Natural
Resource
Technology, Inc.

N R T

SEDIMENT INVESTIGATION REPORT

FORMER MANUFACTURED GAS PLANT SITE
SHEBOYGAN, WISCONSIN

Project No: 1183

Prepared For:

Wisconsin Public Service Corporation
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Prepared By:

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November 10, 1998

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Hydrogeologist
"I, Eric P. Kovatch, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

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Principal Hydrogeologist
"I, Robert J. Karnauskas, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

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EXECUTIVE SUMMARY

Wisconsin Public Service Corporation (WPSC) retained Natural Resource Technology, Inc. (NRT) to conduct an investigation of the Sheboygan River sediments to supplement the on-land investigation results presented in the Phase II environmental investigation report (NRT, June 1996) of the former WPSC Sheboygan II Manufactured Gas Plant (MGP).

An initial sediment investigation (presence/absence study) conducted in October 1995 by NRT indicated the presence of benzene, toluene, ethylbenzene, and xylene (BTEX) and polynuclear aromatic hydrocarbons (PAHs) in sediments in the Sheboygan River adjacent to and downstream of the on-land investigation study area. The results of this initial investigation, as well as the subsequent detailed field investigation conducted during November 1995 and June 1996, satisfy Steps 1 through 3 of WDNR's draft guidance document *Assessing Sediment Quality in Water Bodies Associated with Manufactured Gas Plant Sites* (March 1995 Draft) in evaluating the chemical characteristics of sediments adjacent to the former MGP site.

The objectives of this investigation included the following:

- Identify the presence or absence of compounds of concern in Sheboygan River sediments adjacent, and potentially related, to the former Sheboygan II MGP site;
- Evaluate the areal and vertical extent of these constituents in the sediment;
- Define the characteristics of source material encountered during the investigation;
- Evaluate the characteristics of the river adjacent to the site;
- Evaluate the shoreline outline through time;
- Evaluate other industrial activities along the shoreline upstream and downstream from the site; and,
- Obtain information pertinent to the evaluation of remedial alternatives.

A records search was conducted to compile information on the above with respect to the characteristics of the river adjacent to the site, dredging and filling activities, and the location of other industrial activities along the shoreline. NRT consulted federal and state agencies and databases as well as regional planning commissions to obtain historical maps, industry locations, and hydrologic information.

The unconsolidated sediments were defined and chemically characterized along 12 transects (T701 through T712). The transects extended out from shore approximately 150 feet and were divided into approximately 50-foot long sections. One sediment borehole was completed per section. The number of segments collected per borehole was based on field observations and PID response of the samples.

Sediment samples were collected in November 1995 and June 1996 using Vibrocore sampling techniques. Samples were described in accordance with the Unified Soil Classification System and containerized for field screening and laboratory analysis. Sediment samples were visually inspected for physical characteristics, including color, odor, texture, structure, and presence of sheen or visible tar/oils. The sediments were then screened using the head-space method and a PhotoVac Microtip IS-3000 PID. The sediment samples selected for laboratory analysis were based on visual/odor observations, physical descriptions, and PID results. Selected samples were analyzed for BTEX, PAHs, total cyanide, total phenol, grain size, total organic carbon (TOC), and oil and grease.

The soil boring logs indicate that there is an approximate 2 to 4 foot thick layer of soft river bottom sediments, including silt, sand, and organics. This layer did not exhibit aquatic plants at any of the sample locations. The boring logs indicate this soft upper layer is underlain by glacial sediments, characterized by silty sands and the red brown clay till noted above.

Numerous sediment boreholes exhibited tar, sheen, or tar odors. Although tar was found in a number of borehole locations, depth to tar field observations suggest that there has been little river scour through certain sections of this segment of the river. These field observations indicate that there is a thin band where the tar is located within one foot of the sediment surface. Further downstream, past Center Avenue, the tar is deeper than two feet below the sediment surface.

Total PAH laboratory analytical results indicate the greatest concentrations occur in shallow sediments at locations SD-702BV, SD-702CV, SD-704BV, and SD-705BV, located within approximately 60 feet of the shoreline. Based on the depth to tar over much of the area, the constituents of concern do not appear to have migrated vertically; rather, the results suggest that the constituents of concern may have simply been buried by cleaner sediments deposited since MGP operations have ceased.

Laboratory results indicate that BTEX, PCBs, metals, cyanide, and phenol are not a concern in the sediments at the site compared with the PAH levels.

The investigation results, along with the previous sediment investigations cited herein, indicate that the extent of tar residuals present within Sheboygan River sediments has been determined. Based on these results, NRT recommends that a Remedial Alternatives Option Report be prepared and submitted to WDNR for review and approval.

1 INTRODUCTION

1.1 Overview

Wisconsin Public Service Corporation (WPSC) retained Natural Resource Technology, Inc. (NRT) to conduct an investigation of the Sheboygan River sediments to supplement the on-land investigation results presented in the Phase II environmental investigation report (NRT, June 1996) of the former WPSC Sheboygan II Manufactured Gas Plant (MGP). This investigation was performed in accordance with the *Sediment Sampling Work Plan, Former Sheboygan II Manufactured Gas Plant Site, Sheboygan, Wisconsin* (NRT, August 1995).

An initial sediment investigation (presence/absence study) conducted in October 1995 by NRT indicated the presence of benzene, toluene, ethylbenzene, and xylene (BTEX) and polynuclear aromatic hydrocarbons (PAHs) in sediments in the Sheboygan River adjacent to and downstream of the on-land investigation study area. The results of this initial investigation, as well as the subsequent detailed field investigation conducted during November 1995 and June 1996, satisfy Steps 1 through 3 of WDNR's draft guidance document *Assessing Sediment Quality in Water Bodies Associated with Manufactured Gas Plant Sites* (March 1995 Draft) in evaluating the chemical characteristics of sediments adjacent to the former MGP site.

This report includes the following details of the investigation:

- Project Objectives
- General Site Information
- MGP Operational History
- Historical Shoreline Information
- Water Body Characteristics
- Investigation Methods and Results

- Conclusions
- Recommendations

1.2 Purpose and Objectives

The objectives of this investigation included the following:

- Identify the presence or absence of compounds of concern in Sheboygan River sediments adjacent, and potentially related, to the former Sheboygan II MGP site;
- Evaluate the areal and vertical extent of these constituents in the sediment;
- Define the characteristics of source material encountered during the investigation;
- Evaluate the characteristics of the river adjacent to the site;
- Evaluate the shoreline outline through time;
- Evaluate other industrial activities along the shoreline upstream and downstream from the site; and,
- Obtain information pertinent to the evaluation of remedial alternatives.

The technical approach to achieve the above objectives is described in the following sections.

1.3 Project Background Information

Project Contact:
Wisconsin Public Service Corporation
700 North Adams Street, P.O. Box 19002
Green Bay, WI 54307-9002
Attn.: Ms. Connie Lawniczak - 414/433-1140

Facility Address:
732 North Water Street
Sheboygan, Wisconsin

Site Location:
NW ¼, SW ¼, Section 23, T15N, R23E
City of Sheboygan, Sheboygan County, Wisconsin
(Figure 1)

Site Location:	NW ¼, SW ¼, Section 23, T15N, R23E City of Sheboygan, Sheboygan County, Wisconsin (Figure 1)
Project Description:	Investigation of sediment elevated concentrations to the Sheboygan River adjacent to the former Sheboygan II Manufactured Gas Plant (MGP) site.
Current Use of Property:	Camp Marina - City of Sheboygan recreational vehicle camping and river access facility.
Past Use of Property:	Manufactured Gas Plant
Environmental Consultant:	Natural Resource Technology, Inc. (NRT) 23713 West Paul Road Pewaukee, Wisconsin 53072 Eric P. Kovatch, P.G. & Robert J. Karnauskas, P.G. 414/523-9000

2 SITE BACKGROUND

2.1 MGP Background

MGP facilities used coal as a feedstock to manufacture gas used for lighting and heating as well as producing by-products which served as feedstocks for other chemical manufacturing operations. Nationwide, over 2,000 MGPs operated from 1816 to the early 1960s, until natural gas became readily available and replaced the production of manufactured gas. The history of operation of these facilities is not always well defined, since most MGPs were retired more than 35 years ago. However, sufficient records exist to ascertain the nature of gas production processes used and the probable volumes of gas and other related by-products manufactured. These records also provide information on other relevant factors in evaluating the likelihood for process residuals to remain on the respective properties as well as the probable characteristics and volumes of the residuals.

Two methods of coal gas production were used at the Sheboygan II MGP. The coal gas production method, used from 1872 to 1886, involved heating the coal in an airtight chamber (retort) which produced coke and gases containing a variety of volatilized organic constituents. The process also produced tar which was sold for beneficial reuse, including roofing, wood treatment, and paving roads. The gas was passed through purifiers to remove impurities such as sulfur, carbon dioxide, cyanide, and ammonia. Dry purifiers contained lime or hydrated iron oxide mixed with wood chips. The gas was then stored in large holders on-site prior to distribution for lighting and heating.

The carburetted water gas process, used from 1886 to 1929, involved passing air and steam over the incandescent coal in a brick-filled vessel to form a combustible gas which was then enriched by injecting a fine mist of oil over the bricks. The gas was then purified and stored in holders prior to distribution. The MGP ceased operation in 1929 and the facility was subsequently dismantled (date unknown).

2.2 Location

The former Sheboygan II MGP site is located in Sheboygan, Wisconsin and encompasses an area of approximately 1.5 acres adjacent to the Sheboygan River approximately 1 mile west of Lake Michigan.. The site is bounded by a private docking facility on the north, by North Water Street on the east, by an unused wooded lot on the south, and by the Sheboygan River on the west (Figure 2). There is approximately 35 feet of relief at the site ranging from approximately 590 feet above mean sea level (msl) at the Sheboygan River to approximately 625 feet msl at the top of the riverbank on the southeast side of the site near the intersection of North Water Street and Center Avenue. The majority of the site is flat, including the area of the former MGP structures, which were present at approximately 610 feet msl (SHS, June 1992). Surface water drainage across the site is to the west-southwest, toward the Sheboygan River.

2.3 Site Ownership and Land Use

Numerous companies, which eventually became part of the Sheboygan Gas Light Company (SGLC), owned the former Sheboygan II MGP. In 1922, SGLC merged with other utilities to form WPSC. In 1966, WPSC sold the property to Heileman Brewing Company (Heileman) for use as a parking lot. Heileman sold the property in 1977, and it was then under ownership of three other non-manufacturing companies until the City of Sheboygan purchased the property in 1985. Currently, the property is used as a boat dock and recreational vehicle camping area due to its accessibility to the Sheboygan River. The property is gravel covered and provides seasonal access to slips for recreational watercraft on the river.

2.4 MGP Operations/Former Facilities

Previous structures and existing site conditions are shown on Figure 2. Former MGP-related structures at the site included the following:

- Three gas holders ranging in diameter from approximately 35 ft to 70 ft, the larger two with capacities of 70,000 ft^3 and 200,000 ft^3;
- One gas oil tank approximately 15 feet in diameter;
- Three tar tanks; two approximately 30 ft by 8 ft and one approximately 20 ft by 5 ft;
- One purifier approximately 25 feet in diameter; and,
- Gas manufacturing buildings including a garage, a gas meter shop, and a boiler room.

Based on review of the Sanborn maps, the gas holders were removed from the site sometime between 1950 and 1955. Additionally, review of the 1955 Sanborn map indicates that many of the MGP buildings were still present on the site. Sometime between 1955 and the sale of the property to Heileman in 1966, the remaining facility structures were razed and removed.

2.5 Previous On-Land MGP Investigations

The Phase II investigation (NRT, 1996) included the completion of soil borings and the installation and sampling of groundwater monitoring wells. The results indicated the following:

- Soils beneath the site include glacial deposits intermixed with fill material in the upper 6 to 14 feet below land surface (BLS), and predominately fine grained alluvium deposits below. Ash/cinders, bricks, glass, and wood were also found within the fill. Clay and silt dominate the soils to a depth of approximately 30 feet BLS, with discontinuous units of sand, silty sand, and trace gravel.
- Groundwater occurred between 3.6 and 7.9 feet BLS in the water table monitoring wells and between 13.6 and 16.6 feet BLS in piezometer PZ-701. Groundwater generally flows west-southwest, toward the Sheboygan River. The calculated horizontal hydraulic gradient across the site is relatively low, and a downward vertical gradient was exhibited in the well nest. The horizontal groundwater flow velocities at the site are estimated to range from 3 to 63 feet/year.
- Eight locations displayed evidence of tar, primarily above the water table. At three locations, tar was present up to approximately 20 feet BLS. However, there

does not appear to be an unsaturated source area in soil which contributes to elevated groundwater concentrations.

- Elevated BTEX and PAH groundwater concentrations are widespread across the site while cyanide impacts are present in the southern portion of the site. Wood was present in some of site soils. However, they did not exhibit the blue/black color or other characteristics typically associated with cyanide impacts.
- Results from piezometer PZ-701 indicate a significant reduction in groundwater concentrations between the water table wells and deeper in the aquifer.
- Additional investigation was recommended to evaluate the lateral and vertical extent of groundwater impacts and extent of tar observed in boreholes on the site.
- A feasibility study was recommended to identify and evaluate remedial alternatives, associated costs and develop a long-term management strategy to bring the site into compliance with environmental or remedial performance standards.

The Phase II Remedial Investigation Report was submitted to the WDNR Lake Michigan District office.

2.6 Previous Sediment Investigation

Limited data is available from previous sediment sampling activities. In May and September 1987, Blasland, Bouck & Lee, Inc. (BBL) conducted sediment sampling for PCBs and metals in relation to the Sheboygan River and Harbor Superfund Investigation (WDNR Memo, 1992) Fifteen (15) sediment samples were collected along the length of the river, with 10 samples being collected above the Pennsylvania Avenue bridge and 5 samples downstream of the bridge, during the Superfund investigation. A number of sediment samples were collected near or just downstream of the MGP site in 1992. Three samples, R-98, R-100, and H-20, were observed to have oil or analyzed to have PAHs in the sediments. Sample R-98 was collected near the downstream end of Boat Island and the sediment was described as "oil saturated" from 2 to 6 feet below the sediment surface. Sediment samples R-100 and H-20 were collected immediately downstream of the Pennsylvania Avenue bridge. Sample R-100 was described as "oil saturated" from 4 to 6 feet below the sediment surface; however, neither sample R-98 or R-100 were

analyzed for PAHs. Sample H-20 had a total PAHs concentration of 70 mg/kg. No mention of oil saturated sediments was noted for samples R-99 and R-101, collected on the far side of Boat Island, opposite the MGP site. The approximate locations of these samples are shown on Plate 1 and on maps included in Appendix A. In addition to samples R-99 and R-101, there was no mention of elevated PAHs downstream of sample location H-20. The excerpt from the 1992 WDNR memo concerning samples R-98, R-100, and H-20 and the MGP site is also included in Appendix A.

In February 1995, WDNR collected one sediment sample adjacent to the MGP. This sample, collected from 34 to 39 inches below the sediment surface, appeared to contain coal tar and was analyzed for PAHs. The results indicated that total PAHs exceeded 3,000 mg/kg (Appendix B). NRT did not include the location of this sampling point on Plate 1 because the sampling point was only approximately located by WDNR relative to the shoreline and island.

3 SCOPE OF INVESTIGATION

3.1 Overview

The Sheboygan River sediment investigation consisted of three steps, in accordance with the WDNR draft guidance (1995). These steps included the following tasks:

- Records Search (Step 1)
- Presence/Absence of Elevated Sediment Concentrations (Step 2)
- Detailed Field Investigation (Step 3)

These tasks are described in detail below.

3.2 Records Search (Step 1)

A records search was conducted to complement the historic, hydrologic, and geologic information already included in the Phase I and Phase II investigation reports (SHS, June 1994; and NRT, 1996). The historic information was compiled in accordance with Section 4.1 through 4.3 of the WDNR March 2, 1995 draft guidance:

- Location of other industrial activities along the shoreline which have the potential to discharge contaminants similar in character to those associated with MGP operations;
- Dredging activities along the Sheboygan River in the vicinity of the MGP site; and,
- Characteristics of the river adjacent to the site.

NRT consulted federal and state agencies/databases as well as regional planning commissions to obtain historical maps, industry locations, and hydrologic information. In addition, NRT reviewed other reports available from the WDNR and referenced in the June, 1994 Study Plan.

3.3 Initial Field Investigation (Step 2)

The sample collection and screening methods used were those described in the *Sediment Sampling Work Plan, Former Sheboygan II Manufactured Gas Plant Site, Sheboygan, Wisconsin* (NRT, August 1995). In October 1995, NRT conducted the initial sediment sampling with a manually driven Ogeechee™ corer and a Ponar™ grab dredge sampler. The hand cored sediment sample locations are shown on Plate 1. Six transects, consisting of 22 locations, were completed during October 1995. These transects are identified as T701 through T706 and the sampling locations are labeled SD-701A through SD-706C.

The longest sediment core collected using the Ogeechee™ corer was approximately 30 inches long. Therefore, use of the Ogeechee™ sand corer and the Ponar™ grab dredge sampler served as a screening tool for evaluation of the upper sediments when a coring method enabling greater sediment penetration was employed during the subsequent Step 3 field investigation.

The following is a summary of field observations from the initial investigation (Step 2):

- All six sediment sample transects showed indications of either MGP tar odor or actual MGP tar. Sediment samples SD702 A & B and SD-703-A (Plate 1) exhibited coal tar odors in sediments recovered in the hand-core samples. The samples were located within 25 feet of the shoreline.

- Sediment samples SD701-A, SD703-B, SD704-A & B, SD705-A, B, & C, and SD706-B (Plate 1) all exhibited coal tar in sediments recovered in the hand-core samples or on the sounding pole, used to evaluate the depth of sediments present at a given location. These samples were within 20 feet of the shore at SD701 and within 60 feet of the shore at SD704 and SD706. In transects T703 and T705, tar was noted 70 feet and 100 feet, respectively, out from shore. The locations where odor and tar were noted in field samples are shown on Plate 1. A summary of the field observations from the initial investigation are included on Table 1.

Analytical results for the Step 2 investigation are discussed along with the Step 3 findings in Section 4.0.

3.4 Detailed Field Investigation (Step 3)

Following the presence/absence study which revealed concentrations of PAHs in the sediments, NRT conducted a more detailed field investigation in November 1995 and June 1996 to evaluate the areal and vertical distribution of compounds of concern and sediment characteristics.

3.4.1 Sample Location and Sediment Mapping

During Steps 2 and 3, NRT completed 12 transects from approximately 375 feet upstream to approximately 900 feet downstream of the former MGP site, for a total study area length of approximately of 1,600 feet (Plate 1). For ease of data interpretation, NRT utilized the following sample nomenclature:

- SD701- through SD706- (A, B, C, or D) - Initial investigation core sample. 'A' through 'D' refer to locations increasing in distance perpendicular to shore.

- SD701- through SD712- (A, B, C, or D)V - Detailed investigation core sample. Same as above, except collected with Vibrocore™. Thus samples SD705-B and SD705-BV were collected at or near the same location.

The thickness of unconsolidated sediments and sediment stratigraphy was mapped along transects T701 through T712. The transects were located by standard land surveying techniques to precisely locate the transect start locations on shore, and the boat location within the river.

A sounding pole with an attached ruler was used to establish the depth to the top of the sediment surface, and, where possible, unconsolidated sediment deposit thickness. At a minimum, one core was collected within 30 feet of shore. Additional cores were collected away from shore until at least one clean core sample was obtained along a transect. The number of segments collected per core was based on field observations and PID response of the samples. Grab

(dredge) samples were obtained at select locations to evaluate sediment quality within the upper portions of the sediment column.

3.4.2 Sampling Equipment and Method

The Step 3 investigation utilized the Vibrocore™ sediment collection technique, capable of recovering as much as 10 feet of unconsolidated river sediment as well as penetrating the observed wood on the river bottom. This pontoon mounted device penetrates unconsolidated sediments by vibrating a continuous 4-inch core tube through the sediment. The continuous core tube is then cut by a vibrating saw for sediment sub-sampling. NRT took continuous photographic logs of all sediment cores collected utilizing the Vibrocore™ .

Sediment samples were described in accordance with the Unified Soil Classification System and containerized for field screening and laboratory analysis. Sediment samples were visually inspected for physical characteristics, including color, odor, texture, structure, and, presence of oil sheen or visible oils and tars. The soils were then screened using the head-space method with a PhotoVac Microtip IS-3000 photoionization detector (PID). The PID utilized a 10.6 eV lamp and was calibrated using 100 ppm isobutylene gas as the calibration standard.

Samples were selected for laboratory analysis based on PID readings, physical characteristics, odors, and visual descriptions. Chemical parameters of interest for this investigation are those which are specifically indicative of MGP related activities. Through steps 2 and 3 of this investigation, the number of sediment samples collected for laboratory analysis were as follows:

Parameter	Method	Number of Samples Submitted for Laboratory Analyses
PAHs	U.S. EPA Method 8310	7 (Step 2) and 19 (Step 3) = 26
BTEX	U.S. EPA Method 8260	7 (Step 2) and 19 (Step 3) = 26
Cyanide Species	U.S. EPA Method 9010	7 (Step 2) and 6 (Step 3) = 13
Phenol	U.S. EPA Method 9065M	7 (Step 2) and 6 (Step 3) = 13
Oil & Grease	U.S. EPA Method 413.1	0 (Step 2) and 3 (Step 3) = 3
Total Organic Carbon	U.S. EPA Method 9060	7 (Step 2) and 12 (Step 3) = 19
RCRA Metals	Various U.S. EPA Methods	0 (Step 2) and 3 (Step 3) = 3
PCBs	U.S. EPA Method 8080A	0 (Step 2) and 3 (Step 3) = 3

4 INVESTIGATION RESULTS

4.1 Records Search (Step 1)

4.1.1 Previous Sheboygan River Sediment Investigation

To address concerns relating to sediments in the Great Lakes, Annex 14 of the 1978 Great Lakes Water Quality Agreement between the United States and Canada (amended in 1987) stipulates that cooperating parties identify the nature and extent of sediment impairment in the Great Lakes, and remediate those areas assessed as impairing beneficial/healthy utilization of the lakes and tributaries. Since that time, 43 Areas of Concern (AOCs) identified in the agreement, including the Sheboygan River, have undergone investigation toward a river-specific Remedial Action Plan (RAP). The Sheboygan River AOC includes the lower Sheboygan River downstream from the Sheboygan Falls Dam, including the entire harbor and nearshore Lake Michigan and the MGP site is located within this area. In 1995 WDNR published the *Sheboygan River Remedial Action Plan - A Plan to Clean Up Sheboygan Area Rivers and Harbor* (*Sheboygan River RAP*).

The *Sheboygan River RAP* included problem identification, sources of pollution, goals and objectives, and recommendations to reach the goals. The *Sheboygan River RAP* identified point and nonpoint sources of several compounds of concern within the river. Specific point sources included the following:

- Tecumseh Products Company;
- Kohler Company & Landfill Superfund Site;
- Thomas Industries;
- Diecast Corporation;
- C. Reiss Coal Company; and
- WPSC Former MGP Site.

The *Sheboygan River RAP* identified several constituents of concern within the river and indicated that WDNR was adopting a "triad approach" to characterize sediment. This triad approach consists of assessing the sediment bulk chemistry, toxicity, and resident benthic community structure. The constituents of concern identified at different locations within the AOC (both upstream and downstream from the MGP site) included PCBs, metals, PAHs, ammonia/nitrogen, total Kjeldahl nitrogen, and phosphorus. Preliminary benthic surveys on the Sheboygan River indicated that there are distinct differences in the benthic communities between the reaches above Sheboygan Falls and those within the AOC requiring further study. Additionally, a biotic index comparison of samples collected in areas unaffected by PCBs versus those collected below the dam and further downstream into the City of Sheboygan showed very little difference between the sites. The biotic index comparison measures the impact that organic enrichment has on a community. Therefore, without further study, these results are inconclusive.

4.1.2 Possible Alternate Sources of Contaminants of Concern

Nonpoint sources of pollution can also be a significant source of river sediment impacts (WDNR, 1995). The nonpoint sources of pollution applicable to the Sheboygan River includes the following:

Nonpoint Sources	Typical Pollutants
Atmospheric deposition from automobiles and point sources	Heavy metals (from autos), carbon dioxide, sulfur dioxide, nitrates, and acids formed from these substances.
Agricultural activities and runoff	Pesticides, VOCs, and PAHs.
Paper manufacturing/recycling operations	PCBs, PCP, and heavy metals.
Construction site erosion	Suspended solids and oil & grease.
Runoff from storage piles	Suspended solids and chlorides, some heavy metals, and PAHs from coal piles.
Storm sewer outfalls	Heavy metals, pesticides, inorganic and organic pollutants, BOD, COD, suspended solids, nutrients, and bacteria.

According to the *Sheboygan River RAP*, approximately 600 general and 150 specific WPDES permits have been issued to industries along the Sheboygan River. The City of Sheboygan has approximately 45 storm water runoff outfalls which discharge directly into the Sheboygan River. The Sheboygan Wastewater Treatment Plant (WWTP) discharges directly into Lake Michigan, approximately two miles south of the mouth of the river; therefore, WWTP activities should not affect sediments in the vicinity of the site.

Review of the Sanborn maps and City Directory Abstract (Appendix C) indicates historical development activities adjacent to the former Sheboygan Bay MGP Site included a tannery, toy factory, and brewery. Based on this information, tannery operations terminated sometime between 1903 and 1940 and the property was sold to Garton Toy Company (Garton). The 1950 Sanborn map indicates Garton used the portion of the site adjacent to the river and directly across New York Avenue from the MGP site as the location for paint and lacquer spraying.

Animal hair was observed in a few of the sediment boreholes (Table 1), suggesting that some tannery by-products or wastes found their way into the Sheboygan River. Based on the presence of these by-products, it is possible that elevated concentrations of metals observed in sediments in this area or downstream may result from tannery activities. Additionally, review of the Sanborn maps indicates that the former Garton facility conducted painting and lacquering operations adjacent to the river bank. Possible introduction of these paint/lacquer wastes into the river also may account for the presence of VOCs and PAHs in sediments.

4.1.3 Location and Configuration of the Former Shoreline

Sanborn maps (Appendix C) show the historic shoreline for the Sheboygan River at the MGP site. Between 1891 and 1903, the channel appeared to have been straightened by placement of fill approximately 60 feet in the river. New York and Center Avenue were also extended and a coal shed was constructed over the fill. The maps indicate that the shoreline position has not changed substantially since 1903.

4.1.4 Sheboygan River Dredging Activities Adjacent to the MGP Site

The U. S. Army Corps of Engineers (U.S. ACE) maintains a navigation channel and turning basin within the river at an approximate depth of 21 feet, more than one mile downstream of the MGP site. According to U.S. ACE records, dredging activities have not been conducted upstream of the 8th Street bridge, approximately 2,200 feet downstream of the Pennsylvania Avenue bridge and more than 2,700 feet downstream of the MGP site. Maintenance dredging of the harbor last occurred in 1991 and was approved by WDNR (*Sheboygan River RAP*). Dredged materials were disposed of south of the harbor as part of a beach nourishment project.

Thus, no dredging activities have been documented in the study area; however, NRT was unable to locate documentation of boat landing construction activities adjacent to the site.

4.1.5 River Characteristics and Flow Information

Flow of the Sheboygan River is controlled by the dam at Sheboygan Falls. The United States Geological Survey (USGS) currently operates two automated stream gauging stations; one near Interstate Highway I-43 and the other near the river mouth. The stream flow data discussed below was collected from Hydrologic Station # 040860041, located at "Sheboygan River at Mouth at Sheboygan, WI". The station is located over one mile downstream of the WPSC site. The records reviewed for this stream gauging station are included in Appendix D.

The USGS information indicates that the Sheboygan River has a drainage area of 427 square miles (mi^2). Daily mean discharge data (cubic feet/second [cfs]) between October 1993 and September 1995 are summarized below:

Summary of Flow Conditions	Flow (cfs)	Date
Daily Average for 2 year Record	177	---
Daily Maximum for 2 year Record	1,440	Mar. 23, 1994
Daily Minimum for 2 year Record	32	Sept. 15, 1995

In addition, the monthly average streamflow for this period is included in Appendix D and is summarized below:

Month	Average Streamflow Discharge (in cfs)	Month	Average Streamflow Discharge (in cfs)
January	2,517	July	1,953
February	5,932	August	2,307
March	18,009	September	1,500
April	12,280	October	3,818
May	6,377	November	3,941
June	2,415	December	3,722

For this study period, the information indicates March had the highest mean daily flow rate (18,009 cfs) and that September had the lowest mean daily flow rate (1,500 cfs). Water levels and streamflow in the Sheboygan River are hydraulically controlled by several dams located upstream of the MGP site near Sheboygan Falls and Kohler, Wisconsin. These results indicate the variability of flow in the Sheboygan River and the impact of both snowfall accumulation (and the resulting spring run-off) and precipitation during late spring/early summer in any given year.

The Sheboygan River flows unimpeded from the MGP site downstream to Lake Michigan. No wetlands are associated with the MGP site.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Sheboygan, dated April 2, 1991, indicates that the entire MGP site lies within the 100-year floodplain. However, due to the steep embankment which borders the site and Water Street, this area of the 100-year floodplain is contained within the site. The portion of the FIRM which shows the area surrounding the MGP site is included in Appendix E (a copy of the map legend is also included).

4.2 Overview of River Sediments

Cross sections showing the sediment lithologies are presented on Plate 2 (Sections A-A' through J-J'). The cross sections run roughly perpendicular from the shoreline into the river. Based on an assumed river elevation of 582 feet mean sea level (msl), the river bed ranged from approximately 571.67 to 580.00 feet msl. The 582 feet msl river elevation was based on the USGS topographic quadrangle which indicates the water level in Lake Michigan outside of the Sheboygan Harbor is approximately 580 feet msl.

The bottom of the Sheboygan River ranged from approximately 2 to 10 feet below the water surface during the investigation. Hand samples collected with the Ogeechee sand corer ranged in depth from 3 to 31 inches. Vibrocore samples ranged in depth from 36 to 126 inches. A maximum core length of 126 inches below the sediment surface was obtained at SD-705CV. The boring logs for all the sediment boreholes are included in Appendix F.

The Sheboygan River sediments in the study area are primarily characterized by variable layers of silt, silty sand, and sand. In many of the boreholes, dark brown to black organic material was intermixed with the upper layer of silts. The upper silty sediments range in thickness from approximately four to 50 inches; however, at SD-703BV, the silt layer extended to 95 inches, which was the bottom of the sediment borehole.

4.3 Field Observations/Screening

Field observations, including depth to the top of the sediment surface, sampled interval, PID readings, and a field description are summarized in Table 1. The PID results do not correlate well with noted strong odors or the presence of tar at any given location. The results indicate that a significant presence of tar does not necessarily indicate that the PID will respond to the PAH compounds present within the tar. Therefore, as stated above, selection of samples for laboratory analysis also relied on visual observations, odor, and physical descriptions.

During Step 2, immunoassay results for PAHs were compared to laboratory analytical results. Qualitatively higher immunoassay results indicated the presence of laboratory detectable levels of PAHs. However, the results were not a reliable indicator of quantitative levels of PAHs, and thus were not used further for data analysis.

Observable indications of organic constituents present in the upper sediments generally consisted of an odor, sheen, and/or the presence of tar (Table 1). The locations where any of these three indicators were present are shown on Plate 1. These locations extend approximately 1,500 feet along the shoreline and approximately 125 feet out from the shore at the confluence of the rivers (Plate 1). As discussed below, the areas outlined on Plate 1 correspond to the areas where PAHs and BTEX were also detected in laboratory analysis of sediment samples. No visible or olfactory evidence of organic compounds were noted along transects T708 and T709 or at individual sampling points SD-703CV, SD-710BV, SD-710CV, and SD-712BV.

The odors noted in most samples generally exhibited a characteristic and usually very distinctive moth-ball scent. Slight odors noted in a few boreholes may have been due to the presence of organic material. A hydrocarbon sheen was noted in most of the same boreholes where odors were noted.

Tar was observed in a number of the sediment sampling locations. These sampling locations are within 125 feet of the current shoreline and extend approximately 1,300 feet along the shore. Tar was present to a depth of 102 inches and 112 inches in samples SD-704BV and SD-705CV, respectively. In these boreholes, as well as four others, tar was present in the lowest sediment layer sampled. These boreholes were terminated between 49 inches and 112 inches below the sediment surface.

Sediment samples indicate that there is an approximate 2 to 4 foot thick layer of soft river bottom sediments, including silt, sand, and organics. This layer did not exhibit aquatic plants at any of the sample locations. Cross sections A-A' though I-I' indicate this soft upper layer is underlain by glacial sediments, characterized by silty sands and the red brown clay till noted above.

MGP operations ceased in 1929 and the tannery operations ceased sometime between 1903 and 1940. Therefore, it is assumed that the top layer of tar and animal hair observed in the sediments was placed in the river following site fill operations (sometime between 1891 and 1903 as discussed above) and these materials have been covered by natural sedimentation processes. Based on the depth at which the tar and the animal hair were observed within the sediment, the results suggest that there has been little river scour through certain sections of this segment of the river. The depth to tar from field observations (Table 1) has been contoured and is shown on Plate 3. The resulting contours indicate that there is a thin band where the tar is located within one foot of the sediment surface. Further downstream, past Center Avenue, the tar is deeper than two feet below the sediment surface.

4.4 Laboratory Analytical Results

4.4.1 Laboratory Quality Assurance

Laboratory analytical reports were reviewed to check laboratory QA/QC measures. Samples were either extracted or analyzed within the required method hold times and the results are valid according to the appropriate laboratory methods with the exception of the following:

Sample	Parameters Flagged	Reason for Flag
SD701BV (47-69)	BTEX	Vibration of these samples during shipping resulted in separation of the solids and liquid in the sample jar. Separation resulted in jar headspace which caused the sample to be flagged.
SD702CV (0-27)	BTEX	
SD702CV (27-64)	BTEX	
SD702CV (80-89)	BTEX	
SD707CV (60-79)	BTEX	
SD702BV (75-86)	BTEX	Sample analyzed one day past the hold time due to machine malfunction and breakdown.
SD705BV (45-47)	BTEX	

These BTEX results are still useful for screening purposes as to VOC concentrations present in different areas. Based on other MGP site and sediment investigations, BTEX compounds are not the dominant constituents of concern and when present, typically occur with the PAHs.

Sediment samples submitted for laboratory analysis were selected based on visual/odor observations and PID results. The sediment sample laboratory analytical results are summarized on Tables 2, 3, and 4. The laboratory analytical reports are included in Appendix G.

4.4.2 PAH and BTEX Results

Total PAH and total BTEX results are tabulated on Tables 2 and 3, respectively for both the hand-cored and Vibrocore samples. The Step 3 laboratory analytical results are also shown on the cross sections (Plate 1). Nineteen (19) sediment samples from 15 different sediment boreholes were submitted for laboratory analysis during Step 3 based on the following:

Sample ID	Sample Depth (Inches)	Predominant Soil Type	Purpose
SD-701BV	47-69	Sand with Tar	Confirm vertical & areal extent
SD-702BV	75-86	Unknown (log lost)	Confirm vertical extent
SD-702CV	0-27	Silt with Organics	Confirm areal extent
SD-702CV	27-64	Tar (with hair)	Confirm vertical & areal extent
SD-702CV	80-89	Sand with Tar	Confirm vertical & areal extent
SD-703BV	37-42	Silt	Confirm olfactory observations & vertical/areal extent
SD-704BV	28-102	Silt with Tar	Confirm olfactory observations & vertical/areal extent
SD-704BV	112-116	Clay	Confirm vertical extent
SD-705BV	45-47	Gravel with Tar	Confirm vertical extent
SD-705BV	53-58	Clay	Confirm vertical extent
SD-705DV	36-54	Sand	Confirm vertical & areal extent
SD-706CV	46-59	Silt with Organics	Confirm vertical & areal extent
SD-707BV	35-43	Sand	Confirm vertical extent
SD-707CV	60-79	Silt with hair	Confirm vertical & areal extent
SD-708AV	53-66	Sand	Confirm vertical & areal extent
SD-709AV	11-24	Sand with Organics	Confirm areal extent
SD-711AV	36-48	Sand	Confirm vertical extent
SD-712AV	38-48	Silt with sheen	Confirm vertical & areal extent
SD-712BV	48-77	Silt with Organics	Confirm vertical & areal extent

Based on the PAH and BTEX analytical laboratory results, the highest concentrations of these parameters are present in the lower sediments of SD-702BV, SD-702CV, SD-704BV, and SD-705BV. These sediment boreholes are all located adjacent to and just downstream of the site. The depths at which these samples were collected ranged from 27 to 102 inches below the sediment surface. Although some significant depths of tar have been noted, the deepest occurrences of tar are present in transects T704 and T-705.

The results from sediment sample SD-711AV indicate that the constituents of concern may have migrated approximately 600 feet downstream of the site. However, the PAH and BTEX concentrations in samples downstream of transect T-705 are significantly lower than the concentrations seen in samples from transects T-702, T-704, and T-705. Additionally, the results indicate that sediments exposed to MGP residuals, especially downstream of transect T-705, were buried below cleaner sediment since being introduced into the river. Sediment samples collected upstream of the MGP site (from SD-708AV & BV and SD-709AV) and approximately 900 feet downstream (SD-712AV and BV) of the MGP site, did not exhibit elevated total PAH or BTEX concentrations. These results indicate that the extent of constituents of concern has been determined.

4.4.3 Cyanide and Phenol

Thirteen sediment samples were analyzed for total cyanide, weak acid dissociable cyanide, and phenol (Table 4) in October and November 1995. There was little evidence of blue/black sheen and/or blue black wood chips observed in the sediments. The cyanide species were detected in five of 13 sediment samples but exceeded 1 mg/kg only in sample SD-705BV. Phenol was present in only four of 13 sediment samples and concentrations exceeded 5 mg/kg only in sample SD-702BV. The low levels cyanide and phenol detected during the Step 2 investigation suggested that these compounds were not a concern in sediments at the site. Therefore, no cyanide or phenol samples were analyzed during the Step 3 investigation.

4.4.4 PCB and RCRA Metals

Based on the previous sediment sampling studies conducted on the Sheboygan River, three samples were submitted for laboratory analysis of PCBs and RCRA Metals. Neither PCBs nor metals are directly attributable to coal-gasification activities and neither is a coal gas by-product.

The PCB concentrations detected in sediments at the site ranged from 0.42 mg/kg to 2.3 mg/kg (Table 4). PCB concentrations detected upstream of the MGP site as part of the *Sheboygan River and Harbor Superfund Project* (Sheboygan River RAP, 1995) ranged between 890 and 4,500 mg/kg. Although no action level has been established for PCBs in sediment, WDNR is currently negotiating with the Potentially Responsible Party (PRP) to remediate and/or contain sediments with PCB concentrations greater than 50 mg/kg. Therefore, based on the investigation results, the PCB concentrations detected near the MGP site are not a cause for concern.

Samples analyzed for RCRA metals indicate that these parameters were present in sediment samples collected from boreholes where animal hair (suspected tannery waste) was present. In sample SD-701BV, a location where no animal hair was observed, no metal compounds were detected. These results, along with the fact that metals are not traditionally related to MGP operations, indicate that the metals are due to the tannery wastes.

4.4.5 Feasibility Parameter Results

TOC and oil & grease (O&G) samples were collected to aid in feasibility analysis (Table 4). The TOC results vary considerably over the area of the site, from 0.11% to over 10.00% (1,100 to greater than [>] 100,000 mg/kg). Sources of TOC may include wood, natural detritus, or tar. The results are greatest at SD-702CV (27-64), a location where tar was present and the total PAH and BTEX concentrations were elevated.

Sample SD-702CV (27-64) also exhibited the highest O&G level noted (43,400 mg/kg); the O&G level in both of the other two samples exceeded 1,000 mg/kg.

5 CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

5.1.1 Sediment Geology

Completed sediment boring logs and the completed cross sections A-A' through J-J' indicate that 2 to 4 foot a layer of soft river sediments is present on the river bed. Throughout most of the study area these soft "upper" sediments ranged in thickness up to approximately four feet and are largely comprised of intermixed black silt, sand, and natural detritus with occasional clay and gravels. Based on the logs these "upper" sediments are fairly consist across the study area. Sandy sediments were detected at the base of many of the sediment samples.

Based on the presence of tar within zero to two feet of the sediment surface, the majority of tar accumulation is present adjacent to the MGP site and in an area approximately 450 feet downstream of the site and for a distance of approximately 50 to 125 feet from the shore.

Animal remains from nearby historical tannery operations were also observed in sediments collected as part of the investigation. These tannery wastes were randomly located throughout the study area at different intervals within the samples. The tannery wastes do not appear to be a significant source of BTEX or PAHs within the river sediments.

5.1.2 Sediment Chemistry

Total PAH laboratory analytical results indicate the greatest concentrations occur in shallow sediments at locations SD-702BV, SD-702CV, SD-704BV, and SD-705BV, located within approximately 60 feet of the shoreline. Based on the depth to tar over much of the area, the constituents of concern do not appear to have migrated vertically; rather, the results suggest that

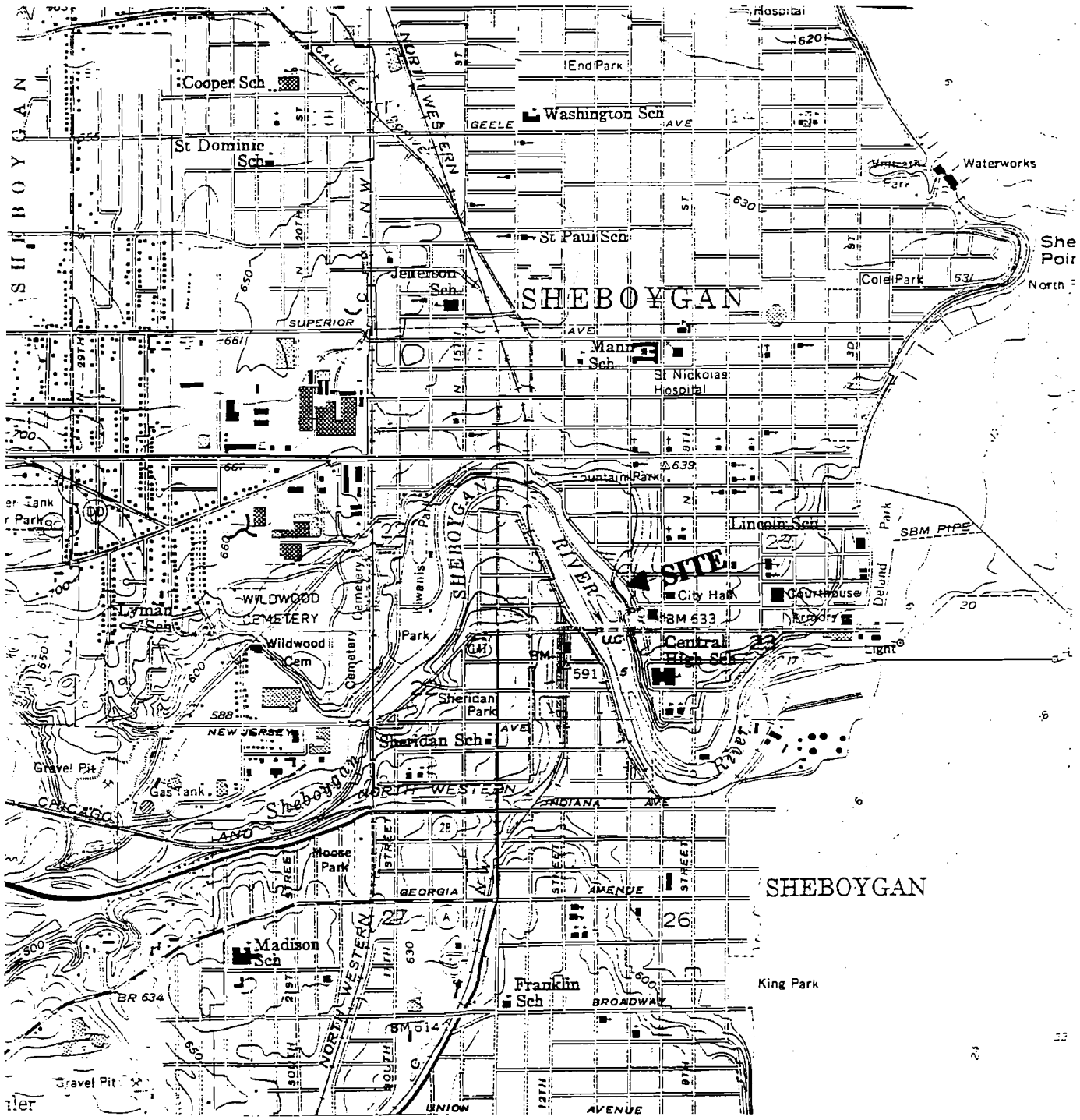
the constituents of concern may have simply been buried by cleaner sediments deposited since MGP operations have ceased.

Laboratory results indicate that BTEX, PCBs, metals, cyanide, and phenol are not a concern in the sediments at the site compared with the PAH levels.

5.2 Recommendations

The Step 2 and Step 3 investigation results, along with the previous sediment investigations cited herein, indicate that the extent of MGP residuals present within Sheboygan River sediments has been defined. Based on these results, NRT recommends that a Remedial Alternatives Option Report be prepared and submitted to WDNR.

FIGURES



SOURCE: USGS 7.5 MINUTE QUADRANGLE, SHEBOYGAN NORTH. DATED 1954. PHOTOREVISED 1973.

Natural Resource Technology

N R T

SITE LOCATION MAP

FORMER SHEBOYGAN II MGP SITE – WPSC
SHEBOYGAN, WISCONSIN

DRAWN BY: TAS APPROVED BY: DATE:

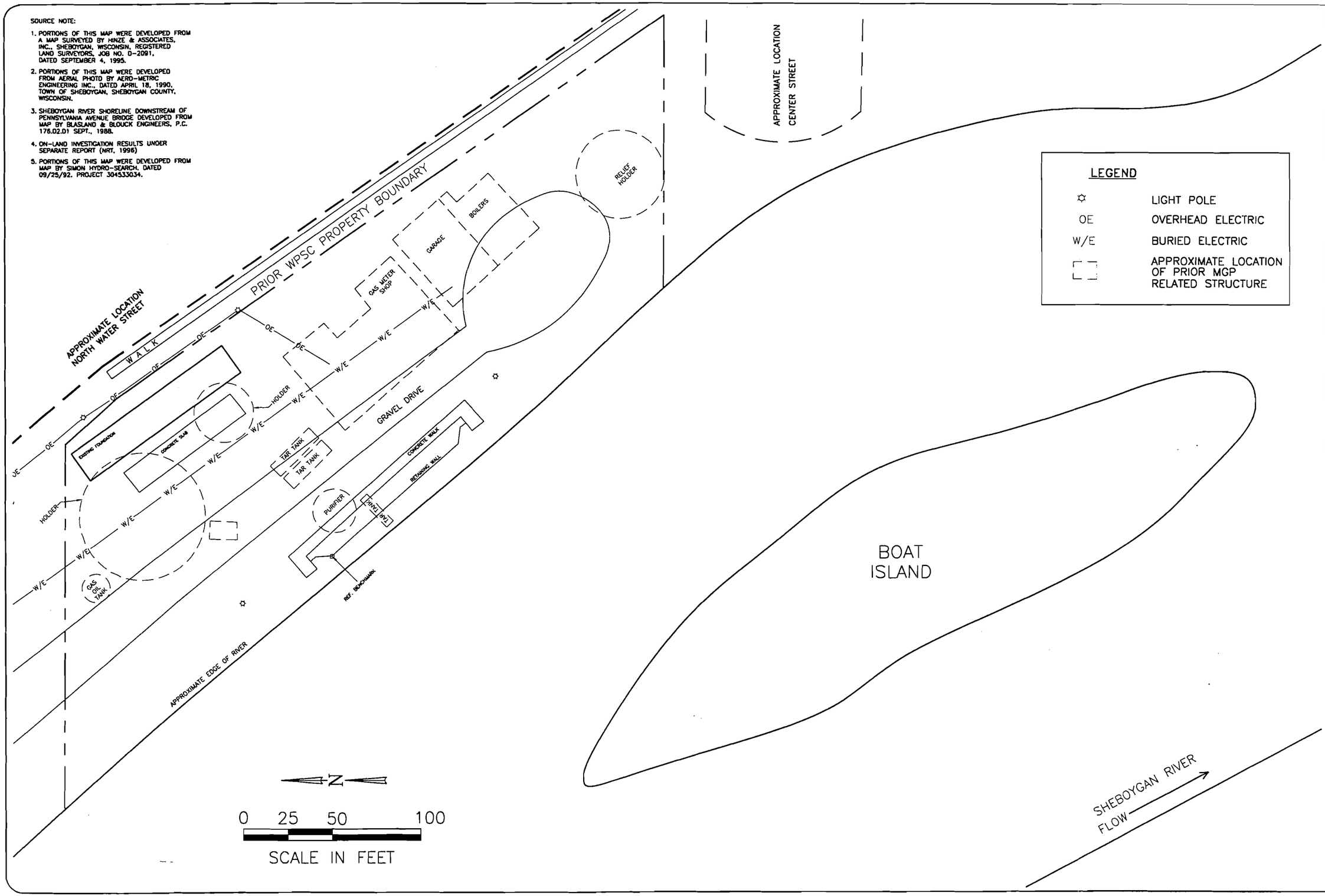
PROJECT NO. 1183

DRAWING NO. 1183-A01

FIGURE NO. 1

SOURCE NOTE:

1. PORTIONS OF THIS MAP WERE DEVELOPED FROM A MAP SURVEYED BY HINZE & ASSOCIATES, INC., SHEBOYGAN, WISCONSIN, REGISTERED LAND SURVEYORS, JOB NO. 0-2091, DATED SEPTEMBER 4, 1995.
2. PORTIONS OF THIS MAP WERE DEVELOPED FROM AERIAL PHOTO BY AERO-METRIC ENGINEERING INC., DATED APRIL 18, 1990, TOWN OF SHEBOYGAN, SHEBOYGAN COUNTY, WISCONSIN.
3. SHEBOYGAN RIVER SHORELINE DOWNSTREAM OF PENNSYLVANIA AVENUE BRIDGE DEVELOPED FROM MAP BY BLASLAND & BLOUCK ENGINEERS, P.C. 176.02.01 SEPT., 1988.
4. ON-LAND INVESTIGATION RESULTS UNDER SEPARATE REPORT (NRT, 1996)
5. PORTIONS OF THIS MAP WERE DEVELOPED FROM MAP BY SIMON HYDRO-SEARCH, DATED 09/25/92. PROJECT 304533034.



DRAWN BY: TAS | DATE: 2/26/98
CHECKED BY: | DATE:
APPROVED BY: | DATE:
AUTOCAD FILE: 1183-B01.DWG

FORMER MGP STRUCTURES

FORMER SHEBOYGAN II MGP SITE - WPSC
SHEBOYGAN, WISCONSIN

Natural Resource Technology

PROJECT NO. 1183/4.3

DRAWING NO. 1183-B01

FIGURE NO. 2

TABLES

Table 1. Field Observations at Sediment Sample Locations
Former Sheboygan II MGP Site - WPSC

Sample Number**	Sample Date	Depth to Sediment / Water Interface (inches)	Sediment Elevation above MSL (feet)	Sample Interval (inches)	Filed Observations					
					PID Reading	Assay Result	Hair	Odor	Sheen	Tar
BKG-700	10/16/95	nm	nm	0-15	4.6	1.57	---	---	---	---
SD-701A	10/17/95	37	578.92	0-31	22	HI	---	yes	---	yes
SD-701B	10/17/95	40	578.67	0-10	0	2.37	---	---	---	---
SD-701BV	06/11/96	54	577.50	0-26	na	na	---	---	---	---
				26-34	na	na	---	---	---	---
				34-44	na	na	---	yes	---	yes
				44-45	na	na	---	yes	---	yes
				45-47	na	na	---	yes	---	yes
				47-49	na	na	---	yes	---	yes
SD-701C	10/17/95	43	578.42	0-8	0	2.1	---	---	---	---
SD-702A	10/16/95	44	578.33	0-16.75	1667	1.83	---	yes	yes	---
SD-702B	10/16/95	26	579.83	0-15.25	0	1.71	---	---	yes	---
SD-702BV	11/05/95	nm	nm	0-86	na	na	---	yes	yes	yes
SD-702C	10/16/95	67	576.42	0-3	1.2	1.57	---	---	---	---
SD-702CV	06/11/96	61	576.92	0-27	na	na	---	---	---	---
				27-64	na	na	yes	yes	---	yes
				64-89	na	na	yes	yes	---	yes
SD-702DV	06/13/96	62	576.83	0-17	na	na	---	---	---	---
				17-43	na	na	---	---	---	---
				43-57	na	na	yes	---	---	yes
				57-61	na	na	yes	---	---	yes
				61-67	na	na	---	---	---	yes
				67-75	na	na	---	---	---	yes
				75-82	na	na	yes	yes	---	---
				82-91	na	na	---	yes	---	---
				91-100	na	na	---	yes	---	---
SD-703A	10/17/95	40	578.67	0-19	72.7	HI	---	yes	---	yes
SD-703B	10/17/95	47	578.08	0-14	4.7	1.95	---	---	---	---
SD-703BV	06/13/96	63	576.75	0-95	na	na	---	yes	yes	---
SD-703C	10/17/95	58	577.17	0-23	8.1	0.93	---	---	---	---
SD-703CV	06/18/96	78	575.50	0-43	na	na	---	---	---	---
				43-68	na	na	---	---	---	---
				68-80	na	na	---	---	---	---
SD-703D	10/20/95	68	576.33	0-10	13.6	1.77	---	---	---	---
SD-704A	10/17/95	37	578.92	0-17.5	7.1	29.95	---	yes	---	---
SD-704B	10/17/95	51	577.75	0-23	43.1	HI	---	---	---	yes
SD-704BV	06/11/96	70	576.17	0-17	na	na	---	yes	---	---
				17-28	na	na	---	yes	---	yes
				28-102	na	na	yes	yes	---	yes
				102-108	na	na	---	yes	---	---
				108-116	na	na	---	yes	---	---
SD-704C	10/17/95	64	576.67	0-21	6.4	1.37	---	---	---	---
SD-704CV	06/17/96	74	575.83	0-49	na	na	---	yes	---	yes
				49-67	na	na	yes	yes	---	yes
				67-76	na	na	---	yes	---	yes
				76-86	na	na	yes	yes	---	yes
				86-93	na	na	---	yes	---	yes
SD-704D	10/20/95	57	577.25	0-3	na	na	---	---	---	---
SD-705A	10/18/95	46	578.17	0-14	4.7	HI	---	---	---	---
SD-705B	10/18/95	67	576.42	0-18.8	23.9	HI	---	yes	---	yes
SD-705BV	11/05/95	nm	nm	0-15	207	na	---	---	---	---
				15-21	18	na	---	---	---	---
				21-26	13.1	na	---	---	---	---
				26-45	56.1	na	---	---	---	---
				45-47	81.6	na	---	---	---	yes
				47-50	40.1	na	yes	---	---	yes
				50-53	36	na	---	---	---	---
				53-58	14.5	na	---	---	---	---
SD-705C	10/18/95	71	576.08	4-12	18.5	HI	---	---	---	yes
SD-705CV	06/17/96	84	575.00	0-50	na	na	---	yes	yes	---
				50-112	na	na	yes	yes	yes	yes
				112-117	na	na	---	---	---	---
				117-126	na	na	yes	---	---	---
SD-705D	10/18/95	61	576.92	0-10	7.3	2.13	---	---	---	---
SD-705DV	06/11/96	80	575.33	0-24	na	na	---	yes	yes	yes
				24-36	na	na	---	yes	yes	---
				36-54	na	na	---	---	---	---
SD-705E	10/20/95	46	578.17	0-9.5	7.5	1.91	---	---	---	---
SD-706A	10/18/95	24	580.00	0-3	na	na	---	---	yes SP	---
SD-706B	10/18/95	100	573.67	0-11	16.9	2.7	---	---	---	---
SD-706BV	06/17/96	84	575.00	0-13	na	na	---	---	yes	---
				13-31	na	na	---	yes	yes	yes
				31-36	na	na	---	yes	yes	---
SD-706C	10/18/95	66	576.50	0-11	21.9	ND	---	---	---	---
SD-706CV	06/18/96	59	577.08	0-4	na	na	---	---	---	---
				4-11	na	na	---	---	---	---
				11-19	na	na	---	---	---	---
				19-24	na	na	---	---	---	---
				24-32	na	na	yes	---	---	yes
				32-44	na	na	---	---	---	---
				44-46	na	na	---	---	---	---
				46-59	na	na	yes	---	---	---
				59-81	na	na	---	---	---	---
SD-707AV	11/04/95	nm	nm	0-15	10.3	na	---	---	yes	---
				15-23	9.1	na	---	---	yes	---
				23-35	14.3	na	---	---	---	yes
				35-48	41	na	---	---	yes	---
				48-60	34	na	---	---	---	yes
				60-74	14.6	na	---	---	---	---

Table 1. Field Observations, Continued

Sample Number**	Sample Date	Depth to Sediment / Water Interface (inches)	Sediment Elevation above MSL (feet)	Sample Interval (inches)	Filed Observations					
					PID Reading	Assay Result	Hair	Odor	Sheen	Tar
SD-707BV	11/04/95	nm	nm	0-5	4.7	na	---	---	---	---
				5-14	4.5	na	---	---	---	---
				14-17	5.3	na	---	---	---	---
				17-20	5.3	na	---	---	---	---
				20-25	8.4	na	---	---	---	yes
				25-30	5.2	na	---	---	---	---
				30-35	7.9	na	---	---	---	yes
				35-50	3.7	na	---	---	---	---
SD-707CV	06/10/96	75	575.75	0-16	na	na	---	---	---	---
				16-20	na	na	---	---	---	---
				20-24	na	na	---	---	---	---
				24-28	na	na	yes	---	---	---
				28-60	na	na	yes	---	---	yes
				60-69	na	na	yes	---	---	---
				69-71	na	na	yes	---	---	---
				71-79	na	na	yes	---	---	---
				79-84	na	na	yes	---	---	---
SD-708AV	11/04/95	nm	nm	0-10	8.3	na	---	---	---	---
				10-29	20.5	na	---	---	---	---
				29-36	20.7	na	---	---	---	---
				36-40	9.6	na	---	---	---	---
				40-53	14.8	na	---	---	---	---
				53-66	6.1	na	---	---	---	---
				66-70	14	na	---	---	---	---
SD-708BV	06/10/96	82	575.17	0-16	na	na	---	---	---	---
				16-35	na	na	---	---	---	---
				35-52	na	na	yes	---	---	---
				52-60	na	na	yes	---	---	---
SD-709AV	11/04/95	nm	nm	0-11	14.3	na	---	---	---	---
				11-24	33.9	na	---	---	---	---
				24-36	9.2	na	---	---	---	---
SD-710AV	06/18/96	106	573.17	0-23	na	na	---	---	---	---
				23-34	na	na	---	---	---	---
				34-44	na	na	---	---	---	---
				44-50	na	na	---	---	---	yes
				50-52	na	na	yes	---	---	yes
				52-54	na	na	yes	---	---	yes
				54-64	na	na	yes	---	---	yes
SD-710BV	06/18/96	78	575.50	0-34	na	na	---	---	---	---
				34-38	na	na	---	---	---	---
				38-44	na	na	---	---	---	---
				44-52	na	na	---	---	---	---
SD-710CV	06/18/96	59	577.08	0-42	na	na	---	---	---	---
				42-52	na	na	---	---	---	---
				52-64	na	na	---	---	---	---
SD-711AV	06/18/96	109	572.92	0-24	na	na	---	---	yes	---
				24-28	na	na	---	---	---	yes
				28-36	na	na	yes	---	---	yes
				36-48	na	na	---	---	---	---
SD-711BV	06/18/96	80	575.33	0-7	na	na	---	---	---	---
				7-13	na	na	---	---	---	---
				13-18	na	na	---	---	---	---
				18-22	na	na	---	---	---	---
				22-29	na	na	yes	---	---	---
				29-34	na	na	---	---	---	---
				34-48	na	na	yes	---	---	---
				48-50	na	na	---	---	---	yes
				50-58	na	na	yes	---	---	yes
				58-68	na	na	yes	yes	---	---
				68-78	na	na	---	---	---	---
				78-87	na	na	yes	---	---	---
				87-100	na	na	---	---	---	---
SD-711CV	06/18/96	58	577.17	0-21	na	na	---	---	---	---
				21-36	na	na	---	---	yes	---
				36-48	na	na	---	yes	yes	---
				48-55	na	na	---	---	---	yes
				55-60	na	na	---	yes	---	---
				60-69	na	na	---	yes	---	---
SD-712AV	06/18/96	110	572.83	0-38	na	na	---	---	---	---
				38-48	na	na	---	---	yes	---
				48-67	na	na	---	---	---	---
				67-73	na	na	---	---	---	---
SD-712BV	06/18/96	124	571.67	0-42	na	na	---	---	---	---
				42-48	na	na	---	---	---	---
				48-77	na	na	---	---	---	---

NOTES:
na = Sample not analyzed for parameter.
--- = Not observed in sample.
nm = not measured.
SP = Indicates sheen was observed on the sounding pole even though no sample was collected.
** Sample locations are presented on Plate I.
III = Immunoassay results out of the calibrated instrument range (Sample value > 500 ppm total PAHs).
SD-7XXV = indicates sample collected by Vibrocore methods - all other samples collected manually.
No Sediment Borehole Log for BKG-700 & SD-702BV

Table 2 - PAH Sediment Laboratory Analytical Results

Former Sheboygan II MGP Site - WPSC

Sample Number	Sample Interval (inches)	Sample Date	PAHs (µg/kg)																		Total PAHs (mg/kg)
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	
Method Detection Limit			40	80	8	2	2	2	8	4	4	4	8	16	4	25	25	40	16	8	
Hand Cored Samples																					
BKG-700	0-15	10/16/95	nd	nd	35	380	130	69	260	160	180	nd	640	nd	94	nd	nd	nd	62	160	**2.17**
SD-701B	0-10	10/17/95	nd	nd	nd	8	14	nd	nd	17	8	nd	18	nd	9	nd	nd	nd	nd	11	**0.08**
SD-702A	0-16.75	10/16/95	nd	nd	nd	18	11	15	18	36	10	14	18	nd	23	nd	nd	nd	nd	nd	**0.16**
SD-702B	0-15.25	10/16/95	nd	nd	nd	89	57	55	98	150	64	21	83	nd	94	nd	nd	nd	nd	120	**0.83**
SD-703C	0-23	10/17/95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**nd**
SD-704B	0-23	10/17/95	26,000	12,000	15,000	11,000	2,400	3,100	7,700	5,300	70.000	1,300	56,000	31,000	3,200	nd	nd	124,000	66,000	9,600	**443.60**
SD-706C	0-11	10/18/95	nd	nd	38	110	39	47	82	110	82	nd	300	nd	93	nd	nd	nd	160	180	**1.24**
Vibrocore Samples																					
SD-701BV	47-69	6/11/96	nd	nd	3,900	3,500	610	1,200	2,200	1,100	1,400	nd	8,400	4,000	1,400	11,000	10,000	7,200	10,000	2,900	**68.81**
SD-702BV	75-86	11/5/95	203,000	nd	106,000	67,000	22,000	17,000	50,000	37,000	42.000	nd	330,000	207,000	28,000	nd	nd	974,000	344,000	99,000	**2,526.00**
SD-702CV	0-27	6/11/96	nd	nd	nd	6	nd	nd	5	nd	nd	nd	10	nd	nd	nd	nd	nd	nd	nd	**0.02**
SD-702CV	27-64	6/11/96	33,000	nd	37,000	29,000	5,400	4,500	14,000	10,000	11.000	nd	141,000	66,000	7,500	157,000	145,000	297,000	134,000	23,000	**1,114.40**
SD-702CV	80-89	6/11/96	114,000	nd	32,000	29,000	40,000	8,200	15,000	8,800	10.000	nd	102,000	71,000	5,700	206,000	188,000	358,000	119,000	20,000	**1,326.70**
SD-703BV	37-42	6/13/96	nd	nd	nd	13	15	4	11	10	7	nd	20	nd	5	nd	nd	nd	nd	8	**0.09**
SD-704BV	28-102	6/13/96	68,000	nd	22,000	24,000	4,800	8,200	17,000	12,000	9,700	nd	41,000	52,000	8,000	158,000	135,000	190,000	91,000	25,000	**865.70**
SD-704BV	112-116	6/13/96	nd	nd	510	380	100	150	360	320	230	nd	1,300	370	210	470	700	3,000	1,800	570	**10.47**
SD-705BV	45-47	11/5/95	1,030,000	nd	359,000	345,000	115,000	66,000	263,000	204,000	228.000	nd	1,580,000	490,000	156,000	nd	nd	2,520,000	1,370,000	568,000	**9,294.00**
SD-705BV	53-58	11/5/95	nd	nd	75	50	16	11	38	26	2	nd	130	45	23	nd	nd	470	150	75	**1.11**
SD-705DV	36-54	6/13/96	nd	nd	2,500	1,500	280	470	1,100	770	720	nd	5,100	1,300	530	2,700	2,300	3,900	7,800	1,800	**32.77**
SD-706CV	46-59	6/18/96	nd	nd	30	60	14	14	51	58	38	nd	120	nd	23	nd	nd	nd	150	59	**0.62**
SD-707BV	35-43	11/4/95	3,300	nd	1,800	3,300	840	120	1,400	1,400	2,900	120	11,000	650	1,000	nd	nd	nd	6,000	8,500	**42.33**
SD-707CV	60-79	6/11/96	nd	nd	250	310	48	95	210	140	120	nd	730	97	110	75	92	nd	930	630	**3.84**
SD-708AV	53-66	11/4/95	nd	nd	110	120	40	28	97	75	74	nd	220	97	53	nd	nd	nd	330	200	**1.44**
SD-709AV	11-24	11/4/95	nd	nd	39	110	42	24	70	52	56	nd	170	51	33	nd	nd	nd	110	140	**0.90**
SD-711AV	36-48	6/18/96	nd	nd	1,700	930	170	150	540	410	410	nd	1,700	1,300	nd	3,400	1,800	790	4,000	1,300	**18.60**
SD-712AV	38-48	6/18/96	nd	nd	610	430	110	130	300	240	210	nd	2,200	340	180	nd	nd	nd	2,100	1,300	**8.15**
SD-712BV	48-77	6/18/96	nd	nd	18	50	13	22	42	49	23	nd	120	nd	22	nd	nd	nd	56	26	**0.44**

NOTES:

1) Sample Locations are presented on Plate I.
2) nd = Parameter Not Detected
3) No sediment borehole logs for BKG-700 or SD-702BV.
4) PAHs analyzed by U.S. EPA Method 8310

Prep. by: DRJ/SLF
Checked by: JAG/DVP

Table 3 - BTEX Sediment Laboratory Analytical Reuslts

Former Sheboygan II MGP Site - WPSC

Sample Number	Interval (inches)	Sample Date	BTEX (µg/kg)				Total BTEX (mg/kg)
			Benzene	Toluene	Ethylbenzene	Xylenes, total	
		Method Detection Limit	5	5	5	15	
Hand Cored Samples							
BKG-700	0-15	10/16/95	nd	nd	nd	nd	0
SD-701B	0-10	10/17/95	nd	nd	nd	nd	0
SD-702A	0-16.75	10/16/95	nd	nd	nd	nd	0
SD-702B	0-15.25	10/16/95	nd	nd	nd	nd	0
SD-703C	0-23	10/17/95	nd	nd	nd	nd	0
SD-704B	0-23	10/17/95	6,300	9,500	24,000	31,000	70.8
SD-706C	0-11	10/18/95	nd	nd	nd	nd	0
Vibrocore Samples							
SD-701BV	47-69	6/11/96	nd	280	810	690	1.78
SD-702BV	75-86	11/5/95	110,000	220,000	280,000	380,000	990
SD-702CV	0-27	6/11/96	nd	nd	nd	nd	0
SD-702CV	27-64	6/11/96	49,000	100,000	120,000	170,000	439
SD-702CV	80-89	6/11/96	30,000	110,000	210,000	240,000	590
SD-703BV	37-42	6/13/96	nd	nd	nd	nd	0
SD-704BV	28-102	6/13/96	11,000	3,900	71,000	88,000	173.9
SD-704BV	112-116	6/13/96	400	nd	1,700	1,600	3.7
SD-705BV	45-47	11/5/95	1,400	1,200	7,200	7,700	17.5
SD-705BV	53-58	11/5/95	nd	nd	49	50	0.099
SD-705DV	36-54	6/13/96	270	62	940	450	1.722
SD-706CV	46-59	6/18/96	nd	nd	nd	nd	0
SD-707BV	35-43	11/4/95	nd	nd	nd	nd	0
SD-707CV	60-79	6/11/96	nd	nd	nd	nd	0
SD-708AV	53-66	11/4/95	nd	nd	nd	nd	0
SD-709AV	11-24	11/4/95	nd	nd	nd	nd	0
SD-711AV	36-48	6/18/96	18	25	36	71	0.15
SD-712AV	38-48	6/18/96	nd	nd	nd	nd	0
SD-712BV	48-77	6/18/96	nd	nd	nd	nd	0

NOTES:
1) Sample locations are presented on Plate I.
2) nd = Parameter Not Detected
3) No sediment borehole logs for BKG-700 or SD-702BV.
4) BTEX analyzed by U.S. EPA Method 8260

Table 4 - Sediment Laboratory Analytical Results
Cyanide, Phenol, TOC, Oil & Grease, RCRA Metals & PCBs
Former Sheboygan II MGP Site - WPSC

Sample Number	Sample Interval (inches)	Sample Date	(mg/kg) Total Cyanide	Weak Acid Dissociable Cyanide	Phenol	Oil & Grease	TOC
	Method Detection Limit		0.25	0.25	0.13	500	--
Hand Cored Samples							
BKG-700	0-15	10/16/95	0.59	nd	nd	na	30,000
SD-701B	0-10	10/17/95	nd	nd	nd	na	17,000
SD-702A	0-16.75	10/16/95	0.3	nd	nd	na	20,000
SD-702B	0-15.25	10/16/95	nd	nd	nd	na	20,000
SD-703C	0-23	10/17/95	nd	nd	nd	na	17,000
SD-704B	0-23	10/17/95	0.84	0.62	2	na	31,000
SD-706C	0-11	10/18/95	nd	nd	0.19	na	7,600
Vibrocore Samples							
SD-701AV	47-69	6/11/96	na	na	na	na	na
SD-702BV	75-86	11/5/95	0.98	0.51	48	na	27,900
SD-702CV	27-64	6/11/96	na	na	na	43,400	>100,000
SD-702DV	GB	6/13/96	na	na	na	na	71,600
SD-705BV	45-47	11/5/95	8.7	3	4.3	na	25,700
SD-705BV	53-58	11/5/95	nd	nd	nd	na	1,600
SD-707BV	35-43	11/4/95	nd	nd	nd	na	1,100
SD-708AV	53-66	11/4/95	nd	nd	nd	na	1,100
SD-708BV	52-60	6/11/96	na	na	na	na	na
SD-709AV	11-24	11/4/95	nd	nd	nd	na	1,700
SD-711AV	24-28	6/18/96	na	na	na	31,400	19,000
SD-711AV	36-48	6/18/96	na	na	na	na	2,000
SD-711BV	50-58	6/18/96	na	na	na	2,570	21,000
SD-711BV	78-87	6/18/96	na	na	na	na	9,600

Sample Number	Sample Interval (inches)	Sample Date	RCRA Metals (mg/kg) Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Total PCBs (ppm)
	Method Detection Limit		0.12	0.5	1	1	4	0.02	0.12	1	0.12
SD-701BV	47-69	6/11/96	na	na	na	na	na	na	na	na	0.42
SD-702CV	27-64	6/11/96	1.8	26	1.6	43	140	0.2	<0.48	<1.0	1.8-2.3
SD-708BV	52-60	6/11/96	2.1	47	1.4	500	71	0.47	<0.48	<1.0	na
SD-711BV	50-58	6/18/96	1.0	12	1.1	7.4	28	0.18	<0.12	<1.0	0.97

NOTES:
1) For Sample Locations, please refer to Plate I
2) nd = Parameter Not Detected
3) na = Parameter Not Analyzed for in this sample
4) ppm = part per million = mg/kg
5) GB = Grab sample from surface, no depth reading
6) No sediment borehole logs for BKG-700 & SD-702BV

APPENDIX A

PREVIOUS INVESTIGATION SEDIMENT SAMPLING LOCATIONS AND EXCERPT FROM THE AUGUST 20, 1992 WDNR MEMO

sediment is important at the Moss-American site because of the role these values play in consideration of level of cleanup. Since the establishment of these values is equally as important at the Sheboygan site, a Predesign Work Task for the site must also require the development of analytical low detection methods for PAH compounds in sediment and establishment of representative reference sediment concentrations.

NEED FOR CHARACTERIZATION OF THE AREAL AND VERTICAL EXTENT OF PAH SEDIMENT CONCENTRATIONS

The analytical data for PAHs in the RI/ESR is based on analysis of composited cores. Information is needed on PAH concentrations in core segments or identifiable core strata. Specific data is needed as it relates to surficial concentrations associated with the biologically active zone of sediments or strata that would become potentially exposed to channel dredging projects. The 2.0 to 4.0 ft. core depth at the harbor HSL sites was apparently chosen for analysis because it relates to being in an area above and below the channel dredging depth that would be necessary to maintain the navigational channel. One sediment area that especially needs further characterization is that associated with harbor sampling site H-20 which had a total PAH concentration of 70,000 µg/kg (total of quantified and estimated concentrations) in the composited 2-foot long core. Information is needed on the maximum concentration of PAHs that can be found within the segments or strata of this core and the concentrations of PAHs in the sediments above (surface to 2.0 ft. depth) and below (greater than 4.0 ft. depth) this core.

H-20

A review of the field notes taken during sampling indicates that the sediment materials in the core at H-20 were "oil saturated" from the 4.0 to 16.0 ft. depth. H-20 is immediately downstream of the Pennsylvania Avenue bridge. The description for the sediment material in sample cores taken at two sites immediately above Pennsylvania Avenue bridge also contains "oil saturated" core segments. In sample R-98 the oil saturated descriptor is associated with 2.0 to 6.0 ft. core depth and in sample R-100, oil saturated is associated with the 4.0 to 6.0 ft. depth. Neither R-98 nor R-100 were sites chosen for an HSL PAH analysis in the 2.0 to 4.0 ft. core lengths, so no PAH analysis is available for these cores. The next most upstream sampling site analyzed for PAHs was R-96 (HSL-10). This was a river sampling site and the total PAH concentration in the composited core (0 to 4.3 ft.) was 4,230 µg/kg. The sediment materials in the core were not described as oil saturated in the sampling notes. Downstream from H-20, the next sampling site which had sediment materials described as oil saturated was H-14 at the 4.0 to 8.0 ft. core depth. H-14 is located approximately one-half mile below H-20 in the inner harbor channel. It appears that initial characterization work for PAHs in sediment needs to focus on the area extending from river sampling site R-98 and extending down river to harbor site H-14 and beyond.

H-20
R-98
R-100

The RI/ESR reviews potential contribution sources of contaminants to the Sheboygan River. Many of these are potential sources of PAH discharges. One potential source not included in the Preliminary Site Assessment of the RI/ESR was a coal gasification plant that operated on the east bank of the Sheboygan River immediately upstream of the Pennsylvania Avenue bridge. The City of Sheboygan and the Wisconsin Public Service Corporation will be sharing the cost of an investigation of the site during the summer of 1992. The Wisconsin Public Service Corporation is a successor to the Sheboygan Coal Gas Company, the original operator of the gasification plant.

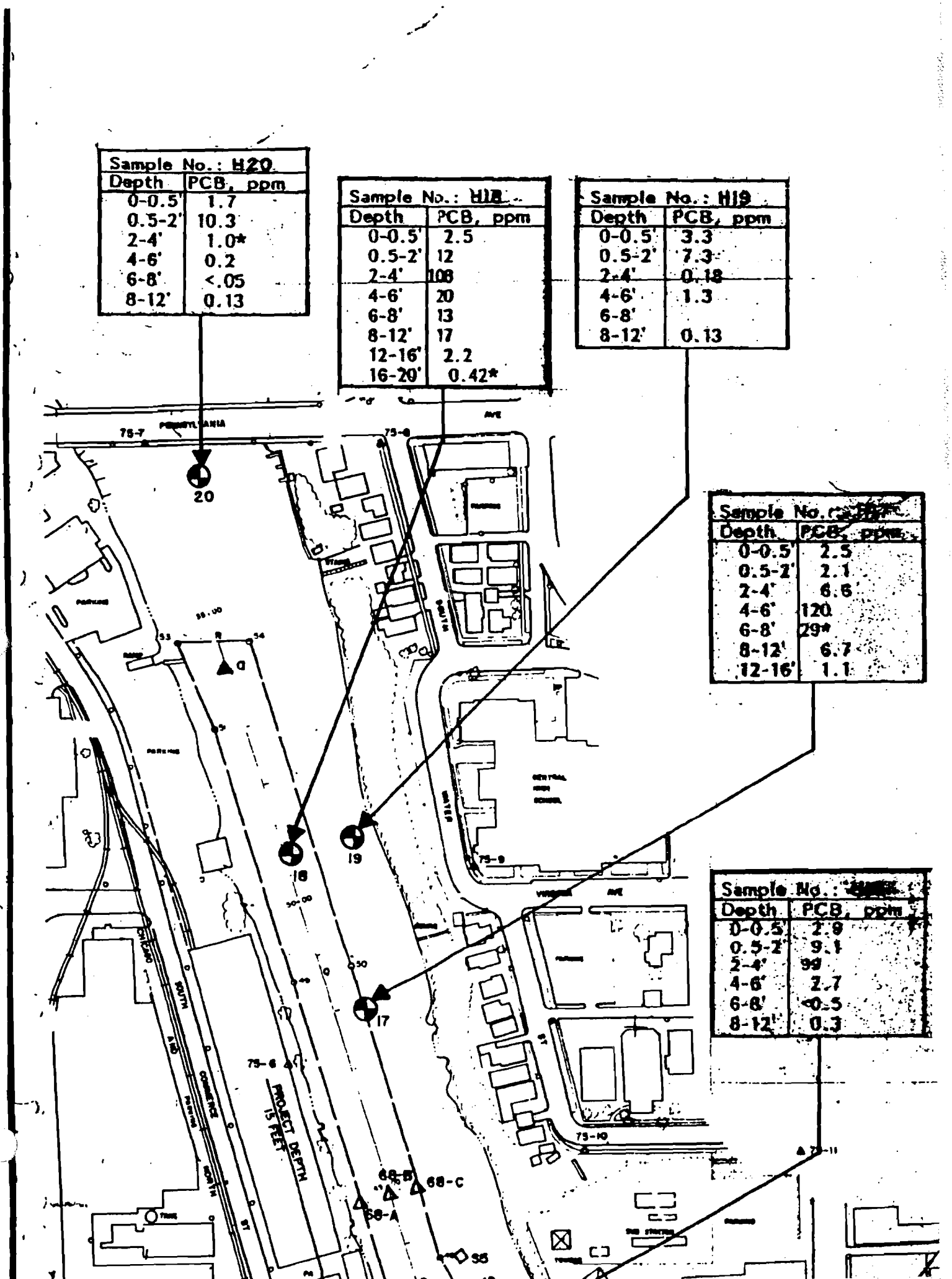
Sample No.: H20	
Depth	PCB, ppm
0-0.5'	1.7
0.5-2'	10.3
2-4'	1.0*
4-6'	0.2
6-8'	<.05
8-12'	0.13

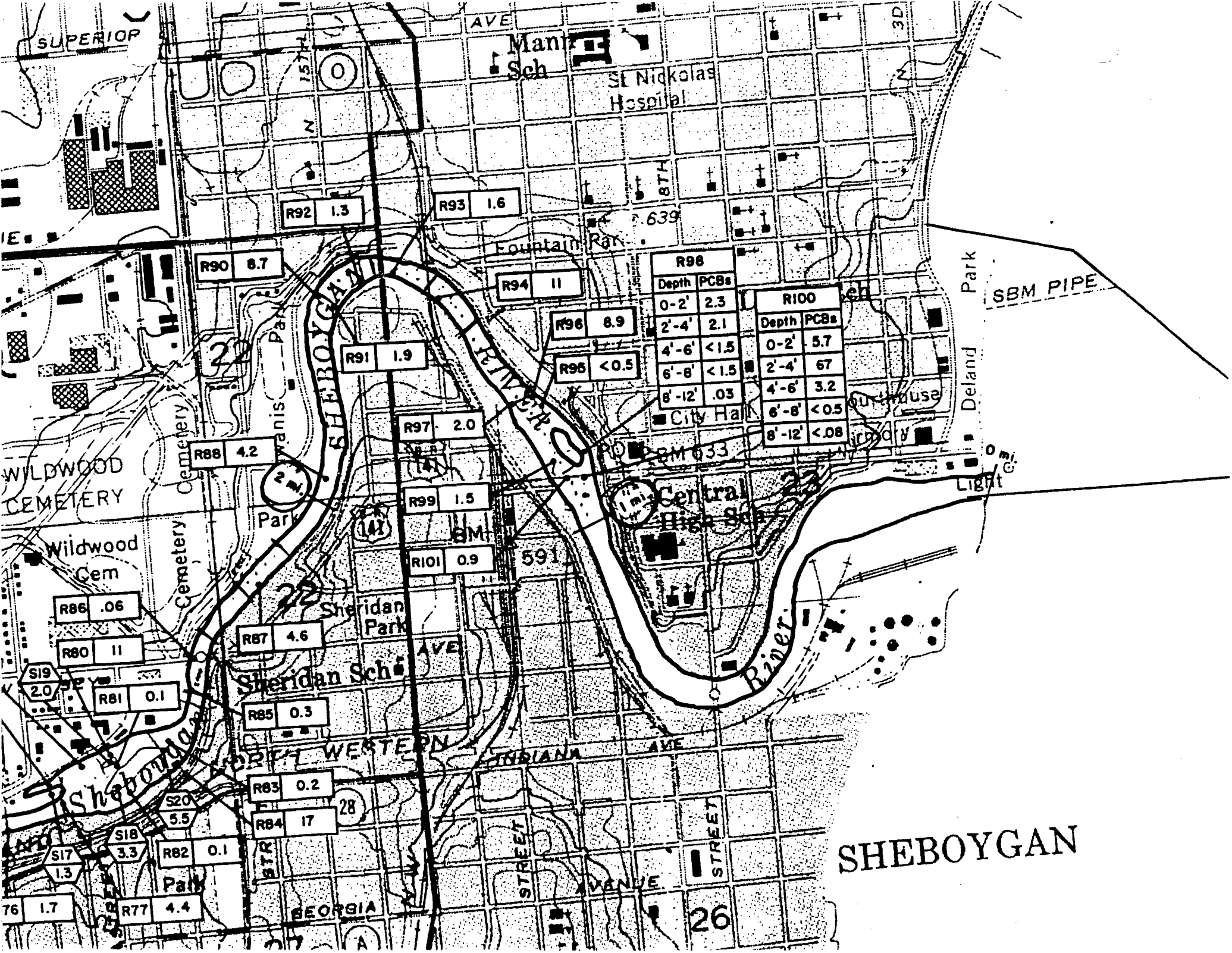
Sample No.: H18	
Depth	PCB, ppm
0-0.5'	2.5
0.5-2'	12
2-4'	108
4-6'	20
6-8'	13
8-12'	17
12-16'	2.2
16-20'	0.42*

Sample No.: H19	
Depth	PCB, ppm
0-0.5'	3.3
0.5-2'	7.3
2-4'	0.18
4-6'	1.3
6-8'	
8-12'	0.13

Sample No.: [illegible]	
Depth	PCB, ppm
0-0.5'	2.5
0.5-2'	2.1
2-4'	6.6
4-6'	120
6-8'	29*
8-12'	6.7
12-16'	1.1

Sample No.: [illegible]	
Depth	PCB, ppm
0-0.5'	2.9
0.5-2'	9.1
2-4'	99
4-6'	2.7
6-8'	<0.5
8-12'	0.3




SUPERIOR
AVE
Manit Sch
St Nickolas Hospital
15TH
N
8TH
3D
R92 1.3
R93 1.6
Fountain Park
R90 8.7
R94 11
R96 8.9
R91 1.9
R95 <0.5
SHEBOYGAN RIVER
R98
Depth PCBs
0-2' 2.3
2'-4' 2.1
4'-6' <1.5
6'-8' <1.5
8'-12' .03
R100
Depth PCBs
0-2' 5.7
2'-4' 67
4'-6' 3.2
6'-8' <0.5
8'-12' <.08
City Hall
Courthouse
SBM PIPE
Deland Park
Light
BM 633
Central High Sch
R97 2.0
R88 4.2
R99 1.5
R101 0.9
BM 591
WILDWOOD CEMETERY
Cemetery
Wildwood Cem
Park
R86 .06
R80 11
R87 4.6
Sheridan Park
Sheridan Sch
S19 2.0
R81 0.1
R85 0.3
R83 0.2
R84 17
S20 5.5
S18 3.3
S17 1.3
R82 0.1
R77 4.4
1.7
WESTERN AVE
INDIANA AVE
GEORGIA
STREET
AVENUE
26
28
SHEBOYGAN

APPENDIX B

MAY 10, 1995, WDNR LETTER AND SEDIMENT SAMPLE RESULTS

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: May 10, 1995 FILE REF: MGP

TO: Susan Greenler - Natural Resource Technology

FROM: Scott Redman - WDNR, WR/2

SUBJECT: WDNR Information on Coal Tar Material in Sheboygan River Sediment

Please find enclosed a photograph and a copy of a note from Marsha Jones, WDNR Southeast District regarding the Sheboygan River sediment sample that contained what appeared to be coal tar. As indicated in Marsha's note the sample was taken near the downstream end of the island in the river near Camp Marina. This sample was collected in February, 1995.

The photograph shows the sediment core as extruded from the sampling device. The upper surface of the core is at the upper right portion of the pan (the rubber extruding device is near this corner of the pan). From that corner, the core is wrapped counter-clockwise around the inside of the pan:

* the segment along the top of the pan runs from the surface at the right to approximately 16 inches deep at the left;

* the segment along the bottom represents approximately 16 to 34 inches deep from left to right; and

* the segment in the center represents the material from approximately 34 to 39 inches deep.

As mentioned in the note the lower 8.25 inches were sampled and will be analyzed for PAHs. (The sampled material is that shown in the photo in the center of the pan and in the lower right corner of the pan.) We will forward PAH data from this winter's sampling effort to you when it is available.

Please call me at 608-264-8964 or Marsha at 414-263-8708 if you have any questions.

TO: Scott Redman - WR/2

FROM: Marsha Jones - WR/SED

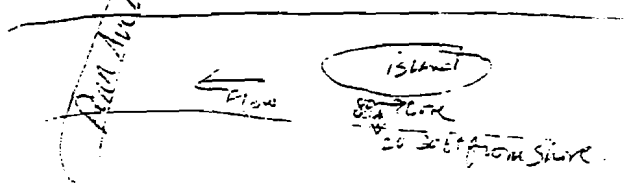
SUBJECT-MESSAGE

For Sample near old Coal gas site in Sheboygan

Sample taken 20-30 ft from left bank, close to downstream end of island;

Used 6 ft Core tube. Core length retrieved = 3.2 ft. Coal tar formed in bottom 6 1/4" of core. Distinct demarcation (Dirty/clean/dirty). Saw a small band of "clean looking" sediment near center of 6 1/4" core (deposited from flood event?)

Took the 6 1/4" w/ the coal tar to SLH to be analyzed for PAHs.



Please call/question. Thanks
414-263-8716

SIGNED Marsha Jones DATE 5/13/04

REPLY

Photo negative enclosed
-MJ

SIGNED _____ DATE _____

State Laboratory of Hygiene
University of Wisconsin Center for Health Sciences
465 Henry Mall, Madison, WI 53706
R.H. Laessig, Ph.D., Director S.L. Inhorn, M.D., Medical Director

Environmental Science Section (608) 262-2797 DNR LAB ID 113133790
Organic chemistry (#1 of 2 on 05/12/95, unseen)

Id: 603365 Point/Well/..: 060 Field #: 6DUPPAH Route: WR21
Collection Date: 02/21/95 Time: 13:45 County: 60 (Sheboygan)
From: SHEBOYGAN RIVER COAL GAS SITE, CAMP MARINA COAL GAS SITE, SHEBOYGAN
To: MARSHA JONES - WDNR/SED
PO BOX 12436 Source: Sediment
MILWAUKEE, WI 53212 Sample depth: 3FT
Account number: WR258 Collected by: B. PAULSON
Enforcement
Date Received: 02/27/95 Labslip #: OF002376 Reported: 05/11/95

---- test: GC/MS - PAHS IN SOIL - 1580

ACENAPHTHENE	+	400000.	NG/G, DRY
ACENAPHTHYLENE	+	16000.	NG/G, DRY
ANTHRACENE	+	330000.	NG/G, DRY
BENZO (A) ANTHRACENE	+	180000.	NG/G, DRY
BENZO (B) FLUORANTHENE	+	170000.	NG/G, DRY
BENZO (K) FLUORANTHENE	+	67000.	NG/G, DRY
BENZO (GHI) PERYLENE	+	43000.	NG/G, DRY
BENZO (A) PYRENE	+	210000.	NG/G, DRY
BENZO (E) PYRENE	+	90000.	NG/G, DRY
CHRYSENE	+	130000.	NG/G, DRY
DIBENZO (A,H) ANTHRACENE	+	13000.	NG/G, DRY
FLUORANTHENE	+	290000.	NG/G, DRY
FLUORENE	+	250000.	NG/G, DRY
INDENO (1,2,3-CD) PYRENE	+	56000.	NG/G, DRY
PERYLENE	+	27000.	NG/G, DRY
PHENANTHRENE	+	840000.	NG/G, DRY
PYRENE	+	340000.	NG/G, DRY

---- test: TEMPERATURE - 0950

TEMPERATURE		2	C
TOTAL ORGANIC CARBON IN SEDIMENT BY SLURRY METHOD	+	66500.	UG/G, DRY
TOTAL ORGANIC CARBON IN SEDIMENT BY SLURRY - PREP		C	
GC/MS - PAHS IN SOIL - PREP		C	

--- Footnotes ---
+: Positive results are prefixed by a plus sign.

APPENDIX C

SANBORN MAPS AND CITY DIRECTORY ABSTRACT

N
W E
S
EDR Sanborn, Inc.
3530 Post Road, Southport, CT 06490
Tel: (800) 352-0050 Fax: (800) 231-6802

MAY - 5 1997

Sanborn™ Map Report

Ship to:

Mr. Eric Kovatch
Natural Resources Technology
23713 W. Paul Road
Pewaukee, WI 53072

Order Date: 04/29/97 **Completion Date:** 04/30/97

Inquiry #: 172719-2 (ABSTRACT)

P.O. #: 1183-4.3

Site Name: Camp Marina

Address: New York Ave+N Water St

City/State: Sheboygan, WI 53081

Cross Streets:

1017571BMB 414-523-9000

Based on client-supplied information, fire insurance maps for the following years were identified:

1967 - 1 map
1955 - 1 map
1950 - 1 map
1903 - 1 map
1891 - 1 map
1887 - 1 map

Total maps: 6

Limited Permission to Photocopy

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124

123

N.W. WATER

Sheboygan

N. W. R. R.

Sheboygan River.

110

TANNERY.
PROPERTY OF GERMAN BANK OF SHEBOYGAN, LEASED TO C.T. ROENTZ & SONS.
FOR FINISHING LEATHER.

SHEBOYGAN MINERAL WATER CO'S BOTTLING WORKS.
HOT PUMPED.
S.B.

C.T. ROENITZ & SONS
TANNERY.
HEAT: STEAM. LIGHT: GAS. FUEL: OLD BARK.
NO LIGHTS. NIGHT SHIFT: COMMON.
ST. PUMP, 4 350' 2½" HOSE.

Yard 1E
Currying 2E
Drying 3E

Barn
Lemon Ho.
Bark Mill
Bark Ho.
Tank
Tank & Pump
Shed
Storage
Off. & M. Ho.
Hide Ho.
Dwg 2
Dwg
Boiler
Ice Ho.

Barn No.
Boiler House
Water
Currying 2E
Ice Ho.

See Above.

12th St.
80'

WISCONSIN

Scale of Feet.
50 25 0 50 100 150

1029 1026 1021 1017 1013 1009 1007 1005 1001

Storage.
Ice Ho.

1232 1028 1024 1022 1018 1016-12 1010 1008 1006 1004 1000

Dwg
Dwg Yard
Dwg & Off.

132

Pump No.
Well
Pitch. Kettle
Cooler
Kettle 2E
Water Tanks 2E
Malt Mill 2E
Room Rm. 1E
Ice Ho.
Tank
Engine 35 HP.
Ice Ho.

1010 1008 1006 1004 1002 1000

L. GUTSCH, BREWERY.
FUEL: COAL. LIGHTS: GAS: OIL & ORDINARY.
4 PUMPS & SUFFICIENT 1¾" & 1½" HOSE TO REACH ALL PREMISES.

NEW YORK

1905

St. Line

Dwg

Map Division

80' to Fr. On.

EDR Sanborn, Inc.

This Sanborn™ map is a certified copy produced by EDR Sanborn, Inc. from its archives. Information on this map is derived from Sanborn field surveys conducted in:

Copyright © 1887 EDR Sanborn, Inc.
Year

EDR Sanborn, Inc. Research Associate

1887

WISCONSIN

N.W. WATER

NEW YORK

RIVER

CENTER

ST.

10TH

SEE SHEET

Tan Yard.

Drying & Finishing 2s

Drying & Stuffing 3s

Drying 4s

Leach Ho.

Bark Mills.

Hide Ho.

Tan Bark 20'

Tan Bark 25'

133

132

149

Brewery

Ice Ho.

Storage.

3 Beer Cellars.

GUTSCH BREWING CO.

NIGHT WATCHMAN. NO CLOCK. HEAT: STEAM. LIGHTS: GAS & A FEW LANTERNS. FUEL: COAL. MALT KILN NOT USED. BEER KETTLE: HEATED BY STEAM. NO SPECIAL FIRE RISE.

Crude Oil Tanks

Iron Gasometer.

Pipe Repairs.

Pumping Hs.

SHEBOYGAN NATIONAL GAS CO.

Water Gas Wks.

Gasometer

Scale of Feet.

50 25 20 15 10 0 50 100 150

1891

WISCONSIN AV.

N. WATER

N. 10TH

NEW YORK AV.

CENTER AV.

GUTSCH

HAIR HO.

AM HIDE & LEATHER

1102

1032 1028 1022 1020 1012 1010 1008 1008

1027 1025 1018 1009 1001

1012 1002

BREWING

BOTTLING DEPT

STORAGE OF BOTTLES & CASES

BEER CELLARS

WASH HO

STORAGE OF CORN

STORAGE

OFF.

SUPPLIES

BEER IN COOLS

COAL SHED

SPRINKLERS

YARD

SPLITTING FINISHING DRYING

SHED

SHEBOYGAN TANNERY

SHEBOYGAN GAS LIGHT CO.

COAL GAS PROCESS.

RUN DAY AND NIGHT

GAS HOLDER 80000 Cu FT

OIL TANK NOT USED

COAL SHED

DRIVEWAY

ISLAND

(VAC.)

149

132

133

24

25

20

1903

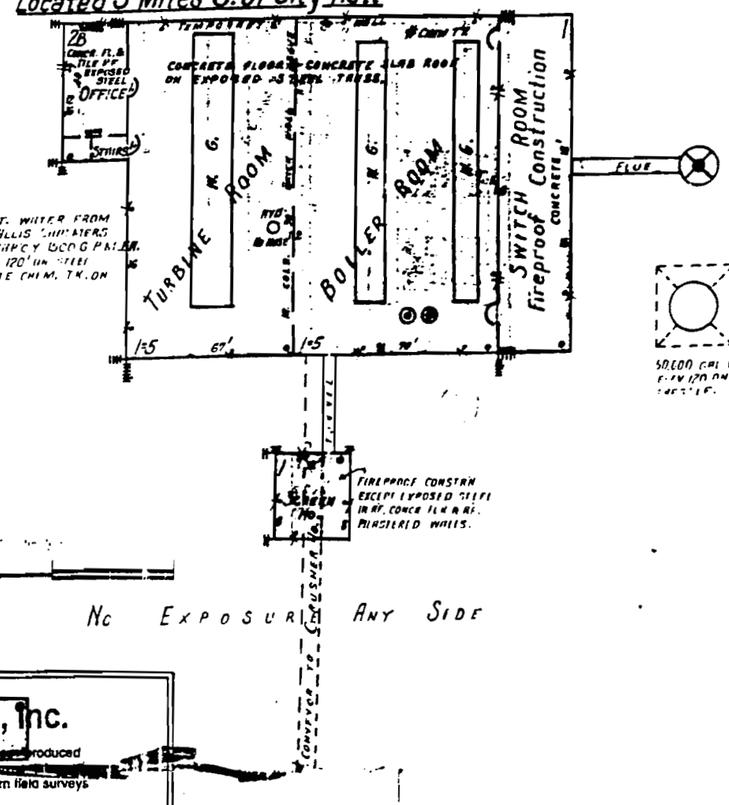
COMPANY

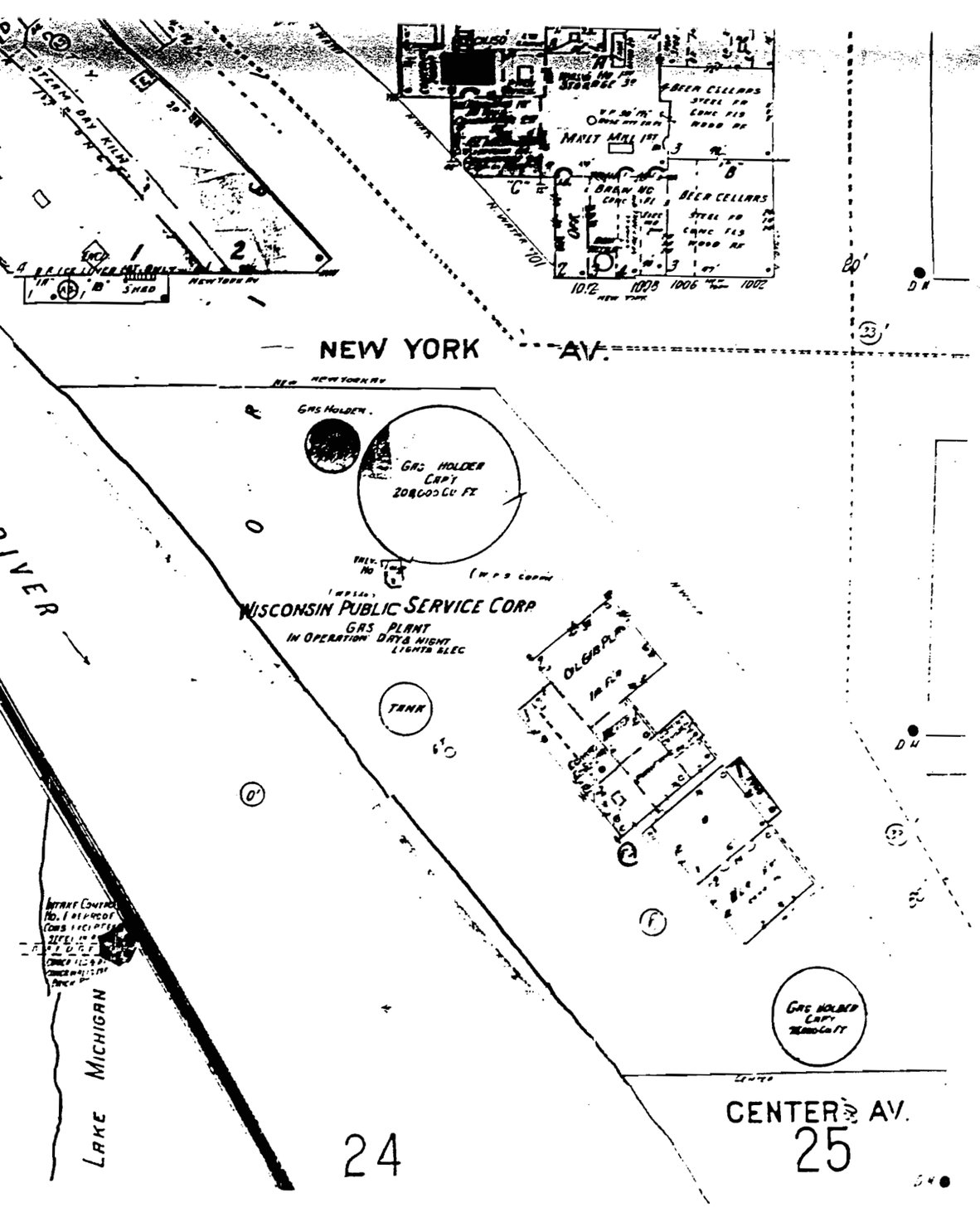
SHEBOYGAN (NAVIGABLE) RIVER

NEW YORK AV.

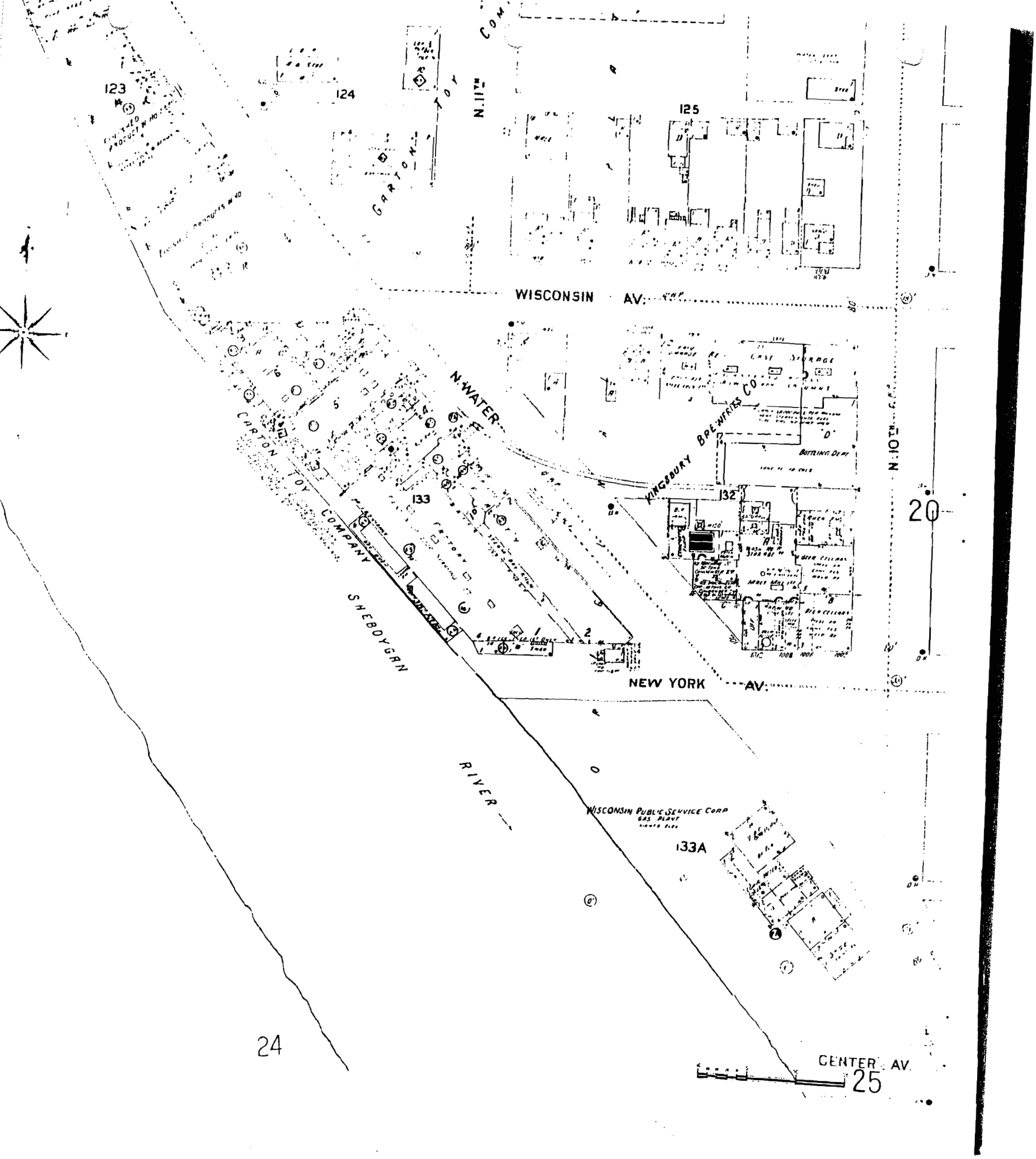
WISCONSIN POWER & LIGHT CO.
POWER HO.

Located 3 Miles S. of City Hall





1950


123
124
125
N. 11TH ST.
CARTON TOY COMPANY
WISCONSIN AV.
N. WATER ST.
KINGSBURY BREWERIES CO.
BOTTLING DEPT.
132
N. 10TH ST.
20
133
CARTON TOY COMPANY
SHEBOYGAN RIVER
NEW YORK AV.
WISCONSIN PUBLIC SERVICE CORP
GAS PLANT
133A
24
CENTER AV.
25

1955

CARTON TOY CO.

124

125

N. 11TH

WISCONSIN AV.

N. WATER

KINGSBURY

N. 10TH

NEW YORK AV.

CASE W. HO.

BEER CASE STGE

BREWERY CO.

BOTTL'G DEP'T

CASE W'H'S

A.

WASH HO. & STGE 3RD

GREEN CELLARS

MALT MILL

B.

BEER CELLARS

NC. 1ST 6-1-2 TANK HO.

OFF

GARTON FACTY

TOY CO.

SHEBOYGAN

RIVER

133

133A

24

25

Site

CENTER AV.

1967

MASTER FILE COPY
PROJECT # 1183 - Shell II Date
CO: _____

COPY

Environmental Data Resources, Inc.

3530 Post Rd Southport, Connecticut 06490 Facsimile: 800-231-6802 Telephone: 800-352-0050

Fax Transmittal

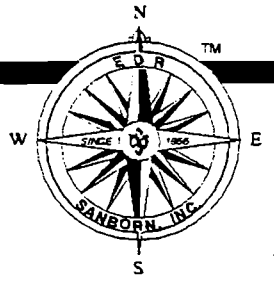
To: Mr. Eric Kovatch

Company: Natural Resources Technology

Fax #: 91-414-523-9001

Date: Fri May 2 11:26:48 1997

 # Pages including cover: 14



EDR Sanborn, Inc.
3530 Post Road, Southport, CT 06490
Tel: (800) 352-0050 Fax: (800) 231-6802

FAX TRANSMITTAL COVER SHEET

Date: 05/01/97

Please deliver to: Mr. Eric Kovatch
Natural Resources Technology

Fax Number: 414-523-9001

From: BMB

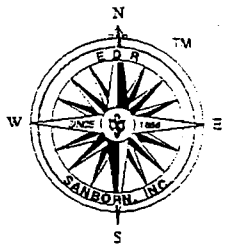
The EDR-City Directory
Abstract

Camp Marina
732 N. Water Street
Sheboygan, WI 53081

May 1, 1997

Inquiry Number: 172719-4

%!PS-Adobe-3.0



EDR Sanborn, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

EDR Sanborn, Inc.
City Directory Abstract

EDR Sanborn, Inc.'s (EDR Sanborn) City Directory Abstract is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities on the property or adjoining properties. ASTM E 1527-94, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable is defined as information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-94, Section 7.3.2, the following *standard historical sources* may be used: aerial photographs, city directories, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, building department records, or zoning/land use records. ASTM E 1527-94 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-94, Section 7.3.2, page 11.)

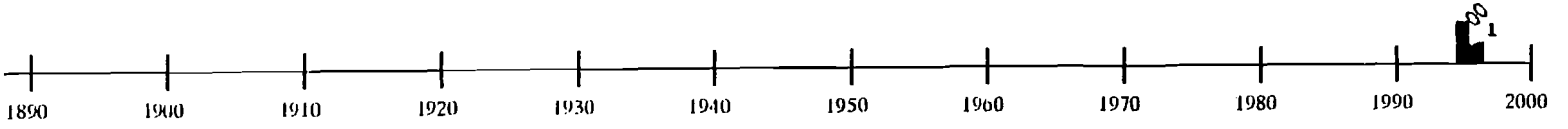
EDR Sanborn's City Directory Abstract includes a search and review of available city directory data. City directories have been published for cities and towns across the U.S. since the 1700s. Originally a list of residents, the city directory developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business operated from his address, the name and type of business (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural areas and small towns. ASTM E 1527-94 specifies that a *"Review of city directories (standard historical sources) at less than approximately five years intervals is not required by this practice."* (ASTM E 1527-94, Section 7.3.2.1, page 11.)

Please call EDR Sanborn, Inc. Nationwide Customer Service at
1-800-352-0050 (8am-8pm ET)
with questions or comments about your report.
Thank you for your business!

EDR Sanborn, Inc.

Prior Use Report™ Timeline

Target Property



Surrounding Area

Legend:

= Historical Topographic Map (HT) *

= National Wetland Inventory Map (WT) *

= Flood Prone/FEMA Maps (FP/FR) *

= Aerial Photos Included (P) *

= Aerial Photos Available *

= Residential (R)

= Commercial or Industrial (C)

Superscript number corresponds to graph ID in text

*Displayed on timeline when aerial photos, historical topos, flood prone, FEMA, wetland maps, or Aerial Research Summary are purchased.

Target Property:	Camp Marina	**Customer:**	Natural Resources Technology
Address:	732 N. Water Street	**Contact:**	Mr. Eric Kovatch
City/State/Zip:	Sheboygan, WI 53081	**Inquiry #:**	172719-4
		Date:	05/01/97

SUMMARY

- *City Directories:*

EDR Sanborn reviewed available national city and cross reference directory collections at approximately five year intervals for the years spanning 1939 through 1996. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

The following sources may be contacted for additional information. Sources are identified through *Carroll's Municipal/County Directory* published by Carroll Publishing.

Fire Chief

Contact:	Richard Reiss
Address:	828 Center Ave
City/State:	Sheboygan, WI 53081
Phone:	414-459-3320
Last updated:	03/01/97

Date EDR Searched Historical Sources:
City Directories May 01, 1997

Target Property:
732 N. Water Street
Sheboygan, WI 53081

PUR ID Year	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
-- 1939	Address not Listed in Research Source		Wright's City Directory
-- 1945	Address not Listed in Research Source		Wright's City Directory
-- 1950	Address not Listed in Research Source		Wright's City Directory
-- 1955	Address not Listed in Research Source		Wright's City Directory
-- 1960	Address not Listed in Research Source		Wright's City Directory
-- 1965	Address not Listed in Research Source		Wright's City Directory
-- 1980	Address not Listed in Research Source		Wright's City Directory
-- 1985	Address not Listed in Research Source		Wright's City Directory
990	Address not Listed in Research Source		Wright's City Directory
1 1996	Sheboygan Outboard Club	N/A	Polk's City Directory

Adjoining Properties

SURROUNDING AREA
N Water St/Center Ave
Sheboygan, WI 53081

PUR ID Year	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
2 1939	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory
	residence (607)		
	residence (609)		
	residence (615)		
	Wisconsin Public Service Gas Plant (unnumbered)		
	Garton Toy Warehouse (700)		
	Verifine Dairy Products (920)		
	Sheboygan Mineral Water Co. (950)		
	"" CENTER AVENUE Addresses ""		
	Armour Meats (1202-1206)		
	Standard Oil (1215)		
	Prange Warehouse (1216)		
	residence (1234)		
3 1945	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1945 (continued)			
	residence (607)		
	residence (609)		
	residence (615)		
	Wisconsin Public Service Gas Plant (unnumbered)		
	Garton Toy Warehouse (700)		
	Verifine Dairy Products (920)		
	Sheboygan Mineral Water Co. (950)		
	"" CENTER AVENUE Addresses ""		
	Armour Meats (1202-1206)		
	Standard Oil (1215)		
	Prange Warehouse (1216)		
	residence (1234)		
4 1950	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory
	residence (607)		
	residence (609)		
	residence (613)		
	vacant (615)		
	Verifine Dairy Products (934)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Standard Oil (1217)		
	Prange Warehouse (1218)		
	residence (1234)		
5 1955	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory
	residence (607)		
	residence (609)		
	residence (613)		
	vacant (615)		
	Verifine Dairy Products (934)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Standard Oil (1217)		
	Prange Warehouse (1218)		
	residence (1234)		
6 1960	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory
	residence (607)		
	residence (609)		
	residence (613)		
	vacant (615)		
	Verifine Dairy Products (934)		

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1960 (continued)	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Standard Oil (1217)		
	Prange Warehouse (1218)		
	residence (1234)		
7 1965	"" NORTH WATER STREET Addresses ""	N/A	Wright's City Directory
	residence (607)		
	residence (609)		
	residence (613)		
	vacant (615)		
	Verifine Dairy Products (934)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Standard Oil (1217)		
	Prange Warehouse (1218)		
	residence (1234)		
980	"" NORTH WATER STREET Addresses ""	N/A	Polk's City Directory
	apartments (526)		
	apartments (611)		
	Verifine Dairy Products Warehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	residence (1234)		
9 1985	"" NORTH WATER STREET Addresses ""	N/A	Polk's City Directory
	apartments (526)		
	apartments (611)		
	Verifine Dairy Products Warehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	residence (1234)		
10 1990	"" NORTH WATER STREET Addresses ""	N/A	Polk's City Directory
	apartments (526)		
	apartments (611)		
	Verifine Dairy Products Warehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1990 (continued)			
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	residence (1234)		
11 1996	"" NORTH WATER STREET Addresses ""	N/A	Polk's City Directory
	apartments (526)		
	apartments (611)		
	Schultz Sav O Store (746)		
	vacant (777)		
	Consumer Care Products (810)		
	Accurate Auto Machine (830)		
	Verifine Dairy Products Warehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Ryan Oil Warehouse (1207)		
	vacant (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	vacant (1234)		

Glossary of Terms

A.A.A.

Aerial photograph flyer: Agriculture Adjustment Administration (Federal).

A.S.C.S

Aerial photograph flyer: Agricultural Stabilization and Conservation Service (Federal)

Address Change

Indicates that a change of address has occurred; indicates new address. A change of address may occur when a city, street, or the address ranges of a street are restructured.

Address in Research Source

Indicates that a property is listed at a different address than the one provided by the user. Generally occurs when a property is located on a corner or, when the physical address of a property is different than its mailing address.

Address Not Listed in Research Source

Occurs when a specific site address is not listed in city directories and/or fire insurance maps.

Adjoining

Any property that is contiguous, or a property that would be contiguous if not for a public thoroughfare, to the target property. *To differentiate from each adjoining property, stand at the target property's "front door" facing the street.*

Adjoining Back

Property directly to the rear of the target property.

Adjoining Front

Property directly in front of the target property.

Adjoining Left

Property directly to the left of the target property.

Adjoining Right

Property directly to the right of the target property.

Adjoining Surrounding Area

Property that may adjoin the target property but due to lack of specific map information cannot be located precisely. This situation typically occurs when city directory information, but not fire insurance map information, is available.

C.A.S

Aerial photograph flyer: Chicago Aerial Survey (private).

C.S.S.

Aerial photograph flyer: Commodity Stabilization Service (Federal).

Cartwright

Aerial photograph flyer: Cartwright (private)

CD

City Directory

Commercial

Any property including, but not limited to, property used for industrial, retail, office, agricultural, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units.

Commercial or Industrial

Property that has either a commercial *or* an industrial use. Examples include retail stores, manufacturing facilities, factories, and apartment buildings.

D.N.R.

Aerial photograph flyer: Department of National Resources (state).

D.O.T.

Aerial photograph flyer: Department of Transportation (state).

Fairchild

Aerial photograph flyer: Fairchild (private).

FIM

Fire Insurance Map

Flood Insurance Rate Maps

Flood Insurance Rate Maps are produced by the Federal Emergency Management Agency (FEMA). These maps indicate special flood hazard areas, base flood elevations and flood insurance risk zones.

Flood Prone Area Maps

Flood Prone Area maps are produced by the United States Geological Survey (USGS). Areas identified as flood prone have been determined by available information gathered from past floods.

F.S.

Aerial photograph flyer: Forest Service (Federal).

Geonex

Aerial photograph flyer: Geonex (private).

M.C.

Aerial photograph flyer: Metropolitan Council of the Twin Cities Area (state).

Map Required Not Available in Local Collection

Property is located on a fire insurance map sheet not available in local and/or microfilm collection.

Mark Hurd

Aerial photograph flyer: Mark Hurd (private)

Multiple Locations

Indicates that there are two or more sites adjoining the target property's border.

N.A.P.P.

Aerial photograph flyer: National Aerial Photography Program (Federal).

National Wetland Inventory Maps

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a division of the U.S. Department of the Interior. Wetland and deepwater habitat information is identified on a 7.5 minute U.S.G.S. topographic map. The classification system used categorizes these habitats into five systems: marine, estuarine, riverine, lacustrine and palustrine.

No Return

Indicates that site owner was unavailable at time of surveyor's contact. *Applies only to city directories.*

No Structure Identified on Parcel

Used when site boundaries and/or site address is indicated on a fire insurance map; no structure details exist.

Other

Occurs when the site's classification is different that EDR's standard categories. Examples may include undeveloped land and buildings with no specified function.

P.M.A.

Aerial photograph flyer: Production and Marketing Administration (Federal).

Pacific Aerial

Aerial photograph flyer: Pacific Aerial (private)

Portion

Refers to the fire insurance map information identified on the four quadrants of a target or adjoining property. The portions are referred to as *Frontright, Frontleft, Backright,* and *Backleft* and are determined as if one were standing at the front door, facing the street.

Property Not Defined

Used when property is not clearly demarcated on a fire insurance map.

Residential

Any property having fewer than five dwelling units used exclusively for residential purposes.

Residential with Commercial Uses (a.k.a. Multiple Purpose Address)

A business (firm) and residence at the same address. Examples include a doctor, attorney, etc. working out of his/her home.

Sidwell

Aerial photograph flyer: Sidwell (private).

Site Not Mapped

Occurs when an adjoining property has not been mapped by fire insurance map surveyors.

Teledyne

Aerial photograph flyer: Teledyne (private)

Topographic Maps

Topographic maps are produced by the United States Geological Survey (USGS). These maps are color coded line and symbol representations of natural and selected artificial features plotted to scale.

Turnbow

Aerial photograph flyer: Michael Turnbow (private)

U.S.D.A.
Aerial photograph flyer: United States Department of Agriculture (Federal).

U.S.D.I.
Aerial photograph flyer: United States Department of the Interior (Federal).

U.S.G.S.
Aerial photograph flyer: United States Geological Survey (Federal).

Vacant
May refer to an unoccupied structure or land. *Used only when fire insurance map or city directory specifies 'vacant.'*

W.P.A.
Aerial photograph flyer: Works Progress Administration (Federal).

WALLACE
Aerial photograph flyer: Wallace (private).

APPENDIX D

DAILY FLOW RECORDS AND MONTHLY STREAMFLOW AVERAGES (USGS)

US GEOLOGICAL SURVEY
DAILY MEAN DISCHARGE DATA (Discharge is listed in cubic feet per second)

Station name : SHEBOYGAN RIVER AT MOUTH AT SHEBOYGAN, WI
Station number: 040860041
latitude (degrees, minutes, and seconds) = 434450
longitude (degrees, minutes, and seconds) = 0874233
state code = 55 district code = 55
county code = 117 hydrologic unit code = 04030101
drainage area (square miles) = 427

Date Range In File is from 10/01/1993-09/30/1995

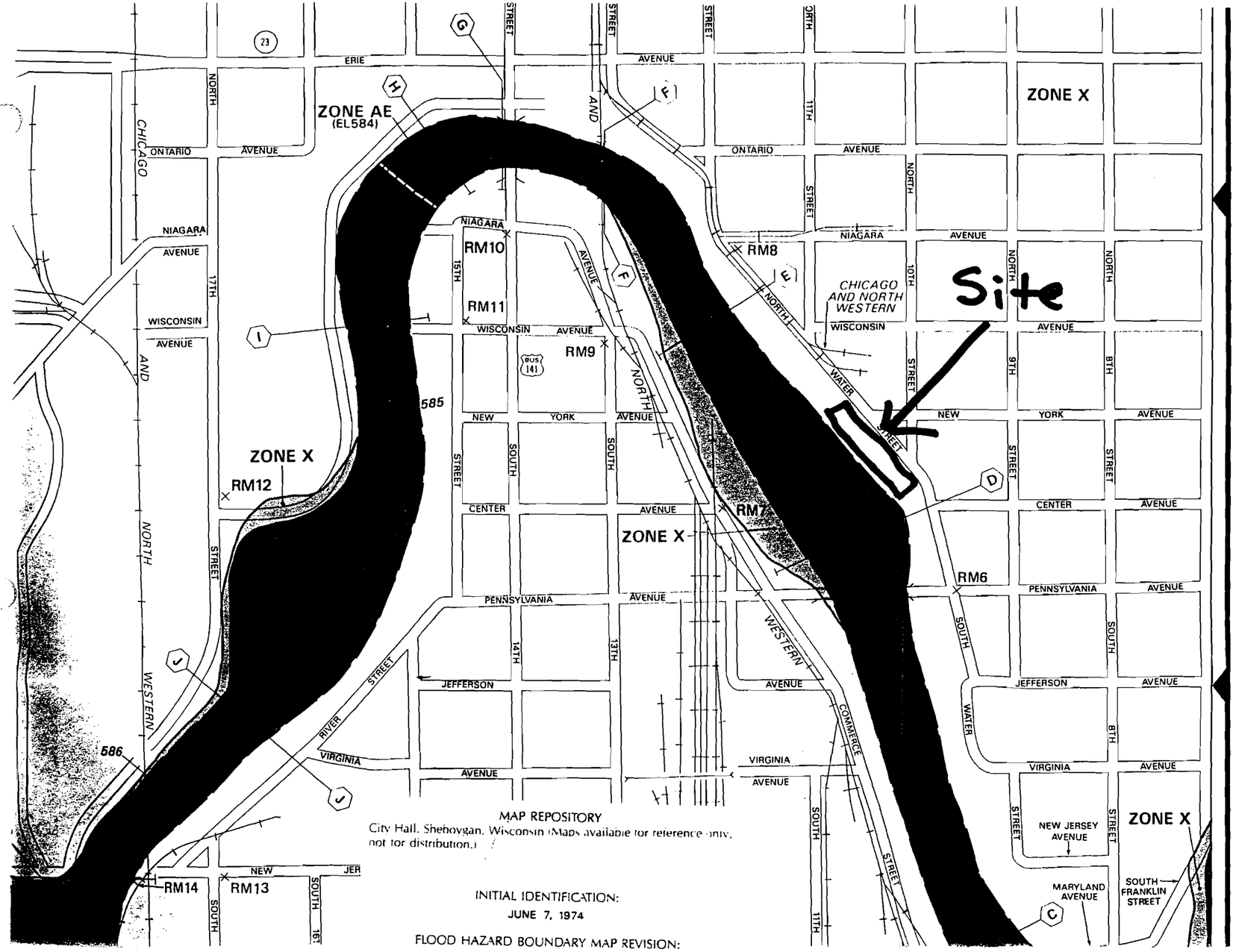
Daily Average for Record	177	
Daily Maximum for Record (with date)	1,440	3/23/94
Daily Minimum for Record (with date)	32	9/15/95
Total Streamflow for ...		
Water Year 1993 (10/93 - 9/94)	78,061	
Water Year 1994 (10/94 - 9/95)	51,473	

Daily Stream Discharge, Cubic Feet per Second

Day	Oct-93	Nov-93	Dec-93	Jan-94	Feb-94	Mar-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Sep-94	Oct-94	Nov-94	Dec-94	Jan-95	Feb-95	Mar-95	Apr-95	May-95	Jun-95	Jul-95	Aug-95	Sep-95
1	206	152	175	72	82	613	327	370	109	50	200	73	114	62	145	82	63	88	459	293	265	56	34	78
2	207	150	175	74	78	531	330	436	97	45	177	67	146	61	139	55	61	76	405	250	222	48	36	59
3	192	148	179	76	78	491	345	403	91	40	128	60	108	60	112	41	61	78	378	243	178	43	40	50
4	190	146	176	76	78	450	338	327	94	52	121	55	161	73	112	36	59	78	350	232	109	40	42	44
5	181	149	169	78	78	409	308	278	121	102	122	55	97	94	102	34	57	82	297	221	93	44	45	42
6	178	147	169	78	78	613	310	249	144	107	94	55	62	124	98	36	57	80	271	206	88	52	38	48
7	175	141	165	78	80	1120	303	229	147	121	79	55	58	145	98	39	55	82	254	186	83	51	36	63
8	174	138	157	78	80	1430	294	219	126	154	73	51	63	121	97	46	57	82	266	162	107	47	36	49
9	191	138	156	80	76	1120	284	207	106	147	69	50	62	105	102	53	59	80	277	208	105	47	47	46
10	190	137	179	82	76	1230	254	197	94	113	69	49	64	98	104	58	61	82	267	301	95	45	48	41
11	189	138	127	84	78	981	237	204	83	100	74	50	59	98	102	63	59	123	281	386	90	43	50	37
12	182	140	129	85	80	1020	243	221	75	93	78	51	53	94	98	72	57	307	717	372	86	38	53	38
13	176	160	184	86	82	1020	408	202	73	89	78	50	51	89	96	76	57	715	715	352	79	37	66	40
14	168	177	149	88	84	981	436	183	72	107	84	51	51	90	94	153	59	675	549	330	73	34	111	37
15	166	190	140	82	86	1020	542	173	69	110	79	52	50	87	92	235	61	677	420	313	62	44	117	32
16	171	191	138	80	90	818	541	169	65	107	79	50	48	92	96	194	65	523	366	270	55	45	108	34
17	168	189	137	78	92	715	456	134	60	96	76	48	49	89	98	133	78	472	337	240	51	47	105	32
18	162	180	141	78	102	613	401	136	53	89	81	44	53	87	102	102	82	525	556	170	50	43	97	32
19	157	173	142	78	153	552	383	138	50	84	81	44	55	84	92	92	88	506	1070	114	49	38	83	41
20	155	164	139	76	409	511	332	130	55	78	86	45	56	91	90	82	102	523	811	130	49	40	71	53
21	179	156	135	80	1230	1020	299	125	54	78	80	48	58	98	92	86	102	630	681	126	46	43	59	53
22	199	160	92	84	1120	1350	279	121	51	80	75	50	59	97	92	80	100	543	698	117	43	35	50	49
23	190	155	72	86	1120	1440	259	113	51	66	73	50	63	88	102	78	98	468	660	114	42	33	46	45
24	182	148	92	88	1020	1080	245	108	64	79	69	53	62	93	112	80	102	419	506	120	41	33	42	41
25	179	133	123	88	920	825	308	113	65	61	66	60	67	98	123	78	102	388	443	118	40	35	39	40
26	174	156	112	88	858	711	424	212	58	54	66	75	66	79	123	80	96	359	388	107	44	35	44	40
27	169	202	98	92	777	672	414	189	53	50	62	89	65	121	123	76	94	335	472	96	49	35	44	39
28	164	194	90	90	695	644	371	151	60	50	72	77	62	183	112	67	92	314	554	156	47	51	48	39
29	167	184	82	88	---	568	346	132	58	52	78	63	60	207	112	65	---	350	416	223	58	47	62	39
30	159	174	76	86	---	486	341	123	54	81	78	58	59	164	112	59	---	421	337	218	78	42	81	40
31	152	---	72	82	---	418	---	117	---	64	75	---	62	---	102	63	---	484	---	270	---	36	113	---
Total	5492	4810	4170	2539	9780	25452	10358	6109	2352	2599	2722	1678	2143	3072	3274	2494	2084	10565	14201	6644	2477	1307	1891	1321
Mean	177	160	135	82	349	821	345	197	78	84	88	56	69	102	106	80	74	341	473	214	83	42	61	44
Maximum	207	202	184	92	1230	1440	542	436	147	154	200	89	161	207	145	235	102	715	1070	386	265	56	117	78
Minimum	152	133	72	72	76	409	237	108	50	40	62	44	48	60	90	34	55	76	254	96	40	33	34	32

APPENDIX E

SHEBOYGAN FLOOD INSURANCE RATE MAP (FEMA, APRIL 1991)



MAP REPOSITORY
City Hall, Sheboygan, Wisconsin (Maps available for reference only, not for distribution.)

INITIAL IDENTIFICATION:
JUNE 7, 1974

FLOOD HAZARD BOUNDARY MAP REVISION:

FLOOD INSURANCE RATE MAP EFFECTIVE:
MARCH 15, 1977

FLOOD INSURANCE RATE MAP REVISIONS:
Map revised December 2, 1988
to add special flood hazard areas, base flood elevations, floodway and cross sections, streams and stream names, street and street names, revise corporate limits, change to z-fold format and to reflect new FEMA title block.
Map revised April 2, 1991
to add special flood hazard areas and to change base flood elevations, floodways, and corporate limits.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

N

APPROXIMATE SCALE IN FEET
500 0 500

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** No base flood elevations determined.
- **ZONE AE** Base flood elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside 500-year flood plain.
- **ZONE D** Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zone.

567 Base Flood Elevation Line; Elevation in Feet*

A — A Cross Section Line

(EL 19) Base Flood Elevation in Feet Where Uniform Within Zone*

RM5 Elevation Reference Mark

M3.0 Mile Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all planimetric features outside Special Flood Hazard Area or all areas subject to flooding, particularly from local drainage sources of small size.

Areas of Special Flood Hazard (100-year flood) include zones, A, AE, A1-A30, AH, AO, A99, V, VE and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table where floodway width is shown at 1/20 inch.

Coastal base flood elevations apply only landward of the shoreline.

This map incorporates approximate boundaries of coastal barriers established under the Coastal Barrier Resources Act (PL 97-348).

Elevation reference marks are described in the Flood Insurance Study Report.

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For adjoining panels, see separately printed Map Index.

APPENDIX F

SEDIMENT BOREHOLE LOGS

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
)C-Sheboygan II		*SD-701A*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC *Dan Johnson*	*10/18/95*	*10/18/95*	*Ogeechee Sand Corer*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	*576.61 Feet MSL*	*2 inches*

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			*339.93 feet* ☒ N ☐ S *308.97 feet* ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	*60*	*Sheboygan*

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
			2	loose, poorly graded SILT w/ tr. gravel; organics (COAL TAR and STRONG COAL TAR ODOR)										
			4											
			6											
			8	dense, poorly graded SILT (ODOR but no COAL TAR) with black stained wood chip in bottom of corer										
	31		10											
			12		ML			22						
			14											
			16											
			18											
			20											
			22											

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

Sample		Blow Counts	Depth in Inches	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Num and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	31		26 28 30		ML			22						
			32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62	*EOB @ 31"*										

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-701B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	576.36 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			315.65 feet ☒ N ☐ S 328.08 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	10		0-10	drk brown, poorly graded SILT w/ black organics	ML			0						
			10-12	EOB @ 10"										

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

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPSC-Sheboygan II		SD-701C

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	576.11 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			268.29 feet ☒ N ☐ S 366.65 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	8		0-8	poorly graded dark brown SILT w/ tr. gravel	ML			0						
			8	EOB @ 8"										

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

Signature: Logged by Daniel R. Johnson Firm: Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
)C-Sheboygan II		SD-702A

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/17/95	10/17/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	576.02 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			434.88 feet ☒ N ☐ S 436.87 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	16.75		2 4 6 8 10 12 14 16 18 20 22	dark tan SILT w/ organics, (black tree leaves and roots) with sheen on the sounding pole and water after measuring depth to sediment	ML			1667						
				fine tan SAND, 3mm thick w/ slight odor drk. tan as above	SP									
				EOB @ 16.75"										

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-702B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/17/95	10/17/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	575.52 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			☐ N ☐ E ☐ S ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	15.25		2 4 6 8 10 12	dark brown, poorly graded SILT w/ organic fragments, (black leaves & roots) with very strong coal tar odor	ML			0						
			14	2" med-crs. SAND w/ tr. gravel, brachiopod remnants	SP									
			16 18 20 22	*EOB @ 15.25"*										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-702C

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/17/95	10/17/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.11 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			384.46 feet ☒ N ☐ S 483.72 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	15		2 4 6 8 10 12 14	poorly graded, dark brown SILT	ML			1.2						
			16 18 20 22	EOB @ 15"										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-703A

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	576.36 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			519.24 feet ☒ N ☐ S 528.71 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	19		2 4 6 8 10 12 14 16 18 20 22	loose dark brown, poorly graded SILT w/ organics dense dark brown, poorly graded SILT w/ organics Black COAL TAR with very strong odor *EOB @ 19"*	ML TAR			72.7						

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-703B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	575.77 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			486.12 feet ☒ N ☐ S 559.38 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	14		0-14	loose, dark brown, poorly graded SILT w/ organics, (black roots & leaves)				4.7						
			14	EOB @ 14"										

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

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-703C

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.86 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			462.6 feet ☒ N ☐ S 581.12 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	23		2 4 6 8 10 12 14 16 18 20 22	Dark brown, poorly graded SILT w/ tr. gravel & organics, (roots & leaves)	ML			8.1						
				EOB @ 23"										

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-703D

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/20/95	10/20/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.02 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			440.19 feet ☒ N ☐ S 600.69 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	10		2 4 6 8 10 12 14 16 18 20 22	dark brown, poorly graded SILT w/ organics	ML									
				dark brown med. to coarse SAND w/ tr. gravel	SP			13.6						
				EOB @ 10"										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Facility/Project Name	**License/Permit/Monitoring Number**	**Boring Number**
C-Sheboygan II		*SD-704A*

Boring Drilled By (Firm name and name of crew chief)	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
NRT/WPSC *Dan Johnson*	*10/18/95*	*10/18/95*	*Ogeechee Sand Corer*

DNR Facility Well No.	**WI Unique Well No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
			Feet MSL	*576.61 Feet MSL*	*2 inches*

Boring Location **State Plane** *Sec 23, T15N, R23E*	**Feet N** **Feet E**	**Lat** **Long**	**Local Grid Location (If applicable)** *592.87 feet* ☒ **N** *613.87 feet* ☒ **E** ☐ **S** ☐ **W**

County	**DNR County Code**	**Civil Town/City/ or Village**
Sheboygan	*60*	*Sheboygan*

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	17.5		2 4 6 8 10 12	dark brown, poorly graded SILT w/ tr. gravel & organics, (leaves & roots)	ML			7.1						
			14 16	as above w/ cinders (odor)	ML Cinder									
			18 20 22	*EOB @ 17.5"*										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-704B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC DanJohnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	575.44 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			568.8 feet ☒ N ☐ S 635.02 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	23		0-6	dark brown, poorly graded SILT w/ orgainics	ML			43.1						
			6-22	Coal Tar	TAR									
			22	EOB @ 23"										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-704C

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/18/95	10/18/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.36 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			525.52 feet ☒ N ☐ S 672.81 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	21		2 4 6 8 10 12 14	dark brown, poorly graded SILT w/ organics, (roots & leaves)	ML			6.4						
			16 18 20	well graded fine to coarse SAND	SP									
			22	*EOB @ 21"*										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-705A

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	575.86 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			658.48 feet ☒ N ☐ S 704.43 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	14		0-14	black, poorly graded SILT w/ organics & tr. gravel tan, poorly graded SILT, dense	ML			4.7						
			14	EOB @ 14"										

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Signature: Logged by Daniel R. Johnson Firm: Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.11 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (if applicable)
Sec 23, T15N, R23E			☐ N ☐ E ☐ S ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
			2	dark brown, poorly graded, SILT w/ orgainics	ML									
			4	as above w/ coal tar and strong odor										
	18.5		6 8 10 12		ML TAR			23.9						
			14	Coal Tar										
			16		TAR									
			18	*EOB @ 18.5"*										
			20 22											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705C

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	573.77 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			586.01 feet ☒ N ☐ S 743.02 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	12		0-12	dark brown, poorly graded SILT w/ organics	ML			18.5						
			4-12	Coal Tar	TAR									
			12	*EOB @ 12"*										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705D

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	574.61 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			568.42 feet ☒ N ☐ S 752 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	10		2 4 6 8 10 12 14 16 18 20 22	dark brown SILT tan, med.-crs., SAND EOB @ 10"	ML SP			7.3						

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705E

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	575.86 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			539.58 feet ☒ N ☐ S 767.58 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	9.5		2	Dark brown, poorly graded SITL w/ organics	ML									
			4	Dark brown, med.-crs. SAND w/ shells	SP			7.5						
			6											
			8											
			10	*EOB @ 9.5"*										
			12											
			14											
			16											
			18											
			20											
			22											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-706A

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	577.69 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			692.47 feet ☒ N ☐ S 864.87 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
			2 4 6 8 10 12 14 16 18 20 22	NO SAMPLE IN CORE - However sheen on the sounding pole										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-706B

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	10/19/95	10/19/95	Ogeechee Sand Corer

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	571.36 Feet MSL	2 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (if applicable)
Sec 23, T15N, R23E		·	665.71 feet ☒ N ☐ S 871.88 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
	11		2 4 6 8 10	dark brown, poorly graded SILT w/ tr. gravel & tr. organics	ML			16.9						
			12 14 16 18 20 22	EOB @ 11"										

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		*SD-706C*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC *Dan Johnson*	*10/19/95*	*10/19/95*	*Ogeechee Sand Corer*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	*574.19 Feet MSL*	*2 inches*

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			*629.02 feet* ☒ N ☐ S *881.39 feet* ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	*60*	*Sheboygan*

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Inches	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
			2	dark brown, poorly graded SILT	ML									
	11		4	tan, med.-crs., SAND w/ tr. gravel; brachiopods present	SP			21.9						
			6											
			8											
			10											
			12	*EOB @ 11"*										
			14											
			16											
			18											
			20											
			22											

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Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-701BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/11/96	06/11/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location			Local Grid Location (If applicable)
State Plane	Feet N	Lat	312.51 feet ☒ N ☐ S 330.8 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet E	Long	

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-26" Dark/medium brown poorly graded silt with trace organics	ML									
			2	26"-34" Dark gray/tan medium/coarse sand with trace gravel, sea shells	SP									
			3	34"-44" Dark/medium brown poorly graded silt with coal tar	ML TAR									
			4	44"-45" Coal tar	TAR									
				45"-47" Medium brown poorly graded silty clay with tar	CL TAR									
			5		SP TAR									
			6	47"-69" Black/dark brown poorly graded medium sand with very strong coal tar odor, coal tar, animal hair										
				EOB @ 5'9"										
			7	Depth to sediment = 4'6"										
			8											
			9											
			10											
			11											

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

Signature	Firm
Logged by Daniel R. Johnson	Natural Resource Technology

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Facility/Project Name	**License/Permit/Monitoring Number**	**Boring Number**
C-Sheboygan II		*SD-702CV*

Boring Drilled By (Firm name and name of crew chief)	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
ASCI	*06/11/96*	*06/11/96*	*VIBROCORE*

DNR Facility Well No.	**WI Unique Well No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
			Feet MSL	*580 Feet MSL*	*4 inches*

Boring Location **State Plane**	**Feet N** **Feet E**	**Lat** **Long**	**Local Grid Location (If applicable)**
NW 1/4, SW 1/4, Section 23, T15N, R23E			*414.68 feet* ☒ **N** ☐ **S** *458.6 feet* ☒ **E** ☐ **W**

County	**DNR County Code**	**Civil Town/City/ or Village**
Sheboygan	*60*	*City of Sheboygan*

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	0"-27" Dark brown poorly graded silt with organics,	ML OL									
			2											
			3	27"-64" Coal tar with trace hair	TAR									
			4											
			5											
			6	64"-89" Black poorly graded fine sand saturated with coal tar, with trace hair	SP TAR									
			7											
			8	EOB @ 7'5" Depth to sediment = 5'1"										
			9											
			10											
			11											

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-702DV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/13/96	06/13/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location			Local Grid Location (If applicable)
State Plane	Feet N	Lat	391.06 feet ☒ N ☐ S 483.05 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet E	Long	

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-17" Dark tan poorly graded silt with organics	ML OL									
			2	17"-43" Dark tan poorly graded silt with interbedded medium/coarse sand seams, coal tar odor/sheen	ML SP									
			3											
			4	43"-57" Coal tar with poorly graded silt, hair	ML TAR									
			5	57"-61" Coarse sand and gravel/saturated with coal tar	SP TAR									
			6	61"-67" Dark brown/black poorly graded silt/saturated with coal tar	ML TAR									
					SP TAR									
			7	67"-75" Coarse sand and gravel/saturated with coal tar	ML									
					SP									
			8	75"-82" Dark brown poorly graded silt with hair, tar odor	ML SP									
			9	82"-91" Coarse sand and gravel, coal tar odor										
				91"-100" Dark brown poorly graded silt with sand and gravel, tar odor										
			10	EOB @ 8'4"										
				Depth to sediment = 5'2"										
			11											

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

Signature **Logged by Daniel R. Johnson** Dan R. Johnson Firm **Natural Resource Technology**

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-703BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/13/96	06/13/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location			Local Grid Location (If applicable)	
State Plane	Feet N	Lat	497.91 feet ☒ N ☐ S	548.59 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet E	Long		

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-95" Dark brown poorly graded silt with trace organics, trace medium gray sand, slight color variations, but no apparent lithology differences, slight odor and sheen	ML									
			2											
			3											
			4											
			5											
			6											
			7											
			8	EOB @ 7'11"										
			9	Depth to sediment = 5'3"										
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-703CV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Lat	Local Grid Location (if applicable)
State Plane Feet N Feet E	Long ·	469.39 feet ☒ N ☐ S 575.19 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E		

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-43" Dark brown poorly graded silt with organics	ML OL									
			2											
			3											
			4											
			5	43"-68" Dark brown poorly graded silt	ML									
			6	68"-80" Dark brown medium to coarse sand with gravel	SP									
			7	EOB @ 6'8"										
			8	Depth to sediment = 6'6"										
			9											
			10											
			11											

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Signature **Logged by Daniel R. Johnson** Daniel R. Johnson Firm **Natural Resource Technology**

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-704BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/11/96	06/11/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Lat	Local Grid Location (If applicable)
State Plane	Feet N / Feet E	Long	558.54 feet ☒ N ☐ S 644.7 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E			

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-17" Dark brown poorly graded silt with organics, tar odor	ML OL									
			2	17"-28" Dark brown poorly graded silt with interbedded 1/2" seams of coal tar saturated sand and gravel	ML SP									
			3	28"-102" Dark brown/black poorly graded silt with interbedded sand and gravel seams, very strong coal tar odor, saturated with coal tar, some animal hair	ML TAR									
			4											
			5											
			6											
			7											
			8											
			9	102"-108" Dark brown poorly graded silt with coal tar odor	ML									
				108"-116" Light tan clay, odor	CL									
			10	EOB @ 9'8"										
				Depth to sediment = 5'10"										
			11											

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

Signature	Logged by Daniel R. Johnson	Firm
Eric P. Knuth		Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Facility/Project Name	**License/Permit/Monitoring Number**	**Boring Number**
SC-Sheboygan II		SD-704CV

Boring Drilled By (Firm name and name of crew chief)	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
ASCI	06/17/96	06/17/96	VIBROCORE

DNR Facility Well No.	**WI Unique Well No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
			Feet MSL	580 Feet MSL	4 inches

Boring Location			**Local Grid Location (If applicable)**
State Plane	**Feet N**	**Lat**	516.12 feet ☒ N 684.25 feet ☒ E
NW 1/4, SW 1/4, Section 23, T15N, R23E	**Feet E**	**Long**	☐ S ☐ W

County	**DNR County Code**	**Civil Town/City/ or Village**
Sheboygan	60	City of Sheboygan

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	0"-49" Dark brown poorly graded silt with wood chips, interbedded fine sand and clay layers, trace gravel, coal tar droplets	ML TAR									
			2											
			3											
			4											
			5	49"-67" Black fine sand with coal tar, animal hair	SP TAR									
			6	67"-76" Dark brown/black medium to coarse sand and gravel, saturated with coal tar	SP TAR									
			7	76"-86" Black poorly graded silt, saturated with coal tar with animal hair	ML TAR / SP TAR									
			8	86"-93" Dark brown poorly graded fine sand with saturated coal tar, droplets										
			9	EOB @ 7'9"										
			10	Depth to sediment = 6'2"										
			11											

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Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	11/05/95	11/05/95	Vibracore

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			623.44 feet ☒ N ☐ S 723.29 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

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	0"-15" Silt; Drk. brown w/ orgainics, poorly graded	ML			207						
			2	15"-21" Sand and Gravel; drk brown, coarse	SP			18						
				21"-26" Silt; Drk. brown, poorly graded	ML			13.1						
			3	26"-40" Sand and Gravel; drk. brown, coarse	GP			56.1						
				40"-45" Clayey Silt;	ML									
			4	45"-47" COAL TAR w/ Gravel	GP TAR			81.6 40.1						
				47"-50" CLayey Silt w/ Tar stain; hair present	ML TAR			36 14.5						
			5	50"-53" Sand; med. brown/gray, coarse	SP									
			6	53"-58" Clay; lt. brown, poorly graded, dense	CL									
			7	*EOB @ 4'10"*										
			8											
			9											
			10											
			11											

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Signature	Logged by Daniel R. Johnson	Firm
Daniel R. Johnson		Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705CV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/17/96	06/17/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E		·	614.96 feet ☒ N ☐ S 727.29 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-50" Dark brown poorly graded silt with organics, slight sheen, slight odor	ML OL									
			2											
			3											
			4											
			5	50"-112" Black poorly graded silt saturated with coal tar interbedded sand seams, strong odor strong sheen/with animal hair	ML TAR									
			6											
			7											
			8											
			9											
			10	112"-117" Medium/coarse sand and gravel	SP									
				117"-126" Dark brown/black medium sand with interbedded silt seams, animal hair	SP ML									
			11	EOB @ 10'6"										
				Depth to sediment = 7'0"										

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-705DV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/11/96	06/11/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location / State Plane	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
NW 1/4, SW 1/4, Section 23, T15N, R23E		.	584.04 feet ☒ N ☐ S 743.53 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-36" Dark brown poorly graded silt with organics, slight sheen of tar droplets, odor	ML OL									
			3	36"-54" Medium brown medium graded sand grading deeper to gravel	SP									
			5	EOB @ 4'6"										
				Depth to sediment = 6'8"										
			6											
			7											
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-706BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/17/96	06/17/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (if applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E			667.3 feet ☒ N ☐ S 871.56 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-13" Dark brown poorly graded silt with medium/coarse sand and gravel, slight sheen	ML SP									
			2	13"-31" Dark brown/black medium/coarse sand and gravel, sheen and tar odor	SP									
			3	31"-36" Dark brown poorly graded silt with trace gravel, tar odor and sheen	ML									
			4	EOB @ 3'0" Depth to sediment = 7'0"										
			5											
			6											
			7											
			8											
			9											
			10											
			11											

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

Signature	Firm
Logged by Daniel R. Johnson	Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		*SD-706CV*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	*06/18/96*	*06/18/96*	*VIBROCORE*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	*580 Feet MSL*	*4 inches*

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (if applicable)
State Plane *NW 1/4, SW 1/4, Section 23, T15N, R23E*			*607.20 feet* ☒ N ☐ S *886.98 feet* ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	*60*	*City of Sheboygan*

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	0"-4" Light tan/black poorly graded silt with organics, trace sand	ML OL									
				4"-11" Gray medium to coarse sand and gravel with shells	SP									
			2	11"-19" Medium brown poorly graded silt	ML									
				19"-24" Gray medium/coarse sand and gravel with shells	SP									
			3	24"-32" Medium brown medium to fine sand coal tar/animal hair	SP TAR									
				32"-44" Medium brown poorly graded silt	ML									
			4	44"-46" Gray medium/coarse sand and gravel with shells	ML OL									
				46"-59" Medium/dark brown poorly graded silt with hair, organics	ML									
			5	59"-81" Medium brown poorly graded silt										
				EOB @ 6'9"										
			6	Depth to sediment = 4'11"										
			7											
			8											
			9											
			10											
			11											

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-707AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	11/04/95	11/04/95	Vibracore

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E		·	255.92 feet ☒ N ☐ S 228.54 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

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	0"-15" Siltw/ Gravel; Drk. brown, poorly graded, loose, SHEEN	GM									
			2	15"-23" Silt; drk brown, poorly graded, dense,SHEEN	ML									
				23"-26" COAL TAR; black	TAR									
			3	26"-33" Silt; drk. brown, poorly graded, dense, SHEEN	ML									
			4	33"-60" COAL TAR; black w/ drk brown silt, wood chips	ML TAR									
			5	60"-64" Sand; drk. brown, med to coarse	SP									
				EOB @ 5'4"										
			6											
			7											
			8											
			9											
			10											
			11											

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Signature	Firm
Logged by Daniel R. Johnson	Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
PSC-Sheboygan II		SD-707BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
NRT/WPSC Dan Johnson	11/04/95	11/04/95	Vibracore

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location State Plane	Feet N Feet E	Lat Long	Local Grid Location (If applicable)
Sec 23, T15N, R23E			236.83 feet ☒ N ☐ S 245.47 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	Sheboygan

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	0"-5" Silt; Drk. brown, poorly graded	ML			4.7						
				5"-14" Sand and Gravel; black, coarse	SP			4.5						
			2	14"-17" Sand; med. brown, med.-coarse	SP			5.3						
				17"-20" CLayey Silt; drk. brown, poorly graded	ML			8.4						
			3	20"-25" COAL TAR; black	TAR			5.2						
				25"-30" Sand; med. brown, med.-coarse	SP			7.9						
			4	30"-35" COAL TAR; black	TAR			3.7						
				35"-43" Sand and Gravel; drk. brown, coarse w/ shell fragments & glass	SP									
			5	EOB @ 3'7"										
			6											
			7											
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-707CV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/10/96	06/10/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location			Local Grid Location (if applicable)
State Plane	Feet N	Lat	208.45 feet ☒ N ☐ S 259.84 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet E	Long	

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-16" Medium brown silt with organics	ML OL									
			2	16"-20" Dark Brown/black silt with trace gravel, trace organics	ML									
				20"-24" Medium brown poorly graded silt	ML									
			3	24"-28" Black silt with trace gravel, trace animal hair										
			4	28"-60" Dark gray/tan medium/coarse sand with Brachiopod shells, coal tar/animal hair	SP TAR									
			5	60"-69" Black silt with animal hair	ML									
			6	69"-71" Medium brown poorly graded fine sand with animal hair	SP ML OL									
			7	71"-79" Black silt with hair, organics	SP GP									
				79"-84" Medium brown poorly graded fine sand with gravel and animal hair										
			8	EOB @ 7'0"										
				Depth to sediment = 6'3"										
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-708AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	11/04/95	11/04/95	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E			155.12 feet ☒ N ☐ S 134.66 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-10" Medium brown silt with organic material	ML OL			8.3						
			2	10"-29" Dark brown/black silt with fine sands	ML SM			20.5						
			3	29"-36" Dark brown medium/coarse silty sand with interbedded clay	ML CL			20.7						
					ML			9.6						
			4	36"-40" Black silt with animal hair 40"-53" Dark brown silt	ML			14.8						
			5	53"-66" Medium to fine sand with small pebbles	SP			6.1						
			6	66"-70" Dark brown silt/clay	ML CL			14						
				EOB @ 5'10"										
			7	Depth to sediment = Unknown										
			8											
			9											
			10											
			11											

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

Signature	Logged by Daniel R. Johnson	Firm
	Eric Kvaalen	Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-708BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/10/96	06/10/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Lat	Local Grid Location (If applicable)
State Plane	Feet N / Feet E	Long	117.88 feet ☒ N ☐ S 166.99 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E			

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-16" Medium brown silt with organics	ML OL									
			2	16"-35" Dark brown/black silt with trace gravel	ML									
			3	35"-52" Dark gray medium/coarse silty sand, shells with interbedded tan/black clay with hair	ML CL									
			4	52"-60" Black silt with animal hair	ML									
			5	EOB @ 5'0"										
			6	Depth to sediment = 6'10"										
			7											
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-709AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	11/04/95	11/04/95	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	4 inches

Boring Location	Lat	Local Grid Location (if applicable)
State Plane Feet N Feet E	Long	40.64 feet ☒ N ☐ S 88.01 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E		

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-11" Dark brown/black silt with organic material	ML OL			14.3						
			2	10"-24" Dark brown/black fine to medium sands, trace gravel/organic material	SP OL			33.9						
			3	24"-36" Brown medium/coarse sand with gravels	SP GP			9.2						
			4	EOB @ 3' Depth to sediment = Unknown										
			5											
			6											
			7											
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-710AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Local Grid Location (if applicable)
State Plane	Feet N / Feet E	Lat / Long
NW 1/4, SW 1/4, Section 23, T15N, R23E		710.52 feet ☒ N ☐ S 1060.45 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-23" Dark brown poorly graded silt with organics	ML OL									
			2	23"-34" Dark brown medium to coarse sand and gravel	SP									
			3	34"-44" Dark brown poorly graded silt	ML									
			4	44"-50" Dark brown/black poorly graded silt, with coal tar	ML TAR									
			5	50"-52" Dark brown/black poorly graded silt, saturated with coal tar/animal hair	ML TAR									
			6	52"-54" Black/dark brown poorly graded silt with coal tar, animal hair	ML TAR									
			7	54"-64" Dark brown poorly graded silt with sandy hairy tar	ML TAR									
			8	EOB @ 5'4"										
			9	Depth to sediment = 8'10"										
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-710BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Local Grid Location (If applicable)
State Plane	Feet N / Feet E	Lat / Long
NW 1/4, SW 1/4, Section 23, T15N, R23E		681.54 feet ☒ N 1059.44 feet ☒ E ☐ S ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-34" Dark brown poorly graded silt with organics	ML OL									
			3	34"-38" Medium brown medium to coarse sand and gravel with shells	SP ML									
			4	38"-44" Dark brown poorly graded silt	SP ML									
			5	44"-52" Medium/dark brown medium to fine sand with silt										
				EOB @ 4'4"										
			6	Depth to sediment = 6'6"										
			7											
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-710CV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location			Local Grid Location (if applicable)
State Plane	Feet N	Lat	622.87 feet ☒ N 1057.57 feet ☒ E
NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet E	Long	☐ S ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-42" Dark brown poorly graded silt with organics	ML OL									
			4	42"-52" Medium brown medium to coarse sand and gravel with shells	SP									
			5	52"-64" Dark brown poorly graded silt	ML									
			6	EOB @ 5'4" Depth to sediment = 4"11"										

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Signature	Firm
Logged by Daniel R. Johnson Daniel R. Johnson	Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-711AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E			726.91 feet ☒ N ☐ S 1218.63 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-24" Dark brown poorly graded silt with organics, slight sheen	ML OL									
			2	24"-28" Black medium to coarse sand and gravel with coal tar, shells	SP TAR									
			3	28"-36" Dark brown/black medium to coarse sand and gravel with hair, silt, tar, shells	SP TAR / SP GP									
			4	36"-48" Gray medium sand grading to gravel deeper with shells										
			5	EOB @ 4'0"										
			6	Depth to sediment = 9'1"										
			7											
			8											
			9											
			10											
			11											

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

Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C-Sheboygan II		SD-711BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Lat	Local Grid Location (If applicable)
State Plane	Feet N / Feet E	Long	686.83 feet ☒ N ☐ S 1218.8 feet ☒ E ☐ W
NW 1/4, SW 1/4, Section 23, T15N, R23E			

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-7" Dark brown poorly graded silt with dark brown fine sand	ML SP									
				7"-13" Dark brown poorly graded fine sand	SP									
			2	13"-18" Gray/brown medium to coarse sand with shells	SP ML ML									
			3	18"-22" Dark brown poorly graded silt	SP									
				22"-29" Black silt with animal hair	ML									
			4	29"-34" Dark brown poorly graded fine sand	SP TAR									
			5	34"-48" Dark brown/black poorly graded silt with animal hair	ML TAR ML									
			6	48"-50" Medium brown medium to coarse sand and gravel; saturated with coal tar	SP									
				50"-58" Dark brown/black poorly graded silt with hair, coal tar	ML									
			7	58"-68" Medium brown poorly graded silt with hair, tar odor	SP									
			8	68"-78" Medium brown medium to coarse sand and gravel with shells										
			9	78"-87" Medium brown poorly graded silt with animal hair										
				87"-100" Same as 68"-78"										
			10	EOB @ 8'4"										
			11	Depth to sediment = 6'8"										

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Signature	Firm
Logged by Daniel R. Johnson Daniel R. Johnson	Natural Resource Technology

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-711CV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location		Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E	Feet N Feet E	Lat Long	614.73 feet ☒ N ☐ S 1218.77 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-21" Dark brown poorly graded silt with organics	ML OL									
			2	21"-36" As above, with sheen										
			3	36"-48" Dark brown fine sand, strong odor and sheen	SP									
			4	48"-55" Dark brown/black coal tar	TAR									
			5	55"-60" Dark brown poorly graded silt, strong tar odor	ML									
			6	60"-69" Dark brown fine to medium sand with shells, strong tar odor	SP									
			7	EOB @ 5'9"										
			8											
			9											
			10											
			11											

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Signature **Logged by Daniel R. Johnson** Firm **Natural Resource Technology**

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-712AV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E		·	783.84 feet ☒ N ☐ S 1471.12 feet ☒ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-38" Dark brown poorly graded silt with trace organics, trace shells, trace fine sand	ML									
			3	38"-48" Dark brown poorly graded silt with trace fine sand very slight sheen	ML									
			4	48"-67" Light tan medium to coarse sand and gravel with shells	SP									
			5											
			6	67"-73" Light tan poorly graded fine sand	SP									
				EOB @ 6'1"										
			7	Depth to sediment = 9'2"										
			8											
			9											
			10											
			11											

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
SC-Sheboygan II		SD-712BV

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
ASCI	06/18/96	06/18/96	VIBROCORE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	580 Feet MSL	4 inches

Boring Location	Feet N / Feet E	Lat / Long	Local Grid Location (If applicable)
State Plane NW 1/4, SW 1/4, Section 23, T15N, R23E			718.9 feet ☒ N 1483.06 feet ☒ E ☐ S ☐ W

County	DNR County Code	Civil Town/City/ or Village
Sheboygan	60	City of Sheboygan

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	0"-42" Dark brown poorly graded silt with organics, trace fine sand	ML OL									
			2											
			3											
			4	42"-48" Medium brown poorly graded medium sand	SP									
			5	48"-77" Dark brown poorly graded silt with organics	ML OL									
			6											
			7	EOB @ 6'5" Depth to sediment = 10'4"										
			8											
			9											
			10											
			11											

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APPENDIX G

LABORATORY ANALYTICAL RESULTS

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120
WDNR No. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995

Job No: 95.08115

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
153785	BKG-700 #1060	10/16/1995	10/23/1995
153786	SD-702A #1060	10/16/1995	10/23/1995
153787	SD-704B #1060	10/17/1995	10/23/1995
153788	SD-706C #1060	10/18/1995	10/23/1995
153789	SD-703C #1060	10/17/1995	10/23/1995
153790	SD-701B #1060	10/16/1995	10/23/1995
153791	SD-702B #1060	10/18/1995	10/23/1995

Post-it® Fax Note 7671	Date 11/13	# of pages ▶ Many
To SUSAN	From Dan	
Co./Dept. NRT	Co. NRT	
Phone #	Phone #	
Fax #	Fax #	

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong, Organic Operations Manager
Certification No. 128053530

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

NDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153785
Account No: 52450
Page 2

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: BKG-700 #1060
Recv'd On Ice

Date Taken: 10/16/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	18
Cyanide, total	0.59	mg/kg	0.25	S-9010	10/27/1995	69
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995	53
Solids, Total	64.3	%	n/a	S-5030	10/26/1995	1241
TOC	30,000	mg/kg		E-415.1	10/23/1995	61
- NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	331
Surr: Dibromofluoromethane	120.4	%	n/a	S-8260	10/30/1995	331
Surr: Toluene-d8	99.0	%	n/a	S-8260	10/30/1995	331
Surr: Bromofluorobenzene	82.4	%	n/a	S-8260	10/30/1995	331
PNA Extraction	10/25/95			S-3550	10/25/1995	125
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	10/26/1995	125 345
Acenaphthylene	<80	ug/kg	80	S-8310	10/26/1995	125 345
Anthracene	35	ug/kg	8.0	S-8310	10/26/1995	125 345
Benzo(a)anthracene	380	ug/kg	2.0	S-8310	10/26/1995	125 345
Benzo(b)fluoranthene	130	ug/kg	2.0	S-8310	10/26/1995	125 345
Benzo(k)fluoranthene	69	ug/kg	2.0	S-8310	10/26/1995	125 345
Benzo(a)pyrene	260	ug/kg	8.0	S-8310	10/26/1995	125 345
Benzo(ghi)perylene	160	ug/kg	4.0	S-8310	10/26/1995	125 345
Chrysene	180	ug/kg	4.0	S-8310	10/26/1995	125 345
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	10/26/1995	125 345
Fluoranthene	640	ug/kg	8.0	S-8310	10/26/1995	125 345
Fluorene	<16	ug/kg	16	S-8310	10/26/1995	125 345
Indeno(1,2,3-cd)pyrene	94	ug/kg	4.0	S-8310	10/26/1995	125 345
Naphthalene	<40	ug/kg	40	S-8310	10/26/1995	125 345
Phenanthrene	62	ug/kg	16	S-8310	10/26/1995	125 345
Pyrene	160	ug/kg	8.0	S-8310	10/26/1995	125 345
Surr: 2-Fluorobiphenyl	80.6	%	n/a	S-8310	10/26/1995	125 345

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120
WDNR No. 128052530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153786
Account No: 52450
Page 3

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-702A #1060
Recv'd On Ice

Date Taken: 10/16/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	18
Cyanide, total	0.30	mg/kg	0.25	S-9010	10/27/1995	69
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	51.0	%	n/a	S-5030	10/26/1995	1241
TOC	20,000	mg/kg		E-415.1	10/23/1995	61
] - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	331
Surr: Dibromofluoromethane	117.2	%	n/a	S-8260	10/30/1995	331
Surr: Toluene-d8	99.0	%	n/a	S-8260	10/30/1995	331
Surr: Bromofluorobenzene	80.8	%	n/a	S-8260	10/30/1995	331
PNA Extraction	10/25/95			S-3550	10/25/1995	125
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	10/30/1995	125 349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	125 349
Anthracene	<8.0	ug/kg	8.0	S-8310	10/30/1995	125 349
Benzo(a)anthracene	18	ug/kg	2.0	S-8310	10/30/1995	125 349
Benzo(b)fluoranthene	11	ug/kg	2.0	S-8310	10/30/1995	125 349
Benzo(k)fluoranthene	15	ug/kg	2.0	S-8310	10/30/1995	125 349
Benzo(a)pyrene	18	ug/kg	8.0	S-8310	10/30/1995	125 349
Benzo(ghi)perylene	16	ug/kg	4.0	S-8310	10/30/1995	125 349
Chrysene	9.8	ug/kg	4.0	S-8310	10/30/1995	125 349
Dibenzo(a,h)anthracene	14	ug/kg	4.0	S-8310	10/30/1995	125 349
Fluoranthene	18	ug/kg	8.0	S-8310	10/30/1995	125 349
Fluorene	<16	ug/kg	16	S-8310	10/30/1995	125 349
Indeno(1,2,3-cd)pyrene	23	ug/kg	4.0	S-8310	10/30/1995	125 349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	125 349
Phenanthrene	<16	ug/kg	16	S-8310	10/30/1995	125 349
Pyrene	<8.0	ug/kg	8.0	S-8310	10/30/1995	125 349
Surr: 2-Fluorobiphenyl	80.8	%	n/a	S-8310	10/30/1995	125 349

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
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Watertown, WI 53094
Tel: (414) 261-1660
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NETWR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153787
Account No: 52450
Page 4

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-704B #1060
Recv'd On Ice

Date Taken: 10/17/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	0.62	mg/kg	0.25		10/27/1995	18
Cyanide, total	0.84	mg/kg	0.25	S-9010	10/27/1995	69
Phenol	2.0	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	53.6	%	n/a	S-5030	10/26/1995	1241
TOC	31,000	mg/kg		E-415.1	10/23/1995	61
- NONAQUEOUS - 8260						
Benzene	6,300	ug/kg	5.0	S-8260	10/30/1995	332
Ethylbenzene	24,000	ug/kg	5.0	S-8260	10/30/1995	332
Toluene	9,500	ug/kg	5.0	S-8260	10/30/1995	332
Xylenes, Total	31,000	ug/kg	15	S-8260	10/30/1995	332
Surr: Dibromofluoromethane	113.2	%	n/a	S-8260	10/30/1995	332
Surr: Toluene-d8	95.8	%	n/a	S-8260	10/30/1995	332
Surr: Bromofluorobenzene	85.8	%	n/a	S-8260	10/30/1995	332
PNA Extraction	10/27/95			S-3550	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	26,000	ug/kg	40	S-8310	10/30/1995	126 349
Acenaphthylene	12,000	ug/kg	80	S-8310	10/30/1995	126 349
Anthracene	15,000	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(a)anthracene	11,000	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(b)fluoranthene	2,400	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(k)fluoranthene	3,100	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(a)pyrene	7,700	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(ghi)perylene	5,300	ug/kg	4.0	S-8310	10/30/1995	126 349
Chrysene	70,000	ug/kg	4.0	S-8310	10/30/1995	126 349
Dibenzo(a,h)anthracene	1,300	ug/kg	4.0	S-8310	10/30/1995	126 349
Fluoranthene	56,000	ug/kg	8.0	S-8310	10/30/1995	126 349
Fluorene	31,000	ug/kg	16	S-8310	10/30/1995	126 349
Indeno(1,2,3-cd)pyrene	3,200	ug/kg	4.0	S-8310	10/30/1995	126 349
Naphthalene	124,000	ug/kg	40	S-8310	10/30/1995	126 349
Phenanthrene	66,000	ug/kg	16	S-8310	10/30/1995	126 349
Pyrene	9,600	ug/kg	8.0	S-8310	10/30/1995	126 349
Surr: 2-Fluorobiphenyl	DO	%	n/a	S-8310	10/30/1995	126 349

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 258
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053630

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153788
Account No: 52450
Page 5

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-706C #1060
Recv'd On Ice

Date Taken: 10/18/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	18
Cyanide, total	<0.25	mg/kg	0.25	S-9010	10/27/1995	69
Phenol	0.19	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	74.4	%	n/a	S-5030	10/26/1995	1241
TOC	7,600	mg/kg		E-415.1	10/23/1995	61
VOC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	332
Surr: Dibromofluoromethane	107.8	%	n/a	S-8260	10/30/1995	332
Surr: Toluene-d8	97.2	%	n/a	S-8260	10/30/1995	332
Surr: Bromofluorobenzene	86.4	%	n/a	S-8260	10/30/1995	332
PNA Extraction	10/27/95			S-3550	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	126 349
Anthracene	38	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(a)anthracene	110	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(b)fluoranthene	39	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(k)fluoranthene	47	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(a)pyrene	82	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(ghi)perylene	110	ug/kg	4.0	S-8310	10/30/1995	126 349
Chrysene	82	ug/kg	4.0	S-8310	10/30/1995	126 349
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	10/30/1995	126 349
Fluoranthene	300	ug/kg	8.0	S-8310	10/30/1995	126 349
Fluorene	<16	ug/kg	16	S-8310	10/30/1995	126 349
Indeno(1,2,3-cd)pyrene	93	ug/kg	4.0	S-8310	10/30/1995	126 349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Phenanthrene	160	ug/kg	16	S-8310	10/30/1995	126 349
Pyrene	180	ug/kg	8.0	S-8310	10/30/1995	126 349
Surr: 2-Fluorobiphenyl	70.7	%	n/a	S-8310	10/30/1995	126 349

OCEAN GROUT

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120
WDNR No. 1280535

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153789
Account No: 52450
Page 6

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-703C #1060
Recv'd On Ice

Date Taken: 10/17/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	18
Cyanide, total	<0.25	mg/kg	0.25	S-9010	10/27/1995	69
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	49.5	%	n/a	S-5030	10/26/1995	1241
TOC	17,000	mg/kg		E-415.1	10/23/1995	61
VOC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	332
Surr: Dibromofluoromethane	106.2	%	n/a	S-8260	10/30/1995	332
Surr: Toluene-d8	106.6	%	n/a	S-8260	10/30/1995	332
Surr: Bromofluorobenzene	83.2	%	n/a	S-8260	10/30/1995	332
PNA Extraction	10/27/95			S-3550	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	126 349
Anthracene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(a)anthracene	<2.0	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(b)fluoranthene	<2.0	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(k)fluoranthene	<2.0	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(a)pyrene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(ghi)perylene	<4.0	ug/kg	4.0	S-8310	10/30/1995	126 349
Chrysene	<4.0	ug/kg	4.0	S-8310	10/30/1995	126 349
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	10/30/1995	126 349
Fluoranthene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Fluorene	<16	ug/kg	16	S-8310	10/30/1995	126 349
Indeno(1,2,3-cd)pyrene	<4.0	ug/kg	4.0	S-8310	10/30/1995	126 349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Phenanthrene	<16	ug/kg	16	S-8310	10/30/1995	126 349
Pyrene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Surr: 2-Fluorobiphenyl	73.8	%	n/a	S-8310	10/30/1995	126 349

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153790
Account No: 52450
Page 7

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-701B #1060
Recv'd On Ice

Date Taken: 10/16/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch	
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995		18
Cyanide, total	<0.25	mg/kg	0.25	S-9010	10/27/1995		69
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995		54
Solids, Total	47.6	%	n/a	S-5030	10/26/1995		1241
TOC	17,000	mg/kg		E-415.1	10/23/1995		61
VOC - NONAQUEOUS - 8260							
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995		331
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995		331
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995		331
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995		331
Surr: Dibromofluoromethane	119.8	%	n/a	S-8260	10/30/1995		331
Surr: Toluene-d8	98.6	%	n/a	S-8260	10/30/1995		331
Surr: Bromofluorobenzene	80.4	%	n/a	S-8260	10/30/1995		331
PNA Extraction	10/25/95			S-3550	10/25/1995	125	
PNA METHOD 8310 - NONAQUEOUS							
Acenaphthene	<40	ug/kg	40	S-8310	10/30/1995	125	349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	125	349
Anthracene	<8.0	ug/kg	8.0	S-8310	10/30/1995	125	349
Benzo(a)anthracene	7.9	ug/kg	2.0	S-8310	10/30/1995	125	349
Benzo(b)fluoranthene	14	ug/kg	2.0	S-8310	10/30/1995	125	349
Benzo(k)fluoranthene	<2.0	ug/kg	2.0	S-8310	10/30/1995	125	349
Benzo(a)pyrene	<8.0	ug/kg	8.0	S-8310	10/30/1995	125	349
Benzo(ghi)perylene	17	ug/kg	4.0	S-8310	10/30/1995	125	349
Chrysene	8.2	ug/kg	4.0	S-8310	10/30/1995	125	349
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	10/30/1995	125	349
Fluoranthene	18	ug/kg	8.0	S-8310	10/30/1995	125	349
Fluorene	<16	ug/kg	16	S-8310	10/30/1995	125	349
Indeno(1,2,3-cd)pyrene	8.8	ug/kg	4.0	S-8310	10/30/1995	125	349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	125	349
Phenanthrene	<16	ug/kg	16	S-8310	10/30/1995	125	349
Pyrene	11	ug/kg	8.0	S-8310	10/30/1995	125	349
Surr: 2-Fluorobiphenyl	73.7	%	n/a	S-8310	10/30/1995	125	349

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

NDNR No. 128053536

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

11/07/1995
Job No: 95.08115
Sample No: 153791
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheb II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD-702B #1060
Recv'd On Ice

Date Taken: 10/18/1995 Date Received: 10/23/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/30/1995	19
Cyanide, total	<0.25	mg/kg	0.25	S-9010	10/30/1995	70
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	52.2	%	n/a	S-5030	10/26/1995	1241
TOC	20,000	mg/kg		E-415.1	10/23/1995	61
VOC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	332
Surr: Dibromofluoromethane	105.8	%	n/a	S-8260	10/30/1995	332
Surr: Toluene-d8	100.8	%	n/a	S-8260	10/30/1995	332
Surr: Bromofluorobenzene	85.2	%	n/a	S-8260	10/30/1995	332
PNA Extraction	10/27/95			S-3550	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	126 349
Anthracene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(a)anthracene	89	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(b)fluoranthene	57	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(k)fluoranthene	55	ug/kg	2.0	S-8310	10/30/1995	126 349
Benzo(a)pyrene	98	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo(ghi)perylene	150	ug/kg	4.0	S-8310	10/30/1995	126 349
Chrysene	64	ug/kg	4.0	S-8310	10/30/1995	126 349
Dibenzo(a,h)anthracene	21	ug/kg	4.0	S-8310	10/30/1995	126 349
Fluoranthene	83	ug/kg	8.0	S-8310	10/30/1995	126 349
Fluorene	<16	ug/kg	16	S-8310	10/30/1995	126 349
Indeno(1,2,3-cd)pyrene	94	ug/kg	4.0	S-8310	10/30/1995	126 349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	126 349
Phenanthrene	<16	ug/kg	16	S-8310	10/30/1995	126 349
Pyrene	120	ug/kg	8.0	S-8310	10/30/1995	126 349
Surr: 2-Fluorobiphenyl	89.4	%	n/a	S-8310	10/30/1995	126 349

CHAIN OF CUSTODY RECORD

9508115

Sample Collectors(s)/Signature(s): Stephanie VanDyke/Stephanie VanDyke

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number: _____ Attached: YES __ NO X

Site Name: WPSC-STEB JF

Site Address: Sheboygan, WI

Send Report To:
Project Manager: SAG/DRJ Project Number: 1060
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Task Number: _____
Telephone (414) 523-9000 Fax (414) 523-9001

Temperature of temperature blank: carbon eco

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Stephanie VanDyke	10/23/95 10:30	Jeff P. Krupnick	10/23/95 1030
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Jeff P. Krupnick	10/23/95 3:15	Jeff Krupnick	10/23/95 1515
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Jeff Krupnick	10/23/95 1650	Karen Kurtz	10/24/95

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont	BTEX	PAH	Total Phenol	Total Cyanide	Weak acid diss.	TOC		Lab ID Number	Sample Conditions @ Laboratory
SD-700	10/16/95		Sed.	grab		5		—	4									
SD-702A	10/16/95					1067		—										
SD-704B	10/17/95					43	coal tar present	—										
SD-706C	10/18/95					21		—										
SD-703C	10/17/95					8.1		—										
SD-701B	10/16/95							—										
SD-702B	10/18/95		↓	↓				—	↓									

Analytical Method / Numbers

Lab Use Only

SPECIAL INSTRUCTIONS

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
__ Return __ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

WSCOMSCUSTODY.CDR

CHAIN OF CUSTODY RECORD

Sample Collector(s)/Signature(s): Stephanie Van Dyke / Stephanie Van Dyke

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number: _____ Attached: YES __ NO X

Site Name: UNOCAL STATION #

Site Address: Sheboygan, WI

Send Report To:
Project Manager: SAG/DRT
Natural Resource Technology, Inc.
23711 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1060

Task Number: 5.7

Temperature of temperature blank: [illegible]

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Stephanie Van Dyke	[illegible] 1:30	[illegible]	[illegible] 1:30
[illegible]	Date/Time 3:15	[illegible]	Date/Time 3:15
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	BTEX (8020)	PAH (8310)	TOTAL PHENOLS (420.1)	TOTAL OIL (5520)	DRO & ACID HYDR. (Mod 8015)	TOC (LOW PPM)	Lab ID Number	Sample Condition (Lab Use)
EB-700	10/6/95		[illegible]	[illegible]		5	[illegible]	—	4	X	X	X	X	X	X		
EB-702D	10/6/95					0.67											
SB-704B	10/7/95					4.3	[illegible]										
SB-706C	10/7/95					21											
SB-705C	10/7/95					9.1											
SB-701B	[illegible]																
SB-702B	[illegible]		↓	↓					↓								

SPECIAL INSTRUCTIONS

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
___ Return ___ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

TOTAL P.10

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995

Job No: 95.08590

Corrected Report

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
155294	709-A 11-24 #1060	11/04/1995	11/07/1995
155295	707-B 35-43 #1060	11/05/1995	11/07/1995
155296	705-BV 53-58 #1060	11/05/1995	11/07/1995
155297	708-A 53-66 #1060	11/04/1995	11/07/1995
155298	702-BV 75-86 #1060	11/05/1995	11/07/1995
155299	705-BV 45-47 #1060	11/05/1995	11/07/1995

CASE NARRATIVE

The results for NET samples 155298-155299 are flagged as having been analyzed past hold for 8260. These samples were analyzed 1 day past hold due to instrument malfunction.

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong, Organic Operations Manager
Certification No. 128053530

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155294
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 709-A 11-24 #1060

Date Taken: 11/04/1995 Date Received: 11/07/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.50	mg/kg	0.50		11/15/1995	21
Cyanide, total	<0.50	mg/kg	0.50	S-9010	11/15/1995	71
Phenol	<0.50	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total	90.5	%	n/a	S-5030	11/15/1995	1256
TOC	1,700	mg/kg		E-415.1	11/30/1995	63
VOC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Toluene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Xylenes, Total	<15	ug/kg	15	S-8260	11/18/1995	345
Surr: Dibromofluoromethane	104.4	%	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	104.6	%	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	94.6	%	n/a	S-8260	11/18/1995	345
PNA Extraction	11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Acenaphthylene	<80	ug/kg	80	S-8310	11/17/1995	128 358
Anthracene	39	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(a)anthracene	110	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(b)fluoranthene	42	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene	24	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(a)pyrene	70	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(ghi)perylene	52	ug/kg	4.0	S-8310	11/17/1995	128 358
Chrysene	56	ug/kg	4.0	S-8310	11/17/1995	128 358
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	11/17/1995	128 358
Fluoranthene	170	ug/kg	8.0	S-8310	11/17/1995	128 358
Fluorene	51	ug/kg	16	S-8310	11/17/1995	128 358
Indeno(1,2,3-cd)pyrene	33	ug/kg	4.0	S-8310	11/17/1995	128 358
Naphthalene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Phenanthrene	110	ug/kg	16	S-8310	11/17/1995	128 358
Pyrene	140	ug/kg	8.0	S-8310	11/17/1995	128 358
Surr: 2-Fluorobiphenyl	79.7	%	n/a	S-8310	11/17/1995	128 358

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
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WDNR No. 136053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155295
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 707-B 35-43 #1060

Date Taken: 11/05/1995 Date Received: 11/07/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.50	mg/kg	0.50		11/15/1995	21
Cyanide, total	<0.50	mg/kg	0.50	S-9010	11/15/1995	71
Phenol	<0.50	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total	85.7	%	n/a	S-5030	11/15/1995	1256
TOC	1,100	mg/kg		E-415.1	11/30/1995	63
VOC NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Toluene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Xylenes, Total	<15	ug/kg	15	S-8260	11/18/1995	345
Surr: Dibromofluoromethane	105.2	%	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	103.0	%	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	93.2	%	n/a	S-8260	11/18/1995	345
PNA Extraction	11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	3,300	ug/kg	40	S-8310	11/17/1995	128 358
Acenaphthylene	<80	ug/kg	80	S-8310	11/17/1995	128 358
Anthracene	1,800	ug/kg	8.0	S-8310	11/21/1995	128 357
Benzo(a)anthracene	3,300	ug/kg	2.0	S-8310	11/21/1995	128 357
Benzo(b)fluoranthene	840	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene	120	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(a)pyrene	1,400	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(ghi)perylene	1,400	ug/kg	4.0	S-8310	11/17/1995	128 358
Chrysene	2,900	ug/kg	4.0	S-8310	11/21/1995	128 357
Dibenzo(a,h)anthracene	120	ug/kg	4.0	S-8310	11/17/1995	128 358
Fluoranthene	11,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Fluorene	650	ug/kg	16	S-8310	11/21/1995	128 357
Indeno(1,2,3-cd)pyrene	1,000	ug/kg	4.0	S-8310	11/17/1995	128 358
Naphthalene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Phenanthrene	6,000	ug/kg	16	S-8310	11/21/1995	128 357
Pyrene	8,500	ug/kg	8.0	S-8310	11/21/1995	128 357
Surr: 2-Fluorobiphenyl	103.9	%	n/a	S-8310	11/17/1995	128 358

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120
WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155296
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 705-BV 53-58 #1060

Date Taken: 11/05/1995 Date Received: 11/07/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.50	mg/kg	0.50		11/15/1995	21
Cyanide, total	<0.50	mg/kg	0.50	S-9010	11/15/1995	72
Phenol	<0.50	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total	80.9	%	n/a	S-5030	11/15/1995	1256
TOC	1,600	mg/kg		E-415.1	11/30/1995	63
VOC NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Ethylbenzene	49	ug/kg	5.0	S-8260	11/18/1995	345
Toluene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Xylenes, Total	50	ug/kg	15	S-8260	11/18/1995	345
Surr: Dibromofluoromethane	112.6	%	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	110.8	%	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	88.0	%	n/a	S-8260	11/18/1995	345
PNA Extraction	11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Acenaphthylene	<80	ug/kg	80	S-8310	11/17/1995	128 358
Anthracene	75	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(a)anthracene	50	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(b)fluoranthene	16	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene	11	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(a)pyrene	38	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(ghi)perylene	26	ug/kg	4.0	S-8310	11/17/1995	128 358
Chrysene	1.5	ug/kg	4.0	S-8310	11/17/1995	128 358
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	11/17/1995	128 358
Fluoranthene	130	ug/kg	8.0	S-8310	11/17/1995	128 358
Fluorene	45	ug/kg	16	S-8310	11/17/1995	128 358
Indeno(1,2,3-cd)pyrene	23	ug/kg	4.0	S-8310	11/17/1995	128 358
Naphthalene	470	ug/kg	40	S-8310	11/17/1995	128 358
Phenanthrene	150	ug/kg	16	S-8310	11/17/1995	128 358
Pyrene	75	ug/kg	8.0	S-8310	11/17/1995	128 358
Surr: 2-Fluorobiphenyl	84.5	%	n/a	S-8310	11/17/1995	128 358

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WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155297
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 708-A 53-66 #1060

Date Taken: 11/04/1995 Date Received: 11/07/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable	<0.50	mg/kg	0.50		11/15/1995	21
Cyanide, total	<0.50	mg/kg	0.50	S-9010	11/15/1995	72
Phenol	<0.50	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total	88.2	%	n/a	S-5030	11/15/1995	1256
TOC	1,100	mg/kg		E-415.1	11/30/1995	63
VOC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Toluene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Xylenes, Total	<15	ug/kg	15	S-8260	11/18/1995	345
Surr: Dibromofluoromethane	106.8	%	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	104.2	%	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	96.6	%	n/a	S-8260	11/18/1995	345
PNA Extraction	11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Acenaphthylene	<80	ug/kg	80	S-8310	11/17/1995	128 358
Anthracene	110	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(a)anthracene	120	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(b)fluoranthene	40	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene	28	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(a)pyrene	97	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(ghi)perylene	75	ug/kg	4.0	S-8310	11/17/1995	128 358
Chrysene	74	ug/kg	4.0	S-8310	11/17/1995	128 358
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	11/17/1995	128 358
Fluoranthene	220	ug/kg	8.0	S-8310	11/17/1995	128 358
Fluorene	97	ug/kg	16	S-8310	11/17/1995	128 358
Indeno(1,2,3-cd)pyrene	53	ug/kg	4.0	S-8310	11/17/1995	128 358
Naphthalene	<40	ug/kg	40	S-8310	11/17/1995	128 358
Phenanthrene	330	ug/kg	16	S-8310	11/17/1995	128 358
Pyrene	200	ug/kg	8.0	S-8310	11/17/1995	128 358
Surr: 2-Fluorobiphenyl	84.9	%	n/a	S-8310	11/17/1995	128 358

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WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155298
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 702-BV 75-86 #1060

Date Taken: 11/05/1995 Date Received: 11/0[illegible]/1995

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable		0.51	mg/kg	0.50		11/15/1995	21
Cyanide, total		0.98	mg/kg	0.50	S-9010	11/15/1995	72
Phenol		48	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total		62.3	%	n/a	S-5030	11/15/1995	1256
TOC		27,900	mg/kg		E-415.1	11/30/1995	63
VO[illegible] NONAQUEOUS - 8260							
Ben[illegible]ene	A	110,000	ug/kg	5.0	S-8260	11/20/1995	346
Ethylbenzene	A	280,000	ug/kg	5.0	S-8260	11/20/1995	346
Toluene	A	220,000	ug/kg	5.0	S-8260	11/20/1995	346
Xylenes, Total	A	380,000	ug/kg	15	S-8260	11/20/1995	346
Surr: Dibromofluoromethane		103.0	%	n/a	S-8260	11/20/1995	346
Surr: Toluene-d8		96.0	%	n/a	S-8260	11/20/1995	346
Surr: Bromofluorobenzene		91.8	%	n/a	S-8260	11/20/1995	346
PNA Extraction		11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS							
Acenaphthene		203,000	ug/kg	40	S-8310	11/21/1995	128 357
Acenaphthylene	M	<1,600	ug/kg	80	S-8310	11/17/1995	128 358
Anthracene		106,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Benzo(a)anthracene		67,000	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(b)fluoranthene		22,000	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene		17,000	ug/kg	2.0	S-8310	11/17/1995	128 358
Benzo(a)pyrene		50,000	ug/kg	8.0	S-8310	11/17/1995	128 358
Benzo(ghi)perylene		37,000	ug/kg	4.0	S-8310	11/17/1995	128 358
Chrysene		42,000	ug/kg	4.0	S-8310	11/17/1995	128 358
Dibenzo(a,h)anthracene	M	<80	ug/kg	4.0	S-8310	11/17/1995	128 358
Fluoranthene		330,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Fluorene		207,000	ug/kg	16	S-8310	11/21/1995	128 357
Indeno(1,2,3-cd)pyrene		28,000	ug/kg	4.0	S-8310	11/17/1995	128 358
Naphthalene		974,000	ug/kg	40	S-8310	11/21/1995	128 357
Phenanthrene		344,000	ug/kg	16	S-8310	11/21/1995	128 357
Pyrene		99,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Surr: 2-Fluorobiphenyl		DO	%	n/a	S-8310	11/21/1995	128 357

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
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WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/01/1995
Job No: 95.08590
Sample No: 155299
Account No: 52450

JOB DESCRIPTION: #1060 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: 705-BV 45-47 #1060

Date Taken: 11/05/1995 Date Received: 11/07/1995

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Cyanide, dissociable		3.0	mg/kg	0.50		11/15/1995	21
Cyanide, total		8.7	mg/kg	0.50	S-9010	11/16/1995	73
Phenol		4.3	mg/kg	0.50	S-9065M	11/15/1995	57
Solids, Total		89.5	%	n/a	S-5030	11/15/1995	1256
TOC		25,700	mg/kg		E-415.1	11/30/1995	63
VC NONAQUEOUS - 8260							
Benzene	A	1,400	ug/kg	5.0	S-8260	11/20/1995	346
Ethylbenzene	A	7,200	ug/kg	5.0	S-8260	11/20/1995	346
Toluene	A	1,200	ug/kg	5.0	S-8260	11/20/1995	346
Xylenes, Total	A	7,700	ug/kg	15	S-8260	11/20/1995	346
Surr: Dibromofluoromethane		101.4	%	n/a	S-8260	11/20/1995	346
Surr: Toluene-d8		97.0	%	n/a	S-8260	11/20/1995	346
Surr: Bromofluorobenzene		93.0	%	n/a	S-8260	11/20/1995	346
PNA Extraction		11/08/95			S-3550	11/08/1995	128
PNA METHOD 8310 - NONAQUEOUS							
Acenaphthene		1,030,000	ug/kg	40	S-8310	11/21/1995	128 357
Acenaphthylene	M	<16,000	ug/kg	80	S-8310	11/21/1995	128 357
Anthracene		359,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Benzo(a)anthracene		345,000	ug/kg	2.0	S-8310	11/21/1995	128 357
Benzo(b)fluoranthene		115,000	ug/kg	2.0	S-8310	11/21/1995	128 357
Benzo(k)fluoranthene		66,000	ug/kg	2.0	S-8310	11/21/1995	128 357
Benzo(a)pyrene		263,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Benzo(ghi)perylene		204,000	ug/kg	4.0	S-8310	11/21/1995	128 357
Chrysene		228,000	ug/kg	4.0	S-8310	11/21/1995	128 357
Dibenzo(a,h)anthracene	M	<800	ug/kg	4.0	S-8310	11/21/1995	128 357
Fluoranthene		1,580,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Fluorene		490,000	ug/kg	16	S-8310	11/21/1995	128 357
Indeno(1,2,3-cd)pyrene		156,000	ug/kg	4.0	S-8310	11/21/1995	128 357
Naphthalene		2,520,000	ug/kg	40	S-8310	11/21/1995	128 357
Phenanthrene		1,370,000	ug/kg	16	S-8310	11/21/1995	128 357
Pyrene		568,000	ug/kg	8.0	S-8310	11/21/1995	128 357
Surr: 2-Fluorobiphenyl	M	DO	%	n/a	S-8310	11/21/1995	128 357

OCEAN GROUP

CHAIN OF CUSTODY RECORD

9508540

Sample Collectors(s)/Signature(s): Stephanie VanDyke / Stephanie VanDyke

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number _____ Attached: YES __ NO __

Site Name: WPSC - SHEB II

Site Address: SHEBOYGAN, WI

Send Report To:
Project Manager: SAG
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1060

Task Number: Sed.

Temperature of temperature blank _____
If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Stephanie VanDyke	11-7-95 1540	Jerry Schmitz	11-7-95 1540
Jerry Schmitz	11-7-95 1653	[illegible]	11/8 0813
		Karri Kurtz 11-8-95	

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	BTEX 8020	PAH 8310	Total Phenol	Total Cyanide (9010)	Cyanide Acid Diss (9010)	TOC 9060	Lab ID Number	Sample Conditions @ Laboratory
709-A	11/4/95		Sed		(11-24)				4	X	X	X	X	X	X		2-462 2-207
707-B	11/5/95				(35-43)					X	X	X	X	X	X		
705-BV	11/5/95				(53-58)					X	X	X	X	X	X		
708-A	11/4/95				(53-66)					X	X	X	X	X	X		
702-BV	11/5/95				(75-86)					X	X	X	X	X	X		
705-BV	11/5/95				(45-47)					X	X	X	X	X	X		

SPECIAL INSTRUCTIONS

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
__ Return __ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

W:\FORMS\CUSTODY.CHN

CHAIN OF CUSTODY RECORD

Sample Collectors(s)/Signature(s): Stephanie VanDyke / Stephanie VanDyke

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: U. T

Quote Number/Addendum Number _____ Attached: YES _ NO _

Site Name: WPSC - SITE II

Site Address: Little Rapids, WI

Send Report To:
Project Manager: MG
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1060

Task Number: 01

Temperature of temperature blank _____

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Stephanie VanDyke	11/9/95 1540		11/9/95 1540
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	Analytical Method / Numbers: BTEX 8020	PAH 8310	Lead Arsenic	Total Hydrocarbons (GRO) 8015	Volatile Halocarbons 8010	TOC 1065	Lab ID Number	Lab Use Only: Sample Conditions @ Laboratory
709-A	11/4/95		soil		(11-24)					-	X	X	X	X	X		
707-B	11/5/95		|		(3-13)					-	X	X	X	X	X		
705-BV	11/5/95		|		(33-50)					-	-	X	X	X	X		
708-A	11/4/95		|		(54-66)					-	-	X	X	X	X		
702-BV	11/5/95		|		(75-[illegible])					-	-	X	-	X	X		
705-BV	11/5/95		↓		(45-47)					-	-	X	-	-	X		

MASTER FILE COPY
PROJECT # 1060
CO: DATA
Steph, SAG

SPECIAL INSTRUCTIONS

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
___ Return ___ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4100-151)

W:\FORMS\CUSTODY.CH

JAG

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/11/1995

Job No: 95.08959

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
156512	Composite 1 #1060	11/06/1995	11/17/1995
156513	Composite 2 #1060	11/06/1995	11/17/1995
156514	Composite 3 #1060	11/06/1995	11/17/1995

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Karen R. Wenta, Inorganic Operations Manager
Certification No. 128053530

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
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WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/11/1995
Job No: 95.08959
Sample No: 156512
Account No: 52450

JOB DESCRIPTION: #1060 WPSC-Sheb II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: Composite 1 #1060

Date Taken: 11/06/1995 Date Received: 11/17/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Oil & Grease, Soxhlet	2,100	mg/kg	500	S-9071	11/30/1995	21
#8 Sieve	Enclosed				12/01/1995	7
#20 Sieve	Enclosed				12/01/1995	5
#50 Sieve	Enclosed				12/01/1995	5
#100 Sieve	Enclosed				12/01/1995	5
#200 Sieve	Enclosed				12/01/1995	5
Hydrometer Test	Enclosed				12/01/1995	7
TOC	19,700	mg/kg		E-415.1	11/20/1995	64

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Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/11/1995
Job No: 95.08959
Sample No: 156513
Account No: 52450
Page 3

JOB DESCRIPTION: #1060 WPSC-Sheb II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: Composite 2 #1060

Date Taken: 11/06/1995 Date Received: 11/17/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Oil & Grease, Soxhlet	1,900	mg/kg	500	S-9071	11/30/1995	21
#8 Sieve	Enclosed				12/01/1995	7
#20 Sieve	Enclosed				12/01/1995	5
#50 Sieve	Enclosed				12/01/1995	5
#100 Sieve	Enclosed				12/01/1995	5
#200 Sieve	Enclosed				12/01/1995	5
Hydrometer Test	Enclosed				12/01/1995	7
TC	22,000	mg/kg		E-415.1	11/20/1995	64

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL REPORT

Ms. Susan Greenlar
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

12/11/1995
Job No: 95.08959
Sample No: 156514
Account No: 52450
Page 4

JOB DESCRIPTION: #1060 WPSC-Sheb II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: Composite 3 #1060

Date Taken: 11/06/1995 Date Received: 11/17/1995

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Oil & Grease, Soxhlet	2,300	mg/kg	500	S-9071	11/30/1995	21
#[illegible] Sieve	Enclosed				12/01/1995	7
#20 Sieve	Enclosed				12/01/1995	5
#50 Sieve	Enclosed				12/01/1995	5
#100 Sieve	Enclosed				12/01/1995	5
#200 Sieve	Enclosed				12/01/1995	5
Hy[illegible]meter Test	Enclosed				12/01/1995	7
TO[illegible]	21,800	mg/kg		E-415.1	11/20/1995	64

CHAIN OF CUSTODY RECORD

9508959

Sample Collectors(s)/Signature(s): Stephanie VanDyke Stephanie VanDyke

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number _____ Attached: YES __ NO __

Site Name: WPSC - SHEB. II

Site Address: _____

Send Report To:
Project Manager: SAG/SAV
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1060

Task Number: 5.3

Temperature of temperature blank _____

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Stephanie VanDyke	11/17/95 4:30	Jerry Schmitz	11-17-95 1630
Jerry Schmitz	11-17-95 1815	Brian Mark	11/18 1034
	Date/Time	Karen Kuntz	11-20-95

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	Analytical Method / Numbers: TOC 9060	Chlorinated 5520	Cyanide/Sulfide/Hydrocarbon 9012	Bulk density	Lab ID Number	Lab Use Only: Sample Conditions @ Laboratory
Composite-1	11/6/95		Soil						1	X	X	X	X		
Composite-2	↓		↓						1	X	X	X	X		
Composite-3	↓		↓						1	X	X	X	X		

SPECIAL INSTRUCTIONS

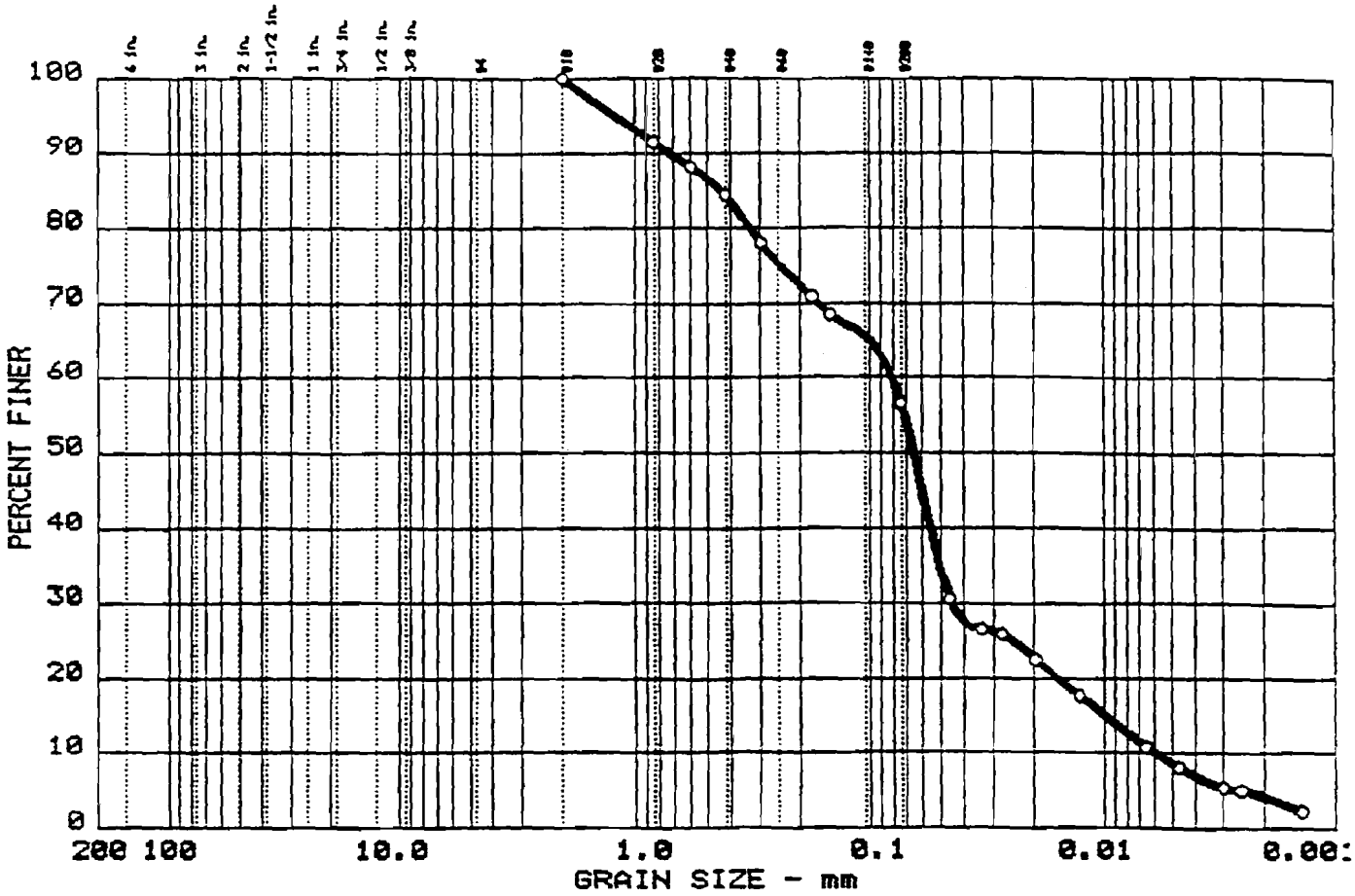
Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
__ Return __ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

W:\FORMS\CUSTODY.CHN

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	0.0	43.4	48.0	8.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○		NP	0.44	0.08	0.07	0.045	0.0098	0.0059	4.33	13.6

MATERIAL DESCRIPTION	USCS	AASHTO
○ Dark Gray Organic Sandy SILT	ML	A-4(1)

Project No.: 711.41
Project: Net Inc.
○ Location: Sample 156512

Date: December 1, 1995

Remarks:

Tested By: MAS

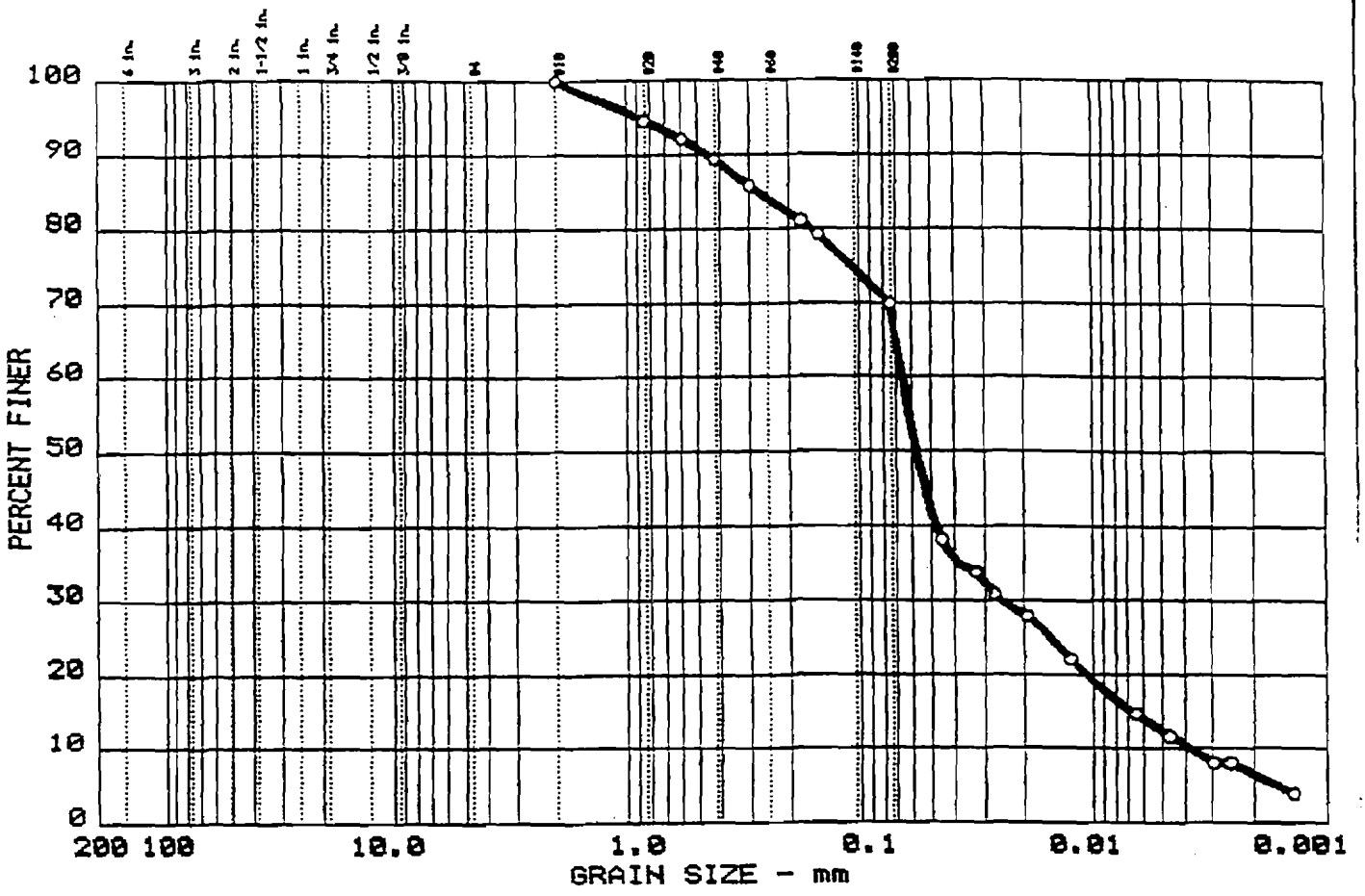
Checked By: SGM

GRAIN SIZE DISTRIBUTION TEST REPORT

NUMMELIN TESTING SERVICES

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	0.0	30.1	57.5	12.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○		NP	0.28		0.06	0.025	0.0067	0.0037	2.59	17.6

MATERIAL DESCRIPTION	USCS	AASHTO
○ Dark Gray Organic Sandy SILT	ML	A-4(1)

Project No.: 711.41
Project: Net Inc.
○ Location: Sample 156513

Date: December 1, 1995

Remarks:

Tested By: MAS

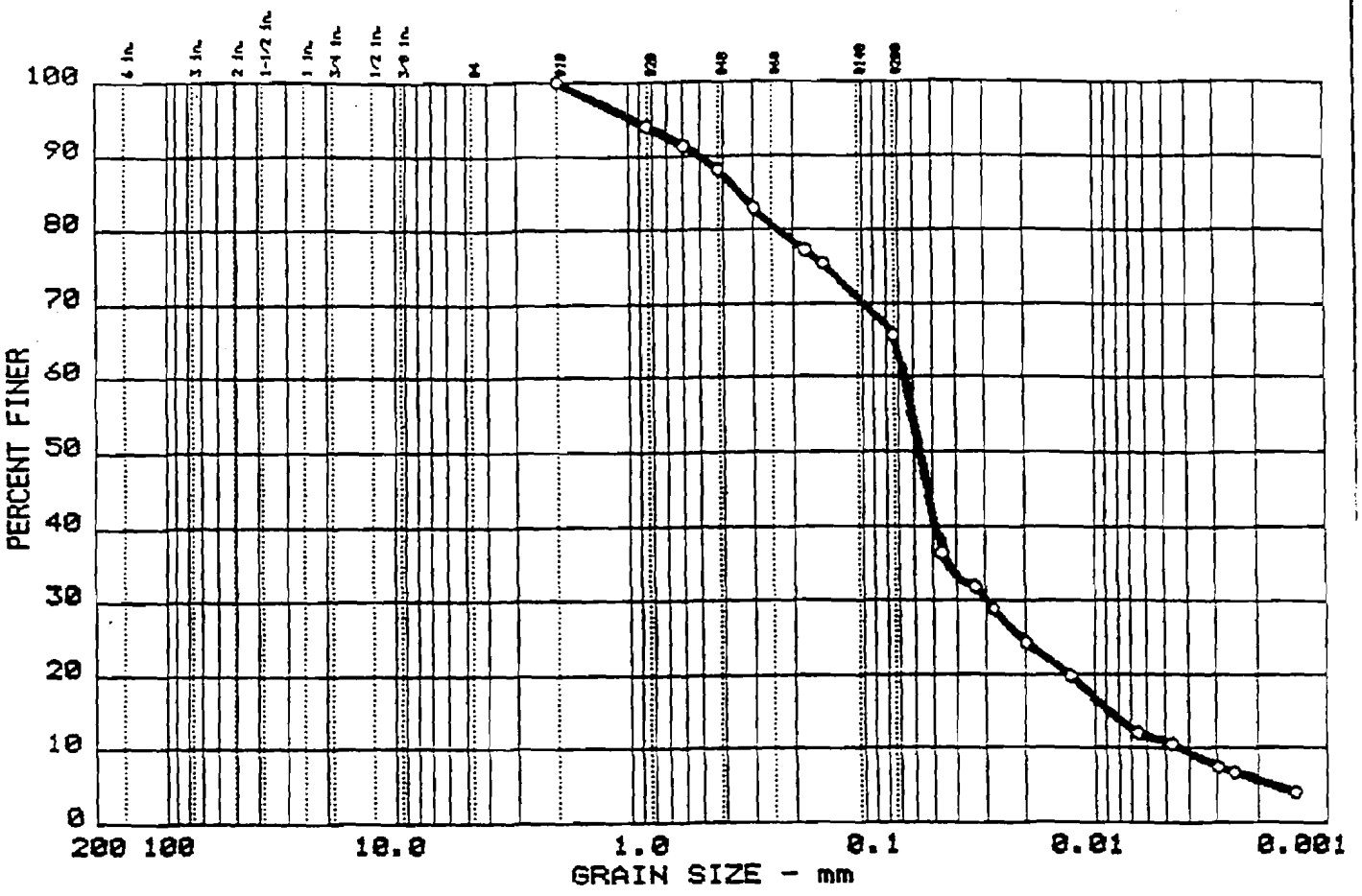
Checked By: SGM

GRAIN SIZE DISTRIBUTION TEST REPORT

NUMMELIN TESTING SERVICES

Figure No. 2

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	0.0	34.3	54.8	10.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○		NP	0.34		0.06	0.029	0.0087	0.0041	3.14	15.9

MATERIAL DESCRIPTION	USCS	AASHTO
○ Dark Gray Organic Sandy SILT	ML	A-4(1)

Project No.: 711.41
Project: NET Inc.
○ Location: Sample 156514

Date: December 1, 1995

Remarks:

Tested By: MAS

GRAIN SIZE DISTRIBUTION TEST REPORT
NUMMELIN TESTING SERVICES

Figure No.3

PO 7/12/96

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
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WDNR No. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996

Job No: 96.05339

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
189071	SD702CV (80-89) #1183	06/11/1996	06/12/1996
189072	SD702CV (27-64) #1183	06/11/1996	06/12/1996
189073	SD701BV (47-69) #1183	06/11/1996	06/12/1996
189074	SD708BV (52-60) #1183	06/11/1996	06/12/1996
189075	SD707CV (60-79) #1183	06/11/1996	06/12/1996
189076	SD702CV (0-27) #1183	06/11/1996	06/12/1996

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong, Organic Operations Manager
Certification No. 128053530

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189071
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD702CV (80-89) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		70.0	%	n/a	S-5030	06/18/1996
VOC - NONAQUEOUS - 8260						
Benzene	I	30,000	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	I	210,000	ug/kg	5.0	S-8260	06/21/1996
Toluene	I	110,000	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	I	240,000	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		107.0	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		101.2	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		95.4	%	n/a	S-8260	06/21/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene		114,000	ug/kg	40	S-8310	06/25/1996
Acenaphthylene	M	<4,000	ug/kg	80	S-8310	06/25/1996
Anthracene		32,000	ug/kg	8.0	S-8310	06/25/1996
Benzo(a)anthracene		29,000	ug/kg	2.0	S-8310	06/25/1996
Benzo(b)fluoranthene		40,000	ug/kg	2.0	S-8310	06/25/1996
Benzo(k)fluoranthene		8,200	ug/kg	2.0	S-8310	06/25/1996
Benzo(a)pyrene		15,000	ug/kg	4.0	S-8310	06/25/1996
Benzo(ghi)perylene		8,800	ug/kg	4.0	S-8310	06/25/1996
Chrysene		10,000	ug/kg	4.0	S-8310	06/25/1996
Dibenzo(a,h)anthracene	M	<200	ug/kg	4.0	S-8310	06/25/1996
Fluoranthene		102,000	ug/kg	8.0	S-8310	06/25/1996
Fluorene		71,000	ug/kg	16	S-8310	06/25/1996
Indeno(1,2,3-cd)pyrene		5,700	ug/kg	4.0	S-8310	06/25/1996
1-Methylnaphthalene		206,000	ug/kg	25	S-8310	06/25/1996
2-Methylnaphthalene		188,000	ug/kg	25	S-8310	06/25/1996
Naphthalene		358,000	ug/kg	25	S-8310	06/25/1996
Phenanthrene		119,000	ug/kg	16	S-8310	06/25/1996
Pyrene		20,000	ug/kg	8.0	S-8310	06/25/1996
Surr: 2-Fluorobiphenyl	M	DO	%	n/a	S-8310	06/25/1996

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189072
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD702CV (27-64) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Oil & Grease, Soxhlet		43,400	mg/kg	500	S-9071	06/20/1996
Solids, Total		62.1	%	n/a	S-5030	06/18/1996
TOC		>100,000	mg/kg	4,000	E-415.1	06/25/1996
Arsenic, GFAA		1.8	mg/kg	0.12	S-7060	06/19/1996
Barium,ICP		26	mg/kg	0.50	S-6010	06/24/1996
Cadmium, AA		1.6	mg/kg	1.0	S-7130	06/20/1996
Chromium, AA		43	mg/kg	1.0	S-7190	06/20/1996
Lead, AA		140	mg/kg	4.0	S-7420	06/20/1996
Mercury, CVAA		0.20	mg/kg	0.020	S-7471	06/22/1996
Selenium, GFAA	D	<0.48	mg/kg	0.12	S-7740	06/19/1996
Silver, AA		<1.0	mg/kg	1.0	S-7760	06/19/1996
VOC - NONAQUEOUS - 8260						
Benzene	I	49,000	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	I	120,000	ug/kg	5.0	S-8260	06/21/1996
Toluene	I	100,000	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	I	170,000	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		96.0	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		99.6	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		97.8	%	n/a	S-8260	06/21/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene		33,000	ug/kg	40	S-8310	06/25/1996
Acenaphthylene	M	<4,000	ug/kg	80	S-8310	06/25/1996
Anthracene		37,000	ug/kg	8.0	S-8310	06/25/1996
Benzo(a)anthracene		29,000	ug/kg	2.0	S-8310	06/25/1996
Benzo(b)fluoranthene		5,400	ug/kg	2.0	S-8310	06/25/1996
Benzo(k)fluoranthene		4,500	ug/kg	2.0	S-8310	06/25/1996
Benzo(a)pyrene		14,000	ug/kg	4.0	S-8310	06/25/1996
Benzo(ghi)perylene		10,000	ug/kg	4.0	S-8310	06/25/1996
Chrysene		11,000	ug/kg	4.0	S-8310	06/25/1996
Dibenzo(a,h)anthracene	M	<200	ug/kg	4.0	S-8310	06/25/1996
Fluoranthene		141,000	ug/kg	8.0	S-8310	06/25/1996
Fluorene		66,000	ug/kg	16	S-8310	06/25/1996
Indeno(1,2,3-cd)pyrene		7,500	ug/kg	4.0	S-8310	06/25/1996
1-Methylnaphthalene		157,000	ug/kg	25	S-8310	06/25/1996

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189072
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD702CV (27-64) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
PNA METHOD 8310 - NONAQUEOUS						
2-Methylnaphthalene		145,000	ug/kg	25	S-8310	06/25/1996
Naphthalene		297,000	ug/kg	25	S-8310	06/25/1996
Phenanthrene		134,000	ug/kg	16	S-8310	06/25/1996
Pyrene		23,000	ug/kg	8.0	S-8310	06/25/1996
Surr: 2-Fluorobiphenyl	M	DO	%	n/a	S-8310	06/25/1996

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189073
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD701BV (47-69) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		68.7	%	n/a	S-5030	06/18/1996
VOC - NONAQUEOUS - 8260						
Benzene	I	<100	ug/kg	5.0	S-8260	06/25/1996
Ethylbenzene	I	810	ug/kg	5.0	S-8260	06/25/1996
Toluene	I	280	ug/kg	5.0	S-8260	06/25/1996
Xylenes, Total	I	690	ug/kg	15	S-8260	06/25/1996
Surr: Dibromofluoromethane		100.0	%	n/a	S-8260	06/25/1996
Surr: Toluene-d8		99.8	%	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene		95.4	%	n/a	S-8260	06/25/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	M	<2,000	ug/kg	40	S-8310	06/25/1996
Acenaphthylene	M	<4,000	ug/kg	80	S-8310	06/25/1996
Anthracene		3,900	ug/kg	8.0	S-8310	06/25/1996
Benzo(a)anthracene		3,500	ug/kg	2.0	S-8310	06/25/1996
Benzo(b)fluoranthene		610	ug/kg	2.0	S-8310	06/25/1996
Benzo(k)fluoranthene		1,200	ug/kg	2.0	S-8310	06/25/1996
Benzo(a)pyrene		2,200	ug/kg	4.0	S-8310	06/25/1996
Benzo(ghi)perylene		1,100	ug/kg	4.0	S-8310	06/25/1996
Chrysene		1,400	ug/kg	4.0	S-8310	06/25/1996
Dibenzo(a,h)anthracene	M	<200	ug/kg	4.0	S-8310	06/25/1996
Fluoranthene		8,400	ug/kg	8.0	S-8310	06/25/1996
Fluorene		4,000	ug/kg	16	S-8310	06/25/1996
Indeno(1,2,3-cd)pyrene		1,400	ug/kg	4.0	S-8310	06/25/1996
1-Methylnaphthalene		11,000	ug/kg	25	S-8310	06/25/1996
2-Methylnaphthalene		10,000	ug/kg	25	S-8310	06/25/1996
Naphthalene		7,200	ug/kg	25	S-8310	06/25/1996
Phenanthrene		10,000	ug/kg	16	S-8310	06/25/1996
Pyrene		2,900	ug/kg	8.0	S-8310	06/25/1996
Surr: 2-Fluorobiphenyl	M	DO	%	n/a	S-8310	06/25/1996

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ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189074
Account No: 52450
Page 6

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD708BV (52-60) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Arsenic, GFAA		2.1	mg/kg	0.12	S-7060	06/19/1996
Barium,ICP		47	mg/kg	0.50	S-6010	06/24/1996
Cadmium, AA		1.4	mg/kg	1.0	S-7130	06/20/1996
Chromium, AA		500	mg/kg	1.0	S-7190	06/20/1996
Lead, AA		71	mg/kg	4.0	S-7420	06/20/1996
Mercury, CVAA		0.47	mg/kg	0.020	S-7471	06/22/1996
Selenium, GFAA	D	<0.48	mg/kg	0.12	S-7740	06/19/1996
Silver, AA		<1.0	mg/kg	1.0	S-7760	06/19/1996

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189075
Account No: 52450
Page 7

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD707CV (60-79) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		47.0	%	n/a	S-5030	06/18/1996
VOC - NONAQUEOUS - 8260						
Benzene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	I	<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		109.4	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		111.0	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		85.2	%	n/a	S-8260	06/21/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene		<40	ug/kg	40	S-8310	06/19/1996
Acenaphthylene		<80	ug/kg	80	S-8310	06/19/1996
Anthracene		250	ug/kg	8.0	S-8310	06/19/1996
Benzo(a)anthracene		310	ug/kg	2.0	S-8310	06/19/1996
Benzo(b)fluoranthene		48	ug/kg	2.0	S-8310	06/19/1996
Benzo(k)fluoranthene		95	ug/kg	2.0	S-8310	06/19/1996
Benzo(a)pyrene		210	ug/kg	4.0	S-8310	06/19/1996
Benzo(ghi)perylene		140	ug/kg	4.0	S-8310	06/19/1996
Chrysene		120	ug/kg	4.0	S-8310	06/19/1996
Dibenzo(a,h)anthracene		<4.0	ug/kg	4.0	S-8310	06/19/1996
Fluoranthene		730	ug/kg	8.0	S-8310	06/19/1996
Fluorene		97	ug/kg	16	S-8310	06/19/1996
Indeno(1,2,3-cd)pyrene		110	ug/kg	4.0	S-8310	06/19/1996
1-Methylnaphthalene		75	ug/kg	25	S-8310	06/19/1996
2-Methylnaphthalene		92	ug/kg	25	S-8310	06/19/1996
Naphthalene		<25	ug/kg	25	S-8310	06/19/1996
Phenanthrene		930	ug/kg	16	S-8310	06/19/1996
Pyrene		630	ug/kg	8.0	S-8310	06/19/1996
Surr: 2-Fluorobiphenyl		54.6	%	n/a	S-8310	06/19/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

06/27/1996
Job No: 96.05339
Sample No: 189076
Account No: 52450
Page 8

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD702CV (0-27) #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/12/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		46.9	%	n/a	S-5030	06/18/1996
VOC - NONAQUEOUS - 8260						
Benzene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene	I	<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	I	<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		97.6	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		107.0	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		90.2	%	n/a	S-8260	06/21/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene		<40	ug/kg	40	S-8310	06/25/1996
Acenaphthylene		<80	ug/kg	80	S-8310	06/25/1996
Anthracene		<8.0	ug/kg	8.0	S-8310	06/25/1996
Benzo(a)anthracene		5.5	ug/kg	2.0	S-8310	06/25/1996
Benzo(b)fluoranthene		<2.0	ug/kg	2.0	S-8310	06/25/1996
Benzo(k)fluoranthene		<2.0	ug/kg	2.0	S-8310	06/25/1996
Benzo(a)pyrene		4.7	ug/kg	4.0	S-8310	06/25/1996
Benzo(ghi)perylene		<4.0	ug/kg	4.0	S-8310	06/25/1996
Chrysene		<4.0	ug/kg	4.0	S-8310	06/25/1996
Dibenzo(a,h)anthracene		<4.0	ug/kg	4.0	S-8310	06/25/1996
Fluoranthene		10	ug/kg	8.0	S-8310	06/25/1996
Fluorene		<16	ug/kg	16	S-8310	06/25/1996
Indeno(1,2,3-cd)pyrene		<4.0	ug/kg	4.0	S-8310	06/25/1996
1-Methylnaphthalene		<25	ug/kg	25	S-8310	06/25/1996
2-Methylnaphthalene		<25	ug/kg	25	S-8310	06/25/1996
Naphthalene		<25	ug/kg	25	S-8310	06/25/1996
Phenanthrene		<16	ug/kg	16	S-8310	06/25/1996
Pyrene		<8.0	ug/kg	8.0	S-8310	06/25/1996
Surr: 2-Fluorobiphenyl		83.2	%	n/a	S-8310	06/25/1996

CHAIN OF CUSTODY RECORD

9606339

Sample Collectors(s)/Signature(s): Dan Johnson

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number _____ Attached: YES __ NO __

Site Name: WPSC-Sheboygan II

Site Address: Sheboygan, WI

Send Report To:
Project Manager: Dan Johnson
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1183

Task Number: 120

Temperature of temperature blank: ambient ice

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
[signature]	6/12/96	[signature]	6/12/96 10:15
[signature]	6-12-96 1715	[signature]	
[signature]		[signature] 6/13/96	

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	BTEX	PAH	TCL	Oil + Grease	RCRA METALS	Lab ID Number	Lab Use Only: Sample Conditions @ Laboratory
SD702CV(00-05)	6/11/96		SED	G				none	2	X	X					
SD702CV(27-64)	6/11/96								5	X	X	X	X	X		
SD701BV(47-49)	6/11/96								2	X	X					
SD708BV(52-60)									1					X		
SD704CV(60-79)									2	X	X					
SD702CV(0-27)	V		V	V				V	2	X	X					

SPECIAL INSTRUCTIONS CALLOWAY RE: HEADSPACE ISSUE BETX ZEALOUS TECHNIQUE FIAD OK LUCT 06-25-96

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below.
___ Return ___ Other _____

NW 6-13-96 1120

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

W:\FORMS\CUSTODY.CHN

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
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P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No: 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

BILLED

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996

Job No: 96.05438

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
189432	SD703BV 37-42 #1183	06/13/1996	06/14/1996
189433	SD704BV 28-102 #1183	06/13/1996	06/14/1996
189434	SD704BV 112-116 #1183	06/13/1996	06/14/1996
189435	SD705DV 36-54 #1183	06/13/1996	06/14/1996
189436	SD704BV 0-17 #1183	06/13/1996	06/14/1996
189437	SD707CV 28-60 #1183	06/11/1996	06/14/1996
189438	SD702OV #1183	06/13/1996	06/14/1996

OV

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong, Organic Operations Manager
Certification No. 128053530

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
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WDNR No. 128033530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189432
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD703BV 37-42 #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	48.0	%	n/a	S-5030	06/21/1996
VOC - NONAQUEOUS - 8260					
Benzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane	98.6	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8	109.8	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene	88.6	%	n/a	S-8260	06/21/1996
PNA Extraction	06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS					
Acenaphthene	<40	ug/kg	40	S-8310	06/26/1996
Acenaphthylene	<80	ug/kg	80	S-8310	06/26/1996
Anthracene	<8.0	ug/kg	8.0	S-8310	06/26/1996
Benzo(a)anthracene	13	ug/kg	2.0	S-8310	06/26/1996
Benzo(b)fluoranthene	15	ug/kg	2.0	S-8310	06/26/1996
Benzo(k)fluoranthene	3.6	ug/kg	2.0	S-8310	06/26/1996
Benzo(a)pyrene	11	ug/kg	4.0	S-8310	06/26/1996
Benzo(ghi)perylene	9.5	ug/kg	4.0	S-8310	06/26/1996
Chrysene	7.4	ug/kg	4.0	S-8310	06/26/1996
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	06/26/1996
Fluoranthene	20	ug/kg	8.0	S-8310	06/26/1996
Fluorene	<16	ug/kg	16	S-8310	06/26/1996
Indeno(1,2,3-cd)pyrene	4.5	ug/kg	4.0	S-8310	06/26/1996
1-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
2-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
Naphthalene	<25	ug/kg	25	S-8310	06/26/1996
Phenanthrene	<16	ug/kg	16	S-8310	06/26/1996
Pyrene	7.8	ug/kg	8.0	S-8310	06/26/1996
Surr: 2-Fluorobiphenyl	68.8	%	n/a	S-8310	06/26/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
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~~WDNR No. 128053530~~

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189433
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD704BV 28-102 #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		44.6	%	n/a	S-5030	06/21/1996
VOC - NONAQUEOUS - 8260						
Benzene		11,000	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene		71,000	ug/kg	5.0	S-8260	06/21/1996
Toluene		3,900	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total		88,000	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		106.0	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		98.2	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		92.4	%	n/a	S-8260	06/21/1996
PNA Extraction		06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene		68,000	ug/kg	40	S-8310	06/30/1996
Acenaphthylene	M	<4,000	ug/kg	80	S-8310	06/30/1996
Anthracene		22,000	ug/kg	8.0	S-8310	06/30/1996
Benzo(a)anthracene		24,000	ug/kg	2.0	S-8310	06/30/1996
Benzo(b)fluoranthene		4,800	ug/kg	2.0	S-8310	06/30/1996
Benzo(k)fluoranthene		8,200	ug/kg	2.0	S-8310	06/30/1996
Benzo(a)pyrene		17,000	ug/kg	4.0	S-8310	06/30/1996
Benzo(ghi)perylene		12,000	ug/kg	4.0	S-8310	06/30/1996
Chrysene		9,700	ug/kg	4.0	S-8310	06/30/1996
Dibenzo(a,h)anthracene	M	<200	ug/kg	4.0	S-8310	06/30/1996
Fluoranthene		41,000	ug/kg	8.0	S-8310	06/30/1996
Fluorene		52,000	ug/kg	16	S-8310	06/30/1996
Indeno(1,2,3-cd)pyrene		8,000	ug/kg	4.0	S-8310	06/30/1996
1-Methylnaphthalene		158,000	ug/kg	25	S-8310	06/30/1996
2-Methylnaphthalene		135,000	ug/kg	25	S-8310	06/30/1996
Naphthalene		190,000	ug/kg	25	S-8310	06/30/1996
Phenanthrene		91,000	ug/kg	16	S-8310	06/30/1996
Pyrene		25,000	ug/kg	8.0	S-8310	06/30/1996
Surr: 2-Fluorobiphenyl	M	DO	%	n/a	S-8310	06/30/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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WDNR No. 126033530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189434
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD704BV 112-116 #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	82.5	%	n/a	S-5030	06/21/1996
VOC - NONAQUEOUS - 8260					
Benzene	400	ug/kg	5.0	S-8260	06/25/1996
Ethylbenzene	1,700	ug/kg	5.0	S-8260	06/25/1996
Toluene	<40	ug/kg	5.0	S-8260	06/25/1996
Xylenes, Total	1,600	ug/kg	15	S-8260	06/25/1996
Surr: Dibromofluoromethane	90.2	%	n/a	S-8260	06/25/1996
Surr: Toluene-d8	101.4	%	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene	96.0	%	n/a	S-8260	06/25/1996
PNA Extraction	06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS					
Acenaphthene	<40	ug/kg	40	S-8310	06/26/1996
Acenaphthylene	<80	ug/kg	80	S-8310	06/26/1996
Anthracene	510	ug/kg	8.0	S-8310	06/26/1996
Benzo(a)anthracene	380	ug/kg	2.0	S-8310	06/26/1996
Benzo(b)fluoranthene	100	ug/kg	2.0	S-8310	06/26/1996
Benzo(k)fluoranthene	150	ug/kg	2.0	S-8310	06/26/1996
Benzo(a)pyrene	360	ug/kg	4.0	S-8310	06/26/1996
Benzo(ghi)perylene	320	ug/kg	4.0	S-8310	06/26/1996
Chrysene	230	ug/kg	4.0	S-8310	06/26/1996
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	06/26/1996
Fluoranthene	1,300	ug/kg	8.0	S-8310	06/26/1996
Fluorene	370	ug/kg	16	S-8310	06/26/1996
Indeno(1,2,3-cd)pyrene	210	ug/kg	4.0	S-8310	06/26/1996
1-Methylnaphthalene	470	ug/kg	25	S-8310	06/26/1996
2-Methylnaphthalene	700	ug/kg	25	S-8310	06/26/1996
Naphthalene	3,000	ug/kg	25	S-8310	06/26/1996
Phenanthrene	1,800	ug/kg	16	S-8310	06/26/1996
Pyrene	570	ug/kg	8.0	S-8310	06/26/1996
Surr: 2-Fluorobiphenyl	50.5	%	n/a	S-8310	06/26/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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WDNR No. 128053330

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189435
Account No: 52450
Page 5

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD705DV 36-54 #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Grain Size	Enclosed			ASTMD422	06/28/1996
Solids, Total	89.6	%	n/a	S-5030	06/21/1996
VOC - NONAQUEOUS - 8260					
Benzene	270	ug/kg	5.0	S-8260	06/25/1996
Ethylbenzene	940	ug/kg	5.0	S-8260	06/25/1996
Toluene	62	ug/kg	5.0	S-8260	06/25/1996
Xylenes, Total	450	ug/kg	15	S-8260	06/25/1996
Surr: Dibromofluoromethane	89.2	%	n/a	S-8260	06/25/1996
Surr: Toluene-d8	103.2	%	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene	96.2	%	n/a	S-8260	06/25/1996
PNA Extraction	06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS					
Acenaphthene	<40	ug/kg	40	S-8310	06/26/1996
Acenaphthylene	<80	ug/kg	80	S-8310	06/26/1996
Anthracene	2,500	ug/kg	8.0	S-8310	07/01/1996
Benzo(a)anthracene	1,500	ug/kg	2.0	S-8310	07/01/1996
Benzo(b)fluoranthene	280	ug/kg	2.0	S-8310	06/26/1996
Benzo(k)fluoranthene	470	ug/kg	2.0	S-8310	06/26/1996
Benzo(a)pyrene	1,100	ug/kg	4.0	S-8310	06/26/1996
Benzo(ghi)perylene	770	ug/kg	4.0	S-8310	06/26/1996
Chrysene	720	ug/kg	4.0	S-8310	07/01/1996
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	06/26/1996
Fluoranthene	5,100	ug/kg	8.0	S-8310	07/01/1996
Fluorene	1,300	ug/kg	16	S-8310	06/26/1996
Indeno(1,2,3-cd)pyrene	530	ug/kg	4.0	S-8310	06/26/1996
1-Methylnaphthalene	2,700	ug/kg	25	S-8310	06/26/1996
2-Methylnaphthalene	2,300	ug/kg	25	S-8310	06/26/1996
Naphthalene	3,900	ug/kg	25	S-8310	06/26/1996
Phenanthrene	7,800	ug/kg	16	S-8310	07/01/1996
Pyrene	1,800	ug/kg	8.0	S-8310	07/01/1996
Surr: 2-Fluorobiphenyl	116.6	%	n/a	S-8310	06/26/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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~~WDNR No. 128053530~~

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189436
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD704BV 0-17 #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Grain Size	Enclosed			ASTMD422	06/28/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189437
Account No: 52450
Page 7

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD707CV 28-60 #1183
Recv'd On Ice

Date Taken: 06/11/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Grain Size	Enclosed			ASTMD422	06/28/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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WDNR No: 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05438
Sample No: 189438
Account No: 52450
Page 8

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: SD702OV #1183
Recv'd On Ice

Date Taken: 06/13/1996 Date Received: 06/14/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	62.6	%	n/a	S-5030	06/24/1996
TOC	71,600	mg/kg	400	S-9060	06/25/1996

CHAIN OF CUSTODY RECORD

9600438

Sample Collectors(s)/Signature(s): Daniel R Johnson

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number _____ Attached: YES __ NO __

Site Name: WPSC-Sheboygan II

Site Address: _____

Send Report To:
Project Manager: Dan Johnson
Natural Resource Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Project Number: 1183

Task Number: 1.0

Temperature of temperature blank: cooler ice

If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
[signature]	6/14/96 1608	Jerry Schmitz	6-14-96 1610
Jerry Schmitz	6-14-96 1800		
		[signature]	6/17/96

Analytical Method / Numbers: PAH (8310), BTEX (8020), GRO/DRO SIZE, TCL

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	Lab ID Number	Sample Conditions @ Laboratory
SD703BV(57-60)	6/13		SED	G				none	2	X Y	
SD704BV(28-42)									2	X Y	
~~SD705BV(36-54)~~											
SD704BV(112-116)									2		BTEX/TPH per D 346
SD704CV(36-54)									3	X X X	
SD704BV(0-17)									1	X	
SD707CV(20-60)	6/11								1	X	
SD702-OV	6/13								1	X	

SPECIAL INSTRUCTIONS

M 6-14-96 1430

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below:
__ Return __ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

W:\FORMS\CUSTODY.CH

NTS NUMMELIN TESTING SERVICES, INC.

CENTRAL WISCONSIN AREA:
332 N. Georgia Street
Stevens Point, WI 54481
(715) 341-7974 • Fax (715) 341-8654

MADISON AREA:
5620 Woodland Drive
Waunakee, WI 53597
(608) 849-9120 • Fax (608) 849-9122

NET Midwest, Inc.
602 Commerce Drive
Watertown, WI 53094

June 28, 1996

Report: 7131301.s&h

ATTN: Ms. Karrie Kurtz

Project: NET-9603438 Sample #: 189435, 189436, 189437

LABORATORY TEST RESULTS

As requested, grain-size analyses were performed on the soil samples received on June 20, 1996. Mechanical sieving and hydrometer testing were performed in accordance with ASTM Test Designation D422. Wet sieving to determine the percent of material passing the No. 200 sieve was performed in accordance with ASTM Test Designation D1140.

The following samples were analyzed as indicated below:

Sample	Sieve Analysis	Hydrometer Analysis
189435	x	
189436		x
189437	x	x

The test results are provided on the attached grain size distribution test reports.

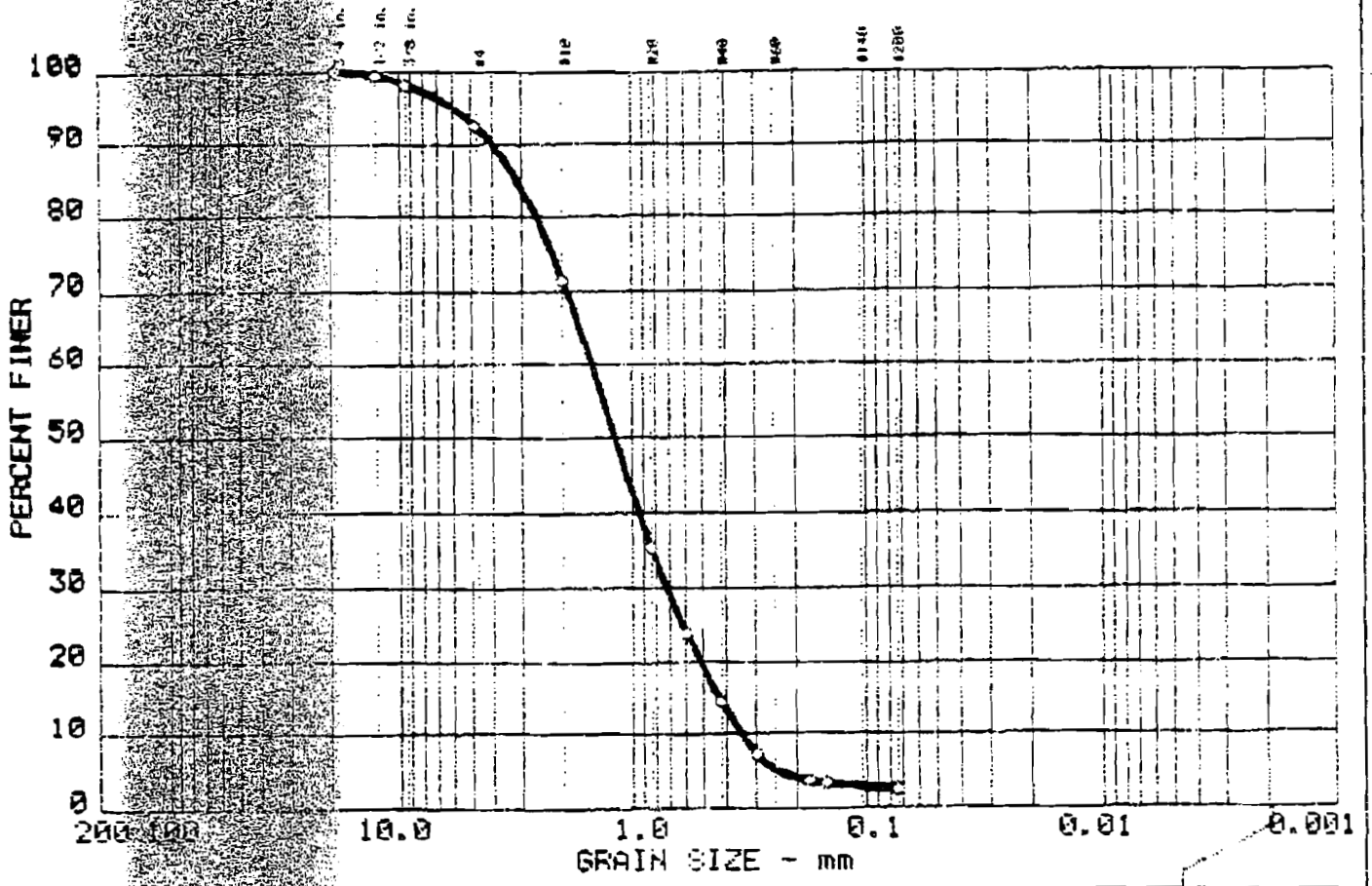
The reader may call with questions regarding this report.

Respectfully,

Michael J. [illegible]
NUMMELIN TESTING SERVICES, INC.
mjk/ecl

Post-it® Fax Note 7671 | Date 6/16 | # of pages ▶ 4
To Erick | From Amy
Co./Dept. NRT | Co. NET
Phone # | Phone # 800-833-7038
Fax # | Fax #

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 5	0.0	7.4	90.1	2.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.13	1.50	1.20	0.718	0.4256	0.3459	0.99	4.4

MATERIAL DESCRIPTION	USCS	AASHTO
○ Poorly graded sand	SP	

Project No.: 713.13
Project: NET File # 9605438
○ Location: Sample # 189435

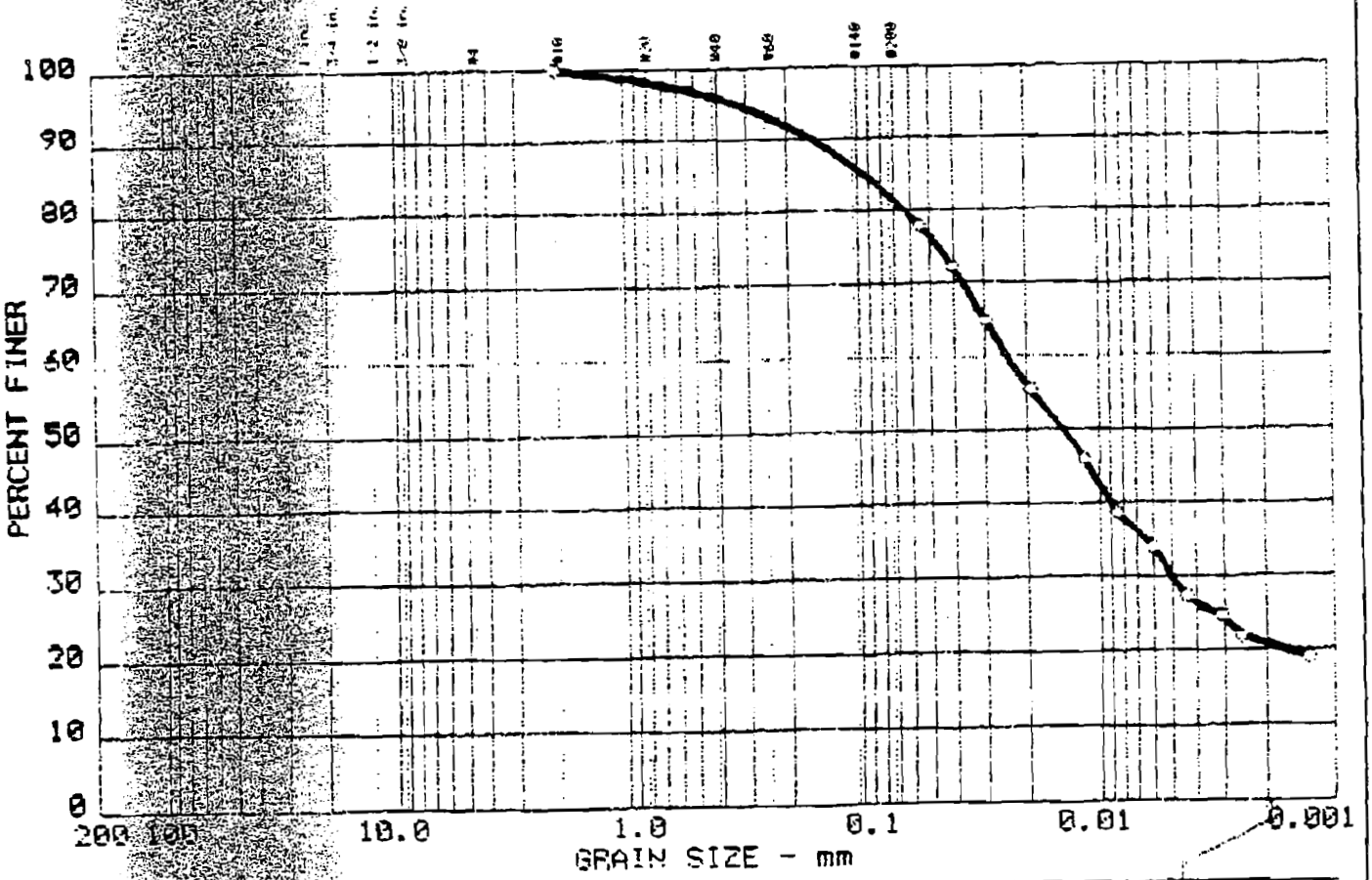
Date: June 28, 1996

GRAIN SIZE DISTRIBUTION TEST REPORT
NUMMELIN TESTING SERVICES

Remarks:

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 5	0.0	0.0	18.1	61.2	20.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.09		0.01	0.005				

MATERIAL DESCRIPTION	USCS	AASHTO
○ Sandy Silt	ML	

Project No.: 213.13
Project: NET File # 9605438
○ Location: Sample # 189436

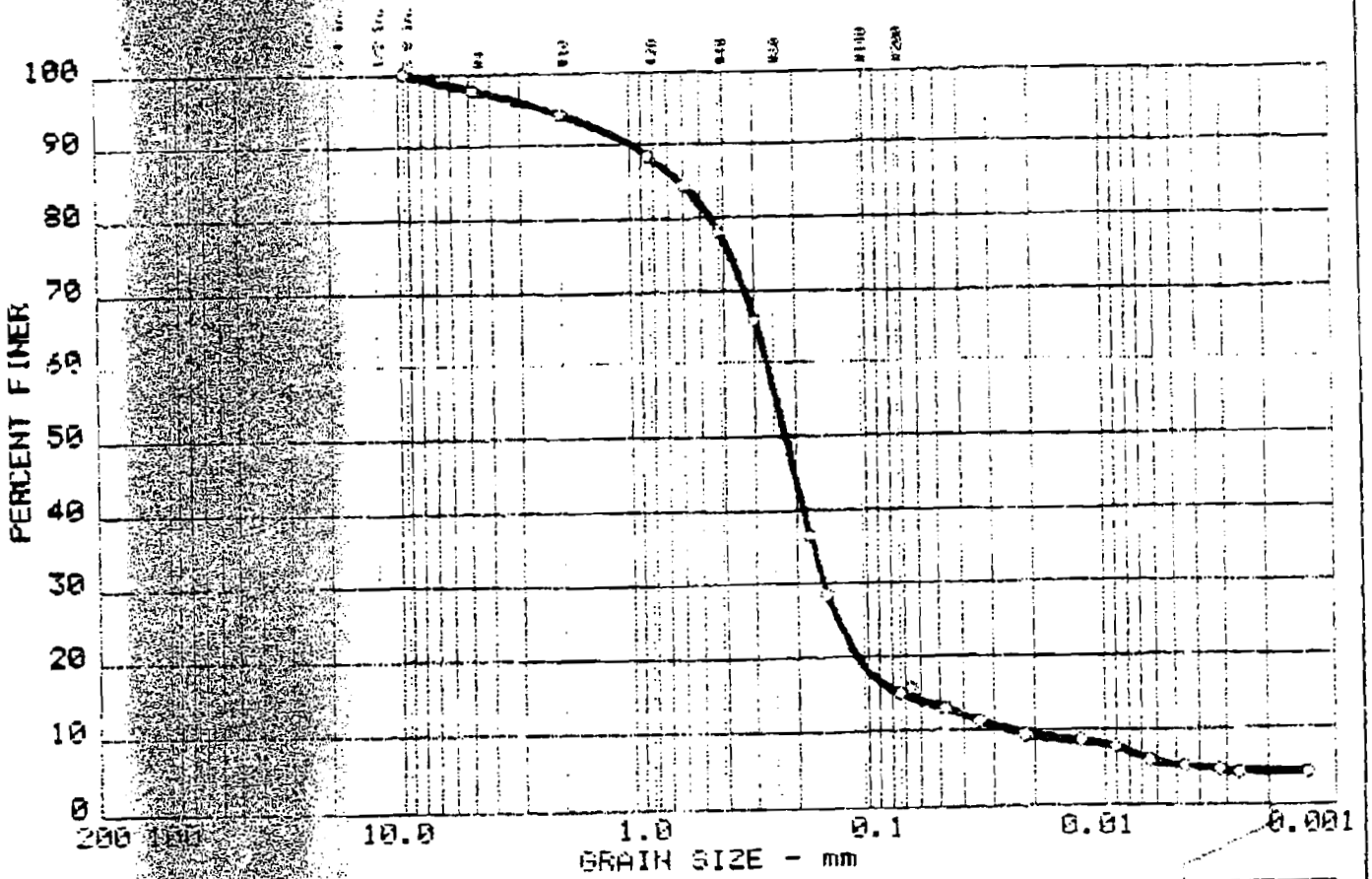
Date: June 28, 1996

GRAIN SIZE DISTRIBUTION TEST REPORT
NUMMELIN TESTING SERVICES

Remarks:

Figure No.2

GRAIN SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○ 5	0.0	2.2	82.8	10.8	4.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.62	0.26	0.22	0.154	0.0738	0.0256	3.51	10.4

	MATERIAL DESCRIPTION	USCS	AASHTO
○	Silty Sand	SM	

Project No.: 213.13
Project: NET File # 9605438
○ Location: Sample # 189437

Date: June 28, 1996

GRAIN SIZE DISTRIBUTION TEST REPORT
NUMMELIN TESTING SERVICES

Remarks:

Figure No.3

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

WDNR No. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996

Job No: 96.05626

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
191825	SD712AV 38-48 #1183	06/18/1996	06/20/1996
191826	SD712BV 48-77 #1183	06/18/1996	06/20/1996
191827	SD706CV 46-59 #1183	06/18/1996	06/20/1996
191828	SD711AV 36-48 #1183	06/18/1996	06/20/1996
191829	SD711AV 24-28 #1183	06/18/1996	06/20/1996
191830	SD711BV 78-87 #1183	06/18/1996	06/20/1996
191831	SD711BV 50-58 #1183	06/18/1996	06/20/1996

The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong, Organic Operations Manager
Certification No. 128053530

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

~~WDNR No. 120053530~~

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191825
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD712AV 38-48 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		72.9	%	n/a	S-5030	06/28/1996
VOC - NONAQUEOUS - 8260						
Benzene		<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene		<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene		<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total		<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane		103.0	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8		105.8	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		90.0	%	n/a	S-8260	06/21/1996
PNA Extraction		06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	M	<200	ug/kg	40	S-8310	06/28/1996
Acenaphthylene	M	<400	ug/kg	80	S-8310	06/28/1996
Anthracene		610	ug/kg	8.0	S-8310	06/28/1996
Benzo(a)anthracene		430	ug/kg	2.0	S-8310	06/28/1996
Benzo(b)fluoranthene		110	ug/kg	2.0	S-8310	06/28/1996
Benzo(k)fluoranthene		130	ug/kg	2.0	S-8310	06/28/1996
Benzo(a)pyrene		300	ug/kg	4.0	S-8310	06/28/1996
Benzo(ghi)perylene		240	ug/kg	4.0	S-8310	06/28/1996
Chrysene		210	ug/kg	4.0	S-8310	06/28/1996
Dibenzo(a,h)anthracene	M	<20	ug/kg	4.0	S-8310	06/28/1996
Fluoranthene		2,200	ug/kg	8.0	S-8310	06/28/1996
Fluorene		340	ug/kg	16	S-8310	06/28/1996
Indeno(1,2,3-cd)pyrene		180	ug/kg	4.0	S-8310	06/28/1996
1-Methylnaphthalene	M	<120	ug/kg	25	S-8310	06/28/1996
2-Methylnaphthalene	M	<120	ug/kg	25	S-8310	06/28/1996
Naphthalene	M	<120	ug/kg	25	S-8310	06/28/1996
Phenanthrene		2,100	ug/kg	16	S-8310	06/28/1996
Pyrene		1,300	ug/kg	8.0	S-8310	06/28/1996
Surr: 2-Fluorobiphenyl		85.9	%	n/a	S-8310	06/28/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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P.O. Box 288
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WDNR No. 128033530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191826
Account No: 52450
Page 3

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD712BV 48-77 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	54.3	%	n/a	S-5030	06/28/1996
VOC - NONAQUEOUS - 8260					
Benzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane	102.2	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8	108.2	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene	88.4	%	n/a	S-8260	06/21/1996
PNA Extraction	06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS					
Acenaphthene	<40	ug/kg	40	S-8310	06/26/1996
Acenaphthylene	<80	ug/kg	80	S-8310	06/26/1996
Anthracene	18	ug/kg	8.0	S-8310	06/26/1996
Benzo(a)anthracene	50	ug/kg	2.0	S-8310	06/26/1996
Benzo(b)fluoranthene	13	ug/kg	2.0	S-8310	06/26/1996
Benzo(k)fluoranthene	22	ug/kg	2.0	S-8310	06/26/1996
Benzo(a)pyrene	42	ug/kg	4.0	S-8310	06/26/1996
Benzo(ghi)perylene	49	ug/kg	4.0	S-8310	06/26/1996
Chrysene	23	ug/kg	4.0	S-8310	06/26/1996
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	06/26/1996
Fluoranthene	120	ug/kg	8.0	S-8310	06/26/1996
Fluorene	<16	ug/kg	16	S-8310	06/26/1996
Indeno(1,2,3-cd)pyrene	22	ug/kg	4.0	S-8310	06/26/1996
1-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
2-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
Naphthalene	<25	ug/kg	25	S-8310	06/26/1996
Phenanthrene	56	ug/kg	16	S-8310	06/26/1996
Pyrene	26	ug/kg	8.0	S-8310	06/26/1996
Surr: 2-Fluorobiphenyl	65.0	%	n/a	S-8310	06/26/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
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WDNR No: 128053330

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191827
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD706CV 46-59 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	49.1	%	n/a	S-5030	06/28/1996
VOC - NONAQUEOUS - 8260					
Benzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Toluene	<5.0	ug/kg	5.0	S-8260	06/21/1996
Xylenes, Total	<15	ug/kg	15	S-8260	06/21/1996
Surr: Dibromofluoromethane	99.2	%	n/a	S-8260	06/21/1996
Surr: Toluene-d8	110.4	%	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene	87.8	%	n/a	S-8260	06/21/1996
PNA Extraction	06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS					
Acenaphthene	<40	ug/kg	40	S-8310	06/26/1996
Acenaphthylene	<80	ug/kg	80	S-8310	06/26/1996
Anthracene	30	ug/kg	8.0	S-8310	06/26/1996
Benzo(a)anthracene	60	ug/kg	2.0	S-8310	06/26/1996
Benzo(b)fluoranthene	14	ug/kg	2.0	S-8310	06/26/1996
Benzo(k)fluoranthene	14	ug/kg	2.0	S-8310	06/26/1996
Benzo(a)pyrene	51	ug/kg	4.0	S-8310	06/26/1996
Benzo(ghi)perylene	58	ug/kg	4.0	S-8310	06/26/1996
Chrysene	38	ug/kg	4.0	S-8310	06/26/1996
Dibenzo(a,h)anthracene	<4.0	ug/kg	4.0	S-8310	06/26/1996
Fluoranthene	120	ug/kg	8.0	S-8310	06/26/1996
Fluorene	<16	ug/kg	16	S-8310	06/26/1996
Indeno(1,2,3-cd)pyrene	23	ug/kg	4.0	S-8310	06/26/1996
1-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
2-Methylnaphthalene	<25	ug/kg	25	S-8310	06/26/1996
Naphthalene	<25	ug/kg	25	S-8310	06/26/1996
Phenanthrene	150	ug/kg	16	S-8310	06/26/1996
Pyrene	59	ug/kg	8.0	S-8310	06/26/1996
Surr: 2-Fluorobiphenyl	77.7	%	n/a	S-8310	06/26/1996

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191828
Account No: 52450

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD711AV 36-48 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total		82.0	%	n/a	S-5030	06/28/1996
TOC		2,000	mg/kg	400	S-9060	07/18/1996
VOC - NONAQUEOUS - 8260						
Benzene		18	ug/kg	5.0	S-8260	06/25/1996
Ethylbenzene		36	ug/kg	5.0	S-8260	06/25/1996
Toluene		25	ug/kg	5.0	S-8260	06/25/1996
Xylenes, Total		71	ug/kg	15	S-8260	06/25/1996
Surr: Dibromofluoromethane		86.8	%	n/a	S-8260	06/25/1996
Surr: Toluene-d8		102.4	%	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene		95.2	%	n/a	S-8260	06/25/1996
PNA Extraction		06/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	M	<200	ug/kg	40	S-8310	07/01/1996
Acenaphthylene	M	<400	ug/kg	80	S-8310	07/01/1996
Anthracene		1,700	ug/kg	8.0	S-8310	06/28/1996
Benzo(a)anthracene		930	ug/kg	2.0	S-8310	06/28/1996
Benzo(b)fluoranthene		170	ug/kg	2.0	S-8310	07/01/1996
Benzo(k)fluoranthene		150	ug/kg	2.0	S-8310	07/01/1996
Benzo(a)pyrene		540	ug/kg	4.0	S-8310	07/01/1996
Benzo(ghi)perylene		410	ug/kg	4.0	S-8310	07/01/1996
Chrysene		410	ug/kg	4.0	S-8310	06/28/1996
Dibenzo(a,h)anthracene		<4.0	ug/kg	4.0	S-8310	07/01/1996
Fluoranthene		1,700	ug/kg	8.0	S-8310	06/28/1996
Fluorene		1,300	ug/kg	16	S-8310	06/28/1996
Indeno(1,2,3-cd)pyrene		<4.0	ug/kg	4.0	S-8310	07/01/1996
1-Methylnaphthalene		3,400	ug/kg	25	S-8310	07/01/1996
2-Methylnaphthalene		1,800	ug/kg	25	S-8310	07/01/1996
Naphthalene		790	ug/kg	25	S-8310	07/01/1996
Phenanthrene		4,000	ug/kg	16	S-8310	06/28/1996
Pyrene		1,300	ug/kg	8.0	S-8310	06/28/1996
Surr: 2-Fluorobiphenyl		99.9	%	n/a	S-8310	06/28/1996

NATIONAL ENVIRONMENTAL TESTING, INC.

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WDNR No. 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191829
Account No: 52450
Page 6

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD711AV 24-28 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Oil & Grease, Soxhlet	31,400	mg/kg	500	S-9071	06/26/1996
Solids, Total	58.0	%	n/a	S-5030	06/28/1996
TOC	19,000	mg/kg	400	S-9060	07/18/1996

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~~WDNR No. 128053530~~

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191830
Account No: 52450
Page 7

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD711BV 78-87 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Solids, Total	73.3	%	n/a	S-5030	07/03/1996
TOC	9,600	mg/kg	400	S-9060	07/18/1996

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WDNR No: 128053530

ANALYTICAL REPORT

Mr. Dan Johnson
NATURAL RESOURCE TECH, INC
23713 W. Paul Road
Pewaukee, WI 53072

07/09/1996
Job No: 96.05626
Sample No: 191831
Account No: 52450
Page 8

JOB DESCRIPTION: #1183 WPSC Sheboygan II
PROJECT DESCRIPTION: Sediment Analysis
SAMPLE DESCRIPTION: SD711BV 50-58 #1183
Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed
Oil & Grease, Soxhlet	2,570	mg/kg	500	S-9071	06/26/1996
Solids, Total	48.7	%	n/a	S-5030	06/28/1996
TOC	21,000	mg/kg	400	S-9060	07/18/1996
Arsenic, GFAA	1.0	mg/kg	0.12	S-7060	06/28/1996
Barium,ICP	12	mg/kg	0.50	S-6010	07/03/1996
Cadmium, AA	1.1	mg/kg	1.0	S-7130	06/27/1996
Chromium, AA	7.4	mg/kg	1.0	S-7190	06/28/1996
Lead, AA	28	mg/kg	4.0	S-7420	06/27/1996
Mercury, CVAA	0.18	mg/kg	0.010	S-7471	06/26/1996
Selenium, GFAA	<0.12	mg/kg	0.12	S-7740	07/01/1996
Silver, AA	<1.0	mg/kg	1.0	S-7760	06/28/1996

CHAIN OF CUSTODY RECORD

160562-4

Sample Collectors(s)/Signature(s): Daniel R Johnson

NATURAL RESOURCE TECHNOLOGY, INC.
PEWAUKEE, WISCONSIN

Laboratory Samples are Being Submitted To: NET

Quote Number/Addendum Number _____ Attached: YES __ NO __

Site Name: WPSL - Sheboygan II

Site Address: Sheboygan

Send Report To:
Project Manager: Dan Johnson Project Number: 1183
Natural Resource Technology, Inc.
23713 W. Paul Road Task Number: _____
Pewaukee, WI 53072
Telephone (414) 523-9000 Fax (414) 523-9001

Temperature of temperature blank 2°C 2°C
If sample(s) were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

I hereby certify that I received, properly handled, and maintained custody of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
	6/20/96		6-20-96 1200
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
	6-20-96 1830	Sarah G. Voigt	6-20-96 1830
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
			6/21/96

Field ID Number	Date Collected	Time Collected	Sample Media	Sample Device	Location / Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	BTEX	PAH	TOC	RCRA METALS	OIL & GREASE			Lab ID Number	Sample Conditions @ Laboratory
SD712AV(38-48)	6/18		SED	G				NONE	2	X	X							
SD712BV(48-77)	6/18								2	X	X							
SD706CV(46-59)	6/18								2	X	X							
SD711AV(36-48)	6/18								3	X	X	X						
SD711AV(24-28)	6/18								2			X		X				
SD711BV(78-87)	6/18								1			X						
SD711BV(50-58)	6/18								3			X	X	X				

SPECIAL INSTRUCTIONS

Laboratory shall retain samples for 30 days after issuing analytical report unless indicated otherwise below.
__ Return __ Other _____

PT 1 - ORIGINAL-WHITE PT 2 - LABORATORY COPY-YELLOW PT 3 - NRT FIELD COPY-PINK

This form is based on the WDNR LUST Program Chain of Custody Record (Form 4400-151)

W:\FORMS\CUSTODY.CHN

COPY

Sheboygan and Green Bay Gas Plant Sediments

sample number	sample weight (grams)	percent moisture	corrected sample weight (grams)	conc from GC (mg/kg)	milliliters of extract	PCB conc. (PPM)	analyst	date analyzed
SD-402-AV	13.2482	63.14	4.8833	0.15	24.5	0.49	P.Ahrens	07/23/96
SD-403-BV	13.3681	43.06	7.6118	3.98	24.4	8.23	P.Ahrens	07/23/96
SD-701-AV	13.2292	35.98	8.4693	0.22	24.8	0.42	P.Ahrens	07/23/96
SD-702-CV	13.2330	34.95	8.6081	0.98	24.78	1.82	P.Ahrens	07/23/96
SD-702R-CV	13.7636	34.95	8.9532	1.27	25.05	2.29	P.Ahrens	07/23/96
SD-711-BV	15.9717	35.66	10.2762	0.83	24.81	0.97	P.Ahrens	07/23/96

Limit of Quanitation= 0.400 PPM
Limit of Detection= 0.120 PPM
PPM PCB=(mL conc.)(GC conc)/(corr. wt)(1.55)

Extraction Repeat

MASTER FILE COPY Sheboygan
PROJECT # 1162 Plants
CC: _____

JUL 2 5 1996

META Environmental, Inc.

49 Clarendon Street
Watertown, MA 02172
TEL: (617) 923-4662
FAX: (617) 923-4610

July 22, 1996

Mr. Dan Johnson
Natural Resources Technology, Inc.
23713 W. Paul Road
Pewaukee, WI 53072

RE: Results of Hydrocarbon Fingerprinting Study

Dear Mr. Johnson:

META Environmental, Inc. (META) has completed the analysis of two soil samples, S0711BV(48-52) and S0702CV(27-64), for hydrocarbon fingerprint (NRT P.O. No. 1183 Task 4.2). The samples were extracted with dichloromethane (DCM) and then analyzed by gas chromatography with flame ionization detection (GC/FID). The chromatograms and the concentrations of monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) in the samples are attached to this letter report.

Results

The fingerprint for sample S0702CV(27-64) was dominated by MAHs and PAHs in the characteristic pattern of pyrogenic sources, with a very large concentration of naphthalene. This pattern is characteristic of MGP tars, coal tars in general, and coal tar creosote.

The fingerprint for sample S0711BV(48-52), also was dominated by MAHs and PAHs in the characteristic pattern of pyrogenic sources. However, the concentrations of MAHs and two-ring PAHs are low generally, and also low relative to the concentrations of 3-, 4-, 5-, and 6-ring PAHs. This pattern is characteristic of weathered tar sources. In addition, there is a noticeable unresolved complex mixture (UCM) or "hump" visible in the chromatogram. The composition and potential source of the material which comprises the UCM cannot be determined by the analysis performed.

If you have any questions regarding these results, or would like to request additional analyses by META, please do not hesitate to call me.

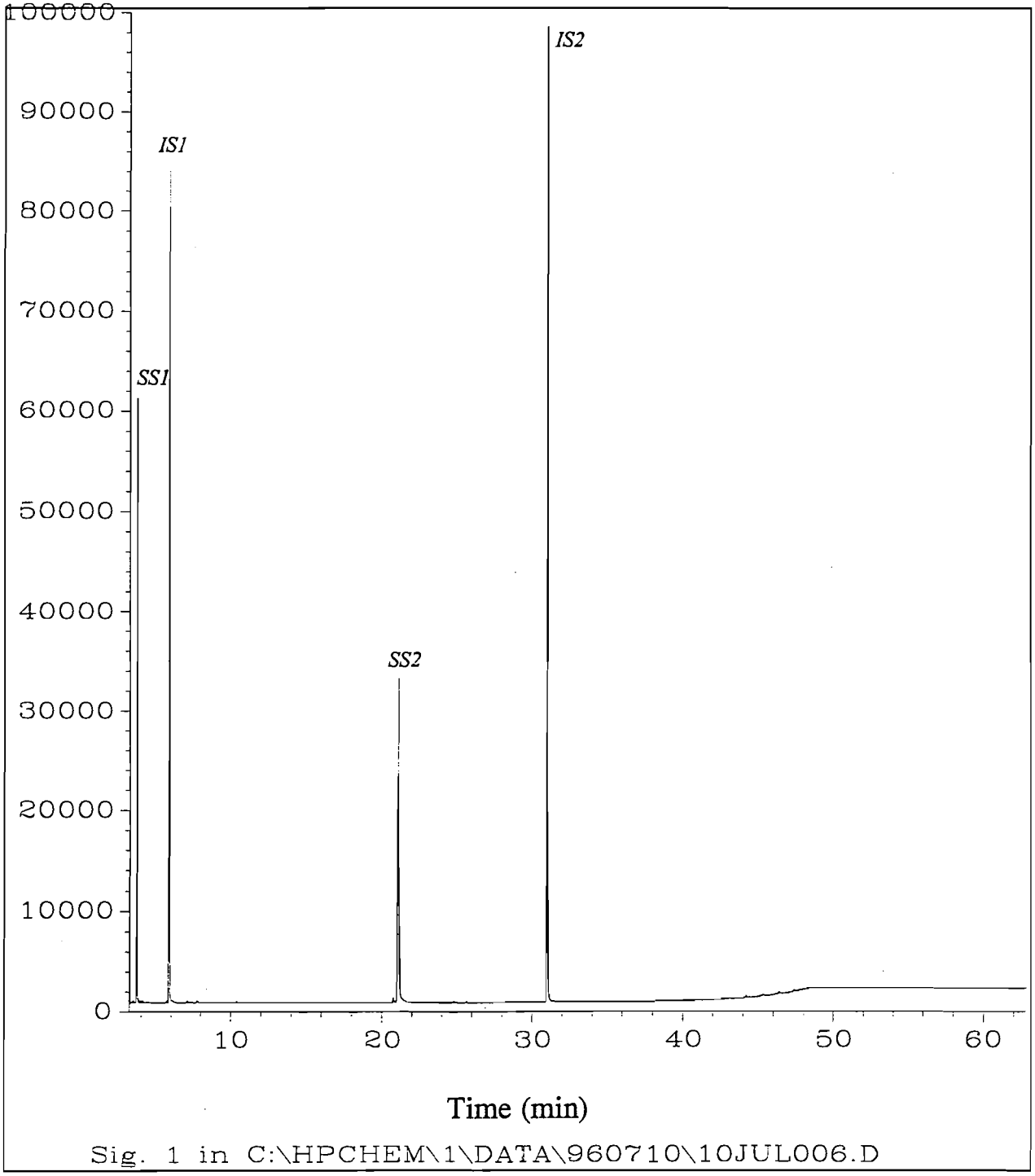
Sincerely,

David M. Mauro

David M. Mauro
V. President

attachments

GC/FID Fingerprint



Field ID:	**Method Blank**
Laboratory ID:	NR960703-SB
Method:	MET4007S

META

Monocyclic Aromatic Hydrocarbon (MAH) and Polycyclic Aromatic Hydrocarbon (PAH) Results for Soil Samples, in ppm (mg/kg, dry weight)

Lab ID **Field ID:**	NR960702-01 **SO711BV(48-52)**	NR960702-01 **SO702CV(27-64)**	NR960703-SB **Method Blank**
MAHs:			
Benzene	0.16 JB	64.3 B	0.08 J
Toluene	0.18 B	150 B	0.06 J
Ethylbenzene	0.78	193	0.16 U
m/p-Xylene	0.61	204	0.16 U
Styrene	0.18	6.33	0.16 U
o-Xylene	0.12 J	79.7	0.16 U
1,2,4-Trimethylbenzene	1.90	225	0.16 U
Total MAHs:	**2.04**	**697**	**0.15**
PAHs:			
Naphthalene	14.7	6,950	0.16 U
2-Methylnaphthalene	12.8	1,770	0.16 U
1-Methylnaphthalene	8.81	974	0.16 U
Acenaphthylene	5.12	1,030	0.16 U
Acenaphthene	17.6	783	0.16 U
Dibenzofuran	0.69	738	0.16 U
Fluorene	6.97	1,050	0.16 U
Phenanthrene	28.6	3,240	0.16 U
Anthracene	12.6	1,280	0.16 U
Fluoranthene	20.0	1,730	0.16 U
Pyrene	30.1	1,390	0.16 U
Benz(a)anthracene	13.9	800	0.16 U
Chrysene	11.2	631	0.16 U
Benzo(b)fluoranthene	4.63	333	0.16 U
Benzo(k)fluoranthene	6.78	432	0.16 U
Benzo(a)pyrene	11.5	536	0.16 U
Indeno(1,2,3-cd)pyrene	4.87	330	0.16 U
Dibenz(a,h)anthracene	1.16	105	0.16 U
Benzo(g,h,i)perylene	6.52	318	0.16 U
Total PAHs:	**218**	**23,700**	**ND**
Surrogate #1 %Recovery	93	81	77
Surrogate #2 %Recovery	94	107	74
Percent Solids	78.1%	70.0%	Not Applicable

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

I = Interference

E = Estimated value, above calibration range

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

PLATES