SITE INVESTIGATION REPORT

for

BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WISCONSIN

PECFA CLAIM NUMBER: 54241-3089-00
BRRTS ID# 03-36-223946

PREPARED FOR

MR. KENTON LANGMAN
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WISCONSIN 54241

February 28, 2000

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February 28, 2000

Mr. James Reyburn
Wisconsin Department of Natural Resources
Northeast Region
Box 10448
Green Bay, Wisconsin 54307-0448

Mr. Reyburn:

RE: Site Investigation Report for Brown's of Two Rivers,
1400 Washington Street, Two Rivers, Wisconsin 54241
BRRTS# 03-36-223946
PECFA Claim Number: 54241-3089-00

Enclosed is a copy of the Site Investigation Report (SIR) for the above-referenced site. One 500-gallon waste oil underground storage tank (UST) was previously abandoned by removal at this site. Soil and groundwater contamination was detected during a Phase II investigation. Near the waste oil UST, soil contamination was detected at a depth of 7-9 feet below grade (fbg) and groundwater contamination was detected in trace amounts. Soil and groundwater contamination was also detected at the east edge and southeast corner of the property. Here, contamination ranges from depths of 7.5-17 fbg for soil and 13-15 fbg for water. This contamination appears to be gasoline, rather than waste oil.

It appears that the gasoline contamination covers a much larger area of the property, and is more concentrated on the east edge and southeast corner of the property.

The groundwater contamination at this site appears to cover a much larger area than the soil contamination associated with the waste oil UST. The soil contamination around the waste oil UST appears stable and limited. Groundwater contamination also seems to be more significant near the east edge and southeast corner of the property, and only trace amounts exist near the waste oil UST. The contamination related to the waste oil UST is minimal in comparison with the contamination discovered at the southeast corner of the property.

Please review this report and comment as appropriate, as soon as possible, so that GHD can evaluate a remedial alternative for this site.

Please call Tim Ott at 920-849-9797 if you have any questions or comments.

Best regards,
GHD, Inc.

Timothy L. Ott
Project Scientist

DISTRIBUTION LIST

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SITE INVESTIGATION REPORT

for

BROWN'S OF TWO RIVERS

Located at
1400 Washington Street
Two Rivers, Wisconsin 54241

Prepared for:
Mr. Kenton Langman
Brown's of Two Rivers
1400 Washington Street
Two Rivers, Wisconsin 54241

February 28, 2000

I, Susan M. Lawrenz, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and a registered Professional Geologist in the State of Wisconsin in accordance with the requirements of Ch. A-E 10, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chs. NR 700 to 726, Wis. Adm. Code.

Susan M. Lawrenz G-0901
Susan M. Lawrenz P.G. Number
Senior Hydrogeologist

I, Stephen W. Dvorak, hereby certify that I am a registered Professional Engineer in the State of Wisconsin in accordance with the requirements of Ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chs. NR 700 to 726, Wis. Adm. Code.

Stephen W. Dvorak E-16161
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EXECUTIVE SUMMARY

The Brown's of Two Rivers site in Two Rivers, Wisconsin, was formerly Ohde's Motors until 1950. In 1950, the property was sold and became Hermachek Motors. After being owned by Hermachek Motors, the property was subsequently owned by Erdman's Motor Company. In 1969, the property became Brown's of Two Rivers, which it is today. It now operates as a wholesale distributor of automotive accessories. ***Figure 1, Appendix D***, shows the location of the site on a USGS topographic map. One 500-gallon waste oil Underground Storage Tank (UST) installed circa 1940 was used for storage. This UST was abandoned by removal in 1987. ***Table 1, Appendix E***, summarizes the UST contents and capacity. No figures or other information could be found regarding the tank location or who removed it.

In May of 1999, GHD, Inc. (GHD) was hired by Mr. Kenton Langman to conduct a Phase II subsurface investigation on this property for any petroleum-related constituents. GHD performed six soil borings on May 26 & 27, 1999 in the estimated tank bed area, at property boundaries, and other various locations on site. The borings were advanced to depths of 7 to 11 fbg at the estimated water table interface. Samples were collected and tested for Gasoline Range Organics (GRO), Diesel Range Organics (DRO), Volatile Organic Compounds (VOCs), Petroleum Volatile Organic Compounds (PVOCs), and lead at EN CHEM, Inc., a state certified laboratory. Sample results are listed in ***Table 5, Appendix E***.

Results showed petroleum contamination above Residual Contaminant Levels (RCLs) in three of the six borings; BA-B3, BA-B4, and BA-B6. On July 14, 1999, the Wisconsin Department of Natural Resources (WDNR) notified Brown's of Two Rivers of their responsibility to investigate and remediate this contamination. This prompted a follow up site investigation.

In August of 1999, GHD was hired to conduct the site investigation to determine the degree and extent of petroleum contamination. Drilling activities were conducted in December of 1999 by Environmental Drilling Services, Inc. (EDS) of De Pere, Wisconsin. Five monitoring wells were installed, as contaminated soils were encountered in contact with the groundwater interface. These wells were developed and sampled on December 15, 1999. A second round of groundwater samples was collected from these monitoring wells on January 12, 2000.

This Site Investigation Report documents these site activities. Soil and groundwater contamination has been identified at this site. Approximately 50 tons of contaminated soil remains on-site near the former waste oil tank bed and only a trace amount of groundwater contamination was detected in the UST tank bed vicinity. This little amount of contamination seems to be somewhat stationary and of little concern. There is contamination on site that is of substantial concern. Significant amounts of soil and groundwater contamination have been identified at the east edge and southeast corner of the property. There are at least four possible off-site sources for this contamination. These sources are listed in ***Appendix G***. The degree and extent of contamination resulting from of the waste oil tank system has been defined sufficiently. It appears that gasoline or diesel groundwater contamination is migrating on-site from potential upgradient sources.

1.0 INTRODUCTION

GHD, Inc., (GHD) has prepared this Underground Storage Tank (UST) Site Investigation Report (SIR) for the Brown's of Two Rivers site. This report pertains to the site located at 1400 Washington Street in Two Rivers, Wisconsin. The site will be referred to in this report as the "Brown's" or, simply, the site.

The principal author of this report was Mr. Timothy L. Ott.

1.1 Purpose of the Report

The information herein describes the site history, degree and extent of contamination, regional and site geology and hydrogeology, and the field and laboratory results from soil and groundwater sampling. It also discusses the nature of the contamination, where it is now, and where it is moving.

This SIR documents the results of the site investigation, including:

- An overview consisting of the background material included in the *Site Investigation Work Plan* (GHD, September 1999), and information concerning the site history and operations as obtained from Brown's.
- A description of site-specific geologic and hydrogeologic factors as defined during the site investigation, including local aquifers, their size, use, and potential for cross-contamination.
- An assessment of potential spill pathways, including building foundations, utility conduits, surface runoff, and road base material.
- An identification of receptors of contamination, including location and susceptibility of the potential receptors. Potential receptors identified at this site are groundwater and the neighboring West Twin River.
- An assessment of potential health risks to individuals and to the community that may occur from the product release.
- A presentation of the technical information obtained during the on-site fieldwork, including the methods used to obtain the data, results of the investigation, analytical results from the soil and groundwater samples, quality control measures used, and conclusions of the investigation.

1.2 Report Organization

This report addresses all points on the Leaking Underground Storage Tank (LUST) Site Investigation (SI) Checklist. The order of the report is not the same as the SI Checklist, but the main headings on the checklist were used, where appropriate, to make this report easy to review. Background information, such as the site history and the incident of contamination, is discussed first. This is followed by a description

of the regional and site-specific geology and hydrogeology, field techniques and sampling results. Next is a discussion of the risk assessment of potential receptors and conduits associated with this site. SECTION 8.0 NATURE AND EXTENT OF CONTAMINATION, discusses the degree and extent of contamination along with mass calculations of the contaminants present at this site. This SIR concludes with the limits of this report.

Proper documentation, in the form of Wisconsin Department of Natural Resources (WDNR) forms, field notes, laboratory analytical results, and chains of custody, has been completed and maintained in our records. Copies of the WDNR forms are included in ***Appendix A***. Soil and groundwater laboratory analytical reports and chains of custody are included in ***Appendices B and C***, respectively. ***Appendix D*** comprises all figures and ***Appendix E*** comprises all tabulated data referenced in this report. ***Appendix F*** contains the Wisconsin Geological & Natural History Survey (WGNHS) well construction forms. ***Appendix G*** contains documentation on other potential petroleum contamination source area.

2.0 BACKGROUND

This section of the report covers information requested in Section II, Part A, of the SI Checklist. The information is organized by site information and existing conditions, site operating history, tank removal activities, and cause of contamination.

2.1 Site Information and Existing Conditions

Mr. Kenton Langman is the site contact. His contact information is listed below.

Mr. Kenton Langman
Brown's of Two Rivers
1400 Washington Street
Two Rivers, Wisconsin 54241

The site of contamination is Brown's of Two Rivers, located at 1400 Washington Street, in Two Rivers, Wisconsin. The site is within the NW ¼ of the SE ¼ of Section 1, Township 19 North, Range 24 East, within the Town of Two Rivers in Manitowoc County. ***Figure 1 – Site Location Map, Appendix D,*** is a regional view of the site location based upon the *Two Rivers 7.5 Minute Quadrangle Map (*USGS, *1978).*

Figure 2 – Site Layout Map, Appendix D, is a drawing, at a scale of one inch equals thirty feet, showing the specific property, the present building configuration at the site and the location of the removed UST. The site was formerly Ohde's Motors until 1950 at which time it became Hermachek Motors. It was also Erdman's Motor Company before becoming Brown's of Two Rivers in 1969. Since 1969 the site has operated as a wholesale distributor of automotive accessories.

2.2 Site Operations History

The property contained one 500-gallon waste oil UST. The tank was installed circa 1940 and removed in 1987. No figures or other information could be found regarding the tank location or who removed it. ***Table 1, Appendix E,*** illustrates the capacity and contents of the UST that was located at this site.

2.3 Tank Removal Activities

The UST system was located on the north side in the approximate middle of the main building. Other than being removed in 1987, no other pertinent information could be found.

2.4 Cause of Existing Contamination

It is hard to tell exactly how the release from the waste oil UST system may have occurred due to the lack of information. It appears that the contamination would have come from leaks from the tank itself, since no soil contamination was found from 0 to 7 feet below grade (fbg) in the waste oil tank vicinity. However, there is more contamination on site than just waste oil related contamination. Measureable amounts of soil and groundwater contamination were detected during drilling events on the east edge and southeast corner

of the property. This contamination seems to be unrelated to the waste oil UST system. The contamination appears to be migrating onto the property from the east, under State Trunk Highway (STH) 42. Several possible off-site sources have been identified. This information is discussed under Sections 5,6 & 7.

2.5 Site Investigation Activities

The work described in the *Site Investigation Work Plan* (GHD, September 1999) has been completed. Five soil borings and groundwater monitoring wells were installed at the site to help define the degree and extent of soil contamination and possible groundwater contamination as requested by the WDNR. Soil and groundwater samples were collected and analyzed by a state-certified laboratory. SECTIONS 4.0 through 8.0, below, discuss the site investigation results for this LUST site.

3.0 GEOLOGIC AND HYDROLOGIC SETTING

The following section describes the regional and site-specific geology and hydrogeology. The information pertains to Section II, Part B, of the SI Checklist. Regional information was collected from *Water Resources of Wisconsin-Lake Michigan Basin, Hydrogeologic Investigations Atlas HA-432* (Skinner and Borman, 1973), the Two Rivers, *Wisconsin, 7.5 Minute Topographic Quadrangle Map* (USGS, 1978), the *Glacial Deposits of Wisconsin, MAP 10* (Hadley and Pelham, 1976), the map *Depth to Bedrock in Wisconsin* (Trotta and Cotter, 1973), *Bedrock Geology Map of Wisconsin* (Mudrey, Brown and Greenberg, 1982). Site-specific information was gathered from the soil borings and monitoring wells installed as part of the site investigation. ***Appendix A*** contains the WDNR documentation forms.

3.1 Regional Geology

The map *Depth to Bedrock in Wisconsin* indicates a depth to bedrock of between 50 and 100 fbg at the site. Well constructor's reports from the WGNHS confirm this estimate showing that bedrock is found at approximately 85 to 100 feet for wells within a one-quarter mile radius of the site. Well logs are presented in ***Appendix F***.

The *Bedrock Geologic Map of Wisconsin* indicates surficial bedrock to be the Silurian-age Niagara dolomite formation, which underlies eastern Wisconsin, east of Lake Winnebago. This is corroborated by the well constructor's reports, which identify the bedrock as "limestone."

The Silurian-age formation is 670 feet thick or more in this area. Older, deeper layers of Ordovician dolomites and shales continue for nearly 330 feet before Ordovician and Cambrian sandstone formations are found with a combined thickness of 510 feet, and finally by the Precambrian crystalline basement bedrock.

3.2 Site Geology

The Brown's site is situated in an area with gently sloping hills. The elevation of the site is approximately 590 feet above mean sea level. The glacial map describes the surficial deposits as glaciolacustrine silts, sands, and clay till with terminal end moraines.

Figure 3 - Soil Boring and Monitoring Well Locations Map, Appendix D, depicts the locations of the soil boring and monitoring wells installed during the field investigation. ***Table 2, Appendix E***, describes these locations. Soil sampling to depths ranging from 0 to 19.5 fbg confirmed the presence of sandy glaciolacustrine deposits over the entire area at the site

Figure 4 - Geologic Cross-Section Locator Map, Appendix D, shows the location of the geologic cross sections. The vertical depiction of the subsurface strata is depicted in Figures 5 - Geologic Cross-Section A-A' and Figure 6 - Geologic Cross-Section B-B', Appendix D, respectively. Appendix A contains the WDNR documentation and the boring logs used to draw this cross section.

3.3 Regional Hydrogeology

The Two Rivers area lies within the Lake Michigan drainage basin. The surface water and glacial till groundwater aquifer flow are controlled by topography and drainage. The rivers in this area all flow toward Lake Michigan. The groundwater in the Niagara and other sedimentary bedrock aquifers also generally flow east to Lake Michigan. The city of Two Rivers draws its potable water supply from Lake Michigan, but there is virtually no risk of contamination affecting this water supply

3.4 Site Hydrogeology

The depth to the shallow water table at the site has been between about 13 and 15 fbg. The groundwater monitoring wells were surveyed to within 0.01 foot to determine the flow direction at this site. Groundwater flow is southwest toward the West Twin River, which flows south and then east into Lake Michigan. Hydraulic conductivity of the silty sand is estimated at 1×10^{-5} cm/sec. All monitoring wells can be easily bailed dry. ***Figure 7 - Groundwater Flow Map – January 2000, Appendix D,*** represents the groundwater configuration at the site. ***Table 3, Appendix E***, summarizes the groundwater elevation data.

4.0 FIELD ACTIVITIES

GHD has followed the current WDNR guidelines pertaining to conducting and reporting of UST Site Investigations as outlined in the following documents:

- *Soil Sampling Requirements for LUST Site Investigations and Excavations*, March 1991.
- *LUST Analytical Guidance*, July 1993.
- *Groundwater Sampling Field Manual, 1996.*

The types of investigations performed, types of samples collected, sample handling methods, analytical methods, and decontamination methods are discussed below for each sample type.

4.1 Soil Vapor and Soil Sampling

Five soil borings were advanced to depths of 9 to 19.5 fbg. ***Figure 3, Appendix D***, shows the site layout of the soil borings. ***Table 2, Appendix E***, describes the locations of these borings.

A drilling rig was used to explore soil conditions at the site. At locations surrounding the former LUST location, soil samples were collected by advancing a 24-inch split spoon into the ground to collect a minimally disturbed soil sample at the total depth desired (between 2 and 19.5 fbg).

All samples were split longitudinally. One half of the sample was tested for headspace and the other half was placed into soil sampling jars. The jars were placed in a cooler immediately following collection and description. The jar headspace method used is described in an extract of a portion of Attachment 2, *Field Instrument Techniques,* from *Closure Assessments for Underground Storage Tanks* (WDNR, September 1990).

One to three samples per boring were submitted to a state-certified analytical laboratory, for analysis. Since waste oil was the suspected contamination on site, the soil samples were analyzed for diesel range organics (DRO), volatile organic compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PAHs), lead, cadmium, and petroleum volatile organic compounds (PVOCs).

Boring logs were prepared describing all soils according to the Unified Soil Classification System. Characteristics, such as soil structure, voids, layering, lenses, odor, staining, mottling, and moisture content were noted on the soil boring logs. Each soil boring that was not converted into a monitoring well was backfilled with bentonite upon completion. WDNR boring logs and borehole abandonment forms are provided for each boring as part of the WDNR documentation in ***Appendix A.***

Decontamination was performed to minimize cross-contamination between soil samples and individual borings. All sampling equipment was decontaminated after each sample by washing with soap and water and by using a double rinse with clear tap water. Clean split spoons were used at each new sample location.

4.2 Groundwater Sampling

During the soil boring activities, five monitoring wells were installed in the five soil boreholes to monitor and define the horizontal extent of groundwater contamination according to procedures outlined in Ch. NR 141, Wisconsin Administrative Code. On December 15, 1999, the monitoring wells were developed by hand bailing and groundwater samples were collected. Well construction and development forms WDNR 4400-113A and -113B are included in ***Appendix A***. All samples were submitted to Northern Lake Service (NLS), a state-certified laboratory, for analysis of VOCs, DRO, lead, cadmium, and natural attenuation parameters. A second round of water samples was collected from these five monitoring wells on January 18, 2000. These samples were submitted for analysis of PVOCs, naphthalene, PAHs, sulfates, alkalinity, ammonia, nitrate-nitrite, and total kjeldahl nitrogen.

Groundwater sampling and decontamination procedures followed guidelines suggested in the WDNR *Groundwater Sampling Field Manual* (1996). Field measurements of dissolved oxygen (DO), pH, temperature, conductivity, and iron were also obtained during GHD sampling events.

4.3 Waste Management

Waste soils and water was generated during the SI activities. Soil cuttings from the five borings were collected and stored in 55-gallon drums. Each boring's cuttings were put in a separate drum and labeled clean or dirty. Clean and dirty water requiring disposal was also generated during development and purging of the monitoring wells. Clean water was dumped on site and dirty water was containerized in 55-gallon drums. Drums containing contaminated soil and groundwater will be properly disposed of by GHD and the property owner.

5.0 RESULTS

As mentioned above, NLS was used to analyze the samples at this site; pertinent information follows:

EN CHEM, Inc. (Wisconsin Certification Number: 405132750)
1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
(GHD submitted soil samples to EN CHEM from Phase II investigatory search.)

Northern Lake Service, Inc. (Wisconsin Certification Number: 4721026460)
400 North Lake Avenue
Crandon, WI 54520
715-478-2777
Contact Person: Mr. Steve Crupi
(GHD submitted soil and groundwater samples to NLS.)

Laboratory analytical results are tabulated in ***Appendix E***, and discussed in the following sections on soil and groundwater. One field blank and one trip blank were taken and analyzed for every ten or fewer water samples. The laboratory reports received from NLS are included in ***Appendices B and C***.

5.1 Soil Vapor

Table 4, Appendix E, tabulates the soil headspace results. High readings were encountered. These readings were associated with the soils near the east border and southeast corner of the property. A reading as high as 1,854 instrument units was recorded in BA-MW11 along the east edge of the property. However, none of the high headspace readings were related to the waste oil UST system on site.

5.2 Soil

Soil samples collected for laboratory analysis were selected based upon the water table elevation and the field observations of the soil samples. The first sample selected for analysis was either that which was directly above the water table, or the sample with the most petroleum odor (as determined by ambient odors). The second sample analyzed was the first apparently "clean" sample below the lowest contaminated horizon based upon field olfactory observations and PID results. These samples were analyzed to determine the vertical extent of contamination. GHD also sampled the top 2 feet for cadmium and lead in each boring. ***Table 4, Appendix E***, indicates those samples selected for laboratory analysis. ***Table 5, Appendix F***, summarizes the soil analytical results for these samples. Laboratory reports and chains of custody for all soil samples are included in ***Appendix B***.

5.3 Groundwater

Five monitoring wells were installed in soil boreholes to evaluate groundwater contamination and hydrogeologic characteristics at the site. Water level measurements from the monitoring wells document

the presence of the water table within 13 to 15 fbg. Two rounds of water samples were collected and analyzed by NLS. Analytical results are summarized in ***Table 6, Appendix E***. The laboratory reports and chains of custody for all groundwater samples are included in ***Appendix C***.

5.4 Drummed Soil

Drums containing contaminated soil will be picked up and disposed of properly by a waste disposal company. Any soil or water deemed to be free of identified contamination will be disposed of as clean.

5.5 Natural Attenuation Groundwater Results

Two rounds of natural attenuation samples were analyzed for sulfates, alkalinity, total Kjeldahl nitrogen, (TKN), nitrates+nitrites (N+N), nitrogen as ammonia, DO, pH, conductivity, and total iron in each well. Alkalinity, conductivity, total iron, and nitrogen concentration differences across the site are inconclusive. DO concentrations are elevated downgradient of the groundwater plume near the waste oil UST, suggesting that this portion of the plume has not migrated much past the former tank excavation in this direction. Sulfate concentrations are low on the east and elevated at the groundwater plume's downgradient edge, suggesting that some anaerobic sulfide degradation processes are occurring in the major groundwater plume area.

6.0 RISK ASSESSMENT

The following sections address the health and safety risks as outlined in Section II, Part C, of the SI Checklist. Many of the health and safety risks are not pertinent to this site. Based upon the depth to groundwater, GHD postulates that there is a low potential for vapors to emanate to the ground surface at the source area. No free product was measured in any monitoring wells or observed during the site investigation fieldwork. Bedrock was not encountered during the site investigation. To date, GHD has no knowledge of potable wells or neighboring water bodies being affected by the soil and groundwater plume.

6.1 Vapor Migration Pathways in the Subsurface

A small amount of petroleum related vapor was detected in the soil near the UST system. Almost all of the petroleum vapors were detected in the subsurface environment near the east edge and southeast corner of the property. Due to groundwater being detected at 13 to 15 fbg, it is unlikely that the vapors will migrate to the surface. There are six underground utility lines located near the estimated plume area. There are gas and fiber optic lines that run north and south under STH 42 near the east property boundary and the gas line also runs east and west on the north side of the building. Three electrical lines run east and west along the north side of the main building. One more electrical line runs north and south from the light pole thru the parking lot area. It is unlikely that petroleum vapors would travel along these utilities due to the shallow burial depth relative to the groundwater depth. There is also a buried petroleum pipeline that runs east and west on the adjacent property and north and south on the west end of Brown's property. Little is known about this pipeline and it's possible that it may serve as a pathway for vapor migration.

6.2 Receptors and Conduits

Groundwater flows southwest, which is toward the West Twin River. It is possible that contamination could reach this river. There are considerable amounts of contamination that appear to be moving southwest onto the adjacent property, towards the petroleum pipeline, and possibly to the river.

WGNHS was contacted regarding the potable wells located in the vicinity of the Brown's site. The WGNHS well logs indicate that the bedrock is likely not affected by the contamination because the bedrock is relatively deep between 85 and 100 fbg.

6.3 Health Risks

The soil and groundwater contamination does not appear to be affecting any private potable wells. The soil vapors do not appear to be migrating to the surface or to any utility corridors. No free product or extremely high concentrations of groundwater contamination were detected. Bedrock was not encountered during the site investigation. Based on WGNHS well construction reports, bedrock is at approximately 85 to 100 fbg. It is unlikely that the contamination present on-site poses any risk to human exposure via soil, groundwater or vapor migration.

7.0 NATURE AND EXTENT OF CONTAMINATION

7.1 Soil Contamination

Laboratory analytical reports of the soil samples identified soil contamination at the Brown's of Two Rivers Site in Two Rivers, Wisconsin. Soil contamination was detected to a maximum depth of 9 fbg near the waste oil system in the soil sample from BA-B6. This boring was performed in the former tank bed on the north side of the building. NR 720 residual contaminant level (RCL) exceedances for GRO at 200 ppm, DRO at 1,300 ppm, benzene at 130 ppb, and total xylenes at 8,400 were detected in this boring. The waste oil related contamination seems to only be in the immediate vicinity of the former UST location. There is very little soil contamination that is leaching to the groundwater at 13-15 fbg. The soil contaminant concentrations are much greater than the contaminant concentrations in the groundwater.

Elevated levels of petroleum contamination were also detected in the soil borings on the east edge and southeast corner of the property. This contamination seems to be unrelated to the waste oil tank system. Samples from BA-B3, -B4, -MW8, and -MW11 all had RCL exceedances. Exceedances were as high as 360 ppm GRO in BA-B3 at 9-11 fbg; 1,500 ppm DRO, 4,000 ppb ethylbenzene, and 54,000 ppb total xylenes in BA-B4 at 9-11 fbg; and 530 ppb benzene and 9,400 ppb toluene in BA-MW8 at 12.5-14.5 fbg. This soil contamination appears to be coming from one or multiple off-site sources. These possible off-site sources are shown in ***Appendix G. Figures 8, 9, & 11, Appendix D***, depict the isoconcentrations in soil of DRO, methyl tert-butyl ether (MTBE), and trimethylbenzenes, respectively. ***Table 5, Appendix E,*** summarizes all soil analytical data.

The highest concentrations of soil contamination were detected at borings BA-MW11, -B4, and -MW8. From the isoconcentration maps and the groundwater flow map, it appears that the contamination is moving under STH 42 from the neighboring property or properties. The area of soil contamination is defined by clean soil in borings BA-B1and BA-MW7 to the west of the plume. The plume seems to extend to the adjacent property to the south, Brown's Travel. ***Figure 5 - Geologic Cross Section A-A', Appendix D,*** depicts the vertical depth of soil contamination for the UST system and ***Figure 6 - Geologic Cross-Section B-B', Appendix D,*** depicts the vertical depth of both soil and groundwater contamination located on the east edge and southeast corner of the property.

7.2 Groundwater Contamination

During the site investigation, two rounds of groundwater samples were collected from the five monitoring wells (BA-MW7, -MW8, -MW9, -MW10, and -MW11). One round of sampling was conducted on December 15, 1999, just after drilling activities, and the second event was performed on January 18, 2000.

Laboratory analytical results from groundwater sampling detected NR 140 Enforcement Standard (ES) exceedances in BA-MW8 for benzene, toluene, total xylenes, and naphthalene in both sampling events. Preventative Action Limit (PAL) exceedances were also detected for ethylbenzene, total trimethylbenzenes, and MTBE in BA-MW8 for both sampling events. BA-MW11 had ES exceedances for benzene, toluene, total xylenes, and naphthalene during both sampling events and had an ES exceedance for total trimethylbenzenes for just the first sampling event. PAL exceedances were also detected in BA-MW11 for

ethylbenzene and MTBE during both sampling events and a PAL exceedance was detected for total trimethylbenzenes in BA-MW11 for the second sampling event. ES exceedances were as high as 140 ppb benzene and 2,000 ppb toluene in BA-MW 8 and as high as 499 ppb total trimethylbenzenes, 2,550 ppb total xylenes, and 240 ppb naphthalene in BA-MW11. These high levels were all observed during the first sampling event. The isoconcentrations of trimethylbenzenes in groundwater are illustrated in ***Figure 10, Appendix D. Table 6, Appendix E***, summarizes the groundwater analytical results and the measured field parameters from both rounds of groundwater sampling. Additional information needs to be collected upgradient of the Brown's of Two Rivers site to calculate biodegredation rates. Investigation at potential source areas, upgradient of these source areas, and at the potential downgradient leading edge of the plume is needed. Without information on background concentrations of the natural attenuation parameters, estimates of biodegredation rates and average linear velocities of groundwater flow rates are speculative.

7.3 Quantification of Contamination

The contamination relating to the waste oil UST system is defined as being confined to a relatively small area and contained in the soil, not the groundwater. Mass calculations for DRO soil contamination were done and are shown in ***Table 7, Appendix E***. This table calculates that only about 50 tons of contaminated soil exist related to the waste oil UST system. These 50 tons of soil contain about 0.082 kilograms of contaminants.

This table was prepared using the soil analytical results and AutoSketch for Windows. The data was contoured based on interpolation of the analytical results. The area of soil contamination was then calculated using the AutoSketch "measure area" function. Areas were divided into sections with "equal depth" of contamination. The volume of soil within these areas were calculated by multiplying the area by the estimated depth. The area is calculated by AutoSketch and estimated depth is obtained from ***Figure 5 - Geologic Cross Section A-A', Appendix D.*** The mass of contaminants within each area was calculated by multiplying the volume of soil by the mean concentration of contaminants within the area.

The primary concern at this site is the contamination that is migrating onto this site and the adjacent site to the south, Brown's Travel, from underneath STH 42. There is no source identified for this contamination and the plume is not defined. ***Figures 9 & 11, Appendix D,*** show the isoconcentrations of MTBE and trimethylbenzenes in the soil, respectively. ***Figure 10, Appendix D,*** shows the isoconcentrations of trimethylbenzenes in groundwater. These three figures show the contamination migrating onto the property from under STH 42. ***Figure 12, Appendix D,*** shows potential sources in the area that may be associated with this migrating groundwater plume.

7.4 Conclusions

The waste oil UST system at the Brown's of Two Rivers site has significant soil contamination from 7-9 fbg, which is above the vadose zone, but does not significantly affect the water quality at this site. There is approximately 30.8 cubic yards or 50 tons of soil contamination present at the site related to the waste oil UST. This soil contamination is stable, contained in a relatively small area, and doesn't pose an immediate threat to the health and safety at this site or it's surroundings.

The majority of contamination on site is located on the east edge and southeast corner of the property. This contamination appears to be migrating on-site from under STH 42. Contamination also appears to be migrating south to the adjacent property, Brown's Travel. There is both significant soil and groundwater contamination located in this area of the site. Multiple possible sources exist, upgradient, across STH 42 from Brown's of Two Rivers. These sources are listed in Appendix G of this report.

GHD is recommeding that the waste oil UST case be closed. The area of soil contamination is limited to the UST vicinity. Groundwater contamination appears minimal at the UST area, but appears to be part of a larger petroleum contaminated groundwater plume.

In regards to the off-site contaminant plume migrating onto our client's property, we presume, on behalf of our client, that the WDNR will request further investigation of the point source of this groundwater contaminant plume.

8.0 DISCLAIMER AND LIMITATIONS OF RELIABILITY ON FINDINGS

The findings and conclusions reached in this report are based upon the data obtained in the site investigation. Methods used in collecting and analyzing the data were consistent with currently accepted technical standards, and the interpretation and evaluation of the data were completed using currently accepted professional methods and procedures.

Environmental investigations, such as this one, are limited by the constraints of time and cost. Selected soil and groundwater samples are collected from relatively widespread areas, and the data from these relatively discrete samples are necessarily extrapolated to areas not tested or explored. These extrapolations of known data into unknown areas are essential in completing the investigation under the given time and cost constraints, but can, at times, lead to misinterpretation. Although preparation of this report involved using professional judgment and currently accepted professional standards to make the extrapolations, no warranty is stated or implied as to the geotechnical or environmental condition of soil or groundwater in areas not directly tested in this investigation.

Environmental conditions of soil and groundwater are dynamic and change with time. For example, petroleum-contaminated soil infiltrated by precipitation can become dissolved and transported through natural processes into groundwater, and then migrate with the local groundwater flow. For this reason, the reliability of the findings and conclusions reached in this report is most accurate for the time that the investigative sampling was completed. Due to the dynamic nature of natural systems, the reliability of the findings and conclusions reached in this report diminishes with the passing of time.

9.0 BIBLIOGRAPHY

1. Hadley, D. W., and Pelham, J. H., 1976, *Glacial Deposits of Wisconsin, Sand and Gravel Resource Potential, MAP 10*, University of Wisconsin Extension - Wisconsin Geologic and Natural History Survey and the Department of Planning and Administration.

2. Mudrey, M. G., Brown, B. A., and Greenberg, J. K., 1982, *Bedrock Geology Map of Wisconsin*, University of Wisconsin Extension - Wisconsin Geologic and Natural History Survey.

3. Skinner, E. L., and Borman, R. G., 1973, *Water Resources of Wisconsin-Lake Michigan Basin, Hydrogeologic Investigations Atlas HA-432*, Department of the Interior, United States Geological Survey and the University of Wisconsin - Extension - Wisconsin Geological and Natural History Survey.

4. Trotta, L. C., and Cotter, R. D., 1973, *Depth to Bedrock in Wisconsin*, University of Wisconsin Extension - Wisconsin Geologic and Natural History Survey.

5. United States Geological Survey, 1978, Two Rivers, Wisconsin, 7.5 Minute Topographic Quadrangle Map.

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APPENDIX A

WDNR DOCUMENTATION

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B1	Feet MSL	96.4 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,899 N, 2,638,366 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
134 Feet ☒ S 167 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Top 3" asphalt then 9" of gravel w/fines beneath	Fill									
1 SS	24 24		2	FINE SAND, w/ silt, non-plastic, Lt. brown, moist				0		moist				
2 SS	24 24		3 4	FINE SAND, w/ silt, non-plastic, Lt. brown, moist				0		moist				
3 SS	24 24		5 6	FINE SAND, w/ silt, non-plastic, Lt. brown, moist	SM			0		moist				
4 SS	24 22		7 8	FINE SAND, w/ silt, non-plastic, Lt. brown, moist				0		moist				
5 SS	24 24		9 10	FINE SAND, w/ silt, non-plastic, Lt. brown, saturated				0		sat'd				
			11	Boring completed to 11' and abandoned w/bentonite on 05/26/99.										

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

Signature: Timothy O. Oey

Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014

Tel: 920-849-9797
Fax: 920-849-9160

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B2	Feet MSL	95.7 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,987 N, 2,638,312 E S/©/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
☐ N ☐ E
46 Feet ☒ S 221 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
6 SS	24 12		1	Organic topsoil, black, moist, some fine sand	OL			0		moist				
7 SS	24 12		2 3	FINE SAND, silty, mixed w/organic black soil, moist, trace gravel				0		moist				
8 SS	24 24		4 5	FINE SAND, moist w/fines				0		moist				
9 SS	24 24		6 7	FINE SAND, moist w/fines	SM			0		moist				
10 SS	24 24		8 9 10	FINE SAND, saturated, w/fines				0		sat'd				
				Boring completed to 10' and abandoned w/bentonite on 05/26/99.										

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

Signature [signature] Firm GHD, Inc. 820 West Main Street Chilton, WI 53014 Tel: 920-849-9797 Fax: 920-849-9160

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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B3

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B3	Feet MSL	97.6 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,898 N, 2,638,464 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
135 Feet ☒ S 69 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Top 3" asphalt then 9" of gravel w/fines beneath	FILL									
11 SS	24 12		2	FINE SAND, Lt. brown/orange, w/silt mixed, wet				0		wet				
12 SS	24 24		3 4	FINE SAND, Lt. brown/orange, w/fines, wet				0		wet				
13 SS	24 24		5 6	FINE SAND, Lt. brown/gray, w/fines, wet	SM			0		wet				
14 SS	24 24		7 8	FINE SAND, Lt. brown/orange, w/fines, wet				0		wet				
15 SS	24 24		9 10	FINE SAND, Lt. brown/orange, w/fines, saturated, petro odor				402		sat'd				
			11	Boring completed to 11' and abandoned w/bentonite on 05/26/99.										

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

Signature: Timothy L. Ott

Firm: GHD, Inc.
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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B4

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B4	Feet MSL	97.8 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,946 N, 2,638,509 E S/(C)/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
☐ N ☐ E
87 Feet ☒ S 24 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	3" ASPHALT	FILL									
				9" GRAVEL w/fines	FILL									
16 SS	24 24		1	SILTY FINE SAND, Lt. brown, moist, 2" layer of fine sandy clay interrupting				105		moist				
17 SS	24 24		3	SILTY FINE SAND, Lt. brown, wet				10.7		wet				
18 SS	24 24		5	SILTY FINE SAND, Lt. brown, wet	SM			87		wet				
19 SS	24 24		7	SILTY FINE SAND, Lt. brown, saturated, petro odor in tip				101		sat'd				
20 SS	24 24		9	FINE SAND, strong petro odor, saturated	SP			1,620		sat'd				
			11	Boring completed to 11' and abandoned w/bentonite on 05/26/99.										

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

Signature: Timothy J. Ott
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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B5	Feet MSL	96.8 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 791,022 N, 2,638,422 E S/Ⓒ/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
11 Feet ☒ S ☐ N 111 Feet ☒ W ☐ E

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Top 1.5' peastone	FILL									
21 SS	24 17		2	SANDY SILT, organic, black, wet	OL			0		wet				
			3											
22 SS	24 24		4	SILTY FINE SAND, brown, wet	SM			0		wet				
			5											
23 SS	24 24		6	SILTY FINE SAND, orangish tint, wet				0		wet				
			7											
24 SS	24 24		8	FINE SAND, wet, brown	SP			0		wet				
			9											
25 SS	24 17		10	FINE SAND, saturated, brown				0		sat'd				
			11											
				Boring completed to 11.5' and abandoned										

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

Signature Timothy J. Ott

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820 West Main Street Chilton, WI 53014

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Form 4400-122A Rev. 5-97

Boring Number BA-B5 Use only as an attachment to Form 4400-122.

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				w/bentonite on 05/27/99.										

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-B6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - GHD, Inc.	5/26/1999	5/26/1999	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		BA-B6	Feet MSL	97.2 Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 791,021 N, 2,638,474 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
☐ N ☐ E
12 Feet ☒ S 59 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
22 SS	24 12		1-2	PEASTONE	FILL			0		wet				
23 SS	24 7		3-4	SANDY SILT, black, wet, trace coarse sand	OL			0		wet				
24 SS	24 22		5-6	FINE SILTY SAND, wet, some black	SM			0		wet				
25 SS	24 24		7-8	FINE SAND, gray, saturated, petro odor in middle 12"	SP			68.7		sat'd				
			9	Boring completed to 9' and abandoned w/bentonite on 05/27/99.										

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

Signature [signature] Firm GHD, Inc.
820 West Main Street Chilton, WI 53014
Tel: 920-849-9797
Fax: 920-849-9160

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-MW7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - Environmental Drilling Services	12/14/1999	12/14/1999	4 1/4 HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PIO 339		BA-MW7	83.3 Feet MSL	96.5 Feet MSL	8.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,943 N, 2,638,443 E S/Ⓒ N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
90 Feet ☒ S ☐ N
90 Feet ☒ W ☐ E

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
26 GRAB	24		1	Top 3" asphalt then 1' of gravel w/fines beneath, 9" sandy silt, black	OL			0		moist				
27 SS	24 / 24	4 3 2 1	3 4	FINE SAND, moist, dark brown				0		moist				
28 SS	24 / 24	1 1 1 1	5 6 7	FINE SAND, moist, brown				0		moist				
29 SS	24 / 22	2 2 2 2	8 9	FINE SAND, moist, brown	SP			9.8		moist				
30 SS	24 / 19	2 2 2 3	10 11 12	FINE SAND, moist, brown				0		moist				

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

Signature: Timothy J. Ott
Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014
Tel: 920-849-9797
Fax: 920-849-9160

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A Rev. 5-97

Boring Number BA-MW7 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
31 SS	24 19	3 2 2 4	13	SILTY FINE SAND, super saturated, brown				0		super sat'd				
			14											
32 SS	24 17	3 2 4 4	15	SILTY FINE SAND, super saturated, brown	SM			0		super sat'd				
			16											
			17											
			18											
			19	Well installed to 19' and sampled to 17' on 12/14/99.										

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-MW8

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - Environmental Drilling Services	12/14/1999	12/14/1999	4 1/4 HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PIO 338		BA-MW8	83.3 Feet MSL	97.7 Feet MSL	8.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,898 N, 2,638,482 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable) ☐ N ☐ E
135 Feet ☒ S 51 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
32 GRAB	24		1	Top 3" Asphalt 9" silty fine sand, organic 1' gravel w/fines	FILL / FILL			0		moist				
			2	SILTY FINE SAND, organic	SM									
33 SS	24 17	2 1 0 0	3 4	FINE SAND, light brown, no fines, moist				0		moist				
34 SS	24 17	1 1 2 2	5 6 7	FINE SAND, orangish/brown, no fines, moist				0		moist				
35 SS	24 7	2 2 3 4	8 9	FINE SAND, light brown, no fines, moist	SP			0		moist				
36 SS	24 10	2 2 3 3	10 11 12	FINE SAND, light brown, no fines, moist				39.3		moist				

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

Signature: Timothy L. Ott
Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014
Tel: 920-849-9797
Fax: 920-849-9166

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A Rev. 5-97

Boring Number BA-MW8 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
37 SS	24 NR	2 2 2 2	13	SILTY FINE SAND, strong petro odor, wet-sat'd				1,187		wet/ sat'd				
			14											
38 SS	24 19	3 4 4 3	15	SILTY FINE SAND, petro odor, brown, non-plastic, sat'd	SM			76.1		sat'd				
			16											
			17											
39 SS	24 19	1 1 1 1	18	SILTY FINE SAND, brown, non-plastic, sat'd				0		sat'd				
			19											
				Well installed to 19' and sampled to 19.5' on 12/14/99.										

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-MW9

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - Environmental Drilling Services	12/14/1999	12/14/1999	4 1/4 HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PIO 335		BA-MW9	84.7 Feet MSL	97.2 Feet MSL	8.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 791,023 N, 2,638,476 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
10 Feet ☒ S ☐ N 57 Feet ☒ W ☐ E

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
41 GRAB	24		1	PEASTONE	FILL			0		moist				
			3	SANDY SILT, black, wet, trace coarse sand	OL									
			5	FINE SILTY SAND, wet, some black	SM									
			7	FINE SAND, gray, saturated, petro odor in middle 12"	SP									
42 GRAB	24		10	FINE SAND, brown, wet, petro odor				35.3		wet				
			12											

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

Signature	Firm	Tel:
Timothy L. Cliff	GHD, Inc. 820 West Main Street Chilton, WI 53014	Tel: 920-849-9797 Fax: 920-849-9160

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A Rev. 5-97

Boring Number BA-MW9 Use only as an attachment to Form 4400-122.

Sample										Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
43 GRAB	24		13 14	FINE SAND, w/fines, brown, non-plastic, sat'd, petro odor	SM			18.8		sat'd				
				Well installed and sampled to 14' on 12/14/99.										

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-MW10

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - Environmental Drilling Services	12/14/1999	12/14/1999	4 1/4 HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PIO 336		BA-MW10	84.5 Feet MSL	96.8 Feet MSL	8.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 791,030 N, 2,638,450 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
3 Feet ☒ S 83 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
41 GRAB	24		1	1' Peastone then fine sandy silt, brownish/black, moist	OL			0		moist				
42 SS	24 22	1 2 2 2	3	FINE SAND, silty, light brown, no fines, moist	SM			0		moist				
43 SS	24 24	2 1 2 3	5 6 7	FINE SAND, light brown, no fines, moist				0		moist				
44 SS	24 24	3 4 6 6	8 9	FINE SAND, light brown, no fines, moist				0		moist				
45 SS	24 22	2 3 3 3	10 11 12	FINE SAND, light brown, no fines, sat'd	SP			0		sat'd				

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

Signature: Timothy L Utt
Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014
Tel: 920-849-9797
Fax: 920-849-9160

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A Rev. 5-97

Boring Number BA-MW10 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
46 SS	24 24	2 1 2 1	13 14	FINE SAND, light brown, no fines, sat'd				0		sat'd				
47 SS	24 24	2 1 1 2	15 16 17	FINE SAND, light brown, no fines, sat'd				0		sat'd				
				Well installed and sampled to 17' on 12/14/99.										

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Brown's of Two Rivers		BA-MW11

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian - Environmental Drilling Services	12/14/1999	12/14/1999	4 1/4 HSA

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PIO 337		BA-MW11	84.4 Feet MSL	97.8 Feet MSL	8.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☒)
State Plane 790,985 N, 2,638,528 E S/C/N
NW 1/4 of SE 1/4 of Section 1, T 19 N, R 24 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
☐ N ☐ E
48 Feet ☒ S 5 Feet ☒ W

Facility ID	County	County Code	Civil Town/City/ or Village
03-36-223946	Manitowoc	36	Two Rivers

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
50 GRAB	24		1	Top 6" Concrete then fine sand w/fines, blackish/brown, moist	FILL			0		moist				
				6" Gravel	FILL									
			2	FINE SAND, w/fines, blackish/brown, moist										
51 SS	24 19	2 2 1 1	3 4	FINE SAND, w/fines, brown, moist				0		moist				
52 SS	24 12	1 0 1 1	5 6 7	FINE SAND, w/fines, brown, moist				0		moist				
53 SS	24 19	2 2 3 4	8 9	FINE SAND, brown w/black staining, petro odor, 8" sat'd layer, otherwise moist				1,556		sat'd				
54 SS	24 24	2 3 3 4	10 11 12	FINE SAND, w/fines, brown, petro odor, moist	SM			1,854		moist				

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

Signature	Firm	Tel:
Timothy J. Ott	GHD, Inc. 820 West Main Street Chilton, WI 53014	Tel: 920-849-9797 Fax: 920-849-9160

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT

Form 4400-122A Rev. 5-97

Boring Number BA-MW11 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
55 SS	24 24	2 1 1 1	13	FINE SAND, w/fines, brown, petro odor, super sat'd				358		super sat'd				
			14											
56 SS	24 12	1 0 1 1	15	FINE SAND, w/fines, brown, petro odor, super sat'd				1,593		super sat'd				
			16											
			17											
57 SS	24 22	1 2 1 2	18	FINE SAND, w/fines, brown, super sat'd				0		super sat'd				
			19											
				Well installed to 17' and sampled to 19.5' on 12/14/99.										

State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 6-97

Facility/Project Name: Brown's of Two Rivers	Local Grid Location of Well: 90 ft. ☐N. ☒S. 90 ft. ☐E. ☒W.	Well Name: BA-MW7
Facility License, Permit or Monitoring No.	Grid Origin Location (Check if estimated: ☒) Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PIO 339 / DNR Well Number:
Facility ID: 03-36-223946	St. Plane 790,943 ft. N, 2,638,443 ft. E. S/C/N	Date Well Installed: 12/14/1999
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 1 T. 19 N, R. 24 ☒E ☐W	Well Installed By: (Person's Name and Firm): Brian / Environmental Drilling Services
Distance Well Is From Waste/Source Boundary: 84 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 96.49 ft. MSL

B. Well casing, top elevation 96.04 ft. MSL

C. Land surface elevation 96.5 ft. MSL

D. Surface seal, bottom 95.5 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis):

E. Bentonite seal, top 95.5 ft. MSL or 1.0 ft.

F. Fine sand, top 89.5 ft. MSL or 7.0 ft.

G. Filter pack, top 89.5 ft. MSL or 7.0 ft.

H. Screen joint, top 87.5 ft. MSL or 9.0 ft.

I. Well bottom 77.5 ft. MSL or 19.0 ft.

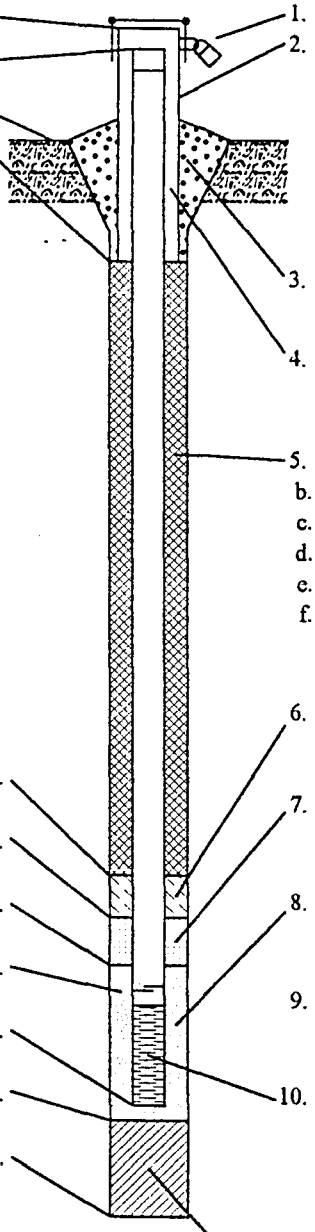
J. Filter pack, bottom 77.0 ft. MSL or 19.5 ft.

K. Borehole, bottom 77.0 ft. MSL or 19.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

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

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

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

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

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

7. Fine sand material: Manufacturer, product name and mesh size
a. N/A
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining Corp. 45/55
b. Volume added 6 bags ft^3

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

10. Screen material: Schedule 40, PVC Flush Threaded
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / _____ Other ☐ __
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

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

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

Signature _____ Firm GHD, Inc. 820 West Main Street Chilton, WI 53014 Tel: 920-849-9797 Fax: 920-849-9160

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

State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 6-97

Facility/Project Name: Brown's of Two Rivers	Local Grid Location of Well: 135 ft. ☐ N. ☒ S. 51 ft. ☐ E. ☒ W.	Well Name: BA-MW8
Facility License, Permit or Monitoring No.	Grid Origin Location (Check if estimated: ☒) Lat. ° ' " Long. ° ' " or St. Plane 790,898 ft. N, 2,638,482 ft. E. S/C/N	Wis. Unique Well No.: PIO 338 DNR Well Number:
Facility ID: 03-36-223946		Date Well Installed: 12/14/1999
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 1 T. 19 N, R. 24 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Brian
Distance Well Is From Waste/Source Boundary: 126 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Environmental Drilling Services

A. Protective pipe, top elevation 97.62 ft. MSL

B. Well casing, top elevation 97.14 ft. MSL

C. Land surface elevation 97.7 ft. MSL

D. Surface seal, bottom 96.7 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis):

_____

E. Bentonite seal, top 96.7 ft. MSL or 1.0 ft.

F. Fine sand, top 90.7 ft. MSL or 7.0 ft.

G. Filter pack, top 90.7 ft. MSL or 7.0 ft.

H. Screen joint, top 88.7 ft. MSL or 9.0 ft.

I. Well bottom 78.7 ft. MSL or 19.0 ft.

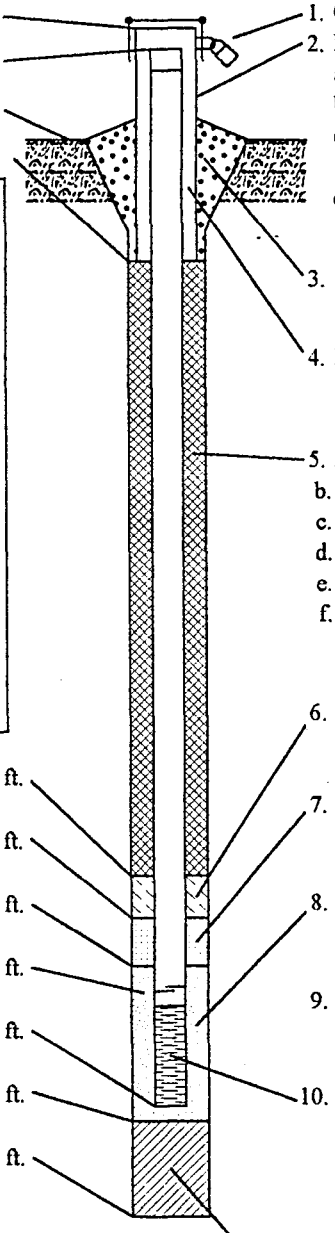
J. Filter pack, bottom 78.2 ft. MSL or 19.5 ft.

K. Borehole, bottom 78.2 ft. MSL or 19.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

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

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

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

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

6. Bentonite seal: a. Bentonite granules ☒ 3 3
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3 2
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name and mesh size
a. N/A
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining Corp. 45/55
b. Volume added 6 bags ft^3

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

10. Screen material: Schedule 40, PVC Flush Threaded
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
_____ Other ☐
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

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

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

Signature: Timothy L. Hill

Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014

Tel: 920-849-9797
Fax: 920-849-9160

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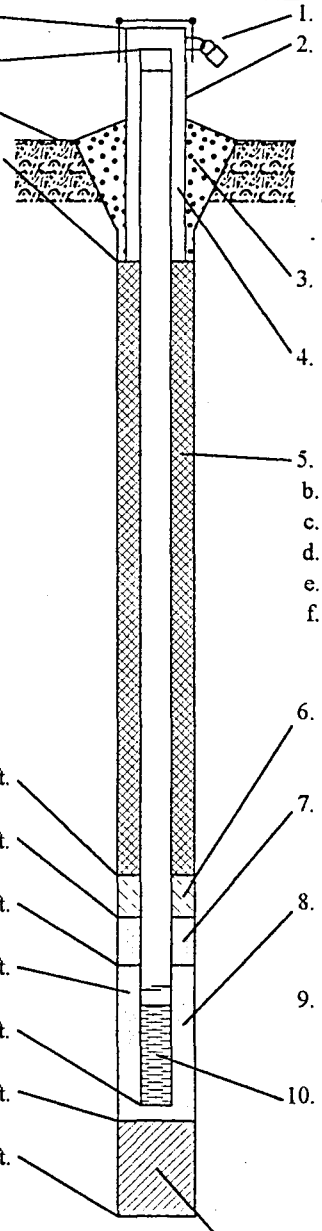
State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 6-97

Facility/Project Name: Brown's of Two Rivers	Local Grid Location of Well: 10 ft. ☐ N. ☒ S. 57 ft. ☐ E. ☒ W.	Well Name: BA-MW9
Facility License, Permit or Monitoring No.	Grid Origin Location (Check if estimated: ☒) Lat. ° ' " Long. ° ' " or St. Plane 791,023 ft. N, 2,638,476 ft. E. S/☉/N	Wis. Unique Well No.: PIO 335 / DNR Well Number:
Facility ID: 03-36-223946	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 1 T. 19 N, R. 24 ☒ E ☐ W	Date Well Installed: 12/14/1999
Type of Well: Well Code 11/mw	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Brian / Environmental Drilling Services
Distance Well Is From Waste/Source Boundary: 0 ft.		



A. Protective pipe, top elevation 97.17 ft. MSL
B. Well casing, top elevation 96.51 ft. MSL
C. Land surface elevation 97.2 ft. MSL
D. Surface seal, bottom 96.2 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 96.2 ft. MSL or 1.0 ft.
F. Fine sand, top 94.2 ft. MSL or 3.0 ft.
G. Filter pack, top 94.2 ft. MSL or 3.0 ft.
H. Screen joint, top 93.2 ft. MSL or 4.0 ft.
I. Well bottom 83.2 ft. MSL or 14.0 ft.
J. Filter pack, bottom 82.2 ft. MSL or 15.0 ft.
K. Borehole, bottom 82.2 ft. MSL or 15.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / _____ Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / _____ Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☒ 30 / _____ Other ☐ __
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐ __
7. Fine sand material: Manufacturer, product name and mesh size
a. N/A
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining Corp. 45/55
b. Volume added 6 bags ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / _____ Other ☐ __
10. Screen material: Schedule 40, PVC Flush Threaded
a. Screen Type: Factory cut ☒ 11 / Continuous slot ☐ 01 / _____ Other ☐ __
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14 / _____ Other ☐ __

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

Signature: Timothy L. Hoff
Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014
Tel: 920-849-9797
Fax: 920-849-916

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

State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 6-97

Facility/Project Name: Brown's of Two Rivers	Local Grid Location of Well: 3 ft. ☐ N. ☒ S. 83 ft. ☐ E. ☒ W.	Well Name: BA-MW10
Facility License, Permit or Monitoring No.	Grid Origin Location (Check if estimated: ☒) Lat. ° ' " Long. ° ' " or St. Plane 791.030 ft. N, 2,638.450 ft. E. S/C/N	Wis. Unique Well No.: PIO 336 / DNR Well Number:
Facility ID: 03-36-223946		Date Well Installed: 12/14/1999
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 1, T. 19 N, R. 24 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Brian
Distance Well Is From Waste/Source Boundary: 23 ft.	Location of Well Relative to Waste/Source: u ☒ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Environmental Drilling Services

A. Protective pipe, top elevation 96.77 ft. MSL

B. Well casing, top elevation 96.32 ft. MSL

C. Land surface elevation 96.8 ft. MSL

D. Surface seal, bottom 95.8 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis): ____

E. Bentonite seal, top 95.8 ft. MSL or 1.0 ft.

F. Fine sand, top 91.8 ft. MSL or 5.0 ft.

G. Filter pack, top 91.8 ft. MSL or 5.0 ft.

H. Screen joint, top 89.8 ft. MSL or 7.0 ft.

I. Well bottom 79.8 ft. MSL or 17.0 ft.

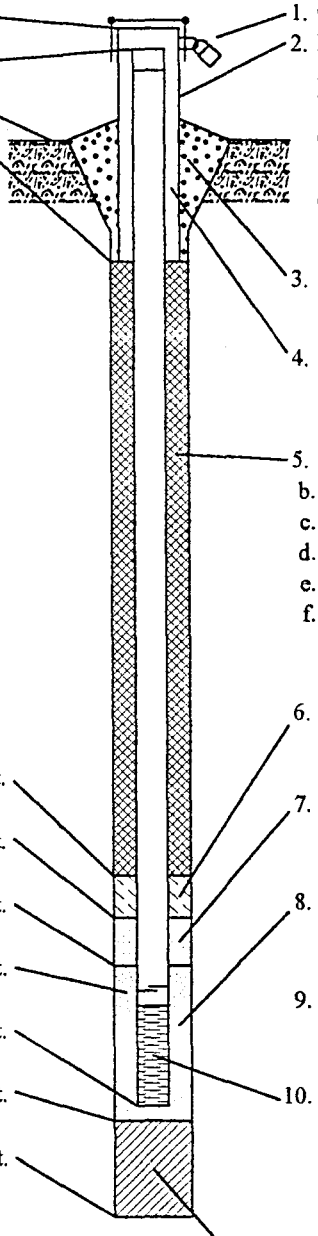
J. Filter pack, bottom 79.3 ft. MSL or 17.5 ft.

K. Borehole, bottom 79.3 ft. MSL or 17.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

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

3. Surface seal: Bentonite ☐ 3 0; Concrete ☒ 0 1; Other ☐ ___

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

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

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

7. Fine sand material: Manufacturer, product name and mesh size
a. N/A ___
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining Corp. 45/55 ___
b. Volume added 6 bags ft^3

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

10. Screen material: Schedule 40, PVC Flush Threaded ___
a. Screen Type: Factory cut ☒ 1 1; Continuous slot ☐ 0 1; Other ☐ ___
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

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

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

Signature: Timothy Z. Hoff

Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014

Tel: 920-849-9797
Fax: 920-849-9160

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

State of Wisconsin
Department of Natural Resources

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

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 6-97

Facility/Project Name: Brown's of Two Rivers	Local Grid Location of Well: 48 ft. ☐N. ☒S. 5 ft. ☐E. ☒W.	Well Name: BA-MW11
Facility License, Permit or Monitoring No.	Grid Origin Location (Check if estimated: ☒) Lat. ° ' " Long. ° ' " or St. Plane 790,985 ft. N, 2,638,528 ft. E. S/C/N	Wis. Unique Well No.: PIO 337 / DNR Well Number:
Facility ID: 03-36-223946		Date Well Installed: 12/14/1999
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 1 T. 19 N, R. 24 ☒E ☐W	Well Installed By: (Person's Name and Firm): Brian
Distance Well Is From Waste/Source Boundary: 64 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	Environmental Drilling Services

A. Protective pipe, top elevation 97.80 ft. MSL

B. Well casing, top elevation 97.41 ft. MSL

C. Land surface elevation 97.8 ft. MSL

D. Surface seal, bottom 96.8 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis): ____

E. Bentonite seal, top 96.8 ft. MSL or 1.0 ft.

F. Fine sand, top 92.8 ft. MSL or 5.0 ft.

G. Filter pack, top 92.8 ft. MSL or 5.0 ft.

H. Screen joint, top 90.8 ft. MSL or 7.0 ft.

I. Well bottom 80.8 ft. MSL or 17.0 ft.

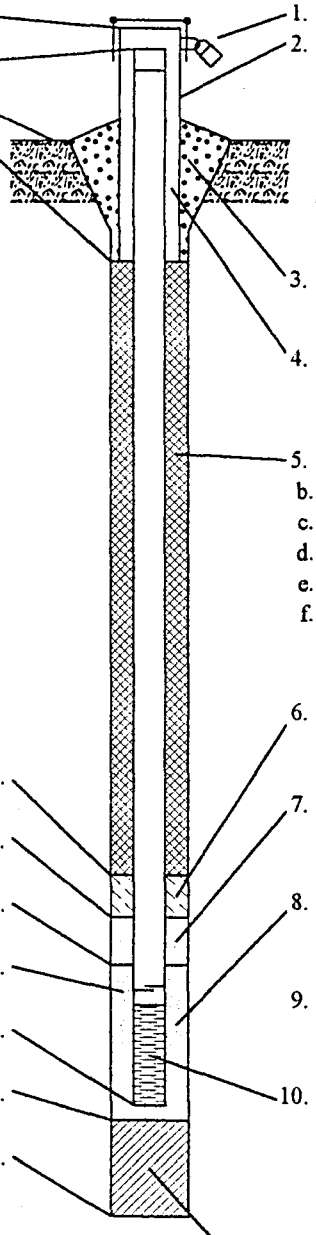
J. Filter pack, bottom 78.3 ft. MSL or 19.5 ft.

K. Borehole, bottom 78.3 ft. MSL or 19.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐ __

4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ __

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

6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. ____ Other ☐ __

7. Fine sand material: Manufacturer, product name and mesh size
a. N/A
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining Corp. 45/55
b. Volume added 6 bags ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ __

10. Screen material: Schedule 40, PVC Flush Threaded
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ __
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☒ 14 Other ☐ __

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

Signature: Timothy J. Clift

Firm: GHD, Inc.
820 West Main Street Chilton, WI 53014

Tel: 920-849-9797
Fax: 920-849-9160

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

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 6-97

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

Facility/Project Name	County	Well Name
Brown's of Two Rivers	Manitowoc	BA-MW7

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	36	PIO 339	

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casing): 19.1 ft.

5. Inside diameter of well: 2.00 in.

6. Volume of water in filter pack and well casing: 4.4 gal.

7. Volume of water removed from well: 2.0 gal.

8. Volume of water added (if any): 0.0 gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	13.21 ft.	Dry ft.
Date b.	12/15/1999	12/15/1999
Time c.	01:00 pm	04:00 pm
12. Sediment in well bottom	0.0 inches	inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☐ 20 Turbid ☒ 25
(Describe)	Turbid	Turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Tim Ott
GHD, Inc.

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Mr. Raymond Brown
Firm: Brown's of Two Rivers
Street: 1400 Washington Street
City/State/Zip: Two Rivers, WI 54241

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

Signature: Timothy L Ott
Print Name: Timothy L. Ott
Firm: GHD, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 6-97

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

Facility/Project Name	County	Well Name
Brown's of Two Rivers	Manitowoc	BA-MW8

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	36	PIO 338	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casing): 18.6 ft.

5. Inside diameter of well: 2.00 in.

6. Volume of water in filter pack and well casing: 3.2 gal.

7. Volume of water removed from well: 2.5 gal.

8. Volume of water added (if any): 0.0 gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	14.34 ft.	Dry ft.
Date	b.	12/15/1999	12/15/1999
Time	c.	01:30 pm	04:30 pm
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☐ 20 Turbid ☒ 25
(Describe)		Turbid	Turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Tim Ott
GHD, Inc.

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Mr. Raymond Brown
Firm: Brown's of Two Rivers
Street: 1400 Washington Street
City/State/Zip: Two Rivers, WI 54241

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

Signature: Timothy L. Ott
Print Name: Timothy L. Ott
Firm: GHD, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 6-97

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

Facility/Project Name	County	Well Name
Brown's of Two Rivers	Manitowoc	BA-MW9

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	36	PIO 335	

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 15 min.

4. Depth of well (from top of well casing) 14.4 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 1.4 gal.

7. Volume of water removed from well 0.5 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	12.49 ft.	Dry ft.
Date	b.	12/15/1999	12/15/1999
Time	c.	11:00 pm	02:00 pm
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☐ 20 Turbid ☒ 25
(Describe)		Turbid	Turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Tim Ott
GHD, Inc.

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Mr. Raymond Brown

Firm: Brown's of Two Rivers

Street: 1400 Washington Street

City/State/Zip: Two Rivers, WI 54241

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

Signature: Timothy L. Ott

Print Name: Timothy L. Ott

Firm: GHD, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 6-97

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

Facility/Project Name	County	Well Name
Brown's of Two Rivers	Manitowoc	BA-MW10

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	36	PIO 336	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 15.4 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 2.3 gal.

7. Volume of water removed from well 1.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	12.38 ft.	Dry ft.
Date	b.	12/15/1999	12/15/1999
Time	c.	11:30 pm	02:30 pm
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) Turbid	Clear ☐ 20 Turbid ☒ 25 (Describe) Turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Tim Ott
GHD, Inc.

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Mr. Raymond Brown

Firm: Brown's of Two Rivers

Street: 1400 Washington Street

City/State/Zip: Two Rivers, WI 54241

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

Signature: Timothy L Ott

Print Name: Timothy L. Ott

Firm: GHD, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 6-97

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

Facility/Project Name	County	Well Name
Brown's of Two Rivers	Manitowoc	BA-MW11

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	36	PIO 337	

1. Can this well be purged dry? ☐ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casing): 16.6 ft.

5. Inside diameter of well: 2.00 in.

6. Volume of water in filter pack and well casing: 2.3 gal.

7. Volume of water removed from well: 2.0 gal.

8. Volume of water added (if any): 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	13.47 ft.	Dry ft.
Date	b.	12/15/1999	12/15/1999
Time	c.	12:30 pm	03:00 pm
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) Turbid	Clear ☐ 20 Turbid ☒ 25 (Describe) Turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Tim Ott
GHD, Inc.

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Mr. Raymond Brown
Firm: Brown's of Two Rivers
Street: 1400 Washington Street
City/State/Zip: Two Rivers, WI 54241

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

Signature: Timothy L Ott
Print Name: Timothy L. Ott
Firm: GHD, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location
County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) Gov't Lot ____ Grid Number ____

Grid Location: 134 ft. ☐ N. ☒ S., 167 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B1

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/26/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) ____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From groundsurface) ____ Casing Diameter (in.) ____
Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 10.0

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Asphalt	Surface	0.5		
Granular Bentonite	0.5	11.0	1 bag	

(8) Comments ____

(9) Name of Person or Firm Doing Sealing Work: GHD, Inc.

Signature of Person Doing Work: Timothy J. Gast Date Signed: 02/23/00

Street or Route: 820 West Main Street Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) Gov't Lot _____ Grid Number _____

Grid Location: 46 ft. ☐ N. ☒ S., 221 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B2

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/26/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From groundsurface) _____ Casing Diameter (in.) _____ Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 9.0

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Topsoil	Surface	2.0		
Granular Bentonite	2.0	10.0	1 bag	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work: GHD, Inc.

Signature of Person Doing Work: Timothy L. Utt
Date Signed: 02/28/00

Street or Route: 820 West Main Street
Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location
County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) _____ Gov't Lot _____ Grid Number

Grid Location: 135 ft. ☐ N. ☒ S., 69 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B3

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/26/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) _____ (From groundsurface)
Casing Diameter (in.) _____
Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 10.0

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Asphalt	Surface	0.5		
Granular Bentonite	0.5	11.0	1 bag	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work: GHD, Inc.

Signature of Person Doing Work: Timothy L. Ott
Date Signed: 02/28/00

Street or Route: 820 West Main Street
Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) _____ Gov't Lot _____ Grid Number

Grid Location: 87 ft. ☐ N. ☒ S., 24 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B4

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/26/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) _____ (From groundsurface)
Casing Diameter (in.) _____
Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 10.0

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Asphalt	Surface	0.5		
Granular Bentonite	0.5	11.0	1 bag	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work: GHD, Inc.

Signature of Person Doing Work: Timothy L. Ott
Date Signed: 02/29/00

Street or Route: 820 West Main Street
Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location
County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) _____ Gov't Lot _____ Grid Number

Grid Location: 11 ft. ☐ N. ☒ S., 111 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B5

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/27/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) _____ (From groundsurface)
Casing Diameter (in.) _____
Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 10.5

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Peastone	Surface	1.5		
Granular Bentonite	1.5	11.5	1 bag	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work
GHD, Inc.

Signature of Person Doing Work: Timothy L. Utt
Date Signed: 02/28/00

Street or Route: 820 West Main Street
Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Manitowoc

NW 1/4 of SE 1/4 of Sec. 1 ; T. 19 N; R. 24 ☒ E ☐ W

(If Applicable) _____ Gov't Lot _____ Grid Number

Grid Location: 12 ft. ☐ N. ☒ S., 59 ft. ☐ E. ☒ W.

Civil Town Name: Two Rivers

Street Address of Well: 1400 Washington Street

City, Village: Two Rivers

(2) FACILITY NAME Brown's of Two Rivers

Original Well Owner (If Known): Brown's of Two Rivers

Present Well Owner: Brown's of Two Rivers

Street or Route: 1400 Washington Street

City, State, Zip Code: Two Rivers, WI 54241

Facility Well No. and/or Name (If Applicable): BA-B6

WI Unique Well No.:

Reason For Abandonment: Test Boring

Date of Abandonment: 05/27/99

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) _____ (From groundsurface)
Casing Diameter (in.) _____
Casing Depth (ft.) n/a

Lower Drillhole Diameter (in.) n/a

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? n/a Feet

(4) Depth to Water (Feet) 8.0

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: No Casing

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☒ Granular Bentonite
☐ Bentonite-Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Peastone	Surface	1.0		
Granular Bentonite	1.0	9.0	1 bag	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work: GHD, Inc.

Signature of Person Doing Work: Timothy L Ott
Date Signed: 02/29/00

Street or Route: 820 West Main Street
Telephone Number: 920-849-9797

City, State, Zip Code: Chilton, WI 53014

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

APPENDIX B

SOIL LABORATORY ANALYTICAL REPORTS AND CHAINS OF CUSTODY

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

NO. 101399

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Underground Storage Tank Projects
Wisconsin Lab Cert. No. 721026460

RETURN THIS FORM WITH SAMPLES.

CLIENT	PROJECT TITLE	
Brown's Auto c/o GHD, Inc.	Brown's Auto	
ADDRESS: 920 W. Main St	PROJECT NO.	QUOTATION NO. 98861
CITY: Chilton STATE: WI ZIP: 53014	CONTACT: Tim Oft	PHONE: (920) 949-9797

ENTER OTHER PARAMETERS-CHECK BELOW IF FIELD FILTERED

NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE TYPE	GRO	PVOC	DRO	VOC 8021	PAH	Lead	Cadmium								
22196	BA-MW7 (0-2')	12/14/99	12:59	Soil						X	X								
22197	BA-MW7 (12.5-14.5')		1:16				X	X	X										
22198	BA-MW8 (0-2')		11:50							X	X								
22199	BA-MW8 (10.5-14.5')		12:06				X	X	X										
22200	BA-MW8 (12.5-14.5')		12:20			X	X												
22195	BA-MW9 (0-2')		9:12							X	X								
22196	BA-MW9 (12-14')		9:18				X	X	X										
22194	BA-MW10 (0-2')		9:35							X	X								
22198	BA-MW10 (10-12')		9:53				X	X											
22200	BA-MW10 (12.5-14.5')		10:00						X										

COLLECTED BY (signatures): [signature]
CUSTODY SEAL NO. (IF ANY):
DATE/TIME: 12/14/99 5:00

RELINQUISHED BY (signature):
RECEIVED BY (signature):
DATE/TIME:

RELINQUISHED BY (signature):
RECEIVED BY (signature):
DATE/TIME:

DISPATCHED BY (signature): [signature]
METHOD OF TRANSPORT: Quakers Express
DATE/TIME: 12/16/99

REPORT TO
GHD, Inc.
920 W. Main St.
Chilton, WI
53014

RECEIVED AT NLS BY (signature): [signature]
DATE/TIME: 12/17/99 12:30
CONDITION: cool
TEMP.:

SEAL INTACT? ☐ YES ☐ NO
SEAL #:
REMARKS & OTHER INFORMATION:

INVOICE TO
Same

SAMPLE TYPE GW=groundwater, WW=waste water, DW=drinking water, S=soil

IMPORTANT!
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICE TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

CUSTOMER COPY

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

NO. 101400

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Underground Storage Tank Projects
Wisconsin Lab Cert. No. 721026460

RETURN THIS FORM WITH SAMPLES.

CLIENT	PROJECT TITLE	
Brown's Auto % GHD, Inc	Brown's Auto	
ADDRESS	PROJECT NO.	QUOTATION NO.
820 W. Main St.		98861
CITY STATE ZIP	CONTACT	PHONE
Chilton, WI. 53014	Tim Ott	(920) 849-9797

ENTER OTHER PARAMETERS-CHECK BELOW IF FIELD FILTERED

NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE TYPE	GRO	PVOC	DRO	VOC 8021	PAH	Lead	Cadmium								
	BA-MW11 (0-2')	12/14/99	10:35	Soil						X	X								
	BA-MW11 (10-12')		10:58				X	X											
	BA-MW11 (12.5-14.5')		11:05						X										
	BA-MW11 (17.5-19.5')		11:16			X	X												

COLLECTED BY (signatures)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME
Tom Ott		12/14/99 5:00
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
DISPATCHED BY (signature)	METHOD OF TRANSPORT	DATE/TIME
Tom Ott	Dunham's Express	12/16/99

REPORT TO
GHD, Inc.
820 W. Main St.
Chilton, WI.
53014

RECEIVED AT NLS BY (signature)	DATE/TIME	CONDITION	TEMP.
Nina Rhoades	12/17/99 12:00	On Ice	

INVOICE TO
Same

SEAL INTACT? ☐ YES ☐ NO | SEAL # | REMARKS & OTHER INFORMATION

SAMPLE TYPE GW=groundwater, WW=waste water, DW=drinking water, S=soil

IMPORTANT:
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
4. PARTIES COLLECTING [redacted], LISTED AS REPORT TO AND LISTED AS INVOICE TO ARE TO BE BOUND BY STANDARD TERMS & CONDITIONS [redacted]

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NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

NLS PROJECT# 52107

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW7 0-2' NLS#: 221190
Ref. Line 1 of COC 101399 Description: Soil, BA-MW7
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Cadmium, tot. as Cd	ND	mg/Kg DWB	0.21	0.74	SW846 6010	01/04/00	721026460
Lead, tot. as Pb	ND	mg/Kg DWB	3.4	12	SW846 6010	01/04/00	721026460
Solids, total on solids	91.6	%	0.10		ASTM D2216	12/20/99	721026460
Metals digestion - total (soil/sludge) ICP	yes				SW846 3050	12/20/99	721026460

Sample ID: Soil, BA-MW7 12.5-14.5 NLS#: 221191
Ref. Line 2 of COC 101399 Description: Soil, BA-MW7
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	78.4	%	0.10		ASTM D2216	12/20/99	721026460
VOCs (soils) by EPA 8021	see attached				SW846 8021	12/27/99	721026460
PAHs (solid) by SW846 8310	see attached				SW846 8310	12/28/99	721026460
Organics Extraction for PAHs	yes				SW846 3500	12/21/99	721026460
DRO (solid)	ND	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-89%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW8 0-2' NLS#: 221192
Ref. Line 3 of COC 101399 Description: Soil, BA-MW8
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Cadmium, tot. as Cd	< 0.56 >	mg/Kg DWB	0.18	0.62	SW846 6010	01/04/00	721026460
Lead, tot. as Pb	10	mg/Kg DWB	2.9	10	SW846 6010	01/04/00	721026460
Solids, total on solids	87.1	%	0.10		ASTM D2216	12/20/99	721026460
Metals digestion - total (soil/sludge) ICP	yes				SW846 3050	12/20/99	721026460

Sample ID: Soil, BA-MW8 12.5-14.5 NLS#: 221193
Ref. Line 4 of COC 101399 Description: Soil, BA-MW8
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	85.1	%	0.10		ASTM D2216	12/20/99	721026460
VOCs (soils) by EPA 8021	see attached				SW846 8021	12/28/99	721026460
	Additional Comments: Unidentified hydrocarbons present.						
PAHs (solid) by SW846 8310	see attached				SW846 8310	01/03/00	721026460
Organics Extraction for PAHs	yes				SW846 3500	12/21/99	721026460
DRO (solid)	74	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-83% Peaks present before the DRO quantitation window.						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW8 17.5-19.5 **NLS#: 221194**
Ref. Line 5 of COC 101399 Description: Soil, BA-MW8
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	77.4	%	0.10		ASTM D2216	12/20/99	721026460
PVOCs (solid) by EPA 8020 (MeOH)	see attached				WI MOD GRO	12/22/99	721026460
DRO (solid)	ND	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-94%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

Sample ID: Soil, BA-MW9 0-2' **NLS#: 221195**
Ref. Line 6 of COC 101399 Description: Soil, BA-MW9
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Cadmium, tot. as Cd	ND	mg/Kg DWB	0.20	0.72	SW846 6010	01/04/00	721026460
Lead, tot. as Pb	< 3.6 >	mg/Kg DWB	3.4	12	SW846 6010	01/04/00	721026460
Solids, total on solids	94.8	%	0.10		ASTM D2216	12/21/99	721026460
Metals digestion - total (soil/sludge) ICP	yes				SW846 3050	12/20/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW9 12-14' **NLS#: 221196**
Ref. Line 7 of COC 101399 Description: Soil, BA-MW9
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	82.5	%	0.10		ASTM D2216	12/21/99	721026460
VOCs (soils) by EPA 8021	see attached				SW846 8021	12/27/99	721026460
	Additional Comments: Unidentified hydrocarbons present. High surrogate value is due to sample matrix.						
PAHs (solid) by SW846 8310	see attached				SW846 8310	12/28/99	721026460
Organics Extraction for PAHs	yes				SW846 3500	12/21/99	721026460
DRO (solid)	26	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-161% Surrogate recovery was outside QC limits. Sample could not be reanalyzed due to insufficient sample.						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

Sample ID: Soil, BA-MW10 0-2' **NLS#: 221197**
Ref. Line 8 of COC 101399 Description: Soil, BA-MW10
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Cadmium, tot. as Cd	ND	mg/Kg DWB	0.22	0.76	SW846 6010	01/04/00	721026460
Lead, tot. as Pb	18	mg/Kg DWB	3.6	13	SW846 6010	01/04/00	721026460
Solids, total on solids	83.6	%	0.10		ASTM D2216	12/21/99	721026460
Metals digestion - total (soil/sludge) ICP	yes				SW846 3050	12/25/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW10 10-12' **NLS#: 221198**
Ref. Line 9 of COC 101399 Description: Soil, BA-MW10
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	81.2	%	0.10		ASTM D2216	12/21/99	721026460
VOCs (soils) by EPA 8021	see attached				SW846 8021	12/27/99	721026460
DRO (solid)	ND	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-89%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

Sample ID: Soil, BA-MW10 12.5-14.5 **NLS#: 221199**
Ref. Line 10 of COC 101399 Description: Soil, BA-MW10
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	77.4	%	0.10		ASTM D2216	12/21/99	721026460
PAHs (solid) by SW846 8310	see attached				SW846 8310	12/28/99	721026460
Organics Extraction for PAHs	yes				SW846 3500	12/21/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW11 0-2' NLS#: 221200
Ref. Line 1 of COC 101400 Description: Soil, BA-MW11
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Cadmium, tot. as Cd	1.7	mg/Kg DWB	0.24	0.84	SW846 6010	01/04/00	721026460
Lead, tot. as Pb	< 4.0 >	mg/Kg DWB	3.9	14	SW846 6010	01/07/00	721026460
Solids, total on solids	80.3	%	0.10		ASTM D2216	12/21/99	721026460
Metals digestion - total (soil/sludge) ICP	yes				SW846 3050	12/25/99	721026460

Sample ID: Soil, BA-MW11 10-12' NLS#: 221201
Ref. Line 2 of COC 101400 Description: Soil, BA-MW11
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	88.3	%	0.10		ASTM D2216	12/21/99	721026460
VOCs (soils) by EPA 8021	see attached				SW846 8021	12/27/99	721026460
	Additional Comments: Unidentified hydrocarbons present.						
DRO (solid)	140	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-47% Peaks present before the DRO quantitation window.						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52107
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Soil, BA-MW11 12.5-14.5' **NLS#: 221202**
Ref. Line 3 of COC 101400 Description: Soil, BA-MW11
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	77.4	%	0.10		ASTM D2216	12/21/99	721026460
PAHs (solid) by SW846 8310	see attached				SW846 8310	01/03/00	721026460
Organics Extraction for PAHs	yes				SW846 3500	12/21/99	721026460

Sample ID: Soil, BA-MW11 17.5-19.5 **NLS#: 221203**
Ref. Line 4 of COC 101400 Description: Soil, BA-MW11
Collected: 12/14/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Solids, total on solids	79.7	%	0.10		ASTM D2216	12/21/99	721026460
PVOCs (solid) by EPA 8020 (MeOH)	see attached				WI MOD GRO	12/27/99	721026460
	Additional Comments: Unidentified hydrocarbons present.						
DRO (solid)	ND	mg/Kg DWB	2.6	8.5	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-82%, duplicate-76%, surrogate-133%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/22/99	721026460

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOD = Limit of Detection
LOQ = Limit of Quantitation
ND = Not Detected
DWB = Dry Weight Basis
NA = Not Applicable
%DWB = (mg/kg DWB)/10000

Steven R. Cupp
Reviewed by:

Authorized by:
R. T. Krueger
Laboratory Manager

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221191 Soil, BA-MW7 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Benzene	ND	1	5.4	19
Bromobenzene	ND	1	9.5	33
Bromochloromethane	ND	1	5.5	17
Bromodichloromethane	ND	1	5.6	19
Bromoform	ND	1	17	56
Bromomethane	ND	1	23	72
n-Butylbenzene	ND	1	6.5	22
sec-Butylbenzene	ND	1	5.5	18
tert-Butylbenzene	ND	1	6.1	19
Carbon Tetrachloride	ND	1	14	47
Chlorobenzene	ND	1	5.6	19
Chloroethane	ND	1	11	40
Chloroform	ND	1	5.9	20
Chloromethane	ND	1	18	61
2-Chlorotoluene	ND	1	5.3	18
4-Chlorotoluene	ND	1	5.7	18
Dibromochloromethane	ND	1	5.0	16
1,2-Dibromo-3-Chloropropane	ND	1	5.3	18
1,2-Dibromoethane	ND	1	13	42
Dibromomethane	ND	1	15	48
1,2-Dichlorobenzene	ND	1	5.6	19
1,3-Dichlorobenzene	ND	1	5.6	19
1,4-Dichlorobenzene	ND	1	5.5	19
Dichlorodifluoromethane	ND	1	5.4	19
1,1-Dichloroethane	ND	1	6.3	22
1,2-Dichloroethane	ND	1	5.5	18
1,1-Dichloroethene	ND	1	7.1	24
cis-1,2-Dichloroethene	ND	1	6.3	22
trans-1,2-Dichloroethene	ND	1	5.3	18
1,2-Dichloropropane	ND	1	6.3	22
1,3-Dichloropropane	ND	1	10	36
2,2-Dichloropropane	ND	1	21	73
1,1-Dichloropropene	ND	1	5.4	19
cis-1,3-Dichloropropene	ND	1	6.9	24
trans-1,3-Dichloropropene	ND	1	7.7	27
Ethylbenzene	ND	1	5.9	20
Hexachlorobutadiene	ND	1	10	36
Isopropylbenzene	ND	1	5.2	18
p-Isopropyltoluene	ND	1	11	37
Methylene chloride	ND	1	7.9	27
Naphthalene	ND	1	10	36
n-Propylbenzene	ND	1	5.1	18
ortho-Xylene/Styrene	ND	1	12	40
1,1,1,2-Tetrachloroethane	ND	1	6.2	21
1,1,2,2-Tetrachloroethane	ND	1	5.1	18
Tetrachloroethene	ND	1	5.4	19
Toluene	ND	1	5.9	20
1,2,3-Trichlorobenzene	ND	1	10	35
1,2,4-Trichlorobenzene	ND	1	6.8	24
1,1,1-Trichloroethane	ND	1	6.9	24
1,1,2-Trichloroethane	ND	1	6.2	20
Trichloroethene	ND	1	5.2	18
Trichlorofluoromethane	ND	1	6.0	21
1,2,3-Trichloropropane	ND	1	11	35
1,2,4-Trimethylbenzene	ND	1	5.3	18

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221191 Soil, BA-MW7 ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
1,3,5-Trimethylbenzene	ND	1	5.9	20
Vinyl chloride	ND	1	6.1	21
meta,para-Xylene	ND	1	11	39
MTBE	ND	1	11	37
Isopropylether	ND	1	6.5	22

Surrogate Recovery on 2-Bromochlorobenzene (PID) = 112 %
Surrogate Recovery on 2-Bromochlorobenzene (HECD) = 110 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221193 Soil, BA-MW8 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Benzene	< 530 >	50	270	930
Bromobenzene	ND	50	480	1600
Bromochloromethane	ND	50	270	870
Bromodichloromethane	ND	50	280	970
Bromoform	ND	50	870	2800
Bromomethane	ND	50	1100	3600
n-Butylbenzene	12000	50	330	1100
sec-Butylbenzene	6200	50	270	920
tert-Butylbenzene	1800	50	300	970
Carbon Tetrachloride	ND	50	680	2400
Chlorobenzene	ND	50	280	970
Chloroethane	ND	50	570	2000
Chloroform	ND	50	290	1000
Chloromethane	ND	50	910	3000
2-Chlorotoluene	ND	50	270	920
4-Chlorotoluene	ND	50	290	910
Dibromochloromethane	ND	50	250	800
1,2-Dibromo-3-Chloropropane	ND	50	270	920
1,2-Dibromoethane	ND	50	660	2100
Dibromomethane	ND	50	750	2400
1,2-Dichlorobenzene	ND	50	280	960
1,3-Dichlorobenzene	ND	50	280	970
1,4-Dichlorobenzene	ND	50	280	960
Dichlorodifluoromethane	ND	50	270	930
1,1-Dichloroethane	ND	50	310	1100
1,2-Dichloroethane	ND	50	280	880
1,1-Dichloroethene	ND	50	350	1200
cis-1,2-Dichloroethene	ND	50	320	1100
trans-1,2-Dichloroethene	ND	50	270	920
1,2-Dichloropropane	ND	50	310	1100
1,3-Dichloropropane	ND	50	520	1800
2,2-Dichloropropane	ND	50	1100	3600
1,1-Dichloropropene	ND	50	270	930
cis-1,3-Dichloropropene	ND	50	340	1200
trans-1,3-Dichloropropene	ND	50	390	1300
Ethylbenzene	8000	50	290	1000
Hexachlorobutadiene	ND	50	520	1800
Isopropylbenzene	4300	50	260	910
p-Isopropyltoluene	1900	50	540	1900
Methylene chloride	ND	50	390	1400
Naphthalene	5800	50	520	1800
n-Propylbenzene	2900	50	260	890
ortho-Xylene/Styrene	7200	50	590	2000
1,1,1,2-Tetrachloroethane	ND	50	310	1100
1,1,2,2-Tetrachloroethane	ND	50	250	880
Tetrachloroethene	ND	50	270	940
Toluene	9400	50	290	1000
1,2,3-Trichlorobenzene	ND	50	510	1800
1,2,4-Trichlorobenzene	ND	50	340	1200
1,1,1-Trichloroethane	ND	50	340	1200
1,1,2-Trichloroethane	ND	50	310	980
Trichloroethene	ND	50	260	900
Trichlorofluoromethane	ND	50	300	1000
1,2,3-Trichloropropane	ND	50	550	1800
1,2,4-Trimethylbenzene	17000	50	270	920

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221193 Soil, BA-MW8 ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
1,3,5-Trimethylbenzene	12000	50	290	1000
Vinyl chloride	ND	50	300	1100
meta,para-Xylene	27000	50	560	1900
MTBE	ND	50	540	1900
Isopropylether	4700	50	320	1100

Surrogate Recovery on 2-Bromochlorobenzene (PID) = 82.0 %
Surrogate Recovery on 2-Bromochlorobenzene (HECD) = 101 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221196 Soil, BA-MW9 (12-14) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Benzene	ND	1	5.4	19
Bromobenzene	ND	1	9.5	33
Bromochloromethane	ND	1	5.5	17
Bromodichloromethane	ND	1	5.6	19
Bromoform	ND	1	17	56
Bromomethane	ND	1	23	72
n-Butylbenzene	94	1	6.5	22
sec-Butylbenzene	160	1	5.5	18
tert-Butylbenzene	ND	1	6.1	19
Carbon Tetrachloride	ND	1	14	47
Chlorobenzene	ND	1	5.6	19
Chloroethane	ND	1	11	40
Chloroform	ND	1	5.9	20
Chloromethane	ND	1	18	61
2-Chlorotoluene	ND	1	5.3	18
4-Chlorotoluene	ND	1	5.7	18
Dibromochloromethane	ND	1	5.0	16
1,2-Dibromo-3-Chloropropane	ND	1	5.3	18
1,2-Dibromoethane	ND	1	13	42
Dibromomethane	ND	1	15	48
1,2-Dichlorobenzene	ND	1	5.6	19
1,3-Dichlorobenzene	ND	1	5.6	19
1,4-Dichlorobenzene	ND	1	5.5	19
Dichlorodifluoromethane	ND	1	5.4	19
1,1-Dichloroethane	ND	1	6.3	22
1,2-Dichloroethane	ND	1	5.5	18
1,1-Dichloroethene	ND	1	7.1	24
cis-1,2-Dichloroethene	ND	1	6.3	22
trans-1,2-Dichloroethene	ND	1	5.3	18
1,2-Dichloropropane	ND	1	6.3	22
1,3-Dichloropropane	ND	1	10	36
2,2-Dichloropropane	ND	1	21	73
1,1-Dichloropropene	ND	1	5.4	19
cis-1,3-Dichloropropene	ND	1	6.9	24
trans-1,3-Dichloropropene	ND	1	7.7	27
Ethylbenzene	< 18 >	1	5.9	20
Hexachlorobutadiene	ND	1	10	36
Isopropylbenzene	< 7.6 >	1	5.2	18
p-Isopropyltoluene	ND	1	11	37
Methylene chloride	ND	1	7.9	27
Naphthalene	200	1	10	36
n-Propylbenzene	560	1	5.1	18
ortho-Xylene/Styrene	ND	1	12	40
1,1,1,2-Tetrachloroethane	ND	1	6.2	21
1,1,2,2-Tetrachloroethane	ND	1	5.1	18
Tetrachloroethene	ND	1	5.4	19
Toluene	< 19 >	1	5.9	20
1,2,3-Trichlorobenzene	ND	1	10	35
1,2,4-Trichlorobenzene	ND	1	6.8	24
1,1,1-Trichloroethane	ND	1	6.9	24
1,1,2-Trichloroethane	ND	1	6.2	20
Trichloroethene	ND	1	5.2	18
Trichlorofluoromethane	ND	1	6.0	21
1,2,3-Trichloropropane	ND	1	11	35
1,2,4-Trimethylbenzene	920	1	5.3	18

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221196 Soil, BA-MW9 ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
1,3,5-Trimethylbenzene	560	1	5.9	20
Vinyl chloride	ND	1	6.1	21
meta,para-Xylene	ND	1	11	39
MTBE	ND	1	11	37
Isopropylether	ND	1	6.5	22

Surrogate Recovery on 2-Bromochlorobenzene (PID) = 171 %
Surrogate Recovery on 2-Bromochlorobenzene (HECD) = 109 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221198 Soil, BA-MW10 (10-12) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Benzene	ND	1	5.4	19
Bromobenzene	ND	1	9.5	33
Bromochloromethane	ND	1	5.5	17
Bromodichloromethane	ND	1	5.6	19
Bromoform	ND	1	17	56
Bromomethane	ND	1	23	72
n-Butylbenzene	ND	1	6.5	22
sec-Butylbenzene	ND	1	5.5	18
tert-Butylbenzene	ND	1	6.1	19
Carbon Tetrachloride	ND	1	14	47
Chlorobenzene	ND	1	5.6	19
Chloroethane	ND	1	11	40
Chloroform	ND	1	5.9	20
Chloromethane	ND	1	18	61
2-Chlorotoluene	ND	1	5.3	18
4-Chlorotoluene	ND	1	5.7	18
Dibromochloromethane	ND	1	5.0	16
1,2-Dibromo-3-Chloropropane	ND	1	5.3	18
1,2-Dibromoethane	ND	1	13	42
Dibromomethane	ND	1	15	48
1,2-Dichlorobenzene	ND	1	5.6	19
1,3-Dichlorobenzene	ND	1	5.6	19
1,4-Dichlorobenzene	ND	1	5.5	19
Dichlorodifluoromethane	ND	1	5.4	19
1,1-Dichloroethane	ND	1	6.3	22
1,2-Dichloroethane	ND	1	5.5	18
1,1-Dichloroethene	ND	1	7.1	24
cis-1,2-Dichloroethene	ND	1	6.3	22
trans-1,2-Dichloroethene	ND	1	5.3	18
1,2-Dichloropropane	ND	1	6.3	22
1,3-Dichloropropane	ND	1	10	36
2,2-Dichloropropane	ND	1	21	73
1,1-Dichloropropene	ND	1	5.4	19
cis-1,3-Dichloropropene	ND	1	6.9	24
trans-1,3-Dichloropropene	ND	1	7.7	27
Ethylbenzene	ND	1	5.9	20
Hexachlorobutadiene	ND	1	10	36
Isopropylbenzene	ND	1	5.2	18
p-Isopropyltoluene	ND	1	11	37
Methylene chloride	ND	1	7.9	27
Naphthalene	ND	1	10	36
n-Propylbenzene	ND	1	5.1	18
ortho-Xylene/Styrene	ND	1	12	40
1,1,1,2-Tetrachloroethane	ND	1	6.2	21
1,1,2,2-Tetrachloroethane	ND	1	5.1	18
Tetrachloroethene	ND	1	5.4	19
Toluene	ND	1	5.9	20
1,2,3-Trichlorobenzene	ND	1	10	35
1,2,4-Trichlorobenzene	ND	1	6.8	24
1,1,1-Trichloroethane	ND	1	6.9	24
1,1,2-Trichloroethane	ND	1	6.2	20
Trichloroethene	ND	1	5.2	18
Trichlorofluoromethane	ND	1	6.0	21
1,2,3-Trichloropropane	ND	1	11	35
1,2,4-Trimethylbenzene	ND	1	5.3	18

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221198 Soil, BA-MW10 ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
1,3,5-Trimethylbenzene	ND	1	5.9	20
Vinyl chloride	ND	1	6.1	21
meta,para-Xylene	ND	1	11	39
MTBE	ND	1	11	37
Isopropylether	ND	1	6.5	22

Surrogate Recovery on 2-Bromochlorobenzene (PID) = 109 %
Surrogate Recovery on 2-Bromochlorobenzene (HECD) = 113 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221201 Soil, BA-MW11 (10.12) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Benzene	ND	50	270	930
Bromobenzene	ND	50	480	1600
Bromochloromethane	ND	50	270	870
Bromodichloromethane	ND	50	280	970
Bromoform	ND	50	870	2800
Bromomethane	ND	50	1100	3600
n-Butylbenzene	12000	50	330	1100
sec-Butylbenzene	2700	50	270	920
tert-Butylbenzene	1500	50	300	970
Carbon Tetrachloride	ND	50	680	2400
Chlorobenzene	ND	50	280	970
Chloroethane	ND	50	570	2000
Chloroform	ND	50	290	1000
Chloromethane	ND	50	910	3000
2-Chlorotoluene	ND	50	270	920
4-Chlorotoluene	ND	50	290	910
Dibromochloromethane	ND	50	250	800
1,2-Dibromo-3-Chloropropane	ND	50	270	920
1,2-Dibromoethane	ND	50	660	2100
Dibromomethane	ND	50	750	2400
1,2-Dichlorobenzene	ND	50	280	960
1,3-Dichlorobenzene	ND	50	280	970
1,4-Dichlorobenzene	ND	50	280	960
Dichlorodifluoromethane	ND	50	270	930
1,1-Dichloroethane	ND	50	310	1100
1,2-Dichloroethane	ND	50	280	880
1,1-Dichloroethene	ND	50	350	1200
cis-1,2-Dichloroethene	ND	50	320	1100
trans-1,2-Dichloroethene	ND	50	270	920
1,2-Dichloropropane	ND	50	310	1100
1,3-Dichloropropane	ND	50	520	1800
2,2-Dichloropropane	ND	50	1100	3600
1,1-Dichloropropene	ND	50	270	930
cis-1,3-Dichloropropene	ND	50	340	1200
trans-1,3-Dichloropropene	ND	50	390	1300
Ethylbenzene	9700	50	290	1000
Hexachlorobutadiene	ND	50	520	1800
Isopropylbenzene	4200	50	260	910
p-Isopropyltoluene	2100	50	540	1900
Methylene chloride	ND	50	390	1400
Naphthalene	9700	50	520	1800
n-Propylbenzene	3200	50	260	890
ortho-Xylene/Styrene	6100	50	590	2000
1,1,1,2-Tetrachloroethane	ND	50	310	1100
1,1,2,2-Tetrachloroethane	ND	50	250	880
Tetrachloroethene	ND	50	270	940
Toluene	5500	50	290	1000
1,2,3-Trichlorobenzene	ND	50	510	1800
1,2,4-Trichlorobenzene	ND	50	340	1200
1,1,1-Trichloroethane	ND	50	340	1200
1,1,2-Trichloroethane	ND	50	310	980
Trichloroethene	ND	50	260	900
Trichlorofluoromethane	ND	50	300	1000
1,2,3-Trichloropropane	ND	50	550	1800
1,2,4-Trimethylbenzene	21000	50	270	920

ANALYTICAL RESULTS: VOC's by EPA 8021 - Methanol Extract (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221201 Soil, BA-MW11 ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
1,3,5-Trimethylbenzene	11000	50	290	1000
Vinyl chloride	ND	50	300	1100
meta,para-Xylene	28000	50	560	1900
MTBE	ND	50	540	1900
Isopropylether	ND	50	320	1100

Surrogate Recovery on 2-Bromochlorobenzene (PID) = 98.0 %
Surrogate Recovery on 2-Bromochlorobenzene (HECD) = 107 %

ANALYTICAL RESULTS: Polynuclear Aromatic Hydrocarbons by EPA 8310 (S)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221191 Soil, BA-MW7 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Acenaphthene	ND	1	1.5	5.0
Acenaphthylene	ND	1	2.0	6.5
Anthracene	ND	1	1.4	4.6
Benzo (a) anthracene	ND	1	1.4	4.8
Benzo (a) pyrene	ND	1	1.4	4.6
Benzo (b) fluoranthene	ND	1	1.5	5.1
Benzo (g,h,i) perylene	ND	1	1.9	6.2
Benzo (k) fluoranthene	ND	1	1.7	5.6
Chrysene	ND	1	1.7	5.6
Dibenzo (a,h) anthracene	ND	1	1.0	3.3
Fluoranthene	ND	1	1.6	5.5
Fluorene	ND	1	1.7	5.7
Indeno (1,2,3-cd) pyrene	ND	1	2.7	9.1
Methyl-1-Naphthalene	ND	1	2.1	6.9
Methyl-2-Naphthalene	ND	1	1.8	5.9
Naphthalene	ND	1	1.7	5.7
Phenanthrene	ND	1	1.6	5.4
Pyrene	ND	1	1.8	6.0

Surrogate Recovery on P-Terphenyl = 50.0 %

Analyte Name	221193 Soil, BA-MW8 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Acenaphthene	140	25	38	130
Acenaphthylene	ND	25	51	160
Anthracene	ND	1	1.4	4.6
Benzo (a) anthracene	ND	1	1.4	4.8
Benzo (a) pyrene	< 2.1 >	1	1.4	4.6
Benzo (b) fluoranthene	< 4.8 >	1	1.5	5.1
Benzo (g,h,i) perylene	< 5.3 >	1	1.9	6.2
Benzo (k) fluoranthene	ND	1	1.7	5.6
Chrysene	< 2.5 >	1	1.7	5.6
Dibenzo (a,h) anthracene	ND	1	1.0	3.3
Fluoranthene	6.3	1	1.6	5.5
Fluorene	ND	25	43	140
Indeno (1,2,3-cd) pyrene	< 5.8 >	1	2.7	9.1
Methyl-1-Naphthalene	580	25	52	170
Methyl-2-Naphthalene	1000	25	44	150
Naphthalene	830	25	42	140
Phenanthrene	24	1	1.6	5.4
Pyrene	ND	1	1.8	6.0

Surrogate Recovery on P-Terphenyl = 68.0 %

ANALYTICAL RESULTS: Polynuclear Aromatic Hydrocarbons by EPA 8310 (S)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221196 Soil, BA-MW9 (12-14) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Acenaphthene	ND	1	1.5	5.0
Acenaphthylene	ND	1	2.0	6.5
Anthracene	ND	1	1.4	4.6
Benzo (a) anthracene	ND	1	1.4	4.8
Benzo (a) pyrene	< 3.5 >	1	1.4	4.6
Benzo (b) fluoranthene	ND	1	1.5	5.1
Benzo (g,h,i) perylene	22	1	1.9	6.2
Benzo (k) fluoranthene	< 1.8 >	1	1.7	5.6
Chrysene	17	1	1.7	5.6
Dibenzo (a,h) anthracene	11	1	1.0	3.3
Fluoranthene	14	1	1.6	5.5
Fluorene	9.3	1	1.7	5.7
Indeno (1,2,3-cd) pyrene	13	1	2.7	9.1
Methyl-1-Naphthalene	110	1	2.1	6.9
Methyl-2-Naphthalene	160	1	1.8	5.9
Naphthalene	52	1	1.7	5.7
Phenanthrene	26	1	1.6	5.4
Pyrene	24	1	1.8	6.0

Surrogate Recovery on P-Terphenyl = 61.0 %

Analyte Name	221199 Soil, BA-MW10 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Acenaphthene	ND	1	1.5	5.0
Acenaphthylene	ND	1	2.0	6.5
Anthracene	ND	1	1.4	4.6
Benzo (a) anthracene	ND	1	1.4	4.8
Benzo (a) pyrene	ND	1	1.4	4.6
Benzo (b) fluoranthene	ND	1	1.5	5.1
Benzo (g,h,i) perylene	ND	1	1.9	6.2
Benzo (k) fluoranthene	ND	1	1.7	5.6
Chrysene	ND	1	1.7	5.6
Dibenzo (a,h) anthracene	ND	1	1.0	3.3
Fluoranthene	ND	1	1.6	5.5
Fluorene	ND	1	1.7	5.7
Indeno (1,2,3-cd) pyrene	ND	1	2.7	9.1
Methyl-1-Naphthalene	ND	1	2.1	6.9
Methyl-2-Naphthalene	ND	1	1.8	5.9
Naphthalene	ND	1	1.7	5.7
Phenanthrene	ND	1	1.6	5.4
Pyrene	ND	1	1.8	6.0

Surrogate Recovery on P-Terphenyl = 39.0 %

ANALYTICAL RESULTS: Polynuclear Aromatic Hydrocarbons by EPA 8310 (S)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte Name	221202 Soil, BA-MW11 (12.5-14.5) ug/kg	DILUTION FACTOR	LOD ug/kg	LOQ ug/kg
Acenaphthene	ND	1	1.5	5.0
Acenaphthylene	41	1	2.0	6.5
Anthracene	ND	1	1.4	4.6
Benzo (a) anthracene	ND	1	1.4	4.8
Benzo (a) pyrene	ND	1	1.4	4.6
Benzo (b) fluoranthene	ND	1	1.5	5.1
Benzo (g,h,i) perylene	ND	1	1.9	6.2
Benzo (k) fluoranthene	ND	1	1.7	5.6
Chrysene	ND	1	1.7	5.6
Dibenzo (a,h) anthracene	ND	1	1.0	3.3
Fluoranthene	ND	1	1.6	5.5
Fluorene	7.9	1	1.7	5.7
Indeno (1,2,3-cd) pyrene	ND	1	2.7	9.1
Methyl-1-Naphthalene	200	1	2.1	6.9
Methyl-2-Naphthalene	420	10	18	59
Naphthalene	570	10	17	57
Phenanthrene	< 2.5 >	1	1.6	5.4
Pyrene	ND	1	1.8	6.0

Surrogate Recovery on P-Terphenyl = 51.0 %

ANALYTICAL RESULTS: WISCONSIN DNR MODIFIED GRO METHOD

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52107

Analyte	221194 Soil, BA-MW8 (17.5-19.5)	DILUTION	LOD	LOQ
Name	ug/Kg	FACTOR	ug/Kg	ug/Kg
MTBE	ND	1	21	73
Benzene	ND	1	24	84
Toluene	ND	1	18	56
Ethylbenzene	ND	1	24	81
M/P-xylene	180	1	47	150
O-xylene	ND	1	23	79
1,3,5-Trimethylbenzene	ND	1	25	86
1,2,4-Trimethylbenzene	ND	1	24	84

Surrogate Recovery on 1,2,3-Trichlorobenzene = 88.0 %

Analyte	221203 Soil, BA-MW1 (17.5-19.5)	DILUTION	LOD	LOQ
Name	ug/Kg	FACTOR	ug/Kg	ug/Kg
MTBE	ND	4	85	290
Benzene	ND	4	98	340
Toluene	440	4	70	220
Ethylbenzene	740	4	94	320
M/P-xylene	1700	4	190	600
O-xylene	710	4	92	320
1,3,5-Trimethylbenzene	370	4	99	340
1,2,4-Trimethylbenzene	1100	4	97	330

Surrogate Recovery on 1,2,3-Trichlorobenzene = 95.0 %

EN CHEM INC.

☒ 1241 Bellevue St., Suite 9, Green Bay, WI 54302, 920-469-2436 • 1-800-736-2436, FAX 920-469-8827
☐ 525 Science Drive, Madison, WI 53711, 608-232-3300 • 1-888-536-2436, FAX: 608-233-0502
☐ 1428 N. 8th Street, Suite 122, Superior, WI 54880, 715-392-5844 • 1-800-837-8238, FAX 715-392-5843

CHAIN OF CUSTODY

35207

Page 1 of 1

Company Name: G.H.D. Inc.
Branch or Location: Chilton, Wi.
Project Contact: Corey Brickl
Telephone: (920) 849-9797
Project Number:
Project Name: Brown's Acts, [redacted]
Project State: Wisconsin
Sampled By (Print): Tim Oth

Regulatory Program (circle): (UST) RCRA CLP SDWA NPDES/WPDES CAA NR_____ Other

NR720 Confirmation Analysis Required? (circle): Y N
(En Chem will not confirm unless otherwise instructed.)

P.O. # Quote #
Mail Report To: Corey Brickl
Company: G.H.D. Inc.
Address: P.O. Box 69

Invoice To: Same as above
Company:
Address:

Mail Invoice To: Same

FIELD ID	SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	VOC's	GRO	DRO	PVOC's	Dry Weight	Lead			FIELD SCREEN	MATRIX	GOOD COND.	TOTAL BOTTLES	COMMENTS V	COMMENTS G	COMMENTS D	LABORATORY NUMBER
														SHADED AREA FOR LABORATORY USE ONLY					
5235 1358 1116	BA-B3 9'-11'	5/26/99	1:30	X	X	X		X						✓	1-500	5235	1358	4116	001
9697 0486	BA-B2 8'-10'		12:00		X	X	X	X	X						1-250 1-500		9697	0486	002
9410 2285	BA-B1 9'-11'		11:00		X	X	X	X							1-500		2285	4410	003
4507 9232	BA-B4 9'-11'		2:30		X	X	X	X									9232	4507	004
1921 1158	BA-B5 9.5'-11.5'	5/27/99	11:45		X	X	X	X									1158	1621	005
9179 1616	BA-B6 7'-9'	5/27/99	11:45		X	X	X	X									1616	9179	006

*Preservation Code
A=None B=HCL C=H2SO4
D=HN03 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:	Date/Time:	En Chem Project No.
Brian Barlow	5/27/99 4:30			892793
Relinquished By:	Date/Time:	Received By:	Date/Time:	Sample Receipt Temp.
Relinquished By:	Date/Time:	Received By:	Date/Time:	Sample Receipt pH (Wet/Metals)
Relinquished By:	Date/Time:	Received By:	Date/Time: 5/27/99 3:30	Custody Seal

EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
Fax: 920-469-8827

- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client: GHD INC

WI DNR LAB ID : 405132750

Report Date : 6/14/99

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
893048-001	BA-B1 9-11'	5/26/99			

The "Q" flag is present when a parameter has been detected below the LOQ. This indicates the results are qualified due to the uncertainty of the parameter concentration between the LOD and the LOQ.

Soil VOC detects are corrected for the total solids, unless otherwise noted.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Approval Signature

6/14/99
Date

ENCHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B1 9-11'
Lab Sample Number : 893048-001
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/14/99
Collection Date : 5/26/99
Matrix Type : SOIL

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL — Prep Method: SW846 5030B — Prep Date: — Analyst: RJN

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Tetrachloroethene	< 25	25	60		ug/kg		6/8/99	SW846 8260B
4-Bromofluorobenzene	88				%Recov		6/8/99	SW846 8260B
Dibromofluoromethane	95				%Recov		6/8/99	SW846 8260B
Toluene-d8	93				%Recov		6/8/99	SW846 8260B

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

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- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client: GHD INC

WI DNR LAB ID : 405132750

Report Date : 6/3/99

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
892793-001	BA-B3 9-11'	5/26/99			
892793-002	BA-B2 8-10'	5/26/99			
892793-003	BA-B1 9-11'	5/26/99			
892793-004	BA-B4 9-11'	5/26/99			
892793-005	BA-B5 9.5-11.5'	5/27/99			
892793-006	BA-B6 7-9'	5/27/99			

The "Q" flag is present when a parameter has been detected below the LOQ. This indicates the results are qualified due to the uncertainty of the parameter concentration between the LOD and the LOQ.

Soil VOC detects are corrected for the total solids, unless otherwise noted.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

J. Duranceau — Approval Signature

6/3/99 — Date

ENCHEM INC.
1795 Industrial Drive
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Lab#:	TestGroupID:	Comment:
892793-001 BA-B3 9-11'	8260+-S-ME	Elevated detection limit due to the presence of a hydrocarbon pattern.
	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling gasoline. Late peaks were present outside of window.
892793-002 BA-B2 8-10'	DRO-S	Early peaks present outside of window of analysis.
892793-004 BA-B4 9-11'	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling gasoline. Early and late peaks were present outside of window.
	DRO-S	Early peaks present outside of window of analysis.
892793-006 BA-B6 7-9'	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling diesel fuel or extremely weathered gasoline.
	DRO-S	Hump was present late in chromatogram.

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B3 9-11'
Lab Sample Number : 892793-001
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/2/99
Collection Date : 5/26/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Solids, percent	80.5				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL — **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 5.2			5.2	mg/kg		5/28/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/28/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/28/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/28/99	Wi MOD DRO

Organic Results

EPA 8260 VOLATILE LIST - SOIL/METHANOL — **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** RJN

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Bromobenzene	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Bromochloromethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Bromodichloromethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Bromoform	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Bromomethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
s-Butylbenzene	680	250	600		ug/kg		6/1/99	SW846 8260B
t-Butylbenzene	< 200	200	480		ug/kg		6/1/99	SW846 8260B
n-Butylbenzene	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Carbon tetrachloride	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Chloroform	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Chlorobenzene	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Chlorodibromomethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Chloroethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
Chloromethane	< 200	200	480		ug/kg		6/1/99	SW846 8260B
2-Chlorotoluene	< 200	200	480		ug/kg		6/1/99	SW846 8260B

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- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client : GHD INC

Field ID : BA-B3 9-11'

Report Date : 6/2/99

Lab Sample Number : 892793-001

Collection Date : 5/26/99

WI DNR LAB ID : 405132750

Matrix Type : SOIL

4-Chlorotoluene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2-Dibromo-3-chloropropane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2-Dibromoethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Dibromomethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,3-Dichlorobenzene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,4-Dichlorobenzene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2-Dichloroethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2-Dichlorobenzene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,1-Dichloroethene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
cis-1,2-Dichloroethene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Dichlorodifluoromethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
trans-1,2-Dichloroethene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2-Dichloropropane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,1-Dichloroethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,3-Dichloropropane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
2,2-Dichloropropane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,1-Dichloropropene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
cis-1,3-Dichloropropene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
trans-1,3-Dichloropropene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Diisopropyl ether	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Ethylbenzene	1000	250	600	ug/kg		6/1/99	SW846 8260B
Fluorotrichloromethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Hexachlorobutadiene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Isopropylbenzene	580	250	600	ug/kg	Q	6/1/99	SW846 8260B
p-Isopropyltoluene	2900	250	600	ug/kg		6/1/99	SW846 8260B
Methylene chloride	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Methyl-tert-butyl-ether	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Naphthalene	1200	250	600	ug/kg		6/1/99	SW846 8260B
n-Propylbenzene	1200	250	600	ug/kg		6/1/99	SW846 8260B
Styrene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,1,2,2-Tetrachloroethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,1,1,2-Tetrachloroethane	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Tetrachloroethene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
Toluene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2,3-Trichlorobenzene	< 200	200	480	ug/kg		6/1/99	SW846 8260B
1,2,4-Trichlorobenzene	< 200	200	480	ug/kg		6/1/99	SW846 8260B

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EN CHEM INC.

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B3 9-11'
Lab Sample Number : 892793-001
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/2/99
Collection Date : 5/26/99
Matrix Type : SOIL

1,1,1-Trichloroethane	< 200	200	480	ug/kg	6/1/99	SW846 8260B
1,1,2-Trichloroethane	< 200	200	480	ug/kg	6/1/99	SW846 8260B
1,2,4-Trimethylbenzene	7400	250	600	ug/kg	6/1/99	SW846 8260B
Trichloroethene	< 200	200	480	ug/kg	6/1/99	SW846 8260B
1,2,3-Trichloropropane	< 200	200	480	ug/kg	6/1/99	SW846 8260B
1,3,5-Trimethylbenzene	4200	250	600	ug/kg	6/1/99	SW846 8260B
Vinyl chloride	< 200	200	480	ug/kg	6/1/99	SW846 8260B
Xylenes, -m, -p	4800	250	600	ug/kg	6/1/99	SW846 8260B
Xylene, -o	< 200	200	480	ug/kg	6/1/99	SW846 8260B
4-Bromofluorobenzene	115			%Recov	6/1/99	SW846 8260B
Dibromofluoromethane	83			%Recov	6/1/99	SW846 8260B
Toluene-d8	103			%Recov	6/1/99	SW846 8260B

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	360			12	mg/kg		5/31/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		5/31/99	Wi MOD GRO

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B2 8-10'
Lab Sample Number : 892793-002
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/2/99
Collection Date : 5/26/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Lead	< 4.3	4.3	14		mg/kg		6/1/99	SW846 3051	SW846 7421	MWM
Solids, percent	78.1				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	54			4.9	mg/kg		5/28/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/28/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/28/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/28/99	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.2			3.2	mg/kg		6/1/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		6/1/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		6/1/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		6/1/99	Wi MOD GRO

Organic Results

PVOC - METHANOL PRESERVED SOIL **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103				%Recov		6/1/99	MOD 8021B
Benzene	< 25	25	60		ug/kg		6/1/99	MOD 8021B
Ethylbenzene	< 25	25	60		ug/kg		6/1/99	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	60		ug/kg		6/1/99	MOD 8021B
Toluene	< 25	25	60		ug/kg		6/1/99	MOD 8021B
1,3,5-Trimethylbenzene	< 25	25	60		ug/kg		6/1/99	MOD 8021B

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ENCHEM INC.
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Green Bay, WI 54302
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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B2 8-10'
Lab Sample Number : 892793-002
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/2/99
Collection Date : 5/26/99
Matrix Type : SOIL

1,2,4-Trimethylbenzene	< 25	25	60	ug/kg	6/1/99	MOD 8021B
Xylenes, -m, -p	< 25	25	60	ug/kg	6/1/99	MOD 8021B
Xylene, -o	< 25	25	60	ug/kg	6/1/99	MOD 8021B

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B1 9-11'
Lab Sample Number : 892793-003
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/1/99
Collection Date : 5/26/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Solids, percent	80.3				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.8			4.8	mg/kg		5/28/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/28/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/28/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/28/99	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1			3.1	mg/kg		5/31/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		5/31/99	Wi MOD GRO

Organic Results

PVOC - METHANOL PRESERVED SOIL **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103				%Recov		5/31/99	MOD 8021B
Benzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Ethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Toluene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
1,3,5-Trimethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
1,2,4-Trimethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B

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- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client : GHD INC

Field ID : BA-B1 9-11'

Report Date : 6/1/99

Lab Sample Number : 892793-003

Collection Date : 5/26/99

WI DNR LAB ID : 405132750

Matrix Type : SOIL

Xylenes, -m, -p	< 25	25	60	ug/kg	5/31/99	MOD 8021B
Xylene, -o	< 25	25	60	ug/kg	5/31/99	MOD 8021B

All soil results are reported on a dry weight basis unless otherwise noted.

ENCHEM INC.

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B4 9-11'
Lab Sample Number : 892793-004
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/1/99
Collection Date : 5/26/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Solids, percent	84.5				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	250			11	mg/kg		5/28/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/28/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/28/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/28/99	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	1500			59	mg/kg		5/31/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		5/31/99	Wi MOD GRO

Organic Results

PVOC - METHANOL PRESERVED SOIL **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	95				%Recov		5/31/99	MOD 8021B
Benzene	< 500	500	1200		ug/kg		5/31/99	MOD 8021B
Ethylbenzene	14000	590	1400		ug/kg		5/31/99	MOD 8021B
Methyl-tert-butyl-ether	670	590	1400		ug/kg	Q	5/31/99	MOD 8021B
Toluene	8600	590	1400		ug/kg		5/31/99	MOD 8021B
1,3,5-Trimethylbenzene	14000	590	1400		ug/kg		5/31/99	MOD 8021B
1,2,4-Trimethylbenzene	32000	590	1400		ug/kg		5/31/99	MOD 8021B

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- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client : GHD INC

Field ID : BA-B4 9-11'

Report Date : 6/1/99

Lab Sample Number : 892793-004

Collection Date : 5/26/99

WI DNR LAB ID : 405132750

Matrix Type : SOIL

Xylenes, -m, -p	39000	590	1400	ug/kg	5/31/99	MOD 8021B
Xylene, -o	15000	590	1400	ug/kg	5/31/99	MOD 8021B

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- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B5 9.5-11.5'
Lab Sample Number : 892793-005
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/1/99
Collection Date : 5/27/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Solids, percent	81.7				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.6			4.6	mg/kg		5/28/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/28/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/28/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/28/99	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1			3.1	mg/kg		5/31/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		5/31/99	Wi MOD GRO

Organic Results

PVOC - METHANOL PRESERVED SOIL **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103				%Recov		5/31/99	MOD 8021B
Benzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Ethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	60		ug/kg		5/31/99	MOD 8021B
Toluene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
1,3,5-Trimethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B
1,2,4-Trimethylbenzene	< 25	25	60		ug/kg		5/31/99	MOD 8021B

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B5 9.5-11.5'
Lab Sample Number : 892793-005
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/1/99
Collection Date : 5/27/99
Matrix Type : SOIL

Xylenes, -m, -p	< 25	25	60	ug/kg	5/31/99	MOD 8021B
Xylene, -o	< 25	25	60	ug/kg	5/31/99	MOD 8021B

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : BROWN'S AUTO
Project Number :
Field ID : BA-B6 7-9'
Lab Sample Number : 892793-006
WI DNR LAB ID : 405132750

Client : GHD INC
Report Date : 6/1/99
Collection Date : 5/27/99
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analys
Solids, percent	84.4				%		5/28/99	SM2540G	SM2540G	NJS

Organic Results

Preservation Date : 5/28/99

DIESEL RANGE ORGANICS - SOIL **Prep Method:** Wi MOD DRO **Prep Date:** 5/28/99 **Analyst:** DJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	13000			670	mg/kg		5/29/99	Wi MOD DRO
Blank spike	88			50	%Recov		5/29/99	Wi MOD DRO
Blank spike duplicate	101			50.0	%Recov		5/29/99	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		5/29/99	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** Wi MOD GRO **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	200			15	mg/kg		5/31/99	Wi MOD GRO
Blank Spike	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank Spike Duplicate	104			1.00	%Recov		5/31/99	Wi MOD GRO
Blank	< 2.5			2.5	mg/kg		5/31/99	Wi MOD GRO

Organic Results

PVOC - METHANOL PRESERVED SOIL **Prep Method:** SW846 5030B **Prep Date:** 5/28/99 **Analyst:** PMS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	106				%Recov		5/31/99	MOD 8021B
Benzene	< 130	130	310		ug/kg		5/31/99	MOD 8021B
Ethylbenzene	930	150	360		ug/kg		5/31/99	MOD 8021B
Methyl-tert-butyl-ether	< 130	130	310		ug/kg		5/31/99	MOD 8021B
Toluene	200	150	360		ug/kg	Q	5/31/99	MOD 8021B
1,3,5-Trimethylbenzene	7700	150	360		ug/kg		5/31/99	MOD 8021B
1,2,4-Trimethylbenzene	17000	150	360		ug/kg		5/31/99	MOD 8021B

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
Fax: 920-469-8827

- Analytical Report -

Project Name : BROWN'S AUTO

Project Number :

Client : GHD INC

Field ID : BA-B6 7-9'

Report Date : 6/1/99

Lab Sample Number : 892793-006

Collection Date : 5/27/99

WI DNR LAB ID : 405132750

Matrix Type : SOIL

Xylenes, -m, -p	4700	150	360	ug/kg	5/31/99	MOD 8021B
Xylene, -o	3700	150	360	ug/kg	5/31/99	MOD 8021B

All soil results are reported on a dry weight basis unless otherwise noted.

APPENDIX C

GROUNDWATER LABORATORY ANALYTICAL REPORTS AND CHAINS OF CUSTODY

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

NO. 101430

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Underground Storage Tank Projects

Wisconsin Lab Cert. No. 721026460

RETURN THIS FORM WITH SAMPLES.

CLIENT: Brown's Auto c/o GHD Inc	PROJECT TITLE: Brown's Auto	
ADDRESS: 820 W. Main St	PROJECT NO.	QUOTATION NO.: 98861
CITY: Chilton STATE: WI ZIP: 53014	CONTACT: Tim Ott	PHONE: (920) 849-9797

ENTER OTHER PARAMETERS-CHECK BELOW IF FIELD FILTERED

NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE TYPE	GRO	PVOC	DRO	VOC 8021	PAH	Lead	Cadmium	Sulfates	Alkalinity	Total Kjeldahl	Ammonia	Nitrate+Nitrite			
21184	BA-MW7	12/15/99	4:00	GW			X	X		X	X	X	X	X	X	X			
21185	BA-MW8	↓	4:30	↓			↓	↓		↓	↓	↓	↓	↓	↓	↓			
21186	BA-MW9	↓	2:30	↓			↓	↓		↓	↓	↓	↓	↓	↓	↓			
21187	BA-MW10	↓	2:00	↓			↓	↓		↓	↓	↓	↓	↓	↓	↓			
21188	BA-MW11	↓	3:00	↓			↓	↓		↓	↓	↓	↓	↓	↓	↓			
21189	Trip Blank						↓	↓											

COLLECTED BY (signatures): Tim Ott	CUSTODY SEAL NO. (IF ANY)	DATE/TIME: 12/15/99 5:00	REPORT TO: GHD, Inc. 820 W. Main St. Chilton, WI 53014
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME	
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME	
DISPATCHED BY (signature): Tim Ott	METHOD OF TRANSPORT: Dunham's Express	DATE/TIME: 12/16/99	

RECEIVED AT NLS BY (signature): [illegible]	DATE/TIME: 12/17/99 12:00	CONDITION: [illegible]	TEMP.	INVOICE TO: Same
SEAL INTACT? ☐ YES ☐ NO	SEAL #	REMARKS & OTHER INFORMATION		

SAMPLE TYPE GW=groundwater, WW=waste water, DW=drinking water, S=soil

IMPORTANT:
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICE TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

CUSTOMER COPY

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

PAGE: 1 NLS PROJECT# 52109
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: BA-MW7 NLS#: 221184
Ref. Line 1 of COC 101430 Description: BA-MW7
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	430	mg/L	11	39	EPA 310.1	12/23/99	721026460
Cadmium, dis. as Cd by ICP	ND	ug/L	0.21	0.74	SW846 6010	01/06/00	721026460
Lead, dis. as Pb by ICP	ND	ug/L	1.4	5.1	SW846 6010	01/06/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.11	mg/L	0.019	0.062	EPA 350.1	12/20/99	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	9.6	mg/L	0.30	1.1	EPA 353.2	12/21/99	721026460
Nitrogen, Kjeldahl as N (unfiltered)	1.0	mg/L	0.064	0.22	EPA 351.2	12/29/99	721026460
Sulfate, as SO4 (unfiltered)	67	mg/L	5.0	5.0	SW846 9056	12/23/99	721026460
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460
DRO (water)	ND	mg/L	0.029	0.094	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-93%, duplicate-81%, surrogate-100%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/21/99	721026460

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Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52109
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: BA-MW8 **NLS#: 221185**
Ref. Line 2 of COC 101430 Description: BA-MW8
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	540	mg/L	11	39	EPA 310.1	12/23/99	721026460
Cadmium, dis. as Cd by ICP	ND	ug/L	0.21	0.74	SW846 6010	01/06/00	721026460
Lead, dis. as Pb by ICP	ND	ug/L	1.4	5.1	SW846 6010	01/06/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.97	mg/L	0.019	0.062	EPA 350.1	12/20/99	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	0.39	mg/L	0.030	0.11	EPA 353.2	12/21/99	721026460
Nitrogen, Kjeldahl as N (unfiltered)	2.8	mg/L	0.26	0.89	EPA 351.2	12/29/99	721026460
Sulfate, as SO4 (unfiltered)	7.3	mg/L	5.0	5.0	SW846 9056	12/23/99	721026460
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460
	Additional Comments: Check standard recovery was outside QC limits for Naphthalene at 123%.						
DRO (water)	2.8	mg/L	0.029	0.094	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-93%, duplicate-81%, surrogate-98% Peaks present before the DRO quantitation window.						
Organics Extraction (DRO)	yes				WI MOD DRO	12/21/99	721026460

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ANALYTICAL REPORT

NLS PROJECT# 52109

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: BA-MW9 **NLS#: 221186**
Ref. Line 3 of COC 101430 Description: BA-MW9
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	370	mg/L	11	39	EPA 310.1	12/23/99	721026460
Cadmium, dis. as Cd by ICP	< 0.24 >	ug/L	0.21	0.74	SW846 6010	01/06/00	721026460
Lead, dis. as Pb by ICP	ND	ug/L	1.4	5.1	SW846 6010	01/06/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.19	mg/L	0.019	0.062	EPA 350.1	12/20/99	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	28	mg/L	0.60	2.2	EPA 353.2	12/21/99	721026460
Nitrogen, Kjeldahl as N (unfiltered)	1.4	mg/L	0.064	0.22	EPA 351.2	12/29/99	721026460
Sulfate, as SO4 (unfiltered)	61	mg/L	5.0	5.0	SW846 9056	12/23/99	721026460
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460
	Additional Comments: Check standard recovery was outside QC limits for Naphthalene at 123%.						
DRO (water)	0.80	mg/L	0.029	0.094	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-93%, duplicate-81%, surrogate-100%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/21/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

NLS PROJECT# 52109

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: BA-MW10 **NLS#: 221187**
Ref. Line 4 of COC 101430 Description: BA-MW10
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	300	mg/L	11	39	EPA 310.1	12/23/99	721026460
Cadmium, dis. as Cd by ICP	ND	ug/L	0.21	0.74	SW846 6010	01/06/00	721026460
Lead, dis. as Pb by ICP	ND	ug/L	1.4	5.1	SW846 6010	01/06/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.21	mg/L	0.019	0.062	EPA 350.1	12/21/99	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	15	mg/L	0.30	1.1	EPA 353.2	12/21/99	721026460
Nitrogen, Kjeldahl as N (unfiltered)	7.8	mg/L	0.26	0.89	EPA 351.2	12/29/99	721026460
Sulfate, as SO4 (unfiltered)	57	mg/L	5.0	5.0	SW846 9056	12/23/99	721026460
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460
DRO (water)	< 0.084 >	mg/L	0.029	0.094	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-93%, duplicate-81%, surrogate-94%						
Organics Extraction (DRO)	yes				WI MOD DRO	12/21/99	721026460

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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52109
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: BA-MW11 **NLS#: 221188**
Ref. Line 5 of COC 101430 Description: BA-MW11
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	360	mg/L	11	39	EPA 310.1	12/23/99	721026460
Cadmium, dis. as Cd by ICP	ND	ug/L	0.21	0.74	SW846 6010	01/06/00	721026460
Lead, dis. as Pb by ICP	ND	ug/L	1.4	5.1	SW846 6010	01/06/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.35	mg/L	0.019	0.062	EPA 350.1	12/21/99	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	ND	mg/L	0.030	0.11	EPA 353.2	12/21/99	721026460
Nitrogen, Kjeldahl as N (unfiltered)	1.6	mg/L	0.064	0.22	EPA 351.2	12/29/99	721026460
Sulfate, as SO4 (unfiltered)	7.3	mg/L	5.0	5.0	SW846 9056	12/23/99	721026460
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460
	Additional Comments: Check standard recovery was outside QC limits for Naphthalene at 123%.						
DRO (water)	1.4	mg/L	0.029	0.094	WI MOD DRO	01/03/00	721026460
	Additional Comments: spike-93%, duplicate-81%, surrogate-90% Peaks present before the DRO quantitation window.						
Organics Extraction (DRO)	yes				WI MOD DRO	12/21/99	721026460

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Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52109
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's Auto

Sample ID: Trip Blank **NLS#: 221189**
Ref. Line 6 of COC 101430 Description: Trip Blank
Collected: 12/15/99 Received: 12/17/99 Reported: 01/07/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
VOCs (water) by EPA 8021	see attached				SW846 8021	12/23/99	721026460

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOD = Limit of Detection
LOQ = Limit of Quantitation
ND = Not Detected
DWB = Dry Weight Basis
NA = Not Applicable
%DWB = (mg/kg DWB)/10000

Steven R. Cupp

Authorized by:

Reviewed by:

R. T. Krueger
Laboratory Manager

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221184 BA-MW7 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	ND	1	0.24	0.84
Bromobenzene	ND	1	0.21	0.72
Bromochloromethane	ND	1	0.25	0.85
Bromodichloromethane	ND	1	0.26	0.91
Bromoform	ND	1	0.18	0.61
Bromomethane	ND	1	0.52	1.8
n-Butylbenzene	ND	1	0.34	1.2
sec-Butylbenzene	ND	1	0.28	0.96
tert-Butylbenzene	ND	1	0.28	0.95
Carbon Tetrachloride	ND	1	0.75	2.6
Chlorobenzene	ND	1	0.22	0.77
Chloroethane	ND	1	0.24	0.82
Chloroform	ND	1	0.30	1.0
Chloromethane	ND	1	0.50	1.7
2-Chlorotoluene	ND	1	0.25	0.86
4-Chlorotoluene	ND	1	0.25	0.88
Dibromochloromethane	ND	1	0.23	0.80
1,2-Dibromo-3-Chloropropane	ND	1	0.17	0.60
1,2-Dibromoethane	ND	1	0.22	0.76
Dibromomethane	ND	1	0.21	0.73
1,2-Dichlorobenzene	ND	1	0.26	0.89
1,3-Dichlorobenzene	ND	1	0.29	0.99
1,4-Dichlorobenzene	ND	1	0.30	1.0
Dichlorodifluoromethane	ND	1	0.28	0.96
1,1-Dichloroethane	ND	1	0.28	0.97
1,2-Dichloroethane	ND	1	0.27	0.92
1,1-Dichloroethene	ND	1	0.27	0.93
cis-1,2-Dichloroethene	ND	1	0.27	0.92
trans-1,2-Dichloroethene	ND	1	0.29	1.0
1,2-Dichloropropane	ND	1	0.28	0.95
1,3-Dichloropropane	ND	1	0.59	2.0
2,2-Dichloropropane	ND	1	0.73	2.5
1,1-Dichloropropene	ND	1	0.24	0.82
cis-1,3-Dichloropropene	ND	1	0.27	0.92
trans-1,3-Dichloropropene	ND	1	0.28	0.95
Ethylbenzene	ND	1	0.26	0.88
Hexachlorobutadiene	ND	1	0.38	1.3
Isopropylbenzene	ND	1	0.25	0.87
p-Isopropyltoluene	ND	1	0.56	1.9
Methylene chloride	ND	1	0.27	0.94
Naphthalene	ND	1	0.25	0.86
n-Propylbenzene	ND	1	0.27	0.93
ortho-Xylene/Styrene	ND	1	0.47	1.6
1,1,1,2-Tetrachloroethane	ND	1	0.29	1.0
1,1,2,2-Tetrachloroethane	ND	1	0.23	0.79
Tetrachloroethene	ND	1	0.25	0.86
Toluene	< 0.28 >	1	0.24	0.82
1,2,3-Trichlorobenzene	ND	1	0.38	1.3
1,2,4-Trichlorobenzene	ND	1	0.30	1.1
1,1,1-Trichloroethane	ND	1	0.32	1.1
1,1,2-Trichloroethane	ND	1	0.27	0.94
Trichloroethene	ND	1	0.23	0.79
Trichlorofluoromethane	ND	1	0.32	1.1
1,2,3-Trichloropropane	ND	1	0.46	1.6
1,2,4-Trimethylbenzene	ND	1	0.27	0.92

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221184 BA-MW7 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	ND	1	0.27	0.93
Vinyl chloride	ND	1	0.19	0.66
meta,para-Xylene	ND	1	0.50	1.7
MTBE	1.8	1	0.42	1.5
Isopropylether	ND	1	0.20	0.70

Surrogate Recovery on 2-Bromochlorobenzene-PID = 103 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 102 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221185 BA-MW8 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	140	50	12	42
Bromobenzene	ND	50	10	36
Bromochloromethane	ND	50	12	42
Bromodichloromethane	ND	50	13	46
Bromoform	ND	50	8.9	31
Bromomethane	ND	50	26	91
n-Butylbenzene	ND	50	17	59
sec-Butylbenzene	ND	50	14	48
tert-Butylbenzene	ND	50	14	48
Carbon Tetrachloride	ND	50	38	130
Chlorobenzene	ND	50	11	38
Chloroethane	ND	50	12	41
Chloroform	ND	50	15	52
Chloromethane	ND	50	25	86
2-Chlorotoluene	ND	50	13	43
4-Chlorotoluene	ND	50	13	44
Dibromochloromethane	ND	50	12	40
1,2-Dibromo-3-Chloropropane	ND	50	8.7	30
1,2-Dibromoethane	ND	50	11	38
Dibromomethane	ND	50	11	37
1,2-Dichlorobenzene	ND	50	13	45
1,3-Dichlorobenzene	ND	50	14	49
1,4-Dichlorobenzene	ND	50	15	52
Dichlorodifluoromethane	ND	50	14	48
1,1-Dichloroethane	ND	50	14	49
1,2-Dichloroethane	ND	50	13	46
1,1-Dichloroethene	ND	50	14	47
cis-1,2-Dichloroethene	ND	50	13	46
trans-1,2-Dichloroethene	ND	50	15	50
1,2-Dichloropropane	ND	50	14	47
1,3-Dichloropropane	ND	50	30	100
2,2-Dichloropropane	ND	50	36	130
1,1-Dichloropropene	ND	50	12	41
cis-1,3-Dichloropropene	ND	50	13	46
trans-1,3-Dichloropropene	ND	50	14	48
Ethylbenzene	430	50	13	44
Hexachlorobutadiene	ND	50	19	66
Isopropylbenzene	ND	50	13	43
p-Isopropyltoluene	ND	50	28	97
Methylene chloride	ND	50	14	47
Naphthalene	180	50	12	43
n-Propylbenzene	< 14 >	50	13	46
ortho-Xylene/Styrene	260	50	24	82
1,1,1,2-Tetrachloroethane	ND	50	15	51
1,1,2,2-Tetrachloroethane	ND	50	11	39
Tetrachloroethene	ND	50	12	43
Toluene	2000	200	48	160
1,2,3-Trichlorobenzene	ND	50	19	65
1,2,4-Trichlorobenzene	ND	50	15	53
1,1,1-Trichloroethane	ND	50	16	55
1,1,2-Trichloroethane	ND	50	14	47
Trichloroethene	ND	50	11	40
Trichlorofluoromethane	ND	50	16	56
1,2,3-Trichloropropane	ND	50	23	80
1,2,4-Trimethylbenzene	300	50	13	46

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221185 BA-MW8 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	59	50	14	47
Vinyl chloride	ND	50	9.6	33
meta,para-Xylene	1200	50	25	86
MTBE	ND	50	21	73
Isopropylether	< 35 >	50	10	35

Surrogate Recovery on 2-Bromochlorobenzene-PID = 115 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 112 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)
Page: 5

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221186 BA-MW9 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	ND	1	0.24	0.84
Bromobenzene	ND	1	0.21	0.72
Bromochloromethane	ND	1	0.25	0.85
Bromodichloromethane	ND	1	0.26	0.91
Bromoform	ND	1	0.18	0 61
Bromomethane	ND	1	0.52	1.8
n-Butylbenzene	1.7	1	0.34	1.2
sec-Butylbenzene	ND	1	0.28	0.96
tert-Butylbenzene	ND	1	0.28	0.95
Carbon Tetrachloride	ND	1	0.75	2.6
Chlorobenzene	ND	1	0.22	0.77
Chloroethane	ND	1	0.24	0.82
Chloroform	ND	1	0.30	1.0
Chloromethane	ND	1	0.50	1.7
2-Chlorotoluene	ND	1	0.25	0.86
4-Chlorotoluene	ND	1	0.25	0.88
Dibromochloromethane	ND	1	0.23	0.80
1,2-Dibromo-3-Chloropropane	ND	1	0.17	0.60
1,2-Dibromoethane	ND	1	0.22	0.76
Dibromomethane	ND	1	0.21	0.73
1,2-Dichlorobenzene	ND	1	0.26	0.89
1,3-Dichlorobenzene	ND	1	0.29	0.99
1,4-Dichlorobenzene	ND	1	0.30	1.0
Dichlorodifluoromethane	ND	1	0.28	0.96
1,1-Dichloroethane	ND	1	0.28	0.97
1,2-Dichloroethane	ND	1	0.27	0.92
1,1-Dichloroethene	ND	1	0.27	0.93
cis-1,2-Dichloroethene	ND	1	0.27	0.92
trans-1,2-Dichloroethene	ND	1	0.29	1.0
1,2-Dichloropropane	ND	1	0.28	0.95
1,3-Dichloropropane	ND	1	0.59	2.0
2,2-Dichloropropane	ND	1	0.73	2.5
1,1-Dichloropropene	ND	1	0.24	0.82
cis-1,3-Dichloropropene	ND	1	0.27	0.92
trans-1,3-Dichloropropene	ND	1	0.28	0.95
Ethylbenzene	ND	1	0.26	0.88
Hexachlorobutadiene	ND	1	0.38	1.3
Isopropylbenzene	ND	1	0.25	0.87
p-Isopropyltoluene	ND	1	0.56	1.9
Methylene chloride	ND	1	0.27	0.94
Naphthalene	2.1	1	0.25	0.86
n-Propylbenzene	ND	1	0.27	0.93
ortho-Xylene/Styrene	2.7	1	0.47	1.6
1,1,1,2-Tetrachloroethane	ND	1	0.29	1.0
1,1,2,2-Tetrachloroethane	ND	1	0.23	0.79
Tetrachloroethene	ND	1	0.25	0.86
Toluene	< 0.63 >	1	0.24	0.82
1,2,3-Trichlorobenzene	ND	1	0.38	1.3
1,2,4-Trichlorobenzene	ND	1	0.30	1.1
1,1,1-Trichloroethane	ND	1	0.32	1.1
1,1,2-Trichloroethane	ND	1	0.27	0.94
Trichloroethene	ND	1	0.23	0.79
Trichlorofluoromethane	ND	1	0.32	1.1
1,2,3-Trichloropropane	ND	1	0.46	1.6
1,2,4-Trimethylbenzene	4.2	1	0.27	0.92

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221186 BA-MW9 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	2.3	1	0.27	0.93
Vinyl chloride	ND	1	0.19	0.66
meta,para-Xylene	2.8	1	0.50	1.7
MTBE	ND	1	0.42	1.5
Isopropylether	ND	1	0.20	0.70

Surrogate Recovery on 2-Bromochlorobenzene-PID = 109 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 104 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221187 BA-MW10 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	ND	1	0.24	0.84
Bromobenzene	ND	1	0.21	0.72
Bromochloromethane	ND	1	0.25	0.85
Bromodichloromethane	ND	1	0.26	0.91
Bromoform	ND	1	0.18	0.61
Bromomethane	ND	1	0.52	1.8
n-Butylbenzene	ND	1	0.34	1.2
sec-Butylbenzene	ND	1	0.28	0.96
tert-Butylbenzene	ND	1	0.28	0.95
Carbon Tetrachloride	ND	1	0.75	2.6
Chlorobenzene	ND	1	0.22	0.77
Chloroethane	ND	1	0.24	0.82
Chloroform	ND	1	0.30	1.0
Chloromethane	ND	1	0.50	1.7
2-Chlorotoluene	ND	1	0.25	0.86
4-Chlorotoluene	ND	1	0.25	0.88
Dibromochloromethane	ND	1	0.23	0.80
1,2-Dibromo-3-Chloropropane	ND	1	0.17	0.60
1,2-Dibromoethane	ND	1	0.22	0.76
Dibromomethane	ND	1	0.21	0.73
1,2-Dichlorobenzene	ND	1	0.26	0.89
1,3-Dichlorobenzene	ND	1	0.29	0.99
1,4-Dichlorobenzene	ND	1	0.30	1.0
Dichlorodifluoromethane	ND	1	0.28	0.96
1,1-Dichloroethane	ND	1	0.28	0.97
1,2-Dichloroethane	ND	1	0.27	0.92
1,1-Dichloroethene	ND	1	0.27	0.93
cis-1,2-Dichloroethene	ND	1	0.27	0.92
trans-1,2-Dichloroethene	ND	1	0.29	1.0
1,2-Dichloropropane	ND	1	0.28	0.95
1,3-Dichloropropane	ND	1	0.59	2.0
2,2-Dichloropropane	ND	1	0.73	2.5
1,1-Dichloropropene	ND	1	0.24	0.82
cis-1,3-Dichloropropene	ND	1	0.27	0.92
trans-1,3-Dichloropropene	ND	1	0.28	0.95
Ethylbenzene	ND	1	0.26	0.88
Hexachlorobutadiene	ND	1	0.38	1.3
Isopropylbenzene	ND	1	0.25	0.87
p-Isopropyltoluene	ND	1	0.56	1.9
Methylene chloride	ND	1	0.27	0.94
Naphthalene	ND	1	0.25	0.86
n-Propylbenzene	ND	1	0.27	0.93
ortho-Xylene/Styrene	ND	1	0.47	1.6
1,1,1,2-Tetrachloroethane	ND	1	0.29	1.0
1,1,2,2-Tetrachloroethane	ND	1	0.23	0.79
Tetrachloroethene	ND	1	0.25	0.86
Toluene	< 0.30 >	1	0.24	0.82
1,2,3-Trichlorobenzene	ND	1	0.38	1.3
1,2,4-Trichlorobenzene	ND	1	0.30	1.1
1,1,1-Trichloroethane	ND	1	0.32	1.1
1,1,2-Trichloroethane	ND	1	0.27	0.94
Trichloroethene	ND	1	0.23	0.79
Trichlorofluoromethane	ND	1	0.32	1.1
1,2,3-Trichloropropane	ND	1	0.46	1.6
1,2,4-Trimethylbenzene	ND	1	0.27	0.92

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221187 BA-MW10 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	ND	1	0.27	0.93
Vinyl chloride	ND	1	0.19	0.66
meta,para Xylene	ND	1	0.50	1.7
MTBE	ND	1	0.42	1.5
Isopropylether	ND	1	0.20	0.70

Surrogate Recovery on 2-Bromochlorobenzene-PID = 102 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 103 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221188 BA-MW11 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	ND	50	12	42
Bromobenzene	ND	50	10	36
Bromochloromethane	ND	50	12	42
Bromodichloromethane	ND	50	13	46
Bromoform	ND	50	8.9	31
Bromomethane	ND	50	26	91
n-Butylbenzene	ND	50	17	59
sec-Butylbenzene	ND	50	14	48
tert-Butylbenzene	ND	50	14	48
Carbon Tetrachloride	ND	50	38	130
Chlorobenzene	ND	50	11	38
Chloroethane	ND	50	12	41
Chloroform	ND	50	15	52
Chloromethane	ND	50	25	86
2-Chlorotoluene	ND	50	13	43
4-Chlorotoluene	ND	50	13	44
Dibromochloromethane	ND	50	12	40
1,2-Dibromo-3-Chloropropane	ND	50	8.7	30
1,2-Dibromoethane	ND	50	11	38
Dibromomethane	ND	50	11	37
1,2-Dichlorobenzene	ND	50	13	45
1,3-Dichlorobenzene	ND	50	14	49
1,4-Dichlorobenzene	ND	50	15	52
Dichlorodifluoromethane	ND	50	14	48
1,1-Dichloroethane	ND	50	14	49
1,2-Dichloroethane	ND	50	13	46
1,1-Dichloroethene	ND	50	14	47
cis-1,2-Dichloroethene	ND	50	13	46
trans-1,2-Dichloroethene	ND	50	15	50
1,2-Dichloropropane	ND	50	14	47
1,3-Dichloropropane	ND	50	30	100
2,2-Dichloropropane	ND	50	36	130
1,1-Dichloropropene	ND	50	12	41
cis-1,3-Dichloropropene	ND	50	13	46
trans-1,3-Dichloropropene	ND	50	14	48
Ethylbenzene	640	50	13	44
Hexachlorobutadiene	ND	50	19	66
Isopropylbenzene	< 26 >	50	13	43
p-Isopropyltoluene	ND	50	28	97
Methylene chloride	ND	50	14	47
Naphthalene	240	50	12	43
n-Propylbenzene	< 35 >	50	13	46
ortho-Xylene/Styrene	550	50	24	82
1,1,1,2-Tetrachloroethane	ND	50	15	51
1,1,2,2-Tetrachloroethane	ND	50	11	39
Tetrachloroethene	ND	50	12	43
Toluene	380	50	12	41
1,2,3-Trichlorobenzene	ND	50	19	65
1,2,4-Trichlorobenzene	ND	50	15	53
1,1,1-Trichloroethane	ND	50	16	55
1,1,2-Trichloroethane	ND	50	14	47
Trichloroethene	ND	50	11	40
Trichlorofluoromethane	ND	50	16	56
1,2,3-Trichloropropane	ND	50	23	80
1,2,4-Trimethylbenzene	410	50	13	46

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221188 BA-MW11 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	89	50	14	47
Vinyl chloride	ND	50	9.6	33
meta,para-Xylene	2000	50	25	86
MTBE	ND	50	21	73
Isopropylether	44	50	10	35

Surrogate Recovery on 2-Bromochlorobenzene-PID = 109 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 114 %

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221189 Trip Blank ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Benzene	ND	1	0.24	0.84
Bromobenzene	ND	1	0.21	0.72
Bromochloromethane	ND	1	0.25	0.85
Bromodichloromethane	ND	1	0.26	0.91
Bromoform	ND	1	0.18	0.61
Bromomethane	ND	1	0.52	1.8
n-Butylbenzene	ND	1	0.34	1.2
sec-Butylbenzene	ND	1	0.28	0.96
tert-Butylbenzene	ND	1	0.28	0.95
Carbon Tetrachloride	ND	1	0.75	2.6
Chlorobenzene	ND	1	0.22	0.77
Chloroethane	ND	1	0.24	0.82
Chloroform	ND	1	0.30	1.0
Chloromethane	ND	1	0.50	1.7
2-Chlorotoluene	ND	1	0.25	0.86
4-Chlorotoluene	ND	1	0.25	0.88
Dibromochloromethane	ND	1	0.23	0.80
1,2-Dibromo-3-Chloropropane	ND	1	0.17	0.60
1,2-Dibromoethane	ND	1	0.22	0.76
Dibromomethane	ND	1	0.21	0.73
1,2-Dichlorobenzene	ND	1	0.26	0.89
1,3-Dichlorobenzene	ND	1	0.29	0.99
1,4-Dichlorobenzene	ND	1	0.30	1.0
Dichlorodifluoromethane	ND	1	0.28	0.96
1,1-Dichloroethane	ND	1	0.28	0.97
1,2-Dichloroethane	ND	1	0.27	0.92
1,1-Dichloroethene	ND	1	0.27	0.93
cis-1,2-Dichloroethene	ND	1	0.27	0.92
trans-1,2-Dichloroethene	ND	1	0.29	1.0
1,2-Dichloropropane	ND	1	0.28	0.95
1,3-Dichloropropane	ND	1	0.59	2.0
2,2-Dichloropropane	ND	1	0.73	2.5
1,1-Dichloropropene	ND	1	0.24	0.82
cis-1,3-Dichloropropene	ND	1	0.27	0.92
trans-1,3-Dichloropropene	ND	1	0.28	0.95
Ethylbenzene	ND	1	0.26	0.88
Hexachlorobutadiene	ND	1	0.38	1.3
Isopropylbenzene	ND	1	0.25	0.87
p-Isopropyltoluene	ND	1	0.56	1.9
Methylene chloride	ND	1	0.27	0.94
Naphthalene	ND	1	0.25	0.86
n-Propylbenzene	ND	1	0.27	0.93
ortho-Xylene/Styrene	ND	1	0.47	1.6
1,1,1,2-Tetrachloroethane	ND	1	0.29	1.0
1,1,2,2-Tetrachloroethane	ND	1	0.23	0.79
Tetrachloroethene	ND	1	0.25	0.86
Toluene	1.2	1	0.24	0.82
1,2,3-Trichlorobenzene	ND	1	0.38	1.3
1,2,4-Trichlorobenzene	ND	1	0.30	1.1
1,1,1-Trichloroethane	ND	1	0.32	1.1
1,1,2-Trichloroethane	ND	1	0.27	0.94
Trichloroethene	ND	1	0.23	0.79
Trichlorofluoromethane	ND	1	0.32	1.1
1,2,3-Trichloropropane	ND	1	0.46	1.6
1,2,4-Trimethylbenzene	ND	1	0.27	0.92

ANALYTICAL RESULTS: VOC's by EPA 8021 - Water (CXB)

Customer: GHD, Inc
Project Description: Brown's Auto
Northern Lake Service Project Number: 52109

Analyte Name	221189 Trip Blank ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
1,3,5-Trimethylbenzene	ND	1	0.27	0.93
Vinyl chloride	ND	1	0.19	0.66
meta,para Xylene	ND	1	0.50	1.7
MTBE	ND	1	0.42	1.5
Isopropylether	ND	1	0.20	0.70

Surrogate Recovery on 2-Bromochlorobenzene-PID = 104 %
Surrogate Recovery on 2-Bromochlorobenzene-HECD = 103 %

NO. 101894

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Underground Storage Tank Projects

Wisconsin Lab Cert. No. 721026460

RETURN THIS FORM WITH SAMPLES.

CLIENT	PROJECT TITLE	
Browns of Two Rivers c/o GHD, Inc.	Browns of Two Rivers	
ADDRESS	PROJECT NO.	QUOTATION NO.
820 W. Main St.		9886d
CITY STATE ZIP	CONTACT	PHONE
Chilton, WI 53014	Tim Ost	(920) 849-9797

ENTER OTHER PARAMETERS-CHECK BELOW IF FIELD FILTERED

NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE TYPE	GRO	PVOC	DRO	VOC 8021	PAH	Naphthalene	Sulfates	Alkalinity	Ammonia	Total Kjeldahl Nitrate+Nitrite	
[illegible]	BA-MW7	2/14/00	11:00	GW		X				X	X	X	X	X	
[illegible]	BA-MW8		12:30						X	X					
[illegible]	BA-MW9		11:30												
[illegible]	BA-MW10		12:00												
[illegible]	BA-MW11		1:30						X	X					
[illegible]	Trip Blank					X									

COLLECTED BY (signatures)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 2/14/00 3:00
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
DISPATCHED BY (signature)	METHOD OF TRANSPORT	DATE/TIME
	Thorn's Express	2/15/00

REPORT TO
GHD, Inc.
820 W. Main St.
Chilton, WI
53014

RECEIVED AT NLS BY (signature)	DATE/TIME	CONDITION	TEMP.
		cool	

SEAL INTACT? ☐ YES N/A ☐ NO SEAL #

REMARKS & OTHER INFORMATION

SAMPLE TYPE: GW=groundwater, WW=waste water, DW=drinking water, S=soil

INVOICE TO
Same

IMPORTANT:
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE SHIPPER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICE TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

CUSTOMER COPY

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

NLS PROJECT# 52453

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's of Two Rivers

Sample ID: BA-MW7 **NLS#: 222588**
Ref. Line 1 of COC 101804 Description: BA-MW7
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	400	mg/L	12	41	EPA 310.1	01/20/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.069	mg/L	0.019	0.062	EPA 350.1	01/24/00	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	13	mg/L	0.42	1.5	EPA 353.2	01/26/00	721026460
Nitrogen, Kjeldahl as N (unfiltered)	0.70	mg/L	0.10	0.33	EPA 351.2	02/01/00	721026460
Sulfate, as SO4 (unfiltered)	82	mg/L	5.0	5.0	SW846 9056	01/20/00	721026460
PVOCs (water) by EPA 8020	see attached				SW846 8020	01/24/00	721026460

Sample ID: BA-MW8 **NLS#: 222589**
Ref. Line 2 of COC 101804 Description: BA-MW8
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	480	mg/L	12	41	EPA 310.1	01/20/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.63	mg/L	0.019	0.062	EPA 350.1	01/24/00	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	ND	mg/L	0.042	0.15	EPA 353.2	01/26/00	721026460
Nitrogen, Kjeldahl as N (unfiltered)	1.5	mg/L	0.10	0.33	EPA 351.2	02/01/00	721026460
Sulfate, as SO4 (unfiltered)	5.7	mg/L	5.0	5.0	SW846 9056	01/20/00	721026460
PVOCs (water) by SW846 8020 + Naphthalene	see attached				SW846 8020	01/24/00	721026460
	Additional Comments: Sample matrix interfered with the internal standard causing results to have a low bias. Unidentified hydrocarbons present.						
PAHs (water) by EPA 8310	see attached				SW846 8310	02/07/00	721026460
	Additional Comments: Present in the extraction blank was anthracene (0.061ug/L), fluoranthene (0.051ug/L) and pyrene (0.076ug/L). Check standard recovery was outside QC limits for benzo (a) pyrene.						

Sample# 222589 results continued on next page.

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

 NLS PROJECT# 52453
NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's of Two Rivers

Sample ID: BA-MW8 NLS#: 222589 (continued)
Ref. Line 2 of COC 101804 Description: BA-MW8
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Organics Extraction for PAHs	yes				SW846 3500	01/21/00	721026460

Sample ID: BA-MW9 NLS#: 222590
Ref. Line 3 of COC 101804 Description: BA-MW9
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	350	mg/L	12	41	EPA 310.1	01/20/00	721026460
Nitrogen, ammonia as N (unfiltered)	< 0.055 >	mg/L	0.019	0.062	EPA 350.1	01/24/00	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	36	mg/L	0.85	2.9	EPA 353.2	01/26/00	721026460
Nitrogen, Kjeldahl as N (unfiltered)	0.66	mg/L	0.10	0.33	EPA 351.2	02/01/00	721026460
Sulfate, as SO4 (unfiltered)	53	mg/L	5.0	5.0	SW846 9056	01/20/00	721026460
PVOCs (water) by EPA 8020	see attached				SW846 8020	01/24/00	721026460

Sample ID: BA-MW10 NLS#: 222591
Ref. Line 4 of COC 101804 Description: BA-MW10
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	300	mg/L	12	41	EPA 310.1	01/20/00	721026460
Nitrogen, ammonia as N (unfiltered)	ND	mg/L	0.019	0.062	EPA 350.1	01/24/00	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	11	mg/L	0.42	1.5	EPA 353.2	01/26/00	721026460
Nitrogen, Kjeldahl as N (unfiltered)	0.45	mg/L	0.10	0.33	EPA 351.2	02/01/00	721026460
Sulfate, as SO4 (unfiltered)	42	mg/L	5.0	5.0	SW846 9056	01/20/00	721026460
PVOCs (water) by EPA 8020	see attached				SW846 8020	01/24/00	721026460

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Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
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WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

NLS PROJECT# 52453

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's of Two Rivers

Sample ID: BA-MW11 **NLS#: 222592**
Ref. Line 5 of COC 101804 Description: BA-MW11
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
Alkalinity, tot. as CaCO3 (unfiltered)	420	mg/L	12	41	EPA 310.1	01/20/00	721026460
Nitrogen, ammonia as N (unfiltered)	0.095	mg/L	0.019	0.062	EPA 350.1	01/24/00	721026460
Nitrogen, NO2 + NO3 as N (unfiltered)	ND	mg/L	0.042	0.15	EPA 353.2	01/26/00	721026460
Nitrogen, Kjeldahl as N (unfiltered)	0.70	mg/L	0.10	0.33	EPA 351.2	02/01/00	721026460
Sulfate, as SO4 (unfiltered)	ND	mg/L	5.0	5.0	SW846 9056	01/20/00	721026460
PVOCs (water) by SW846 8020 + Naphthalene	see attached				SW846 8020	01/24/00	721026460
	Additional Comments: Sample matrix interfered with the internal standard causing results to have a low bias. Unidentified hydrocarbons present.						
PAHs (water) by EPA 8310	see attached				SW846 8310	02/07/00	721026460
	Additional Comments: Present in the extraction blank was anthracene (0.061ug/L), fluoranthene (0.051ug/L) and pyrene (0.076ug/L). Check standard recovery was outside QC limits for benzo (a) pyrene.						
Organics Extraction for PAHs	yes				SW846 3500	01/21/00	721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Tel:(715)478-2777 Fax:(715)478-3060

WIS. LAB CERT. NO. 721026460

ANALYTICAL REPORT

NLS PROJECT# 52453

NLS CUST# 60346

Client: GHD, Inc
Attn: Susan Lawrenz
820 W. Main St.
PO Box 69
Chilton, WI 53014

Project Description: Brown's of Two Rivers

Sample ID: Trip Blank **NLS#: 222593**
Ref. Line 6 of COC 101804 Description: Trip Blank
Collected: 01/18/00 Received: 01/19/00 Reported: 02/08/00

Parameter	Result	Units	LOD	LOQ	Method	Analyzed	Lab
PVOCs (water) by SW846 8020 + Naphthalene	see attached				SW846 8020	01/24/00	721026460

Values in brackets represent results greater than the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOD = Limit of Detection
DWB = Dry Weight Basis
LOQ = Limit of Quantitation
NA = Not Applicable
ND = Not Detected
%DWB = (mg/kg DWB)/10000

Steven R. Cerpi
Reviewed by:

Authorized by:
R. T. Krueger
Laboratory Manager

ANALYTICAL RESULTS: WISCONSIN DNR MODIFIED GRO

Customer: GHD, Inc
Project Description: Browns of Two Rivers
Northern Lake Service Project Number: 52453

Analyte Name	222588 BA-MW7 ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	2.9	1	0.47	1.6
Benzene	ND	1	0.50	1.7
Toluene	< 0.71 >	1	0.52	1.8
Ethylbenzene	ND	1	0.54	1.9
M/P-xylene	< 2.8 >	1	1.0	3.6
O-xylene	ND	1	0.50	1.7
1,3,5-Trimethylbenzene	ND	1	0.52	1.8
1,2,4-Trimethylbenzene	ND	1	0.55	1.9

Surrogate Recovery on 1,2,3-Trichlorobenzene = 85.0 %

Analyte Name	222590 BA-MW9 ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	ND	1	0.47	1.6
Benzene	ND	1	0.50	1.7
Toluene	< 0.77 >	1	0.52	1.8
Ethylbenzene	ND	1	0.54	1.9
M/P-xylene	< 2.8 >	1	1.0	3.6
O-xylene	ND	1	0.50	1.7
1,3,5-Trimethylbenzene	ND	1	0.52	1.8
1,2,4-Trimethylbenzene	ND	1	0.55	1.9

Surrogate Recovery on 1,2,3-Trichlorobenzene = 86.0 %

Analyte Name	222591 BA-MW10 ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	ND	1	0.47	1.6
Benzene	ND	1	0.50	1.7
Toluene	< 1.1 >	1	0.52	1.8
Ethylbenzene	ND	1	0.54	1.9
M/P-xylene	< 3.2 >	1	1.0	3.6
O-xylene	ND	1	0.50	1.7
1,3,5-Trimethylbenzene	ND	1	0.52	1.8
1,2,4-Trimethylbenzene	ND	1	0.55	1.9

Surrogate Recovery on 1,2,3-Trichlorobenzene = 84.0 %

ANALYTICAL RESULTS: WISCONSIN DNR MODIFIED GRO METHOD

Customer: GHD, Inc
Project Description: Browns of Two Rivers
Northern Lake Service Project Number: 52453

Analyte Name	222589 BA-MW8 ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	ND	100	47	160
Benzene	< 130 >	100	50	170
Toluene	970	100	52	180
Ethylbenzene	210	100	55	190
M/P-xylene	800	100	100	360
O-xylene	200	100	50	170
1,3,5-Trimethylbenzene	< 110 >	100	52	180
1,2,4-Trimethylbenzene	240	100	55	190
Naphthalene	190	100	52	180

Surrogate Recovery on 1,2,3-Trichlorobenzene = 78.0 %

Analyte Name	222592 BA-MW11 ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	ND	50	24	81
Benzene	110	50	25	86
Toluene	480	50	26	90
Ethylbenzene	360	50	27	94
M/P-xylene	1200	50	51	180
O-xylene	520	50	25	86
1,3,5-Trimethylbenzene	100	50	26	89
1,2,4-Trimethylbenzene	290	50	28	95
Naphthalene	180	50	26	90

Surrogate Recovery on 1,2,3-Trichlorobenzene = 70.0 %

Analyte Name	222593 Trip Blank ug/l	DILUTION FACTOR	LOD ug/l	LOQ ug/l
MTBE	ND	1	0.47	1.6
Benzene	ND	1	0.50	1.7
Toluene	< 1.5 >	1	0.52	1.8
Ethylbenzene	ND	1	0.55	1.9
M/P-xylene	< 3.2 >	1	1.0	3.6
O-xylene	ND	1	0.50	1.7
1,3,5-Trimethylbenzene	ND	1	0.52	1.8
1,2,4-Trimethylbenzene	ND	1	0.55	1.9
Naphthalene	ND	1	0.52	1.8

Surrogate Recovery on 1,2,3-Trichlorobenzene = 84.0 %

ANALYTICAL RESULTS: Polynuclear Aromatic Hydrocarbons by EPA 8310 (w)

Customer: GHD, Inc
Project Description: Browns of Two Rivers
Northern Lake Service Project Number: 52453

Analyte Name	222589 BA-MW8 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Acenaphthene	4.7	25	0.65	2.1
Acenaphthylene	ND	25	1.8	5.8
Anthracene	< 0.049 >	1	0.023	0.074
Benzo (a) anthracene	< 0.051 >	1	0.042	0.14
Benzo (a) pyrene	0.13	1	0.016	0.053
Benzo (b) fluoranthene	ND	1	0.023	0.076
Benzo (g,h,i) perylene	0.25	1	0.031	0.10
Benzo (k) fluoranthene	< 0.041 >	1	0.028	0.092
Chrysene	0.095	1	0.023	0.076
Dibenzo (a,h) anthracene	0.11	1	0.022	0.069
Fluoranthene	0.19	1	0.034	0.11
Fluorene	< 0.96 >	25	0.78	2.6
Indeno (1,2,3-cd) pyrene	< 0.20 >	1	0.090	0.28
Methyl-1-Naphthalene	32	25	2.4	7.7
Methyl-2-Naphthalene	24	25	1.6	5.5
Naphthalene	110	25	0.84	2.8
Phenanthrene	< 0.20 >	1	0.066	0.22
Pyrene	0.28	1	0.025	0.079

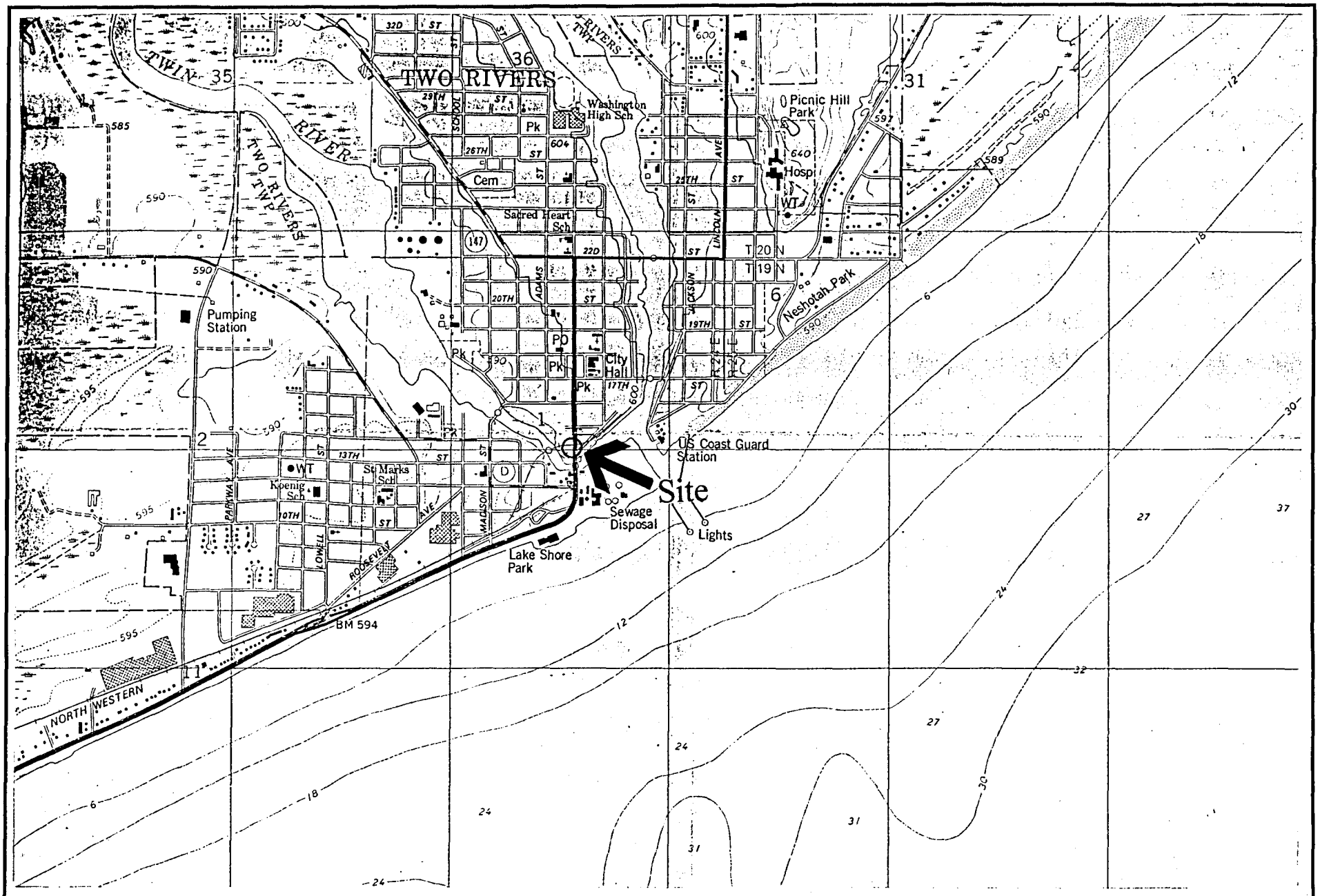
Surrogate Recovery on P-Terphenyl = 87.0 %

Analyte Name	222592 BA-MW11 ug/L	DILUTION FACTOR	LOD ug/L	LOQ ug/L
Acenaphthene	7.4	25	0.65	2.1
Acenaphthylene	< 3.1 >	25	1.8	5.8
Anthracene	< 0.038 >	1	0.023	0.074
Benzo (a) anthracene	ND	1	0.042	0.14
Benzo (a) pyrene	ND	1	0.016	0.053
Benzo (b) fluoranthene	ND	1	0.023	0.076
Benzo (g,h,i) perylene	ND	1	0.031	0.10
Benzo (k) fluoranthene	ND	1	0.028	0.092
Chrysene	ND	1	0.023	0.076
Dibenzo (a,h) anthracene	ND	1	0.022	0.069
Fluoranthene	< 0.065 >	1	0.034	0.11
Fluorene	< 1.4 >	25	0.78	2.6
Indeno (1,2,3-cd) pyrene	ND	1	0.090	0.28
Methyl-1-Naphthalene	59	25	2.4	7.7
Methyl-2-Naphthalene	17	25	1.6	5.5
Naphthalene	210	50	1.7	5.6
Phenanthrene	< 0.087 >	1	0.066	0.22
Pyrene	< 0.077 >	1	0.025	0.079

Surrogate Recovery on P-Terphenyl = 101 %

APPENDIX D

FIGURES



GHD Inc. Environmental Services

BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 1
SITE LOCATION MAP

Prepared By: TIM OTT

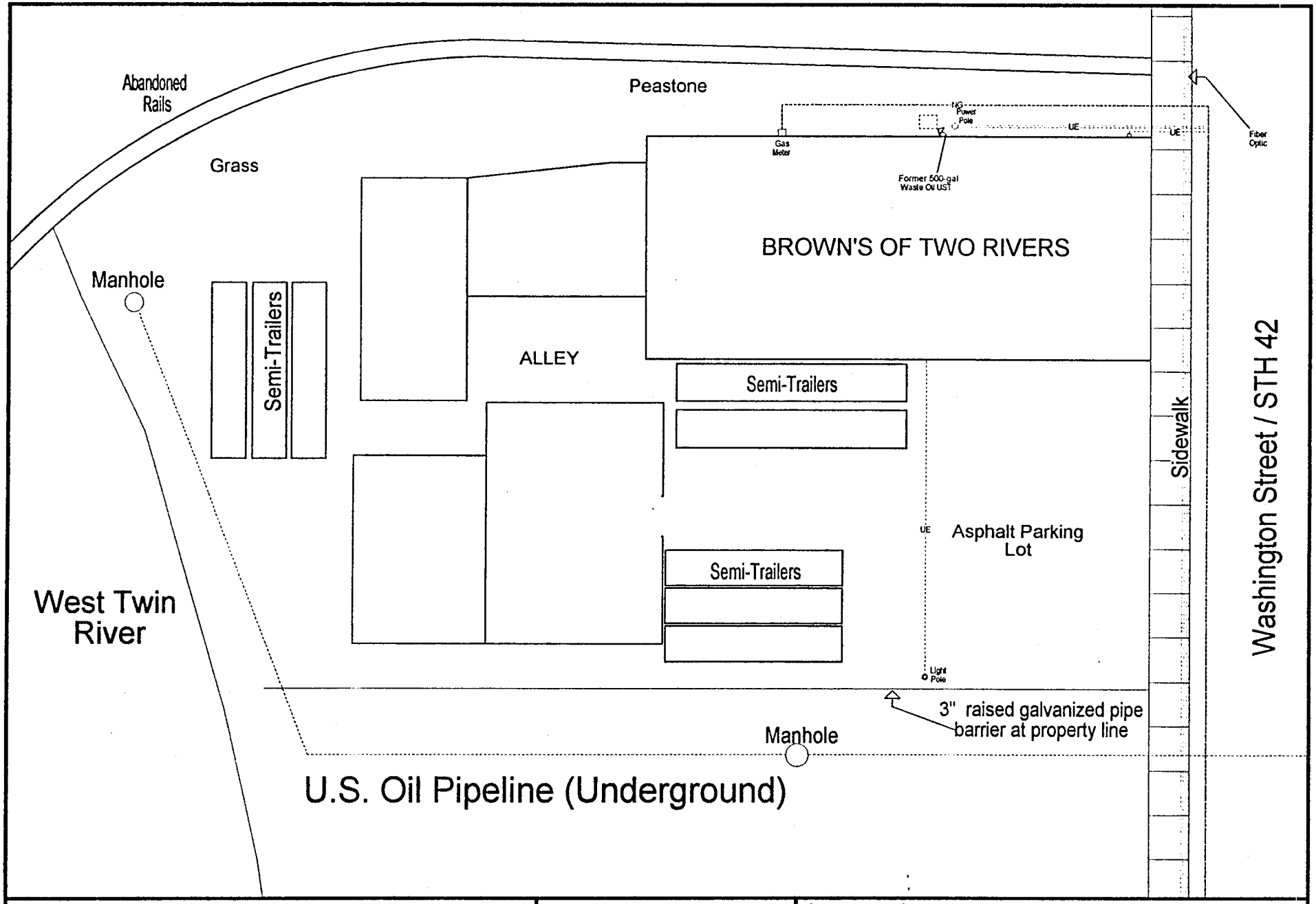
Legend:

Map taken from the Two Rivers, Wisconsin
7.5 Minute USGS Topographic Map - 1978.

N

Date: 08/30/99

Scale: 1" = 2,000'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 2
SITE LAYOUT MAP

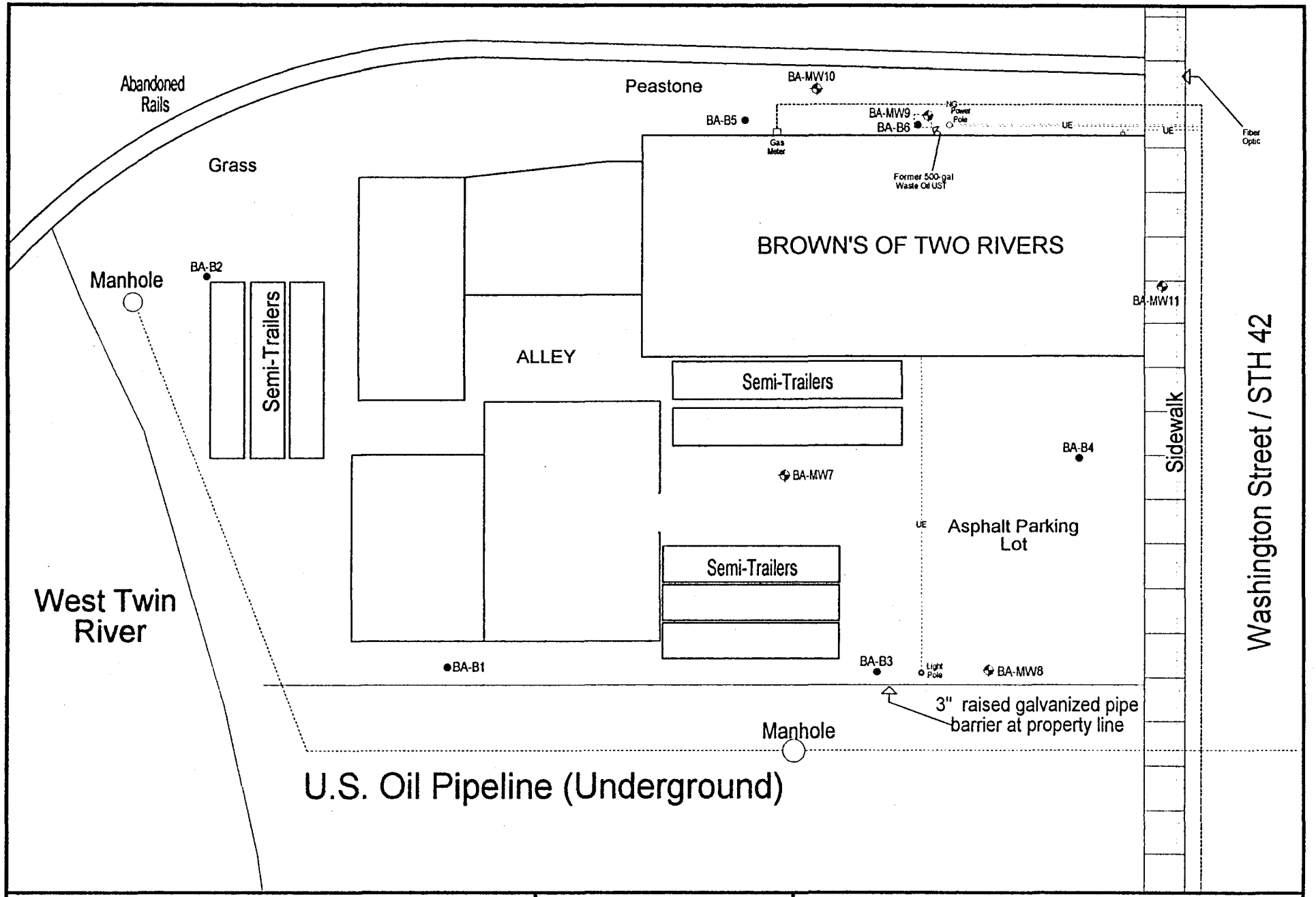
Prepared By: TIM OTT

Legend:

N

Date: 01/04/00

Scale: 1" = 30'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 3
SOIL BORING & MONITORING WELL LOCATIONS MAP

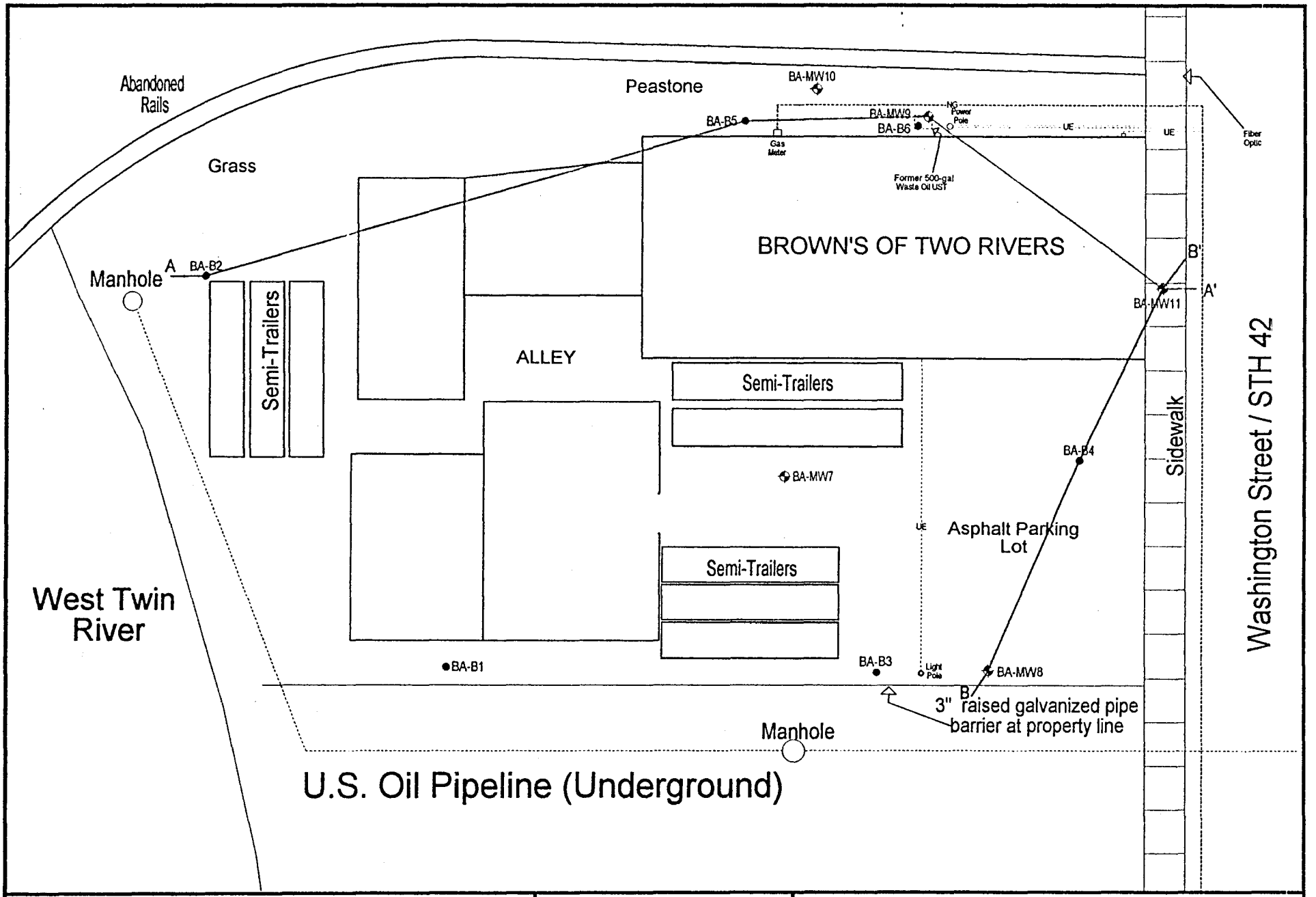
Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 4
GEOLOGIC CROSS-SECTION
LOCATOR MAP

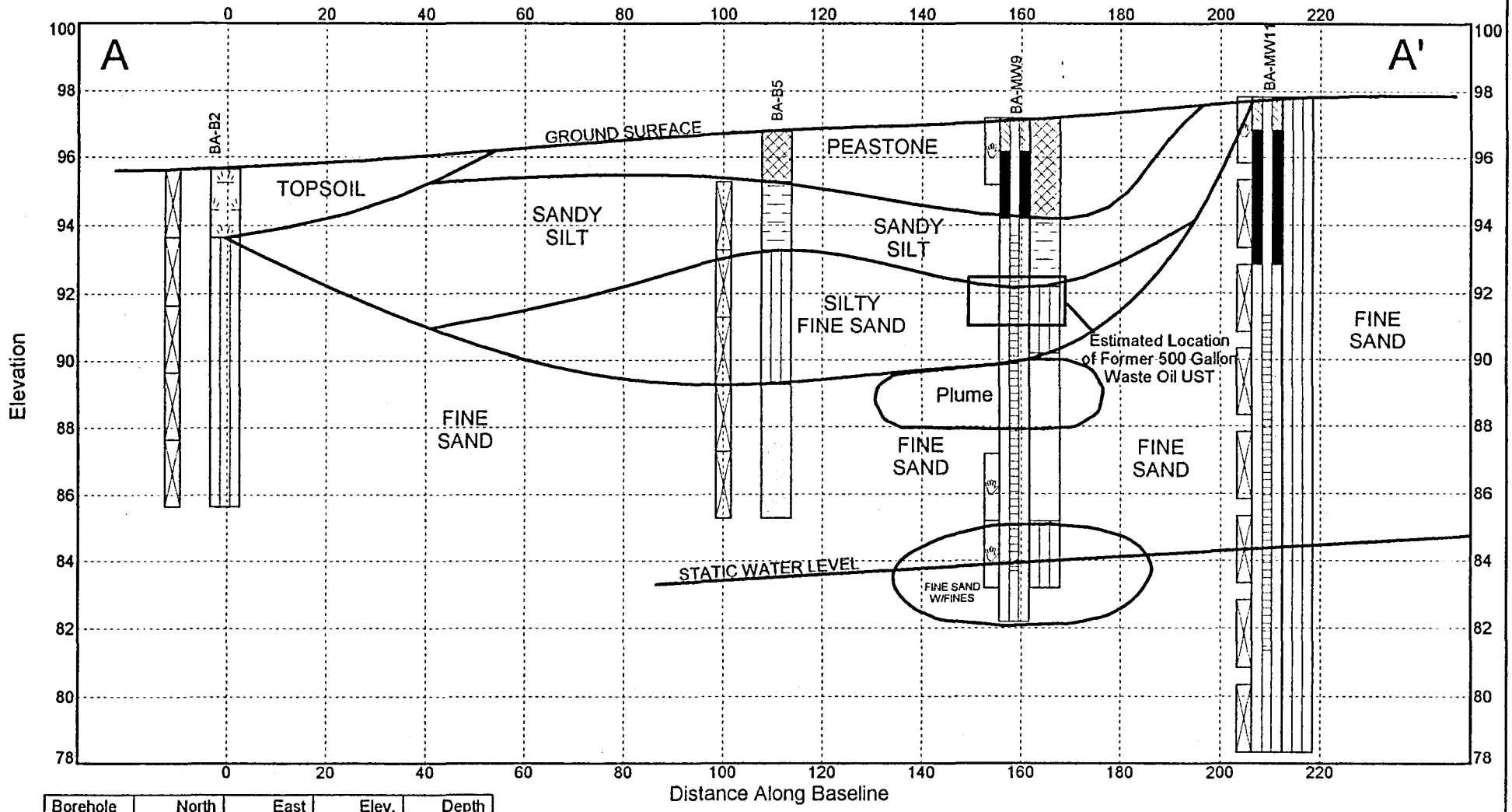
Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'



Borehole	North	East	Elev.	Depth
BA-B2	-46	-221	95.7	10.0
BA-B5	-11	-111	96.8	11.5
BA-MW11	-48	-5	97.8	19.5
BA-MW9	-10	-57	97.2	14.0

DISTANCES:

Beginning	0
Ending	220

VIEWING ANGLES (degrees):

Horizontal	0.0
Vertical	0.0

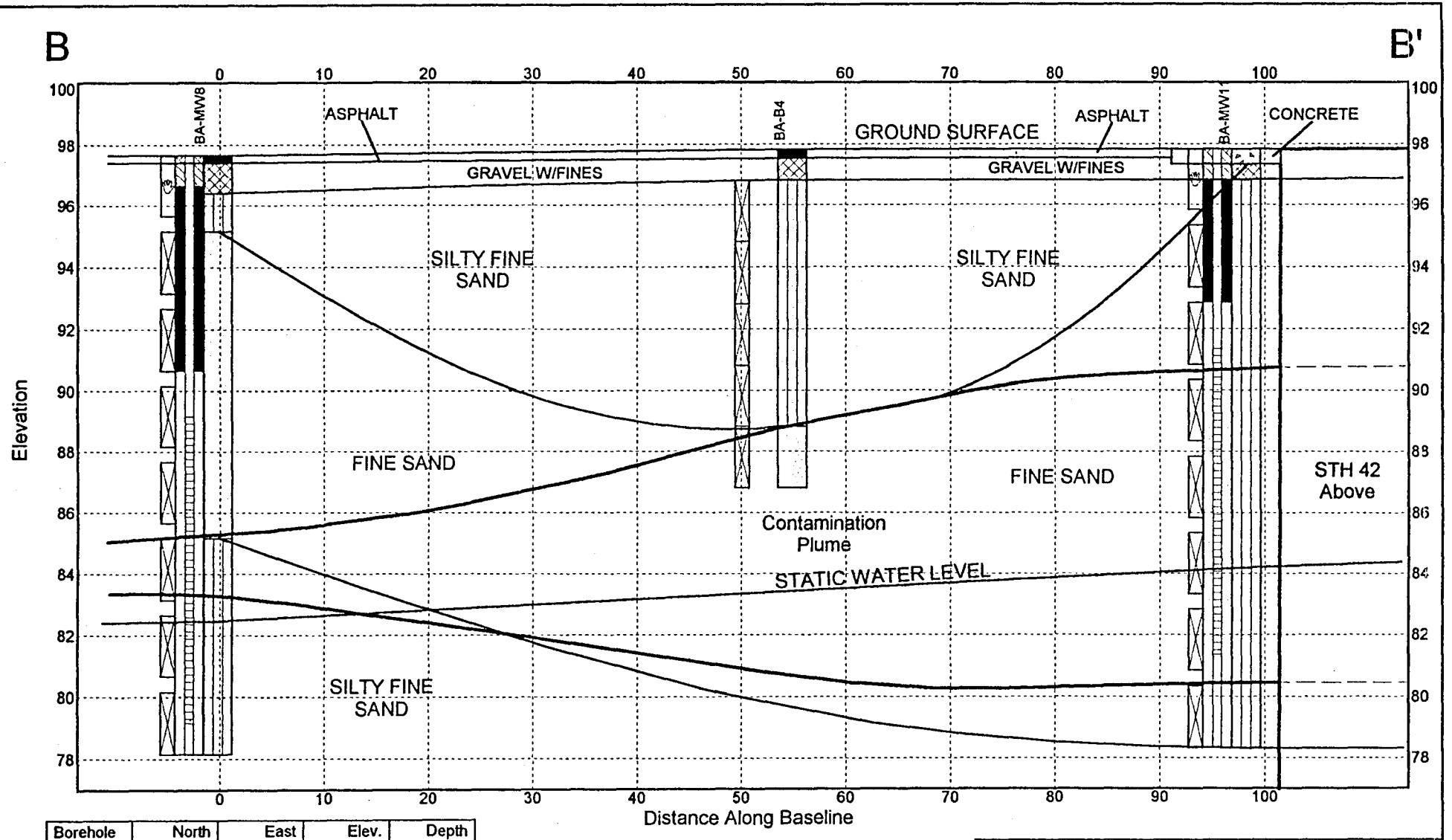
Position	North	East
Left, Front	-33	-221
Right, Front	-25	-2
Left, Back	-33	-221
Right, Back	-25	-2

GEOLOGIC CROSS SECTION A-A'

Brown's of Two Rivers

PROJECT #	DATE	FIGURE
	1/26/2000	5

FAGWGN01 AST.GPJ FAGWGN01.GDT 1/26/00



Borehole	North	East	Elev.	Depth
BA-B4	-87	-24	97.8	11.0
BA-MW11	-48	-5	97.8	19.5
BA-MW8	-135	-51	97.7	19.5

DISTANCES:

Beginning	0
Ending	100

VIEWING ANGLES (degrees):

Horizontal	0.0
Vertical	0.0

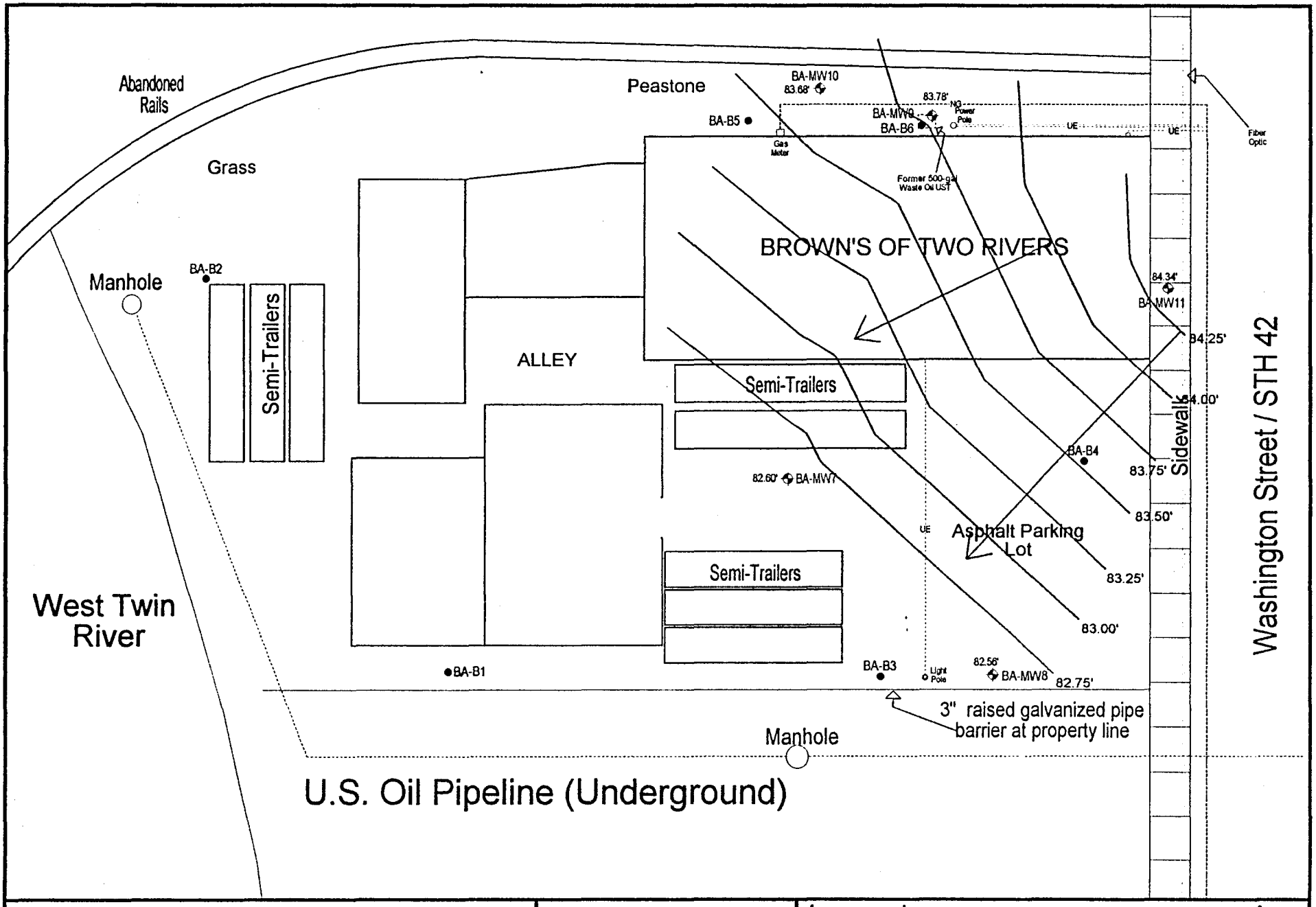
Position	North	East
Left, Front	-135	-51
Right, Front	-47	-4
Left, Back	-135	-51
Right, Back	-47	-4

GEOLOGIC CROSS SECTION B-B'

Brown's of Two Rivers

PROJECT #	DATE	FIGURE
	1/27/2000	6

FAGWGN01 AST.GPJ FAGWGN01.GDT 1/27/00



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 7
GROUNDWATER FLOW MAP
JANUARY 2000

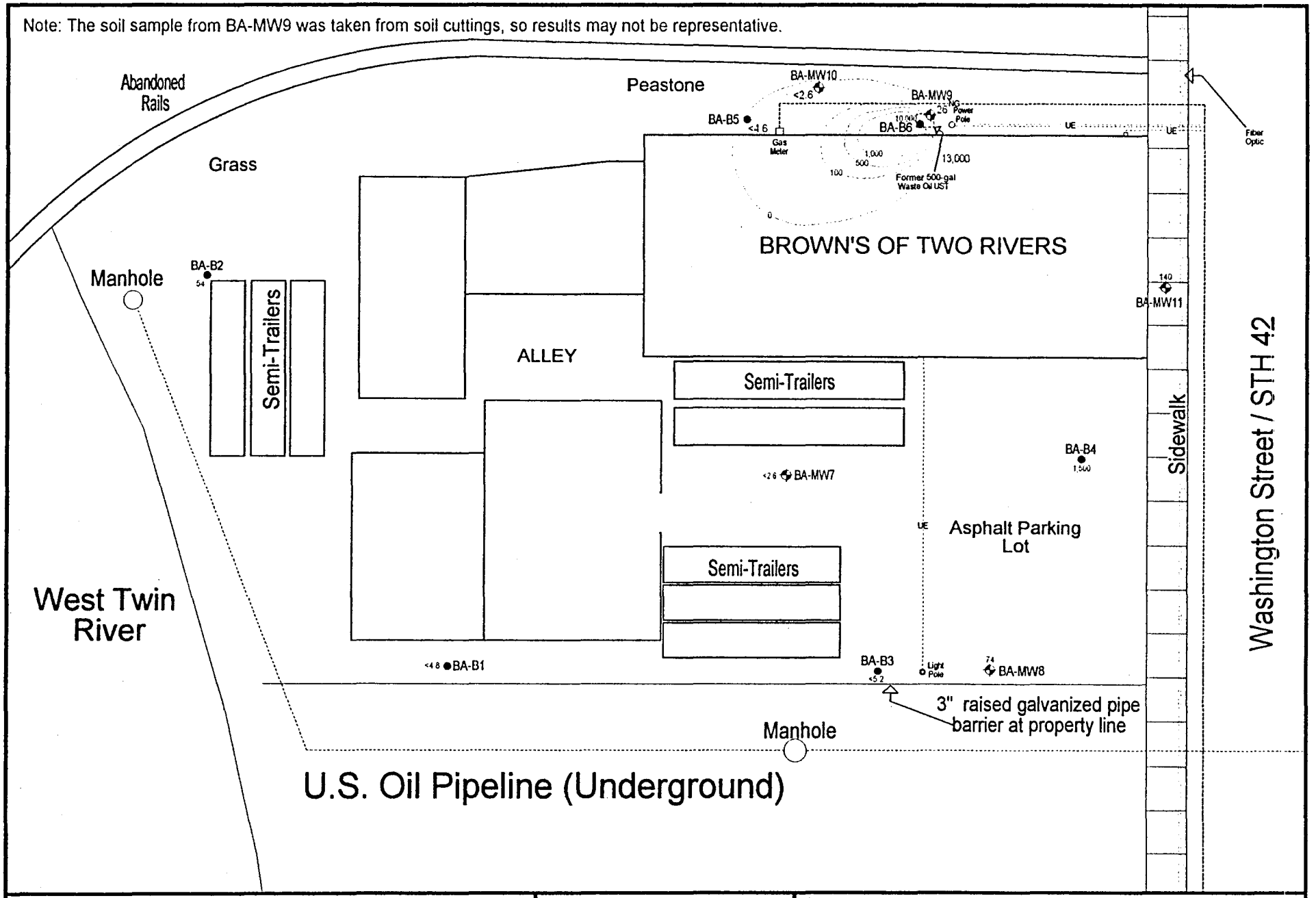
Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 8
ISOCONCENTRATION MAP
FOR DRO IN SOIL
DECEMBER 1999

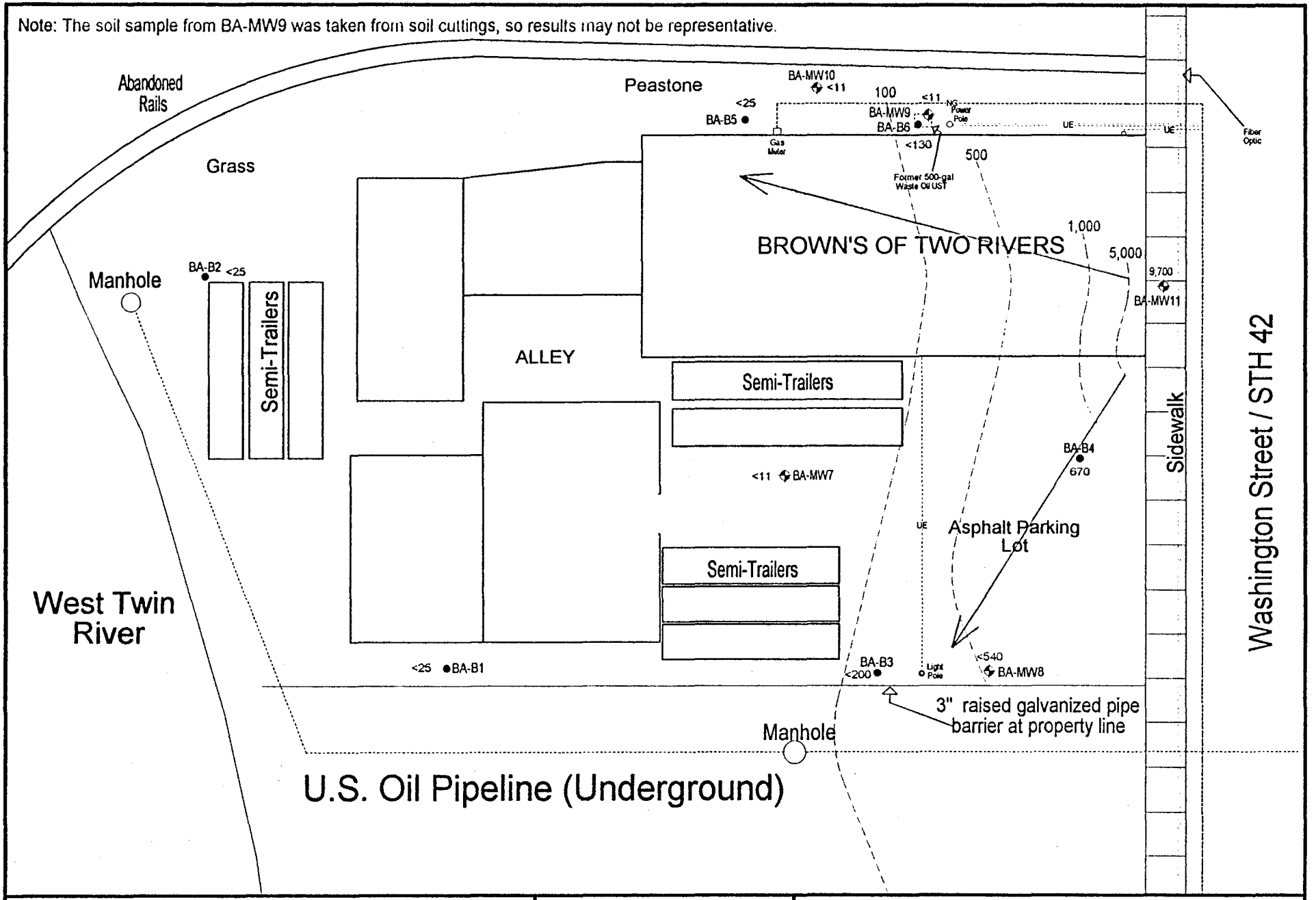
Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 9
ISOCONCENTRATION MAP
FOR MTBE IN SOIL
DECEMBER 1999

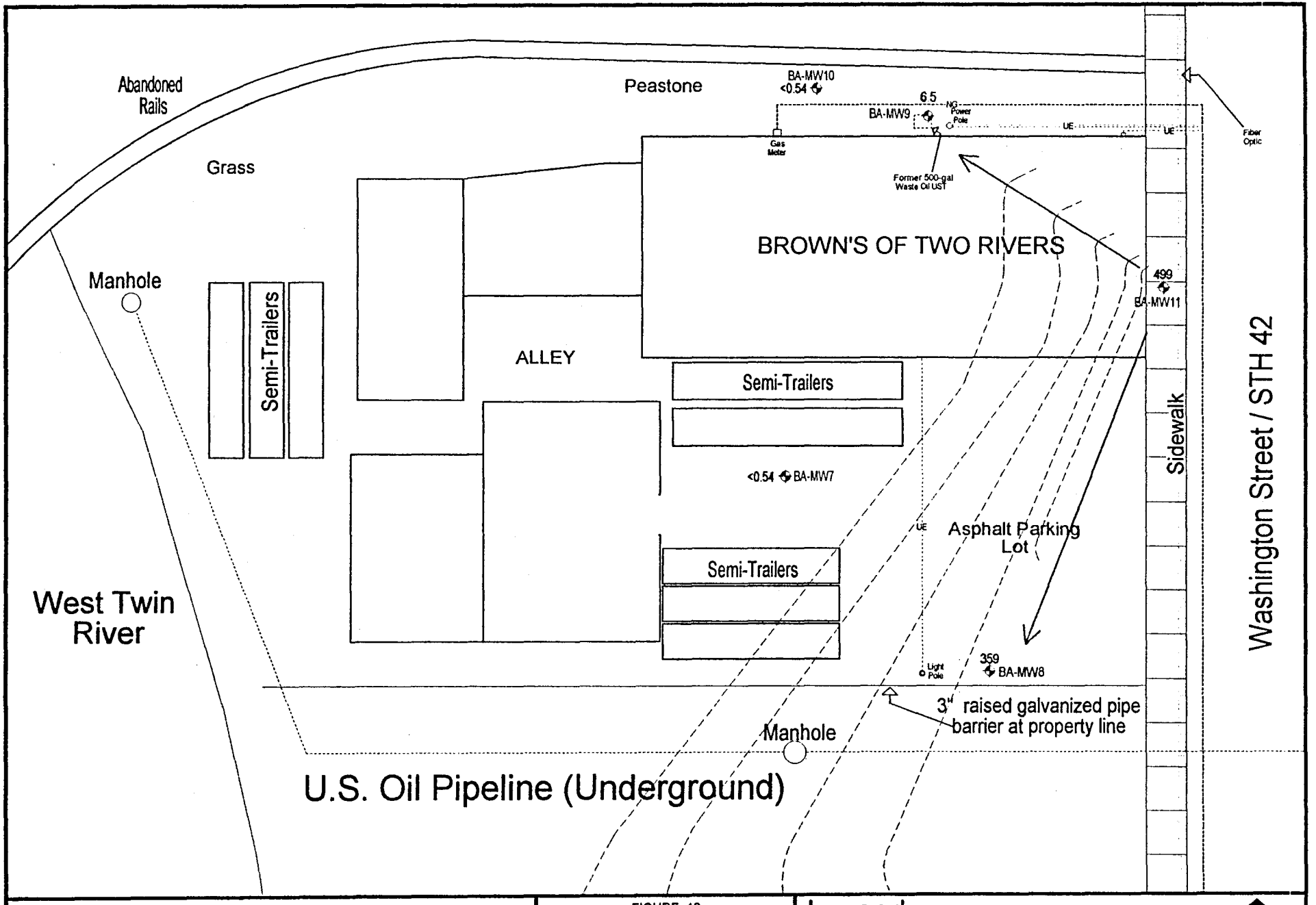
Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 10
ISOCONCENTRATION MAP
FOR TRIMETHYLBENZENES
IN GROUNDWATER
DECEMBER 1999

Prepared By: TIM OTT

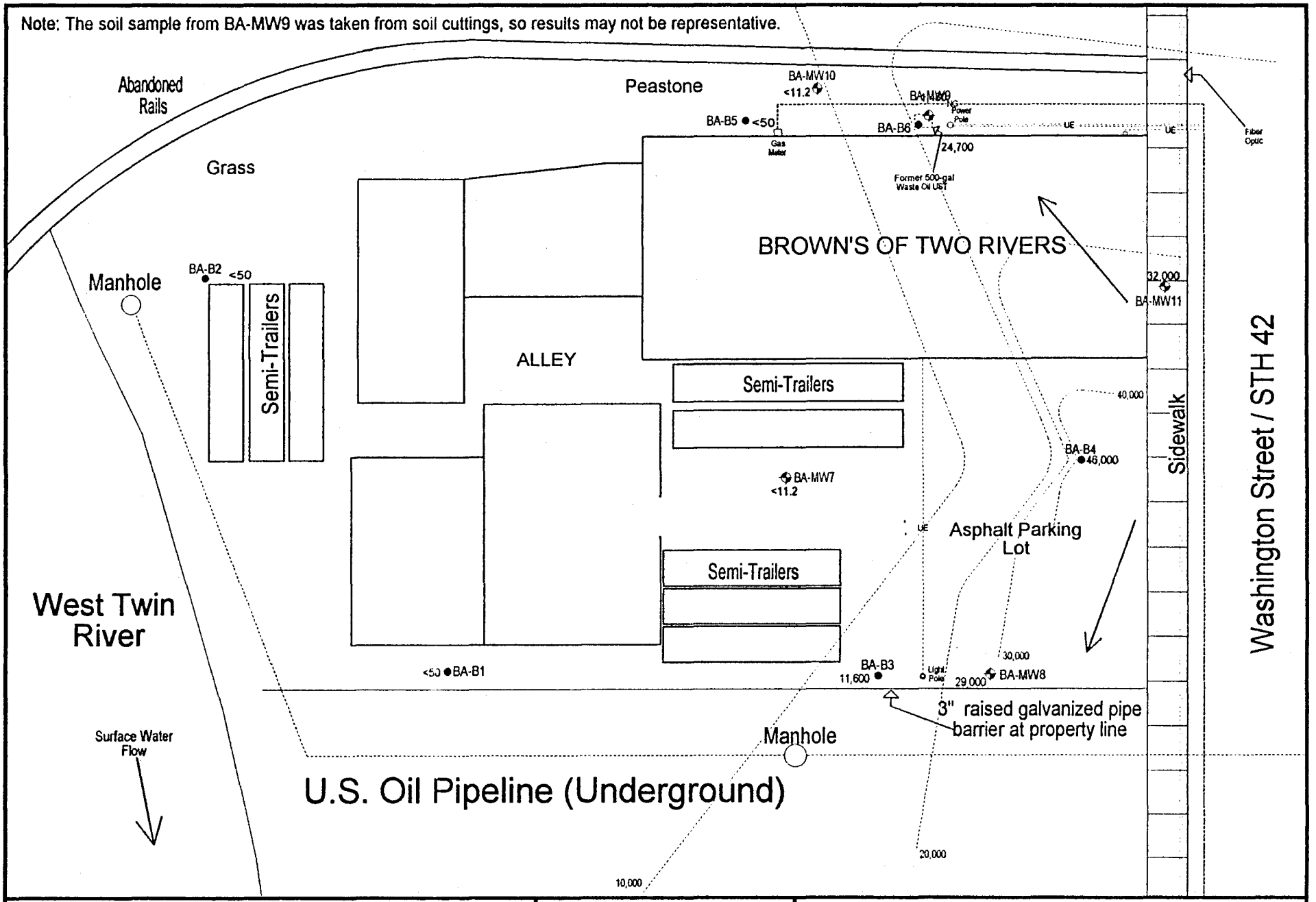
Legend:

MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 20'



GHD Inc. Environmental Services
BROWN'S OF TWO RIVERS
1400 WASHINGTON STREET
TWO RIVERS, WI 54241

FIGURE 11
ISOCONCENTRATION MAP
FOR TRIMETHYLBENZENES IN SOIL
DECEMBER 1999

Prepared By: TIM OTT

Legend:
- BORING
- MONITORING WELL

N

Date: 01/04/00

Scale: 1" = 30'

APPENDIX E

TABLES

Table 1
Capacity and Content of
Former Underground Storage Tank
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

Contents	Capacity
Waste Oil	500 Gallons

Table 2
Soil Boring and Monitoring Well Location Descriptions
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR – February 2000

Boring/Well Name	Total Depth (Feet)	Screened Interval (Feet)	Location Description
BA-B1	11		5.5' south of & 22' east of southwest corner of the southwest bldg.
BA-B2	10		99' west & 32' south of the northwest corner of the main bldg.
BA-B3	11		67' west & 71' south of southeast corner of main bldg.
BA-B4	11		15' west and 23' south of southeast corner of main bldg.
BA-B5	11.5		3.5' north & 23.5' east of northwest corner of main bldg.
BA-B6	9		2.5' north & 75' east of northwest corner of main bldg.
BA-MW7	19.5	9-19	26' south & 71' west of southeast corner of main bldg.
BA-MW8	19.5	9-19	71' south & 42' west of southeast corner of main bldg.
BA-MW9	15	4-14	4.25' north & 49' west of northeast corner of main bldg.
BA-MW10	17.5	7-17	82' east & 10.6' north of northwest corner of main bldg.
BA-MW11	19.5	7-17	16' north & 4' east of southeast corner of main bldg.

Table 3
Water Table Elevations
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

BA-MW7 Water Levels

Date	Depth to Water	TOC Elevation	TOS Elevation	Grade	Water Elevation	Feet Below Grade	Water Column Height
12/15/1999	13.21	96.04	87.48	96.51	82.83	13.68	5.85
1/18/2000	13.44	96.04	87.48	96.51	82.60	13.91	5.62

BA-MW8 Water Levels

Date	Depth to Water	TOC Elevation	TOS Elevation	Grade	Water Elevation	Feet Below Grade	Water Column Height
12/15/1999	14.34	97.14	89.00	97.66	82.80	14.86	4.30
1/18/2000	14.58	97.14	89.00	97.66	82.56	15.10	4.06

BA-MW9 Water Levels

Date	Depth to Water	TOC Elevation	TOS Elevation	Grade	Water Elevation	Feet Below Grade	Water Column Height
12/15/1999	12.49	96.51	92.65	97.19	84.02	13.17	1.87
1/18/2000	12.73	96.51	92.65	97.19	83.78	13.41	1.63

BA-MW10 Water Levels

Date	Depth to Water	TOC Elevation	TOS Elevation	Grade	Water Elevation	Feet Below Grade	Water Column Height
12/15/1999	12.38	96.32	91.39	96.84	83.94	12.90	3.05
1/18/2000	12.64	96.32	91.39	96.84	83.68	13.16	2.79

BA-MW11 Water Levels

Date	Depth to Water	TOC Elevation	TOS Elevation	Grade	Water Elevation	Feet Below Grade	Water Column Height
12/15/1999	13.47	97.41	91.33	97.84	83.94	13.90	3.11
1/18/2000	13.07	97.41	91.33	97.84	84.34	13.50	3.51

TOC = Top of Casing
TOS = Top of Screen

Table 4 (Page 1 of 2)
Soil Headspace Data Summary[1,2]
Brown's of Two Rivers – Two Rivers, Wisconsin
SIR – February 2000

Boring Number	Sample Depth (Feet)							
BA-B1	1-3	3-5	5-7	7-9	9-11			
PID (IUs)	0.0	0.0	0.0	0.0	**0.0 X**			
SOIL TYPE	fine sand	fine sand	fine sand	fine sand	fine sand			
BA-B2	0-2	2-4	4-6	6-8	8-10			
PID (IUs)	0.0	0.0	0.0	0.0	**0.0 X**			
SOIL TYPE	silty fine sand	silty fine sand	silty fine sand	silty fine sand	silty fine sand			
BA-B3	1-3	3-5	5-7	7-9	9-11			
PID (IUs)	0.0	0.0	0.0	0.0	**402 X**			
SOIL TYPE	silty fine sand	fine sand	fine sand	fine sand	fine sand			
BA-B4	1-3	3-5	5-7	7-9	9-11			
PID (IUs)	105	10.7	87	101	**1,620+ X**			
SOIL TYPE	silty fine sand	fine sand	fine sand	fine sand	fine sand			
BA-B5	1.5-3.5	3.5-5.5	5.5-7.5	7.5-9.5	9.5-11.5			
PID (IUs)	0.0	0.0	0.0	0.0	**0.0 X**			
SOIL TYPE	red clay	silty fine sand	silty fine sand	fine sand	fine sand			
BA-B6	1-3	3-5	5-7	7-9				
PID (IUs)	**0.0 X**	0.0	0.0	**68.7 X**				
SOIL TYPE	peastone	sandy silt	silty fine sand	fine sand				
BA-MW7	0-2	2.5-4.5	5-7	7.5-9.5	10-12	12.5-14.5	15-17	
PID (IUs)	**0.0 X**	0.0	9.8	0.0	0.0	**0.0 X**	0.0	
SOIL TYPE	silty fine sand	fine sand	fine sand	fine sand	fine sand	silty fine sand	silty fine sand	
BA-MW8	0-2	2.5-4.5	5-7	7.5-9.5	10-12	12.5-14.5	15-17	17.5-19.5
PID (IUs)	**0.0 X**	0.0	0.0	0.0	39.3	**1,187 X**	76.1	**0.0 X**
SOIL TYPE	silty fine sand	fine sand	fine sand	fine sand	fine sand	silty fine sand	silty fine sand	silty fine sand
BA-MW9[3]	0-2	10-12	12-14					
PID (IUs)	**0.0 X**	35.3	**18.8 X**					
SOIL TYPE	silty fine sand	fine sand	silty fine sand					
BA-MW10	0-2	2.5-4.5	5-7	7.5-9.5	10-12	12.5-14.5	15-17	
PID (IUs)	**0.0 X**	0.0	0.0	0.0	**0.0 X**	**0.0 X**	0.0	
SOIL TYPE	silty fine sand	silty fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	
BA-MW11	0-2	2.5-4.5	5-7	7.5-9.5	10-12	12.5-14.5	15-17	17.5-19.5
PID (IUs)	**0.0 X**	0.0	0.0	1,556	1,854	**358 X**	1,593	**0.0 X**
SOIL TYPE	silty fine sand	silty fine sand	silty fine sand	silty fine sand	silty fine sand	silty fine sand	silty fine sand	silty fine sand

1 The photo ionization detector used was a PhotoVac MICROTIP MP-100 with 10.6 eV lamp. Units are roughly equivalent to parts per million within the calibrated range of 0-2000 instrument units (IUs).
2 Headspace results in bold and marked with an "X" are those soil samples sent to the laboratory for analysis.
3 BA-MW9 was blind drilled and not sampled due to proximity to overhead power lines.

Table 5 (Page 1 of 2)
Soil Analytical Results
Brown's of Two Rivers – Two Rivers, Wisconsin
SIR – February 2000

Parameter	NR 720 RCL's	BA-B1 @ 9-11'	BA-B2 @ 8-10'	BA-B3 @ 9-11'	BA-B4 @ 9-11'	BA-B5 @ 9.5-11.5'	BA-B6 @ 7-9'	BA-MW7 @ 0-2'	BA-MW7 @ 12.5-14.5'	BA-MW8 @ 0-2'	BA-MW8 @ 12.5-14.5'
GRO	100	<3.1	<3.2	**360**	**250**	<3.1	**200**				
DRO	100	<4.8	54	<5.2	**1,500**	<4.6	**13,000**		<2.6		74
Cadmium	8							<.21		<0.56>	
Lead	50		<4.3					<3.4		10	
Benzene	5.5	**<25**	**<25**	**<200**	**<500**	**<25**	**<130**		<5.4		**<530>**
Ethylbenzene	2,900	<25	<25	1,000	**14,000**	<25	930		<5.9		**8,000**
Toluene	1,500	<25	<25	<200	**8,600**	<25	200		<5.9		**9,400**
Total TMBs	None	<50	<50	11,600	46,000	<50	24,700		<11.2		29,000
Total Xylenes	4,100	<50	<50	**4,800**	**54,000**	<50	**8,400**		<23		**34,200**
MTBE	None	<25	<25	<200	670	<25	<130		<11		<540
Naphthalene	None			1,200					<10		5,800
n-Butylbenzene	None			<200					<6.5		12,000
sec-Butylbenzene	None			680					<5.5		6,200
tert-Butylbenzene	None			<200					<6.1		1,800
Isopropylbenzene	None			580					<5.2		4,300
p-Isopropyltoluene	None			2,900					<11		1,900
n-Propylbenzene	None			1,200					<5.1		2,900
Isopropylether	None								<6.5		4,700
Total PVOCs	None	<200	<200	18,000	123,770	<200	34,400		<62.4		81,670
Total VOCs	None	<200	<200	24,960	123,770	<200	34,400		<118.3		121,270
Acenaphthylene	None								<2.0		140
Benzo (a) pyrene	None								<1.4		<2.1>
Benzo (b) flouranthene	None								<1.5		<4.8>
Benzo (g,h,I) perylene	None								<1.9		<5.3>
Benzo (k) fluoranthene	None								<1.4		<1.7
Chrysene	None								<1.7		<2.5>
Dibenzo (a,h) anthracene	None								<1.0		<1.0
Fluoranthene	None								<1.6		6.3
Fluorine	None								<1.7		<43
Indeno (1,2,3-cd) pyrene	None								<2.7		<5.8>
Methyl-1-Naphthalene	None								<2.1		580
Methyl-2-Naphthalene	None								<1.8		1,000
Phenanthrene	None								<1.6		24
Pyrene	None								<1.8		<1.8
Total PAHs	None								<24.5		1,818.3

Notes: All concentrations are reported in parts per billion (ppb) unless otherwise noted
VOCs stands for volatile organic compounds; PVOCs stands for petroleum volatile organic compounds
—IB ═ for ■□ylb—═s

MTBE stands for methyl tert-butyl ether
ppm stands for parts per million
R═nds═ sidu■■am—eve■

Table 5 (Page 2 of 2)
Soil Analytical Results
Brown's of Two Rivers – Two Rivers, Wisconsin
SIR – February 2000

Parameter	NR 720 RCL's	BA-MW8 @ 17.5-19.5'	BA-MW9 @ 0-2'	BA-MW9 @ 12-14'	BA-MW10 @ 0-2'	BA-MW10 @ 10-12'	BA-MW10 @ 12.5-14.5'	BA-MW11 @ 0-2'	BA-MW11 @ 10-12'	BA-MW11 @ 12.5-14.5'	BA-MW11 @ 17.5-19.5'
GRO	100										
DRO	100	<2.6		26		<2.6			**140**		<2.6
Cadmium	8		<0.20		<0.22			1.7			
Lead	50		<3.6>		18			<4.0>			
Benzene	5.5	**<24**		<5.4		<5.4			**<270**		**<98**
Ethylbenzene	2,900	<24		<18>		<5.9			**9,700**		740
Toluene	1,500	<18		<19>		<5.9			**5,500**		440
Total TMBs	None	<49		1,480		<11.2			32,000		1,470
Total Xylenes	4,100	203		<23		<23			**34,100**		2,410
MTBE	None	<21		<11		<11			9,700		<85
Naphthalene	None			200		<10			9,700	570	
n-Butylbenzene	None			94		<6.5			12,000		
sec-Butylbenzene	None			160		<5.5			2,700		
tert-Butylbenzene	None			<6.1		<6.1			1,500		
Isopropylbenzene	None			<7.6>		<5.2			4,200		
p-Isopropyltoluene	None			<11		<11			2,100		
n-Propylbenzene	None			560		<5.1			3,200		
Isopropylether	None			<6.5		<6.5			<320		
Total PVOCs	None	339		1,556.4		<62.4			91,270	570	5,243
Total VOCs	None	339		2,601.6		<118.3			126,990	570	5,243
Acenaphthylene	None			<1.5			<2.0			41	
Benzo (a) pyrene	None			<3.5>			<1.4			<1.4	
Benzo (b) flouranthene	None			<1.5			<1.5			<1.5	
Benzo (g,h,I) perylene	None			22			<1.9			<1.9	
Benzo (k) fluoranthene	None			<1.8>			<1.7			<1.7	
Chrysene	None			17			<1.7			<1.7	
Dibenzo (a,h) anthracene	None			11			<1.0			<1.0	
Fluoranthene	None			14			<1.6			<1.6	
Fluorine	None			9.3			<1.7			7.9	
Indeno (1,2,3-cd) pyrene	None			13			<2.7			<2.7	
Methyl-1-Naphthalene	None			110			<2.1			200	
Methyl-2-Naphthalene	None			160			<1.8			420	
Phenanthrene	None			26			<1.6			<2.5>	
Pyrene	None			24			<1.8			<1.8	
Total PAHs				414.6			<24.5			684.9	

Notes: All concentrations are reported in parts per billion (ppb) unless otherwise noted
VOCs stands for volatile organic compounds; PVOCs stands for petroleum volatile organic compounds
TMB stands for trimethylbenzenes
MTBE stands for methyl tert-butyl ether
ppm stands for parts per million
RCL stands for residual contaminant level

Table 6 (Page 1 of 5)
Groundwater Analytical Results
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

PARAMETER	NR 140 ES / PAL Standards	BA-MW7	
		12/15/1999	1/18/2000
DRO (ppm)	none	<0.029	
Cadmium	5 / 0.5	<0.21	
Dissolved Lead (ppm)	15 / 1.5	<1.4	
Benzene	5 / 0.5	<0.24	<0.50
Ethylbenzene	700 / 140	<0.26	<0.54
Toluene	343 / 68.6	<0.28>	<0.71>
Total Trimethylbenzenes	480 / 96	<0.54	<1.07
Total Xylenes	620 / 124	<0.97	<2.8>
Methyl tert-butyl Ether	60 / 12	1.8	2.9
Naphthalene	40 / 8	<0.25	
Isopropylbenzene	none	<0.25	
n-Butylbenzene	none	<0.34	
n-Propylbenzene	none	<0.27	
Isopropylether	none	<0.20	
Total PVOCs	none	4.09	8.52
Total VOCs	none	5.40	8.52
Nitrogen, ammonia as N	9.7 / 1.9 ppm	0.11	0.069
Nitrogen N+N (mg/L)	10 / 2 ppm	9.6	13
Nitrogen, Kjeldahl (mg/L)	none	1.0	0.70
Sulfate (mg/L)	none	67	82
Alkalinity (mg/L)	none	430	400
Iron (mg/L)	none	>10	5
Conductivity (uS)	none	2,000+	3050
pH (SU)	none	9.5	7.3
Dissolved Oxygen (mg/L)	none	3.75	0.57
Acenaphthene	none		
Acenaphthylene	none		
Anthracene	3,000 / 600		
Benzo (a) anthracene	none		
Benzo (a) pyrene	0.2 / 0.02		
Benzo (g,h,i) perylene	none		
Benzo (k) fluoranthene	none		
Chrysene	0.2 / 0.02		
Dibenzo (a,h) anthracene	none		
Fluoranthene	400 / 80		
Fluorene	400 / 80		
Indeno (1,2,3-cd) pyrene	none		
Methyl-1-Naphthalene	none		
Methyl-2-Naphthalene	none		
Phenanthrene	none		
Pyrene	250 / 50		
Total Polynuclear Aromatic Hydrocarbons	none		

Notes:
All results are reported in parts per billion (ppb) unless otherwise noted.
ppm stands for parts per million, GRO stands for Gasoline Range Organics
[redacted] in [redacted] exc[redacted] 14[redacted]nd [redacted] un[redacted]d ex[redacted]NR 1[redacted]ALs.

Table 6 (Page 2 of 5)
Groundwater Analytical Results
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

PARAMETER	NR 140 ES / PAL Standards	BA-MW8	
		12/15/1999	1/18/2000
DRO (ppm)	none	2.8	
Cadmium	5 / 0.5	<0.21	
Dissolved Lead (ppm)	15 / 1.5	<1.4	
Benzene	5 / 0.5	**140**	**<130>**
Ethylbenzene	700 / 140	430	210
Toluene	343 / 68.6	**2,000**	**970**
Total Trimethylbenzenes	480 / 96	359	350
Total Xylenes	620 / 124	**1,460**	**1,000**
Methyl tert-butyl Ether	60 / 12	<21	<47
Naphthalene	40 / 8	**180**	**190**
Isopropylbenzene	none	<13	
n-Butylbenzene	none	<17	
n-Propylbenzene	none	<14>	
Isopropylether	none	<35>	
Total PVOCs	none	4,410	2,660
Total VOCs	none	4,669	2,850
Nitrogen, ammonia as N	9.7 / 1.9 ppm	0.97	0.63
Nitrogen N+N (mg/L)	10 / 2 ppm	0.39	<0.042
Nitrogen, Kjeldahl (mg/L)	none	2.8	1.5
Sulfate (mg/L)	none	7.3	5.7
Alkalinity (mg/L)	none	540	480
Iron (mg/L)	none	7.0	9.0
Conductivity (uS)	none	4410	5180
pH (SU)	none	9.3	7.2
Dissolved Oxygen (mg/L)	none	0.86	0.58
Acenaphthene	none		4.7
Acenaphthylene	none		<1.8
Anthracene	3,000 / 600		<0.049
Benzo (a) anthracene	none		<0.051>
Benzo (a) pyrene	0.2 / 0.02		0.13
Benzo (g,h,i) perylene	none		0.25
Benzo (k) fluoranthene	none		<0.041>
Chrysene	0.2 / 0.02		0.095
Dibenzo (a,h) anthracene	none		0.11
Fluoranthene	400 / 80		0.19
Fluorene	400 / 80		<0.96>
Indeno (1,2,3-cd) pyrene	none		<0.20>
Methyl-1-Naphthalene	none		32
Methyl-2-Naphthalene	none		24
Phenanthrene	none		<0.20>
Pyrene	250 / 50		0.28
Total Polynuclear Aromatic Hydrocarbons	none		65.05

Notes:
All results are reported in parts per billion (ppb) unless otherwise noted.
ppm stands for parts per million, GRO stands for Gasoline Range Organics
Results in BOLD exceed NR 140 ES and results underlined exceed NR 140 PALs.

Table 6 (Page 3 of 5)
Groundwater Analytical Results
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

PARAMETER	NR 140 ES / PAL Standards	BA-MW9	
		12/15/1999	1/18/2000
DRO (ppm)	none	0.80	
Cadmium	5 / 0.5	<0.24>	
Dissolved Lead (ppm)	15 / 1.5	<1.4	
Benzene	5 / 0.5	<0.24	<0.50
Ethylbenzene	700 / 140	<0.26	<0.54
Toluene	343 / 68.6	<0.63>	<0.77>
Total Trimethylbenzenes	480 / 96	6.5	<1.07
Total Xylenes	620 / 124	5.5	<2.8>
Methyl tert-butyl Ether	60 / 12	<0.42	<0.47
Naphthalene	40 / 8	2.1	
Isopropylbenzene	none	<0.25	
n-Butylbenzene	none	1.7	
n-Propylbenzene	none	<0.27	
Isopropylether	none	<0.20	
Total PVOCs	none	13.55	6.15
Total VOCs	none	18.07	6.15
Nitrogen, ammonia as N	9.7 / 1.9 ppm	0.19	<0.055>
Nitrogen N+N (mg/L)	10 / 2 ppm	**28**	**36**
Nitrogen, Kjeldahl (mg/L)	none	1.4	0.66
Sulfate (mg/L)	none	61	53
Alkalinity (mg/L)	none	370	350
Iron (mg/L)	none	1.0	1.0
Conductivity (uS)	none	2,000+	4300
pH (SU)	none	9.0	7.2
Dissolved Oxygen (mg/L)	none	5.5	0.79
Acenaphthene	none		
Acenaphthylene	none		
Anthracene	3,000 / 600		
Benzo (a) anthracene	none		
Benzo (a) pyrene	0.2 / 0.02		
Benzo (g,h,i) perylene	none		
Benzo (k) fluoranthene	none		
Chrysene	0.2 / 0.02		
Dibenzo (a,h) anthracene	none		
Fluoranthene	400 / 80		
Fluorene	400 / 80		
Indeno (1,2,3-cd) pyrene	none		
Methyl-1-Naphthalene	none		
Methyl-2-Naphthalene	none		
Phenanthrene	none		
Pyrene	250 / 50		
Total Polynuclear Aromatic Hydrocarbons	none		

Notes:
All results are reported in parts per billion (ppb) unless otherwise noted.
ppm stands for parts per million, GRO stands for Gasoline Range Organics
[redacted] in [redacted] exc[redacted] 14[redacted]nd [redacted] un[redacted] d e[redacted]NR [redacted]Ls.

Table 6 (Page 4 of 5)
Groundwater Analytical Results
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

PARAMETER	NR 140 ES / PAL Standards	BA-MW10	
		12/15/1999	1/18/2000
DRO (ppm)	none	<0.084>	
Cadmium	5 / 0.5	<0.21	
Dissolved Lead (ppm)	15 / 1.5	<1.4	
Benzene	5 / 0.5	<0.24	<0.50
Ethylbenzene	700 / 140	<0.26	<0.54
Toluene	343 / 68.6	<0.30>	<1.1>
Total Trimethylbenzenes	480 / 96	<0.54	<1.07
Total Xylenes	620 / 124	<0.97	<3.2>
Methyl tert-butyl Ether	60 / 12	<0.50	<0.47
Naphthalene	40 / 8	<0.25	
Isopropylbenzene	none	<0.25	
n-Butylbenzene	none	<0.34	
n-Propylbenzene	none	<0.27	
Isopropylether	none	<0.20	
Total PVOCs	none	<2.81	6.88
Total VOCs	none	<4.12	6.88
Nitrogen, ammonia as N	9.7 / 1.9 ppm	0.21	<0.019
Nitrogen N+N (mg/L)	10 / 2 ppm	15	11
Nitrogen, Kjeldahl (mg/L)	none	7.8	0.45
Sulfate (mg/L)	none	57	42
Alkalinity (mg/L)	none	300	300
Iron (mg/L)	none	4.0	5.0
Conductivity (uS)	none	1,180	890
pH (SU)	none	8.9	7.4
Dissolved Oxygen (mg/L)	none	4.46	2.20
Acenaphthene	none		
Acenaphthylene	none		
Anthracene	3,000 / 600		
Benzo (a) anthracene	none		
Benzo (a) pyrene	0.2 / 0.02		
Benzo (g,h,i) perylene	none		
Benzo (k) fluoranthene	none		
Chrysene	0.2 / 0.02		
Dibenzo (a,h) anthracene	none		
Fluoranthene	400 / 80		
Fluorene	400 / 80		
Indeno (1,2,3-cd) pyrene	none		
Methyl-1-Naphthalene	none		
Methyl-2-Naphthalene	none		
Phenanthrene	none		
Pyrene	250 / 50		
Total Polynuclear Aromatic Hydrocarbons	none		

Notes:
All results are reported in parts per billion (ppb) unless otherwise noted.
ppm stands for parts per million, GRO stands for Gasoline Range Organics
Results in BOLD exceed NR 140 ES and results underlined exceed NR 140 PALs.

Table 6 (Page 5 of 5)
Groundwater Analytical Results
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

PARAMETER	NR 140 ES / PAL Standards	BA-MW11	
		12/15/1999	1/18/2000
DRO (ppm)	none	1.4	
Cadmium	5 / 0.5	<.21	
Dissolved Lead (ppm)	15 / 1.5	<1.4	
Benzene	5 / 0.5	**<12**	**<24**
Ethylbenzene	700 / 140	640	360
Toluene	343 / 68.6	**380**	**480**
Total Trimethylbenzenes	480 / 96	**499**	390
Total Xylenes	620 / 124	**2,550**	**1,720**
Methyl tert-butyl Ether	60 / 12	<21	<24
Naphthalene	40 / 8	**240**	**210**
Isopropylbenzene	none	<26>	
p-Isopropyltoluene	none	<28	
n-Propylbenzene	none	<35>	
Isopropylether	none	44	
Total PVOCs	none	4,102	2,974
Total VOCs	none	4,475	3,154
Nitrogen, ammonia as N	9.7 / 1.9 ppm	0.35	0.095
Nitrogen N+N (mg/L)	10 / 2 ppm	<0.030	<0.042
Nitrogen, Kjeldahl (mg/L)	none	1.6	0.70
Sulfate (mg/L)	none	7.3	<5.0
Alkalinity (mg/L)	none	360	420
Iron (mg/L)	none	2.0	5.5
Conductivity (uS)	none	2,000+	2,740
pH (SU)	none	9.2	7.5
Dissolved Oxygen (mg/L)	none	2.44	0.47
Acenaphthene	none		7.4
Acenaphthylene	none		<3.1>
Anthracene	3,000 / 600		<0.038>
Benzo (a) anthracene	none		<0.042
Benzo (a) pyrene	0.2 / 0.02		<0.016
Benzo (g,h,i) perylene	none		<0.031
Benzo (k) fluoranthene	none		<0.028
Chrysene	0.2 / 0.02		<0.023
Dibenzo (a,h) anthracene	none		<0.022
Fluoranthene	400 / 80		<0.065>
Fluorene	400 / 80		<1.4>
Indeno (1,2,3-cd) pyrene	none		<0.090
Methyl-1-Naphthalene	none		59
Methyl-2-Naphthalene	none		17
Phenanthrene	none		<0.087>
Pyrene	250 / 50		<0.077>
Total Polynuclear Aromatic Hydrocarbons	none		88.42

Notes:
All results are reported in parts per billion (ppb) unless otherwise noted.
ppm stands for parts per million, GRO stands for Gasoline Range Organics
F[redacted] in E[redacted] exc[redacted] 14[redacted] and [redacted] unc[redacted] d ex[redacted] NR [redacted] ALs.

Table 7
Calculation of Volume and Mass of Contaminants for
Total DRO Soil Contamination
Brown's of Two Rivers - Two Rivers, Wisconsin
SIR - February 2000

Map Location Units	Area (square feet)	Average Thickness (feet)	Volume (cubic feet)	Mass of Contaminated Soil (tons)	Average Contaminant Concentration (ppb)	Mass of Contaminants (tons)	Mass of Contaminants % (of Total)	Cumulative Mass of Contaminants % (of Total)	Cumulative Volume of Contaminated Soil (tons)
Est. Total Cont. Area									
>10,000 ppm	5	2	10	1	13,000	0.0000078	8.571	8.571	1
1,000-10,000 ppm	118	2	236	14	5,500	0.0000779	85.577	94.148	15
500-1,000 ppm	82	1	82	5	750	0.0000037	4.055	98.203	20
100-500 ppm	150	0.5	75	5	300	0.0000014	1.483	99.686	24
0-100 ppm	866	0.5	433	26	11	0.0000003	0.314	100.00	50
TOTALS	**1221**		**836**	**50**		**0.0000910**	**100.00**		

Parameter	Method
Area	Measured using site map and Autosketch.
Mass (Soil)	Assumed: 120 pounds per cubic foot.
Mass (Cont.)	Mass of contaminated soil x contaminant concentration.

	Kg of Cont.
area 1	0.007
area 2	0.070
area 3	0.003
area 4	0.001
area 5	0.000
Total Kg of Cont.	0.082

APPENDIX F

WGNHS
WELL CONSTRUCTION
LOGS

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 5-85

JUL 10 1986

1. COUNTY: Manitowoc
CHECK (✓) ONE: ☒ Town ☐ Village ☒ City
Name: Two Rivers

2. LOCATION: ¼ Section or Gov't. Lot: NE¼ SW¼ | Section: 1 | Township: 19N. | Range: 24E

OR – Grid or Street No.: 1515 | Street or Road Name: 12th. St.

AND – If available subdivision name, lot & block No.:

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Leigh Stegeman

ADDRESS: R. 3

POST OFFICE: Two Rivers, Wis. ZIP CODE: 54241

4. Distance in feet from well to nearest: (Record answer in appropriate block)

Building	Sanitary Bldg. Drain		Sanitary Bldg. Sewer		Floor Drain Connected To:		Storm Bldg. Drain		Storm Bldg. Sewer	
	C.I.	Other	C.I.	Other	C.I. Sewer	Other Sewer	C.I.	Other	C.I.	Other
6	–	–	–	–	–	–	–	–	–	–

Street Sewer		Other Sewers		Foundation Drain Connected to:		Sewage Sump			Clearwater Sump	Septic Tank	Holding Tank	Sewage Absorption Unit	Manure Hopper or Retention or Pneumatic Tank
San.	Storm	C.I.	Other	Sewer	Sewage Sump	C.I.	Other					Seepage Pit	
50	–	–	–	Clearwater Dr.	Clearwater Sump	–	–		–	–	–	Seepage Bed –	–
												Seepage Trench	

Privy	Pet Waste Pit	Pit: Nonconforming Existing		Subsurface Pumproom Nonconforming Existing	Barn Gutter	Animal Barn Pen	Animal Yard	Silo With Pit	Glass Lined Storage Facility	Silo w/o Pit	Earthen Silage Storage Trench Or Pit	Earthen Manure Basin
		Well										
–	–	Pump	–	–	–	–	–	–	–	–	–	–
		Tank										

Temporary Manure Stack or Platform	Watertight Liquid Manure Tank or Basin	Manure Pressure Pipe	Subsurface Gasoline or Oil Tank	Waste Pond or Land Disposal Unit (Specify Type)	Manure Storage Basin Concrete Floor Only Concrete Floor and Partial Concrete Walls	Other (Describe)
–	–	–	–	–		–

5. Well is intended to supply water for: Bait Shop

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	Surface	99	6	99	370

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

Dia. (in.)	Mfg. & Method of Assembly	From (ft.)	To (ft.)
6	ASTM A-53	Surface	99
	Sumitomo		
	Welded joint		
	Wt. 18.97 per ft.		

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Drilling mud	Surface	99

9. FORMATIONS

Kind	From (ft.)	To (ft.)
sand	Surface	28
clay	28	86
hard pan	86	99
limestone	99	370

10. TYPE OF DRILLING MACHINE USED

☐ Cable Tool ☒ Rotary-hammer w/drilling mud & air ☐ Jetting with
☐ Rotary-air w/drilling mud ☐ Rotary-hammer & air ☐ Air ☐ Water
☐ Rotary-w/drilling mud ☐ Reverse Rotary

Well construction completed on May 30, 19 86

11. MISCELLANEOUS DATA

Yield Test: 4 Hrs. at 20 GPM

Depth from surface to normal water level 100 Ft.

Depth of water level when pumping 100 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on June 12, 19 86

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Leonard J. Willems Registered Well Driller

Business Name and Complete Mailing Address:
Willems Well Drilling
R. 1 Greenleaf, Wis. 54126

MN-35

High Capacity Well Approval 2-1-65 File; Two Rivers

1. County Manitowoc
NW, NW, SE, Sec. 1 T19N R24E
Town ☐
Village ☐
City ☒ Two Rivers, Wis.
Check one and give name

2. Location 15th Street - 400' south of Washington Street
Name of street and number of premise or Section, Town and Range number

RECEIVED
SANITARY ENGINEERING

3. Owner ☒ or Agent ☐ Mirro Aluminum Company
Name of individual, partnership or firm

4. Mail Address Manitowoc, Wis.
Complete address required

5. From well to nearest: Building_____ft; sewer_____ft; drain_____ft; septic tank_____ft; dry well or filter bed_____ft; abandoned well_____ft.

6. Well is intended to supply water for: Industrial

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
16	0	45			
10	45	371			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
16	Steel 3/8" Wall	0	45'
10	Steel .307" Wall	+2'	87'

9. GROUT:

Kind	From (ft.)	To (ft.)
Neat Cement	0	45'

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Drift	0	86
Limestone	86	371
Manitowoc Co. Ind # 7		
Well #1 Perm Well No. 52812		
SW¼ ~~NE¼~~ Sec 1 T19N, R24E		
TOWN OF TWO RIVERS		

Construction of the well was completed on:
May 3 1965

The well is terminated 24 inches ☒ above, below ☐ the permanent ground surface.

11. MISCELLANEOUS DATA:

Yield test: 7-1/2 Hrs. at 300 GPM.

Depth from surface to water-level: 7 ft.

Water-level when pumping: 350 X ft.

Water sample was sent to the state laboratory at:
_____ City on _____ 19____

Was the well disinfected upon completion?
Yes X No

Was the well sealed watertight upon completion?
Yes X No

Signature EGERER-GALLOWAY WELL CORP. By Wm A. Ellsworth
Registered Well Driller

7136 West State St.
Milwaukee, Wis. 53213
Complete Mail Address

Please do not write in space below

Rec'd_____ No_____

Ans'd_____

Interpretation cc: M. E. Ostrom
State Geo. Survey
9/8/65

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli					

Examiner_____

UNIVERSITY OF WISCONSIN GEOLOGICAL & NATURAL HISTORY SURVEY
1815 University Avenue, Madison, Wisconsin 53706

Log No. Mn-35
Issued: Oct., 1967

County: Manitowoc

Well name Mirro Aluminum Company, Two Rivers, Wis.
Located 15th St., 400' S. of Washington St.
Owner... Mirro Aluminum Co.
Address. Manitowoc, Wisconsin

Driller.. Egerer-Galloway Well Corp.
Engineer.

Completed... 5/3/65
Field check.
Altitude.... 595' CTM
Use..... Industrial
Static w. l. = 7'
Spec. cap... = 0.9

R. 24E
T. 19 N.
Sec. 1

Quad. Manitowoc 15'

Drill Hole						Casing & Liner Pipe or Curbing							
Dia.	from	to	Dia.	from	to	Dia.	Wgt. & Kind	from	to	Dia.	Wgt. & Kind	from	to
16"	0	45'				16"	steel 3/8" wall	0	45				
10"	45	371'				10"	steel .307" wall	+2'	87'				

Grout: Kind	from	to
Neat cement	0	45'

Samples from 0 to 370' Date received: 9/16/65
Sample Nos. 257899 to 257972 Examined by: Janet Olmstead Date: 2/11/66
Formations: Drift, Silurian

Remarks: Well tested for 7½ hours at 300 gpm with 343 feet of drawdown.

LOG OF WELL:

DRIFT	0-10	10	Top soil, mxd clr, mxd lithology
	10-15	5	Snd, mxd clr, M&C, Srnd, P srtg, tr fn, VC; mch cl, trVfn&fn gvl & soil
	15-20	5	Snd, mxd clr, M&C, Srnd, P srtg, trVC; ltl Vfn&fn gvl & cong
	20-25	5	Cl, lt rd bn, dolic; ltl Vfn, fn gvl, tr snd
	25-30	5	Cl, lt rd bn, dolic; mch st, tr snd, & Vfn gvl
	30-35	5	Cl, Vlt rd bn, dolic; mch st, tr snd & Vfn gvl
	35-40	5	St & Cl, lt yl gry bn; mch Vfn & fn snd
	40-55	15	Cl, lt rd, dolic; mch st, tr snd
	55-80	25	Cl, lt rd bn, dolic; mch st, tr snd
85'	80-85	5	Snd, mxd clr, C & VC, ang, P srtg, tr M, fn; ltl Vfn, fn gvl, cl
SILURIAN	85-90	5	Dol, lt gry bn, M & fn, dns; mch cvd snd, tr sh & pyr
	90-95	5	Dol, lt gry, M & fn, dns; tr pyr & sh
	95-100	5	Dol, lt yl gry bn, M & fn, dns; tr pyr & sh
	100-105	5	Dol, lt yl rd bn mot lt gry, M & fn, dns; tr pyr & sh
	105-110	5	Dol, lt yl rd bn mot lt gry, M & fn, dns; tr pyr, sh, oolic dol
	110-140	30	Dol, lt yl rd bn mot lt gry, M & fn, dns; tr pyr & sh
	140-145	5	Dol, lt yl rd bn, M & fn, dns;
	145-150	5	Dol, Vlt yl gry, M & fn, dns; tr pyr
	150-170	20	Dol, Vlt yl gry, M & fn, dns; tr pyr & sh

UNIVERSITY OF WISCONSIN GEOLOGICAL & NATURAL HISTORY SURVEY
1815 University Avenue, Madison, Wisconsin 53706

Log No. Mn-35

Well name Mirro Aiuminum Co., Two Rivers, Wis.
Sample Nos. 257899 to 257972

SILURIAN	170-210	40	Dol, Vlt yl pnk bn, M & fn, dns; tr sugary dol, sh & pyr
	210-220	10	Dol, Vlt or pnk, M, dns, tr C; tr pyr & sh
	220-225	5	Dol, lt yl rd bn, M, dns; tr sh & gypsum
	225-230	5	Dol, lt yl rd bn, M, dns; tr qtz
	230-240	10	Dol, lt yl rd bn, M, dns; tr qtz & stnd pyr
	240-245	5	Dol, lt yl rd bn, M, dns; tr qtz, stnd pyr & sh
	245-255	10	Dol, lt yl rd bn, M & C, dns; tr stnd pyr
	255-280	25	Dol, Vlt gry, M & C, dns; tr sh
	280-285	5	Dol, Vlt gry, M & C, dns; tr sh & pyr
	285-295	10	Dol, Vlt gry, M & C, dns;
	295-300	5	Dol, lt yl bn, M & fn, dns;
	300-305	5	Dol, lt yl bn mot Vlt gry, M & fn, dns; tr pyr & sh
	305-310	5	Dol, wh, M & fn, dns;
	310-365	55	Dol, Vlt gry, M & fn, dns, tr C; tr pyr & calc
285	365-370	5	Dol, lt gry, M & fn, dns; ltl stnd Fe, tr pyr

END OF WELL

CITY TEST WELL NO. 2, TWO RIVERS, WIS.

1750' E of Well No 1. Sec. 1, T. 19, R. 24 E. NE¼, SE¼, SW¼
W. H. Gray Bros, Drillers, 1914
Samples sent by G. H. Wehausen
" examined by F. T. Thwaites, U. W. Nos. 16717-16819
Elevation of curb 587

1" = 100

DRIFT	100	0-15		"Lake sand" no sample
		15-17		"Hard pan" " "
		17-32		"Quicksand " "
		32-100		Clay, red, dry " "
NIAGARA	670	100-335		Limestone, magnesian, light gray
		335-350		Limestone, magnesian, yellowish
		350-440		Limestone, magnesian, light gray
		440-470		Limestone, magnesian, light gray, white flint
		470-515		Limestone, magnesian, light grey
		515-545		Limestone, magnesian, light gray, white flint
		545-560		Limestone, light gray, magnesian
		560-590		Limestone, magnesian, dark gray, flinty
		590-620		Limestone, magnesian, gray, shaley
		620-635		Limestone, magnesian, light gray
		635-665		Limestone, magnesian, gray, flinty
		665-680		Limestone, magnesian, yellowish gray
		680-710		Limestone, magnesian, gray, flinty
		710-770		Limestone, magnesian, dark gray
		770-800		Shale, gray, limy and limestone, magnesian, gray, very shaley
		800-860		Shale, gray, limy with some shaley limestone at top.

TWO RIVERS 2

Mn-4

RICHMOND	330	860-875		Limestone, magnesian, bluish-gray, very shaley
		875-1100		Shale, bluish-gray, limy
GALENA-BLACKRIVER	195	1100-1250		Limestone, bluish-gray, magnesian
		1250-1265		Limestone, magnesian, brownish-gray
		1265-1280		Limestone, magnesian, bluish-gray
		1280-1295		Limestone, magnesian, brownish-gray
ST. PETER?	45	1295-1340		Sandstone, fine to medium, gray & yellow, little lime
LAKE SUPERIOR?	270	1340-1400		Sandstone, fine, yellowish and brownish red, grains not well rounded, no lime
		1400-1445		Sandstone, fine, red, grains fairly well rounded, no lime
		1445-1460		Sandstone, medium, yellowish-brown, angular grains
		1460-1475		Sandstone, fine, red, well rounded
		1475-1490		Shale, sandy, reddish-gray, no lime
		1490-1550		Sandstone, fine, yellowish red and gray, grains poorly rounded
		1550-1580		Sandstone, fine, light red, grains poorly rounded
		1580-1595		Sandstone, fine, dark yellowish-brown, well rounded
		1595-1610		Shale, sandy, dark red, no lime
PRE-CAMBRIAN	30	1610-1640		Quartzite, light gray to brown, glassy

1300

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

JUL 5 1983

1. COUNTY: Manitowoc
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Two Rivers

2. LOCATION: ¼ Section or Gov't. Lot: Lot 1-2-3-4-5-6 (SW¼) Section: 1 Township: 19N Range: 24E
OR – Grid or Street No.: 1515 Street or Road Name: Memorial Drive
AND – If available subdivision name, lot & block No.: Block 103

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
James Van Lanen
ADDRESS: LIGHTHOUSE INN - WELL #1
1515 Memorial Drive #81603 - 81604
POST OFFICE: PERMAN. WELL ZIP CODE: Two Rivers, Wis. 54241

4. Distance in feet from well to nearest: (Record answer in appropriate block)

Building	Sanitary Bldg. Drain C.I.	Sanitary Bldg. Drain Other	Sanitary Bldg. Sewer C.I.	Sanitary Bldg. Sewer Other	Floor Drain Connected To: C.I. Sewer	Floor Drain Connected To: Other Sewer	Storm Bldg. Drain C.I.	Storm Bldg. Drain Other	Storm Bldg. Sc C.I.	Storm Bldg. Sc Other
5	–	–	–	–	–	–	–	–	–	–

Street Sewer San.	Street Sewer Storm	Other Sewers C.I.	Other Sewers Other	Foundation Drain Connected to: Sewer	Foundation Drain Connected to: Sewage Sump	Foundation Drain Connected to: Clearwater Dr.	Foundation Drain Connected to: Clearwater Sump	Sewage Sump C.I.	Sewage Sump Other	Clearwater Sump	Septic Tank	Holding Tank	Sewage Absorption Unit	Manure Hopper Retention or Pnuematic Tank
100	–	–	–					–	–	–	–	–	Seepage Pit	–
													Seepage Bed	
													Seepage Trench	

Privy	Pet Waste Pit	Pit: Nonconforming Existing		Subsurface Pumproom Nonconforming Existing	Barn Gutter	Animal Barn Pen	Animal Yard	Silo With Pit	Glass Lined Storage Facility	Silo w/o Pit	Earthen Silage Storage Trench Or Pit	Earthen Manure Ba
–	–	Well		–	–	–	–	–	–	–	–	–
		Pump	–									
		Tank										

MANITOWOC Co. MISC. #6

Temporary Manure Stack or Platform	Watertight Liquid Manure Tank or Basin	Manure Pressure Pipe	Subsurface Gasoline or Oil Tank	Waste Pond or Land Disposal Unit (Specify Type)	Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls	Other (Describe)
–	–	–	–	–		–

5. Well is intended to supply water for:
Heat pump

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	Surface	20	6	20	124

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

Dia. (in.)	Mfg. & Method of Assembly	From (ft.)	To (ft.)
6	ASTM-A53	Surface	86
	Republic		
	T & C		
	Wt. 19.45 per ft.		

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Puddled clay	Surface	20

9. FORMATIONS

Kind	From (ft.)	To (ft.)
sand	Surface	20
sandy clay	20	35
clay	35	86
limestone	86	124

APPROVAL DATE: FEBR. 8, 1984
FILE LOCATION: TWO RIVERS
CC: TO STATE GEOLOGIST

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 4 Hrs. at 75 GPM
Depth from surface to normal water level 25 Ft.
Depth of water level when pumping 25 Ft. Stabilized ☒ Yes ☐ No
Water sample sent to → Spec. Cap. = D laboratory on 19

Well construction completed on February 25, 19 78
Well is terminated 8 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Leonard J. Willems
Registered Well Driller

Business Name and Complete Mailing Address
Willems Well Drilling
R. 1 Greenleaf, Wis. 54126

JAN 13 1988

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 5-85

1. COUNTY: Manitowoc
CHECK (✓) ONE: ☐ Town ☐ Village ☑ City
Name: Two Rivers

2. LOCATION: ¼ Section or Gov't. Lot: Mile 113.2 SW | Section: 1 | Township: T19N | Range: R24E
OR – Grid or Street No. | Street or Road Name: Memorial Dr.
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Lighthouse Inn WELL #3
ADDRESS: 1215 Memorial Dr.
POST OFFICE: Two Rivers, WI. ZIP CODE: 54241

4. Distance in feet from well to nearest: (Record answer in appropriate block)

Building	Sanitary Bldg. Drain C.I.	Sanitary Bldg. Drain Other	Sanitary Bldg. Sewer C.I.	Sanitary Bldg. Sewer Other	Floor Drain Connected To: C.I. Sewer	Floor Drain Connected To: Other Sewer	Storm Bldg. Drain C.I.	Storm Bldg. Drain Other	Storm Bldg. Sewer C.I.	Storm Bldg. Sewer Other
11			120							

Street Sewer San.	Street Sewer Storm	Other Sewers C.I.	Other Sewers Other	Foundation Drain Connected to: Sewer	Foundation Drain Connected to: Sewage Sump	Foundation Drain Connected to: Clearwater Dr.	Foundation Drain Connected to: Clearwater Sump	Sewage Sump C.I.	Sewage Sump Other	Clearwater Sump	Septic Tank	Holding Tank	Sewage Absorption Unit: Seepage Pit	Sewage Absorption Unit: Seepage Bed	Sewage Absorption Unit: Seepage Trench	Manure Hopper or Retention or Pneumatic Tank

Privy	Pet Waste Pit	Pit: Nonconforming Existing: Well	Pit: Nonconforming Existing: Pump	Pit: Nonconforming Existing: Tank	Subsurface Pumproom Nonconforming Existing	Barn Gutter	Animal Barn Pen	Animal Yard	Silo With Pit	Glass Lined Storage Facility	Silo w/o Pit	Earthen Silage Storage Trench Or Pit	Earthen Manure Basin

Temporary Manure Stack or Platform	Watertight Liquid Manure Tank or Basin	Manure Pressure Pipe	Subsurface Gasoline or Oil Tank	Waste Pond or Land Disposal Unit (Specify Type)	Manure Storage Basin	Concrete Floor Only	Concrete Floor and Partial Concrete Walls	Other (Describe)
								PERM. WELL # 81606

5. Well is intended to supply water for: Motel-Non-Potable, For Heat & cool

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
9	Surface	89			
6	89	545			

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

Dia. (in.)	Mfg. & Method of Assembly	From (ft.)	To (ft.)
6	New DI. STL.	Surface	91
	Plain welded		
	ASTM A53		
	18.97 280		
	Kaiwan		

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Drill Slurry	Surface	89

9. FORMATIONS

Kind	From (ft.)	To (ft.)
Gravel	Surface	10
Sandy-clay	10	85
Gravel	85	89
Limestone	89	400
Lime+chist	400	545
Manitowoc Co. Misc.	#6	
File Loc: Two Rivers		
Approval Date: Feb 19,	1988	

10. TYPE OF DRILLING MACHINE USED
☐ Cable Tool ☑ Rotary-hammer w/drilling mud & air ☐ Jetting with
☐ Rotary-air w/drilling mud ☐ Rotary-hammer & air ☐ Air ☐ Water
☐ Rotary-w/drilling mud ☐ Reverse Rotary

Well construction completed on 12-10 1987

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 60 GPM
Depth from surface to normal water level 125 Ft.
Depth of water level when pumping 208 Ft. Stabilized ☑ Yes ☐ No
SC = 0.7 GPM/ft.

Well is terminated 24 inches ☑ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Green Bay laboratory on 12-28 1987

Or opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Tom VandeYacht Registered Well Driller

Business Name and Complete Mailing Address: Bill VandeYacht Water Wells Inc
P.O. 24081 Green Bay 54324

No samples

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

MAR 3 1988

WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 3-87

1. COUNTY: MANITOWOC
CHECK (✓) ONE: ☒ Town ☐ Village ☑ City
Name: TWO RIVERS

2. LOCATION: ¼ Section or Gov't. Lot ✓: SW¼ SW¼ | Section: 1 | Township: 19 N. | Range: 24 E.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: JAMES VANLANEN Well # 2

OR – Grid or Street No.: 1515 | Street or Road Name: MEMORIAL DR.

ADDRESS: 1515 MEMORIAL DR. PERM # 81605

AND – If available subdivision name, lot & block No.

POST OFFICE: TWO RIVERS, WIS. ZIP CODE: 54241

4. Distance in feet from well to nearest: (Record answer in appropriate block)

Building	Sanitary Bldg. Drain C.I.	Sanitary Bldg. Drain Other	Sanitary Bldg. Sewer C.I.	Sanitary Bldg. Sewer Other	Floor Drain Connected To: C.I. Sewer	Floor Drain Connected To: Other Sewer	Storm Bldg. Drain C.I.	Storm Bldg. Drain Other	Storm Bldg. Sewer C.I.	Storm Bldg. Sewer Other
6	–	–	–	–	–	–	–	–	–	–

Street Sewer San.	Street Sewer Storm	Other Sewers C.I.	Other Sewers Other	Foundation Drain Connected to: Sewer	Foundation Drain Connected to: Sewage Sump	Foundation Drain Connected to: Clearwater Dr.	Foundation Drain Connected to: Clearwater Sump	Sewage Sump C.I.	Sewage Sump Other	Clearwater Sump	Septic Tank	Holding Tank	Sewage Absorption Unit	Manure Hopper or Retention or Pneumatic Tank
100	–	–	–					–	–	–	–	–	Seepage Pit / Seepage Bed / Seepage Trench –	–

Privy	Pet Waste Pit	Pit: Nonconforming Existing	Subsurface Pumproom	Barn Gutter	Animal Barn Pen	Animal Yard	Silo With Pit	Glass Lined Storage Facility	Silo w/o Pit	Earthen Silage Storage Trench Or Pit	Earthen Manure Basin
–	–	Well / Pump / Tank	Nonconforming Existing –	–	–	–	–	–	–	–	–

Temporary Manure Stack or Platform	Watertight Liquid Manure Tank or Basin	Manure Pressure Pipe	Subsurface Gasoline or Oil Tank	Waste Pond or Land Disposal Unit (Specify Type)	Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls	Other (Describe)
–	–	–	–	–		-lake-75'

5. Well is intended to supply water for: Heat Pump

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	Surface	91	6	91	622

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

Dia. (in.)	Mfg. & Method of Assembly	From (ft.)	To (ft.)
6	API -5A	Surface	91
	Jones & laughlin		
	Welded joint		
	Wt. 18.97 per ft.		

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Cement	Surface	60
Drilling mud	60	91

9. FORMATIONS

Kind	From (ft.)	To (ft.)
sand	Surface	35
clay	35	91
limestone	91	622

Manitowoc Co. Misc. # 6
Approval Date: Feb 8, 1984
File location: Two Rivers
cc: State Geologist

10. TYPE OF DRILLING MACHINE USED
☐ Cable Tool ☒ Rotary-hammer w/drilling mud & air ☐ Jetting with
☐ Rotary-air w/drilling mud ☐ Rotary-hammer & air ☐ Air ☐ Water
☐ Rotary-w/drilling mud ☐ Reverse Rotary

11. MISCELLANEOUS DATA
Yield Test: 8 Hrs. at 110 GPM
Depth from surface to normal water level 40 Ft.
Depth of water level when pumping 40 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on JULY 7, 1983
Well is terminated 8 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to _____ laboratory on _____ 19____

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Leonard J. Willems
Registered Well Driller

Business Name and Complete Mailing Address
WILLEMS WELL DRILLING
Rt 1 GREENLEAF, WIS. 54126

APPENDIX G

LIST AND LOCATION OF POSSIBLE OFF-SITE CONTAMINANT SOURCES

List of Possible off-site Contaminant Sources

1. Sauve's Auto Service
   1421 Washington Street
   Two Rivers, Wisconsin 54241
   Feet from site: 140

2. Hansel's Tire & Battery, Inc.
   1415 East River Street
   Two Rivers, Wisconsin 54241
   Feet from site: 80

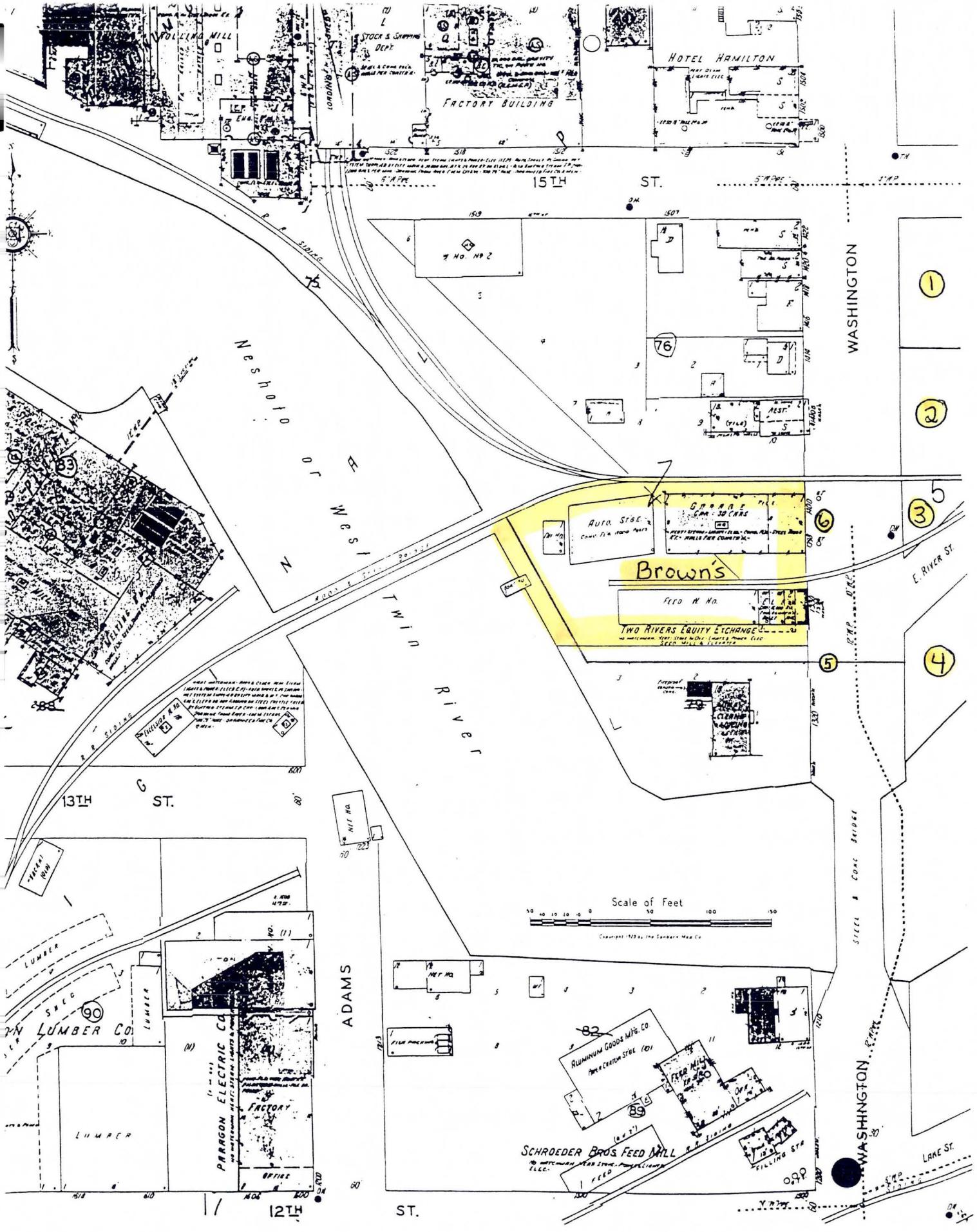
3. Property owned by city of Two Rivers/state – Formerly Charlie's Service
   1423 East River Street
   Two Rivers, Wisconsin 54241
   Feet from site: 80

4. River Front Liquor, Bait, & Beverage
   1431 East River Street
   Two Rivers, Wisconsin 54241
   Feet from site: 80

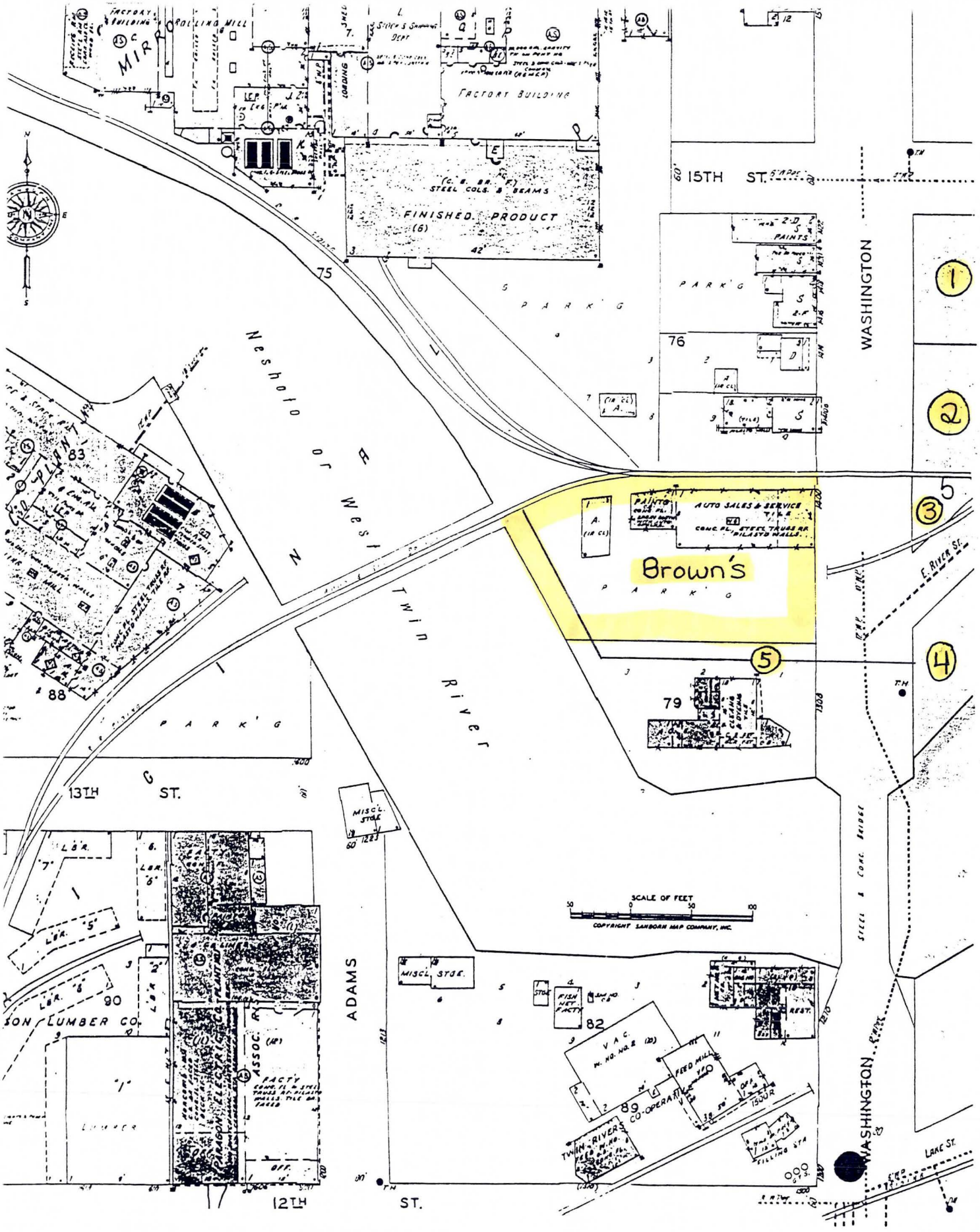
5. U.S. Oil
   Petroleum Pipeline (red)
   1308 Washington Street
   Two Rivers, Wisconsin 54241
   Feet from site: 15

6. (2) USTs under State Trunk Highway 42
   1400 Washington Street
   Two Rivers, Wisconsin 54241
   Feet from site: 10

- Brown's of Two Rivers site is highlighted in yellow
- The 1967 Sanborn map does not show USTs under State Trunk Highway 42



1944 SANBORN



1967

SANBORN

SANBORN MAP LEGEND

CODING OF FIRE-RESISTIVE STRUCTURAL UNITS FOR FIREPROOF AND NON-COMBUSTIBLE BUILDINGS

FRAMING

CODE	STRUCTURAL UNIT
A	Reinforced Concrete Frame.
B.	Reinforced Concrete Joists, Columns, Beams, Trusses, Arches, Masonry Piers.
C.	Protected Steel Frame.
D	Individually Protected Steel Joists, Columns, Beams, Trusses, Arches.
E	Indirectly Protected Steel Frame.
F	Indirectly Protected Steel Joists, Columns, Beams, Trusses, Arches.
G.	Unprotected Steel Frame.
H.	Unprotected Steel Joists, Columns, Beams, Trusses, Arches.
O	Masonry Bearing Walls only.

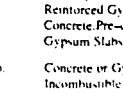
FLOORS

CODE	STRUCTURAL UNIT
1.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Pre-cast Concrete or Gypsum Slabs or Planks.
2.	Concrete or Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units
3.	Open Steel Deck or Grating.

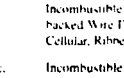
ROOF

CODE	STRUCTURAL UNIT
a.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Reinforced Gypsum Concrete, Pre-cast Concrete or Gypsum Slabs or Planks.
b.	Concrete or Gypsum on Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units.
c. or	Incombustible Composition Boards with without Insulation. Masonry or Metal Tiles.
d.	Steel Deck, Corrugated Metal or Asbestos Protected Metal with or without Insulation.

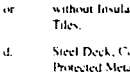
The coding to the left, for framing, floor and roof structural units is used in describing the construction of fire-resistive buildings. In addition, reports for fire-resistive buildings will show the date built, wall construction other than brick, and ceilings.



A fireproof building built in 1962 with concrete walls and reinforced concrete frame, floors and roof.



A fireproof building built in 1962 with metal panel walls, reinforced concrete columns and beams, concrete walls on metal lath and gypsum slab roof; noncombustible ceilings.



A non combustible building built in 1962 with concrete block walls; unprotected steel columns, beams and joists; concrete floors on metal lath and steel deck roof.

MASONRY CONSTRUCTION

Important interior and all exterior masonry walls of all non-residential buildings and residential buildings of five or more dwelling units are shown with weighted (——) lines.

Masonry walls of residential buildings of four dwelling units or less are shown in a standard line and the construction is noted on all buildings diagramed after July, 1963.

WALLS

- 8" Brick
- 12" Concrete
- 18" & 20" Stone
- 12" & 8" Hollow Tile Wall Thicknesses Placed Relative to Respective Floors
- Cinder, Concrete or Cement Brick
- Hollow Cinder or Concrete Blocks, Pilastered
- Mixed Construction of Concrete Blocks, Brick Faced
- Mixed Construction of Concrete Blocks and Brick
- Masonry Walls, Metal Faced
- Adobe
- Hollow Cinder or Concrete Block Interior Wall Basement to Roof
- Tile Interior Wall Basement to Roof
- Cement Brick End Wall

PARTITIONS

- Frame
- Tile from Foundation to Top Ceiling only
- Concrete First Floor only
- Hollow Cinder or Concrete Block 1st Floor only
- Brick 2nd Floor only
- Tile 1st & 3rd Floor only

OPENINGS

(Interior)

- Wall with No Openings
- Wall with Double Standard Fire Doors 1st Floor
- Wall with Standard Fire Door Basement
- Wall with Substandard Fire Doors 1st & 3rd Floors
- Wall with Metal & Wired Glass Fire Doors all Floors
- Wall with Substandard Fire Doors 1st, 2nd & 3rd Floors & Unprotected Opening 4th Floor
- Wall with Small Unprotected Openings only
- Wall with Unprotected Openings all Floors

(Exterior)

- 1st Floor
- 1st & 2nd Floors
- 3rd Floor
- 1st & 4th Fl. with Metal Shutter 1st.
- 10th& 22nd only
- 10th & 22nd Fl.
- Glass Block
- Wired Glass in Metal Sash 2nd & 3rd Fl.

NON-MASONRY CONSTRUCTION

Non-masonry walls are shown with finet (——) lines.
(Walls construction other than wood and stucco on wood frame is noted)

- Wood & Stucco & Cement Plaster, Etc. on Wood Frame
- Brick Veneered on Wood Frame (Other Types of Veneered on Wood Frame Specifically Noted)
- Mixed Masonry & Non-Masonry(Type of Masonry Specifically Noted)
- Wood, Brick Lined, Br., Filled & Brick Nogged
- Wood & Sash Glass
- Metal & Sash Glass
- Metal Clad on Wood Frame
- Iron Building
- Iron Building with Wood Roof, (Location of Extensive Wood Areas Specifically noted)
- Asbestos Clad on Wood Frame, Noted in Non-Residential Structures only.
- Mixed Wall--(9" of CB with Metal Sash Above
- Metal Panels
- Apron Walls with wood Sash and Glass
- Stucco, Cement Plaster, Etc. on Steel Frame
- Gunite on Steel Frame
- Asphalt and/or Asbestos Protected Metal on Steel Frame
- Asphalt and/or Asbestos Protected Metal on Wood Frame
- Glass Panels

FIRE PROTECTION

- Fire Department Connection
- Automatic Sprinklers throughout contiguous sections of single risk
- Automatic Sprinklers all floors of building
- Automatic Sprinklers in part of building only (None under Symbol indicates protected portion of building)
- Not Sprinklered
- Automatic Chemical Sprinklers
- Chemical Sprinklers in part of building only (None under Symbol indicated protected portion of building)
- Vertical Pipe or Stand Pipe
- Automatic Fire Alarm
- Water Tank
- Outside Vertical Pipe on fire Escape
- Fire Alarm Box Noted "HPFS" on High Pressure Fire Service

- Single Hydrant
- Double Hydrant
- Triple Hydrant
- Quadruple Hydrant of the High Pressure Service
- Water Pipes of the High Pressure Service
- Water Pipes of the High Pressure Service as shown on Key Map
- Public Water Service
- Private Water Service

VERTICAL OPENINGS

- Skylight lighting top story only
- Skylight lighting 3 stories
- Skylight with Wired Glass in Metal Sash
- Open Elevator
- Frame Enclosed Elevator
- Frame Enclosed Elevator with Traps
- Frame Enclosed Elevator with Self Closing Traps
- Concrete Block Enclosed Elevator with Traps
- Tile Enclosed Elevator with self closing Traps
- Brick Enclosed Elevator with wired Glass Door
- Open Hoist
- Hoist with Traps
- Open Hoist Basement to 1st
- Stairs

MISCELLANEOUS

- Number of stories, Height in Feet Composition Roof Covering
- Parapet 6" above Roof Frame Cornice Parapet 12" above Roof
- Parapet 24" above Roof Occupied by Warehouse Metal, Slate, Tile or Asbestos Shingle Roof Covering Parapet 48" above Roof
- 2 Stories & Basement 1st Floor Occupied by Store 2 Residential Units above 1st Auto in Basement Drive or Passageway Wood Shingle Roof.
- Iron Chimney
- Iron Chimney (with spark arrestor)
- Vertical Steam Boiler
- Horizontal Steam Boiler
- Width of Street between Block Lines, not Curb Lines
- Ground Elevation
- House numbers nearest to Buildings are Official or Actually up on Buildings. Old house numbers are farthest from Buildings
- Reference Adjoining Page
- Fire Department as shown on Key Map
- Brick Chimney
- Gasoline Tank
- Fire Pump
- Block Number
- Vac. or V. - Vacant
- Vac. & Op. or V.-O. - Vacant & Open

GLOSSARY

A-B Lines An arbitrary boundary between adjoin sheets.
A Private garage
ABV Above
A.E.A. Equipped with fire detecting devices wh automatically signal a central fire department.
AIR COND Air cooling system employing du through floors
APRON WALL A masonry wall extending 5' or above foundation
ASSOC RISK Risk not underwritten by stock Fire I Companies.
BASEMENT A story having its floor below grou and it's ceiling at least 4' above grou Cook County Ill.: A floor of a building next bel the first floor. Shown by the symbol B follow story height. Sub-basements or subs-cellars, exis below the first basement, are shown by the sym SB following basement symbol.
CHIMNEYS (Applicable to maps in Rocky Mount & Pacific Coast States.)
BC Brick, stone, concrete brick & concrete chi nevs.
C.BL.C. Concrete block chimney
C.C. Non standard concrete chimney
T.C. Tile Chimney
P.C. Patent chimney
IR.CH. Iron chimneys
S.P. Stove pipe
S.P.V. Stove pipe with patent ventilator.

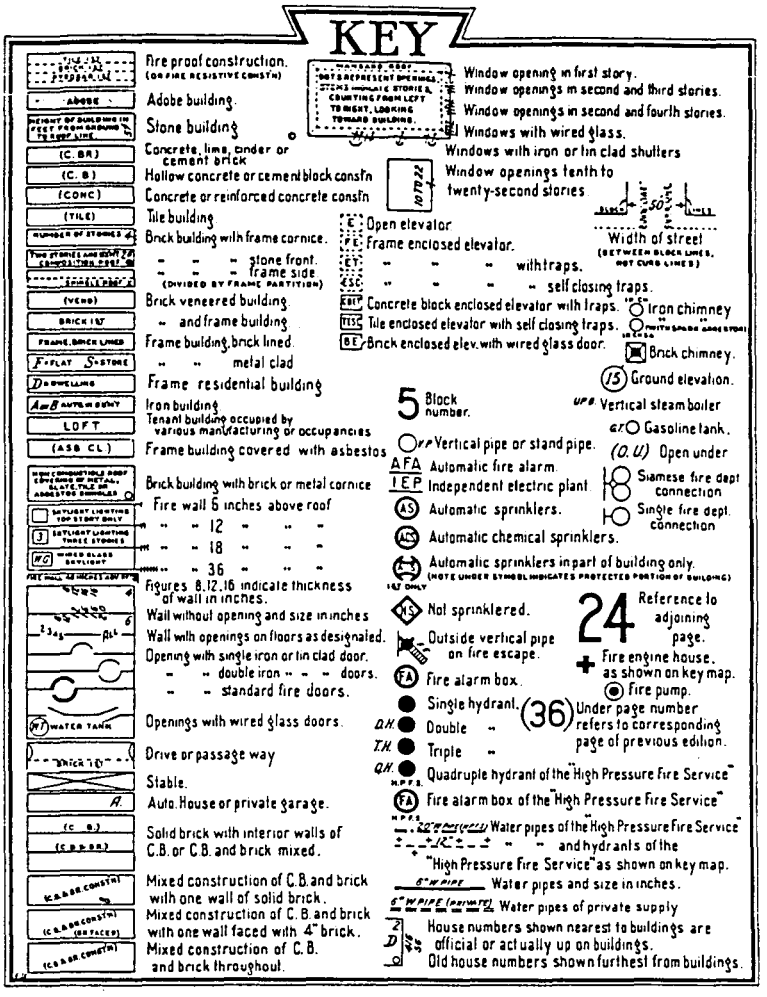
RESIDENTIAL OCCUPANCY SYMBOLS
D Single family unit or as qualified by a numeral
E.APTS A multi-family residential building cor sponding with local Rating Bureau definition family units per floor, story height, & separation entrance.
ROOM G A residential Building normally occupi by a single family but with 10 or more rooms re ed for lodging purposes.
EXCEPTIONS: 6 rooms in Arizona, Californ Nevada, Utah & Montana; 5 rooms in Oregon Washington; 4 rooms in Idaho & Hawaii.

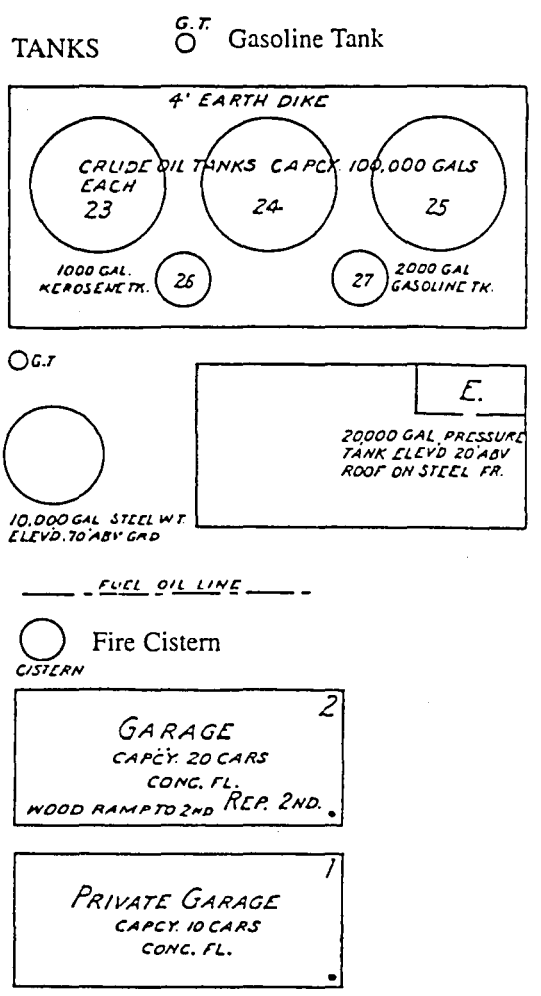
FIRE RESISTIVE CONSTRUCTION SYMBOLS
F.P. Approved masonry walls, floors & roof, inter supports of approved masonry, concrete and/or pr tected steel.
F.P.X. F.P. qualifications except inferior or sub-sta dard walls.
N.C. Fire resistive with unprotected structural ste units
HOLLOW WALL A bonded masonry wall having continuous air space within.
I.E.P. Independent Electric Plant.
IMPASSABLE Not traversable due to condition of te rain
LEDGED WALL A masonry bearing wall wi extended edges to support floors.
LOFT Tenanted by industrial occupancies.
M.L. & P. Concrete or plaster applied to metal lath wood studdings.
M.S. & G. Metal sash & glass.
NOT OPEN Streets appearing on records but not op on ground.
O.L. Windows overlooking the roof above the cor sponding floor of an adjoining building
O.U. Open between ground and first floor.
PILAST'D. Masonry reinforcing columns in walls.
SKYTS. Skylights.
SL. CL. Slate attached to wood siding.
SM. HO. Smoke House.
STABLE Shown by crossing or diagonal lines on di gram.
SUSP'D Suspended Ceilings below floor and/or ro beams.
SYST. System.
TRANSF. Transformer.
WD. Wood.

LAND USE APPLICABLE TO TRACTS FRAGMENTED AT TOP

R	RESIDENTIAL	M	MANUFACTURI
RT	RESIDENTIAL-TRANSIENT	P	PUBLIC OR INSTITUTIONAL
C	COMMERCIAL	U	UTILITY
W	WAREHOUSE	T	TRANSPORTATI

NUMERICAL PREFIX INDICATES THE NUMBER OF ESTABLISHMENTS IN EACH CATEGORY





CODING OF STRUCTURAL UNITS FOR FIREPROOF AND NON-COMBUSTIBLE BUILDINGS

FRAMING

CODE	STRUCTURAL UNIT
A.	Reinforced Concrete Frame.
B.	Reinforced Concrete Joists, Columns, Beams, Trusses, Arches, Masonry Piers.
C.	Protected Steel Frame.
D.	Individually Protected Steel Joists, Columns, Beams, Trusses, Arches.
E.	Indirectly Protected Steel Frame.
F.	Indirectly Protected Steel Joists, Columns, Beams, Trusses, Arches.
G.	Unprotected Steel Frame.
H.	Unprotected Steel Joists, Columns, Beams, Trusses, Arches.
O.	Masonry Bearing Walls.

FLOORS

CODE	STRUCTURAL UNIT
1.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Pre-cast Concrete or Gypsum Slabs or Planks.
2.	Concrete or Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units.
3.	Open Steel Deck or Grating.

LAND USE APPLICABLE TO CHANGES DIAGRAMMED AFTER 5/69

R	RESIDENTIAL	M	MANUFACTURING
RT	RESIDENTIAL-TRANSIENT	P	PUBLIC OR INSTITUTIONAL
C	COMMERCIAL	U	UTILITY
W	WAREHOUSE	T	TRANSPORTATION

NUMERICAL PREFIX INDICATES THE NUMBER OF ESTABLISHMENTS IN EACH CATEGORY

ROOF

CODE	STRUCTURAL UNIT
a.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Reinforced Gypsum Concrete. Pre-cast Concrete or Gypsum Slabs or Planks.
b.	Concrete or Gypsum on Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units.
c.	Incombustible Composition Boards with or without Insulation. Masonry or Metal Tiles.
d.	Steel Deck, Corrugated Metal or Asbestos Protected Metal with or without Insulation.

The coding for framing, floor and roof structural units as shown above is used in describing the construction of fire-resistive buildings. In addition, reports for fire resistive buildings will show the date built and wall construction other than brick.

F P Buildings have masonry floors and roof; concrete and/or directly or indirectly protected steel framing; and clay brick, stone or poured concrete walls.

F P X buildings are F P buildings with inferior walls such as concrete block, cement brick, metal or glass panels, etc.

N C buildings have unprotected steel framing and fire-resistive but non-masonry floors and roof.

FP-1962 (CONC.) A-1-a — A fire-resistive building built in 1962 with concrete walls and reinforced concrete frame, floors, and roof.

FPX-1962 (METAL PANELS) E-2-b — A fire-resistive building built in 1962 with metal panel walls, indirectly protected steel frame, concrete floors and roof on metal lath, noncombustible ceilings.

NC-1962 (C.B.) H-2-d — A noncombustible building built in 1962 with concrete block walls; unprotected steel columns and beams; concrete floors on metal lath and steel deck roof.