

SEDIMENT INVESTIGATION REPORT

FORMER MANUFACTURED GAS PLANT SITE SHEBOYGAN, WISCONSIN

Project No: 1183

Prepared For:

Wisconsin Public Service Corporation 700 N. Adams Street P.O. Box 19002 Green Bay, Wisconsin 54307-9002

Prepared By:

Natural Resource Technology, Inc. 23713 W. Paul Road, Unit D Pewaukee, Wisconsin 53072

November 10, 1998 ROPERT Eric P. Kovatch Robert J. Karnauskas, P.G ERIC P. Hydrogeologist KOVATCH "I, Eric P. Kovatch, hereby certify that I and 276 drogeologist as that term is defined in s. NH 21203(1), WWattheylforde, and that, to the best of my knowledge a porthe information contained in this document is correct and the tocument was prepared if compliance with all applicable converting in cher NP 900 to 726 Wis. Adm. Code." Principal Hydrogeologist Waukesha, "I, Robert J. Karnauskas piereby certily that i in a hydrogeologist as that term is defined in s. NR 712.03 (J), Wis. Adm. Code, and that, to the best of ins knowledge all of the information contained in this document is correct and the document was prepared in compliance with an applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

TABLE OF CONTENTS

;)

^)

}

EXECUTIVE SUMMARYES-1
1 INTRODUCTION1-1
1.1 Overview1-11.2 Purpose and Objectives1-21.3 Project Background Information1-2
2 SITE BACKGROUND2-1
2.1MGP Background2-12.2Location2-22.3Site Ownership and Land Use2-22.4MGP Operations/Former Facilities2-22.5Previous On-Land MGP Investigations2-32.6Previous Sediment Investigation2-4
3 SCOPE OF INVESTIGATION
3.1 Overview3-13.2 Records Search (Step 1)3-13.3 Initial Field Investigation (Step 2)3-23.4 Detailed Field Investigation (Step 3)3-3
3.4.1 Sample Location and Sediment Mapping3.4.2 Sampling Equipment and Method
4 INVESTIGATION RESULTS4-1
4.1 Records Search (Step 1)4-1
 4.1.1 Previous Sheboygan River Sediment Investigation4-1 4.1.2 Possible Alternate Sources of Contaminants of Concern4-2 4.1.3 Location and Configuration of the Former Shoreline4-3 4.1.4 Sheboygan River Dredging Activities Adjacent to the MGP Site4-4 4.1.5 River Characteristics and Flow Information4-4
4.2 Overview of River Sediments4-64.3 Field Observations/Screening4-6
sheboygan ji sediment report Natural

	4.4	Laboratory Analytical Results4-8				
		 4.4.1 Laboratory Quality Assurance 4.4.2 PAH and BTEX Results 4.4.3 Cyanide and Phenol 4.4.4 PCB and RCRA Metals 4.4.5 Feasibility Parameter Results 	4-8 4-9 4-10 4-11 4-11			
5 CONCLUSIONS & RECOMMENDATIONS						
	5.1	Conclusions	5-1			
		5.1.1 Sediment Geology 5.1.2 Sediment Chemistry	5-1 5-1			
	5.2	Recommendations	5-2			
6	REFE	ERENCES	6-1			

FIGURES

)

)

ì

Figure 1	Site Location Map
Figure 2	Former MGP Structures

TABLES

Table 1 Field Observations at Sediment Sample Loc	ocations
---	----------

- Table 2
 PAH Sediment Laboratory Analytical Results
- Table 3 BTEX Sediment Laboratory Analytical Results
- Table 4Sediment Laboratory Analytical Results for Cyanide, Phenol, TOC,
Oil & Grease, RCRA Metals, and PCBs

TABLE OF CONTENTS

<u>APPENDICES</u>

)

- Appendix A: Previous Investigation Sediment Sampling Locations and Excerpt from the August 20, 1992 WDNR Memo
- Appendix B: May 10, 1995, WDNR Letter and Sediment Sample Results
- Appendix C: Sanborn Maps and City Directory Abstract
- Appendix D: Daily Flow Records and Monthly Streamflow Averages (USGS)
- Appendix E Sheboygan Flood Insurance Rate Map (FEMA, April 1991)
- Appendix F: Sediment Borehole Logs
- Appendix G: Laboratory Analytical Results

PLATES

- Plate 1 Sediment Sampling Locations and Field Observations
- Plate 2 Geologic Cross Sections A-A' through J-J'
- Plate 3 Depth to Tar Contours

Ì

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.

1.1 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

2.1 MGP Background

der)

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).

sheboygan ii sediment report

2 SITE BACKGROUND

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 ft³ and 200,000 ft³;
- 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

)

٦

1242

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.

3.1 Overview

 $\left|\right\rangle$

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.

0.000

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 OgeecheeTM corer was approximately 30 inches long. Therefore, use of the OgeecheeTM sand corer and the PonarTM 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 VibrocoreTM. 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

}

X

(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

ы.)

ì

The Step 3 investigation utilized the VibrocoreTM 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 VibrocoreTM.

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

sheboygan ii sediment report

4.1 Records Search (Step 1)

 $\overline{}$

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.

100

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	Heavy metals (from autos), carbon
automobiles and point sources	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.

sheboygan ii sediment report

)

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.

sheboygan ii sediment report

ģ

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 (mi²). 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

sheboygan ii sediment report

Natural Resource Technology

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

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

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).

sheboygan ii sediment report

Êγ

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.

sheboygan ii sediment report

)

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

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.

19710

0.110

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

Ì)

1

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	Predominant	Purpose
	(Inches)	Soil Type	
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

ł

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.

sheboygan ii sediment report

)

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

é les

100

 $\lambda_{\rm eff}^{\rm eff} = \lambda_{\rm eff}^{\rm eff} \lambda_{\rm eff}^{\rm eff}$

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

Ĵ





TABLES

Sample	Samue Date	Depth to Sediment /	Sediment Elevation	Sample			Filed Obs	ervations		
Number**		Water Interface (inches)	above MSL (feet)	Interval (inches)	PID Reading	Assay Result	Hair	Odor	Sheen	Tar
BKG-700	10/16/95	E	uu	0-15	4.6	1.57		1		
SID-701A	10/17/95	37	578.92	0-31	22	H	1	yes	1	yes
SD-701BV	96/11/90	54	577.50	0-10	na	na na			-	
				26-34	a u	na			1	-
				44-45		na na		yes		yes
				45-47 47-40	au eu	na		yes ves		yes ves
SD-701C	10/17/95	43	578.42	8-0	0	2.1			1	1
SD-702A SD-702B	10/16/95	44	578.33	0-16.75	1667 0	1.83		yes	yes vec	
SD-702BV	11/05/95		uu	0-86	au	na		yes	yes	yes
SD-702C	10/16/95	67	576.42	0-3	1.2	1.57	1			
SD-702CV	06/11/90	19	576.92	0-27 27-64	na	na		 Ves		 Ves
				64-89	na	na	yes	yes	;	yes
SD-702DV	06/13/96	62	576.83	17-43	na	611 61				1
				43-57	a a	na Nà	yes	1	1	yes
				57-61	g	na	yes			yes
				01-07 67-75	na na	na na				yes
				75-82	na	11a	yes	yes	1	. 1
				82-91 91-100	na na	na en		yes		; ;
SD-703A	10/17/95	40	578.67	0-19	72.7	H		yes		yes
SD-703B	10/17/95	47	578.08	0-14	4.7	1.95				
SD-703BV	06/13/96	63 58	576.75	0-95	na 8 I	na 0.03	:	yes	yes	
SD-703CV	06/18/96	9C	575.50	0-43		ce.u Bu				
				43-68	- u	na	!	I	;	:
CLOP CLO		4	CC 723	()8-8()	BR	na	•	:	;	:
SD-704A	26/17/01 10/17/95	37	578.92	0-17.5	7.1	29.95	:			
SD-704B	10/17/95	51	577.75	0-23	43.1	H	:			yes
SD-704BV	96/11/90	. 07	576.17	0-17	na	na	1	yes	:	-
				28-102	na na	na na	ves	ves		ycs ves
				102-108	na	na L	L	yes		2
	20/21/01		67 763	108-116	au	1 22		yes		
SD-704CV	96/11/90	74	575.83	0-49	na na	, c.1		yes		yes
				49-67	na	na	yes	yes		yes
				67-76 76-86	n na	na na	 Nev	yes		yes
				86-93	na	na		yes	1	yes
SD-704D	10/20/95	57	577.25	0-3	au	na	-	1		1
SD-705B	10/18/95	40 67	576.42	0-18.8	23.9			- Nes		
SD-705BV	11/05/95	uu	uu	0-15	207	na	1			3
			-	15-21 15-21	<u>~</u>	na	;	1		-
				26-45	56.1	na na				
				45-47	81.6	eu	1	ł	1	yes
				47-50	36.1	eu Ua	yes	1.1		yes
				53-58	14.5	na	1	ł	;	:
SD-705C SD-705CV	10/18/95	71	576.08 575.00	4-12 0-50	18.5	H		- Sev		ycs
		5		50-112	n a	na Bi	yes	yes	yes	yes
				112-117	na na	an an				
SD-705D	10/18/95	19	576.92	0-10	7.3	2.13				
SD-705DV	96/11/90	. 80	575.33	0-24 24-36	na na	e e		yes	yes	yes
	1010010			36-54	e	na				;
SD-706A	10/20/95	24 24	578.17	0-9.5	7.5	16.1		1		1
SD-706B	10/18/95	100	573.67	0-11	16.9	na 2.7			, jes	
SD-706BV	96/11/90	84	575.00	0-13	na	na		;	yes	
				13-31 31-36	en en	a a		yes	yes ves	ycs
SD-706C	10/18/95	99	576.50	11-0	21.9	DN	1			
SD-706CV	06/18/96	59	577.08	0-4 4-11	en eu	811			{	
				61-11	n na	en	1			
				19-24 24-32	n na	na na	 Ves			 Ves
				32-44	- na	a a	L 1		1	
			_	44-40 46-59	a e	an Ba	yes			: :
SD-707AV	11////05			59-81	Ball	e e	1			;
A 12/01-015	C6/F0/11			0-12 15-23	1.6	na na			yes	
				23-35 35-48	14.3 41	 				ycs
				48-60	34	na na			2 2	yes
			-	60-74	14.6	na		:		1

 \bigcirc

 $\left(\right)$

Page 1of 2

1183SHII - Tables 1 - 5

Field Obser

Table
Table 1. Field Observations, Continued

Sample	Sample Date	Depth to Sediment /	Sediment Elevation	Sample			Filed Obs	ervations		
Number**		(inches)	(feet)	(inches)	PID Reading	Assay Result	Hair	Odor	Sheen	Tar
SD-707BV	11/04/95		 	0-5	4.7	i i i na				
515 707131	11/01/20			5-14	4.5	i na				
				14-17	5.3	na				
				20-25	· 84	na i i na				ves
				25-30	· 5.2	i na				
				30-35	7.9	na				yes
0D 707CV	06/10/06	75	575 75	$\frac{35-50}{0-16}$	3.7					
SD-707CV	00/10/90	15		16-20	na	na na				
				20-24	na	na na			i	·
				24-28	na	i na	i yes		I I	
				60-69	na na	i na	ves			yes
				69-71	na	na	yes			
				71-79	na	na	yes			
CD 709 AV	11/04/05			79-84	na	na na	yes		i	i <u></u>
5D-708AV	1704/95	1111	1104	10-29	20.5	i na	l		l	
				29-36	20.7	i na				
1				36-40	9.6	na				
ļ				40-53	61	na 1 na	1			
				66-70	14	na				
SD-708BV	06/10/96	82	575.17	0-16	na	na na) 			
				16-35	na	na na				
				52-60	na na	i na	yes yes			
SD-709AV	11/04/95	nm		0-11	14.3	na	· · · · · ·			
		1		11-24	33.9	na na		l		l
SD-710AV	06/18/96	106	573 17	0-23	9.2	$\frac{1}{1}$ na	· ···			
3D-710AV	00/18/90	100	575.17	23-34	na	i na				
1				34-44	na	na				
				44-50	na	na				yes
			, ,	50-52 52-54	na na	i na i na	i yes I ves	 	· ···	i yes I ves
				54-64	na	na na	yes		 	yes
SD-710BV	06/18/96	78	575.50	0-34	na	na				
				34-38	na	na				
				44-52	na	na na				
SD-710CV	06/18/96	59	577.08	0-42	na	na		· · · · · · · · · · · · · · · · · · ·		
				42-52	na	na 1		l		1
SD-7114V		109	572.92	0-24	na	$\frac{1}{1}$ na $\frac{1}{1}$	<u> </u>		ves	
5D-j1174		107		24-28	na	na				yes
				28-36	na	na .	yes	i	 I	yes
	06/10/006		575 33	36-48	na	i na			<u> </u>	
5D-7116V	00/18/90	80		7-13	na	na na				
				13-18	na	na				
				18-22	na	na				
				22-29	na		yes			
				34-48	na	i na	yes			
				48-50	na	na na				yes
				50-58	na	i na	yes			yes
				58-08 68-78	na na	i na i na	yes		1	
				78-87	na	na	yes			
				87-100	na	na na			 	
SD-711CV	06/18/96	58	577.17	0-21	na	i na		I I		
				36-48	na	na na		yes	yes ves	· ·
1				48-55	na	na				yes
1				55-60	na	na		yes		
ED 712AV	06/10/04		577 82	60-69	na	i na		yes	<u> </u>	i
5D-/12AV	00/10/90	110	572.05	38-48	na	i na	1	l l	yes	
				48-67	na	na na				·
0			F01 /0	67-73	na	na				
SD-712BV	06/18/96	124	5/1.0/	42-48	na	na 1 1 na		===	·	,
		1		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

1183SHII - Tables 1 - 5

a suga,

Page 2of 2

erges.

agara.

202.02.322

Table 2 - PAH Sediment Laboratory Analytical Results

Former Sheboygan II MGP Site - WPSC

			PAHs (µg/kg)																		
Sample Number	Sample Interval (inches)	Sample Date	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	I-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Total PAHs (mg/kg)
	Method De	etection Limit	40	80	1 8	1 2	2	2	. 8	<u> </u>	<u> 4</u>	4	<u>1 8</u>	16	1 4	25	25	<u>1 40</u>	16	8	
				. 1		- 200		(0)	2/0	Hand Cored	1 Samples	, ,									
BKG-700	0-15	10/16/95	nd	nd	1 35 1 nd	380		69 nd	1 260 1 nd			nd I	1 640 1 19	nd I nd	1 94	nd nd	nd nd	nd I I	62 1 nd	160	2.17
SD-701B	0-10	10/17/95	na nd	nd nd	l nd	1 0 1 18	1 14 † 11	15	I 18	1 17	1 0 1 10	1 IA	1 10 1 18	I nd	1 9 1 23	I nd	i na I nd	i nd	i na i nd	l II I nd	0.08
SD-702A	0-15.75	10/16/95	nd	nd nd	nd nd	10 89	I II I	55	1 98	1 150	1 64	1 14 1 21	1 83	I nd I nd	1 94	nd nd	nd nd	l nd	i nd i nd	120	0.10
SD-702B	0-23	10/17/95	nd	nd nd	ı nd	ı nd	ı nd i	nd	ı nd	i nd	ı nd	ı nd	i nd	ı nd	ı nd	ı nd	nd nd	ı nd	ı 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 I	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	i 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 nd	37,000	29,000	5,400	4,500	14,000	10,000	11.000	nd 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 I	32,000	29,000	40,000	8,200	15,000	8,800	10,000	nd 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	ı nd	i nd	13	15	4	i 11	1 10	1 7	ı nd	20	ı nd	1 5	ı nd	ı nd	1 nd	ı 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		3,000	1,800	570	10.47
SD-705BV	45-47	11/5/95	1,030,000		1 359,000	1 345,000	115,000	66,000	1 263,000	1 204,000	1 228,000	nd I	1,580,000	1 490,000	1 156,000	nd I	i nd	1 2,520,000	1,370,000	568,000	9,294.00
SD-705BV	53-58	11/5/95	nd	i na I nd	1 /3	1 50	1 10	470	1 38 1 1 100	1 20	1 4	I NO	I I 30	1 45 1 1 2 0 0	1 23			1 4/0		/5	1.11
SD-705DV	36-54	6/13/96	nd	i nd	2,300	1,500	280	470	1,100	1 58	1 20	ı na	1, 120	i 1,500	1 22	1 2,700	2,500	1 3,900	1,800	1,800	
SD-706CV	46-59	0/18/90	11u 2 200	i nd	1 1800	3 300	840	14	1400		2000		11,000		1 000	nd	nd	i nd	6,000	8 500	12 33
SD-7076V	55-45 60 7 0	6/11/06	5,500 nd	l nd	1 1,800 1 250	1 3,500 1 310	1 48	05	1,400 1 210	1 140	1 <u>2,900</u> 1 120	1 120	730	1 050 I 07	1 110	1 75	1 97	nd nd	I 0,000	630	3.84
SD-707CV	53-66	11/4/95	nd	l nd	1 110	1 120	1 40	28	1 <u>210</u> 1 97	1 75	1 74	l nd	220	1 97	1 53	nd I	nd nd	I nd	I 330	200	1.44
SD-709AV	11-24	11/4/95	nd	ı nd	39	1 110	42	24	70	52	1 56	ı nd	170	1 51	33	i nd	nd nd	ı nd	1 110	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 nd	18	50	13	22	42	49	23	nd	120	nd nd	22	i nd	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

312221

Table 3 - BTEX Sediment Laboratory Analytical Reusits Former Sheboygan II MGP Site - WPSC

				BTEX	(µg/kg)		
Sample Number	Interval (inches)	Sample Date	Benzene	Toluene	Ethylbenzene	 Xylenes, total	Total BTEX (mg/kg)
	Metho	d Detection Limit	5	i 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	nd	0
SD-702A	0-16.75	10/16/95	nd	nd	nd	nd nd	0
SD-702B	0-15.25	10/16/95	nd	nd	nd	nd nd	0
SD-703C	C 0-23 10/17/95		nd	nd	nd	nd	0
SD-704B	D-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	nd	0
			Vibro	ocore 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	2CV 0-27 6/11/96		nd	nd	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	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 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	l 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 nd	nd	0
SD-712BV 48-77 6/18/96		nd	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

1

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

					(mg/kg)		
Sample Number	Sample Interval (inches) Method De	Sample Date tection Limit	Total Cyanide 0.25	Weak Acid Dissociable Cyanide 0.25	Phenol 0.13	Oil & Grease 500	TOC
			Hand Core	ed 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	e 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	78-8 7	6/18/96	na	na	na	na	9,600

						RCRA Meta	uls (mg/kg)	_			
Sample Number	Sample Interval Sample (inches)		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	i 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

ì

2) nd = Parameter Not Detected

3) no = 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

Ĭ

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 es play in consideration of level of cleanup. Since the establishment of v 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 μ g/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.

A view 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 ran anal available for these cores. The next most upstream sampling site analy PAHs was R-96 (HSL-10). This was a river sampling site and the total concentration in the composited core (0 to 4.3 ft.) was 4,230 μ g/kg. 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 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

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 " boygan and the Wisconsin Public Service Corporation will be sharing the

. . t 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.





APPENDIX B

MAY 10, 1995, WDNR LETTER AND SEDIMENT SAMPLE RESULTS

CORRESPONDENCE/MEMORANDUM -

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.



"Scott Redman - WE/2

Maushe Jones - WR/SED

UBJECT-MESSAG FOR Sample rear old coal gas site in Shebey for Sumple taken 20.30 ft from left bank, closer to downstream end Wed le fit are tube. Core ledgith retriered = 3.2 ft Coult tac formal Wed le fit are tube. Core ledgith retriered = 3.2 ft Coult tac formal in bottom E 14" of core. Distinct clemanents (Dirty/clem/starty). Sew a small band of "clear working" sed. mint new canter of E 14" enc (depented from floth coult?) E 14" enc (depented from floth coult?) Took the BULY with Coal tal to SLOT to be analyzed for PINTS. Phense call of Gulsting 414212 ETE _DATE - 5/0.3/4-- Til Alar hives REPLY Fihoto & regentie enclosed

SIGNED_____ DATE _____ DATE _____

State Laboratory of Hygiene University of Wisconsin Center for Health Sciences 465 Henry Mall, Madison, WI 53706 2.H. Laessig, Ph.D., Director S.L. Inhorn, M.D., Medical Director Inv.ronmental Science Section (608) 262-2797 DNR LAE 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 Account number: WR258 Source: Sediment Sample depth: 3FT Collected by: B. PAULSON Enforcement Date Received: 02/27/95 Labslip #: OF002376 Reported: 05/11/95 ---- test: GC/MS - PAHS IN SOIL - 1580 + 400000. NG/G. DRY + 16000. NG/G. DRY + 330000. NG/G. DRY + 180000. NG/G. DRY + 170000. NG/G. DRY ACENAPHTHENE ACENAPHTHYLENE ANTHRACENE BENZO (A) ANTHRACENE BENZO (B) FLUORANTHENE + 67000. NG/G, DRY + 43000. NG/G, DRY + 210000. NG/G, DRY + 90000. NG/G, DRY + 130000. NG/G, DRY BENZO (K) FLUORANTHENE BENZO (GHI) PERYLENE **EENZO (A) PYRENE** BETTO (E) PYRENE CE SENE + 13000. NG/G. DRY + 290000. NG/G, DRY + 250000. NG/G, DRY + 56000. NG/G, DRY + 27000. NG/G, DRY DIBENZO (A, H) ANTHRACENE FLUORANTHENE FLUORENE INDENO (1,2,3-CD) PYRENE PERYLENE + 27000.+ 840000. NG/G, DRY + 340000. NG/G, DRY PHENANTHRENE PYRENE ---- test: TEMPERATURE - 0950 TEMPERATURE 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



EDR Sanborn, Inc.

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

Inquiry #: 172719-2 (ABSTRACT)

MAY - 5 1997

Sanborn[™] Map Report

Ship to:

Order Date: 04/29/97

Completion Date: 04/30/97

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

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

Natural Resources Technology (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR Sanborn, Inc.'s copyright policy; a copy of which is available upon request.

All maps provided pursuant to a Sanbom[™] Map Report are currently reproducible copies of fire insurance maps owned or licensed by EDR Sanborn, Inc. © WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER. EDR SANBORN, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH .../ARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO ACCURACY, VALIDITY, COMPLETENESS, SUITABILITY, CONDITION, QUALITY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR USE OR PURPOSE WITH RESPECT TO THE MAPS, THE INFORMATION CONTAINED THEREIN, OR THE RESULTS OF A SEARCH OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. EDR Sanborn, Inc. assumes no liability to any party for any loss or damage whether arising out of errors or omissions, negligence, accident or any other cause. In no event shall EDR Sanborn, Inc., its affiliates or agents, be liable to anyone for special, incidental, consequential or exemplary damages.

Copyright 1997, EDR Sanborn, Inc. All rights reserved. Reproduction in any media or format of any map of EDR Sanborn, Inc. (whether obtained as a result of a search or otherwise) may be prohibited without prior written permission from EDR Sanborn, Inc. Sanborn and Sanborn Maps are trademarks of EDR Sanborn, Inc.















- Fri May 2 12:14:03 1997

Sun IsoFax Page 1 of 14

MASTER FILE COPY PROJECT #_1183-Shoh II Date CO: _____ **Environmental Data Resources, Inc.** 3530 Post Rd Southport, Connecticut 06490 Facsimile: 800-231-6802 Telephone: 800-352-0050 **Fax Transmittal** To: Mr. Eric Kovatch Natural Resources Technology Company:

Fax #: 91-414-523-9001

Date: Fri May 2 11:26:48 1997

#Pages including cover: 14

Sun IsoFax Page 2 of 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 414-523-9001

From:

Fax Number:

BMB



EDR Sanborn, Inc.

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

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

West Controls

Section 2.5

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 is 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!

Disclaimer

This report contains information obtained from a variety of public and private sources. NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER. EDR SANBORN, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO ACCURACY, VALIDITY, COMPLETENESS, SUITABILITY, CONDITION, QUALITY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR USE OR PURPOSE WITH RESPECT TO THE MAPS, ABSTRACTS, AERIAL PHOTOGRAPHS, TELEPHONE INTERVIEWS, CHAIN-OF-TITLE RESEARCH, THE INFORMATION CONTAINED THEREIN, OR THE RESULTS OF A SEARCH OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. EDR Sanborn, Inc. assumes no liability to any party for any loss or damage whether arising out of errors or omissions, negligence, accident or any other cause. In no event shall EDR Sanborn, Inc., its affiliates or agents, be liable to anyone for special, incidental, consequential or exemplary damages.

Copyright 1996. All rights reserved. Reproduction in any media or format of any map of EDR Sanborn, Inc. (whether obtained as a result of a search or otherwise) is prohibited without prior written permission from EDR Sanborn, Inc. Sanborn is a trademark of EDR Sanborn, Inc.





Fri May 2 12:17:27 1997

a constant a constant de la constant

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 ReissAddress:828 Center AveCity/State:Sheboygan, WI 53081Phone:414-459-3320Last updated:03/01/97

.

ì

1000

1000 C 1000

Date EDR Searched Historical Sources:

~

City Directories May 01, 1997

Target Property:

732 N. Water Street Sheboygan, WI 53081

PUR ID <u>Year</u>	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 nor 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 Outboatd Club	N/A	Polk's City Directory

Adjoining Properties

SURROUNDING AREA

N Water St/Center Ave Sheboygan, WI 53081

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

172719-4

- Fri May 2 12:19:31 1997

PUR II <u>Year</u> 1945 (cont	D <u>Uses</u> mued)	Portion-Findings (FIM Information Only)	Source
	residence (607)		
	residence (609)		
	residence (615)		
	Wisconsin Public Service Gas Plant (unnumbered)		
	Garton Toy Warehouse (700)		
	Ventime Dairy Products (920)		
	Sneboygan Mineral Water Co. (950)		
	Armour Means (1202-1206)		
	Standard Oil (1215)		
	Prance Watebouse (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)		
	tesidence (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)		
5			•••
1960	"" NORTH WATER STREET Addresses ""	N:A	Wright's City Dilectory
)			
~ · /			
	respired (CLS)		
	Venifine Dairy Products (934)		
	· ····································		

- Fri May 2 12:20:08 1997

j			
PUR ID <u>Year</u>	<u>Uses</u>	Portion-Findings (FIM Information Only)	Source
1960 (contir	uued)		
	Sheboygan Meats (1210)		
	Standard Oil (1217)		
	Prange Warehouse (1218)		
	residence (1234)		
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 Watehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Sheboygan Meats (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	residence (1234)		
9 1085	"" NODTLI WATED STREET Addresses ""	N/A	Polt's City Directory
1985	anartments (526)		
	anarments (511)		
	Verifine Dairy Products Warebouse (834)		
	"" CENTER AVENUE Addresses ""		
	Sbeboygan Meats (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
	uesidence (1234)		
10			·
1990	"NORTH WATER STREET Addresses "	N:A	Polk's City Directory
	apairments (526)		
·· _· '	apartments (611)		
	Verifine Dairy Products Watehouse (\$34)		
	" CENTER AVENUE Addresses "		
	Sheboygan Meats (1210)		

Fri May 2 12:20:45 1997

2

201 1000 24

PUR ID Year) Uses	Portion-Findings (<u>FIM Information Only)</u>	Source
.990 (conti	nued)		
	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 Watehouse (834)		
	"" CENTER AVENUE Addresses ""		
	Ryan Oil Warehouse (1207)		
	vacant (1210)		
	Ryan Oil (1217)		
	Quality Carpet Cleaning (1218)		
)	vacant (1234)		

i al 1 - Cânatear

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).

1.521

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)

39 1

11-12-11

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 RIVE	R AT MOUTH AT SHEBOYGAN, WI	Daily Average for Record	177	
Station number: 040860041		Daily Maximum for Record (with date)	1,440	3/23/94
latitude (degrees, minutes, and second	s) = 434450	Daily Minimum for Record (with date)	32	9/15/95
longitude (degrees, minutes, and secon	ads) = 0874233	Total Streamflow for		
state code = 55	district code = 55	Water Year 1993 (10/93 - 9/94)	78,061	
county code = 117	hydrologic unit code = 04030101	Water Year 1994 (10/94 - 9/95)	51,473	
drainage area (square miles) = 427				

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

										Daily St	tream Disch	arge, Cubic	Feet per Se	cond				
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
1	206	152	175	72	82	613	327	370	109	50	200	73	114	62	145	82	63	88
2	207	150	175	74	78	531	330	436	97	45	177	67	146	61	139	55	61	76
3	192	148	179	76	78	491	345	403	91	40	128	60	108	60	112	41	61	78
4	190	146	176	76	78	450	338	327	94	52	121	55	161	73	112	36	59	78
5	181	149	169	78	78	409	308	278	121	102	122	55	97	94	102	34	57	82
6	178	147	169	78	78	613	310	249	144	107	94	55	62	124	98	36	57	80
7	175	141	165	78	80	1120	303	229	147	121	79	55	58	145	98	39	55	82
8	174	138	157	78	80	1430	294	219	126	154	73	51	63	121	97	46	57	82
9	191	138	156	80	76	1120	284	207	106	147	69	50	62	105	102	53	59	80
10	190	137	179	82	76	1230	254	197	94	113	69	49	64	98	104	58	61	82
11	189	138	127	84	78	981	237	204	83	100	74	50	59	98	102	63	59	123
12	182	140	129	85	80	1020	243	221	75	93	78	51	53	94	98	72	57	307
13	176	160	184	86	82	1020	408	202	73	89	78	50	51	89	96	76	57	715
14	168	177	149	88	84	981	436	183	72	107	84	51	51	90	94	153	59	675
15	166	190	140	82	86	1020	542	173	69	110	79	52	50	87	92	235	61	677
16	171	191	138	80	90	818	541	169	65	107	79	50	48	92	96	· 194	65	523
17	168	189	137	78	92	715	456	134	60	96	76	48	49	89	98	133	78	472
18	162	180	141	78	102	613	401	136	53	89	81	44	53	87	102	102	82	525
19	157	173	142	78	153	552	383	138	50	84	81	44	55	84	92	92	88	506
20	155	164	139	76	409	511	332	130	55	78	86	45	56	91	90	82	102	523
21	179	156	135	80	1230	1020	299	125	54	78	80	48	58	98	92	86	102	630
22	199	160	92	84	1120	1350	279	121	51	80	75	50	59	97	92	80	100	543
23	190	155	72	86	1120	1440	259	113	51	66	73	50	63	88	102	78	98	468
24	182	148	92	88	1020	1080	245	108	64	79	69	53	62	93	112	80	102	419
25	179	133	123	88	920	825	308	113	65	61	66	60	67	98	123	78	102	388
26	174	156	112	88	858	711	424	212	58	54	66	75	66	79	123	80	96	359
27	169	202	98	92	777	672	414	189	53	50	62	89	65	121	123	76	94	335
28	164	194	90	90	695	644	371	151	60	50	72	77	62	183	112	67	92	314
29	167	184	82	88		568	346	132	58	52	78	63	60	207	112	65		350
30	159	174	76	86		486	341	123	54	81	78	58	59	164	112	59		421
31	152		72	82		418		117		64	75		62		102	63		484
Total	5492	4810	4170	2539	9780	25452	10358	6109	2352	2599	2722	1678	2143	3072	3274	2494	2084	10565
Mean	177	160	135	82	349	821	345	197	78	84	88	56	69	102	106	80	74	341
Maximum	207	202	184	92	1230	1440	542	436	147	154	200	89	161	207	145	235	102	715
Minimum	152	133	72	72	76	409	237	108	50	40	62	44	48	60	90	34	55	76

-

1183-S~2.XLS

Apr-95	May-95	Jun-95	Jul-95	Aug-95	Sep-95
459	293	265	56	34	78
405	250	222	48	36	59
378	243	178	43	40	50
350	232	109	40	42	44
297	221	93	44	45	42
271	206	88	52	38	48
254	186	83	51	36	63
266	162	107	47	36	49
277	208	105	47	47	46
267	301	95	45	48	41
281	386	90	43	50	37
717	372	86	38	53	38
715	352	79	37	66	40
549	330	73	34	111	37
420	313	62	44	117	32
366	270	55	45	108	34
337	240	51	47	105	32
556	170	50	43	97	32
1070	114	49	38	83	41
811	130	49	40	71	53
681	126	46	43	59	53
698	117	43	35	50	49
660	114	42	33	46	45
506	120	41	33	42	41
443	118	40	35	39	40
388	107	44	35	44	40
472	96	49	35	44	39
554	156	47	51	48	39
416	223	58	47	62	39
337	218	78	42	81	40
	270		36	113	
14201	6644	2477	1307	1891	1321
473	214	83	42	61	44
1070	386	265	56	117	78
254	96	40	33	34	32
APPENDIX E

SHEBOYGAN FLOOD INSURANCE RATE MAP (FEMA, APRIL 1991)

)



to add special flood hazard areas and to change base flood elevations, floodways, and corporate limits.



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



A

(EL 19)

RM5

M3.0

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.

Cross Section Line

Base Flood Elevation in Feet Where Uniform Within Zone*

Elevation Reference Mark

Mile Mark

*Referenced to the National Geodetic Vertical Datum of 1929

(A)

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 smatrize.

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.

Coastas 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 enanged subsequent to the issuance of this map.

For adjoining panels, see separately printed Map Index.

APPENDIX F

SEDIMENT BOREHOLE LOGS

}

State of Wisconsin	Route To:	
Department of Natural Resources	🔲 Solid Waste	🗆 Haz. Waste
	Emergency Response	Underground Tanks
	🔲 Wastewater	UWater Resources
	Cup and up of	

State of Wisconsin

SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-92

Second Second

11215-1717

				S.	ipertuna	_	Uther	:									Page 1 of 2
Facilit)C	y/Pro j -Shebo	ect Na iygan .	ime II				Licen	se/Per	mit/Mon	itorin;	g Numbe	er 📄	Boring SD-70	Numde D1A	er		
Boring NRT/F Dan J) Drilleo VPSC ohnson	i By (Firm	name and name of crew	chief)		Date 10/18,	Drilling /95	Starte	d	Date D 10/18/9	Irilling (95	Comple	ted	Drilling I Ogeech	lethod ee San	d Corer
DNR F	acility	Well N	0.	WI Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water L	.evel	Surfac 576.61	e Eleva Feet N	ation MSL		Borehol 2 inche:	e Diam s	eter
Boring	Locai	ion			Feet N		L				Local	Grid Lo	cation	(if ap	plicable		
State Sec 1	Plane 23, T15	N, R23	E		Feet E		Lat	•			339.	93 feel	t⊠ N □ S	308.9	97 feet	⊠ <i>E</i> □∦	
Count Sheba	y oygan					DNR (60	County	Code	Civil To Sheboy	wn/C /gan	ity/ or '	Village					
San	nple		S										Soi	l Prope	erties		
Jumber nd Type	ength Att. & (ecovered (in)	310w Counts	Jepth in Inche	Soil/R And Ge Ea	ock Description cologic Origin For ch Major Unit			JSCS	Sraphic .og	vel Diagram	10/F10	Compressive Strength	Aoisture Content	iquid imit	Plasticity Index	200	30D/ Comments
ar ar	31			dense, poorly grad organics (COAL TA ODOR) dense, poorly gra COAL TAR) with bla bottom of corer	led <u>SILT</u> w/ tr. gra AR and STRONG CO ded <u>SILT</u> (ODOR t ack stained wood c	evel; AL TAF	3	ML			22						
I here	by cer	tify th	at th	e information on this fo	rm is true and co	rrect t	to the	best o	f my kn	owled	ge.	<u> </u>	I	1			<u> </u>
Signat)	ure	Logge	d by	Daniel R. Johnson	- Phona	H	Firm	Nati	ıral Res	ource	Techno	ology					
This for than \$ or bot	ormisa S10 nor hfore	authori more ach vi	zed than olati	by Chapters 144.147 an \$5,000 for each violati on. Each day of contin	d 162, Wis. Stats. on. Fined not les ued violation is a	Comp s than separ	bletion \$10 or ate off	of this r more iense,	report than \$1 pursuan	is ma 00 or it to s	indatory impriso ss 144.9	/. Pena med no 9 and	alties: ot less 162.06,	Forfeit than 3 , Wis. 9	t not les 10 days, Stats,	5S ,	

Sar	nple		s							Soil	Proper	rties		
Num and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inche	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PIO/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RGD/ Comments
	31		28		ML			22						
			32 34 34 36 40 42 44 46 48 50 52 54 56 58 60 62	EOB @ 31"										

.....

State Depar	of Wis tment	consir of Na	n tural	l Re	sou	rces			te T Solid Imer last	o: Was genc ewat	te cy Res ter	spon	se [] Haz. 1] Under] Water	Maste ground Resou	d Tanks urces				S0 For	IL B rm 44	0RII 00-	NG 122	LOG	[NFO	RMATION Rev. 5-92
Facilit	v/Prol	ect Na							Supe	erfun	d			Uther	: se/Per	mit/Mor		numb	er		Boring	ı Num	ber	r		Page 1 of 1
1 1 1 1	-Shebo	ygan .						<u> </u>						Dete		011-		Dete	D-1111		SD-7	018		ullin er bi		
NRT/I Dan J	Drilled WPSC Johnson	. By (1	- 17 101 1	ושר	e an	u nai	ne o		wcr					10/18,	Urilling /95	Starte	a	10/18/	95' /95	ng t	Joinpit	elea	0	geeche	e San	nd Corer
dnr f	acility	Well N	o. 1	NI U	niqu	e Wel	No	•	C	Comm	ion We	ell Na	me	Final Feet	Static MSL	Water	Level	Surfa 576.3	ce E 6 Fé	eet i	ation MSL		B 2	orehole inches) Diam	eter
Boring State Sec	y Locat Plane 23, T15	l on N, R231	E							Fee Fee	et N et E			Lat Long	•			Local 315.	Gric .65	l Lo feet	cation (NN CS	(if) 328	врр 3.08	li cable) 3 feet [[) ⊠ <i>E</i> ⊐₩	
Count Sheba	y bygan												DNR (60	County	Code	Civii To Shebo	own/Cl ygan	ty/ or	Villa	ge						
Sar	nple		es																		So	il Pro	per	ties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inch				,	Soil/ And G Ea	Roc eolo ach	k De ogic Majo	script Origin or Unit	tion For t			nscs	Graphic Łog	Weli Diagram	P10/F10	Compressive	Strength	Moisture Content	Liquid	Limit	Plasticity Index	P 200	R@D/ Comments
	10	tify th			d or	rk bro ganic	own, s	poorly	y gra	aded	SILT	w/ bi	ack		ML	f my kn		0								
Signat	ture	Logge	d by	Dan	lei R	. Joh	nsor		1.	1-	- fla	u h	H	Firm	Nati	ural Res	ource	Techn	olog	ЗУ						
This f than s or bot	ormisa 610 nor chfore	authori more f ach vi	zed t than olatic	>y C \$5,0	hap)00 Eac	ters for e h day	144. ach v of	147 ai violat conti	nd 1 tion. nue	62, ¥ Fin d vio	tis. S ned no lation	itats. ot les i is a	. Comp ss thar separ	oletion n \$10 oi ate off	of this r more fense,	s report than \$ pursua	is mai 100 or nt to s	ndator imprise is 144.9	y. F one 99 a	Pena d no ind	alties: ot less 162.06	Forfi than , Wis.	eit 30 Si	not les) days, tats.	s	

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

Superfund Other: Facility/Project Name License/Permit/Monitoring Number C-Sheboygan II Date Drilling Started Boring Drilled By (Firm name and name of crew chief) Date Drilling Started Date Drilling Completed Drilling	Method hee Sand	Page 1 of 1
Facility/Project Name License/Permit/Monitoring Number Boring Number C-Sheboygan II Date Drilling Started Date Drilling Completed Drilling Boring Drilled By (Firm name and name of crew chief) Date Drilling Started Date Drilling Completed Drilling	Method hee Sand	
Boring Drilled By (Firm name and name of crew chief) Date Drilling Started Date Drilling Completed Drilling	Method hee Sand	
NRT/WPSC 10/18/95 Ugeed		d Corer
DNR Facility Well No. WI Unique Well No. Common Well Name Final Static Water Level Surface Elevation Boreh <i>Feet MSL</i> 576.11 Feet MSL 2 inch	es es	ter
Boring Location Feet N Local Grid Location (if applicat	le)	
State Plane Feet E Long 268.29 feet ⊠ N 366.65 fee Sec. 23. TISN, R23E □ S □ S □ S □ S □ S		
County DNR County Code Civil Town/City/ or Village Sheboygan 60 Sheboygan		
Sample Soil Properties		
Ind Type Ind Type Ind Type Blow Counts Recovered (in) Depth in Inche Blow Counts Depth in Inche Blow Counts Blow Counts Blow Counts Depth in Inche Blow Counts Blow Counts Blow Counts Compressive Strength Content PID/FID Plagram	P 200	RQD/ Comments
2 0 2 0 0 0 8 -4 -4 ML 0 -6 -6 -7 -6 -7 -7 <t< td=""><td></td><td></td></t<>		
I hereby certify that the information on this form is true and correct to the best of my knowledge.		
Logged by Daniel R. Johnson Control Kontrol Natural Resource Technology		
This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not 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 da or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats	ess /s,	

Route To:

State of Wisconsin

Superfund Other: Pag Facility/Project Name Boring Number Boring Number Soring Number Normal Drilled By (Firm name and name of crew chief) Date Drilling Started Date Drilling Started Date Drilling Number DNR Facility Well No. VI Unique Well No. Common Well Name Final Static Nature View Boring Number DNR Facility Well No. VI Unique Well No. Common Well Name Final Static Nature View Boring Location Borehole Diameter DNR Facility Well No. VI Unique Well No. Common Well Name Final Static Nature View State Plane Borehole Diameter Sate Plane Feet N Lat Lat Long Coal Grid Location (ff applicable) State Plane Feet E Long Soil/Rock Description Soil Properties Soil Properties Sample Soil And Geologic Origin For Soil And Geologic Origin For Soil Properties Soil Properties Sample Soil And Geologic Origin For Soil And Geologic Origin For Soil Properties Soil Properties Sample Soil And Geologic Origin For Soil And Geologic Origin For Soil Properties Soil Properties Sample Soil Acck Description Nit Lat Soil Properties Soil Properties Sand rotsty With Aseen on the sound	itate of W Jepartmen	Visc nt o	onsin of Nat	ural F	lesources	Route	To: id Waste ergency Respon	ise [] Haz. V] Under] Water	Maste ground Resou	d Tanks Irces			SC Fo	DIL BC rm 44(RIN(00-12	3 LOG 2	INFO	RMATION Rev. 5-92
License/Permit/Monitoring Number Boring Number Boring Number Boring Number Boring Number Boring Number Boring Durilled By (Firm name and name of crew chief) Date Drilling Started Idea Drilling Completed Organization DNR Facility Mell No. N Unique Mell No. Common Mell Name Freet N Lat Surface Elevation Soft Cocs Feet MSL Boring Location State Pane Feet E Lat Local first cocation (fragolicable) Soil/Rock Description Soil/Rock Description Soil Properties Soil And Geologic Origin For Each Major Unit Soil Properties Soil/Rock Description And Geologic Origin For Each Major Unit Soil Properties Soil Properties Soil Properties Soil Properties Soil Properties Soil Properties							perfund	Ē] Other:	:									Page 1 of 1
Boring Drilled By (Firm name and name of crew chief) MRT/MPSC Dan Johnson Date Drilling Started IO/IT/95 Date Drilling Completed IO/IT/95 Date Drillin	Facility/Pro	ojec boy	ct Nan 'gan II	1 e [Licen	se/Pei	mit/Mon	itoring	I Numbe	er -	Boring SD-70	Numb 12A	er		
DNR Facility Well No. WI Unique Well No. Common Well Name Final Static Water Level Surface Elevation 576.02 Feet MSL Borehole Diameter 2 inches Boring Location State Piane See 23, TISN, R32E Feet N Feet E Lat Long Long of Countrol 1000 Local Gird Location (if applicable) 34.88 rete Z M A 36.87 rete Z E See 23, TISN, R32E Sampler Sheboygan Sampler 90 DNR County Coole 90 DNR County Coole 90 Civil Town/City or Village Sheboygan Sampler 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90<	Boring Drill NRT/WPSC	led 1	By (F	irm na	me and name of	crew	chief)		Date 10/17/	Drilling 195	Starte	D	Date E 10/17/3	Drilling 95	Comple	ted	Drilling I Ogeech	lethod ee San	nd Corer
Boring Location State Plane Sec 23, TISM, R23E Feet N Feet E Lat Long Local Grid Location (if applicable) 434.80 feet X / 436.87 feet X E Sec 23, TISM, R23E DNR County Sheboygan DNR County Code 60 Civil Town/City/ or Village Sheboygan Sample Soil/Rock Description And Geologic Origin For Each Major Unit Soil/Rock Description Each Major Unit Soil Properties V 41 Optime Sheboygan Soil And Geologic Origin For Each Major Unit Soil Properties Sign 0 Sign 0 Sig	DNR Facilit	ty W	ieli No.	. WI	Unique Well No.		Common Well Na	ame	Final Feet	Static MSL	Water L	.evei	Surfac 576.02	e Elev Feet	ation MSL		Borehol 2 inche:	e Diamo s	eter
DNR County Code Sheboygan Civil Town/City/ or Village Sheboygan Sample and County Sheboygan Soil/Rock Description And Geologic Origin For Each Major Unit Soil/Rock Description Soil Properties Soil/Properties and Geologic Origin For Each Major Unit Soil Properties Soil Properties Soil Properties Soil Properties Soil Properties and Geologic Origin For Each Major Unit Soil Properties Soil Properties Soil Properties and roots) with sheen on the sounding pole and water after measuring depth to sediment ML Soil Properties 18.75 6 ML Information of the sounding pole and water after measuring depth to sediment ML 18.75 10 10 10 10 10 11 11 11 11 11 11	Boring Loca State Plana Sec 23. Ti	e 15N	on . <i>R23E</i>				Feet N Feet E		Lat Long	•	_		Local (434.	Grid Lo 88 fee	$t \boxtimes N$	(if ap 436.0	o plicable 87 feet	:) ⊠ E □ ₩	
Sample Soil/Rock Description Soil/Rock Description Soil/Rock Description add for the base of the bas	County Sheboygan	n	, 11202					DNR 1 60	County	Code	Civil To Sheboy	wn/Cl ygan	ty/ or `	Village					
a y <td>Sample</td> <td></td> <td></td> <td>s</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>T</td> <td></td> <td></td> <td></td> <td>Soil</td> <td>Prope</td> <td>erties</td> <td></td> <td></td>	Sample			s							T				Soil	Prope	erties		
16.75 10 12 fine tan SAND, 3mm thick w/ slight odor 14 Grk. tan as above	Number and Type Length Att. & Berovered (in)	Hecovered (IN)	Blow Counts	Depth in Inche	A A	Soil/Ro nd Geo Eacl	ck Description Nogic Origin For h Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
EOB @ 16.75"	16.75	5		-2 -4 -6 -10 -12 -14 -16 -18	fine tan <u>SAN</u> drk. tan as	ND, 3mm above	thick w/ slight o	dor		SP			1667						
Image: Signature Logged by Danlel R. Johnson Image: Signature Firm Natural Resource Technology	I hereby co Signature	erti: Lo	ify tha	18 20 22 22 10 22 18 20 - - - - - - - - - - - - - - - - -	information on t anlel R. Johnson	his for	m is true and co	prrect	to the Firm	Dest c	f my kn	owled(ge. Techn	plogy					

State Depar	of Wis tment	sconsii of Na	n Itural	Resources	Route So Em Wa	: To: lid Waste lergency Respor stewater	ise] Haz. N] Under] Water	Waste ground Resou	d Tanks urces			SC Fo	DIL B orm 44	0 RIN 400-1	IG LC 122)G I	INFOI	RMATION Rev. 5–92
Facili	ty/Pro	ject Na	me					Licen	: se/Per	mit/Mor	nitoring) Numbe	.	Borin	g Num	ber			Page 1 of 1
Boring NRT/I Dan J	-Shebi Drille WPSC Johnsor	d By (firm na	ame and name	of crew	chief)		Date 10/17/	Drilling /95	l Starte	d	Date D 10/17/5)rilling 95	Compl	eted	Driili Ogeo	ng M eche	ethod e San	nd Corer
DNR F	acility	Well N	o. W	I Unique Well No).	Common Well Na	ame	Final Feet	Static MSL	Water	Level	Surfac 575.52	e Elev Feet	ation MSL		Bore 2 inc	hole ches) Diamo	eter
Boring State Sec	2 Loca Plane 23, T15	tion 5N, R23	E			Feet N Feet E		Lat Long	•			Local (Grid Lo	cation □ A □ S	n (if a	plica	able) [[] <i>E</i>] <i>N</i>	
Count Sheba	y oygan	,		1			DNR (60	County	Code	Civil To Shebo	ygan	ty/ or '	Village	·			_		
Sar	nple	-	hes											So	oil Prop	bertie:	s		
Number and Type	Length Att. & Recovered (ir	Blow Counts	Depth in Inc				nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture	Liquid	Limit Plasticity	Index	P 200	RQD/ Comments		
	15.25		2 4 4 10 12 14 10 12 14 14 14	2" med-cr remnants	n, poorly (black I I tar odd I tar odd s. <u>SANE</u>	graded <u>SILT</u> w/ eaves & roots) wi or Lw/ tr. gravel, br	achiopo	bd	ML			0							
I here	by cei	rtifv th	16 18 20 22 at the	EOB @ 15.	25"	rm is true and co	prrect	to the	best		powled	ge.							
Signa	ture	Logge	d by D	aniel R. Johnso		il-hou	the	Firm	Nati	ural Res	source	Techno	ology						

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.

	Route To:		SOIL BORING LOG INF	ORMATION
es	Solid Waste	☐ Haz. Waste ☐ Underground Tanks ☐ Water Resources	Form 4400-122	Rev. 5-92
	Superfund	🗆 Other:		Page 1 of 1

Facili SC	ty/Pro j – <i>Shebc</i>	ect Name ygan II	•				Licens	se/Per	mit/Mon	ltoring) Numbe	ត	Boring	Numbe	er		
Boring NRT/ Dan J	Drillec WPSC Iohnson	I By (Fir	m na	me and name of crew	chief)		Date 10/17/	Drilling 195	Starte	d	Date [10/17/3	illing 95	Comple	ted	D rilling Ogeech	lethod ee San	d Corer
DNR F	acility	Well No.	WI	Unique Well No.	Common Well Na	me	Final S	Static MSL	Water L	.evel	Surfac 574.11	e Elev Feet N	ation ISL	1	Borehol 2 inches	e Diamo ;	eter
Boring State Sec	Locat Piane 23, T15	ion V, <i>R23E</i>			Feet N Feet E		Lat Long	•		:	Local 384.	Grid Lo 46 fee	t \boxtimes N	(if ap 483.7	plicable 72 feet) Øe •	
Count Sheba	y oygan					DNR (60	County	Code	Civil To Sheboy	wn/Ci /gan	ty/ or `	Village					
Sar	nple		sə										Soi	Prope	rties		
Number and Type	Length Att. & Recovered (ir	Blow Counts	Depth in Inch	Soil/Ro And Ge Eac	ock Description ologic Origin For :h Major Unit			nscs	Graphic Log	Weli Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	15		- 2 - 4 - 6 - 10 - 12 - 14	poorly graded, dar	k brown <u>SILT</u>			ML			1.2						
I here Signa	by cer ture	tify that	16 18 20 22 the by Da	EOB @ 15"	m is true and co	rrect t	o the t	Dest o Natu	f my kno	owled	ge. Techn	plogy					
This f than s or bot	ormisa \$10 nor thfore	nuthorize more tha ach viola	d by an \$5 ation.	Chapters 144.147 and ,000 for each violation Each day of continu	1 162, Wis. Stats. on. Fined not les Jed violation is a	Comp s than separa	oletion (\$10 or ate off	of this more ense,	report than \$1 pursuar	is ma 100 or ht to s	ndatory impriso is 144.9	/. Pen ned no 9 and	alties: ot less 162.06,	Forfeil than 3 Wis. 9	: not les 0 days, Stats.	5	

State of Wisconsin Department of Natural Resource

Page 1 of 1

State	of Wis	consi	n		Route	To:	г	-					SC	DIL BO	RING	S LOG	INFO	RMATION
Depar	tment	of Na	itural	Resources		lid Waste Iergency Respon	use ⊑] Haz. V] Under	Naste aroun	d Tanks			Fo	rm 440	00-12	2	I	Rev. 5-92
					🗌 Wa	stewater		Water	Reso	irces								
					L Su	perfund	L	J Other:										Page 1 of 1
Facilit SC	y /Proj -Shebo	ect Na	ime II					Licens	se/Pei	mit/Mon	ltoring	Numbe	<u>अ</u>	Boring SD-70	Numbe 3A	er		
Boring NRT/I Dan J	Drille VPSC ohnson	d By (i	Firm r	name and name	of crew	chief)		Date 10/18/	_ Drilling /95	Starte	d	Date D 10/18/9	Drilling 95	Comple	ted [Drilling N Ogeechi	lethod ee San	nd Corer
DNR F	acility	Well N	o. ¥	I Unique Well N	l o.	Common Well Na	ame	Final : Feet	Static MSL	Water I	.evei	Surfac 576.36	e Elev Feet	ation MSL		Boreholi 2 inches	e Diame	eter
Boring State	j Locai Plane	tion				Feet N Feet E		Lat Long	•			Local (519.2	Grid Lo 24 fee	t $\boxtimes \mathbb{N}$	(if ap 528.	plicable 71 feet) ⊠ <i>E</i>	
Count	23, 715 y	N, R231	E				DNR (County	Code	Civil To	wn/Cii	ty/ or \	Village	<u> </u>			<u> W</u>	
Snebo	yyan		1			-	60				yan 		1		D			
Sar			hes											Soil	Prope	rties		ł
Number and Type	Length Att. & Recovered (i	Blow Counts	Depth in Inc		Soil/Ro And Geo Eac	ock Description ologic Origin For :h Major Unit			nscs	Graphic Log	Well Dìagram	PID/FID	Compressive Strength	Maisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
- 10				loose dar	k brown, j	poorly graded <u>SIL</u>	Iw/											
))				dense da organics	rk brown,	poorly graded <u>SI</u>	<u>LT w/</u>		ML									
	19		8									72 7						
				Black COA	AL TAR wi	ith very strong od	ior											
			 14						TAR									
			- - -															
			- - -))	, "													
				2														
.			<u>F</u>															
1 here	by cer	tity th	at th	e information or	n this for	$\frac{1}{\sqrt{2}}$ / $\frac{1}{\sqrt{2}}$	prrect	to the l	pest c	n nny kn	owledg	je						<u> </u>
l aiðua.		Logge	dby	Daniel R. Johnso	n S	inf. from	æt k		Nat	ural Res	ource	Techno	ology 					
This f	ormisa 510 nor	authori more f	zed t than s	⇒y Chapters 144 \$5,000 for eac	1.147 and h violatic	1 162, Wis. Stats on. Fined not le:	. Comp ss th <mark>a</mark> r	oletion 1 \$10 or	of thi: · more	s report than \$'	is mar 100 or	ndatory impriso	/. Pena ned no	alties: f ot less	Forfeit than 3	not les 0 days,	S	

or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

	ot Nom	•		Derfund	L	Ucon				a Numbr		Parlag	Numb			Page 1 of
SC-Shebo	ygan II	5				Licen	se/rei	MIL/MOI	litorini		er	SD-70	38	er		
Boring Drilled	i By (Fi	n nər	ne and name of crew	chief)		Date 10/18/	Drilling /95) Starte	d	Date D 10/18/3	Drilling 95	Comple	ted	Drilling I Ogeech	Method ee Sar	nd Corer
DNR Facility	Weil No.	WI	Unique Well No.	Common Well N	BMe	Final S	Static MSL	Water I	Level	Surfac 575.77	e Elev	ation MSL		Borehol	e Diam	eter
Boring Locat State Plane				Feet N Feet E		Lat Long	•			Local 486	Grid Lo .12 fee		(if ec 559	oplicable 38 feet	e) ⊠ E	
County Sheboygan	, <u>1120</u>				DNR (County	Code	Civil To Shebo	own/C l ygan	ity/ or '	Villiage	<u> </u>				
Sample		ŝ			I						_	Soil	Prope	erties		
umber d Type ingth Att. & scovered (in)	ow Counts	epth in Inche	Soil/Ro And Geo Eac	ock Description blogic Origin Fol h Major Unit			scs	aphic	eli aqram	D/FID	ompressive trength	bisture ontent	quid	asticity dex	200	дD/ omments
		- 2 - 4 - 6 - 10 - 12	loose, dark brown, organics, (black roo	poorly graded <u>S</u> ots & leaves)	<u>(LT</u> w/		50	-0 -0		4.7	2.22	W CC		Plu I	<u>.</u>	
hereby cer	Lify that	- 16 - 18 - 20 - 22	EOB @ 14"	m is true and c	orrect	to the I	Dest c	f my kn	owled	ge.						

State of Wisconsin Department of Natural Resources

Route To:
🗆 Solid Waste
Emergency Response
□ Wastewater
Superfund

Haz. Waste Underground Tanks Water Resources Other:

SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-92

				L 5	upertuna	I	Uther:										Page 1 of 1
Facilit C·	y/Proj Shebo	ect Nar ygan I.	ne I				Licens	se/Per	mit/Moni	Itoring	g Numbe	H.	Boring SD-70	Numbe 3C	er		
Boring NRT/F Dan J	Drillec VPSC ohnson	By (F	irm na	ame and name of crew	v chief)		Date 10/18/	Drilling '95	Starte	d	Date D 10/18/9	95	Comple	ted I	Drilling N Ogeechd	lethod ee San	d Corer
DNR F	acility	Well No	. W3	Unique Well No.	Common Well Na	me	Final : Feet	Static MSL	Water L	evel	Surfac 574.86	e Elev Feet	ation MSL	1	Borehois 2 inches	e Diame	eter
Boring State Sec 2	Locat Plane 23, T151	ion V, <i>R23E</i>			Feet N Feet E		Lat Long	•			Local 1 462	Grid Lo 2.6 feei	cation t 🛛 N 🗌 S	(if ap 581.	plicable 12 feet) ⊠e ⊒n	
Count Sheba	y oygan	_				dnr (60	County	Code	Civil To Sheboy	w n/C i /gan	ity/ or \	Village					
San	ple		s								-		Soil	Prope	rties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inche	Soil/f And G Ea	Rock Description eologic Origin For ach Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RGD/ Comments
I here Signa	23 by certure	tify the	2 4 6 10 12 14 16 18 20 22 22 1 by D	Dark brown, poor & organics, (roots EOB € 23" = information on this f	orm is true and co	tr. gra	to the Firm	ML Dest c	if my kn	owlec	8.1 Ige.	ology					
This f	orm is a \$10 nor	Logged Buthoriz more t	t by D ced b han \$	Y Chapters 144.147 and 15,000 for each violation	nd 162, Wis. Stats	. Comp ss thar	 Dietion h \$10 o	of this r more	report than \$	is ma	ndatory indatory	y. Pen	alties: ot less	Forfei than 3	t not les 30 days		
or bo	th for e	each vio	olation	n. Each day of conti	nued violation is a	separ	ate of	fense,	pursuar	nt to	ss 144.8	99 and	162.06	, Wis. 🗄	Stats.		

F acili	y/Proj - <i>Shebo</i>	ect Na Iygan 1	me 7				Licens	e/Per	mit/Mon	Itoring	Numbe	er 🛛	Boring SD-70	Numbe 3D	r		Page 1 of
Soring VRT/I Dan J	g Drillec WPSC Johnson	iby (f	Firm n	name and name of crew	chief)		Date D 10/20/)rilling '95	Starte	d	Date D 10/20/	Irilling ('95	Complet	ted [)rilling M)geeche	lethod ee San	d Corer
onr f	acility	Well No). W	iI Unique Well No.	Common Well Na	me	Final S Feet	Static MSL	Water L	.evel	Surfac 574.02	e Eleva ? Feet	ation MSL	E	Borehole ? inches	e Diame	ter
Soring State Sec .	J Locat Plane 23, T151	lon V, <i>R231</i>	L		Feet N Feet E		Lat Long	•			Local (440.	Grid Lo .19 feel	cation N	(if ap) 600.6	oli cable) 9 feet [[) 	
Count Sheba	y oygan					DNR C 60	ounty (Code	Civil To Sheboy	w n/Cl i /gan	y/ or '	Village		_			
Sar	nple		sər					· · · · ·					Soil	Prope	rties		
number and Type	Length Att. & Recovered (in	Blow Counts	Depth in Inch	Soil/Re And Ge Eac	ock Description ologic Origin For :h Major Unit			NSCS	Graphic Łog	Well Diagram	P1D/F1D	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				dark brown, poorly	graded <u>SILT</u> w/ (organics	i	ML									
.)	10		4	dark brown med. t gravel	o coarse <u>SAND</u> w	/ tr.		SP			13.6						
•			10 12 12 14 14 16 18 18 18 10 10 10 10 10 10 10 10 10 10 10 10 10	EOB & 10"													
here ignat	by cer ture	tify the	22 	e information on this for Danlel R. Johnson	rm is true and co	orrect to	o the b Firm	est o Nati	f my kno Iral Res	owledg ource	je. Techna	plogy					

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	f Wis	consin		_	Route	To:		.					S	DIL E	IORI	NG	LOG	INFO	RMATION
Departm	ient	of Nat	ural I	Resource	25 🗆 Sol	id Waste ergency Respor stewater perfund	ise] Haz. N] Under] Water] Other	daste ground Resou	d Tanks Irces			Fo	orm 4	400-	122		I	Rev. 5–92
F=cllity/	/Proje	ect Nan	ne		<u></u>			Licen	se/Per	mit/Mor	hitoring) Numbe		Borin	g Nur	nber			Page 1 of 1
<u>)C-S</u>	hebo	ygan II	t											SD-7	'04A				
Boring D NRT/WPS Dan Joh	Drilled SC Inson	i By (F	irm na	ame and na	ame of crew	chief)		Date 10/18/	Drilling /95	Starte	đ	Date D 10/18/3	95	Comp	eted		rilling M geeche	lethod ee San	d Corer
DNR Fac	cility	Well No	. WI	Unique W	ell No.	Common Well Na	ame	Final Feet	Static MSL	Water I	Level	Surfac 576.61	e Elev Feet	ration MSL		B 2	orehole inches	e Dlame	eter
Boring L State Pl Sec 23,	.ocat ane , <i>T151</i>	ion V, <i>R23E</i>	•			Feet N Feet E		Lat Long	•			Local (592.0	Grid L i 87 fee	ecatio et⊠∧ ⊡S	n (lf / 61 }	app 3.87	licabie) <i>feet</i> []) ⊠ <i>E</i> ⊒∦	
County Sheboyg	gan						DNR (60	County	Code	Civil To Shebo	ygan	ty/ or \	Village	2					
Sampl	le		es											So	oil Pro	per	ties		
Number and Type	Recovered (in)	Blow Counts	Depth in Inch		Soil/Ro And Geo Eac	ock Description plogic Origin For h Major Unit			nscs	Graphic Log	Welt Diagram	PID/FID	Compressive Strenath	Moisture	Liquid	Limit	Plasticity Index	P 200	RQD/ Comments
	7.5		2 4 6 10 12 14 16 18 20 22	dark & org. as at	brown, poorly anics, (leaves bove w/ cinder	graded <u>SILT</u> w/ S roots)	tr. grav	rel	ML. Cinder			7.1							
I hereby	/ cer	tify tha	t the	informatio	on on this for	m is true and co	orrect t	o the i	best o	∣ fmykn	owledg	ge.							I
Signatur	e l	ogged	by Di	aniel R. Jo	ohnson	il-koa	£,	Firm	Natu	ıral Res	ource	Techno	ology						

۱. بر

Ś

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 Depar	of Wis tment	consii of Na	n tural	Resources	te To: iolid Waste] Haz. I	Waste	d Tonka			SC Fo	OIL BC	0 RINO 00-12	5 LOG 2	INFO	RMATION Rev. 5–92
					lastewater Superfund		Water	Resou Resou	Irces								Page 1 of 1
Facilii C	y/Proj -Shebc	ect Na Iygan J	me II		,		Licen	se/Pei	mit/Mon	ltoring	g Numba	<u>अ</u>	Boring SD-70	Numbe 48	er		
Boring NRT/I DanJo	Drilled VPSC hnson	By (i	Firm r	ame and name of cre	w chief)		Date 10/18,	Drilling /95	Starte	d	Date 1 10/18/	Drilling 95	Complet	ted	Drilling I Ogeech	lethod ee San	d Corer
DNR F	acility	Well No	o. 🕨	II Unique Well No.	Common Well N	ame	Final Feet	Static MSL	Water i	.evel	Surfac 575.44	e Elev 4 Feet	ation MSL	[Borehol 2 inche:	e Diam o s	eter
Boring State	Locat Plane 23. T15	lon V. <i>R231</i>	E		Feet N Feet E		Lat Long	•		-	Local 568	Grid Lo 3.8 fee	$\frac{1}{D} \sum_{i=1}^{D} \frac{1}{i} \sum_{i=1}^{D} \frac{1}$	(If ap 635.0	plicable)2 feet	:) ⊠ <i>E</i> □∦	
Count Sheba	y bygan		-			DNR (60	County	Code	Civil To Sheboy	w n/Cl /gan	ity/ or '	Village					
Sar	nple		s	-		1	_						Soil	Prope	erties		
umber d Type	ngth Att. & covered (in)	ow Counts	epth in Inche	Soil/ And G Ei	Rock Description eologic Origin Foi ach Major Unit	r		scs	aphic	eli aqram	D/FID	ompressive rength	bisture ontent	quid nit	asticity dex	200	gD/ omments
źś	Re		ŏ					- S	53			ដ ភ	žŭ	ΞΞ	a r	٩	ž č
· ·	23			Coal Tar				TAR			43.1						
			E	EOB @ 23"					_								
I here	by cer	tify th	at th	e information on this f	orm is true and c	orrect	to the	best c	of my kn	owled	ge.	1	1	1	1		
Signat	ure I	ogged	d by i	Daniel R. Johnson	-P-kan	ff.	Firm	Nat	ural Res	ource	Techn	ology					
This f	ormisa S10 nor	authori more t	zed b than s	y Chapters 144.147 a \$5,000 for each viola	nd 162, Wis. Stats ion. Fined not le	s. Comp ess thar	pletion n \$10 oi	of this r more	s report than \$	is ma 100 or	ndatory imprise	y. Pen oned n	alties: F ot less	⁻ orfeit than 3	not les 0 days,	s	

.

100.000

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 Depar	of Wis tment	consir of Na	tural	Rou Resources S E Resources S Rou Rou Rou Rou Rou Rou Rou Rou Rou Rou	te To: Solid Waste Emergency Respoi Vastewater	nse [] Haz. N] Under] Water	Waste groun Reso	d Tanks urces	i		S(F c	OIL BO	00-12	G LOG	INFO	RMATION Rev. 5-92
					Superfund	Ľ] Other	:									Page 1 of 1
Facilit }C	t y/Proj - <i>Shebc</i>	<mark>ect Na</mark> oygan 1	m e 7				Licen	se/Pei	rmit/Mor	hitoring	g Numbe	er	Boring SD-70	Numb 1940	er		
Boring NRT/I Dan J) Driile WPSC Johnson	i By (F	Firm na	ame and name of cre	w chief)		Date 10/18/	Drilling /95	g Starte	d	Date [10/18/	Drilling 95	Comple	ted	Drilling I Ogeech	lethod ee San	nd Corer
DNR F	acility	Well No). WI	i Unique Weli No.	Common Well N	ame	Final Feet	Static MSL	Water I	_evel	Surfac 574.36	e Elev Feet	MSL		Borehol 2 inche:	e Dlame s	eter
Boring State Sec	Piane 23, T15	l on N, R23E	Ŧ		Feet N Feet E		Lat Long	•			Local <i>525.</i>	Grid Lo 52 fee	cation ≥t⊠N □S	(If ap 672.	plicable 81 feet) e n	
Count Sheba	y oygan					DNR (60	County	Code	Civii To Shebo	own/Cl ygan	ty/ or `	Village	-	_			
Sar	nple		es										Soil	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inch	Soil/ And G E	Rock Description eologic Origin Foi ach Major Unit	r		nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RGD/ Comments
))	21		2 4 6 8 10 12 14 16 18 20 22	dark brown, pool (roots & leaves) weli graded fine	to coarse <u>SAND</u>	organic	s, 	SP			6.4						
I here	by cer	tifv th	 at the	information on this f	orm is true and c	orrect	to the !	best	of mivike	owled	ge.						
Signa	ture	Logged	l by D	aniel R. Johnson	il-hari	H	Firm	Nat	ural Res	ource	Techn	ology					
This f than s or bot	ormisa 610 nor :hfore	authori; more t each vio	zed by han \$ platior	/ Chapters 144.147 a 5,000 for each viola 1. Each day of conti	nd 162, Wis. Stats tion. Fined not le nued violation is a	s. Comp ess than a separ	pletion n \$10 oi ate off	of this r more fense,	s report than \$ pursuar	is ma 100 or ht to s	ndatory imprisc ss 144.9	y. Pen oned n 39 and	alties: 1 ot less 162.06,	Forfeit than 3 Wis. 9	t not les 30 days, Stats.	S.	

State of Wisco	nsin	
Department of	Natural	Resources

Route To:
🗖 Solid Waste
🗌 Emergency Respo
🗌 Wastewater
C Superfund

Haz. Waste Donse Underground Tanks Water Resources Other:

SOIL BORING LOG INFORMATION Form 4400-122

Rev. 5-92

Sec. Sec.

acilit	y/Proje Shebo	ect Nam ygan II	e				Licens	e/Per	mit/Moni	toring	g Numbe	r	Boring SD-70	Numbe 5A	er .		
ioring IRT/M an Ju	Drilled IPSC ohnson	By (Fi	rm na	me and name of crew	chief)		Date 10/19/	Drilling '95	Starte		Date D 10/19/9	rilling (95	Complet	ted i	D rilling N Ogeeche	lethod ee San	d Corer
NR F	acility	Well No.	WI	Unique Well No.	Common Well Na	me	Final : Feet	Static MSL	Water L	evel	Surfac 575.86	e Eleva Feet	ation MSL		Borehole 2 inches	e Dlam ;	eter
oring	Locat	on			Feet N		 +				Local (Srid Lo	cation	(if ap	plicable)	
ate ec 2	Piane ?3, T151	N, R23E			Feet E		Long	•			658.4	18 feel	!⊠ N □ S	704.4	13 feet [⊠ E ⊒ ₩	
ebc	y gan					DNR 0 60	County	Code	Civil To Sheboy	wn/Ci ⁄gan	ity/ or \	/illage					
Sar	ple		ŝ										Soil	Prope	rties		
and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inch	Soil/F And Ge Ea	ock Description eologic Origin For ch Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquiđ Limit	Plasticity Index	P 200	RQD/ Comments
2			-2	black, poorly grad gravel	led <u>SILT</u> w/ organi	cs & tr.											
·)	14		- 4 - 6 - 8 - 10 - 12	tan, poorly grade	d <u>SILT</u> , dense			ML			4.7						
			-14 	EOB @ 14"													
here		tify the	- - 1 the	information on this f	orm is true and co	orrect	to the	best	of mv kn	owled	lae.						
gna	ture	Logged	by D	aniel R. Johnson	2 Alesend	J.	Firm	Nat	ural Res	ourci	e Techn	ology					

State Depar	of Wis tment	of Na	n tural	Resources	Route	To: d Waste ergency Respor	nse [] Haz. N] Under	Waste rground	d Tanks	5		SC Fo	IL BC rm 44)RING 00-12	3 LOG 2	INFO	RMATION Rev. 5-92
<u> </u>						erfund		Other			<u> </u>							Page 1 of
l.F acili t ∂ <i>C</i> ∙	-Sheb	ect Na oygan .	me II					Licen	se/Per	mit/Mor	hitoring	g Numbe	er	SD-70	Numde)58	er		
Boring	g Drille WPSC Johnsor	d By (i	Firm na	ame and name o	of crew o	chief)		Date 10/19/	Drilling /95	Starte	ed	Date D 10/19/3	Drilling (95	Comple	ted	Drilling N Ogeech	lethod ee Sar	nd Corer
DNR F	acility	Weli N	o. W]	[Unique Well No		Common Well N	ame	Final Feet	Static MSL	Water I	Level	Surfac 574.11	Feet M	ation ISL	,	Borehole 2 inches	e Diam	eter
Boring State	J Loca Plane 23, T15	tion N, R23	L_ E			Feet N Feet E		Lat Long	•			Local	Grid Lo	cation N	(if ap	plicable		
Count Sheba	y bygan	-					DNR (60	County	Code	Civil To Shebo	own/Cl ygan	ty/ or '	Village					
San	nple		s	$\overline{}$			<u> </u>							Soi	Prope	erties		
Number nd Type	ength Att. & Recovered (in)	Blow Counts	Jepth in Inche		Soil/Ro And Geo Eact	ck Description logic Origin Foy n Major Unit	r		SDS	Graphic -og	Vell Diagram	10/FI0	Compressive Strength	Moisture Content	-iquid imit	lasticity Index	200	30D/ Comments
			2 4 4 10 11 12 14 10 12 14 16 18 20 22 12 14 16 18 10 12 14 16 18 10 12 12 14 10 12 12 14 10 10 12 12 14 10 10 10 10 10 10 10 10 10 10	dark brown as above w Coal Tar	/ coal ta	graded, <u>SILT</u> w/	lor		ML TAR			23.9						
I here	by cei	rtify th	at the	information on	this for	n is true and co	orrect	to the	best o	f <u>my</u> kn	owled	ge.	1	±			<u> </u>	<u> </u>
Signat	ture	Logge	d by D	aniel R. Johnsor	In	Phona	H	Firm	Natu	ıral Res	ource	Techn	ology					
This for than \$	orm is 610 nor	authori more f	zed by	/ Chapters 144. 5,000 for each	147 and violatior	162, Wis. Stats n. Fined not le	s. Comp ss thar	oletion n \$10 or	of this r more	report than \$	is ma 100 or	ndatory impriso	/. Pena	alties: i ot less	- orfeit than 3	i not les 10 days,	;S	

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 Depar	of Wis tment	consi of Na	n atural	Route Resources Dol Em Wa	To: Iid Waste ergency Respon stewater	ise] Haz. N] Under] Water	vlaste groun Reso	d Tanks urces			SC Fc	DIL BO orm 44()RIN(00-12	G LOG	INFO	RMATION Rev. 5-92
				🗆 Sut	perfund] Other	:								_	Page 1 of 1
Facili GC	ty/Pro -Shebo	<mark>ect Na</mark> oygan	ime II				Licen	se/Pei	mit/Mor	ltoring	y Numba	er	Boring SD-70	Numd 95C	er		
Boring NRT/I Dan J	g Drille WPSC Iohnsor	j By (Firm na	ame and name of crew	chief)		Date 10/19/	Drilling /95	l Starte	d	Date [10/19/	Drilling 95	Comple	ted	Drilling I Ogeech	lethod ee Sar	nd Corer
DNR F	acility	Well N	o. W	I Unique Well No.	Common Well Na	ame	Final Feet	Static MSL	Water I	.evei	Surfac 573.77	e Elev Feet	ation MSL		Borehol 2 inche:	e Diam	eter
Boring State	Piane		 }_		Feet N Feet E		Lat Long	٠			Local 586.	Grid Lo .01 fee	$t \boxtimes N$	(if ap 743.0	oplicable 02 feet) 	
Count	20, 110 :y oygan	<u>, 12</u>				DNR (County	Code	Civil To Shebo	w n/Ci ygan	ty/ or '	Village					
Sar	npie		s:								1		Soil	Prope	erties		
Number and Type	Length Att. G Recovered (in)	Blow Counts	Depth in Inche	Soil/Ro And Geo Eac	ock Description blogic Origin For h Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid	Plasticity Index	P 200	RgD/ Comments
			2 4 4 10 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 12 14 10 10 10 12 10 10 10 10 10 10 10 10 10 10	Coal Tar	graded <u>SILI</u> w/	organic	S	ML			18.5						
I here	eby cer	'tify th	hat the	information on this for	m is true and co	prrect	to the l	best c	if my kn	owledg	ge.						<u> </u>
Signa	ture	Logge	d by D	anlei R. Johnson	il. hond	H	Firm	Nat	ural Res	ource	Techn	ology					
this f than s or bot	ormis \$10 nor thfore	authori more each vi	ized by than \$ iolatior	y Chapters 144.147 and 5,000 for each violatio h. Each day of continu	n: Fined not les n: Fined not les ed violation is a	. Comp ss thar i separ	oletion h \$10 or ate off	ot this more ense.	s report than \$ pursuar	is mai 100 or 11 to s	ndatory impriso is 144.9	/. Pen ined ni 19 and	alties: F ot less 162.06	orfei than 3 Wis.	t not les 30 days, Stats.	S	

					∟Em □Wa □Su	ergency Respo istewater perfund	onse L] Under] Water] Other:	ground Resou	I Tanks rces								Page 1 c
Facilit SC·	t y/Pro - <i>Sheb</i>	ject N a oygan	ame II					Licens	e/Per	mit/Mon	itoring) Numbe	a	Boring SD-70	Numb SD	er		
Boring NRT/I Dan J) Drille WPSC Johnsol	d By	Firm	name and name of	crew	chief)		Date 10/19/	Drilling 195	Starte	d	Date [10/19/3	Drilling 95	Comple	4400-122 ring Number -705D ipleted Drilling Ma Ogeeche in Borehole 2 inches ion (if applicable) N 752 feet 2 Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties tuation Soil Properties Soil Proper	lethod se San	d Corer	
dnr f	acility	Well N	I o.	NI Unique Well No.		Common Well M	lame	Final : Feet	Static MSL	Water l	evei.	Surfac 574.61	e Elev Feet i	ation MSL		Borehole 2 inches	e Diame	_ ∋ter
Boring State	Loca Plane	tion 5N. R23	E			Feet N Feet E		Lat Long	•			Local 568	Grid Lo 42 fee	$\frac{1}{t \boxtimes N}$	Image: Number 705D Pieted Drilling Mi Ogeeche Image: Ogeeche I) 		
Count Sheba	y bygan						DNR 0 60	County	Code	Civil To Sheboy	w n/Ci /gan	ty/ or '	Village					
San	nple	-	es											Soil	Prop	erties		
Number and Type	Length Att. & Recovered (ir	Blow Counts	Depth in Incl	Al	oil/Ro nd Ge Eac	ock Description ologic Origin Fo :h Major Unit) Dr		NSCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2	dark brown (SILT.				ML									
)	10		111 4 1111 6	tan, medcr	s., <u>SA</u> I	<u>-</u>			SP			7.3						
		-) EOB @ 10''														
			1 16															
															BORING LOG II 4400-122 Image: Solution of the second seco			
				-														
I here	by ce	ı rtify tr	hat th	e information on t	nis foi	rm is true and o	correct t	o the t	est o	f my kn	owled	ge.					·	<u> </u>
Signat	ture	Logge	d by	Daniel R. Johnson	5	- //	4	Firm	Natu	ral Res	ource	Techn	ology					

or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.		,000 for cucit fiolation.				
	or both for each violation.	Each day of continued	l violation is a separate offen	ise, pursuant to ss	144.99 and 162.06, Wi	s. Stats

					perfund		Other	:									Page 1 of
Facili SC	t y/Pro j -Shebo	ect Na oygan	me II				Licens	se/Per	mit/Mor	ltoring	y Numba	at in the second se	Boring SD-70	Numb 95E	er	-	
Boring NRT/ Dan J	g Drilled WPSC Iohnson	By (- Firm nai	me and name of crew	chief)		Date 10/19/	Drilling /95	j Starte	đ	Date D 10/19/9)rilling (95	Comple	ted	Drilling I Ogeech	lethod ee Sar	nd Corer
DNR F	acility	Well N	o. WI	Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water I	_evel	Surfac 575.86	e Eleva Feet	ation MSL		Borehol	e Diam	eter
Borin	g Locat	lon	<u>-</u>		Feet N		 1.94				Local (Grid Lo	cation	(if ap	plicable)	
State Sec	23, T15	N, R23	E		Feet E		Long	•			539.8	58 feel	!⊠ N □ S	767.8	58 feet	⊠ <i>E</i> □∦	
Count Sheb	: y oygan					DNR (60	County	Code	Civil To Sheboy	ygan	ty/ or \	Village					
Sa	nple		es										Soil	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Inch	Soil/R And Ge Eac	ock Description ologic Origin For :h Major Unit			nscs	Graphic Log	Well Diagram	PID/FIO	Compressive Strength	Molsture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2	Dark brown, poorly	graded <u>SITL</u> w/	organic	s	ML									
}	8.5		4	Dark brown, med	crs. <u>SAND</u> w/ she	lls		SP			7.5						
			10 12 11 14 16 18 20	EOB @ 9.5"													
I here	Bark brown, poorty graded SITL w/ organics ML B.5 Bark brown, medcrs. SAND w/ shells 7.5 B.5 Bark brown, medcrs. SAND w/ shells 7.5 B.6 SP 7.5 Bark brown, medcrs. SAND w/ shells 7.5 B.6 SP 7.5 Bark brown, medcrs. Sand w/ shells 7.5 Bark brown, medcrs.																
Sample Soil Properties Sample 501 Properties add properties 501 Properties add properis 501 Properties <td></td>																	

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.

Form 4400-122

State of Wisconsin
Department of Natural Resources

noute io.
🗆 Solid Waste
Emergency Response
□ Wastewater

Haz. Waste

Route To:

State Depa	of Wis rtment	sconsi of Na	n Itural I	Resources	Route To: Solid Waste Emergency Respo Wastewater	inse [] Haz. I] Under] Water	Waste groun Reso	d Tani urces	ks		·	S(Fo	DIL BO	BORING LOG 4400-122 ring Number -706A npleted Drilling N Borehold 2 inchest tion (If applicable N 864.87 feet S Soil Properties tuding N Soil Properties tuding N Soil Properties tuding N Soil Properties tuding N Soil Properties S Soil Properties S S S S S S S S S S S S S	INFO	RMATION Rev. 5-92	
State of Misconsin Department of Natural Resources State of Misconsin Department of Natural Resources Disconsin Department Department of Natural Resources Disconsin Department Department Department				Page 1 of 1														
SC	ty/Pro	ject Na oygan	ame II				Licen	se/Pe	rmit/M	onito	ring) Numba	ਭ	Boring SD-70	Numd 16A	er		
Borin NRT/ Dan	g Drille WPSC Johnsor	d By (Firm na	me and name o	f crew chief)		Date 10/19,	Drilling /95) Star	ted		Date C 10/19/3	Drilling 95	Comple	ted	Drilling I Ogeech	Method ee Sai	l nd Corer
DNR	Facility	Well N	o. WI	Unique Well No.	Common Well N	lame	Final Feet	Static MSL	Wate	r Lev	el	Surfac 577.69	e Elev	ation MSL		Borehol 2 inche	e Diam s	eter
Borin State	g Loca Piane 23. T15/	tion V. <i>R23E</i>			Feet N Feet E		Lat Long	•				Local (692.4	Grid Lo 47 fee	t $\boxtimes N$	(if ac 864.0	plicable 87 feet	e) ⊠ E □ ₩	
Count Sheb	t y oygan	,,,,,	<u>.</u>			DNR 60	County	Code	Civil Sheb	Town ooyga	l J/Cl: ⊒n	ty/ or '	Village					
Sa	mpie		s			1								Soil	Prope	erties		
lumber nd Type	ength Att. & ecovered (in)	tlow Counts	lepth in Inche	A	Soil/Rock Description And Geologic Origin Fo Each Major Unit	ır		scs	ir aphic	og Tell	liagram	ID/F ID	ompressive trength	oisture ontent	iquid imit	lasticity ndex	200	QD/ omments
			2 4 6 10 10 11 12 14 16 18 20 22	NO SAMPLE sounding pol	IN CORE - However shi	een on t	the											
UNIT PERITY WILL NO. NO NUCLEAR HILL ON LOCATION CONTINUE NAME Database Later Location Database La				1														
Sec:Exercise License/Pernit/Monitoring Namber Bonds Mabler Sc:Scheborgan II Date Drilling Started Date Drilling Completed Drilling Method Bords Drilled By (Frein name and name of crew chief) Date Drilling Started Date Drilling Started Date Drilling Completed Drilling Method Date Additional Drilling Started Date Drilling Started Date Drilling Completed Drilling Method Date Drilling Call Kill Unique Metil No. Cosmon Weil Name Final Static Water Level Surface Elevation Borehol Diameter State Plane Feet N Let Local Brid Location (if explorable) Sources Elevation																		

State of Wisconsin Department of Natu	al Resources	Route To: Solid Waste Emergency Respons Wastewater Superfund	se Ци шw Ц 0	iaz. Waste Inderground later Resou lther:	d Tanks urces	S(Fc	DIL BORIN 0rm 4400-1	IG LOG INFORMATION 122 Rev. 5-92 Page 1 of 1
Facility/Project Name SC-Sheboygan II			L	lcense/Per	mit/Monitoring	g Number	Boring Numi SD-706B	ber
Boring Drilled By (Firm NRT/WPSC Dan Johnson	n name and name o	f crew chief)	D 10	late Drilling 0/19/95	Started	Date Drilling 10/19/95	Completed	Drilling Method Ogeechee Sand Corer
DNR Facility Well No.	WI Unique Well No.	. Common Well Na	me F /	f inal Static Feet MSL	Water Level	Surface Elev 571.36 Feet	vation MSL	Borehole Diameter 2 inches
Boring Location State Plane Sec 23, T15N, R23E		Feet N Feet E	Li	at ong ·		Local Grid Lo 665.71 fee	Cation (if a ot ⊠ N 871 □ S	pplicable) 1.88 feet ⊠ E □ W
County			DNR Cou	unty Code	Civil Town/C	Ity/ or Village		

Sec 23, 1	15N, R23	"E		-										
County Sheboygai	ר			DNR County 60	Code	Civil To Shebo	o wn/Clt ygan	y/ or \	Village					
Sample		s								Soil	Prope	rties		
Number and Type Length Att. &	Biow Counts	Depth in Inche	Soil/Rock Description And Geologic Origin For Each Major Unit		nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticit y Index	P 200	RGD/ Comments
		2 4 4 4 6 10 12 14 16 18 20 22 22 14 10 12 14 10 12 14 10 12 14 10 12 14 10 10 12 12 14 10 10 10 10 10 10 10 10 10 10	dark brown, poorly graded <u>SILT</u> w/ t & tr. organics EOB @ II"	r. gravel	ML			16.9						
I hereby c	ertify th	hat the	information on this form is true and co	rrect to the	oest o	f <u>my</u> kn	owledg	e.						
Signature	Logge	d by Da	aniel R. Johnson 7- hour	Firm	Natu	iral Res	ource	Techno	ology		_			_
This form is than \$10 n	s authori or more : each vi	ized by than \$5 iolation	Chapters 144.147 and 162, Wis. Stats. 5,000 for each violation. Fined not les Each day of continued violation is a	Completion is than \$10 of	of this more	report than \$'	is man 100 or i at to se	datory impriso s 144.9	v. Pena ned no 9 and 1	ities: F t less 162.06	orfeit than 3(Wis S	not les) days, tats.	S	

Facility/Project Name		Other: License/Permit/Monitoring Number	Boring Number
State of Wisconsin Department of Natural Resources	Route To: Solid Waste Emergency Response	☐ Haz. Waste ☐ Underground Tanks ☐ Water Resources	SOIL BORING LOG Form 4400-122

)c	-Shebo	bygan .	II											SD-70	6C			
Boring NRT/I Dan J	Drille WPSC Johnson	d By (Firm	nam	e and name of crew	chief)		Date I 10/19/	D rilling 195	Starte	đ	Date D 10/19/9	rilling C 95	Complet	ied D	geeche	lethod ee San	d Corer
DNR F	acility	Well N	0.	WI	Jnique Well No.	Common Well Na	me	Final S Feet	Static MSL	Water L	.evel	Surfac 574.19	e Eleva Feet M	ation ISL	B 2	orehole inches	e Dlame	eter
Boring State Sec) Locai Piane 23, T15	tion N, R231	Ē			Feet N Feet E		Lat Long				Local 6 629.0	Grid Loc D2 feet	ation ⊠ N □ S	(if app 881.3	9 feet) ⊠ <i>E</i> ⊒₩	
Count Sheba	y oygan						DNR (60	County	Code	Civil To Sheboy	w n/Cl ⁄gan	ty/ or \	/illage					
San	nple		S	2										Soil	Proper	ties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Death in Inche		Soil/Ro And Geo Eac	ck Description plogic Origin For h Major Unit			nscs	Graphic Log	Weli Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RGD/ Comments
			- - - - 2		dark brown, poorly	graded <u>SILT</u>			ML									
	11				tan, med.−crs., <u>SAN</u> brachiopods presen	<u>ID</u> w/ tr. gravel; t			SP			21.9						
				2 4 3 0 2	EOB @ 11"													
I here	by cer	tify th	at th	ne ir	nformation on this for	m is true and co	rrect 1	to the t	est o	f my kna	owledg	ge.						
)	lure	Logged	d by	Dar	Nel R. Johnson	1. houte	H.		Natu	iral Res	ource	Techno	ology					
This f than \$ or bot	ormisa 610 nor chfore	authori more f ach vi	zed than olati	by \$5, on.	Chapters 144.147 and 000 for each violatio Each day of continu	162, Wis. Stats. n. Fined not les ed violation is a	Comp is than separ	pletion o 1 \$10 or ate off	of this more ense,	report than \$1 pursuar	is mai 100 or ht to s	ndatory impriso s 144.9	. Pena ned not 9 and 1	ities: F t less 1 62.06,	orfeit han 30 Wis, S	not les) days, tats.	s	

Page 1 of 1

State of Wisconsin Department of Natural Resources

Route To:
🗆 Solid Waste
Emergency Respons
Wastewater
Superfund

F

🗆 Haz. Waste Underground Tanks

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

					perfund	L] Other	:									Page 1 of
	y/Proj -Shebo	ect Nan ygan L	ne r				Licen	se/Per	mit/Mon	itorin	g Numbe	×	Boring SD-70	Numbe DibV	er		
Boring ASCI) Drillec	IBy (F	irm na	me and name of crew	(chief)		Date 06/11,	Drilling /96	Starte	d	Date D 06/11/9	Orilling (96	Comple	ted	Drilling I VIBROC	Method PORE	
DNR F	acility	Well No	WI	Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water L	.evel	Surfac 580 Fe	e Eleva eet MSI	ation L		Borehol 4 inche	e Diama s	eter
Boring State NW 1/4	Locat Plane 4, SW 1/	lon ′4, Sec	tion 2	- 3, T15N, R23E	Feet N Feet E		Lat Long	•			Local (<i>312.</i>	Grid Lo .51 feet	cation N	(if ap 330	plicable .8 feet	:) ⊠ E □ ₩	
Count Sheba	y oygan					DNR (60	County	Code	Civil To City of	wn/C Shet	ity/ or v ooygan	Village					
San	nple												Soil	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/F And Ge Ea	lock Description eologic Origin For ch Major Unit			nscs	Graphic Log	Well Diaoram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Pfasticity Index	P 200	RGD/ Comments
				0"-26" Dark/me silt with trace or	dium brown poorly ganics	y grade	ed	ML									
			- 3	26"-34" Dark g sand with trace g 34"-44" Dark/m graded silt with o 44"-45" Coal ta 45"-47" Medium clay with tar 47"-69" Black/o	ray/tan medium/c gravel, sea shells ledium brown poor coal tar ar brown poorly gra dark brown poorly	oarse rly aded si	lty	SP ML TAR CL TAR SP TAR		•							
			- 7	Depth to sedimer	nimal hair]								1		
			- 9 - 10 - 11														
l here	by cer	tify tha	t the	information on this fo	orm is true and co	orrect	to the	best o	f my kn	owled	ge.	I			1		
3iqnat)	ure l	ogged	by Da	aniel R. Johnson	1-hant	Ł	Firm	Natu	iral Res	ource	Techno	ology					
This fo than \$ or bot	ormisa 510 nor hfore	iuthoriz more th ach vio	ed by nan \${ lation.	Chapters 144.147 an 5,000 for each violati . Each day of contin	d 162, Wis. Stats on. Fined not les ued violation is a	. Comp ss than separ	oletion 1 \$10 oi ate off	of this r more fense,	report than \$1 pursuar	is ma 100 or ht to s	ndatory impriso ss 144.9	/. Pena ned no 9 and 1	alties: ot less 162.06.	Forfeit than 3 Wis. 9	: not les 10 days, Stats.	\$\$;	

State Depar	of Wis tment	consir of Na	n tural f	Route Resources Sc En Wa	e To: olid Waste nergency Respo astewater	nse [] Haz. V] Under] Water	Naste ground Resou	d Tanks Irces			S(Fc	OIL BO	0 RIN(00-12	3 LOG 2	INFO	RMATION Rev. 5-92
				Su	perfund	Ľ	0ther:		_								Page 1 of 1
Eacilii C	t y/Proj - <i>Shebd</i>	ect Na	me II				Licens	se/Per	mit/Mor	ltoring	g Numbe	er	Boring SD-70	Numd D2CV	er		
Boring ASCI	Drilled	d By (I	-irm na	me and name of crew	chief)		Date 06/11/	Drilling 196	Starte	d	Date [06/11/	Drilling 96	Comple	ted	Drilling I VIBROC	lethod ORE	
DNR F	acility	Well No	D. WI	Unique Well No.	Common Well N	ame	Finai : Feet	Static MSL	Water I	_evei	Surfac 580 F	e Elev	ation		Borehol 4 inche:	e Diami	eter
Boring State NW 1/-	J Locat Plane 4, SW 1,	tion /4, Sec	ction 2	3, T15N, R23E	Feet N Feet E		Lat Long	•			Local 414.	Grid Lo 68 fee	t 🛛 N	(If ap 458	oplicable .6 feet) ⊠ <i>E</i> ⊒₩	
Count Sheba	y oygan					DNR (60	County	Code	Civil To City of	wn/Ci ' Sheb	l ty/ or oygan	Village					
Sar	nple					_		<u> </u>					Soi	Prope	erties		
lumber Nd Type	ength Att. & ecovered (in)	llow Counts	lepth in Feet	Soil/R And Ge Ead	ock Description ologic Origin Fo ch Major Unit	r		scs	raphic og	leli liagram	ID/FID	compressive trength	loisture ontent	iquid Imit	lasticity ndex	200	QD/ omments
			1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	0"-27" Dark bro organics, 27"-64" Coal tak 64"-89" Black p saturated with co <u>EOB @ 7'5"</u> Depth to sedimen	wn poorly grade r with trace hair oorly graded fir pal tar, with trac t = 5'1"	ne sand re hair	ith										
I here Signa	by cer ture	tify th	at the 1 by Da	information on this fo anlel R. Johnson	rm is true and c		to the l	oest o Natu	f my kn Iral Res	owled	ge. Techn	ology					
This f	orm is a	authori	zed by	Chapters 144.147 and	d 162, Wis. Stat	s. Com	Detion	of this	report	is ma	ndatory	. Pen	alties: I	Forfei	t not les	s	

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.

Route To:	
🗌 Solid Waste	
Emergency Response	
🗆 Wastewater	

State of Wisconsin

Department of Natural Resources

☐ Haz. Waste ☐ Underground Tanks ☐ Water Resources ☐ Other:

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

D	- 4	4

والروار فالمراجع فالمحمد فرحا المراجع والمراجع والمراجع

				L 30	pernina		Uther:										Page 1 of 1
F a çilit C-	y/Proj Shebo	ect Nai ygan I	ne T				Licens	se/Per	mit/Mon	itoring	g Numbe	r	Boring SD-70	Numbe 2DV	er		
Boring ASCI	Drillec	1 By (F	firm n	ame and name of crew	chief)		Date 06/13	Drilling /96	Starte	đ	Date D 06/13/	irilling ('96	Comple	ted I	D rilling I VIBROC	lethod ORE	
DNR F	acility	Well No). W	I Unique Well No.	Common Well Na	me	Final S Feet	Static MSL	Water l	.evel	Surfac 580 Fe	e Elev eet MS	ation L	1	Borehol 4 inche	e Diame s	eter
Boring	Locat	on			Feet N						Local (Griđ Lo	cation	(if ap	plicable)	
State	Plane !, SW 1/	'4, Sec	tion .	23, T15N, R23E	Feet E		Long	-			391.(06 fee	t⊠N □S	483.0	15 feet	⊠E □₩	
County Shebo	l ygan					DNR 0 60	County	Code	Civil To City of	wn/Cl Sheb	ty/ or v oygan	/illage					
Sam	ple												Soil	Prope	rties		
umber d Type	ength Att. & ecovered (in)	low Counts	epth in Feet	Soil/R And Ge Ead	ock Description ologic Origin For ch Major Unit			scs	raphic og	ell laoram	D/FID	ompressive trength	oisture ontent	quid mit	asticity idex	200	дD/ omments
Ξ.	ڲۨڐ	ā	Ó					S		30		ပိဟ	ΣŬ			۹.	<u>ت</u> ت
		-	1	0"—17" Dark tan organics	poorly graded sil	t with											
		-	2 2 3	17"-43" Dark tar interbedded medi coal tar odor/she	n poorly graded s um/coarse sand een	silt with seams,	I	ML SP									
)		-	4	43"–57" Coal tar hair	with poorly grad	ded silt	• •	ML TAR									
		-	5 5	57"-61" Coarse s with coal tar	and and gravel/	saturat	ted [SP TAR MI	0								
		-	6	61"-67" Dark bro silt/saturated wit	wn/black poorly h coal tar	grade	3		0.0								
		-	7	67"–75" Coarse gravel/saturated	sand and with coal tar			ML SP	0.0.								
		-	8	75"-82" Dark brown with hair, tar odor	own poorly grade 	d silt		ML SP									
		-	9	82"-91" Coarse s	and and gravel,	coal ta	ar 										
		-	,	91"-100" Dark br with sand and gra	own poorly grade avel, tar odor	ed silt											
			= 10	<u>EOB @ 8'4"</u> Depth to sedimen	t = 5'2"												
			11 		· · · ·												
• /																ļ	
I here Signat	by cer ure I	lify tha .ogged	et the I by I	e information on this fo Daniel R. Johnson	rm is true and co	rrect t	o the l Firm	oest o Natu	f my kn Iral Res	owled ource	ge. Techno	ology					
This fo than \$ or bot	ormisa 10 nor hfore	nuthoriz more t ach vic	zed b han s platio	y Chapters 144.147 and \$5,000 for each violation. Each day of continu	d 162, Wis. Stats. on. Fined not les ued violation is a	Comp s than separa	eletion \$10 or ate off	of this more ense,	report than \$ pursuar	is ma 100 or nt to s	ndatory impriso ss 144.9	/. Pena ned no 9 and	alties: ot less 162.06,	Forfeit than 3 Wis. 9	not les 0 days, Stats,	S	

State of Wisconsin	Route To:		SOIL I
Department of Natural Resources	🗌 Solid Waste	🔲 Haz. Waste	Form 4
	🗌 Emergency Response	🖾 Underground Tanks	
	🔲 Wastewater	🖾 Water Resources	

State of Wisconsin

BORING LOG INFORMATION Rev. 5-92

and an include

1945 A.C.

2010

400-122

				🗆 Su	perfund] Other	:									Page 1 of 1
Facility	/ /Pro ja Shebo	ect Nam ygan II	e				Licen	se/Per	mit/Mon	ltoring	g Numbi	er	Boring SD-70	Numb 3BV	er		
Boring ASCI	Drilleo	l By (Fi	rm	name and name of crew	chief)		Date 06/13	Drilling 8/96	Starte	d	Date (06/13/	D riiling /96	Comple	ted	Drilling VIBROC	Method ORE	1
DNR Fa	clity	Well No.	۱	WI Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water L	.evel	Surfac 580 F	e Elev	ation L		Borehol 4 inche	e Diam s	eter
Boring State I NW 1/4,	Locat Plane , SW 1/	lon (4, Sect	ion	23, T15N, R23E	Feet N Feet E		Lat Long	•			Local 497	Grid Lo .91 fee	t 🛛 N	(lf a) 548.	oplicable 59 feet	:) ⊠ <i>E</i> □₩	
County Sheboy	gan/					DNR (60	County	Code	Civil To City of	wn/C Sheb	i ty/ or oygan	Viilage					
Samp	ble					•							Soil	Prop	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Ro And Ge Eac	ock Description ologic Origin For h Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
)			-1 -2 -3 -4 -5 -6 -7 -8	0"-95" Dark broi trace organics, tr slight color variat lithology differend	wn poorly graded ace medium gray ions, but no appa ces, slight odor a	d silt wi v sand, arent and she	ith	ML									
			- 9	EOB @.7'11" Depth to sedimen	t = 5'3"												
I hereb	oy cer	tify tha	t th	e information on this for	m is true and co	rrect t	o the	best o	fmy kn	owled	ge.	-		·			
Signatu 	^{ire} I	ogged	by	Daniel R. Johnson	- Phones	Ø	Firm	Nata	iral Res	ource	Techn	ology					
This fo than \$1 or both	rmisa Onor fore	nuthorize more th ach viol	ed I an atio	by Chapters 144.147 and \$5,000 for each violatio on. Each day of continu	l 162, Wis. Stats. on. Fined not les ied violation is a	. Comp ss than separa	oletion 1 \$10 ol ate off	of this r more fense,	report than \$1 pursuar	is ma 100 or ht to s	indatory impriso ss 144.9	y. Pen oned no 99 and	alties: F ot less 162.06,	Forfei than 3 Wis.	t not les 30 days, Stats.	SS ,	

State Depar	of Wis tment	consii of Na	n Itura	l Resources	Route To: Solid Waste Emergency Respo Wastewater	nse [] Haz. V] Under] Water	taste ground Resou	d Tanks Jrces			Si Fa	DIL BC	00-12	G LOG 22	INFO	RMATION Rev. 5-92
Facili	ty/Proj	ect Na	me		Superfund	L	Licen:	se/Per	mit/Mor	itoring	g Numba	er	Boring	Numb	er		Page 1 of 1
Boring	-Shebo	bygan . 1 By (1	II Firm	name and name of	crew chief)		Date	Drilling	Starte		Date D	illing	SD-70	3CV ted	Drilling	 Method	
ASCI	-	_					06/18	/96			06/18/	/96	-		VIBROC	ORE	
DNR F	acility	Well N	0.	WI Unique Well No.	Common Well N	lame	Final : Feet	Static MSL	Water I	_evel	Surfac 580 F	e Elev eet MS	vation SL		Borehol 4 inche	e Diame s	eter
Boring State	Local Plane 4. SW 1/	l ion /4. Sec	ction	23, T15N, R23E	Feet N Feet E		Lat Long	•			Local 469.	Grid Lo 39 fee	$\begin{array}{c} \text{ocation} \\ et \boxtimes \mathbf{N} \\ \Box \mathbf{S} \end{array}$	(if a p 575.	oplicable .19 feet	;) ⊠ <i>E</i> □₩	
Count Sheba	y bygan					DNR (60	County	Code	Civil To City of	wn/C	i ty/ or ' oygan	Village	,				
Sar	nple												Soi	Prop	erties		
umber Nd Type	ength Att. & ecovered (in)	low Counts	epth in Feet	S Ar	oil/Rock Description nd Geologic Origin Fo Each Major Unit	r		SCS	r aphic og	elt Haqram	ID/FID	ompressive	oisture	iquid imit	lasticity ndex	200	GD/ omments
	Soil/Rock Description And Geologic Origin For Each Major Unit							ML OL					žŎ			a.	Ϋ́
I here Signat	by cer ture	tify th	at th	e information on th	his form is true and c	orrect	to the t Firm	Dest o	f my kn	owled	ge.						
This f than s or bot	ormisa 610 nor thfore	authori more f	zed than olati	by Chapters 144.14 \$5,000 for each vi on. Each day of c	7 and 162, Wis. Stat iolation. Fined not le ontinued violation is	s. Comp ess than a separ	pletion n \$10 or ate off	of this more ense,	rai nes report than \$ pursuar	is ma 100 or ht to s	ndatory impriso	/. Per ined n	alties: I ot less 162.06,	Forfei than 3 Wis.	t not le: 30 days Stats.	\$S '	

S

	y/Prok	ect Na					Licens	e/Per	mit/Mon	itoring) Numbe	er	Boring		er		Page 1 c
soring ASCI	Drillec	By (Firm na	me and name of crew	chief)		Date 06/11/	Driiling '96	Starte	d	Date 0 06/11/3)rilling 96	Comple	ted	Drilling VIBROC	Method ORE	
DNR F	acility	Well N	o. WI	Unique Well No.	Common Well Na	ame	Final S	Static MSL	Water I	_evei	Surfac 580 Fe	e Elev	ation		Borehol 4 inche	e Diame	eter
Soring State /W 1/4	Locat Plane 4, SW 1/	ion '4, Sec	ction 2		Feet N Feet E		Lat Long	•			Local (558.8	Grid Lo 54 fee	t $\boxtimes N$	(if ap 644	plicable .7 feet	:) ⊠E □N	
ount: hebc	y oygan					DNR (60	County	Code	Civil To City of	wn/Cl Sheb	ty/ or \ oygan	Village					
Sar	iple											<u> </u>	Soil	Prope	erties		
Type	gth Att. & overed (in)	d Counts	th in Feet	Soil/R And Ge Eac	ock Description ologic Origin For ch Major Unit			ş	phic	gram	/FID	Ipressive ength	sture tent	lid t	ticity ex	00	ı/ ments
and	Lenç Rec	Bloi	Dep					nsc	Cra Log	Well		Con Stre	Mois Con	Liqu Limi	Plas	P 2(RGD Com
				0"-17" Dark brov organics, tar odo	in poorly graded r	l silt wi	th										
			112 112	17"-28" Dark bro interbedded 1/2" saturated sand a	wn poorly grade seams of coal ta nd gravel	ed silt w ar	/ith	ML SP									
	17"-28" Dark brown poorly grainterbedded 1/2" seams of coasturated sand and gravel 2 3 28"-102" Dark brown/black positive 3 3 3 3 3 4 4 5					y grad avel nal hair	ed										
								ML. TAR									
			- 7 7 8 8														
			-9	102"-108" Dark b with coal tar odo	rown poorly gra	ded sill	۱ ۲	ML	17								
			<u> </u>	108"-116" Light ta	an clay, odor				\mathbb{Z}								
				EOB @ 9'8"													
				Uepth to sedimen	t = 5 10"												
			F			<u> </u>		<u> </u>									
nere	by cer	tify th	at the	information on this fo	rm is true and co	prrect	to the t	best o	t my kn	owled	ge.						

State Depar	of Wis tment	consin of Nat	ural l	Route Resources So	To: lid Waste] Haz. V	laste	d Tanks			SC Fo	DIL BC	0 RING 00-12	5 LOG 2	INFO	RMATION Rev. 5-92
				□ Wa □ Su	stewater perfund] Water] Other:	Reso	urces								Page 1 of 1
	y/Proj	ect Nan	e				Licens	se/Pei	rmit/Mor	hitoring	g Numba	a	Boring		er		
ASCI) Drilled	By (F	rm na	ame and name of crew	chief)		Date 06/17,	Drilling /96	Starte	d	Date D 06/17/	Drilling 196	Comple	ted	Drilling VIBROC	lethod ORE	
DNR F	acility	Well No.	WI	Unique Well No.	Common Well Na	те	Final : Feet	Static MSL	Water	Level	Surfac 580 Fe	e Elev	ation		Borehol	e Diame s	eter
Boring State) Locat Plane		tion 2		Feet N Feet E		Lat Long	•			Local (516	Grid Lo .12 fee	t 🛛 N	(if ap 684.2	plicable 25 feet	.) ⊠ <i>E</i> ⊡⊮	
Count Sheba	y y ygan	4, 500	.1011 2	J, HUN, NZJE		DNR (60	County	Code	Civil T o City of	wn/Cl	l ty/ or ' oygan	Village					
San	nple												Soil	Prope	erties		
mber I Type	gth Att. & covered (in)	w Counts	pth in Feet	Soil/Re And Ge Eac	ock Description ologic Origin For :h Major Unit			S	aphic g	il eqrem	D/FID	mpressive	isture intent	tuid nit	asticity dex	200	tD/ mments
and and	Re L	ă	De					S	52	žÖ		ပိတ်	žů	ĒĔ	Ĩ	<u> </u>	မိုပိ
		tify the	1 2 3 4 5 6 7 8 9 10 11	49"-67" Black fi animal hair 67"-76" Dark bri coarse sand and coal tar 76"-86" Black p saturated with co 86"-93" Dark bri sand with saturat EOB @ 7'9" Depth to sedimen	wn poorly grade bedded fine same gravel, coal tar ne sand with coal own/black mediu gravel, saturate oorly graded silt al tar with animatown poorly grad ded coal tar, drop t = 6'2"	a sint w d and r droph r droph al tar, m to d with al hair ed fine plets	to the	ML TAR SP TAR ML TAR SP TAR	、 、 、 、 、 、 、 、 、 、 、 、 、	Dowled	lae.						
Signa	ture	Logged	by D	aniel R. Johnson	- Count	L	Firm	Nat	ural Re	source	e Techn	ology					
i nis f than or bo	orm is a \$10 nor th for e	authoriz more t each vio	.ed b han \$ platior	y Chapters 144.147 and 5,000 for each violati h. Each day of contin	d 162, Wis. Stats on. Fined not le ued violation is a	s. Com ss tha a sepa	pletion n \$10 o rate of	of thi r more fense,	s repor e than \$, pursua	t is ma 100 oi nt to :	andator r impriso ss 144.9	y. Per oned n 99 and	nalties: ot less 162.06	Forfei than 3 , Wis.	t not le: 30 days Stats.	ss ,	

State Depar	of Wis tment	consir of Na	n tura	l Resources	Route To: Solid Waste	ise [] Haz. 1] Under	Waste	d Tanks			SC Fo	DIL BO	DRIN 00-12	S LOG	INFO	RMATION Rev. 5-92
					Wastewater		Water	Resou :	urces								Page 1 of 1
Facilit SC	ty/Proj -Sheba	ect Na oygan i	i me II				Licen	se/Per	mit/Mor	hitoring	g Numbe	er	Boring SD-70	Numb 1958 V	er		
Boring NRT/I Dan J	Drille WPSC Vohnson	By (i	Firm	name and name o	f crew chief)		Date 11/05,	Drilling /95	Starte	d	Date D 11/05/3	Drilling 95	Comple	ted	Drilling I Vibraco	lethod re	
DNR F	acility	Well No	0.	WI Unique Well No.	Common Well Na	ame	Final Feet	Static MSL	Water I	.evei	Surfac 580 F	e Elev	ation		Borehol 4 inche	e Diama s	eter
Boring State	l Locat Plane 23, T15	lon N, R231	E		Feet N Feet E		Lat Long				Local 623	Grid L o 44 fee	$ \overset{\text{ocation}}{\square S} $	(if ac 723.2	plicable 29 feet) ⊠E □₩	
Count Sheba	y oygan			-		DNR 60	County	Code	Civil To Shebo	ygan	ity/ or `	Village					
Sar	nple							Γ					Soi	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	A	Soil/Rock Description nd Geologic Origin For Each Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strenath	Moisture Content	Liquid	Plasticity Index	P 200	R@D/ Comments
	Sample Soil/Rock Description add for the second							ML SP ML GP ML TAR TAR SP CL			207 18 13.1 56.1 81.6 40.1 36 14.5						
I here	eby cer	tify th	at th	e information on f	this form is true and co	orrect	to the	best o	f my kn	owled	ge.						
Signar	ture	Logged	d by	Daniel R. Johnson	mil. hove	H	+ırm 	Nati	ural Res	ource	Techno	ology					
This f than S or bot	ormisa \$10 nor thfore	authori: more t ach vie	zed I than olatio	by Chapters 144.1 \$5,000 for each on. Each day of e	47 and 162, Wis. Stats violation. Fined not le continued violation is a	s. Com ss thar a separ	pletion n \$10 oi rate off	of this r more fense,	report than \$ pursuar	is ma 100 or nt to s	ndatory impriso ss 144.9	/. Pen ined n 9 and	alties: f ot less 162.06,	Forfeit than 3 Wis. 9	t not les 10 days, Stats.	S	

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

Depar	tment	of Nati	ural	Resources So Em Wa Su	lid Waste Iergency Respon Istewater perfund	se] Haz.] Under] Water] Other	daste ground Resou :	t Tanks Irces			Foi	rm 44(00-122	2		Rev. 5-92 Page 1 of 1
Facilit	y/Pro	ect Nam	e				Licen	se/Per	mit/Mon	itoring) Numbe	er 🛛	Boring	Numbe	r		
Boring ASCI) Drilled	By (Fi	rmn	ame and name of crew	chief)		Date 06/17	Drilling 796	Starte	d	Date D 06/17/)rilling ('96	Complet	ted [)rilling /IBROC	lethod ORE	
DNR F	acility	Well No.	W	I Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water L	evel	Surfac 580 Fe	e Eleva eet MS	ation L	E	Boreholi 4 inche:	e Diame s	eter
Boring State NW 1/4	Locat Plane 4, SW 1/	lon ⁄4, Sect	ion 2	23, T15N, R23E	Feet N Feet E		Lat Long	•	_		Local (614.)	Grid Lo 96 feet	cation t 🛛 N 🗆 S	(if ap) 727.2	olicable 9 feet) ⊠ E □ W	
County Sheba	y ygan					DNR (60	County	Code	Civil To City of	wn/Ci Sheb	ty/ or \ oygan	Village					
Sar	iple		<u>ب</u>										Soil	Prope	rties		
Number and Type	Length Att. & Recovered (in	Blow Counts	Depth in Fee	Soil/Ro And Ge Eac	ock Description ologic Origin For :h Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
ad A period st begin on the second secon								ML OL TAR									
·		Ē	- 10	117"-126" Dark br with interbedded	own/black mediu silt seams, anima	m sand I hair	ı /	SP. ML									
			- 11	EOB @ 10'6" Depth to sedimen	t = 7'0"												
<u> 1 here</u>	by cer	tify the	t the	information on this for	m is true and co	rrect 4	to the	besto	f mv ko	owledd	 1e						
Signat	ure	Logged	by C	aniel R. Johnson			Firm	Natu	ral Res	ource	Techno	plogy	- 14'				
inis fo than \$ or bot	orm is a 510 nor h for e	more the ach viol	ed b an \$ atior	y Chapters 144.147 and 5,000 for each violation. Each day of continu	on: Fined not les ued violation is a	. Comp ss than separ	oletion 5 \$10 ol ate off	ot this more ense,	report than \$1 pursuar	is mai 100 or ht to s	impriso s 144.9	v. Pena ned no 9 and 1	aities: F ot less 162.06,	orteit than 30 Wis. S	not les) days, itats.	5	

State of Wisconsin

Route To:

State of Wisconsin	Route To:	
Department of Natural Resources	🗌 Solid Waste	
	Emergency Response	
	🗆 Wastewater	

State of Wisconsin

Haz. Waste Underground Tanks Water Resources

SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-92

and a strain of the second second

				St	ipertuna	L	J Uther:										Page 1 of 1
Facilit	y/Prok -Shebo	ect Name ygan II	•			Licens	se/Per	mit/Mon	Itoring	g Numbe	r	Boring Number SD-705DV					
Boring Drilled By (Firm name and name of crew chief) ASCI								Drilling /96	Starte	Date D 06/11/9	rilling (96	Comple	ted	Drilling Method VIBROCORE			
DNR F	acility	Well No.	Jnique Well No.	me	Final Feet	Final Static Water Level				e Eleva et MSL	ation		Borehole Diameter 4 inches				
Boring	locat				Feet N		L				Local	Grid Lo	cation	(if ap	olicable)	
State	Piane 4, SW 1/	/4, Secti	on 23,	. T15N, R23E	Feet E		Lat Long	•			584.0)4 feel	⊠ N □ S	743.5	53 feet	⊠ <i>E</i> ⊒∦	
Count Sheba	y bygan					DNR (60	County	Code	Civil To City of	wn/C Shet	ity/ or V oygan	/Illage					
San	nple												Soil	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/R And Ge Ea	ock Description cologic Origin For ch Major Unit			nscs	Graphic Log	Well Diadram	PID/FID	Compressive Strength	Moistur <i>e</i> Content	Liquid Limit	Plasticity Index	P 200	ROD/ Comments
10			-1 -2	0"-36" Dark bro organics, slight s	wn poorly graded heen of tar drop	d silt w lets, o	ith dor	ML OL	m w w w w								
)			-3 -	36"-54" Medium sand grading der	brown medium gra eper to gravel	aded		SP	00000								
	(•		- 5 - 6 - 7	<u>EOB @ 4'6"</u> Depth to sedime	nt = 6'8"												
			- 8 - 9 - 10 - 11														
																	<u> </u>
I here Signa	eby cer ture	rtify that Logged	the i	nformation on this fo	orm is true and co	A	to the Firm	best o Nat	of my kr ural Re:	iowlec source	ige. e Techn	ology	-				
This t than or bo	form is \$10 nor th for (authorize more th each viol	ed by an \$5 ation.	Chapters 144.147 ar ,000 for each violat Each day of contin	nd 162, Wis. Stats ion. Fined not le nued violation is a	s. Com ss tha sepa	pletion n \$10 c rate of	of thi or more fense,	s report than \$ pursua	isma 100 o ntto	andator r impriso ss 144.9	y. Pen oned no 99 and	aities: ot less 162.06	Forfei than 3 , Wis.	it not le: 30 days Stats.	\$\$,	

-

Eacility/Project Name								Other: License/Permit/Monitoring Number Boring								Page 1 N g Number				
C-Sheboygan II Boring Drilled By (Firm name and name of crew chief) ASCI						Date 06/17	Drilling /96	Starte	d	Date D 06/17/) riiling '96	SD-706BV Completed Drilling Meth VIBROCORE			Method CORE					
DNR Facility Well No. WI Unique Well No. Common Well Name								Static	Water L	.evei	Surfac	e Elev	ation		Borehole Diameter					
oring tate W 1/4	Locat Plane	ion (4, Sect	ion 2	3, T15N, R23E	Feet N Feet E		Lat Long				560 F8 Local 667	Grid Lo 7.3 fee	ocation (if a et⊠N 87 □S		4 inches applicable) 1.56 feet ⊠ E □ N					
ounty	i ygan					DNR 1 60	County	Code	Civil To City of	wn/Ci Sheb	ty/ or oygan	Village								
Sam	ple					<u> </u>							Soi	Prope	erties					
nd Type	Soil/Rock Descr ad 1 Abr Soil/Rock Descr And Geologic Ori Each Major L Each Major L				ock Description ologic Origin For h Major Unit			SCS	iraphic og	lell liadram	IIBU/FID	compressive trength	foisture content	iquid imit	lasticity Idex	200	100			
))	<u> </u>			0"-13" Dark brow medium/coarse sa sheen 13"-31" Dark brow sand and gravel, 31"-36" Dark bro trace gravel, tar <u>EOB @ 3'0"</u> Depth to sedimen	In poorly graded and and gravel, s wn/black medium sheen and tar o wn poorly grade odor and sheen t = 7'0"	d silt wi slight /coars dor ed silt v	ith e	SP ML			DId		ΣO		1					
nerel	by cer	tify tha	- 8 - 9 - 10 - 11 t the by D	information on this for	m is true and co	prrect	to the I	pest o	f my kn	owledg	ge.	plogy								
State Depar	of Wis tment	consir of Na	n tural	Resc	ources	Route 1 Solic Emer Wast	Fo: I Waste rgency Respo ewater erfund	inse [] Haz.] Unde] Wate] Othe	Waste rground r Resou	d Tanks Irces			S(Fc	DIL BC	DRIN(00-12	9 LOG	INFO	Rev. 5-92 Page 1 of	
--------------------	---------------------------------	-------------------	--	---------	--	---	--	---	--------------------------------------	--	---------------------	-----------------	---------------------------	--------------------------	---	-----------------------	-----------------------	----------------------	------------------------	
Facilit	y/Proj	ect Na	me TT						Licer	se/Per	mit/Mon	ltoring	Numb a	ər	Boring		er			
Boring ASCI) Drilled	i By (i	Firm n	ame a	and name of	crew c	hief)		Date 06/18	Drilling 3/96	Starte	d	Date D 06/18/)rilling /96	Comple	ted	Drilling I VIBROC	lethod ORE		
DNR F	acility	Well No).	I Unic	que Well No.	(Common Well N	iame	Final Fee	Static t MSL	Water I	.evel	Surfac 580 Fe	e Elev	ation		Borehol 4 inche	e Diamo s	eter	
Boring State	Locat Plane 4. SW 1	lon /4. Sec	tion	23. TI	- 5N. R23E		Feet N Feet E		Lat Long				Local 607	Grid Lo 20 fee	$ t \boxtimes \mathbf{N} \\ \Box \mathbf{s} $	(if ac 886.9	plicable 98 feet	:) ⊠ E □ N		
Count Sheba	y bygan							DNR 60	County	Code	Civil To City of	wn/Ci Sheb	t y/ or ' oygan	Village			1	<u> </u>		
San	nple														Soi	l Prope	erties			
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet		S Ar	Soil/Roc nd Geol Each	k Description ogic Origin Fo Major Unit	r		uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strenath	Moisture Content	Liquid	Plasticity Index	P 200	RQD/ Comments	
			0 1 1 2 3 4 5 6 7 8 9 10 11 11 11 11 11 11 11 11 11 11		0"-4" Light with organic. 4"-11" Gray gravel with s 11"-19" Medi 19"-24" Gra gravel with s 24"-32" Me coal tar/anin 32"-44" Me 44"-46" Gr gravel with s 46"-59" Me silt with hair, 59"-81" Mec EOB.@ 6'9" Depth to sec	t tan/bl s, trace medium shells ium brow ay medius shells edium br ay med shells edium brow dium brow dium brow	ack poorly gr sand i to coarse sa wn poorly gra um/coarse sa own medium to own poorly gr ium/coarse sa ark brown poor cs own poorly gra = 4'11"	aded si and and ded silt nd and o fine s raded s and and orly gra-	It and ilt ded	→ ML OL SP ML SP TAR ML OL ML OL										
I here	by cer	tify th	at the	e infor	mation on th	his form	is true and c	orrect	to the	best o	fmykn	owled	ge.	<u> </u>						
Signat	lure	Logge	d by I)aniel	R. Johnson	Gai	Phon	Æ	Firm	Nati	ıral Res	ource	Techn	ology						
This f	ormisa 610 nor	authori more f	zed b than S	y Cha	opters 144.14 D for each v	17 and 1 violation	62, Wis. Stat Fined not le	s. Com	pletion n \$10 c	of this or more	report than \$	is ma 100 or	ndatory	y. Pen oned n	alties: I ot less	Forfei than 3	t not les 30 days,	s		

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	Route To:	
Department of Natural Resources	🗌 Solid Waste	🗌 Haz. Waste
	L Emergency Response	Underground Tanks
	🗆 Wastewater	🗌 Water Resources

SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-92

s:

superior.

.

					uperfund] Other:	:									Page 1 of 1
Facilit C	y/Pro j -Shebc	ect Na ygan .	ime II				Licen	se/Per	mit/Mon	ltorin	g Numbe	er	Boring SD-70	Numb 17AV	er		
Boring NRT/I Dan J	Drillec WPSC ohnson	i By (Firm	name and name of cre	w chief)		Date 11/04,	Drilling /95	Starte	d	Date D 11/04/3	95	Comple	ted	Drilling I Vibraco	lethod re	
DNR F	acility	Well N	0.	WI Unique Well No.	Common Well Nat	me	Final Feet	Static MSL	Water L	.evel	Surfac 580 Fe	e Eleva eet MSI	ation L		Borehol 4 inche	e Diam s	eter
Boring State Sec	2 Locat Plane 23, T15	l on N, <i>R23</i> .	E		Feet N Feet E		Lat Long	•			Local (255.9	Grid Lo 92 feet	cation t 🖾 N 🗆 S	(If ap 228.5	oplicable 54 feet	:) ⊠ E □ ₩	
Count Sheba	y oygan					DNR (60	County	Code	Civil To Sheboy	w n/C /gan	ity/ or \	Village				×	
Sar	nple												Soil	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/ And G Ea	Rock Description eologic Origin For ach Major Unit			USCS	Graphic Log	Wel! Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
<u>}</u>				0"-15" <u>Siltw/ Gi</u> graded, loose, S 15"-23" <u>Silt</u> : dri dense, SHEEN 23"-26" <u>COAL</u> 26"-33" <u>Silt</u> : dri dense, SHEEN 33"-60" <u>COAL</u> silt, wood chips <u>60"-64" Sand</u> <i>EOB @ 5'4"</i>	<u>avel;</u> Drk. brown, HEEN brown, poorly gra <u>(AR; black</u> k. brown, poorly g <u>(AR; black w/ drk)</u> <u>drk. brown, med to</u>	poorly aded, graded brown		GM ML TAR ML TAR SP									
			F														
I here Signa	by cer ture	tify th	at ti d by	Daniel R. Johnson	orm is true and con	frect t	Firm	Nati	t my kn Iral Res	owled	ge. • Techno	blogy					
than S or bot	orm is a 610 nor th for e	more ach vi	zed than olati	by Chapters 144.147 at \$5,000 for each violat on. Each day of conti	ion. Fined not les nued violation is a	Comp s than separ	oletion \$10 ol ate off	ot this r more fense,	than \$1 pursuar	is ma 100 or at to :	indatory 1 impriso ss 144.9	v. Pena ned no 9 and	aities: F ot less 162.06,	-ortei than 3 Wis. 2	t not les 30 days, Stats,	S	

State Depar	of Wi tment	sconsin of Nat	ı tural	Resources	Route To: Solid Waste	esponse [] Haz. 1] Under	Waste	d Tanks			SC Fo	IL BC rm 44	00-12	3 LOG	INFO	RMATION Rev. 5-92
					Wastewater] Water] Other	Resou	irces								Page 1 of 1
Facilit SC	ty/Pro -Sheb	ject Nai ovgan I	me T				Licen	se/Per	mit/Mor	ltoring	y Numbe	r	Boring	Numb 178V	er		
<mark>вогіпс</mark> NRT/I Dan J	g Drille WPSC Iohnsol	d By (F	firm na	ame and name o	f crew chief)		Date 11/04,	Driiling /95	Starte	d	Date D 11/04/3	irilling 95	Comple	ted	Drilling Vibracc	Method are	
DNR F	acility	Well No). WI	i Unique Well No.	Common W	ell Name	Final Feet	Static MSL	Water I	.evel	Surfac 580 Fe	e Elev eet MS	ation		Borehol 4 inche	e Diam s	eter
Boring State Sec	g Loca Plane 23, 715	tion 5N, R23E	 :		Feet N Feet E		Lat Long				Local (236.0	Grid Lo 83 fee	t \boxtimes N	(If ap 245.4	o plicable 47 feet	e) ⊠ <i>E</i> □₩	
Count Sheba	y oygan					DNR 1 60	County	Code	Civil To Shebo	wn/Ci /gan	ty/ or \	Village					
Sar	nple							Τ					Soi	Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	<u>م</u>	Soil/Rock Descrip .nd Geologic Origii Each Major Uni	otion n For it		nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			-1-2-2	0"-5" <u>Silt:</u> 5"-14" <u>Sar</u> 14"-17" <u>Sa</u> 17"-20" <u>Cl</u> graded	Drk. brown, poor <u>nd and Gravel</u> ; bla <u>nd;</u> med. brown, n .avev Silt; drk. br	ly graded ick, coarse nedcoarse rown, poorly		ML SP ML TAR SP			4.7 4.5 5.3 8.4 5.2	-					
))			3	20"-25" <u>C</u> 25"-30" <u>S</u>	<u>OAL TAR</u> ; black and; med. brown,	medcoars	se	T AR SP	0 0. 0 0 0 0		7.9						
			4 5 6 7 8 9 10	30"-35" <u>C</u> 35"-43" <u>S</u> coarse w/ EOB @ 3"	<u>OAL_TAR</u> ; black and and <u>Grave</u>]; d shell fragments & "	irk. brown, glass											
I here		rtifv the	- - - -	information on t	this form is true a	nd correct	to the	best o		owled	le.						
Signat	ture	Logged	l by D	aniel R. Johnson	Sur hou	at the	Firm	Nati	ural Res	ource	Techno	ology					
`inis f ∣than \$ or bot	orm is \$10 noi	authoriz more t	ted by han \$	y Chapters 144.1 5,000 for each	47 and 162, Wis. 9 violation. Fined n	Stats. Comp ot less that	pletion n \$10 oi	of this r more fense	than \$	is mai 100 or	ndatory impriso	v. Pen ned no 9 and	alties: f ot less 162.06	Forfeit than 3 Wis	t not les 30 days, Stats	S	

State of Wisconsin	Route To:
Department of Natural Resources	🔲 Solid Waste

Solid Waste
Emergency Response
🗆 Wastewater
Superfund Superfund

☐ Haz. Waste ☐ Underground Tanks ☐ Water Resources ☐ Other:

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

						perfund	Ŀ	Other	:									Page 1 of 1
Facili C	ty/Pro -Sheb	ject N oygan	ame 11					Licen	se/Per	mit/Mor	itoring	g Numbe	er	Boring SD-70) Numd 07CV	er		
Boring ASCI	g Drille	d By	(Firm	name	e and name of crew	chief)		Date 06/10	Drilling 9/96	Starte	d	Date [06/10/	Drilling /96	Comple	eted	Drilling VIBROC	lethod	
DNR F	Facility	v Well N	10.	WIU	nique Well No.	Common Well Na	IME	Fin al Feet	Static MSL	Water I	evel	Surfac 580 F	e Elev	ation Z		Borehol 4 inche	e Dlama s	eter
Boring State NW 1/	g Loca Plane 4, SW	ition 1/4, Se	ectior	n 23,	T15N, R23E	Feet N Feet E		Lat Long				Local 208.	Grid Lo 45 feei	t $\boxtimes N$	(if ap 259.8	plicable 34 feet	:) ⊠ E □ W	
Count Sheb	t y oygan						DNR (60	County	Code	Civil To City of	wn/Ci 'Sheb	i ty/ or ' oygan	Village	-				
Sar	mple							_						Soi	il Prope	erties	_	
Number and Type	Length Att. & Recovered (in)	Blow Counts	Denth in Cost		Soil/Ro And Ge Eac	ock Description blogic Origin For h Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RGD/ Comments
					0"-16" Medium br	own silt with org	anics			1 12								
					16"-20" Dark Bro gravel, trace orga 20"-24" Medium 1 24"-28" Black si animal hair	wn/black silt wit anics prown poorly gra t with trace gra	h trace aded si vel, tra	e It Ice	ML ML ML									
				5 -	28"-60" Dark gra sand with Brachio tar/animal hair 60"-69" Black si	ay/tan medium/c pod shells, coal It with animal hai	oarse r		SP TAR									
					69"-71" Medium b sand with animal h	rown poorly grad air	ded fin	e [ML SP ¥dd									
					71"-79" Black silf 79"-84" Medium I sand with gravel a	with hair, organ brown poorly gra and animal hair	nics aded fil	ne	SP GP									
			, , , , , , , , , , , , , ,	9	<u>EOB @ 7'0''</u> Depth to sedimen [.]	t = 6'3"												
				0														
I here	eby ce	rtify t	hat t	he in	formation on this for	m is true and co	rrect 1	o the	best o	f my kn	owled	ge.			-			
Signa)	ture	Logge	ed by	Dan	iel R. Johnson	. l. from	$\frac{1}{2}$	Firm	Natu	iral Res	ource	Techn	ology					
This f than s or bo	iorm is \$10 no th for	author r more each v	rized than violat	by C \$5,0 ion.	hapters 144.147 and 100 for each violatic Each day of continu	l 162, Wis. Stats on. Fined not les led violation is a	. Comp ss than separ	oletion \$10 oi ate off	of this r more fense,	report than \$ pursuar	is ma 100 or ht to s	ndatory impriso ss 144.9	y. Pena oned n o 99 and	alties: ot less 162.06	Forfeit than 3 , Wis. 3	t not les 10 days, Stats.	s	

State of Wisconsin Department of Natural Resources

Route To:
Solid Waste
□ Wastewater

Haz. Waste Underground Tanks Water Resources Other:

SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-92

						-	Jouner	•						_			Page 1 of
Facili SC	ty/Pro -Sheba	ect Na	ame II				Licen	se/Per	mit/Moi	nitorin	g Numbe	er	Boring SD-70	Numbe	er		
Boring ASCI) Drilie(d By (Firm	name and name of crev	r chief)		Date 11/04,	Drilling /95	Starte	ed	Date [11/04/	orilling 95	Comple	ted	Drilling I VIBROC	dethod ORE	
DNR F	acility	Well N	o .	NI Unique Well No.	Common Well Na	me	Final Feet	Static MSL	Water	Level	Surfac Feet	e Elev MSL	ation		Borehoi 4 inche	e Diame s	eter
Boring	Loca	tion			Feet N						Local	Grid Lo	ocation	(if ap	plicabie	e)	
State	• Plane 4, SW 1	/4, Sec	ction	23, T15N, R23E	Feet E		Lat	•			155.	.12 fee	t⊠N □S	134.6	6 feet	⊠ <i>E</i> □∦	
Count Sheba	y oygan					DNR 1 60	County	Code	Civil To City o	own/C f Shet	l ty/ or ' oygan	Village					
Sar	nple												Soi	l Prope	rties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/F And Ge Ea	Rock Description eologic Origin For ch Major Unit			uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			Ē	0"-10" Medium b	rown silt with org	anic		ML	11	1	8.3				-		
				10"-29" Dark bro sands	wn/black silt with	i fine		ML SM			20.5						
)		Ц 1 1 1	29"-36" Dark bro sand with interbe	own medium/coars edded clay ilt with animal hair	e silty	 ſ				20.7 9.6							
			-4 -4	40"-53" Dark br	own silt			ML			14.8						
			5	53"-66" Medium pebbles	to fine sand with	small		SP			6.1						
				66"-70" Dark br	own silt/clay						14						
			Ē	<u>EOB @ 5'10"</u>													
			8														
I here	by cer	tify th	at th	e information on this fo	orm is true and co	rrect	to the	best o	f my kr	owled	ge.				<u> </u>		
Signat	ture	Logge	d by	Daniel R. Johnson	Prato	7	Firm	Natu	ıral Res	source	Techno	ology					
This f than \$	orm is a \$10 nor th for s	authori more f	ized than olativ	by Chapters 144.147 an \$5,000 for each violation. Each day of contin	d 162, Wis. Stats, ion. Fined not les	. Comp ss than separ	oletion 1 \$10 of ate off	of this r more fense	than \$	t is ma 100 or nt to 1	indatory impriso	y. Pen ned no 19 and	alties: ot less 162.06	Forfeit than 3 Wis	not les 0 days, Stats	S	

State Jepar	of Wis tment	consi of Na	n itura	al Ri	Rout esources S E W W	e To: olid Waste mergency Respon astewater	ise] Haz. 1] Undei] Water	Waste rgroun ' Reso	d Tanks urces			S(Fo	DIL BC orm 44	DRIN(00-12	5 LOG 2	INFO	RMATION Rev. 5–9;
					□ s	uperfund		0ther	:					Durba				Page 1 of
- acii ii `γC∙	-Sheba	ect Na oygan	ime II					Licen	se/rei	mit/Mor	ntoring		अ	SD-70	NUMD BBV	er		
soring ASCI) Drilled	iBy (- Firm	nam	e and name of crea	ı chief)		Date 06/10	Drilling 0/96) Starte	d	Date (06/10/)rilling /96	Comple	ted	Drilling VIBROC	Method CORE	i
DNR F	acility	Well N	0.	WIU	Jnique Well No.	Common Well Na	me	Final Feet	Static MSL	Water	_evel	Surfac 580 F	e Elev	ation M		Boreho 4 inche	e Diam s	eter
Boring State	I Locat Plane	ion (4. Se	ctior	23.	. T15N. R23E	Feet N Feet E		Lat Long	•			Local 117.	Grid Lo 88 fee	$ \begin{array}{c} \text{cation} \\ t \boxtimes N \\ \Box S \end{array} $	(if ap 166.9	o plicable 99 feet	e) ⊠ E □ N	
Count Sheba	y ygan	.,					DNR (60	County	Code	Civil To City of	wn/C	l ty/ or ' boygan	Village					
San	ple													Soil	l Prope	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Denth in Feet		Soil/F And G Ea	Rock Description eologic Origin For ch Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					0"~16" Medium b	rown silt with org	anics	_	ML OL									
	16"-35" Dark brown/black silt with gravel						h traci	e	ML									
					35"—52" Dark g sand, shells with clay with hair	ay medium/coars interbedded tan/	e silty ′black		ML CL									
				; _	52"-60" Black s	ilt with animal hai	r		ML	11								
					EOB @ 5'0"													
				\$ }	Depth to sedime	it = 6 10.							1					
				0														
				1														
here ignat	by cer ure I	tify th Logge	at ti d by	he ir Dar	nformation on this formation on this formation on this formation of the second se	orm is true and co	orrect	to the Firm	best c Nat	of my kn ural Res	owled	ge. Techn	ology					
nis fe an \$	orm is a 510 nor	authori more	ized than	by (\$5,	Chapters 144.147 ar 000 for each violat	d 162, Wis. Stats	. Comp ss than	oletion n \$10 or	of this r more	s report than \$	is ma 100 or	imprise	y. Pen oned n	alties: I	Forfei than 3	t not le: 30 days	ss ,	

- Julian Are

. . .

State	of Wi	scon	sin			Route To:	Г	ן עריד ו	Jacto					SC	DIL BO		G LOG	INFO	RMATION
рера	tillen		atu	агн	resources	Sond Waste Emergency Respon Wastewater Supportunit	nse [Under	groun Reso	d Tan urces	iks			Fo	orm 44)	00-12	22		Rev. 5-92
						L) Superfund	L	_] Other:											Page 1 of 1
Facili VC	ty/Pro '−Sheb	ject N ovgar	lame n II	Ļ				Licens	se/Pei	mit/M	Ion	toring	Numbe	1	Boring SD-70	Numb 194 V	er		
Borin ASCI	g Drille	d By	(Firi	n nai	me and name of	crew chief)		Date 11/04/	Drilling 195	star	tec	t	Date D 11/04/3	iriling 95	Comple	ted	Drilling I VIBROC	dethod ORE	
DNR F	Facility	/ Well	No.	WI	Unique Well No.	Common Well Na	ame	Final : Feet	Static MSL	Wate	er L	evel	Surfac Feet	e Elev MSL	ation		Borehol 4 inche	e Diam s	eter
Boring State	g Loca Plane	tion	ecti	2: 01	TIEN ROZE	Feet N Feet E		Lat Long	•				Local (40.6	Grid Lo 64 fee	$t \boxtimes N$	(if ar 88.	oplicable .01 feet	:) ⊠ E □ ₩	
Count Sheb	t y oygan	<i>,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			, HON, HZUL		DNR (60	County	Code	Civil City	To of	wn/Cli Shebi	t y/ or V bygan	Village					
Sa	mple														Soi	Prop	erties		
Number and Type	Length Att. & Recovered (in)	Blow Counts		Depth in Feet	S Ar	ioil/Rock Description Ind Geologic Origin For Each Major Unit	r		nscs	Graphic	Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RgD/ Comments
					0"-11" Dark material	brown/black silt with	organi	c	ML		₹ ₹		14.3						
				1	10"-24" Dari sands, trace	k brown/black fine to gravel/organic mate	mediur erial	'n	SP ÖL				33.9						
				2	24"→36" Bro gravels	wn medium/coarse sa	and with	 ז	SP GP		202		9.2						
 }			E	3	EOB @ 3'					1				1					
,				4 5	Depth to se	diment = Unknown													
				6 7															
				8 9															
				10															
				11															
I here	eby ce	 ertify f	hat	the i	information on th	his form is true and c	orrect	to the	Dest c	of my	kno	wiedo] je.						
Signa	ture	Logg	ed b	y Da	inlel R. Johnson	Sint hora	ft	Firm	Nat	ural R	les	ource	Techno	ology					
1 nis f than 1 or bo	ormis \$10 no thfor	authc r more each	orize e tha viola	d by In \$5 Ition.	Chapters 144.14 5,000 for each v Each day of c	7 and 162, Wis. Stats iolation. Fined not le ontinued violation is a	s. Com ess thar a separ	pletion n \$10 or rate off	of this more ense,	s repo than pursu	ort \$1 Jan	is mar 00 or t to s	idatory impriso s 144.9	/. Pen ned n 9 and	alties: ot less 162.06,	Forfei than 3 Wis.	t not les 30 days, Stats,	s	

-

State	of Wis	sconsi	'n		Route	e To:	_	_					S	DIL B	ORIN	IG LOG	INFO	RMATION
Depar	tment	of Na	atural	Resources	□ So □ Er □ Wa	ilid Waste Iergency Respor Istewater	ise [Haz. Under Water	Waste ground Resou	d Tanks Irces			Fo	orm 44	100-1	22		Rev. 5-92
					LISu	perfund	L	_l Other	:									Page 1 of
F acili ŞC	ty/Pro j – <i>Shebo</i>	<mark>ect Na</mark> bygan	ame II					Licen	se/Per	mit/Mor	itorin	g Numbi	er	Boring SD-7	g Num i 10A V	ber		
ASCI	g Drille(d By (Firm r	name and name	of crew	chief)		Date 06/18	Drilling 8/96	Starte	d	Date [06/18/)rilling /96	Comple	eted	Drilling VIBRO	Methoc CORE	1
DNR F	acility	Well N	o. ¥	II Unique Well N	0.	Common Well Na	ame	Final Feet	Static MSL	Water I	_evei	Surfac 580 F	e Elev	v ation SL		Boreho	e Diam	eter
Boring	Loca	tion	[Feet N		lat				Local	Grid Lo	catior	n (if e	pplicabl	e)	_
State	: Plane 4, SW 1	/4, Se	ction	23, T15N, R23E		Feet E		Long	•			710.	52 fee	et⊠N □S	1060	.45 feet	⊡ ⊮	
Count Sheba	y bygan						DNR 60	County	Code	Civil To City of	wn/Cl Sheb	ty/ or oygan	Village	1				
Sar	nple													So	il Prop	perties]
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet		Soil/Ro And Ge Ead	ock Description ologic Origin For ch Major Unit			nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strenath	Moisture	Liquid	Limit Plasticity Index	P 200	RQD/ Comments
			1 1 2 3 4 5 6 7 8 9 10 11 1 1 1 1 1 1 1 1 1 1 1	0"-23" I organics 23"-34" sand and 34"-44' 44"-50' silt, with 50"-52" silt, satur 52"-54" silt with c 54"-64" with sand EOB @ 5 Depth to	Dark brod gravel Dark bro Dark bro Dark bro coal tar Dark bro ated wit Black/d coal tar, Dark bro y hairy f 4" sedimen	wn poorly grade own medium to c own poorly grad own/black poorl h coal tar/anima ark brown poorly animal hair own poorly grad tar t = 8'10"	d silt w oarse led silt y grade al hair y grade ed silt	ed ed	ML SP ML TAR TAR TAR TAR									
I here	by cer	tify th	at th	e information o	n <mark>this fo</mark>	rm is true and co	orrect	to the	best o	fmy kn	owled	ge.			_	1	- I	
Signa 	ture	Logge	d by l	Daniel R. Johns	on Su	- Plon	£	Firm -	Nati	iral Res	ource	Techn	ology					
inis f	orm is a	author	ized t	by Chapters 14	1.147 and	162 Wis. Stats	. Com	pletion	of this	report	is ma	ndatory	y. Per	alties:	Forfe	it not le	SS	

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.

acili	ty/Proje	ect Nam			- 		Licen	se/Per	mit/Mor	ltoring) Numbe	er	Boring	Numb	er		Page 1 o
<u>)c</u> Ioring ISCI	- <i>Shebo</i> Drilleo	ygan II I By (Fii	m na	me and name of crew	chief)		Date 06/18	Drilling 196	Starte	d	Date [06/18/	Drilling 196	SD-71 Comple	ted	Driiling I VIBROC	Nethod ORE	
INR F	acility	Well No.	WI	Unique ¥ell No.	Common Well Na	аме	Final Feet	Static MSL	Water I	.evel	Surfac	e Elev	ation		Borehol 4 inche:	e Dlamo s	eter
ioring itate /// 1/-	Locat Plane 4, SW 1/	ion 4, Secti	 ion 2:	3, T15N, R23E	Feet N Feet E		Lat Long	•			Local 681.	Grid Lo 54 fee	$t \boxtimes N$ $\Box S$	(if aç <i>1059.4</i>	plicable 14 feet	:) ⊠ <i>E</i> □₩	
count Shebo	y oygan					DNR (60	County	Code	Civil To City of	wn/Ci Sheb	ty/ or oygan	Village					
Sar	nple												Soi	Prope	erties		
Type	gth Att. & overed (in)	w Counts	oth in Feet	Soil/Re And Ge Eac	ock Description ologic Origin For ch Major Unit			S	phic	gram	/FID	npressive ength	sture	bid t	sticity ex	00)/ Iments
	$a = \frac{c}{2}$ $s = \frac{c}{2}$ Soil/Rock Desc $a = \frac{c}{2}$ $a = \frac{c}{2}$ And Geologic O $a = \frac{c}{2}$ $a = \frac{c}{2}$ Each Major $a = \frac{c}{2}$					o coarsu led silt ium to t	e fine	SP ML SP ML		Me Dia	PIL	STS	Co		Pla Inc	4 	02 SO
			- 6 - 7 - 8 - 9 - 10 - 11	Depth to sedimen	t = 6'6"												
		E															
	by cer	tify that	the	information on this fo	rm is true and co	orrect	to the l	best o	fmy kn	owled	ge.	I					

10 IN 10

المعصومة والمراجع

State	of Wis	consir	٦	Route	е То:	-	-					S	DIL B	ORIN	g log	INFO	RMATION
Depar	tment	of Na	tural	Resources So En Wa	olid Waste Tergency Respor Estewater	nse [Haz. N Under Water	daste groun Resou	d Tanks Irces			Fo	orm 44	00-1	22		Rev. 5–92
			_		perfund	L	J Other	: 								-	Page 1 of 1
F acili i کر	ty/Proj –Sheba	ect Na bygan I	me II				Licen	se/Per	mit/Mor	ltoring) Numbe	2	Boring SD-71	j Numt IOCV	ber		
Boring ASCI	g Drilleo	d By (i	Firm na	ame and name of crew	chief)		Date 06/18	Drilling 8/96) Starte	d	Date (06/18/)rilling /96	Comple	eted	Drilling VIBROC	Method CORE	
DNR F	acility	Well No). W	I Unique Well No.	Common Well Na	ame	Final Feet	Static MSL	Water I	.evel	Surfac 580 Fi	e Elev	ation		Borehol 4 inche	le Diam s	eter
Boring State	g Local Plane 4, SW 1,	l on /4, Sec	ction 2	23, T15N, R23E	Feet N Feet E		Lat Long	•			Local 622.	Grid Lo 87 fee	t 🛛 N	(if a 1057.	pplicable .57 feet	e) ⊠ E □ ₩	
Count Sheba	y Sygan					DNR 60	County	Code	Civil To City of	wn/Ci Sheb	ty/ or oygan	Village					
Sar	nple												So	il Prop	erties		
fumber nd Type	ength Att. & Recovered (in)	Blow Counts	Jepth in Feet	Soil/R And Ge Ead	ock Description ologic Origin For ch Major Unit			JSCS	Sraphic -og	vell Diagram	1D/FID	Compressive Strength	Moisture Content	-iquid	alasticity Index	, 200	3gD/ Comments
			1 1 1 2 3 4 5 6 7 8 9 10 11 11	42"-52" Medium sand and gravel 52"-64" Dark br EOB @ 5'4" Depth to sedimen	brown medium to with shells own poorly grad t = 4"11"	ed silt	e	ML OL ML									
	L		E														
I here	eby cer ture	tify th	at the	information on this fo	rm is true and co	orrect	to the	best c	of my kn	owled	ge.						
		Logged	d by D	aniel R. Johnson	il-hover	H		Nati	ural Res	ource	Techn	ology					
This f	ormisa \$10 nor	authori more 1	zed b than \$	y Chapters 144.147 and 5,000 for each violation	d 162, Wis. Stats on. Fined not le	s. Com ss thai	pletion n \$10 ol	of this r more	s report than \$	is ma 100 or	ndatory imprise	y. Pen oned n	alties: ot less	Forfe than	it not le: 30 days	ss ,	

or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

					mergency Respor astewater uperfund	nse [[] Under] Water] Other	groun Resou	d Tar urces	ks		F	orm 44	00-1	22		Rev. 5–92 Page 1 of
F acilit	y/Pro je -Shebo	ect Na ygan .	i me II				Licen	se/Per	mit/M	Ionitorir	g Numb	er	Boring SD-71	; Numt 11A V	ber		
Horing ASCI	Drillec	IBy (Firm na	me and name of crew	v chief)		Date 06/18	Drilling 8/96	star	ted	Date 06/18	Drilling /96	Comple	eted	Drilling I VIBROC	Method ORE	
DNR F	acility	Well N	o. WI	Unique Well No.	Common Well Na	ame	Final Feet	Static MSL	Wate	r Level	Surfa 580 F	ce Elev Feet MS	ration		Borehol 4 inche	e Diam s	eter
Boring State NW 1/2	Locat Plane 1, SW 1/	lon '4, Sec	ction 2.	3, T15N, R23E	Feet N Feet E		Lat Long	•			Local 720	Grid L o 3.91 fea	et 🛛 N	(if a 1218.	pplicable .63 feet	:) ⊠ E □ ₩	
County Shebo	i ygan					DNR (60	County	Code	Civil City	Town/C of She	ity/ or boygan	Village	1				
Sam	ple												Soi	Prop	erties	1	
Number and Type	Length Att. & Recovered (in	Blow Counts	Depth in Fee	Soil/F And Ge Ea	lock Description eologic Origin For ch Major Unit			nscs	Graphic	Log Well	PID/FID	Compressive Strength	Moisture Content	Liquid	Limit Plasticity Index	P 200	RGD/ Comments
I here	by cer	tify th	1 2 2 3 1 4 5 6 7 8 1 9 10 10 11 10 11 11 11 11 11 11 11 11 11	24"-28" Black m gravel with coal 28"-36" Dark br coarse sand and shells 36"-48" Gray m gravel deeper wi EOB @ 4'0" Depth to sediment	redium to coarse tar, shells "own/black mediu gravel with hair, edium sand gradi th shells ht = 9'1"	sand a m to silt, ta ing to	to the	ML OL TAR SP TAR SP GP	of my		ige.						
Signat	1	ogge	d by Da	aniel R. Johnson	in Plan	Ð	FILM	Nati	ural R	esourci	e Techr	ology					

State Depar	of Wis tment	consi of Na	n Itural I	Route Resources Do Em	To: lid Waste ergency Respo	onse [] Haz.] Unde	Waste rground	1 Tanks			S (Fo	DIL B	0RI 400-	NG 122	LOG	INFO	RMATION Rev. 5-92
				⊡ wa ⊡ Su	stewater Derfund] Water] Other	r Resou r:	irces									Page 1 of 1
Facilit	y/Proj	ect Na	ame 77				Licen	nse/Per	mit/Mor	ltoring	g Numbe	er	Borin	g Nun 118V	nber	r		
Boring ASCI) Drilled	By (Firm na	ame and name of crew	chief)		Date 06/18	Drilling 8/96	Starte	d	Date (06/18/	Drilling /96	Compl	eted	D	Irilling M IBROCI	lethod ORE	
DNR F	acility	Well N	o. W]	Unique Well No.	Common Well N	lame	Final Fee	Static t MSL	Water	.evel	Surfac 580 F	eet MS	vation SL		B 4	orehole inches	e Diama	eter
Boring State	Locat Plane	l on /4, Se	ction 2	3. TI5N, R23E	Feet N Feet E		Lat Long	•			Local 686.	Grid L i 83 fee	$t \boxtimes \Lambda$	n (if ' 12	app ?18.8	b licable 8 feet [[⊠ E □ ₩	
Count Sheba	y bygan	.,				DNR (60	County	Code	Civil To City of	wn/Cl Sheb	ty/ or oygan	Village						
Sar	npie												Sc	il Pro	per	ties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Ro And Ge Eac	ock Description ologic Origin Fo h Major Unit) Dr		nscs	Graphic Log	Weli Diagram	PID/FID	Compressive Strenath	Moisture	Liquid	Limit	Plasticity Index	P 200	RGD/ Comments
			1 1 2 3 4 5 6 7 8 9 10 10 11	0"-7" Dark brown dark brown fine s. 7"-13" Dark brown sand 13"-18" Gray/bro with shells 18"-22" Dark bro 22"-29" Black sil 29"-34" Dark bro sand 34"-48" Dark bro sand 34"-48" Dark bro sand ad gravel; 50"-58" Dark bro silt with animal hair 48"-50" Medium I with hair, tar odor 68"-78" Medium I sand and gravel w 78"-87" Medium I with animal hair 87"-100" Same a EOB @ 8'4" Depth to sediment	n poorly graded and n poorly grade wn medium to c wn poorly grad t with animal ha own poorly grad t with animal ha own poorly grad own/black poor r brown medium t saturated with own/black poor tar prown poorly gr orown medium t ith shells prown poorly gr s 68"-78"	d silt wit	and 6	ML SP SP ML ML SP ML TAR ML SP ML SP ML SP										
I here	by cer	tify th	at the	information on this for	m is true and o	correct	to the	best o	f my kn	owled	ge.							
Signa 		Logge	d by D	aniel R. Johnson	il- Mora	the	-	Natu	iral Res	ource	Techn	ology						<u> </u>
1 nis f than S	ormisa \$10 nor	authori more	ized by than \$	/ Chapters 144.147 and 5,000 for each violatio	1 162, Wis. Stat	ts. Comp ess thar	oletion n \$10 o	of this or more	report than \$	is ma 100 or	ndatory imprise	y. Per oned n	alties: ot les:	Forf than	eit n 30	not les) days.	S	

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 Depar	of Wi tment	sconsi of Na	n Itural	Resources	ute To: Solid Waste Emergency Respon Wastewater	ise] Haz. N] Under] Water	Waste rgroun r Reso	d Tanks irces			S (Fo	DIL BC	00-12	3 LOG	INFO	RMATION Rev. 5–92
Facili	tv/Pro	iect Na			Superfund		Uther	: se/Pei	mit/Mor	itorin	a Numbi	er	Boring	Numb	er		Page 1 of 1
<u> </u>	-Sheb	oygan	II										SD-71	ICV			
Borin: ASCI	g Drille	d By(Firm r	name and name of cr	ew chief)		Date 06/18	Drilling 8/96	Starte	d	Date [06/18/	Jrilling /96	Comple	ted	Drilling I VIBROC	Method ORE	1
DNR F	acility	Well N	o. V	I Unique Well No.	Common Well Na	e	Final Feet	Static MSL	Water I	.evel	Surfac 580 F	eet MS	vation ∞		Borehol 4 inche	e Diam s	eter
Boring State	g Loca Plane 4. SW 1	tion	ction	23. T15N. R23E	Feet N Feet E		Lat Long				Local 614.	Grid Lo 73 fee	$\Box S$	(if ap <i>1218.)</i>	plicable 77 feet	:) ⊠ <i>E</i> □₩	
Count Sheb	y y oygan	, ,				DNR 1 60	County	Code	Civil To City of	wn/C	l ty/ or ' boygan	Village					
Sar	mple												Soil	Prope	erties		
mber 1 Type	ngth Att. & covered (in)	ow Counts	pth in Feet	Soi And	I/Rock Description Geologic Origin For Each Major Unit			SCS	aphic g	ell acram	D/FID	mpressive renath	oisture Intent	quid	asticity dex	200	tD/ mments
				0"-21" Dark b organics 21"-36" As at 36"-48" Dark odor and shee 48"-55" Dark 55"-60" Dark strong tar odo 60"-69" Dark with shells, str EOB @ 5'9"	trong ar ed silt, um san	th	ML OL SP TAR ML SP		We Di	Id		U U U U U U U U U U U U U U U U U U U		Pla			
I here Signa	eby ce ture	rtify th Logge	at th	e information on this Danlel R. Johnson	form is true and co	orrect	to the Firm	best c	f my kn ural Res	owled ource	ge. Techn	ology				<i>-</i>	
i his f than s or bo	orm is \$10 noi th for	authori more each vi	zed t than olatic	by Chapters 144,147 \$5,000 for each viol on. Each day of cor	and 162, Wis. Stats ation. Fined not les itinued violation is a	. Comp ss thar i separ	oletion n \$10 oi ate off	of this r more fense,	report than \$ pursuar	is ma 100 or ht to s	ndatory impriso ss 144.9	y. Per oned n 99 and	alties: F ot less 162.06,	Forfeit than 3 Wis. 9	t not les 10 days, Stats.	s	

Ş

State Depar	of Wis tment	consir of Na	n Itural F	Rout Resources □S □E □W	e To: olid Waste mergency Respor astewater	nse [] Haz. 1] Under] Water	Naste groun Reso	d Tanks Jrces			SC Fo	DIL BC	0 RING 00-12	5 LOG 2	INFO	RMATION Rev. 5–92
- - 114				□ s	uperfund	0	Other	:			- Mumb		Derine	Numb			Page 1 of 1
F aci in SC	-Sheba	ect Na bygan .	ine II				Licen	se/re	mit/Mon	litorinį	g Numbi	er	SD-712	2AV	er		
Horing ASCI) Drilled	iBy (i	Firm na	me and name of crev	v chief)		Date 06/18	Drilling /96) Starte	d	Date (06/18,	Drilling /96	Comple	ted	Drilling I VIBROC	lethod ORE	
DNR F	acility	Well N	D. WI	Unique Well No.	Common Well N	ame	Final Feet	Static MSL	Water I	_evel	Surfac 580 F	eet MS	ation	,	Borehoi 4 inche:	e Diamo s	eter
Boring State	Local Plane	ion	ction 2		Feet N Feet E		Lat Long	•			Local 783.	Grid Lo 84 fee	$t \boxtimes N$	(if ap 1471.	plicable 12 feet) Xe V	
Count Sheba	y Sygan	4, 380		, 113N, NZJE		DNR 1 60	County	Code	Civil To City of	wn/C	i ty/ or oygan	Village					
San	nple					I							Soil	Prope	erties		
lumber nd Type	ength Att. & tecovered (in)	310w Counts	Jepth in Feet	Soil/F And G Ea	Rock Description eologic Origin For Ich Major Unit			JSCS	Sraphic .og	tell Diagram	JD/FID	Compressive	doisture Content	iquid imit	lasticity ndex	, 200	RgD/ Comments
			1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	trace organics, sand 38"-48" Dark b with trace fine s 48"-67" Light t and gravel with s 67"-73" Light t EOB @ 6'1" Depth to sedime	rown poorly grad and very slight s an medium to coa shells an poorly graded ht = 9'2"	e fine led silt heen arse sa	nd	ML SP SP									
I here Signa:	eby cer ture	tify th	at the	information on this fo	orm is true and c	orrect	to the Firm	best c	of my kn	owled	ge.						
			d by Da	aniel R. Johnson S	F. Koval	th		Nat	ural Res		Techn	ology					
this f	orm is a \$10 nor	authori more	zed by than \$5	Chapters 144.147 ar 5,000 for each violat	nd 162, Wis. Stats ion. Fined not le	s. Com ss thai	pletion n \$10 o	of this r more	s report than \$	is ma 100 or	ndator impriso	y. Pen oned n	alties: F ot less	orfei than 3	t not les 30 days,	S	

unan ψ		more the	in ψ0,000		ch noiation.	- i incu not i	c_{33} that ϕ	10 01 10010		or mp	noonea n		thun o	/0 uu
or both	n for e	each viola	tion. Ea	ch dav	of continue	d violation is	a separate	e offense.	oursuant t	o ss 14	4.99 and	162.06.	Wis.	Stats

State Depar	of Wis tment	consii of Na	n Itura	l Resources	Route Sol Em Wa	To: lid Waste ergency Respon stewater	se [] Haz. V] Under] Water	laste ground Resou	d Tanks Irces			S(Fc	OIL BO orm 44(RING 00-12	LOG 2	INFO	RMATION Rev. 5-92
					🗌 Su	perfund		0ther:						D - 1				Page 1 of
Facilii SC	ty/Pro) Sheba	ect Na bygan .	ime II					Licen	se/Per	mit/Mor	litoring	g Numbe	.	SD-712	Numde ?BV	er		
Horing ASCI) Drilled	1 By (Firm	name and name o	of crew	chief)		Date 06/18,	Drilling /96	Starte	đ	Date D 06/18/	irilling '96	Complet	ted	Drilling I VIBROC	Method ORE	
DNR F	acility	Well N	0.	WI Unique Well No	•	Common Well Na	me	Final : Feet	Static MSL	Water I	_evel	Surfac 580 Fe	e Elev eet MS	ation L		Borehol 4 inche	e Diam s	eter
Boring State	y Locat Plane 4. SW 1.	tion /4. Se	ction	23, T15N, R23E		Feet N Feet E		Lat Long				Local (718	Grid L o 8.9 fee	$ \begin{array}{c} \text{cation} \\ \forall & \mathbf{N} \\ \hline & \mathbf{D} & \mathbf{S} \end{array} \end{array} $	(if ap 1483.0	plicable 16 feet	:) ⊠ E □ ₩	
Count Sheba	y bygan		-				DNR 60	County	Code	Civil To City of	wn/C 'Shet	ity/ or v boygan	VIIIage	•				
Sar	nple							-		Τ				Soil	Prope	rties		
lumber nd Type	ength Att. & (ecovered (in)	llow Counts	Jepth in Feet		Soil/Ro And Ge Eac	ock Description ologic Origin For h Major Unit			SCS	Braphic .og	vell Diagram	ID/FID	Compressive	doisture Content	.iquid imit	ⁿ lasticity index	• 200	300/ Comments
)			Each Major Unit				aded ed silt	ſ	ML OL SP	- Un Un Un Un Un								
				EOB @ 6'S	<u>;"</u> edimen	t = 10'4"												
I here Signa This f	eby ce ture form is \$10 nor	Logge	d by	Daniel R. Johnso by Chapters 144 \$5,000 for each	this fo	rm is true and co 	orrect	to the Firm pletion in \$10 o	Dest of thir more	of my kr ural Res s report than \$	nowlec source t is ma	ige. • Techn • ndator r impriso	ology y. Per phed r	nalties: not less	Forfeit	t not le 80 days		

 $L_{\rm electric}$

APPENDIX G

LABORATORY ANALYTICAL RESULTS

. 1.



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

÷.

NDNR. No. 124053530

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	SE-702B	#1060	10/18/1995	10/23/1995

Post-it ^e Fax Note 7671	Date 17/13 pages Many
To SisAn	From Den
Co./Dept. D/KT	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
- C = Standard outside of control limits
- F = Sample filtered in lab
- E = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis
- T = Does not match typical pattern
- X = Unidentified compound(s) present

B = Blank is contaminated

- D = Diluted for analysis
- G = Received past hold time
- I Improperly handled sample
- L = Common lab solvent and contaminant

......

- P = Improperly preserved sample
- S = Sediment present
- W = BOD re-set due to missed dilution
- Z = Internal standard outside limits

ian D. SeJong, Organic Operations Manager Certification No. 128053530





NATIONAL ENVIRONMENTAL ® TESTING, INC. Watertown Division 502 Commerce Drive P.O. Box 288 Wetertown, WI 53094 Tel: (414) 261-1660 Fax: (414) 261-8120

NDNE 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

			Reporting	F	Date	Prep/Run
Paraceter	Results	Units	Limit	Method	Analyzed	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	5-9065M	10/30/1995	53
Solids, Total	64.3	*	=/a	S-5030	10/26/1995	1241
TOC	30,000	mg/kg		E-415.1	10/23/1995	61
V - NONAQUEOUS - 8260						
Benzene	<5.0	u=/k=	5.0	S-8260	10/30/1995	331
Ethylbenzene	<5.0	ug/kg	5.0	5-8250	10/30/1995	331
Toluene	<5.0	uq/kq	5.0	S-8260	10/30/1995	331
Xylenes, Total	<18	ug/kg	15	S-8260	10/30/1995	332
Surr: Dibromoflucromethane	120.4	*	n/a	5-8260	10/30/1995	331
Surr: Toluene-d8	99.0	*	n/a	S-8260	10/30/1995	331
Surr: Bromofluorobenzene	82.4	ŧ	n/a	S-8260	10/30/1995	331
PNA Extraction	10/25/95	•	-	\$-3550	10/25/1995	125
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	uc/kc	40	S-8310	10/26/1995	125 345
Acenaphthylene	<80	ug/kg	80	5-8310	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	5-6310	10/26/1995	125 345
Benzo(k) fluoranthene	69	ug/kg	2.0	5-8310	10/26/1995	125 345
Benzo (e) 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
Fluorenthene	640	ug/kg	8.0	S-8310	10/26/1995	125 345
Fliorene	<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	5-8310	10/26/1995	125 345
Phenanchrene	62	ug/kg	15	5-8310	10/26/1995	125 345
Pyrene	160	ug/kg	8.0	5-8310	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) 261-1650 Fax: (414) 261-8120

Ş

instant.

WONE 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: 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

			Reporting		Date	Prep/Run
Parameter	Results	Units	Limit -	Method	Analyzed	Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	18
Cyanide, total	C.30	mg/kg	0.25	5-9010	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						
senzene	<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	332
Xylenes, Total	<15	ug/kg	15	S-8260	10/30/1995	331
Surr: Dibromofluoromethane	117.2	*	n/a	5-8260	10/30/1995	331
Surr: Toluene-d8	99.0	*	n/a	S-8260	10/30/1995	331
Surr: Bromofluorobenzene	80.B	*	n/a	5-8260	10/30/1995	331
PNA Extraction	10/25/95			\$-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	5-8310	10/30/1995	125 349
Benzo (b) fluoranthene	11	ug/kg	2.0	5-8310	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	36	ug/kg	4.0	S-8310	10/30/1995	125 349
Chrysene	9.8	ug/kg	4.0	5-8310	10/30/1995	125 349
Dibenzo (a, h) anthracene	14	ug/kg	4.0	5-8310	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	26	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



NOVE Nº 128053530

ANALYTICAL REPORT

Mr. Dan Johnson NATURAL RESOURCE TECH, INC 23713 W. Paul Road Pewaukee, WI 53072 11/07/1995 Job Nc: 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

			Reporting		Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	Batch
Cyanide, dissociable	0.52	mg/kg	0.25		10/27/1995	18
Cyanide, total	0.84	mg/kg	0.25	5-9010	10/27/1995	59
Phenol	2.0	mg/kg	0.13	S-9065M	10/30/1995	54
Sclids, Total	53.6	÷	n/a	S-5030	10/26/1995	1241
TOC	31,000	mg/kg		E-415.1	10/23/1995	61
- NONAQUEOUS - 8250						
Benzene	5,300	ug/kg	5.0	5-8260	10/30/1995	332
Ethylbenzene	24,000	ug/kg	5.0	5-8260	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	5-8260	10/30/1995	332
Surr: Toluene-d8	95.8	ŧ	n/a	5-8260	10/30/1995	332
Surr: Bromofluorobenzene	85.8	÷	n/a	S-8260	10/30/1995	332
PNA Extraction	10/27/95			\$-3530	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	26,000	ug/kg	40	5-8310	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	5-8310	10/30/1995	126 349
Senzo (a) anthracene	11,000	ug/kg	2.0	5-8310	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	5-8310	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	5-8310	10/30/1995	126 349
Fluorene	31,000	ug/kg	16	5-8310	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	le	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	5-8310	10/30/1995	126 349



NHIUKHE KEBUUKUE IEUM.

HIH DED DEET - C. COVIER



Watertown Division 602 Commerce Drive P.O. Box 288 Watertown, Wi 53094 Tel: (414) 261-1660 Fax: (414) 261-8120 4.

aler sheet to

الماحية و

0.15

0.00

NDNE No. 128051530

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: 10/16/1995

			Reporting	5	Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	Batch
Cyanide, dissociable	<0.25	mg/kg	0.25		10/27/1995	28
Cyanide, total	<\$.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	*	r/a	S-5030	10/26/1995	1241
TOC	7,600	mg/kg		2-415.1	10/23/1995	€1
VOC - NONAQUEOUS - 8260						
I ene	<5.0	ug/kg	5.0	5-8260	10/30/1995	332
Et.ylbenzene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	5-8260	10/30/1995	332
Xylenes, Total	<15	ug/kg	15	\$-826C	10/30/1995	332
Surr: Dibromofluoromethane	107.8	ŧ	=/a	S-8260	10/30/1995	332
Surr: Toluene-dB	97.2	*	n/a	S-8260	10/30/1995	332
Surr: Bromofluorobenzene	86.4	*	n/a	5-6260	10/30/1995	332
PNA Extraction	10/27/95			S-3550	10/30/1995	126
PNA METHOD \$310 - 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	5-8310	10/30/1995	126 349
Benzo (a) anthracene	110	ug/kg	2.0	5-8310	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	5-8310	10/30/1995	126 349
Benzo (a) pyrene	82	ug/kg	8.0	5-8310	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	5-8310	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	5-8310	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	5-6310	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	5-8310	10/30/1995	125 349





WENT 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: 153789 Account No: 52450 Page 6

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

Date Taken: 10/17/1995

			Reporting		Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	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
<u>ک</u> ن ش	27,000	mg/kg		2-415.1	10/23/1995	61
VUC - NONAQUEOUS - 5250						
Benzene	<5.0	uq/kg	5.0	5-8260	10/30/1995	332
Ethylbenzene	<5.0	ug/k=	5.0	S-8260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	5-8260	10/30/1995	332
Xylenes, Total	<15	ue/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	\$-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	5-8310	10/30/1995	126 349
Acenaphthylene	<80	ug/kg	80	S-8310	10/30/1995	126 349
Anthracene	<8.0	ug/kg	8.0	5-8310	10/30/1995	126 349
Benzo (a) anchracene	<2.0	ug/kg	2.0	5-8310	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	5-8310	10/30/1995	126 349
Benzo (a) pyrene	< 8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
Benzo (ghi) pervlene	<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	5-8310	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	<25	ug/kg	16	S-8310	10/30/1995	126 349
Pyrene	<8.0	ug/kg	8.0	S-8310	10/30/1995	126 349
T: 2-Fluorobiphenyl	73.8	÷	n/a	S-8310	10/30/1995	126 349



414 523 9001 P.07/10



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

WONR NO TOROSTERO

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

			Reporting	;	Date	Prep/Run
Parameter	Results	Uzics	Limit	Method	Analyzed	Batch
Cyanide, dissociable	<0.25	mg/kg	C.25		10/27/1995	18
Cyanide, total	<0.25	mg/kg	0.25	5-9010	10/27/1995	69
Phenol	<0.13	mg/kg	0.13	S-9065M	10/30/1995	54
Solids, Total	47.5	+	=/a	S-5030	10/26/1995	1241
TOC	17,000	mg/kg		E-415.1	10/23/1995	61
		0.0				
Vue - Nonaqueous - 8260						
Benzene	<5.0	ug/kg	5.0	5-8260	10/30/1995	331
Ethylbenzene	<5,0	ug/kg	5.0	S-8250	10/30/1995	331
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	331
Xylenes, Total	<15	uc/kc	15	5-8260	10/30/1995	331
Surr: Dibromofluoromethane	119.8	¥	n/a	S-8260	10/30/1995	331
Surr: Toluene-d8	98.6	ł	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	uq/kq	2.0	S-8310	10/30/1995	125 349
Benzo (b) fluoranthene	14	ug/kg	2.0	5-8310	10/30/1995	125 349
Benzo(k) fluoranthene	<2.0	ug/kg	2.0	5-8310	10/30/1995	125 349
Benzo (a) pyrene	<8.0	uq/ka	8.0	S-8310	10/30/1995	125 349
Benzo (ghi) pervlene	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	5-8310	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	5-8310	10/30/1995	125 349
Naphthalene	<40	ug/kg	40	S-8310	10/30/1995	125 349
Phenanthrene	<15	ug/kg	16	5-8310	10/30/1995	125 349
Pyrene	11	ug/kg	8.0	S-8310	10/30/1995	125 349
S : 2-Fluorobiphenyl	73.7	¥ .	=/a	5-8310	10/30/1995	125 349



414 523 9001 P.08/10



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

NONE NO 179053536

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 Page 8

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

Date Taken: 10/18/1995

			Reporting	Ŧ	Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	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	*	r/a	S-5030	10/26/1995	1241
TOC	20,000	mg/kg		E-415.1	10/23/1995	61
VUC - NONAQUEOUS - 8260						
Benzene	<5.0	ug/kg	5.0	5-8260	10/30/1995	332
Ethylbenzene	<5.0	ua/ka	5.0	5-5260	10/30/1995	332
Toluene	<5.0	ug/kg	5.0	S-8260	10/30/1995	332
Xylenes, Total	<15	ug/kg	15	5-8260	10/30/1995	332
Surr: Dibromofluoromethane	105.8	*	n/a	5-8260	10/30/1995	332
Surr: Toluene-d8	100.8	*	n/a	5-8260	10/30/1995	332
Surr: Bromofluorobenzene	85.2	ŧ	n/a	5-5260	10/30/1995	332
PNA Extraction	10/27/95	•	, _	S-3550	10/30/1995	126
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	<40	uq/kq	40	S-8310	10/30/1995	126 349
Acenaphthylene	<80	ug/kg	80	5-8310	10/30/1995	126 349
Anthracene	<8.0	ug/kg	8.0	5-8310	10/30/1995	126 349
Benzo (a) anthracene	89	ug/kg	2.0	5-8310	10/30/1995	126 349
Benzo (b) fluoranthene	57	ug/kg	2.0	5-8310	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	\$-8310	10/30/1995	126 349
Benzo (ghi) perylene	150	ug/kg	4.0	5-8310	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	\$-8310	10/30/1995	126 349
Fluoranchene	83	ug/kg	B.O	S-8310	10/30/1995	126 349
Fluorene	<16	ug/kg	16	5-8310	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	5-8310	10/30/1995	126 349
Pyrene	120	ug/kg	B. 0	\$-8310	10/30/1995	126 349
S 1: 2-Flucrobiphenyl	89.4	+	n/a	S-8310	10/30/1995	126 349



CHAIN OF CUSTODY RECORD

<u> </u>														_	<u>୍</u> କ	ふし	58	115		
Sample Collectors Is Stepheni	Kipanture(s) LVInn Dy	rke/st	2.00	مندا	Va Ogho	NATI	URAL RE FEW	SOURCE TECHI AUKEE, WISCO	NOLOGY INSIN	, INC.	Laborator	y Sampt	ल्ड मन	Deing (T Sutimiti	ed Ta:		NE	Г	
Site Name: WPS Site Arkhess: Sh	<u>- 21126</u>	<u>بلا</u> ، ده	r		Send Repo Project N Natural I 23783 W Pevnuke Telephor	nt To: Manuger: SA Reprive Tech A Paul Ruad e, WI SJ072 Ie (41-1) S23-9	ico/D nolingy, Inc	(111) 523-9001	l'rojeet f Task Nur	111071212		niber7A4 EE sam temper nic11 at	pic(s) n nture n nay be	na Phona Nere se Is "nece Salbstita	Teinpe Teinpe ceired d ired an ired fin	rature c on ice a lice". a lemp	of temp and their If all of recount	eratine re was i I the ice blank,	Allached: YES	NO A
I hereby certify flat	I received, pro	perly handle	d, and ma	Intained «	nstudy of these samples	s as noted belo	JN#:			· · · · · · · · · · · · · · · · · · ·			Ant	lytical	Nethod	I / Non	thers		~	1.ab Use (huly
Relinguished By (Si Staphon Relinguished By (B) Minguished By (B)	endinie ek Emminie 110000 generalie 1. 1010) she th	Date/Tin 10/23 Date/Tin 13/2: 1)me/Tin 10-25	195 1 195 1 195 1 195 1 195 1	10:30 Received 1 3:15 Received 1 Serviced 1 Jenne 1650 Received 1	By (Signature) By (Signature) By (Signature) Cat W	mile Mul		 	Date/fune 19/23/1 Date/Pime Date/fine 19-95	<u>85 1030</u> 13 j:\$?*3		-	-1 Prevel	Cycnid e	cacid diss.				
Field ID Number	Date Collected	Mare Collected	San Media	nple Device	1.ocation / Description	n	F1D Reading	() Field Comments		Preperv. Type	# of Cont	872	440	よった	ţ	y a y	400		Lab ID Number	Sampla Conditions R Laboratory
BLG-700	10/16/55		Sed.	gray			5				4									
SD-702 A	10/16/95						1667			~	1									1. j
50-704B	10/17/95						43	Coastar P	usent	1										
50-706C	10/18/95	5					21			<u> </u>						[· · · · · ·
50-7030	10/17/95						8.1								 			Ŀ		
50-701B	10/10/95	;		Π						<u> </u>							l			
50-702B	10/18/95		↓								1					<u>.</u>				
								······································	<u>.</u>											
									{	<i>.</i>										
							i											<u> </u>		
SPECIAL INSTRUC	NONS													l abria analyti Re	tey shiil eitepert rum _	l reain e Eusless i Dihei	indicated	fir 30 da I nterwit 	iys after issuing se brkow: 	

.

ample Collectoruly/Sig	astore(s) 2 1 Dayko /	0.0	2	Ci Vi	0		MATURAL R	ESOURCE TECH VAUKEE, NISC	NISNO:		Tota Num	Samples bei/Adde	aco Acinq Intum Xe	Subonitie miner	je Je	ist E. T. Annebed:	VesNO_}	· · 4
fic Name: L-V. JL.	T.Hiliz					Seed Report Ta Dojoct Niana National Reson 23711 W. Pau Promotice, W	Pri: J. NGA/L too Fednalegy, 1 a Roud	RJ E.	Punjeet Nu Task Numbr	al	0 m	lf sangh limperat meit ma	(L) were ure as "in	Temper Meneficial o ceived en tinted far	như of to như of to như vư to kot, tí al kotru	mperature black, <u>Carin</u> Acre was lea eem uhin ig I of the ke was meked are blach.	بطريم سيد الم	ort the
	and annual for	1				Irighume (4)	oted below:						Analyshin	I Ricibed	/ Number			0.0
ielingalshed Br (Signa		à	e (Time	i i	0	Received By (5	lymiure).	11		Ductime	e., .	(1	((ae)		
leftinguitabol By (Sjena	PV				5	Realised By (5	and the second			Chartenine	15/1	020		50/0	- ZJ/	7		
ichingulaired By (Signa	1		rel Timo			Rejointens (S	ipertury)	,		Deterline		8) X	40 7 (3) V	13:0	Yos			
tan 10 Minute	ate Morte di Colle	N N		1	scatina) Description	TIO		Q. #	Trebury. Ispo	R of Cont.	318	KI al H Vd	1211	Jin		Nember	
C - 70 D	14-155	<u>.</u>					5				2	X	~ ~	×	X			
1 (17)/- J	410.145						9 51		·		 -	-	\exists		-			
" St-,02-TV	SHUK						41.5	1.11.2	10			-		-+-				
1 2 7 12-11	2127.12			• • • • •			12					-		+				
	Artles						1							+	-			
. Jak	í									;		1.	Ī	-+-				
50-7028 -	.4.1.							·		i	÷	≥	2	\geq	X	2		
												Ī	-					
			-									ŀ						
				-				•••••			1							
		-	-									1	$\left \right $					
			1					·] -					<u> </u>					
Srecial INSTRUCT	ONS CONS	-												hetaciy sh dyaled tep	all retain su unbra le Dibor	cylles fix 30 duys police fun Accused adhernine balon:	7	
													!					

TOTAL P.10

*

ŝ

21,2240



WIDNE 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	Sample Description	Date	Date
Number		Taken	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
- C = Standard outside of control limits
- F = Sample filtered in lab
- H = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis

- B = Blank is contaminated
- D = Diluted for analysis
- G = Received past hold time
- I = Improperly handled sample
- L = Common lab solvent and contaminant
- P = Improperly preserved sample
- S = Sediment present
- T = Does not match typical patternW = BOD re-set due to missed dilutionX = Unidentified compound(s) presentZ = Internal standard outside limits

Brian 🗹 DéJong, Organic Operations Manager Certification No. 128053530





.

WDNE 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 Page 2

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

			Reporting		Date	Prer	/Run
Parameter	Results	Units	Limit	Method	Analyzed	Bat	ch
Cvanide, dissociable	<0.50	ma/ka	0.50		11/15/1995		21
Cyanide, total	<0.50	ma/ka	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	ę.	n/a	S-5030	11/15/1995		1256
тос	1,700	mg/kg	•	E-415.1	11/30/1995		63
VC - NONAOUEOUS - 8260							
Be ene	<5.0	ua/ka	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	કુ	n/a	S-8260	11/18/1995		345
Surr: Toluene-d8	104.6	ş	n/a	S-8260	11/18/1995		345
Surr: Bromofluorobenzene	94.6	ę	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	uq/kq	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	⊥1/17/1995	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	ક	n/a	S-8310	11/17/1995	128	358





MONE No. 100052520

يوجون المتحج المراجع المراجع

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 Page 3

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

			Reporting		Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	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	ę	n/a	S-5030	11/15/1995	1256
TOC	1,100	mg/kg		E-415.1	11/30/1995	63
VOC NONAQUEOUS - 8260						
Be, he	<5.0	uq/kq	5.0	S-8260	11/18/1995	345
Ethylbenzene	<5.0	ug/kg	5.0	S-8260	11/18/1995	345
Toluene	<5.0	uq/kq	5.0	S-8260	11/18/1995	345
Xylenes, Total	<15	ua/ka	15	S-8260	11/18/1995	345
Surr: Dibromofluoromethane	105.2	90 90	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	103.0	9	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	93.2	8	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	uq/kq	2.0	S-8310	11/21/1995	128 357
Benzo (b) fluoranthene	840	uq/kq	2.0	S-8310	11/17/1995	128 358
Benzo(k)fluoranthene	120	uq/kq	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





WDNE No. 128053530

ANALYTICAL REPORT

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

ì

12/01/1995 Job No: 95.08590 Sample No: 155296 Account No: 52450 Page 4

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

			Reporting	3	Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	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	8	n/a	S-5030	11/15/1995	1256
TOC	1,600	mg/kg		E-415.1	11/30/1995	63
VOC NONAQUEOUS - 8260						
Be ne	<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	8	n/a	S-8260	11/18/1995	345
Surr: Toluene-d8	110.8	ક	n/a	S-8260	11/18/1995	345
Surr: Bromofluorobenzene	88.0	ę	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	uq/kq	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	5	n/a	S-8310	11/17/1995	128 358

,





WONE No 228053530

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 Page 5

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

			Reporting		Date	Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	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	ş	n/a	S-5030	11/15/1995	1256
TOC	1,100	mg/kg		E-415.1	11/30/1995	63
VOT - NONAQUEOUS - 8260						
Be ne	<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	8	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



, } ./

NATIONAL ENVIRONMENTAL ® TESTING, INC.

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

WINE No 128053530

. INCLUSION

1.00

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 Page 6

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-/1995

Parameter		Results	Units	Reporting Limit	Method	Date Analyzed	Prep Bat	/Run .ch
Cyanide, dissociable		0.51	mq/kq	0.50		11/15/1995		21
Cyanide, total		0.98	ma/ka	0.50	S-9010	11/15/1995		72
Phenol		48	ma/ka	0.50	S-9065M	11/15/1995		57
Solids, Total		62.3	8	n/a	S-5030	11/15/1995		1256
TOC		27,900	mg/kg		E-415.1	11/30/1995		63
VO' NONAQUEOUS - 8260								
Ben_une	А	110,000	uq/kq	5.0	S-8260	11/20/1995		346
Ethylbenzene	А	280,000	ug/kg	5.0	S-8260	11/20/1995		346
Toluene	А	220,000	ug/kg	5.0	S-8260	11/20/1995		346
Xylenes, Total	А	380,000	ug/kg	15	S-8260	11/20/1995		346
Surr: Dibromofluoromethane		103.0	ε. ε	n/a	S-8260	11/20/1995		346
Surr: Toluene-d8		96.0	ę	n/a	S-8260	11/20/1995		346
Surr: Bromofluorobenzene		91.8	ę	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	uq/kq	40	S-8310	11/21/1995	128	357
Acenaphthylene	М	<1,600	ug/kg	80	S-8310	11/17/1995	128	358
Anthracene		106,000	uq/kq	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	uq/kq	2.0	S-8310	11/17/1995	128	358
Benzo (a) pyrene		50,000	uq/kq	8.0	S-8310	11/17/1995	128	358
Benzo(ghi)perylene		37,000	uq/kq	4.0	S-8310	11/17/1995	128	358
Chrysene		42,000	uq/kq	4.0	S-8310	11/17/1995	128	358
Dibenzo(a,h)anthracene	М	<80	uq/kq	4.0	S-8310	11/17/1995	128	358
Fluoranthene		330,000	uq/kq	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	uq/kq	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	uq/kq	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 P.O. Box 288 Watertown, WI 53094 Tel: (414) 261-1660 Fax: (414) 261-8120

WDNE No 178053530

;

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 Page 7

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

				Reporting		Date	Prep/Run
Parameter		Results	Units	Limit	Method	Analyzed	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	8	n/a	S-5030	11/15/1995	1256
TOC		25,700	mg/kg		E-415.1	11/30/1995	63
VC NONAQUEOUS - B260							
Benzene	А	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	А	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	8	n/a	S-8260	11/20/1995	346
Surr: Toluene-d8		97.0	ş	n/a	S-8260	11/20/1995	346
Surr: Bromofluorobenzene		93.0	ક	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	uq/ka	40	S-8310	11/21/1995	128 357
Acenaphthylene	М	<16,000	uq/kq	80	S-8310	11/21/1995	128 357
Anthracene		359,000	uq/kq	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	uq/kq	4.0	S-8310	11/21/1995	128 357
Chrysene		228,000	uq/kq	4.0	S-8310	11/21/1995	128 357
Dibenzo(a,h) anthracene	М	<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	М	DO	ę.	n/a	S-8310	11/21/1995	128 357



1

CHAIN OF CL., ODY RECORD

							OF CL. ODY R	ECORD							`9	508540	
Sample Collectors(s))/Signature(s) Va ~ D-	Kile	step	han	ie the Dyle	NATURAL RE PEW	SOURCE TECHNOLOGY AUKEE, WISCONSIN	, INC.	Laborato Quote Nu	y Sampl	es are I Idendan	Being So n Numt	ubmitte	d To: _	N	ET Attached: YES	_ NO _
Site Name: WPSC-SHEBIE Site Name: WPSC-SHEBIE Site Address: SHEBOY1000, WI Site Address: SHEBOY1000, WI Project Manager: SAG Project Manager: Project Number: VPSC-SHEBIE Project Number: VPOJECT Manager: SAG Project Manager: Project Number: VPOJECT Manager:) 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, proj	perly handle	d, and ma	intained c	ustody of these samples as note	ed below:					Anal	ytical I	leRod	(Bay	bers		Lab Use Only
Relinquished By (Si Star Commission Helinquished By (Si Helinquished Dy (Si	ignature) Va Janes ganture)	yke	Date/Tin //-7-9. Date/Tin //-7 Date/Tin	ne 5 /3 ne - <u>25 /</u> ne	655 Received By (Sight Beceived By (Sight Beceived By (Sight Received By (Sight Received By (Sight	iatule) mil iature) iature) iature)	l (1-876	Date/lime //-2-Fg Date/lime 11/05 . Wate/lime	- <i>1.540</i> 0B13	X &020	1 8310	1 Prevel	al Cyanido	K Aria 0:55	9000		
Field ID Number	Date Collected	Time Collected	San Media	ople Device	Location / Description	P1D Reading	,) Field Comments	Preserv. Type	# of Cont.	BTE	0 T T T	昌	ち	Print-	700	Lab ID Numbe	Sample Conditions r @ Laboratory
709-A	11/4/95		Sed		(11 - 24)				4	<u>ـ</u> ـــــــــــــــــــــــــــــــــــ	بح	X	\sim	Ł	۶		2-462 202
707-B	11/5/95		11		(35-43)				1	×	X	بد	۲	4	×		
795- BV	11/5/95				(53-58)					بد	\succ	ہد	×	オ	$\mathbf{\lambda}$		
708 - A	11/4/95		11		(53-66)					<u>بر</u>	×	2	×	\mathbf{F}	x		
702-BV	11/5/95			-	(75-86				1-1	*	×	×	X	X	\mathbf{k}		
705-BV	11/5/95		V	[(45-47)				V	×	×	¥	Х	x	אר		4 <u>1</u>
									[<u> </u>							·····	
								.I									
																	
SPECIAL INSTRUC	CTIONS			L			<u> </u>	I	L	L]		Lahorat analytic Ret	ory shall al report	f retain s unless i Other	amples findicated	or 30 days after issuing otherwise below:	

.

CHAIN OF CUSTODY RECORD

Sample Collectors(s)/Signature(s) V = +- D- '	Ki/S	, to y)	1 :	ر با	- 12/K NA	TURAL RE PEW	SOURCE TECHNOLOGY AUKEE, WISCONSIN	', INC.	Laborator	y Samp	les are	Being S	Sobmitte	ed To: _	.]	<i>İ</i> , T		
		·				0				Quote Nu	mber/A	ddendu	m Num	ber				Attached: YES	NO
Site Name: UUYSC- SHIP II Send I Site Address: Ship State S							Send Report To: Project Manager:					Temperature of temperature blank							
i hereby certify that	I received, pro	perly handled	l. and mai	intained c	ustody of t	hese samples as noted be	-9000 PAX	(414) 523-9001				Ana	lytical	<u> </u>		hers			Lab Use Only
Relinquished By (Si	gnature) L Va D	yke	Date/Tin 179	ne 5 / 5		Received By (Signature	e)		Date/Time	1510				E.	55		1		
Relinquished By (Si	gnature)	,	Date/Tin	ne		Received By (Signature	e) /		Date/Lime		0	1.5	1010	101	1 10	5901			
Relinquished By (Si	gnature)		Date/Tin	ne		Received By (Signature	e)		Date/Time		ଁ ହ 		4	12	Ľ,		ĺ		
Field ID Number	Date Collected	Time Collected	San Media	nple Device	Location	/ Description	PID Reading	Field Comments	Preserv. Type	# of Cont.	म् नि र्भ	「ユモン	1 24.1	55		730	}	Lab ID Number	Sampl o Conditions @ Laboratory
709-A	11/4/95		.ed		(11-	24)	-		·		•	х	>	\sim	+	~		a the second second	
707-15	11/5/95	•	1	1	(5	-(13)						λ	7	~		X			
765- BV	III spirs				()	- 5 i)					•	.•	٢	~	***	۲,			
708 - H	11/4/43				(5)	- (<u>.</u> (_c)					`	195	~		<u>ب</u>	7			
102-RV	115/45				(7_	5-1-10					•	•	2	~	*	5			
105.151	n/ lers		V		(4	5-417)			<u></u>		<u> </u>		×			~			
 	<u> </u>									l,				<u> </u>	-				
											<u> </u>				╂──-				
· · · · · · · · · · · · · · · · · · ·							PROI	MASTER FI	E COI	γ									
							CO: _	DATA							1				
								Steph, SA	сл П		-								
				1		····												2	
SPECIAL INSTRU							·	·	·		<u> </u>		Labora analyti R	itory sha ical repoi eturn	ill retain it unless Othe	samples indicated r	for 30 da 1 otherwis	ys after issuing ie below:	

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

a program in the second sec

۔ محمد ا



SAG

į,

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	Sample Description	Date	Date
Number		Taken	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
- C = Standard outside of control limits
- F = Sample filtered in lab
- H = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis
- T = Does not match typical pattern
- X = Unidentified compound(s) present

- B = Blank is contaminated
- D = Diluted for analysis
- G = Received past hold time
- I = Improperly handled sample
- L = Common lab solvent and contaminant
- P = Improperly preserved sample
- S = Sediment present

yerro

- W = BOD re-set due to missed dilution
- Z = Internal standard outside limits

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


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

WINE No 128053530

ANALYTICAL REPORT

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

Ì

12/11/1995 Job No: 95.08959 Sample No: 156512 Account No: 52450 Page 2

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

		Date	Prep/Run		
Parameter Resul	ts Units	Limit	Method	Analyzed	Batch
Oil & Grease, Soxhlet 2,100	mg/kg	500	S-9071	11/30/1995	21
#8 Sieve Enclose	đ			12/01/1995	7.
#20 Sieve Enclose	d			12/01/1995	5
#50 Sieve Enclose	d			12/01/1995	5
#100 Sieve Enclose	d			12/01/1995	5
#200 Sieve Enclose	d			12/01/1995	5
Hy meter Test Enclose	d			12/01/1995	7
TOL 19,700	mg/kg		E-415.1	11/20/1995	64





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: 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

			Date	Prep/Run		
Parameter Re	sults	Units	Limit	Method	Analyzed	Batch
Oil & Grease, Soxhlet 1,90	0 π	ng/kg	500	S-9071	11/30/1995	21
#8 Sieve Encl	osed				12/01/1995	7
#20 Sieve Encl	osed				12/01/1995	5
#50 Sieve Encl	osed				12/01/1995	5
#100 Sieve Encl	osed				12/01/1995	5
#200 Sieve Encl	osed				12/01/1995	5
Hyd ometer Test Encl	osed				12/01/1995	7
TC 22,0	00 π	ng/kg		E-415.1	11/20/1995	64

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

WDNE 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

			Date	Prep/Run		
Parameter	Results	Units	Limit	Method	Analyzed	Batch
Oil & Grease, Soxhlet	2,300	mg/kg	500	S-9071	11/30/1995	21
#F 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
Hyr meter Test	Enclosed				12/01/1995	7
TOC	21,800	mg/kg		E-415.1	11/20/1995	64



)

CHAIN OF CUSTODY RECORD

												C	ZK	`O	29	Sc					
Sample Collectors(s StCOVChv	VSignature(s)	Dy 1	le K	cupho	mil	VnD	yto NA	TURAL RE PEW	SOURCE TECHI AUKEE, WISCO	NOLOGY	, INC.	Laborator	y Samp	oles are	Being	Submitt) ed To: _		Λ	JE T	
Site Name: WP	sc - Sh	<u>د الم</u>	T			Send Re Projec	eport To:	SA(a ISAV	Project	Number: /C	Quote Nu	unber/A	ddendu —	un Nun	nber	eraiwre o	f temp	erature		<u>NO</u>
Site Address:						Naturi 23713 Pewau Teleph	N Resource Tec W. Paul Road ikee, WI 5307 ione (414) 523	:hnology, lu 2 -9000 Fax	c. (414) 523-9001	Task Nui	1ber: <u>5</u> ,	3	lf sar temp melt	npic(s) crature may be	were re as "reco substit	eceived eived or uted for	on ice a n ice". 1 n temp	nd thei If all of erature	e was The ic blank.	ice remaining, you n e was melted, the ter	nay report the operature of the
I hereby certify that	I received, pro	perly handle	d, and ma	intained c	ustody of	these samp	les as noted be	low:						- An	lytical	letho	d / Num	bers			Lab Use Only
Relinquished By (S Stephycu	gnature) La	Dyho	Date/Tir	195	- -4:30) Fecerve	d By (Signatu M	hmi			Date/fime	5 /630)		12	l ç	17					1
Ginquished By (S	machie)	<u>_0</u> _	Date/Tin	ne 7.95	- 1819	Hecoive	d Fy (Signatur) mh	<u></u>		Date/fime	v34	03	20	3,4	18	ļ				
Relinguined By (Si	gnature) D		Date/Tir	ne		Receive	d)By (Signature	"e V	inte		Date/Time	295	₽°.	260	19	T					-
Field ID Number	Date Collected	Time Collected	San Media	nple Device	Location	n / Descript	lion	PID Reading	Field Comments		Preserv. Type	# of Cont.	202	Cille	いてい	BUI				Lab ID Number	Sample Conditions @ Laboratory
Composite	11619	, , ,	Sed									1	x	X	r	X					
Composite	21											1	x	x	X	r					
lin picite-3			↓_									1	X	x	x	x					
							<u>-</u>														
												·					$\left - \right $				
					1				·			<u>.</u>	1-	1—			 .				
									-/ L						-				1		
	·								 												
ļ.,		<u> </u>		<u> </u>										<u> </u>					<u> </u>		
ļ	 			ļ						_			-		 				_		
SPECIAL INSTRUC	TIONS	I	L	<u> </u>	<u> </u>			<u> </u>	1		I	I	[L	1.abor anaiyt R	ntory sha ical repor eturn	II retain s nt unless i Other	amples indicated	for 30 d I otherw	lays after issuing ise below:	



.

· · ′



.



Po 2/12



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

WINE 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

Page 1

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

Sample Number	Sample De	scription	Date Taken	Date Received
189071	SD702CV (8	0-89) #1183	06/11/1996	06/12/1996
189072	SD702CV (2	7-64) #1183	06/11/1996	06/12/1996
189073	SD701BV (4	7-69) #1183	06/11/1996	06/12/1996
189074	SD708BV (5	2-60) #1183	06/11/1996	06/12/1996
189075	SD707CV (6	0-79) #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
- C = Standard outside of control limits
- F = Sample filtered in lab
- H = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis
- T = Does not match typical pattern
- X = Unidentified compound(s) present

- B = Blank is contaminated
- D = Diluted for analysis
- G = Received past hold time
- I = Improperly handled sample
- L = Common lab solvent and contaminant
- P = Improperly preserved sample
- S = Sediment present
- W = BOD re-set due to missed dilution
- Z = Internal standard outside limits

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

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

Ĵ

06/27/1996 Job No: 96.05339 Sample No: 189071 Account No: 52450 Page 2

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

				Reporting	J	Date	
Parameter		Results	Units	Limit	Method	Analyzed	
Solids, Total		70.0	alo	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	ક	n/a	S-8260	06/21/1996	
Surr: Toluene-d8		101.2	ક	n/a	S-8260	06/21/1996	
Surr: Bromofluorobenzene		95.4	ક	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	М	<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) pervlene		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	м	<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-Fluorobiphenvl	М	DO	8	n/a	S-8310	06/25/1996	

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

araian a

WDNR No. 128053530

ANALYTICAL REPORT

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

į

)

06/27/1996 Job No: 96.05339 Sample No: 189072 Account No: 52450 Page 3

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

				Reporting		Date
Parameter		Results	Units	Limit	Method	Analyzed
Oil & Grease, Soxhlet		43,400	mg/kg	500	S-9071	06/20/1996
Solids, Total		62.1	ક	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	8	n/a	S-8260	06/21/1996
Surr: Toluene-d8		99.6	ક	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene		97.8	ક	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	м	<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	М	<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

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: 189072 Account No: 52450 Page 4

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			
Parameter		Results	Units	Limit	Method	Analyzed
PNA METHOD 8310 - NONAQUEOU	JS					
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	М	DO	ક	n/a	S-8310	06/25/1996

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

j

06/27/1996 Job No: 96.05339 Sample No: 189073 Account No: 52450 Page 5

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

				Reporting	3	Date
Parameter		Results	Units	Limit	Method	Analyzed
Solids, Total		68.7	at a	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	8	n/a	S-8260	06/25/1996
Surr: Toluene-d8		99.8	8	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene		95.4	ક	n/a	S-8260	06/25/1996
PNA Extraction		06/18/96			S-3550	06/18/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	М	<2,000	ug/kg	40	S-8310	06/25/1996
Acenaphthylene	М	<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	uq/kq	2.0	S-8310	06/25/1996
Benzo(b)fluoranthene		610	uq/kq	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) pervlene		1,100	uq/kq	4.0	S-8310	06/25/1996
Chrysene		1,400	uq/kq	4.0	S-8310	06/25/1996
Dibenzo (a, h) anthracene	м	<200	uq/kq	4.0	S-8310	06/25/1996
Fluoranthene		8,400	uq/kq	8.0	S-8310	06/25/1996
Fluorene		4,000	uq/kq	16	S-8310	06/25/1996
Indeno(1,2,3-cd)pyrene		1,400	uq/kq	4.0	S-8310	06/25/1996
1-Methylnaphthalene		11,000	uq/kq	25	S-8310	06/25/1996
2-Methylnaphthalene		10,000	uq/kq	25	S-8310	06/25/1996
Naphthalene		7.200	ug/kg	25	S-8310	06/25/1996
Phenanthrene		10,000	uq/kq	16	S-8310	06/25/1996
Pyrene		2,900	ug/kg	8.0	S-8310	06/25/1996
Surr: 2-Fluorobiphenvl	м	DO	8	n/a	S-8310	06/25/1996

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

j

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		
Parameter	Result	s Units	Limit	Method	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 I	<0.48	mg/kg	0.12	S-7740	06/19/1996
Silver, AA	<1.0	mg/kg	1.0	S-7760	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: 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

				Reporting	g	Date
Parameter		Results	Units	Limit	Method	Analyzed
Solids, Total		47.0	ક	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-Fluorobiphenvl		54.6	8	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 The second
Ş,

112122 A.C.

Marin W

WDNR No. 128053530

ANALYTICAL REPORT

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

j

)

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

				Reporting	Ŧ	Date	
Parameter		Results	Units	Limit	Method	Analyzed	
Solids, Total		46.9	ક	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	8	n/a	S-8260	06/21/1996	
Surr: Toluene-d8		107.0	ક	n/a	S-8260	06/21/1996	
Surr: Bromofluorobenzene		90.2	8	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 C._. fODY RECORD

		CHAIN OF CL. 10DY RECO	ORD	9405330	
Sample Collectors(s)/Signature(s)		NATURAL RESOURCE TECHNOLOGY, IN PEWAUKEE, WISCONSIN	C. Laboratory Quote Nut	y Samples are Being Submitted To: mber/Addendum Number	NET
Site Name: WASC-Shebary Site Address: 71.610-4 gan	Send Report To: Project Manager: Natural Resource 23713 W. Paul R Pewaukee, WI 5 Telephone (414)	: <u>), , , , , , , , , , , , , , , , , , ,</u>	ber:_//83 (20	Temperature of ter If sample(s) were received on ice and t temperature as "received on ice". If all inelt may be substituted for a temperatu	mperature blank <u>leiden icc</u> there was ice remaining, you may report the I of the ice was melted, the temperature of the ure blank.
I hereby certify that I received, properly handled	d, and maintained custody of these samples as note	ed below:		Analytical Method / Number	's Lab Use Only
Relinquished By (Signature)	Date/Time Received By (Sign Date/Tane Received by (Sign Date/Tane Received by (Sign	haurer Dai Amel 5/c nature) Dai	te/Time 196/0:15 te/Time		29
Relinquined By (Signature)	Date/Time Received By (Sign	nature)	te/Time		
Date Time Field ID Number Collected Collected	Sample Media Device Location / Description	PID Reading Field Commerits	reserv. # of Type Cont.	THE ALL AND A	Sample Conditions Lab ID Number @ Laboratory
50702CV(90-451) 6/11/16	SED G		one Z	XX	
507040127-64)6/446			1 5	XXXXX	
5070101/17-14) 6/11/6			7	XX	
50708BV (52-10) 1				X	
. Diptivilip-24			1 2	XX	
6702020-27			1/2	XX	
			V		
SPECIAL INSTRUCTIONS CALLODDA	TO RE; NEADSPACE ISSME B	GTA ZEATOUS TECHATSSUES &	FIAG OK U	Laboratory shall retain samp . 25-24 Laboratory shall retain samp analytical report unless indic 	oles for 30 days after issuing cated otherwise below.
				I = -W	(0-12-910 1DO

۰´ ..



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

WDNR NO. 128053530

ANALYTICAL AND QUALITY CONTROL REPORT

BUNED

Mr. Dan Johnson NATURAL RESOURCE TECH, INC 23713 W. Paul Road Pewaukee, WI 53072 07/09/1996

Job No: 96.05438

Page 1

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

Sample	Sample Description	Date	Date
Number		Taken	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

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
- C = Standard outside of control limits
- F = Sample filtered in lab
- H = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis
- T = Does not match typical pattern
- X = Unidentified compound(s) present

- B = Blank is contaminated
- D = Diluted for analysis
- G = Received past hold time
- I = Improperly handled sample
- L = Common lab solvent and contaminant
- P = Improperly preserved sample
- S = Sediment present
- W = BOD re-set due to missed dilution
- Z = Internal standard outside limits

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

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

MDNR 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: 189432 Account No: 52450 Page 2

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

			Reporting	ſ	Date
Parameter	Results	Units	Limit	Method	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	ş	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	uq/kg	2.0	S-8310	06/26/1996
Benzo (a) pyrene	11	uq/kq	4.0	S-8310	06/26/1996
Benzo (ghi) pervlene	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	uq/kq	16	S-8310	06/26/1996
Indeno (1,2,3-cd) pyrene	4.5	uq/kq	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-Fluorobiphenvl	68.8	*	n/a	S-8310	06/26/1996

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

Ì

07/09/1996 Job No: 96.05438 Sample No: 189433 Account No: 52450 Page 3

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

				Reporting	3	Date
Parameter		Results	Units	Limit	Method	Analyzed
Solids, Total		44.6	8	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	8	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	М	<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	М	<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	М	DO	ક	n/a	S-8310	06/30/1996

Watertown Division 602 Commerce Drive P.O. Box 288 Watertown, WI 53094 Tel: (414) 261-1660 Fax: (414) 261-8120 с. 2,-

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: 189434 Account No: 52450 Page 4

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

			Reporting		Date
Parameter	Results	Units	Limit	Method	Analyzed
Solids, Total	82.5	ક	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	8	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene	96.0	8	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	8	n/a	S-8310	06/26/1996

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 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

			Reporting		Date
Parameter	Results	Units	Limít	Method	Analyzed
Grain Size	Enclosed			ASTMD422	06/28/1996
Solids, Total	89.6	ક	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	ક	n/a	S-8260	06/25/1996
Surr: Toluene-d8	103.2	8	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene	96.2	ક	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	ક	n/a	S-8310	06/26/1996

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 07/09/1996 Job No: 96.05438 Sample No: 189436 Account No: 52450 Page 6

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	I	Date Re	eceived:	06/14/19	996
Ра	rameter	Results	Units	Reporting Limit	Method	Date Analyzed
Grain Size		Enclosed			ASTMD422	06/28/1996

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: 96.05438 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	I	Date Re	eceived:	06/14/19	996
Раз	rameter	Results	Units	Reporting Limit	Method	Date Analyzed
Grain Size		Enclosed			ASTMD422	06/28/1996

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

)

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: SD7020V #1183 Recv'd On Ice

Date Taken: 06/13/1996

				Reporting	3	Date
	Parameter	Result	s Units	Limit	Method	Analyzed
Solids, TOC	Total	62.6 71,600	% mg/kg	n/a 400	S-5030 S-9060	06/24/1996 06/25/1996

CHAIN OF CUSTODY RECORD

								CHAIN	01 00	510011	·		C	Ì	<u>) (</u>)51	ろ	8			
Sample Collectors(s)/S	ignaturc(s)		\sim				NAT	URAL RE	SOURCE	ECHNOLOG	Y. INC.	Laborator	v Samul	les are A	Being S	ubmitte	d To	N.	ET	<u></u>	
Danie, K JE	mson	TB	Ð	Z				PEW	AUKEE, W	/ISCONSIN		Quote Nu	mber/Ac	ddendun	n Num	ber	.u iv	<u></u>		Attached: YES	NO
Site Name: Site Address:	,-Shek	oy gan	nIF	·		Send Repo Project I Natural 23713 V Pewauke Telephon	Aanager: Aanager: Resource Tec 7. Paul Rond e, WI 5307 ie (414) 523-	hnology, In 2 9000 Fax	(414) 523-4	Projec Task Nu 2001	t Number:	<u>183</u> 0	If sam tempe melt n	iple(s) w rature as nay be s	vere rec s "recei substitu	Tempe ceived o ived on ited for	rature o on ice a ice", l a tempe	f tempe nd ther If all of erature	erature l e was io 'the ice blank.	blank Clerko = ce remaining, you was melted, the to	UNED inay report the emperature of the
I hereby certify that I	received, prop	erly handled	l, and mai	intained c	ustody of t	hese sample	s as noted be	low:			_			Anal	ytical	Method	l / Num	ibers		, <u>,</u> ,	Lab Use Only
Relinquished By (Sign Relinquished By (Sign DMM ACC) Relinquished By (Sign	ature) Ature) mily ature)		Date/Tin Date/Tin Date/Tin Date/Tin Date/Tin	1-96	1608 1800	Received Received Received	By (Signature				Date/Time Date/Time	<i>\$ 16</i> 10		N N N N N N N N N N N N N N N N N N N			() () ()				
Field ID Number	Date Collected	Time Collected	San Media	nple Device	Location	/ Descriptio	<u></u>	PID Reading	FicheCon	unients	Pieserv. Type	# of Cont.	P.a	i de			Ý			Lab ID Numb	Sample Conditions er @ Laboratory
SD7038437	6/13		EO	6-							none	2	X	У							
SDHUHBV(28-K	2)											2	X	Y							
50 TOTING	5-1-	\sim	-	1		\sim	\checkmark		\sim	\sim	-			\sim	\sim	\sim	\frown			~~~~	
60704BV(112	14		,									2									Stex/194
50704 CV (3	54)											3	X	K	X						0
SID 704BV/0	17)	ľ													X						
GOTHITLY (78	-60/11											1			X						
60762.0V	6/13		V	V							V					X					
										a .											
SPECIAL INSTRUC	TIONS									A	N (;-	14-41	l Kļ	30	Labora analyti Re	itory sha cal repor etum	ll retain s 1 unless i Other	samples (indicated	for 30 da I otherwi	nys after issuing se below:	

.

۰.

· ...

01/14/1994 02.53 605

NTS INC

PAGE 02

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

June 28, 1996

Report: 7131301.s&h

NET Midwest Inc 602 Commerce Drive Watertown, WT 5 1094

ATIN: MS Kinging Kuriz

Sample.

189435 189436 189439

Project: NET-49603438 Sample #: 189435, 189436, 189437

LABORATORY TEST RESULTS

As requested, groupsize analyses were performed on the soil samples received on June 20, 1996. Mechanical secure and hydrometer testing were performed in accordance with ASTM Test Designation 19422. Well sieving to determine the percent of material passing the No. 200 sieve was performed that accordance with ASTM Test Designation D1140.

The following samples were analyzed as indicated below:

Sieve Analysis	Hydrometer Analysis
x	
	x
x	x

The test revult are provided on the attached grain size distribution test reports.

The reader and call with questions regarding this report.

Respectively

Michael And NUMMUE NG SERVICES, INC. mjk/ecl/sec

Date ol (pages + 4
From Anny_
CO. NET
Phone # 200 - 833-7024
Fax #

GEOTECHNICAL ENGINEERING E ENVIRONMENTAL SOIL ANALYSIS CONSTRUCTION MATERIALS TESTING







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

Page 1

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

Sample Number	Sample	Descrip	tion	Date Taken	Date Received
191825 191826	SD712AV SD712BV	38-48 48-77	#1183 #1183	06/18/1996 06/18/1996	06/20/1996 06/20/1996
191827	SD706CV	46-59	#1183	06/18/1996	06/20/1996
191829	SD711AV SD711AV	24-28	#1183	06/18/1996	06/20/1996
191830 191831	SD711BV SD711BV	78-87 50-58	#1183 #1183	06/18/1996 06/18/1996	06/20/1996 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
- C = Standard outside of control limits
- F = Sample filtered in lab
- H = Late eluting hydrocarbons present
- J = Estimated concentration
- M = Matrix interference
- Q = Result confirmed via re-analysis
- T = Does not match typical pattern
- X = Unidentified compound(s) present
- B = Blank is contaminated D = Diluted for analysis G = Received past hold time I = Improperly handled sample L = Common lab solvent and contaminant P = Improperly preserved sample S = Sediment present W = BOD re-set due to missed dilution Z = Internal standard outside limits

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

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 Page 2

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

			Reporting			Date	
Parameter		Results	Units	Limit	Method	Analyzed	
Solids, Total		72.9	8	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	8	n/a	S-8260	06/21/1996	
Surr: Bromofluorobenzene		90.0	8	n/a	S-8260	06/21/1996	
PNA Extraction		06/25/96			S-3550	06/25/1996	
PNA METHOD 8310 - NONAQUEOUS							
Acenaphthene	М	<200	ug/kg	40	S-8310	06/28/1996	
Acenaphthylene	М	<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	М	<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	М	<120	ug/kg	25	S-8310	06/28/1996	
2-Methylnaphthalene	М	<120	ug/kg	25	S-8310	06/28/1996	
Naphthalene	М	<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-Fluorobiphenvl		85.9	8	n/a	S-8310	06/28/1996	

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

WDNR No. 128055550-

8.

100

10000

02-00-0

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		
Parameter	Results	Units	Limit	Method	Analyzed
Solids, Total	54.3	8	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	8	n/a	S-8260	06/21/1996
Surr: Toluene-d8	108.2	8	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene	88.4	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	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	uq/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

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

WDNR NO. 128053530

Ś

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 Page 4

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

			Reporting		
Parameter	Results	Units	Limit	Method	Analyzed
Solids, Total	49.1	ક	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	ક	n/a	S-8260	06/21/1996
Surr: Toluene-d8	110.4	ક	n/a	S-8260	06/21/1996
Surr: Bromofluorobenzene	87.8	ક	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	uq/kq	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	ş	n/a	S-8310	06/26/1996

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

WENR NO. 128053530

1921-1

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 Page 5

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

.

Parameter		Results) Units	Reporting Limit	Method	Date Analyzed
Solids, Total TOC	82 2 ,	2.0 ,000	% mg/kg	n/a 400	S-5030 S-9060	06/28/1996 07/18/1996
VOC - NONAQUEOUS - 8260						
Benzene	18	8	ug/kg	5.0	S-8260	06/25/1996
Ethylbenzene	36	6	ug/kg	5.0	S-8260	06/25/1996
Toluene	25	5	ug/kg	5.0	S-8260	06/25/1996
Xylenes, Total	7:	1	ug/kg	15	S-8260	06/25/1996
Surr: Dibromofluoromethane	86	6.8	8	n/a	S-8260	06/25/1996
Surr: Toluene-d8	10	02.4	8	n/a	S-8260	06/25/1996
Surr: Bromofluorobenzene	95	5.2	ક	n/a	S-8260	06/25/1996
PNA Extraction	06	6/25/96			S-3550	06/25/1996
PNA METHOD 8310 - NONAQUEOUS						
Acenaphthene	M <2	200	ug/kg	40	S-8310	07/01/1996
Acenaphthylene	M. <4	400	ug/kg	80	S-8310	07/01/1996
Anthracene	1,	,700	ug/kg	8.0	S-8310	06/28/1996
Benzo (a) anthracene	93	30	ug/kg	2.0	S-8310	06/28/1996
Benzo(b)fluoranthene	1'	70	ug/kg	2.0	S-8310	07/01/1996
Benzo(k)fluoranthene	19	50	ug/kg	2.0	S-8310	07/01/1996
Benzo (a) pyrene	54	40	ug/kg	4.0	S-8310	07/01/1996
Benzo (ghi) perylene	4:	10	ug/kg	4.0	S-8310	07/01/1996
Chrysene	4:	10	ug/kg	4.0	S-8310	06/28/1996
Dibenzo(a,h)anthracene	<4	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	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	79	90	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-Fluorobiphenvl	9	9.9	8	n/a	S-8310	06/28/1996

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

)

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 SD711AV 24-28 #1183 SAMPLE DESCRIPTION: Recv'd On Ice

Date Taken: 06/18/1996 Date Received: 06/20/1996

			Reporting	Ŧ	Date
Parameter	Results	Units	Limit	Method	Analyzed
Oil & Grease, Soxhlet Solids, Total	31,400 58.0	mg/kg %	500 n/a	S-9071 S-5030	06/26/1996 06/28/1996
TOC	19,000	mg/kg	400	S-9060	07/18/1996

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 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

1

			Reporting					
	Parameter	Results	Units	Limit	Method	Analyzed		
Solids,	Total	73.3	£	n/a	S-5030	07/03/1996		
TOC		9,600	mg/kg	400	S-9060	07/18/1996		
NATIONAL ENVIRONMENTAL ® TESTING, INC.

Watertown Division 602 Commerce Drive P.O. Box 288 Watertown, WI 53094 Tel: (414) 261-1660 Fax: (414) 261-8120 12021

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

		Reporting			Date		
Parameter	Results	Units	Limit	Method	Analyzed		
Oil & Grease, Soxhlet	2,570	mg/kg	500	S-9071	06/26/1996		
Solids, Total	48.7	ક	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

	<u> </u>							CHAIN	OF CUSTO	DDY RI	ECORD				Ç	ĬV	20	51	60	lp	
Sample Collectors(s)/	Signature(s)																• =		-		
DANIEL R Johnson DDD						PEWAUKEE, WISCONSIN Quote Nur			nber/Ac	ber/Addendum Number Attached: YES NO											
Site Name: WPSC - Groboygan II- Site Address: Shaboy gan II- Site Address: Shaboy gan II- Site Address: Shaboy gan II- Pewaukee, N Telephone (Den Tolmson Project Number: 1183 Manager: Den Tolmson Project Number: 1183 Resource Technology, Inc. Task Number: 1183 V. Paul Road Task Number: 1183 se, WI 53072 Task Number: 1183 ne (414) 523-9000 Fax (414) 523-9001 1183					Temperature of temperature blank <u>periods</u> is the temperature of the temperature blank 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: Analytical Method / Numbers Lab Use Only																					
Relinquished By (Signature) Relinquished By (Signature) Relinquished By (Signature) Date Time Date Time Date Time Date Time Company Date Time Company Date Time Company Com						By (Signature) $Date/Time$ By (Signature) $Date/Time$ Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time			5/200 91a:133	10 330											
	Date	Time	Sa	mple	1	L	M	PID	$\frac{(1)2}{D}$	1 1ch 1	Pieserv.	# of	A L	₹ 7/5	14		5	5 7 7			Sample Conditions
Field ID Number	Collected	Collected	Media	Device	Location	/ Description	1	Reading	Field Comment	s	Туре	Cont.		7	7	\square	<u>7 ×</u>	<u>У</u>		Lab ID Number	@ Laboratory
50712 AVA	<u>2-48) (18</u>		SED	5				-	 		none	2	X	X							_ <u></u>
507n BV(48	77) 418											2_	X	Y							
6070621(4659) 6/18	l I			}							2	$ \mathbf{x} $	У							
50711AV(364	0) 6/10										T	3	X	X	X						
50711AV/24-20	6/18		Π^{-}				-					2			X		X				
5071131/204	7 6/197											1			X	;		1			
60 211 RV 90 51	a ula			$\uparrow Y$	1							Ż			X	N	X	<u> </u>			
	∥ •µ⊘	1		 _	1 -						V				11		/				
																i					
			 	1																	
			<u> </u>	+					 							<u>;</u>	<u> </u>				
																<u> </u>					
				╂──	┼──										-						
SPECIAL INSTRUCT							_		I						Labora	l'	L	samples (L	vs after issuing	
SPECIAL INSTRUC	1003														anjalyti	cal.repor	t unless Othe	indicated	otherwis	ic below.	



St

1.515.0

Sheboygan and Green Bay Gas Plant Sediments

				corrected					
	sample	sampie	percent	sample	conc	miilliters	/ PCB \		date
	number	weight	moisture	weight	from GC	of extract	conc.	analyst	analyzed
	~ ~	(grams)		(grams)	(mg/kg)		(PPM)		
	/SD-402-AV	13.2482	63.14	4.8833	0.15	24.5	0.49	P.Ahrens	07/23/98
	SC-403-8V	13.3581	43.06	7.8118	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	07/23/9 8
	SD-702-CV	13.2330	34.95	8,6081	0.98	24.78	1.82	P.Ahrens	07/23/98
F	SD-702R-CV	13.7636	34.95	8.9532	1.27	25.05	2.29	P.Ahrens	07/23/96
	SC-711-BV	15,9717	35.66	10.2782	0.83	24.81	0.97	P.Ahrens	07/23/98
1	`						\sim	/	

Limit of Quanitation= 0.400 PPM Limit of Detection= 0.120 PPM PPM PCB=(mL conc.)(GC conc)/(corr. wt)(1.55)

MASTER FILE COPY Strong gan PROJECT # 119 2

Extraction Repeat

)

00:

/IETA 🚧 📿 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,

Javid M Mano

David M. Mauro V. President

attachments



Monocyclic Aromatic Hydrocarbon (MAH) and Polycyclic Aromatic Hydrocarbon (PAH) Results for Soil Samples, in ppm (mg/kg, dry weight)

Lab ID	NR960702-01	NR960702-01	NR960703-SB
Field ID:	SO711BV(48-52)	SO702CV(27-64)	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	5 36	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

i = interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

J = Estimated value

PLATES

1997 (M. 1997)