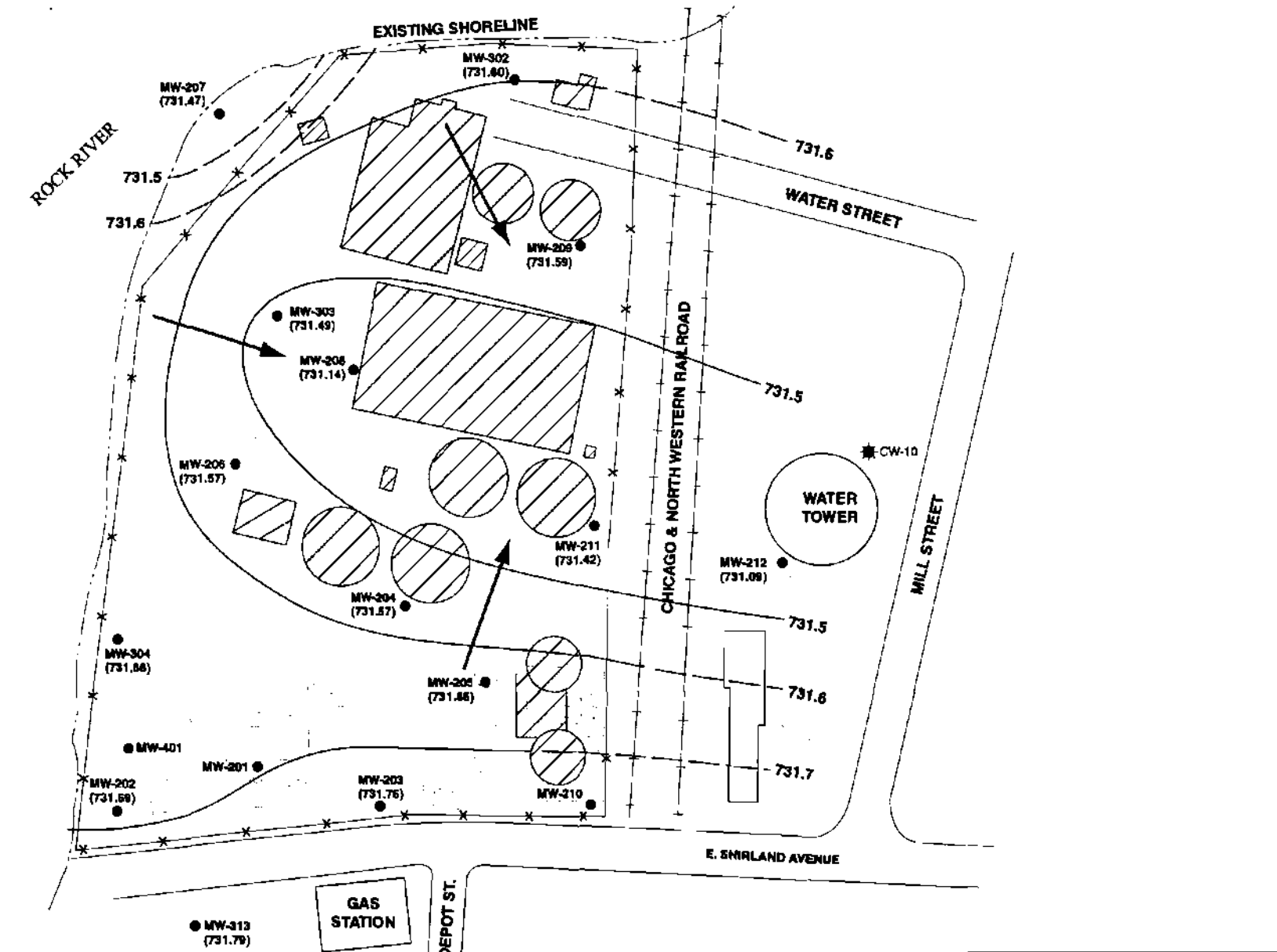


SOURCE: RETEC DWG NO. 21035A08, 3/29/96.



GROUNDWATER ELEVATION CONTOUR MAP
DEEP INTERVAL
(FEBRUARY 7-8, 1996)
 FORMER BELOTT MGP SITE
 BELOTT, WISCONSIN

FIGURE
14



- LEGEND**
- PREVIOUSLY EXISTING MANUFACTURING GAS PLANT STRUCTURES
 - ▨ PREVIOUSLY EXISTING WASTEWATER TREATMENT PLANT STRUCTURES
 - ✕✕ FENCE
 - ★ ACTIVE CITY WELL LOCATION
 - SHALLOW MONITORING WELL LOCATION
 - 731.5 — GROUNDWATER CONTOUR LINE (Dashed Where Inferred)
 - (731.42) WATER TABLE ELEVATION (Feet Above Mean Sea Level)
 - ➔ GENERALIZED GROUNDWATER FLOW DIRECTION

SOURCE: RETEC DWG NO. 2103SA10, 3/29/96.



**GROUNDWATER ELEVATION CONTOUR MAP
SHALLOW INTERVAL
(OCTOBER 6, 2003)**

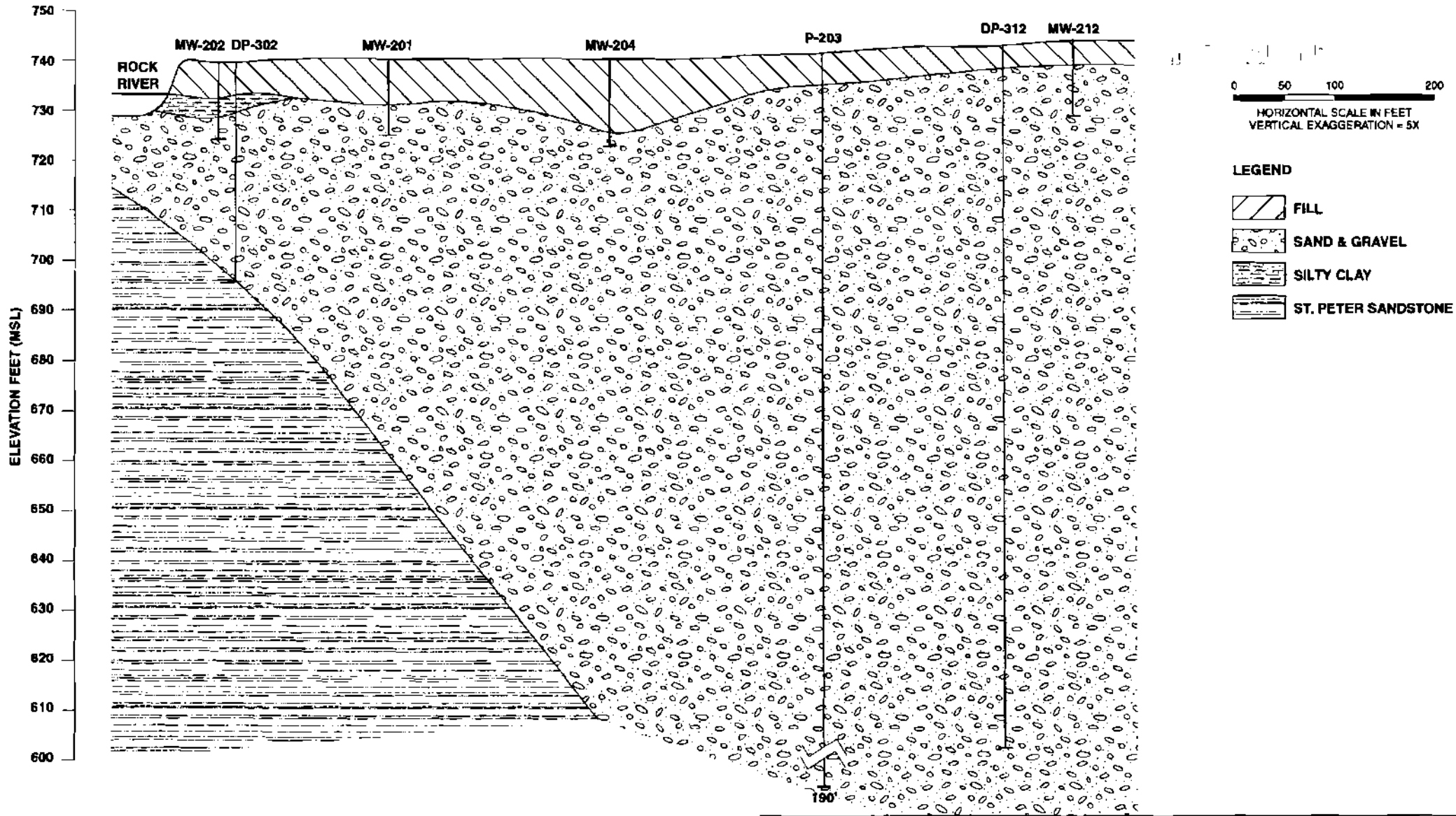
FORMER MANUFACTURED GAS PLANT PROPERTY
BELOIT, WISCONSIN

FIGURE
22

B'

LOOKING NORTH

B



GEOLOGIC CROSS SECTION B-B'

FORMER BELOIT MGP SITE
BELOIT, WISCONSIN

FIGURE
10

Certification of Legal Description**Parcel Identification No. 1354-0080****Former Manufactured Gas Plant Property****Shirland Avenue****Beloit, Wisconsin**

Part of Lot 7, Block 62 and part of Lot 7 and all of Lots 8 and 9, Block 63 of Brown and Fisher's Subdivision, also part of Blocks 64, 65 and 66 of the original plat by John Hopkins, also part of Lots 165 through 173, all of Lots 174 through 192 and part of Lot 193 of Goodhues Subdivision of Blocks in the Village (now City) of Beloit, being a part of Government Lot 7 of Section 35, T. 1 N., R. 12 E. of the 4th P.M., City of Beloit, Rock County, Wisconsin.

I, David M. Botts, certify that the legal description provided above and on the attached Plat of Survey is complete and accurate to the best of my knowledge for the purpose of registering this site onto the Wisconsin Geographical Information System (GIS) Registry of Closed Remediation Sites.

Signature: David Botts, P.E.

Title: Public Works Dir

Date: 12-7-06