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SITE INVESTIGATION RESULTS
FORMER CEDARBURG LIGHT AND
WATER COMMISSION
POWER PLANT
W61 N617 MEQUON AVENUE
CEDARBURG, WISCONSIN

October 19, 1995

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POWER PLANT
W61 N617 MEQUON AVENUE
CEDARBURG, WISCONSIN**

**WDNR File Reference #246100800, ERR-LUST
PECFA Claim #53012-2017-17**

October 19, 1995


Prepared For:

Mr. Dale Lythjohan
Cedarburg Light and Water Commission
N30 W5926 Lincoln Boulevard
Post Office Box 767
Cedarburg, Wisconsin 53012

Prepared By:

Northern Environmental Technologies, Incorporated
1214 West Venture Court
Mequon, Wisconsin 53092

Project Number: CLW131246



Gary S. Graham
Senior Project Manager

GSG/cmt

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1.0 EXECUTIVE SUMMARY

The subject property is a former electrical generating plant owned and operated by the Cedarburg Light and Water Commission. Two 20,000-gallon diesel fuel underground storage tanks (USTs) were reportedly cleaned and abandoned in place at the property during April 1986. One 1000-gallon gasoline/diesel UST was cleaned, removed, and disposed of at the same time. A closure assessment was not required at the time the USTs were decommissioned.

The Cedarburg Light and Water Commission retained Northern Environmental Technologies, Incorporated (Northern Environmental) to drill and sample boreholes on the property as part of an environmental assessment. Diesel range organic (DRO) compounds and gasoline range organic (GRO) compounds were detected in laboratory analysis of the borehole soil sample.

Northern Environmental completed a site investigation during April 1994. Ground-water contamination was discovered. A report was prepared describing the investigation and presenting the results. The Wisconsin Department of Natural Resources (WDNR) requested that an additional monitoring well be installed south of the Power Plant. The well (MW500) was drilled and installed during December 1994. No DRO or PVOCs were detected above the laboratory method detection limits in the soil sample collected from the monitoring well borehole. Ground-water samples were collected from the well and laboratory analyzed for DRO and volatile organic compounds (VOCs). No VOCs or DRO were detected above the method detection limits.

In an unrelated remedial action, Mercury Marine, Incorporated removed polychlorinated biphenyl (PCB) contaminated sediments from Ruck Pond during 1994. DRO contaminated soils were discovered in stream bank excavations at the property. The WDNR and Cedarburg Light and Water were notified. Northern Environmental collected soil samples from the excavations to assess the extent of contamination. Excavation soil samples were laboratory analyzed for DRO and petroleum volatile organic compounds (PVOCs). High concentrations of DRO are present beneath the cooling towers on the bank of Ruck Pond.

Additional ground-water quality monitoring was performed during January and June 1995. Ground-water samples from MW200 contained trichloroethene and tetrachloroethene above the WDNR water quality enforcement standard. Low levels of benzene have been detected in samples from MW300.

2.0 INTRODUCTION AND BACKGROUND INFORMATION

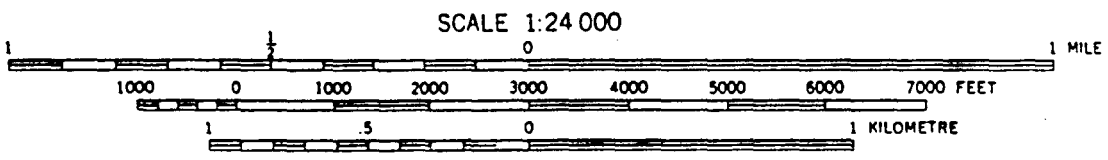
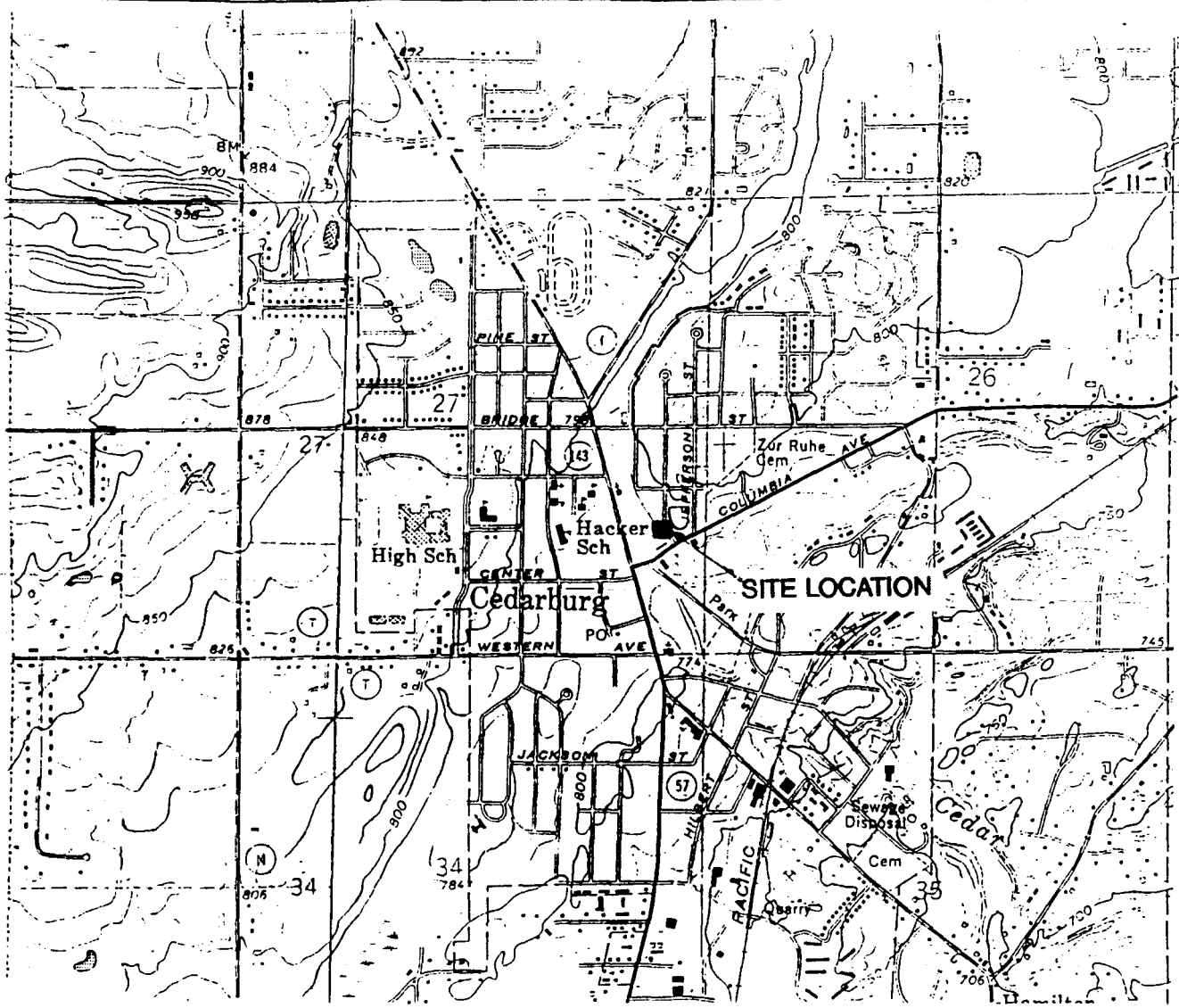
Northern Environmental Technologies, Incorporated (Northern Environmental) has completed additional investigation of released petroleum at the Cedarburg Light and Water Commission former Power Plant located at W61 N617 Mequon Avenue, Cedarburg Wisconsin. The site will be referred to as "the Property" in the remainder of this report. The Property is located in the Southeast Quarter of the Northeast Quarter of Section 27, Township 10 North, Range 21 East (latitude 43 degrees, 18 minutes, 22 seconds north, longitude 87 degrees, 59 minutes, 40 seconds west), Ozaukee County, Wisconsin (Figure 1) (Reference 1). An initial investigation was completed on April 15, 1994 (Reference 2) after volatile organic compounds (VOCs) were discovered in the soil at the Property.

The City of Cedarburg operated an electrical power plant at the Property between 1901 and 1984. The original electrical generators utilized steam to operate the turbines. Between 1901 and 1929, wood and coal were used to fuel steam production. During 1929, diesel powered electrical generators were installed. The generators burned No. 5 fuel oil. Two 20,000-gallon underground storage tanks (USTs) were installed on the north side of the power plant to store the diesel fuel. The generators were replaced during 1952. The new generators used No. 2 diesel fuel which was also stored in these USTs. The generators continued to use No. 2 diesel fuel until electrical production at the power plant was terminated during 1984 (Reference 3). A 1000-gallon UST was also located at the Property. The 1000-gallon UST originally stored gasoline and was later used to store diesel fuel for vehicles.

The two 20,000-gallon capacity diesel fuel USTs were reportedly cleaned and abandoned in place by National Tank Service of Wisconsin (1813 South 43rd Street, West Allis, Wisconsin) on April 16, 1986 (Reference 4). The two abandoned 20,000-gallon USTs remain in place beneath the high voltage electrical substation at the Property. The 1000-gallon UST was removed at this time (Reference 4). A closure assessment to document decommissioning of the tank systems was not required at the time these USTs were taken out of service and was not performed.

During April 1993, the Cedarburg Light and Water Commission (CLWC) retained Northern Environmental to drill and sample soil boreholes in the vicinity of the closed USTs as part of an environmental assessment of the Property (Reference 5). A soil sample obtained from an exploratory soil borehole drilled near the USTs contained diesel range organic (DRO) compounds and gasoline range organic (GRO) compounds. The Wisconsin Department of Natural Resources (WDNR) was notified of the findings, and the CLWC retained Northern Environmental to perform a site investigation.

Site investigation was initiated during October 1993. Three boreholes were drilled and three monitoring wells were installed at the locations shown in Figure 2. Soil contamination was present in borehole B2 at the approximate water table depth. Several VOCs were detected in ground-water samples from monitoring wells MW200 and MW300. A report detailing the investigation and presenting the results was submitted to the WDNR on April 15, 1994 (Reference 2). Because of extensive site restrictions and the site specific limitations for active remediation, no further action was requested.



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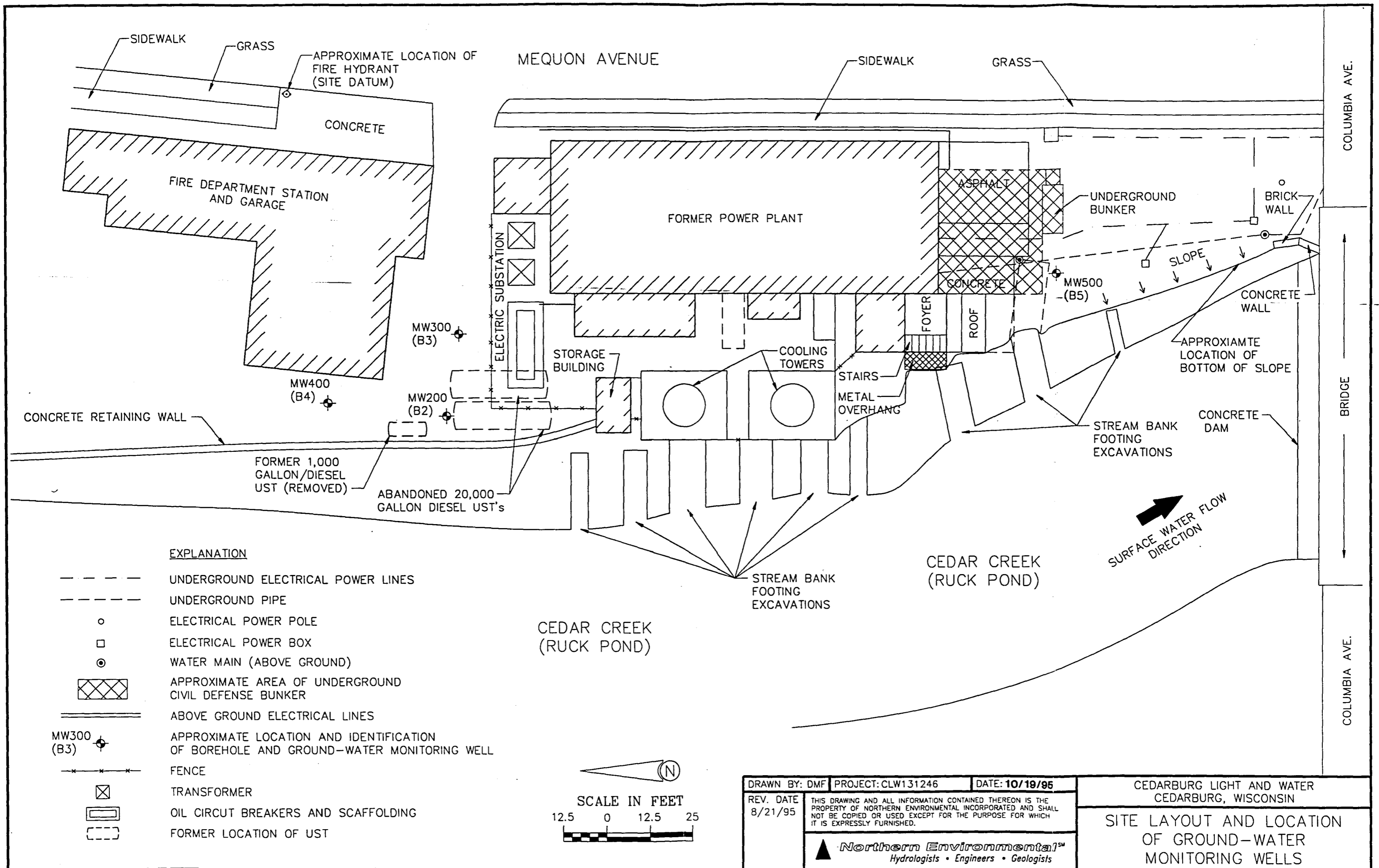
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BASE MAP SOURCE: USGS CEDARBERG AND FIVE CORNERS, WI 7.5 MIN QUADRANGLE

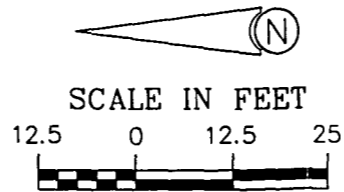
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FIGURE 1



EXPLANATION

- UNDERGROUND ELECTRICAL POWER LINES
- UNDERGROUND PIPE
- ELECTRICAL POWER POLE
- ELECTRICAL POWER BOX
- ⊙ WATER MAIN (ABOVE GROUND)
- ▨ APPROXIMATE AREA OF UNDERGROUND CIVIL DEFENSE BUNKER
- ==== ABOVE GROUND ELECTRICAL LINES
- MW300 (B3) ⊕ APPROXIMATE LOCATION AND IDENTIFICATION OF BOREHOLE AND GROUND-WATER MONITORING WELL
- *- FENCE
- ⊠ TRANSFORMER
- ▭ OIL CIRCUIT BREAKERS AND SCAFFOLDING
- FORMER LOCATION OF UST



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CEDARBURG LIGHT AND WATER
 CEDARBURG, WISCONSIN
SITE LAYOUT AND LOCATION OF GROUND-WATER MONITORING WELLS

During May 1994, Mercury Marine, Incorporated (Mercury Marine) began removing polychlorinated biphenyl (PCB) contaminated sediments from Ruck Pond (Cedar Creek) in an unrelated remedial action. Ruck Pond borders the west side of the Property. Ruck Pond was dewatered and sediments were excavated and transported off site for treatment and/or disposal. Portions of the Cedar Creek stream bank were excavated during construction. Workers noticed stained soil and a sheen on the water surface in some of the stream bank excavations along the Property. Mercury Marine contacted the WDNR and CLWC. Northern Environmental collected soil samples from the stream bank excavations during July 1994 as directed by CLWC.

The WDNR responded to the initial remedial investigation report by requiring that one additional monitoring well be installed south of the Former Power Plant building. The new well (MW500) was installed during December 1994, and ground-water samples were collected from all wells during January and June 1995. This report describes the stream bank soil sampling, the drilling, and installation of monitoring well MW500 and the results of ground-water sampling in all wells during January and June 1995.

3.0 METHODS OF INVESTIGATION

Soil samples were collected from excavations dug in the bank of Ruck Pond. One soil exploration borehole was drilled and sampled and monitoring well MW500 was installed and sampled. The investigative methods used to complete these tasks are summarized below and described in detail in Appendix A. Photographs documenting field conditions are available from Northern Environmental.

3.1 Stream Bank Excavation Soil Sampling

The stream bank soil sampling was performed concurrently with Mercury Marine activities to remove PCB-contaminated sediment from Ruck Pond. Excavation soil sampling locations are shown in Figure 3. Soil samples were collected and field screened to define the lateral extent of contamination. Selected soil samples were submitted to a WDNR-certified laboratory and analyzed for DRO using the WDNR Modified Method and petroleum volatile organic compounds (PVOCs) using Environmental Protection Agency (EPA) Method 8020. Stream bank excavation soil sampling procedures are described in more detail in Appendix A1. Copies of laboratory reports and chain-of-custody records are included in Appendix C1.

3.2 Soil Drilling and Sampling

One soil exploration borehole (B5) was drilled and sampled to 19 feet below grade on December 14, 1994. Borehole B5 was located south of the power plant building as requested by the WDNR. The location of all boreholes and ground-water monitoring wells are shown in Figures 2 and 3. Split-barrel soil samples were collected at two foot intervals. Northern Environmental personnel described, field screened, and preserved soil samples from each sampled interval. The WDNR borehole log is provided in Appendix B. Drilling, sampling, and field screening methods are detailed in Appendix A2.

The relatively "most impacted" soil sample collected from the borehole, based on field screening results, was selected for laboratory analysis. The soil sample was analyzed for DRO using the WDNR Modified Method and PVOCs using EPA method 8020. Copies of laboratory results and the chain-of-custody record are included in Appendix C2.

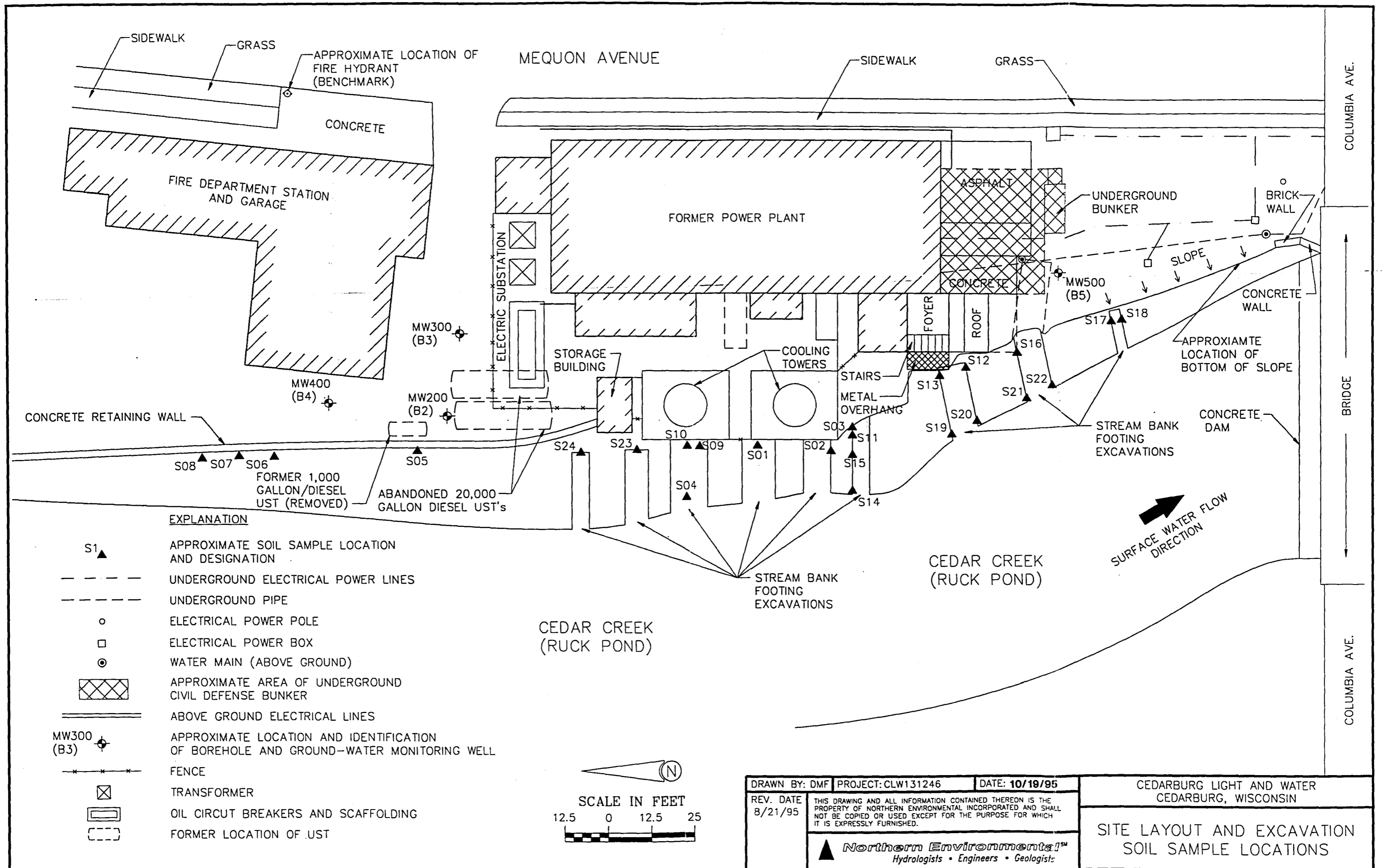
3.3 Ground-Water Monitoring Well Construction, Development, and Sampling

Ground-water monitoring well MW500 was installed in borehole B5 (Figure 3). A WDNR monitoring well construction form for MW500 is included in Appendix B2.

MW500 was developed in accordance with WDNR requirements (Reference 7). The ground water removed during well development and purging was placed in Department of Transportation (DOT) 17H 55-gallon drums and stored on site. Following receipt of laboratory analyses, the containerized ground water was picked up by Kenway Service (Milwaukee, Wisconsin) and transported to the Waukesha Wastewater Treatment Plant for disposal.

Ground-water samples were collected from all monitoring wells at the Property during January and June 1995. These samples were laboratory analyzed for DRO using the WDNR Modified Method and VOCs using the EPA method 8021. Copies of laboratory reports and chain-of-custody records are included in Appendix C3. Samples were also collected from MW200,

MW300, and MW400 during June 1995 and submitted for a comparative enumeration assay (CEA) and nutrient analysis to evaluate the potential for natural bioattenuation of contaminants (Appendix C4). The CEA and nutrient analysis were performed by BioRenewal Technologies, Incorporated (Madison, Wisconsin). Ground-water monitoring well construction, development, and sampling methods are described in Appendix A2.



4.0 SUMMARY OF FINDINGS

4.1 Physical Setting

The Property is located in the City of Cedarburg, and is bounded on the west by a portion of Cedar Creek known as Ruck Pond, Columbia Road to the south, Mequon Avenue to the east, and the fire department building to the north (Figures 2 and 3). The area around the former USTs is asphalt paved. An active high voltage electrical substation is present in the area of investigation and many underground utilities cross the area. The two abandoned 20,000-gallon USTs are located beneath a portion of the substation. Cedar Creek flows south-southeast and discharges into the Milwaukee River approximately two miles southeast of the Property.

4.2 Overview of Local Geology and Hydrology

The uppermost geologic unit at the Property is the Oak Creek Formation (Reference 8). The Oak Creek Formation includes fine textured glacial till, lacustrine clay, silt, sand, and some glaciofluvial sand and gravel. The deposit is most commonly grayish-brown to gray silty clay. The Oak Creek Formation is relatively widespread in southeastern Wisconsin, where it occurs as the surface drift in a north-south belt that extends from Illinois northward through Kenosha, Racine, Milwaukee, and eastern Waukesha Counties to Ozaukee and Washington Counties (Reference 8).

Up to twelve feet of possible fill was encountered above the Oak Creek Formation in the boreholes completed near the retaining wall along Cedar Creek. Underlying the Oak Creek Formation is dolomite of the Manistique Formation. Depth to bedrock is variable but was encountered at depths of 11 to 17 feet in the boreholes. The dolomite is fractured and weathered at the top, but changes to massive and competent with depth (Reference 9).

The depth to water in each of the monitoring wells was measured to determine local groundwater flow direction. Static water levels were measured prior to purging the wells. The depth to water in the wells generally ranged between 12 and 14 feet. Water level data is summarized in Table 1. The depth to water measurements were converted to elevations referenced to the site datum. The data collected on January 18, 1995 indicates ground water flows across the Property towards Cedar Creek.

4.3 Stream Bank Excavation Soil Sample Analysis

Field screening results from soil samples collected from the Ruck Pond stream bank excavations are summarized in Table 2. Copies of laboratory analytical reports and chain-of-custody records are included in Appendix C1. Several excavation soil samples were laboratory analyzed and contained DRO above the WDNR soil cleanup standards (Reference 10). However, individual PVOC concentrations did not exceed WDNR soil cleanup standards (Reference 10). Soil sample laboratory analyses are summarized in Table 3.

4.4 Borehole Soil Sample Analysis

Soil sample field screening and laboratory analysis results from all boreholes drilled at the Property are summarized in Table 4. Copies of laboratory analytical reports and chain-of-

Table 1 Ground-Water Elevation Data, Former Power Plant, Cedarburg, Wisconsin

| Well ID | Elevation Ground Surface (feet) | Elevation of Reference Point* (feet) | Date | Depth to Water Below Reference Point* (feet) | Water Table Elevation (feet) |
|---------|---------------------------------|--------------------------------------|----------|--|------------------------------|
| MW200 | 96.46 | 95.94 | 10/18/93 | 12.71 | 83.23 |
| | | | 10/25/93 | 12.78 | 83.16 |
| | | | 10/28/93 | 12.94 | 83.00 |
| | | | 01/07/94 | 13.30 | 82.64 |
| | | | 02/14/94 | 14.21 | 80.95 |
| | | | 12/28/94 | 13.02 | 82.92 |
| | | | 01/18/95 | 12.90 | 83.04 |
| | | | 01/18/95 | 12.53 | 83.41 |
| MW300 | 97.22 | 96.54 | 10/18/93 | 14.02 | 82.52 |
| | | | 10/25/93 | 14.01 | 82.53 |
| | | | 10/28/93 | 13.98 | 82.56 |
| | | | 01/07/94 | 14.41 | 82.13 |
| | | | 02/14/94 | 15.16 | 81.39 |
| | | | 12/28/94 | 14.01 | 82.53 |
| | | | 01/18/95 | 12.91 | 83.63 |
| | | | 01/18/95 | 13.42 | 83.12 |
| MW400 | 95.56 | 95.28 | 10/18/93 | 12.60 | 82.68 |
| | | | 10/25/93 | 12.58 | 82.70 |
| | | | 10/28/93 | 12.55 | 82.73 |
| | | | 01/07/94 | 12.87 | 82.41 |
| | | | 02/14/94 | 13.62 | 80.87 |
| | | | 12/28/94 | 12.50 | 82.78 |
| | | | 01/18/95 | 12.38 | 82.90 |
| | | | 01/18/95 | 12.03 | 83.25 |
| MW500 | 95.53** | 95.56 | 12/28/94 | 12.54 | 83.02 |
| | | | 01/03/95 | 12.42 | 83.14 |
| | | | 01/18/95 | 12.42 | 83.14 |
| | | | 01/18/95 | 12.62 | 82.94 |

NOTE: Elevations are referenced to site datum

* = Reference point is the top of the monitoring well casing

** = Elevation of top of protective metal casing

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Table 2 Excavation Soil Sample Field Screening Results, Former Power Plant, Cedarburg, Wisconsin

| Sample Label | Depth (feet) | Date Collected | PID Headspace Analysis | | | Sample Odor | Sample Description |
|--------------|-------------------------|----------------|------------------------|---------------|--------------------|------------------|---|
| | | | Time Collected | Time Analyzed | PID Response (iui) | | |
| S01 | at water/bank interface | 07/07/94 | 1400 | 1442 | 19 | Light Petroleum | Black clay with trace fine sand |
| S02 | at water/bank interface | 07/07/94 | 1413 | 1445 | 30 | Light Petroleum | Very dark grayish-brown clay with few fine sand |
| S03 | at water/bank interface | 07/07/94 | 1513 | 1638 | 28 | Light Petroleum | Black clay with trace gravel |
| S04 | at water/bank interface | 07/08/94 | 1152 | 1315 | 36 | Light Petroleum | Very dark grayish-brown clay with few fine sand |
| S05 | at water/bank interface | 07/08/94 | 1240 | 1432 | 2 | None | Black clay with trace fine sand |
| S06 | at water/bank interface | 07/08/94 | 1245 | 1434 | 0 | None | Grayish-brown clay with some fine sand |
| S07 | at water/bank interface | 07/08/94 | 1249 | 1446 | 0 | None | Black clay with trace sand |
| S08 | at water/bank interface | 07/08/94 | 1254 | 1448 | 0 | None | Black clay with trace organics with few fine sand, trace fine gravel |
| S09 | at water/bank interface | 07/08/94 | 1520 | 1553 | 1 | None | Black clay with trace fine sand |
| S10 | at water/bank interface | 07/08/94 | 1530 | 1600 | 1 | None | Black clay with trace fine sand |
| S11 | at water/bank interface | 07/21/94 | 1025 | 1142 | 251 | Strong Petroleum | Black silt with trace fine sand and trace organics |
| S12 | at water/bank interface | 07/21/94 | 1037 | 1144 | 26 | None | Dark brown silt with trace fine sand and trace organics |
| S13 | at water/bank interface | 07/21/94 | 1056 | 1146 | 26 | None | Black sandy silt with trace fine sand, trace organics |
| S14 | at water/bank interface | 07/21/94 | 1116 | 1148 | 28 | None | Reddish-brown silty sand with trace fine sand and trace organics |
| S15 | at water/bank interface | 07/21/94 | 1130 | 1200 | 22 | None | Black silt with trace clay, trace fine to coarse sand, trace organics |
| S16 | at water/bank interface | 07/21/94 | 1135 | 1205 | 20 | None | Brown silt-silty clay with trace fine sand, trace organics |
| S17 | at water/bank interface | 07/21/94 | 1212 | 1259 | 19 | None | Light brown silty sand with trace fine sand and trace organics |
| S18 | at water/bank interface | 07/21/94 | 1215 | 1300 | 24 | None | Brown silt with trace clay, trace fine sand, trace organic matter |
| S19 | at water/bank interface | 07/21/94 | 1255 | 1355 | 25 | None | Very dark brown silt-silty clay |
| S20 | at water/bank interface | 07/21/94 | 1258 | 1357 | 16 | None | Very dark brown silt-silty clay |
| S21 | at water/bank interface | 07/21/94 | 1326 | 1358 | 11 | None | Very dark brown silt-silty clay |
| S22 | at water/bank interface | 07/21/94 | 1328 | 1400 | 18 | None | Very dark brown silt-silty clay |
| S23 | at water/bank interface | 07/21/94 | 1440 | 1516 | 21 | None | Black silt with trace clay with trace fine sand, trace organics |
| S24 | at water/bank interface | 07/21/94 | 1447 | 1518 | 17 | None | Black silt with trace clay with trace fine sand, trace organics |

NOTE:

PID = photoionization detector
iui = instrument units as isobutylene

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Table 3 Excavation Soil Sample Laboratory Analysis Results, Former Power Plant, Cedarburg, Wisconsin

| Sample Identification | Date Collected | Depth | Laboratory Analyses | | | | | | | | |
|------------------------------------|----------------|-------------------------|---------------------|--|--------------|--------|---------|------------------------|------------------------|---------|--------------------|
| | | | DRO (mg/kg) | Petroleum Volatile Organic Compounds (mg/kg) | | | | | | | |
| | | | | Benzene | Ethylbenzene | MTBE | Toluene | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | Xylenes | 1,2-Dichloroethane |
| S01 | 07/20/94 | at water/soil interface | 16,000 | <0.05 | <0.05 | <0.05 | 0.34 | 6.0 | 1.6 | 0.26 | NA |
| S02 | 07/20/94 | at water/soil interface | 5000 | <0.05 | 0.09 | <0.05 | 0.17 | 5.2 | 1.9 | 0.39 | NA |
| S03 | 07/20/94 | at water/soil interface | 6100 | <0.05 | <0.05 | <0.05 | <0.05 | 0.66 | 0.26 | 0.20 | NA |
| S13 | 07/21/94 | at water/soil interface | 140 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 |
| S16 | 07/21/94 | at water/soil interface | <10 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 |
| S19 | 07/21/94 | at water/soil interface | <10 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 |
| S21 | 07/21/94 | at water/soil interface | <10 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 |
| S23 | 07/21/94 | at water/soil interface | <10 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 |
| Method Detection Limit (mg/kg) | | | 10 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 |
| NR 720 Residual Contaminant levels | | | 250 | 0.0055 | 2.9 | - | 1.50 | - | - | 4.1 | 0.0049 |

NOTE:

mg/kg = milligrams per kilogram
DRO = diesel range organics
MTBE = methyl-tertiary-butyl-ether
<x = not detected to a method detection limit of x
- = no soil cleanup guideline established

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Table 4 Borehole Soil Sample Field Screening and Laboratory Analyses Results, Former Power Plant, Cedarburg, Wisconsin

| Sample Label | Depth (feet) | Date Collected | PID Headspace Analysis | | | Results of Laboratory Analyses | | Sample Odor | Sample Description |
|--------------|--------------|----------------|------------------------|---------------|--------------------|--------------------------------|-------------|--------------------|---|
| | | | Time Collected | Time Analyzed | PID Response (iui) | DRO (mg/kg) | GRO (mg/kg) | | |
| S101 | 1.0 - 2.5 | 04/29/93 | - | - | - | NA | NA | - | Gravel fill |
| S102 | 3.5 - 5.0 | 04/29/93 | - | - | - | NA | NA | - | Light brown clayey sand, some gravel |
| S103 | 6.0 - 7.5 | 04/29/93 | 0914 | 1006 | .5 | NA | NA | None | Brown silty clay, trace gravel |
| S104 | 8.5 - 10.0 | 04/29/93 | 0921 | 1007 | .5 | NA | NA | None | Brown silty clay, trace gravel |
| S105 | 11.0 - 12.5 | 04/29/93 | 0926 | 1009 | .5 | NA | NA | None | Brown silty clay, trace gravel |
| S106 | 13.5 - 15.0 | 04/29/93 | 0930 | 1010 | 101 | 590 | 48* | Moderate Petroleum | Dark brown silty clay and organic debris |
| S107 | 15.0 - 17.0 | 04/29/93 | 0940 | 1015 | 7 | NA | NA | Light Petroleum | Dark brown silty clay, trace gravel |
| S108 | 17.0 - 18.0 | 04/29/93 | 0957 | 1035 | 3.6 | NA | NA | None | Black silty clay, changes to dolomite bedrock |
| B2-01 | 6.0 - 7.5 | 10/14/93 | 0905 | 1015 | 1.2 | NA | NA | None | Light yellow sand |
| B2-02 | 8.5 - 10.0 | 10/14/93 | 0910 | 1020 | 2 | NA | NA | None | Brown silty clay, trace fine sand |
| B2-03 | 11.0 - 12.5 | 10/14/93 | 0935 | 1035 | 12 | 110 | NA | Light petroleum | Black silty clay |
| B2-04 | 13.5 - 15.0 | 10/14/93 | 0945 | 1040 | 9 | NA | NA | Light petroleum | Gray silty clay |
| B2-05 | 16.0 - 17.5 | 10/14/93 | 0950 | 1043 | 0 | NA | NA | None | Gray silty clay |
| B2-06 | 18.5 - 20.0 | 10/14/93 | 0957 | 1045 | 0 | NA | NA | None | Dolomite bedrock |
| B3-01 | 6.0 - 7.5 | 10/14/93 | 1108 | 1235 | 0 | NA | NA | None | Light brown silty clay, trace sand |
| B3-02 | 8.5 - 10.0 | 10/14/93 | 1112 | 1237 | 0 | NA | NA | None | Light brown silty clay, trace sand |
| B3-03 | 11.0 - 12.5 | 10/14/93 | 1118 | 1138 | NA | NA | NA | None | Reddish-brown silty clay |
| B3-04 | 13.5 - 15.0 | 10/14/93 | | | | NO SAMPLE RECOVERY | | None | Dolomite bedrock |
| B4-01 | 6.0 - 7.5 | 10/14/93 | 1445 | 1535 | 0 | NA | NA | None | Light brown silty clay, trace gravel |
| B4-02 | 8.5 - 10.0 | 10/14/93 | 1448 | 1538 | 0 | NA | NA | None | Dark brown silty clay, some sand |
| B4-03 | 11.0 - 12.5 | 10/14/93 | | | | NO SAMPLE RECOVERY | | None | Dolomite bedrock |
| S51 | 2 - 4 | 12/14/94 | 1352 | 1447 | 1.4 | NA | NA | None | Very dark grayish-brown sandy clay |
| S52 | 4 - 6 | 12/14/94 | 1353 | 1448 | 0.0 | NA | NA | None | Brownish-yellow silt |
| S53 | 6 - 8 | 12/14/94 | 1358 | 1448 | 0.2 | NA | NA | None | Brownish-yellow silt |
| S54 | 8 - 10 | 12/14/94 | 1403 | 1449 | 0.0 | NA | NA | None | Light yellowish-brown clay |
| S55 | 10 - 12 | 12/14/94 | 1408 | 1450 | 0.0 | NA | NA | None | Light yellowish-brown clay |
| S56 | 12 - 14** | 12/14/94 | 1417 | 1452 | 1.4 | <10 | NA | None | Light yellowish-brown clay |
| S57 | 14 - 16 | 12/14/94 | 1422 | 1452 | 0.0 | NA | NA | None | No sample obtained |
| S58 | 16 - 18 | 12/14/94 | 1434 | 1453 | 0.0 | NA | NA | None | Gray sand |
| S59 | 18 - 19 | 12/14/94 | 1444 | 1504 | 0.0 | NA | NA | None | Gray clay and gray dolomite chips (bedrock) |

NOTE:

- * Laboratory reports that GRO concentration was influenced by light diesel fractions.
- ** Sample submitted for laboratory analysis
- PID = photoionization detector
- iui = instrument units as isobutylene
- mg/kg = milligrams per kilogram
- DRO = diesel range organics
- GRO = gasoline range organics
- NA = not analyzed
- = sample not field screened
- <x = not detected to a laboratory method detection limit of x

*Rock Pond PCB
S = excavation sample
not on map - separate BRRTS case*

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custody records are included in Appendix C2. No evidence of contamination was detected while field screening samples from borehole B5. DRO and PVOCs were not detected in the soil sample submitted for laboratory analysis.

4.5 Ground-Water Analysis

The results of all ground-water quality monitoring performed at the Property are summarized in Table 5. Copies of laboratory analytical reports and chain-of-custody records for the January and June 1995 sampling and analysis are included in Appendix C3. No VOCs, DRO, or GRO were detected in ground-water samples analyzed from MW500. As in past monitoring, DRO was again detected in MW200. Tetrachlorethene and trichloroethane in MW200 were the only individual VOCs detected above the WDNR ground-water quality Enforcement Standard (ES). DRO was detected for the first time in MW300 and MW400 during the January sampling. However, no individual VOCs were detected above the ES in either well and DRO was not detected in either well during the June sampling. As in the past, benzene concentration marginally exceeded the Preventive Action Limit (PAL) in MW300 in both sampling events. Tetrachlorethene in MW300 was not detected during January, but was present above the PAL in the June sampling.

The results of the CEA and nutrient analysis are presented in Appendix C4. The State of Wisconsin currently has no specific guidelines outlining acceptable conditions for passive bioremediation of ground water. Therefore, as is currently customary, the bioassay results were compared to available soil guidelines. The population of degrader microbes in all three wells (MW200, MW300, and MW400) are within the range identified as "inoculum levels" (Appendix C4). Degrader microbe populations at this level are generally insufficient to attain adequate biotransformation without artificially inoculating the ground-water system with additional degrader microbes. The WDNR does not currently allow active inoculation for *in-situ* bioremediation.

Table 5 Ground-Water Analysis Results, Former Power Plant, Cedarburg, Wisconsin

| Well I.D. | Date | Concentrations of Detected Analytes (µg/l) | | | | | | | | | | | | | | | | | | |
|---|----------|--|-------|---------|---------------|---------|---------------|------|-----------------|---------------|---------------------|--------------------------|-------------|---------------------|------------------|--------------------------|--------------------------|----------------------|------------------------|------|
| | | DRO | GRO | Benzene | Ethyl-benzene | Toluene | Total Xylenes | MTBE | n-butyl-benzene | chloro-ethane | 1,1-Dichloro-ethane | cis-1,2-Di-chloro-ethene | Naphthalene | Tetra-chloro-ethene | Trichloro-ethene | 1,2,4-Tri-methyl-benzene | 1,3,5-Tri-methyl-benzene | 1,2-Dichloro-benzene | 1,1,1-Trichloro-ethane | Lead |
| MW200 Duplicate | 10/28/93 | 720 | 110 | <0.6 | <1.0 | 35 | 5.6 | <1.0 | 6.1 | 23 | 7.4 | 3.5 | 5.7 | 5.4 | 7.6 | 5.7 | 3.2 | <1.0 | <0.2 | 17 |
| | 01/13/94 | <5.0 | <10.0 | <0.6 | <1.0 | 2.4 | 1.8 | <1.0 | 3.0 | 26 | 3.6 | 1.2 | 7.1 | 1.4 | 1.6 | 2.1 | 1.5 | 1.6 | <0.2 | 22 |
| | 01/18/95 | 2000 | 28 | <2.0 | <1.0 | <1.0 | <2.0 | <1.0 | <2.0 | 2.2 | 4.9 | 22 | 0.44 | 19 | 29 | <2.0 | <2.0 | 0.19 | 4.9 | 4 |
| | 01/18/95 | NA | NA | 0.28 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | 3.1 | 4.1 | 22 | <2.0 | 20 | 30 | <1.0 | <1.0 | <1.0 | 5.0 | NA |
| | 06/08/95 | 810 | NA | <.26 | <.32 | <.69 | <1.23 | .46 | <.45 | 9.4 | 6.6 | 8.4 | <.41 | 42 | 17.5 | <.57 | <.57 | .33 | 2.9 | <1 |
| MW300 | 10/28/93 | <100 | <100 | 1.2 | | 1.5 | <2.5 | | <2.0 | 3.3 | 5.0 | 3.4 | <2.0 | 3.9 | <1.0 | <1.0 | <1.0 | | | 2 |
| | 01/13/94 | <5.0 | <10.0 | 1.3 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 |
| | 01/18/95 | 150 | <11.0 | 0.80 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | 2.3 | 1.1 | 0.90 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | 1.0 |
| | 06/08/95 | <100 | NA | 0.36 | <.32 | <.69 | <1.23 | <.22 | <.45 | 0.93 | 0.9 | 0.67 | <.41 | 1.82 | 0.33 | <.57 | <.57 | <1.1 | <.63 | 1.0 |
| MW400 | 10/28/93 | <100 | <100 | <0.6 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 |
| | 01/13/94 | <5.0 | <10.0 | <0.6 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 |
| | 01/18/95 | 120 | <11.0 | <0.6 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | 1.0 |
| | 06/08/95 | <100 | NA | <.26 | <.32 | <.69 | <1.23 | 0.33 | <.45 | <.5 | <.27 | <.29 | <.41 | <.56 | <.18 | <.57 | <.57 | <1.1 | <.63 | 2 |
| MW500 | 01/18/95 | <100 | <11 | <0.6 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 |
| | | <100 | NA | <.26 | <.32 | <.69 | <1.23 | <.22 | <.45 | <.5 | <.27 | <.29 | <.41 | <.56 | <.18 | <.57 | <.57 | <1.1 | <.63 | 2 |
| Field Blank | 01/18/95 | NA | NA | <0.6 | <1.0 | <1.0 | <2.5 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | NA |
| | | NA | NA | <.26 | <.32 | <.69 | <1.23 | <.22 | <.45 | <.5 | <.27 | <.29 | <.41 | <.56 | <.18 | <.57 | <.57 | <1.1 | <.63 | NA |
| WDNR NR 140 Enforcement Standard (ES) | | NS | NS | 5 | 700 | 343 | 620 | 60 | NS | 400 | 850 | 70 | 40 | 5 | 5 | NS | NS | 600 | 200 | 15 |
| WDNR NR 140 Preventive Action Limit (PAL) | | NS | NS | 0.5 | 140 | 68.6 | .24 | 12 | NS | 80 | 85 | 7 | 8 | 0.5 | 0.5 | NS | NS | 60 | 40 | 1.5 |

NOTE:

Only those VOCs detected are summarized in this table
 µg/l = micrograms per liter
 DRO = diesel range organics
 GRO = gasoline range organics
 MTBE = methyl-tertiary-butyl-ether
 NA = not analyzed
 NS = no water quality standard

<x = analyte not detected to the laboratory detection limit of x
xxx = Wisconsin Administrative Code NR 140 Preventive Action Limit (PAL) Exceedance
xxx = Wisconsin Administrative Code NR 140 Enforcement Standard (ES) Exceedance

5.0 IMPACT ASSESSMENT

5.1 Soil and Ground-Water Impacts

Based on the results of borehole and excavation soil sampling and analysis, soil contamination is present at or near the water table depth in borehole B2 and beneath the Power Plant cooling towers on the bank of Ruck Pond. Tetrachlorethene and trichloroethene in MW200 are the only individual VOCs that have been detected in ground water at concentrations above the WDNR ES. Benzene concentrations in ground-water samples from MW300 have consistently been above the PAL, but below the ES. Soil and ground-water sampling in MW500 did not indicate the presence of contamination.

Ground water appears to be flowing toward Cedar Creek. However, slow water level recovery in all of the wells suggests that the hydraulic conductivity of the sediments is low. Low hydraulic conductivity inhibits lateral migration of contaminants.

As described in the initial site investigation report (Reference 2), a high capacity CLWC Municipal water supply well is present 100 to 200 feet northeast of the Property. Based on well logs and construction information provided by CLWC, this well is cased with 10-inch steel casing to 718 feet depth. The casing extends through the Niagara Formation and the underlying Maquoketa shale (approximately 200 feet thick). The well produces water from the underlying dolomite and sandstones. Total depth of the well is over 1200 feet.

The construction and depth of this well and the presence of approximately 200 feet of low permeability shale should inhibit migration of contaminants downward from shallow ground water to the producing formations. Nonetheless, various chlorinated solvents including trichloroethene and others not detected in shallow ground water during this investigation, have been detected in samples from this well. The source of these contaminants is currently unknown.

The CLWC well #1 geologic and construction log are presented in Appendix D1. Well #1 water quality analysis from 1993 is presented in Appendix D2.

5.2 Regulatory Requirements

When a discharge of regulated substances occurs, the Wisconsin Spill Law requires the discharger to immediately initiate action to halt the discharge and to restore the environment to the extent practicable. In compliance with WDNR regulations and requirements, the following actions were taken:

- ▲ The release was reported to the WDNR
- ▲ The suspected source of petroleum contamination has been abandoned/removed
- ▲ A remedial investigation has been performed to evaluate the impact to soil and ground water

5.2.1 Soil Requirements

The WDNR standards for closeout of petroleum-contaminated soil cases are listed below (Reference 10):

▲ GRO/DRO:

- Saturated hydraulic conductivity:
 - Greater than 10^{-6} centimeters per second (cm/sec): 100 milligrams per kilogram (mg/kg)
 - Less than or equal to 10^{-6} cm/sec: 250 mg/kg

▲ BETX:

- | | |
|----------------------|--------------|
| ■ Benzene | 0.0055 mg/kg |
| ■ Ethylbenzene | 2.9 mg/kg |
| ■ Toluene | 1.5 mg/kg |
| ■ Xylenes | 4.1 mg/kg |
| ■ 1,2-dichloroethane | 0.0049 mg/kg |

The concentrations of DRO in borehole B1 and in excavation soil samples S01, S02, and S03 exceed the 250 mg/kg DRO limit. However, the concentrations of the individual VOCs did not exceed their respective limits.

5.2.2 Ground-Water Requirements

The ground-water quality standards for substances of public health concern are listed in s. 140 Wisconsin Administrative Code (WAC). Two standards are listed, the ES and PAL. If concentrations of the regulated compounds exceed their respective ES, remediation is normally required, while concentrations above the PAL generally require ground-water monitoring.

In the most recent sampling, the ES was exceeded only at MW200 for tetrachloroethene and trichloroethene. Benzene and lead concentrations exceeded the PAL at MW300.

6.0 CONCLUSIONS AND RECOMMENDATIONS

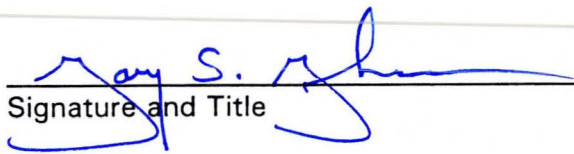
Soil contaminated with DRO above applicable residual contaminant levels is present on the Property, primarily beneath the Power Plant cooling towers. Ground water in one of the monitoring wells also contains trichloroethene and tetrachloroethene above the WDNR ES. However, it should be noted that while the ES has been exceeded, the concentration of these compounds are not extremely high.

Site specific conditions, such as the presence of buildings, the presence of the high voltage substation and underground power lines, the apparent low hydraulic conductivity of the sediments, and the proximity of Cedar Creek limit the effectiveness and feasibility of conventional options for active soil and ground-water remediation. However, mechanical dispersion, diffusion, dilution of the contaminant plume, and natural biodegradation, should reduce contaminant concentrations with time. Based on the logistical and technical difficulties of an active remediation program, the CLWC requests that no further remediation be required at the Property at this time. Northern Environmental recommends quarterly ground-water sampling for one year followed by re-evaluation of site conditions and the need for further action.

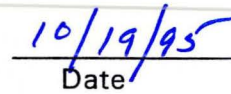
The results of this study are based upon professional interpretation of the information available to Northern Environmental given site conditions and the time and budget constraints of this project. Northern Environmental does not warrant that this report represents an exhaustive study of all possible impacts at the study area. The items investigated as part of this investigation do represent the most likely sources of environmental impacts associated with the described UST systems, and are consequently believed to adequately address WDNR requirements and the needs of the client at the present time.

7.0 PROFESSIONAL CERTIFICATION

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



Signature and Title



Date

8.0 REFERENCES

- 1) United States Geological Survey Topographic Map, *Cedarburg, Wisconsin 7.5 Minute Quadrangle map*, 1959, Photorevised 1971 and 1976.
- 2) Northern Environmental Technologies, Incorporated, *Site Investigation Results, Former Power Plant, W61 N617 Mequon Avenue, Cedarburg, Wisconsin*, April 15, 1994.
- 3) Conversation: Wayne Fischer (Cedarburg Light and Water Commission) with John J. Lund (Northern Environmental Technologies, Incorporated), January 15, 1993.
- 4) Invoice: *National Tank Service of Wisconsin to Cedarburg Light and Water Commission*, April 25, 1986.
- 5) Northern Environmental Technologies, Incorporated, *Phase I Environmental Site Assessment, Cedarburg Light and Water Commission Former Power Plant, W61 N617 Mequon Avenue, Cedarburg, Wisconsin*, February 4, 1993.
- 6) Conversation: John Feeney (Wisconsin Department of Natural Resources) with Gary Graham (Northern Environmental Technologies, Incorporated), October 1994.
- 7) s. NR 141, Wisconsin Administrative Code, *Ground-Water Monitoring Well Requirements*, June 1991.
- 8) Wisconsin Geological and Natural History Survey, *Pleistocene Stratigraphic Units of Wisconsin*, Miscellaneous Paper 84-1, 1984.
- 9) Wisconsin Geologic and Natural History Survey, *Ground-Water Resources and Geology of Washington and Ozaukee Counties, Wisconsin*, Information Circular number 8, 1980.
- 10) s. 720 Wisconsin Administrative Code, *Soil Cleanup Standards*, April 1995.

APPENDIX A
DESCRIPTION OF METHODS

APPENDIX A1

EXCAVATION SOIL SAMPLING METHODS

Excavation Soil Sampling Methods

Soil Sampling

Excavation soil samples were collected using a stainless steel trowel. The samples were collected from the walls of the excavations at or near the water level. A portion of each sample was immediately transferred into two four-ounce glass jars, one of which was preserved with methanol, sealed with a Teflon-lined threaded cap, labeled, and stored on ice in a cooler where they were maintained in a chilled condition for possible laboratory analysis. A second portion of the sampled interval was subjected to field headspace analysis for volatile and semi-volatile organic compounds (VOCs and SVOCs) using a photoionization detector (PID). The field screening samples were sealed in 16-ounce glass jars with aluminum foil and a threaded band. Care was taken to maintain a relatively constant soil volume to headspace volume ratio for all samples. The sealed headspace sample was agitated to break up the soil and was placed in the heated cab of Northern Environmental Technologies, Incorporated's (Northern Environmental) field vehicle for approximately 30 minutes. The aluminum foil seal was then carefully punctured with the PID probe and the highest stable response occurring in 10 to 20 seconds was recorded. The PID used was a Thermo Environmental Instruments Model 580A Organic Vapor Monitor outfitted with a 10.6 eV lamp. The PID was last factory calibrated during May 1993. The PID calibration was checked daily using zero-air and 251 parts per million isobutylene calibration gases.

Each soil sample was briefly described in the field by a Northern Environmental Hydrogeologist. The apparently "most contaminated" soil sample from each location, based on PID response, appearance, and odor, was laboratory analyzed. Samples submitted for petroleum volatile organic compounds (PVOCs) were preserved with methanol. Soil samples were placed on ice and transported under chain-of-custody to U.S. Oil Analytical Laboratory (425 South Washington Street, Combined Locks, Wisconsin) for analysis.

APPENDIX A2

**GROUND-WATER MONITORING WELL DRILLING, INSTALLATION,
DEVELOPMENT, AND SAMPLING METHODS**

Ground-Water Monitoring Well Drilling, Installation, Development, and Sampling

Soil Borehole Sampling

Drilling was performed by M & K Environmental Drilling (Howards Grove, Wisconsin) using a truck-mounted drill rig and 8.75-inch outside diameter hollow-stem augers. Northern Environmental Technologies, Incorporated (Northern Environmental) personnel were present during drilling to collect samples and maintained logs of the boreholes. Drilling was performed in general conformance with American Society for Testing Materials (ASTM) 1452 (Reference A-1). No lubricants or solvents were used on any downhole drilling or sampling equipment. Downhole drilling equipment was decontaminated using high temperature and pressure potable water between boreholes. Split-barrel samplers and other sampling tools and equipment were washed with a mild detergent solution and double rinsed with deionized water before each use.

Soil samples were obtained at two-foot intervals using standard split-barrel techniques (ASTM 1586) (Reference A-2). A portion of each sample was immediately transferred into four-ounce glass jars, preserved with methanol, sealed with a Teflon-lined threaded cap, labeled, and stored on ice in a cooler where it was maintained in a chilled condition for possible laboratory analysis. A second portion of the sampled interval was subjected to field headspace analysis for volatile and semi-volatile organic compounds (VOCs and SVOCs) using a photoionization detector (PID). The sample was sealed in a 16-ounce glass jar with aluminum foil and a threaded band. Care was taken to maintain a relatively constant soil volume to headspace volume ratio for all samples. The sealed headspace sample was agitated to break up the soil and was placed in the heated cab of Northern Environmental's field vehicle for approximately 30 minutes. The aluminum foil seal was then carefully punctured with the PID probe and the highest stable response occurring in 10 to 20 seconds was recorded. The PID used was a Thermo Environmental Instruments Model 580A Organic Vapor Monitor outfitted with a 10.6 eV lamp. The PID was last factory calibrated during May 1993. The PID calibration was checked daily using zero-air and 251 parts per million isobutylene calibration gases.

Each soil sample was visually described in general conformance with ASTM 2488 (Reference A-3). Logs were prepared which include information on soil type, gradation, plasticity, color (Munsell notation), moisture content, structural characteristics, consistency, genetic origin, odor, and PID response. This information is documented on the Wisconsin Department of Natural Resources (WDNR) soil boring log information forms (WDNR Form 4400-122) included in Appendix B.

The apparently "most contaminated" soil sample from each borehole, based on PID response, appearance, and odor, was laboratory analyzed. If no contamination was apparent during field screening, the sample from at or near the perceived shallow water table was laboratory analyzed since this is where lighter petroleum hydrocarbons such as gasoline tend to accumulate. Samples submitted for gasoline range organics (GRO) were preserved with methanol. Soil samples were preserved on ice and transported under chain-of-custody to U.S. Oil Analytical Laboratory (425 South Washington Street, Combined Locks, Wisconsin) for analysis.

Ground-Water Monitoring Well Construction

All ground-water monitoring wells were constructed in accordance with WDNR requirements (Reference A-4). Each well was constructed of two-inch inside diameter flush-threaded

schedule 40 polyvinyl chloride (PVC) casing. Each well used a ten-foot length of 0.010-inch mill-slotted well screen. The well screen was positioned such that the water table intersected the screened interval to allow potential floating hydrocarbon product to be identified. No glue, solvent, lubricant, or similar substances were used to construct the wells. Flush-threaded PVC end-caps were placed at the bottom of each well. All wells were capped with locking expandable slip-on caps.

Placement of the sand filter-pack, filter-pack seal/annular-space seal, and surface seal was verified by measurements made using a weighted measuring tape. Clean silica sand was used for filter-pack and was placed from total depth of the well up to approximately two feet above the well screen. Hydrated bentonite chips/granules were used to form the well seal. All wells were completed using either six-inch diameter steel flush-mount or steel stick-up protective covers placed in a concrete surface seal. The WDNR monitoring well construction and development forms (WDNR Forms 4400-113A and 4400-113B) are included in Appendix B.

Monitoring Well Development

Ground-water monitoring wells were developed and purged prior to collecting water samples for laboratory analysis in general accordance with the WDNR requirements (Reference A-5). Each monitoring well was developed by manually surging and bailing the well using a new clean disposable bottom-filling polyethylene bailer. Surging and bailing continued until water removed from the well was relatively free of sediment or until ten well volumes were removed.

Following well development, each well was purged using a new disposable bailer to help ensure that the water entering the well was representative of ambient ground water. Electrical conductivity, pH, and temperature was measured during purging. Any occurrence of free product or odor was recorded. Wells were sampled in order of least potentially contaminated to most potentially contaminated to minimize potential cross-contamination between wells. Developed and purged ground water was sealed in 55-gallon drums and stored on site until disposal.

Ground-Water Sampling

Ground-water sampling was conducted in general accordance with WDNR protocols (Reference A-5). Ground-water quality samples were collected from each well using a new disposable polyethylene bailer. Water samples were obtained by gently lowering the bailer into the water in the well to a depth of approximately equal to the length of the bailer. The water was transferred directly from the bailer using a bottom-emptying device into appropriate sample containers. Water samples collected for metals analysis were filtered through a 45-micron filter before preservation with nitric acid. Water samples collected for organic analysis were preserved with hydrochloric acid. The samples were immediately labeled and placed on ice where they were maintained in a chilled condition during field work through delivery to the analytical laboratory. Chain-of-custody records accompanied the samples to the laboratory.

Monitoring Well Location and Elevation Survey

Northern Environmental personnel surveyed the location and elevation of each well. Ground surface, top of protective casing, and top of riser casing elevations were measured to the nearest 0.01 foot at each well. Well locations and elevations were referenced to local site datum.

- A-1) American Society for Testing and Materials, Designation D1452, *Standard Practice for Soil Investigation and Sampling by Auger Borings*, August 1980.
- A-2) American Society for Testing and Materials, Designation D1586, *Standard Method for Penetration Test and Split-Barrel Sampling of Soils*, November 1984.
- A-3) American Society for Testing and Materials, Designation D2488, *Standard Practice for Description and Identification of Soil (Visual-Manual Procedure)*, December 1984.
- A-4) s. NR 141, Wisconsin Administrative Code, *Ground-Water Monitoring Well Requirements*, June 1991.
- A-5) Wisconsin Department of Natural Resources, *Groundwater Sampling Procedures, Field Manual*, Publication No. WR-168, September 1987.

APPENDIX B

**SOIL EXPLORATION BOREHOLE LOG AND GROUND-WATER
MONITORING WELL CONSTRUCTION INFORMATION**

APPENDIX B1

WDNR SOIL BOREHOLE LOG INFORMATION FORM

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

| | | | | | |
|---|--|--|--|---|--|
| Facility/Project Name Cedarburg Light and Water-Former Power Plant | | License/Permit/Monitoring Number | | Boring Number B5 | |
| Boring Drilled By (Firm name and name of crew chief) M & K Environmental Drilling Mike McArdle | | Date Drilling Started <u>12 / 14 / 94</u> MM DD YY | | Date Drilling Completed <u>12 / 14 / 94</u> MM DD YY | |
| DNR Facility Well No. | | WI Unique Well No. | | Borehole Diameter 8.00 inches | |
| Common Well Name MW500 | | Final Static Water Level 10 Feet MSL | | Surface Elevation _____ Feet MSL | |
| Boring Location State Plane _____ N, _____ E S Lat 43° 18' 22" SE 1/4 of NE 1/4 of Section 27, T 10 N, R 21 E Long 87° 59' 40" | | | | Local Grid Location (if applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W | |
| County | | DNR County Code | | Civil Town/City/ or Village Cedarburg | |

| Sample Number and Type | Length Att. & Recovered (in) | Blow Counts | Depth in Feet | Soil/Rock Description And Geological Origin For Each Major Unit | USCS | Graphic Log | Well Diagram | PID/FID | Soil Properties | | | | | RQD/ Comments | | | |
|------------------------|------------------------------|------------------|---------------|---|-------|-------------|--------------|---------|----------------------|------------------|--------------|------------------|-------|---------------|--|--|--|
| | | | | | | | | | Compressive Strength | Moisture Content | Liquid Limit | Plasticity Index | P 200 | | | | |
| | 0.0 | | 0.0 to 2.0 | Blind drilled to 2.0 feet, black clay loam | FILL | | | | | | | | | | | | |
| S51 | 16.0 | 2, 2, 2, 2 | 2.0 to 4.0 | SANDY CLAY, trace subrounded (1-5mm) medium to coarse sand, trace ferric oxide mottling, very dark grayish brown (10YR3/2), slightly cohesive, slightly plastic, moist, no odor | CL | | | 1.4 | | | | | | | | | |
| S52 | 18.0 | 5, 5, 5, 5, 5, 5 | 4.0 to 8.0 | SILT TO VERY FINE SAND, sand content increasing with depth, few subrounded (1-5mm) medium to coarse sand, brownish yellow (10YR6/6), moist, no odor, trace subrounded (5-15mm) coarse sand to medium gravel | SP-SM | | | 0.0 | | | | | | | | | |
| S53 | 10.0 | 10, 10, 35, 25 | | | | | | 0.2 | | | | | | | | | |
| S54 | 15.0 | 7, 8, 10, 12 | 8.0 to 14.0 | CLAY, trace fine sand, trace ferric oxide mottling, fine sand seam at 8.5 feet, light yellowish brown (10YR6/4), cohesive, medium hardness, moist, no odor, then in order, 1" gray dolomite fragment, 1" white dolomite | CL | | | 0.0 | | | | | | | | | |
| S55 | 18.0 | 75/18 | | | | | | 0.0 | | | | | | | | | |

I hereby certify that the information on this form is true and correct to the best of my knowledge.
 Signature _____ Firm **Northern Environmental Technologies, Inc.**
 1214 West Venture Court, Mequon, WI 53092 (414) 241-3133

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.

APPENDIX B2

**WDNR GROUND-WATER MONITORING WELL
CONSTRUCTION FORM (FORM 4400-113A)
AND WELL DEVELOPMENT SUMMARY**

| | | |
|---|---|--|
| Facility/Project Name Madisonburg Light and Water-Former Power Plant | Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W. | Well Name MW500 |
| Facility License, Permit or Monitoring Number | Grid Origin Location Lat. 43 18 22 Long. 87 59 40 or | Wis. Unique Well Number DNR Well Number |
| Type of Well Water Table Observation Well <input checked="" type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12 | St. Plane _____ ft. N, _____ ft. E. | Date Well Installed <u>1 2 / 1 4 / 9 4</u> m m d d y y |
| Distance Well Is From Waste/Source Boundary 200 ft. | Section Location of Waste/Source SE 1/4 of NE 1/4 of Sec 27, T10 N, R21 <input checked="" type="checkbox"/> E. <input type="checkbox"/> W. | Well Installed By: (Person's Name and Firm) M & K Environmental Drilling |
| Well A Point of Enforcement Std. Application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input checked="" type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known | Mike McArdle |

- A. Protective pipe, top elevation 95.5 ft. MSL
 - B. Well casing, top elevation 95.6 ft. MSL
 - C. Land surface elevation _____ ft. MSL
 - D. Surface seal, bottom _____ ft. MSL or 0.5 ft.
12. USCS classification of soil near screen:
 GP GM GC GW SW SP
 SM SC ML MH CL CH
 Bedrock

13. Sieve analysis attached? Yes No

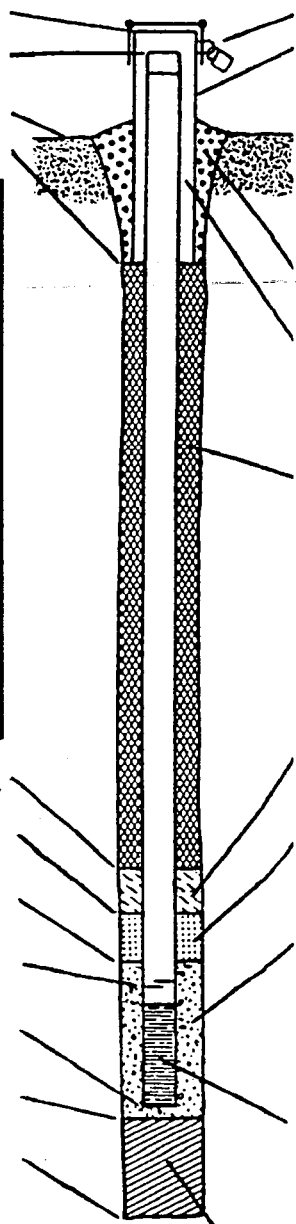
14. Drilling method used: Rotary 50
 Hollow Stem Auger 41
 Other

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

16. Drilling additives used? Yes No
 Describe _____

17. Source of water (attach analysis):

- E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
 - F. Fine sand, top _____ ft. MSL or 4.5 ft.
 - G. Filter pack, top _____ ft. MSL or 5.0 ft.
 - H. Screen joint, top _____ ft. MSL or 5.5 ft.
 - Well bottom _____ ft. MSL or 15.5 ft.
 - J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
 - K. Borehole, bottom _____ ft. MSL or 19.0 ft.
 - L. Borehole, diameter 8.0 in.
 - M. O.D. well casing 2.3 in.
 - N. I.D. well casing 2.00 in.



- 1. Cap and lock? Yes No
- 2. Protective cover pipe:
 - a. Inside diameter: 4.0 in.
 - b. Length: 10.0 ft.
 - c. Material: Steel 04
Other
 - d. Additional protection? Yes No
If yes, describe: _____
- 3. Surface seal: _____
 Bentonite 30
 Concrete 01
 Other
- 4. Material between well casing and protective pipe:
 Bentonite 30
 Annular space seal
 Other
- 5. Annular space seal:
 - a. Granular Bentonite 33
 - b. _____ Lbs/gal mud weight..Bentonite-sand slurry 35
 - c. _____ Lbs/gal mud weight Bentonite slurry 31
 - d. _____ % Bentonite Bentonite-cement grout 50
 - e. 4.5 Ft³ volume added for any of the above
 - f. How installed: Tremie 01
Tremie pumped 02
Gravity 08
- 6. Bentonite seal:
 - a. Bentonite granules 33
 - b. 1/4 in. 3/8 in. 1/2 in. Bentonite pellets 32
 - c. _____ Other
- 7. Fine sand material: Manufacturer, product name & mesh size
 a. **Badger Mining Fine**
 b. Volume added 0.5 ft³
- 8. Filter pack material: Manufacturer, product name & mesh size
 a. **Badger Mining Coarse**
 b. Volume added 5.0 ft³
- 9. Well casing: Flush threaded PVC schedule 40 23
 Flush threaded PVC schedule 80 24
 Other
- 10. Screen material: **PVC**
 - a. Screen type: Factory cut 11
Continuous slot 01
Other
 - b. Manufacturer **Bdrk Enterprises**
 - c. Slot size: 0.010 in.
 - d. Slotted length: 10.0 ft.
- 11. Backfill material (below filter pack): None 14
Cave in Other

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

Signature _____ Firm **Northern Environmental**
 1214 West Venture Court Mequon WI 53092 (414) 241-3133

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs 144, 147 & 160, Wis Stats, and ch NR 141, Wis Ad Code. In accordance with ch 144, Wis Stats, failure to file this form may result in a forfeiture of not less than \$10, nor more than \$1000 for each day of violation. In accordance with ch 147, Wis Stats, failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

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

| | | |
|---|-------------------------------|---------------------------|
| Facility/Project Name <u>Cedarburg Light & Water</u> | County Name <u>Ozaukee</u> | Well Name <u>MW500</u> |
| Facility License, Permit or Monitoring Number | County Code <u>46</u> | WIS Unique Well Number |
| | | DNR Well Number |

| | |
|--|--|
| 1. Can this well be purged dry? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 11. Depth to Water (from top of well casing) a. <u>12.54</u> ft. <u>12.42</u> ft. Date b. <u>12/28/94</u> <u>01/18/94</u> m m d d y y m m d d y y Time c. <u>10:40</u> <input type="checkbox"/> a.m. <u>10:00</u> <input checked="" type="checkbox"/> p.m. |
| 2. Well development method surged with bailer and bailed <input checked="" type="checkbox"/> 41 surged with bailer and pumped <input type="checkbox"/> 61 surged with block and bailed <input type="checkbox"/> 42 surged with block and pumped <input type="checkbox"/> 62 surged with block, bailed and pumped <input type="checkbox"/> 70 compressed air <input type="checkbox"/> 20 bailed only <input type="checkbox"/> 10 pumped only <input type="checkbox"/> 51 pumped slowly <input type="checkbox"/> 50 Other <input type="checkbox"/> | 12. Sediment in well bottom _____ inches <u>Not determined</u> <u>Not determined</u> |
| 3. Time spent developing well <u>50</u> min. | 13. Water clarity Clear <input type="checkbox"/> 10 <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 15 <input type="checkbox"/> 25 (Describe) <u>muddy brown</u> <u>muddy brown</u> |
| 4. Depth of well (from top of well casing) <u>18.4</u> ft. | Fill in if drilling fluids were used and well is at solid waste facility: |
| 5. Inside diameter of well <u>2.0</u> in. | 14. Total suspended solids _____ mg/l _____ mg/l |
| 6. Volume of water in filter pack and well casing <u>5.5</u> gal. | 15. COD _____ mg/l _____ mg/l |
| 7. Volume of water removed from well <u>5.7</u> gal. | |
| 8. Volume of water added (if any) <u>0.0</u> gal. | |
| 9. Source of water added <u>N/A</u> | |
| 10. Analysis performed on water added? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, attach results) | |

16. Additional comments on development:
Four consistent readings of ph, conductivity were obtained

| | |
|---|--|
| Well developed by: Person's Name and Firm | I hereby certify that the above information is true and correct to the best of my knowledge. |
| Name: <u>Tom Diehl</u> | Signature: <u>Tom Diehl</u> |
| Firm: <u>Northern Environmental</u> | Print Initials: <u>TMD</u> |
| | Firm: <u>Northern Environmental</u> |

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

APPENDIX C

**LABORATORY REPORTS AND
CHAIN-OF-CUSTODY RECORD**

APPENDIX C1

**EXCAVATION SOIL SAMPLING PROGRAM LABORATORY
ANALYSIS REPORTS AND CHAIN-OF-CUSTODY RECORD**



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: 246-S01
Lab Code: 1631520
Sample Type: Soil
Sample Date: 07-Jul-94

Report Date: 26-Jul-94

| Test | Result | MDL | Unit | Date Ext/Dlg/Pres | Date Analyzed: | Analyzed By: | QC Code |
|--------------------------|--------|------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 75.5 | | % | | 11-Jul-94 | B. Rettler | 1 |
| T.P.H. DRO WDNR DRAFT | 16000 | 1000 | MG/KG | 15-Jul-94 | 15-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 20-Jul-94 | M. Ricker | |
| Benzene | ND | 0.05 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.05 | MG/KG | | | | 1 |
| MTBE | ND | 0.05 | MG/KG | | | | 1 |
| Toluene | 0.34 | 0.05 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | 6.0 | 0.05 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | 1.6 | 0.05 | MG/KG | | | | 1 |
| Xylenes | 0.26 | 0.13 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

Michael Ricker



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW131246
 Project : Cedarburg
 Sample ID: 246-S02
 Lab Code: 1631521
 Sample Type: Soil
 Sample Date: 07-Jul-94

Report Date: 26-Jul-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|--------------------------|--------|------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 77.6 | | % | | 11-Jul-94 | B. Rettler | 1 |
| T.P.H. DRO WDNR DRAFT | 5000 | 1000 | MG/KG | 15-Jul-94 | 15-Jul-94 | C. Rotar | 1 |
| PVOC | | | | | 20-Jul-94 | M. Ricker | |
| SW846 8020 | | | | | | | |
| Benzene | ND | 0.05 | MG/KG | | | | 1 |
| Ethylbenzene | 0.09 | 0.05 | MG/KG | | | | 1 |
| MTBE | ND | 0.05 | MG/KG | | | | 1 |
| Toluene | 0.17 | 0.05 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | 5.2 | 0.05 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | 1.9 | 0.05 | MG/KG | | | | 1 |
| Xylenes | 0.39 | 0.13 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: 246-S03
Lab Code: 1631522
Sample Type: Soil
Sample Date: 07-Jul-94

Report Date: 15-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|--------------------------|--------|------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 62.7 | | % | | 11-Jul-94 | B. Rettler | 1 |
| T.P.H. DRO WDNR DRAFT | 6100 | 1000 | MG/KG | 15-Jul-94 | 16-Jul-94 | C. Rotar | 1 |
| PVOC | | | | | 20-Jul-94 | M. Ricker | |
| SW846 8020 | | | | | | | |
| Benzene | ND | 0.05 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.05 | MG/KG | | | | 1 |
| MTBE | ND | 0.05 | MG/KG | | | | 1 |
| Toluene | ND | 0.05 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | 0.66 | 0.05 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | 0.26 | 0.05 | MG/KG | | | | 1 |
| Xylenes | 0.20 | 0.13 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

▲ Northern Environmental

1214 West Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222
a subsidiary of Bonestroo, Rosene, Anderlik and Associates, Inc.

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

Page 1 of 1

No 1707

| Project No: <u>CLW 131246</u> Task No: <u>9</u> | | Sampling Date(s): <u>7/7/94</u> | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | |
|--|---|--|--|---|-------------|--------------|-----------------|-----|------------------------|---------------------------------|------------------------|------------------------|-----------------------|-------------------|------------------|----------------|
| Project Location: <u>COVINGTON</u> (city) | | Shipment Date: <u>7/8/94</u> | Method of Shipment: <u>Dunham</u> | | | | | | | | | | | | | |
| Project Manager: <u>Garrett S. Grattan</u> | | Contents Temperature: <u>ICE</u> °C Refrigerator No: _____ | | | | | | | | | | | | | | |
| Sampler (name): <u>John J. Luud</u> | Hazard Identification <input type="checkbox"/> Reactive <input type="checkbox"/> Non Hazardous <input type="checkbox"/> Toxic <input type="checkbox"/> Flammable <input type="checkbox"/> Infectious <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Other <u>Pet. Imp. Soil</u> | | ANALYSES REQUESTED <u>LOW DETECT</u> DRO UN modified GRO TRPH (EPA Method 9073) Oil & Grease (EPA Method 413.1) BETX (EPA Method 8020) PVOG (EPA Method 8020) VOC (EPA Method 8021) PAH (EPA Method) Pb (EPA Method) Other Analysis | | | | | | | | | | | | | |
| Sampler (signature): <u>[Signature]</u> | | | | | | | | | | | | | | | | |
| Laboratory: <u>U.S. OIL</u> | | | | | | | | | | | | | | | | |
| Wisconsin DNR Certification No: <u>445027660</u> | | | | | | | | | | | | | | | | |
| Laboratory Contact: <u>J. STEVENS</u> | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | | | |
| Reports to be Sent To: <u>John J. Luud</u> | Date Needed: _____ | | | | | | | | | | | | | | | |
| Lab ID No. | Sample No. | Collection Date | Collection Time | No. of Containers, Size and Type | Description | Preservative | DRO UN modified | GRO | TRPH (EPA Method 9073) | Oil & Grease (EPA Method 413.1) | BETX (EPA Method 8020) | PVOG (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | Other Analysis |
| 1631520 | 246-501 | 7/7 | 1400 | 1-2oz, 2-4oz | | ICE | X | | | | | X | | | | |
| 1631521 | 246-502 | 7/7 | 1413 | 1-2oz, 1-4oz | | ICE | X | | | | | X | | | | |
| 1631522 | 246-503 | 7/7 | 1638 | 1-2oz, 1-4oz | | ICE | X | | | | | X | | | | |
| Lab Batch No: _____ | | Price Quote No: _____ | | Comments: <u>246-501, 502, 503, DRO jars were no septa caps, Run anyways Per John Luud 7/11/94 B.R.</u> | | | | | | | | | | | | |
| Packed By: <u>J. Luud</u> | | | | | | | | | | | | | | | | |
| Sealed For Shipping By: <u>J. Luud</u> | | | | | | | | | | | | | | | | |
| Relinquished By: <u>[Signature]</u> | Date: <u>7/8/94</u> | Relinquished By: <u>[Signature]</u> | Date: <u>7-8</u> | Relinquished By: _____ | | Date: _____ | | | | | | | | | | |
| Company: <u>MEI</u> | Time: _____ | Company: _____ | Time: <u>8:50</u> | Company: _____ | | Time: _____ | | | | | | | | | | |
| Received By: <u>592</u> | Date: <u>7-8</u> | Received By: <u>[Signature]</u> | Date: <u>7-8</u> | Received By: _____ | | Date: _____ | | | | | | | | | | |
| Company: <u>Dunham</u> | Time: <u>3:30</u> | Company: <u>U.S. oil</u> | Time: <u>8:30</u> | Company: _____ | | Time: _____ | | | | | | | | | | |

▲ Northern Environmental

1214 West Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

a subsidiary of Bognestroo, Rosene, Anderlik and Associates, Inc.

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

Page 1 Of 1

N2 1707

| Project No: <u>C-1101312116</u> Task No: <u>9</u> | | Sampling Date(s): <u>7/7/94</u> | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | |
|---|----------------|---|-------------|---|-------------|----------|-------|------------------|----------|-------|------------------------|---------------------------------|------------------------|--|-----------------------|-------------------|------------------|----------------|
| Project Location: (city) <u>Waukegan</u> | | Shipment Date: <u>7/8/94</u> | | Method of Shipment _____ Contents Temperature _____ °C Refrigerator No: _____ | | | | | | | | | | | | | | |
| Project Manager: <u>George S. Bognestroo</u> | | Hazard Identification <input type="checkbox"/> Reactive Non Hazardous <input type="checkbox"/> <input type="checkbox"/> Toxic Flammable <input type="checkbox"/> <input type="checkbox"/> Infectious Skin Irritant <input type="checkbox"/> <input checked="" type="checkbox"/> Other <u>Petroleum Soil</u> | | ANALYSES REQUESTED | | | | | | | | | | | | | | |
| Sampler (name): <u>Michael J. Lewis</u> | | | | DRO GRO TRPH (EPA Method 9073) Oil & Grease (EPA Method 413.1) BETX (EPA Method 8020) PVOG (EPA Method 8020) <u>LOU DETECT</u> VOC (EPA Method 8021) PAH (EPA Method) Pb (EPA Method) | | | | | | | | | | | | | | |
| Sampler (signature): <u>[Signature]</u> | | | | | | | | | | | | | | | | | | |
| Laboratory: <u>115-116</u> | | | | | | | | | | | | | | | | | | |
| Wisconsin DNR Certification No: <u>445C 27660</u> | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal Rush <input type="checkbox"/> Date Needed _____ | | | | | | | | | | | | | | | | |
| Laboratory Contact: <u>J. Stevens</u> | | | | | | | | | | | | | | | | | | |
| Reports to be Sent To: <u>Michael J. Lewis</u> | | | | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO | GRO | TRPH (EPA Method 9073) | Oil & Grease (EPA Method 413.1) | BETX (EPA Method 8020) | PVOG (EPA Method 8020) <u>LOU DETECT</u> | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | Other Analysis |
| | | Date | Time | | Water | Soil | Other | | | | | | | | | | | |
| | <u>246-501</u> | <u>7/7</u> | <u>1400</u> | <u>1-2oz 1-4oz</u> | | <u>X</u> | | <u>ICE</u> | <u>X</u> | | | | <u>X</u> | | | | | |
| | <u>246-502</u> | <u>7/7</u> | <u>1413</u> | <u>1-2oz 1-4oz</u> | | <u>X</u> | | <u>ICE</u> | <u>X</u> | | | | <u>X</u> | | | | | |
| | <u>246-503</u> | <u>7/7</u> | <u>1638</u> | <u>1-2oz 1-4oz</u> | | <u>X</u> | | <u>ICE</u> | <u>X</u> | | | | <u>X</u> | | | | | |
| Lab Batch No: | | Price Quote No: | | Comments: | | | | | | | | | | | | | | |
| Packed By: <u>J. Lewis</u> | | | | | | | | | | | | | | | | | | |
| Sealed For | | | | | | | | | | | | | | | | | | |
| Shipping By: <u>J. Lewis</u> | | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>[Signature]</u> | | Date: <u>1/8/94</u> | | Relinquished By: | | Date: | | Relinquished By: | | Date: | | | | | | | | |
| Company: <u>NE</u> | | Time: | | Company: | | Time: | | Company: | | Time: | | | | | | | | |
| Received By: <u>592</u> | | Date: <u>7-9</u> | | Received By: | | Date: | | Received By: | | Date: | | | | | | | | |
| Company: <u>Dunham</u> | | Time: <u>2:30</u> | | Company: | | Time: | | Company: | | Time: | | | | | | | | |



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: S13
Lab Code: 1632776
Sample Type: Soil
Sample Date: 21-Jul-94

Report Date: 09-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 80.9 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | 140 | 10 | MG/KG | 23-Jul-94 | 02-Aug-94 | C. Rotar | 1,2 |
| PVOC SW846 8020 | | | | | 03-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 DRO chromatogram indicates possible lube oil and diesel fuel contamination.
DRO window extended 5 minutes due to observed baseline rise outside of method specified window.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cadarburg
Sample ID: S16
Lab Code: 1632777
Sample Type: Soil
Sample Date: 21-Jul-94

Report Date: 09-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 76.9 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 02-Aug-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 04-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW1312469
 Project : Cedarburg
 Sample ID: S19
 Lab Code: 1632780
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 09-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 75.8 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 02-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW1312469
 Project : Cedarburg
 Sample ID: S21
 Lab Code: 1632781
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 09-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 75.5 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 03-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW1312469
Project : Cedarburg
Sample ID: S23
Lab Code: 1632783
Sample Type: Soil
Sample Date: 21-Jul-94

Report Date: 09-Feb-95

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 84.6 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 02-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

MEMO

Northern Environmental Technologies, Incorporated
1214 West Venture Court
Mequon, Wisconsin 53092
Phone: (414) 241-3133
Fax: (414) 241-8222

TO: Jim Stevens, U.S. Oil Analytical

DATE: July 22, 1994

FROM: John Lund

RE: Comments on Samples Received on Chain-of-Custody #3360 and #3361

PROJECT #: CLW 131246

Please perform DRO and low level PVOC analyses on the following samples in the chronology listed:

- 1) Analyze S-13 and S-19; if DRO meets or exceeds 100 ppm in either sample, or any of the BTEX components or 1,2-DCA meet or exceed the NR 720 guideline criteria, then...
- 2) Analyze S-16 and S-21; if as above ($>$ or $=$ 100 ppm DRO, or BTEX or 1,2-DCA $>$ or $=$ NR 720), then...
- 3) Analyze S-22 and S-17; if as above ($>$ or $=$ 100 ppm DRO, or BTEX or 1,2-DCA $>$ or $=$ NR 720), then...
- 4) Analyze S-18.

Similarly, perform DRO and low level PVOC analyses on the following samples in the chronology listed:

- 1) Analyze S-23; if DRO meets or exceeds 100 ppm, or any of the BTEX components or 1,2-DCA meet or exceed the NR 720 guideline criteria, then...
- 2) Analyze S-24.

Note: NR 720 proposed BTEX criteria:

| | |
|--------------------|----------|
| Benzene | 5.5 ppb |
| Toluene | 1500 ppb |
| Ethylbenzene | 2900 ppb |
| Xylenes | 4100 ppb |
| 1,2-Dichloroethane | 4.9 ppb |

Run
2 samples
1st for
DRO Low Voc

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

REQUEST FOR ANALYSIS

3360

Check office originating request

| Project No: <u>CLW131246</u> | | Task No: | | Laboratory: <u>U.S. OIL</u> | | | Sample Integrity - To be completed by receiving lab | | | | | | | | | | |
|--|----------------|---|----------------|---------------------------------------|---|------|---|--------------|----------|------------------|--|--|-------|--|--|--|--|
| Project Location: (city) <u>CEDARBURG</u> | | Wisconsin DNR Certification #: <u>445027660</u> | | | Seal intact upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | |
| Project Manager: <u>GARY GRAHAM</u> | | Laboratory Contact: <u>JIM STEVENS</u> | | | Method of Shipment _____ Contents Temperature _____ °C Refrigerator No: _____ | | | | | | | | | | | | |
| Sampler (name): <u>TODD TROSKY</u> | | Price Quote: | | | ANALYSES REQUESTED DRO (WI Modified Method) <input type="checkbox"/> GRO (WI Modified Method) <input type="checkbox"/> BETX (EPA Method 8020) <input type="checkbox"/> <u>LOW LEVEL</u> PVOX (EPA Method 8020) <input type="checkbox"/> VOC (EPA Method 8021) <input type="checkbox"/> PAH (EPA Method) <input type="checkbox"/> Pb (EPA Method) <input type="checkbox"/> | | | | | | | | | | | | |
| Sampler (signature): <u>Todd Trosky</u> | | TURNAROUND TIME REQUIRED | | | | | | | | | | | | | | | |
| Sampling Date(s): <u>7/21/94</u> | | <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Date Needed _____ | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>JOHN LUND</u> | | | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | | | | | | | | | |
| | | Date | Time | | Water | Soil | Other | | | | | | | | | | |
| | <u>S11</u> | <u>7/21</u> | <u>---</u> | | <u>X</u> | | <u>ICE</u> | | <u>X</u> | <u>X</u> | | | | | | | |
| | S12 | 7/21 | --- | 1-9oz, 2-2oz glass | | | | | | | | | | | | | |
| | S13 | 7/21 | --- | | | | | | | | | | | | | | |
| | S14 | 7/21 | --- | | | | | | | | | | | | | | |
| | S15 | 7/21 | --- | | | | | | | | | | | | | | |
| | <u>S16</u> | <u>7/22</u> | <u>---</u> | | | | | | | | | | | | | | |
| | <u>S17</u> | <u>7/22</u> | <u>---</u> | | | | | | | | | | | | | | |
| | <u>S18</u> | <u>7/22</u> | <u>---</u> | | | | | | | | | | | | | | |
| | <u>S19</u> | <u>7/22</u> | <u>---</u> | | | | | | | | | | | | | | |
| | S20 | 7/22 | --- | | | | | | | | | | | | | | |
| Packed for Shipping by: <u>Trosky</u> | | | | Comments: <u>SEE ATTACHED LETTER.</u> | | | | | | | | | | | | | |
| Shipment Date: <u>7/22/94</u> | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>Trosky</u> | | Date: <u>7/22/94</u> | | Relinquished By: | | | Date: | | | Relinquished By: | | | Date: | | | | |
| Company: <u>NET</u> | | Time: | | Company: | | | Time: | | | Company: | | | Time: | | | | |
| Received By: | | Date: <u>7-22</u> | | Received By: | | | Date: | | | Received By: | | | Date: | | | | |
| Company: | | Time: <u>---</u> | | Company: | | | Time: | | | Company: | | | Time: | | | | |

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

REQUEST FOR ANALYSIS

3361

Check office originating request

| Project No: <u>CLW131246</u> | | Task No: _____ | | Laboratory: <u>U.S. OIL</u> | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|--|-------------|---|-------------|--|--------------------------|------------------------|------------------------|-----------------------|-------------------|------------------|--------------|------|------------|----------|--|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Project Location: (city) <u> CEDARBURG</u> | | Wisconsin DNR Certification #: <u>445027660</u> | | Laboratory Contact: <u>JIM STEVENS</u> | | Method of Shipment _____ Contents Temperature _____ °C Refrigerator No: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Manager: <u>GARY GRAHAM</u> | | Laboratory Price Quote: _____ | | | | ANALYSES REQUESTED | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler (name): <u>TODD TROSKEY</u> | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Date Needed _____ | | | | DRO (WI Modified Method) | GRO (WI Modified Method) | BETX (EPA Method 8020) | PDOC (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | | | | | | | | | | | | | | | | | | | | |
| Sampler (signature): <u>Todd Troskey</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling Date(s): <u>7/21/94</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>JOHN LUND</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | | | | | | Preservative | | | | | | | | | | | | | | | | | | | |
| | | Date | Time | | Water | | | | | | | | | Soil | Other | | | | | | | | | | | | | | | | | |
| | <u>S21</u> | <u>7/21</u> | <u>1417</u> | <u>1-4oz, 2-2oz glass</u> | | | | | | | | | <u>X</u> | | <u>ICE</u> | <u>X</u> | | <u>X</u> | | | | | | | | | | | | | | |
| | <u>S22</u> | <u>↓</u> | <u>1423</u> | <u>↓</u> | | | | | | | | | <u>X</u> | | <u>↓</u> | <u>X</u> | | <u>X</u> | | | | | | | | | | | | | | |
| | <u>S23</u> | <u>↓</u> | <u>1440</u> | <u>↓</u> | | | | | | | | | <u>X</u> | | <u>↓</u> | <u>X</u> | | <u>X</u> | | | | | | | | | | | | | | |
| | <u>S24</u> | <u>↓</u> | <u>1447</u> | <u>↓</u> | | | | | | | | | <u>X</u> | | <u>↓</u> | <u>X</u> | | <u>X</u> | | | | | | | | | | | | | | |
| Packed for Shipping by: <u>Troskey</u> | | Comments: <u>SEE ATTACHED LETTER.</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipment Date: <u>7/22/94</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>Troskey</u> | | Date: <u>7/22/94</u> | | Relinquished By: | | Date: | | Relinquished By: | | Date: | | | | | | | | | | | | | | | | | | | | | | |
| Company: <u>NET</u> | | Time: | | Company: | | Time: | | Company: | | Time: | | | | | | | | | | | | | | | | | | | | | | |
| Received By: | | Date: | | Received By: | | Date: | | Received By: | | Date: | | | | | | | | | | | | | | | | | | | | | | |
| Company: | | Time: | | Company: | | Time: | | Company: | | Time: | | | | | | | | | | | | | | | | | | | | | | |

Northern Environmental™

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

Page 1 of 2

3360

Check office originating request

| Project No: CLW131246 | | Task No: | | Laboratory: U.S. OIL | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | |
|---|----------------|----------------------|------|---|-------------|----------------------|--|-----------------------------|-----|----------------------|------|-----------------------------|-----|----------------------|----|-----------------------------|--|----------------------|--|-----------------------------|--|----------------------|--|
| Project Location: (city) CEDARBURG | | | | Wisconsin DNR Certification #: 445027660 | | | Method of Shipment: <u>Truck</u> | | | | | | | | | | | | | | | | |
| Project Manager: GARY GRAHAM | | | | Laboratory Contact: JIM STEVENS | | | Contents Temperature: <u>On Ice</u> °C Refrigerator No: _____ | | | | | | | | | | | | | | | | |
| Sampler (name): TODD TROSKY | | | | Price Quote: | | | ANALYSES REQUESTED <input checked="" type="checkbox"/> DRO (WI Modified Method) <input checked="" type="checkbox"/> GRO (WI Modified Method) <input checked="" type="checkbox"/> BETX (EPA Method 8020) <input checked="" type="checkbox"/> LOW LEVEL <input checked="" type="checkbox"/> PVOC (EPA Method 8020) <input type="checkbox"/> VOC (EPA Method 8021) <input type="checkbox"/> PAH (EPA Method) <input type="checkbox"/> Pb (EPA Method) | | | | | | | | | | | | | | | | |
| Sampler (signature): <i>Todd Trosky</i> | | | | TURNAROUND TIME REQUIRED | | | | | | | | | | | | | | | | | | | |
| Sampling Date(s): 7/21/94 | | | | <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | | | | | | | |
| Reports to be Sent to: JOHN LUND | | | | Date Needed: | | | | | | | | | | | | | | | | | | | |
| Lab ID No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | | | | | | | | | | | | | | | |
| | | Date | Time | | Water | Soil | Other | | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | | | | | | | | |
| 163075 | S11 | 7/21 | | | | | | | | | | | | | | | | | | | | | |
| | S12 | 1235 | | 4oz, 22oz glass | | | | | | | | | | | | | | | | | | | |
| 19 | 163076 | S13 | 1240 | | | | | | | | | | | | | | | | | | | #215 | |
| | S14 | 1219 | | | | | | | | | | | | | | | | | | | | | |
| | S15 | 1205 | | | | | | | | | | | | | | | | | | | | | |
| 20 | 163077 | S16 | 1322 | | | | | | | | | | | | | | | | | | | #215 | |
| 21 | 163078 | S17 | 1330 | | | | | | | | | | | | | | | | | | | Cancel | |
| 22 | 163079 | S18 | 1340 | | | | | | | | | | | | | | | | | | | Cancel | |
| 23 | 163080 | S19 | 1410 | | | | | | | | | | | | | | | | | | | #215 | |
| | S20 | 1413 | | | | | | | | | | | | | | | | | | | | | |
| Packed for Shipping by: <i>Trosky</i> | | | | Comments: SEE ATTACHED LETTER. CANCEL S17 AND S18 per M.R. dec. 8/5/94 | | | | | | | | | | | | | | | | | | | |
| Shipment Date: 7/22/94 | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <i>Trosky</i> | | Date: 7/22/94 | | Relinquished By: 608 | | Date: 7/22/94 | | Relinquished By: 550 | | Date: 7-22-94 | | Relinquished By: 550 | | Date: 7-22-94 | | Relinquished By: 550 | | Date: 7-22-94 | | Relinquished By: 550 | | Date: 7-22-94 | |
| Company: NET | | Time: 3:25 | | Company: Dunham | | Time: 7:30 | | Company: Dunham | | Time: 7:30 | | Company: Dunham | | Time: 7:18 | | Company: Dunham | | Time: 7:25 | | Company: USC | | Time: 2:00 PM | |
| Received By: 592 | | Date: 7-22 | | Received By: 550 | | Date: 7-22-94 | | Received By: 550 | | Date: 7-22-94 | | Received By: 550 | | Date: 7/22 | | Received By: 550 | | Date: 7/22 | | Received By: 550 | | Date: 7/22 | |
| Company: Dunham | | Time: 3:25 | | Company: Dunham | | Time: 7:30 | | Company: Dunham | | Time: 7:30 | | Company: Dunham | | Time: 7:18 | | Company: Dunham | | Time: 7:25 | | Company: USC | | Time: 2:00 PM | |

Northern Environmental™

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

CHAIN OF CUSTODY RECORD

Page 2 of 2

REQUEST FOR ANALYSIS

3361

Check office originating request

| Project No: CLW131246 | | Task No: | | Laboratory: U.S. OIL | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Method of Shipment <u>Cover</u> Contents Temperature <u>10°C</u> °C Refrigerator No: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------|------------------------|---|--|------------------|----------------------|---|------------------------------|---|----------------------|--|--|--------------------------|------------|-----------------|-----------------|----------------------------------|-------------|--|--------------------------|------------------------|---|-----------------------|------------------|-------------------|----|---------|-----|------|------|--------------------|------|-----|---|---|---|--|--|--|---|--------------------|----------------|--|------|--|--|---|---|---|---|--|--|--|--------|---------|-----|--|------|--|--|--|---|--|---|--|--|--|-----|--------------------|----------------|--|------|--|--|--|---|--|---|--|--|--|--------|
| Project Location: (city) CEDARBURG | | | | Wisconsin DNR Certification #: 445027660 | | | Project Manager: GARY GRAHAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler (name): TODD TROSKEY | | | | Laboratory Contact: JIM STEVENS | | | <table border="1"> <thead> <tr> <th colspan="6">ANALYSES REQUESTED</th> </tr> <tr> <th>DRO (WI Modified Method)</th> <th>GRO (WI Modified Method)</th> <th>BETX (EPA Method 8020)</th> <th>PVOC (EPA Method 8020) ^{LOW LEVEL}</th> <th>VOC (EPA Method 8021)</th> <th>PAH (EPA Method)</th> <th>Pb (EPA Method)</th> </tr> </thead> <tbody> <tr> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | ANALYSES REQUESTED | | | | | | DRO (WI Modified Method) | GRO (WI Modified Method) | BETX (EPA Method 8020) | PVOC (EPA Method 8020) ^{LOW LEVEL} | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | X | | X | | | | | X | | X | | | | | X | | X | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANALYSES REQUESTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRO (WI Modified Method) | GRO (WI Modified Method) | BETX (EPA Method 8020) | PVOC (EPA Method 8020) ^{LOW LEVEL} | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler (signature): <i>Todd Troskey</i> | | | | Price Quote: | | | <table border="1"> <thead> <tr> <th colspan="6">TURNAROUND TIME REQUIRED</th> </tr> <tr> <th colspan="6"><input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush</th> </tr> <tr> <th colspan="6">Date Needed _____</th> </tr> </thead> </table> | | | | | | TURNAROUND TIME REQUIRED | | | | | | <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | Date Needed _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TURNAROUND TIME REQUIRED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date Needed _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling Date(s): 7/21/94 | | | | Date Needed _____ | | | <table border="1"> <thead> <tr> <th>Lab ID No.</th> <th>Sample No.</th> <th>Collection Date</th> <th>Collection Time</th> <th>No. of Containers, Size and Type</th> <th>Description</th> <th>Preservative</th> <th>DRO</th> <th>GRO</th> <th>BETX</th> <th>PVOC</th> <th>VOC</th> <th>PAH</th> <th>Pb</th> </tr> </thead> <tbody> <tr> <td>1632781</td> <td>521</td> <td>7/21</td> <td>1417</td> <td>1-4oz, 2-2oz glass</td> <td>Soil</td> <td>ICE</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1632782</td> <td>522</td> <td></td> <td>1423</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>Cancel</td> </tr> <tr> <td>1632783</td> <td>523</td> <td></td> <td>1440</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>2.5</td> </tr> <tr> <td>1632784</td> <td>524</td> <td></td> <td>1447</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>Cancel</td> </tr> </tbody> </table> | | | | | | Lab ID No. | Sample No. | Collection Date | Collection Time | No. of Containers, Size and Type | Description | Preservative | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | 1632781 | 521 | 7/21 | 1417 | 1-4oz, 2-2oz glass | Soil | ICE | X | | X | | | | | 1632782 | 522 | | 1423 | | | | X | | X | | | | Cancel | 1632783 | 523 | | 1440 | | | | X | | X | | | | 2.5 | 1632784 | 524 | | 1447 | | | | X | | X | | | | Cancel |
| Lab ID No. | Sample No. | Collection Date | Collection Time | No. of Containers, Size and Type | Description | Preservative | | | | | | | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632781 | 521 | 7/21 | 1417 | 1-4oz, 2-2oz glass | Soil | ICE | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632782 | 522 | | 1423 | | | | X | | X | | | | Cancel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632783 | 523 | | 1440 | | | | X | | X | | | | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632784 | 524 | | 1447 | | | | X | | X | | | | Cancel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reports to be Sent to: JOHN LUND | | | | Date Needed _____ | | | <table border="1"> <thead> <tr> <th>Lab ID No.</th> <th>Sample No.</th> <th>Collection Date</th> <th>Collection Time</th> <th>No. of Containers, Size and Type</th> <th>Description</th> <th>Preservative</th> <th>DRO</th> <th>GRO</th> <th>BETX</th> <th>PVOC</th> <th>VOC</th> <th>PAH</th> <th>Pb</th> </tr> </thead> <tbody> <tr> <td>1632781</td> <td>521</td> <td>7/21</td> <td>1417</td> <td>1-4oz, 2-2oz glass</td> <td>Soil</td> <td>ICE</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1632782</td> <td>522</td> <td></td> <td>1423</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>Cancel</td> </tr> <tr> <td>1632783</td> <td>523</td> <td></td> <td>1440</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>2.5</td> </tr> <tr> <td>1632784</td> <td>524</td> <td></td> <td>1447</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>Cancel</td> </tr> </tbody> </table> | | | | | | Lab ID No. | Sample No. | Collection Date | Collection Time | No. of Containers, Size and Type | Description | Preservative | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | 1632781 | 521 | 7/21 | 1417 | 1-4oz, 2-2oz glass | Soil | ICE | X | | X | | | | | 1632782 | 522 | | 1423 | | | | X | | X | | | | Cancel | 1632783 | 523 | | 1440 | | | | X | | X | | | | 2.5 | 1632784 | 524 | | 1447 | | | | X | | X | | | | Cancel |
| Lab ID No. | Sample No. | Collection Date | Collection Time | No. of Containers, Size and Type | Description | Preservative | | | | | | | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632781 | 521 | 7/21 | 1417 | 1-4oz, 2-2oz glass | Soil | ICE | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632782 | 522 | | 1423 | | | | X | | X | | | | Cancel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632783 | 523 | | 1440 | | | | X | | X | | | | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1632784 | 524 | | 1447 | | | | X | | X | | | | Cancel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lab ID No. | | | | Description | | | Preservative | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packed for Shipping by: <i>T. Troskey</i> | | | | Comments: SEE ATTACHED LETTER CANCEL 522 AND 524 per M.R. & Co 8/5/94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipment Date: 7/22/94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <i>T. Troskey</i> | | Date: 7/22/94 | | Relinquished By: 608 | | Date: 7/22/94 | | Relinquished By: 550 | | Date: 7-22-94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Company: NET | | Time: | | Company: Dunham | | Time: 7:30 | | Company: Dunham | | Time: 10:18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Received By: 592 | | Date: 7-22 | | Received By: 550 | | Date: 7-22-94 | | Received By: <i>Jim Poir</i> | | Date: 7/27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Company: Dunham | | Time: 3:25 | | Company: Dunham | | Time: 11:30 | | Company: US OIL | | Time: 9:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW131246
 Project : Cadarburg
 Sample ID: S16
 Lab Code: 1632777
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 10-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 76.9 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 02-Aug-94 | C. Rotar | 1 |
| PVOC | | | | | 04-Aug-94 | M. Ricker | |
| SW846 8020 | | | | | | | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

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 Phone 414-735-8298

WI DNR Certified Lab #445027660

 John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: S13
 Lab Code: 1632776
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 12-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 80.9 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | 140 | 10 | MG/KG | 23-Jul-94 | 02-Aug-94 | C. Rotar | 1,2 |
| PVOC SW846 8020 | | | | | 03-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

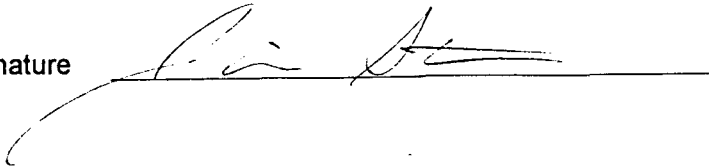
MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY
CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 DRO chromatogram indicates possible lube oil and diesel fuel contamination.
DRO window extended 5 minutes due to observed baseline rise outside of method specified window.

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW131246
 Project : Cadarburg
 Sample ID: S13
 Lab Code: 1632776
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 10-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|--------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 80.9 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | 140 | 10 | MG/KG | 23-Jul-94 | 02-Aug-94 | C. Rotar | 1,2 |
| PVOC | | | | | 03-Aug-94 | M. Ricker | |
| SW846 8020 | | | | | | | |
| Benzene | ND | 0.0011 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 DRO chromatogram indicates possible lube oil contamination. DRO window extended 5 minutes due to observed baseline rise outside of method specified window.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW1312469
Project : Cedarburg
Sample ID: S19
Lab Code: 1632780
Sample Type: Soil
Sample Date: 21-Jul-94

Report Date: 10-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 75.8 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 02-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW1312469
 Project : Cedarburg
 Sample ID: S21
 Lab Code: 1632781
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 10-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|-------------------|----------------|--------------|---------|
| TOTAL SOLIDS | 75.5 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC SW846 8020 | | | | | 03-Aug-94 | M. Ricker | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

John Lund
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

Project #: CLW1312469
 Project : Cedarburg
 Sample ID: S23
 Lab Code: 1632783
 Sample Type: Soil
 Sample Date: 21-Jul-94

Report Date: 10-Aug-94

| Test | Result | MDL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 84.6 | | % | | 25-Jul-94 | B. Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | ND | 10 | MG/KG | 23-Jul-94 | 30-Jul-94 | C. Rotar | 1 |
| PVOC | | | | | 02-Aug-94 | M. Ricker | |
| SW846 8020 | | | | | | | |
| Benzene | ND | 0.001 | MG/KG | | | | 1 |
| Ethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| MTBE | ND | 0.001 | MG/KG | | | | 1 |
| Toluene | ND | 0.001 | MG/KG | | | | 1 |
| 1,2,4-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.001 | MG/KG | | | | 1 |
| Xylenes | ND | 0.003 | MG/KG | | | | 1 |
| 1,2-Dichloroethane | ND | 0.001 | MG/KG | | | | 1 |

MDL=Method Detection Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

REQUEST FOR ANALYSIS

No **3360**

Check office originating request

| Project No: CLW131246 | | Task No: | | Laboratory: U.S. OIL | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | |
|--|----------------|---|----------------|--|-------------|--|-------|---------------------------------|--------------------------|--------------------------|------------------------|-----------------------------------|------------------------|-----------------------|------------------|----------------------|--|
| Project Location: (city) CEDARBURG | | Wisconsin DNR Certification #: 445027660 | | Method of Shipment: courier | | Contents Temperature: On ice °C Refrigerator No: _____ | | | | | | | | | | | |
| Project Manager: GARY GRAHAM | | Laboratory Contact: JIM STEVENS | | Price Quote: | | ANALYSES REQUESTED DRO (WI Modified Method) <input type="checkbox"/> GRO (WI Modified Method) <input type="checkbox"/> BTEX (EPA Method 8020) <input checked="" type="checkbox"/> LOW LEVELS <input checked="" type="checkbox"/> PVOC (EPA Method 8020) <input checked="" type="checkbox"/> VOC (EPA Method 8021) <input type="checkbox"/> PAH (EPA Method) <input type="checkbox"/> Pb (EPA Method) <input type="checkbox"/> | | | | | | | | | | | |
| Sampler (name): TODD TROSKY | | TURNAROUND TIME REQUIRED | | <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | |
| Sampler (signature): <i>Todd Trosky</i> | | Date Needed | | | | | | | | | | | | | | | |
| Sampling Date(s): 7/21/94 | | Reports to be Sent to: JOHN LUND | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO (WI Modified Method) | GRO (WI Modified Method) | BTEX (EPA Method 8020) | LOW LEVELS | PVOC (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | |
| | | Date | Time | | Water | Soil | Other | | | | | | | | | | |
| 118 | S11 | 7/21 | --- | | | | | | | | | | | | | | |
| | S12 | 1235 | --- | 1 ea, 22oz glass | | | | | | | | | | | | | |
| 119 | 163776 S13 | | 1240 | | | | | | | | | | | | | | |
| | S14 | | 1219 | | | | | | | | | | | | | | |
| | S15 | | 1205 | | | | | | | | | | | | | | |
| 120 | 1632777 S16 | | 1322 | | | | | | | | | | | | | | |
| 121 | 1632778 S17 | | 1330 | | | | | | | | | | | | | Cancel | |
| 122 | 1632779 S18 | | 1340 | | | | | | | | | | | | | Cancel | |
| 123 | 1632780 S19 | | 1410 | | | | | | | | | | | | | | |
| | S20 | | 1413 | | | | | | | | | | | | | | |
| Packed for Shipping by: <i>T. Trosky</i> | | Comments: SEE ATTACHED LETTER. CANCEL S17 AND S18 per M. Ricko. 8/5/94 | | | | | | | | | | | | | | | |
| Shipment Date: 7/22/94 | | | | | | | | | | | | | | | | | |
| Relinquished By: <i>T. Trosky</i> | | Date: 7/22/94 | | Relinquished By: 608 | | Date: 7/22/94 | | Relinquished By: 550 | | Date: 7-22-94 | | Relinquished By: Dunham | | Date: 7-22-94 | | Time: 10:18 | |
| Company: NET | | Time: | | Company: Dunham | | Time: 730 | | Company: Dunham | | Time: 7-22-94 | | Company: John P... | | Date: 7/23 | | Time: 9:00 AM | |
| Received By: 592 | | Date: 7-22 | | Received By: 550 | | Date: 7-22-94 | | Received By: U.S.O.I. | | Date: | | Company: | | Date: | | Time: | |
| Company: Dunham | | Time: 3:25 | | Company: Dunham | | Time: 7:30 | | Company: | | Date: | | Company: | | Date: | | Time: | |

Northern Environmental™

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

Page 2 of 2

No 3361

Check office originating request

| Project No: <u>CLW131246</u> | | Task No: | | Laboratory: <u>U.S. OIL</u> | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | |
|--|------------|---|-------------|----------------------------------|---|-------------------------------------|---|------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------------|-----------------------|----------------------|------------------|
| Project Location: (city) <u>CEDARBURG</u> | | Wisconsin DNR Certification #: <u>445027660</u> | | | Method of Shipment <u>Course</u> Contents Temperature <u>on ice</u> °C Refrigerator No: _____ | | | | | | | | | | |
| Project Manager: <u>GARY GRAHAM</u> | | Laboratory Contact: <u>JIM STEVENS</u> | | | ANALYSES REQUESTED DRO (WI Modified Method) <input type="checkbox"/> GRO (WI Modified Method) <input type="checkbox"/> BTEX (EPA Method 8020) <input type="checkbox"/> <u>LOW LEVEL</u> SVOC (EPA Method 8020) <input type="checkbox"/> VOC (EPA Method 8021) <input type="checkbox"/> PAH (EPA Method) <input type="checkbox"/> Pb (EPA Method) <input type="checkbox"/> | | | | | | | | | | |
| Sampler (name): <u>TODD TROSKEY</u> | | Price Quote: | | | | | | | | | | | | | |
| Sampler (signature): <u>Todd Troskey</u> | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Date Needed _____ | | | | | | | | | | | | | |
| Sampling Date(s): <u>7/21/94</u> | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>JOHN LUND</u> | | | | | | | | | | | | | | | |
| Lab ID/No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO (WI Modified Method) | GRO (WI Modified Method) | BTEX (EPA Method 8020) | SVOC (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) |
| | | Date | Time | | Water | Soil | Other | | | | | | | | |
| <u>134 1632781</u> | <u>S21</u> | <u>7/21</u> | <u>1417</u> | <u>1-4oz, 2-2oz glass</u> | | <input checked="" type="checkbox"/> | | <u>ICE</u> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | | | |
| <u>135 1432782</u> | <u>S22</u> | <u>7/21</u> | <u>1423</u> | ↓ | | ↓ | | ↓ | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | | <u>Cancel</u> | |
| <u>136 1632783</u> | <u>S23</u> | <u>7/21</u> | <u>1440</u> | ↓ | | ↓ | | ↓ | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | | <u>Cancel</u> | |
| <u>137 1432784</u> | <u>S24</u> | <u>7/21</u> | <u>1447</u> | ↓ | | ↓ | | ↓ | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | | <u>Cancel</u> | |
| Packed for Shipping by: <u>Troskey</u> | | Comments: <u>SEE ATTACHED LETTER CANCEL 522 AND 524 per M. Rick 8/5/94</u> | | | | | | | | | | | | | |
| Shipment Date: <u>7/22/94</u> | | | | | | | | | | | | | | | |
| Relinquished By: <u>Troskey</u> | | Date: <u>7/22/94</u> | | Relinquished By: <u>608</u> | | Date: <u>7/22/94</u> | | Relinquished By: <u>550</u> | | Date: <u>7-22-94</u> | | Relinquished By: <u>Dunkan</u> | | Date: <u>20:18</u> | |
| Company: <u>NET</u> | | Time: _____ | | Company: <u>Dunkan</u> | | Time: <u>730</u> | | Company: <u>Dunkan</u> | | Time: <u>20:18</u> | | Company: <u>US OIL</u> | | Time: <u>4:00 PM</u> | |
| Received By: <u>592</u> | | Date: <u>7-22</u> | | Received By: <u>550</u> | | Date: <u>7-22-94</u> | | Received By: <u>Jim Poir</u> | | Date: <u>7/27</u> | | Company: <u>US OIL</u> | | Time: <u>4:00 PM</u> | |
| Company: <u>Dunkan</u> | | Time: <u>3:25</u> | | Company: <u>Dunkan</u> | | Time: <u>7:30</u> | | Company: <u>US OIL</u> | | Time: _____ | | Company: _____ | | Time: _____ | |

APPENDIX C2

**SOIL BOREHOLE SAMPLE LABORATORY
ANALYSIS REPORTS AND CHAIN-OF-CUSTODY RECORD**



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Todd Troskey
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: S56
Lab Code: 5010254A
Sample Type: Soil
Sample Date: 14-Dec-94

Report Date: 30-Dec-94

| Test | Result | MDL | PQL | Unit | Date Ext/Dig/Pres | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-------|-------|--------|----------------------|-------------------|-----------------|------------|
| TOTAL SOLIDS | 86.4 | | | % | | 16-Dec-94 | B.Rettler | 1 |
| MODIFIED DRO WDNR JULY 93 | < 10 | 3.3 | 10 | MG/KG | 16-Dec-94 | 24-Dec-94 | C. Rotar | 1 |
| PVOC | | | | | | 22-Dec-94 | C. Rotar | |
| SW846 8020 | | | | | | | | |
| Benzene | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| Ethylbenzene | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| MTBE | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| Toluene | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| 1,2,4-Trimethylbenzene | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| 1,3,5-Trimethylbenzene | < .025 | 0.008 | 0.025 | MG/KG | | | | 1,2 |
| Xylenes | < .063 | 0.021 | 0.063 | MG/KG | | | | 1,2 |
| Fluorobenzene Surrogate | 110 | | | % Rec. | | | | 1,2 |

MDL=Method Detection Limit
PQL=Practical Quantitation Limit

ND= Compound Not Detected

QC SUMMARY

CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 PVOC analysis detected unidentified peaks.

Authorized Signature

501 251

Northern Environmental

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

CHAIN OF CUSTODY RECORD

Page 1 of 1

REQUEST FOR ANALYSIS

No 3648

Check office originating request

| | | | | | | | | | | | | | | | | | | | | | |
|---|------------|--------------------------|-------------|--|-------|---------------------------------|---|--------------------------|----------|--|----------|-----------------------------------|--|--------------------------|--|----------------------|--|--|--|--|--|
| Project No: <u>CLW 131246</u> | | Task No: | | Laboratory: <u>U.S. OIL</u> | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | |
| Project Location: (city) <u>CEDARBURG</u> | | | | Wisconsin DNR Certification #: <u>445027660</u> | | | Method of Shipment <u>Dunham</u> | | | | | | | | | | | | | | |
| Project Manager: <u>GARY GRAHAM</u> | | | | Laboratory Contact: <u>JIM STEVENS</u> | | | Contents Temperature <u>ICE</u> °C Refrigerator No: _____ | | | | | | | | | | | | | | |
| Sampler (name): <u>TODD TROSKEY</u> | | | | Price Quote: | | | ANALYSES REQUESTED | | | | | | | | | | | | | | |
| Sampler (signature): <u>Todd Troskey</u> | | | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | | | | | |
| Sampling Date(s): <u>12/14/94</u> | | | | | | | Date Needed | | | DRO (WI Modified Method) _____ GRO (WI Modified Method) _____ BETX (EPA Method 8020) _____ PVOC (EPA Method 8020) _____ VOC (EPA Method 8021) _____ PAH (EPA Method) _____ Pb (EPA Method) _____ | | | | | | | | | | | |
| Reports to be Sent to: <u>TODD TROSKEY</u> | | | | Description | | | Preservative | | | | | | | | | | | | | | |
| Lab ID No. | Sample No. | Collection Date Time | | No. of Containers Size and Type | Water | Soil | Other | | | | | | | | | | | | | | |
| <u>5010294</u> | <u>556</u> | <u>12/14</u> | <u>1417</u> | <u>3-2oz glass</u> | | <u>X</u> | | <u>ICE</u> | <u>X</u> | | <u>X</u> | | | | | | | | | | |
| Packed for Shipping by: <u>T. Troskey</u> | | | | Comments: | | | | | | | | | | | | | | | | | |
| Shipment Date: <u>12/15/94</u> | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>T. Troskey</u> | | Date: <u>12/15/94</u> | | Time: <u>4:05</u> | | Relinquished By: <u>R.S.</u> | | Date: <u>12/15</u> | | Time: <u>6:30</u> | | Relinquished By: <u>G08</u> | | Date: <u>12/15/94</u> | | Time: <u>8:10</u> | | | | | |
| Company: <u>NET</u> | | | | | | Company: <u>Dunham</u> | | | | | | Company: <u>Dunham</u> | | | | | | | | | |
| Received By: <u>R.S.</u> | | Date: <u>12/15</u> | | Time: <u>4:05</u> | | Received By: <u>G08</u> | | Date: <u>12/15/94</u> | | Time: <u>6:30</u> | | Received By: <u>Cheri Blue</u> | | Date: <u>12/15/94</u> | | Time: <u>8:10</u> | | | | | |
| Company: <u>Dunham</u> | | | | | | Company: <u>Dunham</u> | | | | | | Company: <u>US</u> | | | | | | | | | |

APPENDIX C3

**GROUND-WATER SAMPLE LABORATORY ANALYSIS
REPORTS AND CHAIN-OF-CUSTODY RECORD**



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Gary Graham
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW200
Lab Code: 5010373A
Sample Type: Water
Sample Date: 18-Jan-95

Report Date: 01-Feb-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | 4 | 1 | | UG/L | 1.3 | 19-Jan-95 | 24-Jan-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | 2000 | 33 | 100 | UG/L | 1.7 | 24-Jan-94 | 25-Jan-95 | C. Rotar | 1 |
| MODIFIED GRO WDNR JULY 93 | 28 | 3.2 | 11 | UG/L | 1.2 | | 20-Jan-95 | T. Williams | 2,3 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

QC SUMMARY

CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 The duplicate RPD failed to meet acceptable QC limits.
- 3 The replicate water spike was out of acceptable QC range.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113

Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

Gary Graham
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW200
Lab Code: 5010373A
Sample Type: Water
Sample Date: 18-Jan-95
Date Analyzed: 21-Jan-95

Report Date: 27-Jan-95
Analyzed By: M. Ricker

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|---------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.40 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.50 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 2.2 | 0.78 | 2.6 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1.0 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1.0 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.090 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | 0.19 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethane | 4.9 | 0.12 | 0.37 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethene | < 0.27 | 0.084 | 0.27 |
| cis-1,2-Dichloroethene | 22 | 0.092 | 0.29 |
| trans-1,2-Dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|---------|-------------|-------------|
| 2,2-Dichloropropane | < 1.0 | 0.63 | 2.2 |
| Di-Isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.080 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4.0 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | 0.44 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | 19 | 0.17 | 0.56 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1.0 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | 4.9 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | 29 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m & p-Xylene | < 0.90 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

MDL = Method Detection Limit
PQL = Practical Quantitation Limit
NA = Not Applicable

Fluorobenzene Surrogate 106 % Rec.
1,4-Dichlorobutane Surrogate 113 % Rec.
Sample pH 1.2

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 02-Feb-95
 Sample ID: MW200 Lab Code: 5010373A

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | F | F | P | P | P | P |
| Chloroform | P | F | F | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | P | P | F | F | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | F | F | P | P | P | P |
| 1,1-Dichloroethene | P | F | F | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | F | P | P | P |
| DI-Isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | F | F | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | F | F | P | P | P | P |
| MTBE | P | F | F | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | F | F | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | F | F | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | F | F | P | P | P | P |
| Trichloroethene | P | F | F | P | P | P | P |
| Trichlorofluoromethane | P | F | F | F | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | F | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

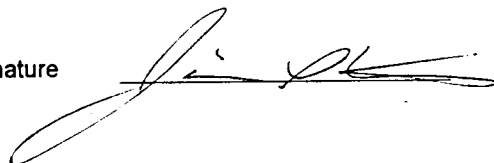
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Gary Graham
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW300
Lab Code: 5010373B
Sample Type: Water
Sample Date: 18-Jan-95

Report Date: 27-Jan-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | 1 | 1 | | UG/L | 1.4 | 19-Jan-95 | 24-Jan-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | 150 | 33 | 100 | UG/L | 1.7 | 24-Jan-94 | 25-Jan-95 | C. Rotar | 1 |
| MODIFIED GRO WDNR JULY 93 | < 11 | 3.2 | 11 | UG/L | 1.2 | | 25-Jan-95 | C. Rotar | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Gary Graham
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Report Date: 27-Jan-95
 Analyzed By: C. Rotar

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW300
 Lab Code: 5010373B
 Sample Type: Water
 Sample Date: 18-Jan-95
 Date Analyzed: 20-Jan-95

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|---------|-------------|-------------|
| Benzene | 0.80 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.40 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.50 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 2.3 | 0.78 | 2.6 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1.0 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1.0 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.090 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethane | 1.1 | 0.12 | 0.37 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethene | < 0.27 | 0.084 | 0.27 |
| cis-1,2-Dichloroethene | 0.90 | 0.092 | 0.29 |
| trans-1,2-Dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|---------|-------------|-------------|
| 2,2-Dichloropropane | < 1.0 | 0.63 | 2.2 |
| Di-Isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.080 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4.0 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.17 | 0.56 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1.0 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m & p-Xylene | < 0.90 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Fluorobenzene Surrogate 107 % Rec.
 1,4-Dichlorobutane Surrogate 112 % Rec.
 Sample pH 1.2

 Authorized Signature
 

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 02-Feb-95
 Sample ID: MW300 Lab Code: 5010373B

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | F | F | P | P | P | P |
| Chloroform | P | F | F | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | F | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | F | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | F | F | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | F | F | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | F | P | P | P |
| Di-Isopropyl Ether | P | P | F | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | F | F | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | F | F | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | F | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | F | F | P | P | P | P |
| Trichloroethene | P | F | F | P | P | P | P |
| Trichlorofluoromethane | P | F | F | F | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | F | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

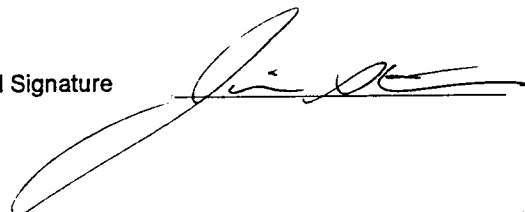
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

 Gary Graham
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW400
 Lab Code: 5010373C
 Sample Type: Water
 Sample Date: 18-Jan-95

Report Date: 27-Jan-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|-------------------------------------|--------|------|------|--------|-----|----------------------|-------------------|-----------------|------------|
| LEAD SW846 7421 | 1 | 1 | | UG/L | 1.4 | 19-Jan-95 | 24-Jan-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | 120 | 33 | 100 | UG/L | 1.8 | 24-Jan-94 | 25-Jan-95 | C. Rotar | 1,2 |
| MODIFIED GRO WDNR JULY 93 | < 11 | 3.2 | 11 | UG/L | 1.3 | | 25-Jan-95 | C. Rotar | 1 |
| PVOC SW846 8021 | | | | | 1.3 | | 25-Jan-95 | C. Rotar | |
| Benzene | < 0.60 | 0.37 | 1.2 | UG/L | | | | | 1 |
| Ethylbenzene | < 0.57 | 0.18 | 0.57 | UG/L | | | | | 1 |
| MTBE | < 1.2 | 1.2 | 3.8 | UG/L | | | | | 1 |
| Toluene | < 1.0 | 0.58 | 1.8 | UG/L | | | | | 1 |
| 1,2,4-Trimethylbenzene | < 1.0 | 0.47 | 1.5 | UG/L | | | | | 1 |
| 1,3,5-Trimethylbenzene | < 0.84 | 0.27 | 0.84 | UG/L | | | | | 1 |
| Xylenes | < 2.5 | 0.77 | 2.5 | UG/L | | | | | 1 |
| Fluorobenzene Surrogate | 118 | | | % Rec. | | | | | |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

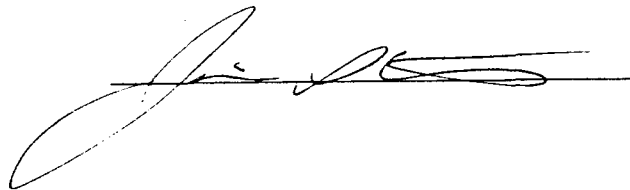
ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY
CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 DRO chromatogram indicates non-typical diesel contamination.

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Gary Graham
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW500
Lab Code: 5010373D
Sample Type: Water
Sample Date: 18-Jan-95

Report Date: 27-Jan-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|----------------------|-------------------|-----------------|------------|
| LEAD SW846 7421 | ND | 1 | | UG/L | 1.4 | 19-Jan-95 | 24-Jan-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | < 100 | 33 | 100 | UG/L | 1.7 | 24-Jan-94 | 25-Jan-95 | C. Rotar | 1 |
| MODIFIED GRO WDNR JULY 93 | < 11 | 3.2 | 11 | UG/L | 1.2 | | 25-Jan-95 | C. Rotar | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Gary Graham
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW500
 Lab Code: 5010373D
 Sample Type: Water
 Sample Date: 18-Jan-95
 Date Analyzed: 20-Jan-95

 Report Date: 27-Jan-95
 Analyzed By: C. Rotar

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|---------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.40 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.50 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 1.0 | 0.78 | 2.6 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1.0 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1.0 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.090 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethane | < 0.37 | 0.12 | 0.37 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethene | < 0.27 | 0.084 | 0.27 |
| cis-1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-Dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|---------|-------------|-------------|
| 2,2-Dichloropropane | < 1.0 | 0.63 | 2.2 |
| Di-Isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.080 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4.0 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.17 | 0.56 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1.0 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m & p-Xylene | < 0.90 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 107 % Rec.
 1,4-Dichlorobutane Surrogate 120 % Rec.
 Sample pH 1.3

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Authorized Signature
 

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 02-Feb-95
 Sample ID: MW500 Lab Code: 5010373D

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | F | F | P | P | P | P |
| Chloroform | P | F | F | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | F | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | F | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | F | F | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | F | F | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | F | P | P | P |
| DI-Isopropyl Ether | P | P | F | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | F | F | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | F | F | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | F | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | F | F | P | P | P | P |
| Trichloroethene | P | F | F | P | P | P | P |
| Trichlorofluoromethane | P | F | F | F | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | F | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

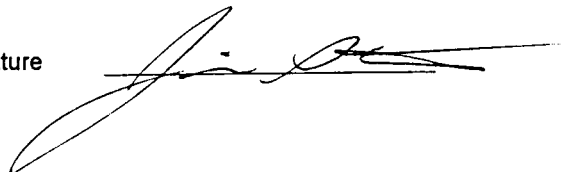
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Gary Graham
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: Dup-1246
 Lab Code: 5010373E
 Sample Type: Water
 Sample Date: 18-Jan-95
 Date Analyzed: 20-Jan-95

 Report Date: 24-Jan-95
 Analyzed By: C. Rotar

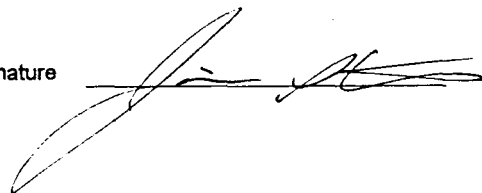
| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|---------|-------------|-------------|
| Benzene | 0.28 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.40 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.50 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 3.1 | 0.78 | 2.6 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1.0 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1.0 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.090 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethane | 4.1 | 0.12 | 0.37 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethene | < 0.27 | 0.084 | 0.27 |
| cis-1,2-Dichloroethene | 22 | 0.092 | 0.29 |
| trans-1,2-Dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|---------|-------------|-------------|
| 2,2-Dichloropropane | < 1.0 | 0.63 | 2.2 |
| Di-Isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.080 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4.0 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | 20 | 0.17 | 0.56 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1.0 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | 5.0 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | 30 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m & p-Xylene | < 0.90 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 107 % Rec.
 1,4-Dichlorobutane Surrogate 110 % Rec.
 Sample pH 1.2

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113

Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #:
Sample ID:

 CLW131246
Dup-1246

 Report Date: 02-Feb-95
Lab Code: 5010373E

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | F | F | P | P | P | P |
| Chloroform | P | F | F | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | F | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | F | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | F | F | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | F | F | P | P | P | P |
| 2,2-Dichloropropane | P | P | F | F | P | P | P |
| Di-Isopropyl Ether | P | P | F | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | F | F | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | F | F | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | F | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | F | F | P | P | P | P |
| Trichloroethene | P | F | F | P | P | P | P |
| Trichlorofluoromethane | P | F | F | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | F | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

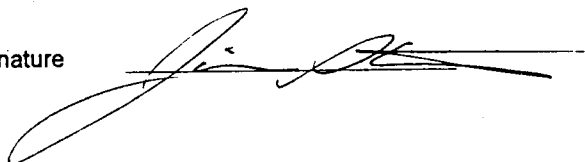
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Gary Graham
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Report Date: 24-Jan-95
 Analyzed By: C. Rotar

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: F.B.-1246
 Lab Code: 5010373F
 Sample Type: Water
 Sample Date: 18-Jan-95
 Date Analyzed: 19-Jan-95

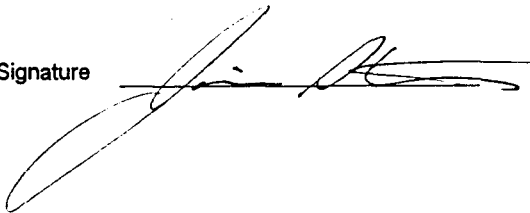
| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|---------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.40 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.50 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 1.0 | 0.78 | 2.6 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1.0 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1.0 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.090 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethane | < 0.37 | 0.12 | 0.37 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethene | < 0.27 | 0.084 | 0.27 |
| cis-1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-Dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|---------|-------------|-------------|
| 2,2-Dichloropropane | < 1.0 | 0.63 | 2.2 |
| Di-Isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.080 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4.0 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.17 | 0.56 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1.0 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m & p-Xylene | < 0.90 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Fluorobenzene Surrogate 107 % Rec.
 1,4-Dichlorobutane Surrogate 121 % Rec.
 Sample pH 1.2

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 02-Feb-95
 Sample ID: F.B.-1246 Lab Code: 5010373F

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | F | F | P | P | P | P |
| Chloroform | P | F | F | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | F | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | F | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | F | F | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | F | F | P | P | P | P |
| 2,2-Dichloropropane | P | P | F | F | P | P | P |
| Di-Isopropyl Ether | P | P | F | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | F | F | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | F | F | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | F | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | F | F | P | P | P | P |
| Trichloroethene | P | F | F | P | P | P | P |
| Trichlorofluoromethane | P | F | F | F | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | F | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

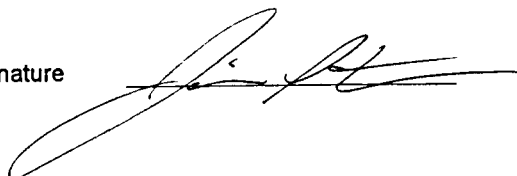
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



5010373 ▲ Northern EnvironmentalSM

556-036
 1214 W. Venture Court
 Mequon, WI 53092
 414-241-3133
 FAX 414-241-8222

372 West County Road D
 New Brighton, MN 55112
 612-635-9100
 FAX 612-635-0643

952 Circle Drive
 Green Bay, WI 54304
 414-592-8400
 FAX 414-592-8444

CHAIN OF CUSTODY RECORD

Page 1 of 1

REQUEST FOR ANALYSIS

No 3748

Check office originating request

| Project No: <u>CLW131246</u> | | Task No: | | Laboratory: <u>U.S. OIL</u> | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | |
|--|---------------------|------------------------|-------------|--|-------------|----------------------|---|--------------------------------|------------------------|------------------------|-----------------------|------------------------------|------------------|----------------------|----|
| Project Location: (city) <u>Cedarburg</u> | | | | Wisconsin DNR Certification #: <u>4450 27660</u> | | | Method of Shipment <u>Dunham</u> Contents Temperature <u>ICE</u> °C Refrigerator No: _____ | | | | | | | | |
| Project Manager: <u>GSG</u> | | | | Laboratory Contact: <u>Jim Struns</u> | | | ANALYSES REQUESTED | | | | | | | | |
| Sampler (name): <u>Tom Diehl</u> | | | | Price Quote: <u>N/A</u> | | | | | | | | | | | |
| Sampler (signature): <u>Tom Diehl</u> | | | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | DRO (WI Modified Method) | GRO (WI Modified Method) | BETX (EPA Method 8020) | PVOC (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method) | Pb (EPA Method) | | |
| Sampling Date(s): <u>18 JAN 95</u> | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>Gary Graham</u> | | | | Date Needed _____ | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO | GRO | BETX | PVOC | VOC | PAH | Pb |
| | | Date | Time | | Water | Soil | Other | | | | | | | | |
| <u>5010373A</u> | <u>mw200</u> | <u>18 JAN</u> | <u>1250</u> | <u>340mls/1.1ltr/1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO₃</u> | <u>X</u> | <u>X</u> | | | <u>X</u> | <u>X</u> | |
| | <u>Bmw300</u> | <u>18 JAN</u> | <u>1215</u> | <u>340mls/1.1ltr/1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO₃</u> | <u>X</u> | <u>X</u> | | <u>X</u> | <u>X</u> | <u>X</u> | |
| | <u>Cmw400</u> | <u>18 JAN</u> | <u>1320</u> | <u>340mls/1.1ltr/1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO₃</u> | <u>X</u> | <u>X</u> | | <u>X</u> | <u>X</u> | <u>X</u> | |
| | <u>Dmw500</u> | <u>18 JAN</u> | <u>1143</u> | <u>340mls/1.1ltr/1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO₃</u> | <u>X</u> | <u>X</u> | | | <u>X</u> | <u>X</u> | |
| | <u>E Dup-1246</u> | <u>18 JAN</u> | <u>1300</u> | <u>2-40 mls</u> | <u>X</u> | | | <u>HCL</u> | | | | | <u>X</u> | <u>X</u> | |
| | <u>F F.B.-1246</u> | <u>18 JAN</u> | <u>1315</u> | <u>2-40 mls</u> | <u>X</u> | | | <u>HCL</u> | | | | | <u>X</u> | <u>X</u> | |
| | <u>G Trip Blank</u> | <u>18 JAN</u> | <u>1320</u> | <u>2-40 mls</u> | <u>X</u> | | | <u>HCL</u> | | | <u>X</u> | | | <u>Cancelled</u> | |
| Packed for Shipping by: <u>Tom Diehl</u> | | | | Comments: <u>Run F.B.-1246 if VOCs are detected in any sample</u> <u>Land Trip Blank</u> <u>Run Field Blank 1/23/95 ca</u> <u>Carde Trip Blank per Tom Diehl 1/19/95 Re</u> | | | | | | | | | | | |
| Shipment Date: <u>18 JAN 95</u> | | | | | | | | | | | | | | | |
| Relinquished By: <u>Tom Diehl</u> | | Date: <u>18 JAN 95</u> | | Relinquished By: <u>R.S.</u> | | Date: <u>1/18/95</u> | | Relinquished By: <u>GO 8</u> | | Date: <u>1/18/95</u> | | Relinquished By: <u>GO 8</u> | | Date: <u>1/18/95</u> | |
| Company: <u>Northern Environmental</u> | | Time: <u>4:00</u> | | Company: <u>Dunham</u> | | Time: <u>6:15</u> | | Company: <u>Dunham</u> | | Time: <u>8:10</u> | | Company: <u>Dunham</u> | | Time: <u>8:10</u> | |
| Received By: <u>R.S.</u> | | Date: <u>1/18/95</u> | | Received By: <u>GO 8</u> | | Date: <u>1/18/95</u> | | Received By: <u>GO 8</u> | | Date: <u>1/18/95</u> | | Received By: <u>GO 8</u> | | Date: <u>1/18/95</u> | |
| Company: <u>DUNHAM</u> | | Time: <u>4:00</u> | | Company: <u>Dunham</u> | | Time: <u>6:15</u> | | Company: <u>US</u> | | Time: <u>8:10</u> | | Company: <u>US</u> | | Time: <u>8:10</u> | |

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

REQUEST FOR ANALYSIS

3748

Check office originating request

| Project No: <u>2100 100</u> | | Task No: | | Laboratory: <u>U.S. OIL</u> | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | |
|--|----------------|--|-------------|-------------------------------------|--|-------------------------|--|---------------------|----------|----------|----------|------------------|----------|----------|----|
| Project Location: (city) <u>Mequon</u> | | Wisconsin DNR Certification #: <u>4450 27660</u> | | | Method of Shipment _____ Contents Temperature _____ °C Refrigerator No: _____ | | | | | | | | | | |
| Project Manager: <u>USO</u> | | Laboratory Contact: <u>Jim Strauss</u> | | | ANALYSES REQUESTED | | | | | | | | | | |
| Sampler (name): <u>Tom Dinkl</u> | | Price Quote: <u>N/A</u> | | | DRO (WI Modified Method) GRO (WI Modified Method) BETX (EPA Method 8020) PVOC (EPA Method 8020) VOC (EPA Method 8021) PAH (EPA Method) Pb (EPA Method) | | | | | | | | | | |
| Sampler (signature): <u>Tom Dinkl</u> | | TURNAROUND TIME REQUIRED | | | | | | | | | | | | | |
| Sampling Date(s): <u>18 JAN 95</u> | | <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush | | | | | | | | | | | | | |
| Reports to be Sent to: <u>Greg Graham</u> | | Date Needed _____ | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO | GRO | BETX | PVOC | VOC | PAH | Pb |
| | | Date | Time | | Water | Soil | Other | | | | | | | | |
| | <u>110200</u> | <u>18 JAN</u> | <u>1250</u> | <u>3 40ml / 1 lit / 1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO3</u> | <u>X</u> | <u>X</u> | | | <u>X</u> | <u>X</u> | |
| | <u>110300</u> | <u>18 JAN</u> | <u>1215</u> | <u>3 40ml / 1 lit / 1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO3</u> | <u>X</u> | <u>X</u> | <u>X</u> | | <u>X</u> | <u>X</u> | |
| | <u>110400</u> | <u>18 JAN</u> | <u>1320</u> | <u>3 40ml / 1 lit / 1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO3</u> | <u>X</u> | <u>X</u> | <u>X</u> | | <u>X</u> | <u>X</u> | |
| | <u>110500</u> | <u>17 JAN</u> | <u>1143</u> | <u>3 40ml / 1 lit / 1-250</u> | <u>X</u> | | | <u>HCL/HCL/HNO3</u> | <u>X</u> | <u>X</u> | | | <u>X</u> | <u>X</u> | |
| | <u>FB-1246</u> | <u>18 JAN</u> | <u>1300</u> | <u>2 40ml</u> | <u>X</u> | | | <u>HCL</u> | | | | | <u>X</u> | <u>X</u> | |
| | <u>FB-1246</u> | <u>18 JAN</u> | <u>1315</u> | <u>2 40ml</u> | <u>X</u> | | | <u>HCL</u> | | | | | <u>X</u> | <u>X</u> | |
| | <u>FB-1246</u> | <u>18 JAN</u> | <u>1330</u> | <u>2 40ml</u> | <u>X</u> | | | <u>HCL</u> | | | <u>X</u> | | | | |
| Packed for Shipping by: <u>Tom Dinkl</u> | | Comments: <u>Run F.B.-1246 if VOCs are detected in any sample</u> <u>Lead still blank</u> | | | | | | | | | | | | | |
| Ship Date: <u>18 JAN 95</u> | | | | | | | | | | | | | | | |
| Relinquished By: <u>Tom Dinkl</u> | | Date: <u>18 JAN 95</u> | | Relinquished By: <u>Rick</u> | | Date: <u>1/18/95</u> | | Relinquished By: | | Date: | | Relinquished By: | | Date: | |
| Company: <u>Northern Environmental</u> | | Time: <u>4:00</u> | | Company: | | Time: | | Company: | | Time: | | Company: | | Time: | |
| Received By: <u>Rick</u> | | Date: <u>1/18/95</u> | | Received By: | | Date: | | Received By: | | Date: | | Received By: | | Date: | |
| Company: <u>Northern Environmental</u> | | Time: <u>4:00</u> | | Company: | | Time: | | Company: | | Time: | | Company: | | Time: | |



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW200
Lab Code: 5011102A
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 12-Jul-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | < 1 | 0.5 | 1.6 | UG/L | 1.2 | 14-Jun-95 | 15-Jun-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | 810 | 33 | 100 | UG/L | 2.6 | 14-Jun-95 | 16-Jun-95 | M. Ricker | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY

CODE:

- 1 All laboratory QC requirements were met for this sample.
- 2 DRO chromatogram indicates typical fuel oil contamination.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW200
 Lab Code: 5011102A
 Sample Type: Water
 Sample Date: 08-Jun-95
 Date Analyzed: 21-Jun-95

 Report Date: 12-Jul-95
 Analyzed By: R. Everson

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | 0.77 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 9.4 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | 0.33 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | 6.6 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | 8.4 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | 0.46 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | 42 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | 2.9 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | 17.5 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 100 % Rec.
 1,4-Dichlorobutane Surrogate 105 % Rec.
 Sample pH 1.3

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Authorized Signature
 

Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113

Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #:
Sample ID:

 CLW131246
MW200

 Report Date: 12-Jul-95
Lab Code: 5011102A

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | F | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | P | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Di-Isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | F | P | P | P |
| Trichlorofluoromethane | P | P | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

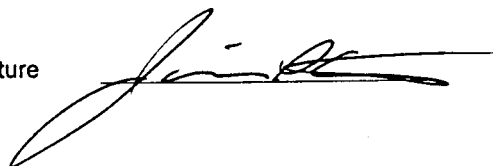
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW300
Lab Code: 5011102B
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | 1 | 0.5 | 1.6 | UG/L | 1.1 | 14-Jun-95 | 15-Jun-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | < 100 | 33 | 100 | UG/L | 2.6 | 14-Jun-95 | 16-Jun-95 | M. Ricker | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW300
Lab Code: 5011102B
Sample Type: Water
Sample Date: 08-Jun-95
Date Analyzed: 21-Jun-95

Report Date: 27-Jun-95
Analyzed By: R. Everson

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | 0.36 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 0.93 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | 0.9 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | 0.67 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | 1.82 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | 0.33 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

Fluorobenzene Surrogate 101 % Rec.
1,4-Dichlorobutane Surrogate 106 % Rec.
Sample pH 1.5

MDL = Method Detection Limit
PQL = Practical Quantitation Limit
NA = Not Applicable

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary

Method 8021 Volatile Organic Compounds

Project #:
Sample ID:

CLW131246
MW300

Report Date: 27-Jun-95
Lab Code: 5011102B

| ANALYTE | INITIAL CALIBRATION | KNOWN STANDARD | MATRIX SPIKE | REPLICATE SPIKE | BLANK | PID SURROGATE | HALL SURROGATE |
|-----------------------------|---------------------|----------------|--------------|-----------------|-------|---------------|----------------|
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | F | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | P | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Diisopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | F | P | P | P |
| Trichlorofluoromethane | P | P | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: MW400
Lab Code: 5011102C
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | 2 | 0.5 | 1.6 | UG/L | 1.2 | 14-Jun-95 | 15-Jun-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | < 100 | 33 | 100 | UG/L | 2.4 | 14-Jun-95 | 16-Jun-95 | M. Ricker | 1 |

MDL = Method Detection Limit
PVOC analysis detected unidentified peaks.

PQL = Practical Quantitation Limit

ND = Compound Not Detected

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW400
 Lab Code: 5011102C
 Sample Type: Water
 Sample Date: 08-Jun-95
 Date Analyzed: 21-Jun-95

 Report Date: 27-Jun-95
 Analyzed By: R. Everson

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 0.5 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | < 0.27 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | 0.33 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 103 % Rec.
 1,4-Dichlorobutane Surrogate 103 % Rec.
 Sample pH 1.6

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

Authorized Signature



Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113

Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 27-Jun-95
 Sample ID: MW400 Lab Code: 5011102C

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | F | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | P | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| D-Isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | F | P | P | P |
| Trichlorofluoromethane | P | P | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

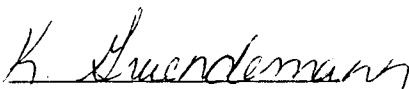
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW500
 Lab Code: 5011102D
 Sample Type: Water
 Sample Date: 09-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|------------------------------|--------|-----|-----|------|-----|----------------------|-------------------|-----------------|------------|
| LEAD SW846 7421 | 2 | 0.5 | 1.6 | UG/L | 1.1 | 14-Jun-95 | 15-Jun-95 | C. Adrian | 1 |
| MODIFIED DRO WDNR JULY 93 | < 100 | 33 | 100 | UG/L | 2.6 | 16-Jun-95 | 16-Jun-95 | M. Ricker | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

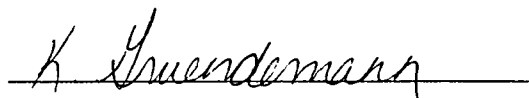
QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: MW500
 Lab Code: 5011102D
 Sample Type: Water
 Sample Date: 09-Jun-95
 Date Analyzed: 21-Jun-95

 Report Date: 27-Jun-95
 Analyzed By: R. Everson

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 0.5 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | < 0.27 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 101 % Rec.
 1,4-Dichlorobutane Surrogate 104 % Rec.
 Sample pH 1.5

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 27-Jun-95
 Sample ID: MW500 Lab Code: 5011102D

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | F | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | P | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Di-Isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | F | P | P | P |
| Trichlorofluoromethane | P | P | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

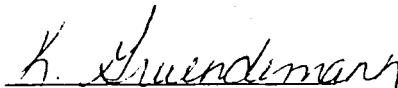
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: Dup-1246
 Lab Code: 5011102F
 Sample Type: Water
 Sample Date: 08-Jun-95
 Date Analyzed: 21-Jun-95

 Report Date: 27-Jun-95
 Analyzed By: R. Everson

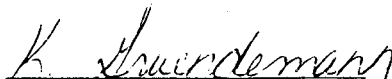
| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | 0.79 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | 8.6 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | 0.34 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | 5.6 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | 7.1 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | 0.75 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | 35 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | 2.19 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | 13.9 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 Fluorobenzene Surrogate 102 % Rec.
 1,4-Dichlorobutane Surrogate 104 % Rec.
 Sample pH 1.5

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: Dup-1246
Lab Code: 5011102F
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|--------------------|--------|-----|-----|------|-----|-------------------|----------------|--------------|---------|
| LEAD SW846 7421 | 3 | 0.5 | 1.6 | UG/L | 1.1 | 15-Jun-95 | 19-Jun-95 | C. Adrian | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 27-Jun-95
 Sample ID: Dup-1246 Lab Code: 5011102F

| ANALYTE | INITIAL | KNOWN | MATRIX | REPLICATE | BLANK | PID | HALL |
|-----------------------------|-------------|----------|--------|-----------|-------|-----------|-----------|
| | CALIBRATION | STANDARD | SPIKE | SPIKE | | SURROGATE | SURROGATE |
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | P | P | P | P | P |
| sec-Butylbenzene | P | P | P | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | F | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | P | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | P | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Diisopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | P | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | P | P | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | F | P | P | P |
| Trichlorofluoromethane | P | P | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

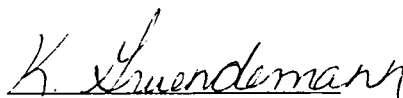
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: FB-1246
 Lab Code: 5011102G
 Sample Type: Water
 Sample Date: 08-Jun-95
 Date Analyzed: 20-Jun-95

 Report Date: 27-Jun-95
 Analyzed By: R. Everson

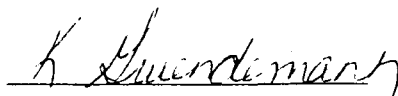
| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 0.5 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | < 0.27 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | 12.4 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Fluorobenzene Surrogate 102 % Rec.
 1,4-Dichlorobutane Surrogate 100 % Rec.
 Sample pH 1.3

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: FB-1246
Lab Code: 5011102G
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|--------------------|--------|-----|-----|------|-----|----------------------|-------------------|-----------------|------------|
| LEAD SW846 7421 | 1 | 0.5 | 1.6 | UG/L | 1.1 | 15-Jun-95 | 19-Jun-95 | C. Adrian | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #:
 Sample ID:

 CLW131246
 FB-1246

 Report Date: 03-Jul-95
 Lab Code: 5011102G

| ANALYTE | INITIAL CALIBRATION | KNOWN STANDARD | MATRIX SPIKE | REPLICATE SPIKE | BLANK | PID SURROGATE | HALL SURROGATE |
|-----------------------------|------------------------|-------------------|-----------------|--------------------|-------|------------------|-------------------|
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | F | P | P | P | P |
| sec-Butylbenzene | P | P | F | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | P | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | F | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Di-isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EOB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | F | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | F | F | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | P | P | P | P |
| Trichlorofluoromethane | P | F | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

P = Passed QC limits.

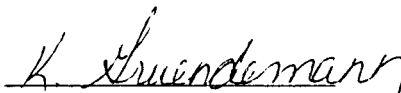
F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Methylene chloride contamination confirmed by reanalysis.

Authorized Signature



Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

Method 8021 Volatile Organic Compounds

 Brian Kranz
 Northern Environmental
 1214 W Venture Court
 Mequon, WI 53092

 Project #: CLW131246
 Project : Cedarburg
 Sample ID: Trip Blank
 Lab Code: 5011102E
 Sample Type: Water
 Sample Date: 08-Jun-95
 Date Analyzed: 19-Jun-95

 Report Date: 27-Jun-95
 Analyzed By: R. Everson

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|-----------------------------|--------|-------------|-------------|
| Benzene | < 0.26 | 0.082 | 0.26 |
| Bromobenzene | < 0.24 | 0.075 | 0.24 |
| Bromodichloromethane | < 0.11 | 0.035 | 0.11 |
| n-Butylbenzene | < 0.45 | 0.14 | 0.45 |
| sec-Butylbenzene | < 0.49 | 0.15 | 0.49 |
| tert-Butylbenzene | < 0.4 | 0.12 | 0.4 |
| Carbon Tetrachloride | < 0.5 | 0.16 | 0.5 |
| Chlorobenzene | < 0.27 | 0.086 | 0.27 |
| Chloroethane | < 0.5 | 0.39 | 1.3 |
| Chloroform | < 0.22 | 0.07 | 0.22 |
| Chloromethane | < 1 | 0.88 | 3.1 |
| 2-Chlorotoluene | < 0.65 | 0.21 | 0.65 |
| 4-Chlorotoluene | < 0.19 | 0.06 | 0.19 |
| 1,2-Dibromo-3-Chloropropane | < 1 | 0.83 | 2.7 |
| Dibromochloromethane | < 0.09 | 0.028 | 0.09 |
| 1,2-Dichlorobenzene | < 0.11 | 0.035 | 0.11 |
| 1,3-Dichlorobenzene | < 0.83 | 0.23 | 0.83 |
| 1,4-Dichlorobenzene | < 0.13 | 0.039 | 0.13 |
| Dichlorodifluoromethane | < 5.4 | 1.7 | 5.4 |
| 1,1-Dichloroethene | < 0.37 | 0.08 | 0.27 |
| 1,2-Dichloroethane | < 0.86 | 0.27 | 0.86 |
| 1,1-Dichloroethane | < 0.27 | 0.12 | 0.37 |
| cis 1,2-Dichloroethene | < 0.29 | 0.092 | 0.29 |
| trans-1,2-dichloroethene | < 0.23 | 0.072 | 0.23 |
| 1,2-Dichloropropane | < 0.15 | 0.046 | 0.15 |
| 1,3-DCP, Tetrachloroethene | < 0.56 | 0.17 | 0.56 |

| ANALYTE | RESULT | MDL UG/L | PQL UG/L |
|---------------------------|--------|-------------|-------------|
| 2,2-Dichloropropane | < 1 | 0.63 | 2.2 |
| Di-isopropyl Ether | < 0.38 | 0.12 | 0.38 |
| Ethylbenzene | < 0.32 | 0.1 | 0.32 |
| EDB (1,2-Dibromoethane) | < 0.08 | 0.025 | 0.08 |
| Hexachlorobutadiene | < 0.35 | 0.11 | 0.35 |
| Isopropylbenzene | < 0.36 | 0.11 | 0.36 |
| p-Isopropyltoluene | < 0.46 | 0.15 | 0.46 |
| Methylene Chloride | < 4 | 0.29 | 0.91 |
| MTBE | < 0.22 | 0.069 | 0.22 |
| Naphthalene | < 0.41 | 0.13 | 0.41 |
| n-Propylbenzene | < 0.41 | 0.13 | 0.41 |
| 1,1,2,2-Tetrachloroethane | < 0.31 | 0.099 | 0.31 |
| Tetrachloroethene | < 0.56 | 0.14 | 0.46 |
| Toluene | < 0.69 | 0.22 | 0.69 |
| 1,2,3-Trichlorobenzene | < 1 | 0.31 | 1.1 |
| 1,2,4-Trichlorobenzene | < 0.91 | 0.26 | 0.91 |
| 1,1,1-Trichloroethane | < 0.63 | 0.2 | 0.63 |
| 1,1,2-Trichloroethane | < 0.17 | 0.055 | 0.17 |
| Trichloroethene | < 0.18 | 0.055 | 0.18 |
| Trichlorofluoromethane | < 1.4 | 1.4 | 4.4 |
| 1,2,4-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| 1,3,5-Trimethylbenzene | < 0.57 | 0.18 | 0.57 |
| Vinyl Chloride | < 0.54 | 0.17 | 0.54 |
| m&p-Xylene | < 0.9 | 0.28 | 0.9 |
| o-Xylene | < 0.33 | 0.1 | 0.33 |

 MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 NA = Not Applicable

 Fluorobenzene Surrogate 102 % Rec.
 1,4-Dichlorobutane Surrogate 101 % Rec.
 Sample pH 1.3

Authorized Signature





Analytical Laboratory

425 S. Washington St. Combined Locks, WI 54113
Phone 414-735-8298

WI DNR Certified Lab #445027660

Brian Kranz
Northern Environmental
1214 W Venture Court
Mequon, WI 53092

Project #: CLW131246
Project : Cedarburg
Sample ID: Trip Blank
Lab Code: 5011102E
Sample Type: Water
Sample Date: 08-Jun-95

Report Date: 27-Jun-95

| Test | Result | MDL | PQL | Unit | pH | Date Ext/Digested | Date Analyzed: | Analyzed By: | QC Code |
|--------------------|--------|-----|-----|------|-----|----------------------|-------------------|-----------------|------------|
| LEAD SW846 7421 | 5 | 0.5 | 1.6 | UG/L | 1.1 | 14-Jun-95 | 15-Jun-95 | C. Adrian | 1 |

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

ND = Compound Not Detected

PVOC analysis detected unidentified peaks.

QC SUMMARY

CODE:

1 All laboratory QC requirements were met for this sample.

Authorized Signature

Analytical Laboratory

 425 S. Washington St. Combined Locks, WI 54113
 Phone 414-735-8298

WI DNR Certified Lab #445027660

QC Summary
Method 8021 Volatile Organic Compounds

 Project #: CLW131246 Report Date: 27-Jun-95
 Sample ID: Trip Blank Lab Code: 5011102E

| ANALYTE | INITIAL CALIBRATION | KNOWN STANDARD | MATRIX SPIKE | REPLICATE SPIKE | BLANK | PID SURROGATE | HALL SURROGATE |
|-----------------------------|------------------------|-------------------|-----------------|--------------------|-------|------------------|-------------------|
| Benzene | P | P | P | P | P | P | P |
| Bromobenzene | P | P | P | P | P | P | P |
| Bromodichloromethane | P | P | P | P | P | P | P |
| n-Butylbenzene | P | P | F | P | P | P | P |
| sec-Butylbenzene | P | P | F | P | P | P | P |
| tert-Butylbenzene | P | P | P | P | P | P | P |
| Carbon Tetrachloride | P | P | P | P | P | P | P |
| Chlorobenzene | P | P | P | P | P | P | P |
| Chloroethane | P | P | P | P | P | P | P |
| Chloroform | P | P | P | P | P | P | P |
| Chloromethane | P | F | F | P | P | P | P |
| 2-Chlorotoluene | P | P | P | P | P | P | P |
| 4-Chlorotoluene | P | P | P | P | P | P | P |
| 1,2-Dibromo-3-Chloropropane | P | F | P | P | P | P | P |
| Dibromochloromethane | P | P | P | P | P | P | P |
| 1,2-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,3-Dichlorobenzene | P | P | P | P | P | P | P |
| 1,4-Dichlorobenzene | P | P | P | P | P | P | P |
| Dichlorodifluoromethane | P | F | P | P | P | P | P |
| 1,1-Dichloroethane | P | P | P | P | P | P | P |
| 1,2-Dichloroethane | P | P | P | P | P | P | P |
| 1,1-Dichloroethene | P | P | P | P | P | P | P |
| cis-1,2-Dichloroethene | P | P | P | P | P | P | P |
| trans-1,2-Dichloroethene | P | P | P | P | P | P | P |
| 1,2-Dichloropropane | P | P | P | P | P | P | P |
| 1,3-Dichloropropane | P | P | P | P | P | P | P |
| 2,2-Dichloropropane | P | P | P | P | P | P | P |
| Di-Isopropyl Ether | P | P | P | P | P | P | P |
| Ethylbenzene | P | P | P | P | P | P | P |
| EDB (1,2-Dibromoethane) | P | P | P | P | P | P | P |
| Hexachlorobutadiene | P | P | P | P | P | P | P |
| Isopropylbenzene | P | P | P | P | P | P | P |
| p-Isopropyltoluene | P | P | F | P | P | P | P |
| Methylene Chloride | P | P | P | P | P | P | P |
| MTBE | P | P | P | P | P | P | P |
| Naphthalene | P | P | P | P | P | P | P |
| n-Propylbenzene | P | P | P | P | P | P | P |
| 1,1,2,2-Tetrachloroethane | P | F | F | P | P | P | P |
| Tetrachloroethene | P | P | P | P | P | P | P |
| Toluene | P | P | P | P | P | P | P |
| 1,2,3-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,2,4-Trichlorobenzene | P | P | P | P | P | P | P |
| 1,1,1-Trichloroethane | P | P | P | P | P | P | P |
| 1,1,2-Trichloroethane | P | P | P | P | P | P | P |
| Trichloroethene | P | P | P | P | P | P | P |
| Trichlorofluoromethane | P | F | P | P | P | P | P |
| 1,2,4-Trimethylbenzene | P | P | P | P | P | P | P |
| 1,3,5-Trimethylbenzene | P | P | P | P | P | P | P |
| Vinyl Chloride | P | F | P | P | P | P | P |
| m & p-Xylene | P | P | P | P | P | P | P |
| o-Xylene | P | P | P | P | P | P | P |

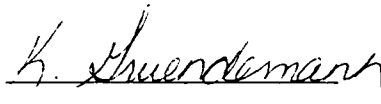
P = Passed QC limits.

F = Failed QC limits.

NA = Not Applicable

VOC analysis detected unidentified peaks.

Authorized Signature



1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

Page 1 of 1
No 3847

Check office originating request

5011102

| Project No: <u>CLW131246</u> Task No: _____ | | | | Laboratory: <u>U.S. OIL</u> | | | | Sample Integrity - To be completed by receiving lab | | | | | | | | | | | | | | | |
|--|------------|------------|------|--|-------------|------|-------|--|-----|-----|------|----------------------|-----|-----|----|--------------------------------|--|--|--|----------------------|--|--|--|
| Project Location: <u>CEDARBURG</u> (city) | | | | Wisconsin DNR Certification #: <u>445027660</u> | | | | Seal intact upon receipt: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | |
| Project Manager: <u>GSG</u> | | | | Laboratory Contact: <u>JIM S.</u> | | | | Method of Shipment: <u>DUNHAM</u> | | | | | | | | | | | | | | | |
| Sampler (name): <u>BRIAN KRANZ</u> | | | | Price Quote: _____ | | | | Contents Temperature: <u>ICE</u> °C Refrigerator No: _____ | | | | | | | | | | | | | | | |
| Sampler (signature): <u>Brian Kranz</u> | | | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Date Needed _____ | | | | ANALYSES REQUESTED | | | | | | | | | | | | | | | |
| Sampling Date(s): <u>6-8 & 6-9</u> | | | | | | | | DRO (WI Modified Method) _____ GRO (WI Modified Method) _____ BETX (EPA Method 8020) _____ PVOC (EPA Method 8020) _____ VOC (EPA Method 8021) _____ PAH (EPA Method _____) _____ Pb (EPA Method _____) _____ | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>BRIAN KRANZ</u> | | | | | | | | | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | DRO | GRO | BETX | PVOC | VOC | PAH | Pb | | | | | | | | |
| | | Date | Time | | Water | Soil | Other | | | | | | | | | | | | | | | | |
| 501102A | MW200 | 6-8 | 1530 | 1-LIT/3-4c/1-250 | X | | | HCL/HNO3 | X | | | | | | | | | | | | | | |
| B | MW300 | 6-8 | 1540 | ↓ | X | | | | X | | | | | | | | | | | | | | |
| C | MW400 | 6-8 | 1550 | ↓ | X | | | | X | | | | | | | | | | | | | | |
| D | MW500 | 6-9 | 1100 | ↓ | X | | | | X | | | | | | | | | | | | | | |
| E | TRV BLANK | 6-8 | N/A | 2-4ML/1-250 | X | | | | X | | | | | | | | | | | | | | |
| F | DUP-1246 | 6-8 | 1530 | ↓ | X | | | | X | | | | | | | | | | | | | | |
| G | FB-1246 | 6-9 | 1120 | ↓ | X | | | | X | | | | | | | | | | | | | | |
| Packed for Shipping by: <u>BEK</u> | | | | Comments: _____ | | | | | | | | | | | | | | | | | | | |
| Shipment Date: <u>6-12-95</u> | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>Brian Kranz</u> | | | | Date: <u>6-12-95</u> | | | | Relinquished By: <u>R.S.</u> | | | | Date: <u>6-12-95</u> | | | | Relinquished By: _____ | | | | Date: _____ | | | |
| Company: <u>N.E.</u> | | | | Time: <u>4:05</u> | | | | Company: <u>Dunham</u> | | | | Time: <u>6:10</u> | | | | Company: _____ | | | | Time: _____ | | | |
| Received By: <u>R.S.</u> | | | | Date: <u>6-12-95</u> | | | | Received By: <u>679</u> | | | | Date: <u>6-12</u> | | | | Received By: <u>R. Eversen</u> | | | | Date: <u>6/13/95</u> | | | |
| Company: <u>DUNHAM</u> | | | | Time: <u>4:05</u> | | | | Company: <u>Dunham</u> | | | | Time: <u>6:10</u> | | | | Company: <u>US OIL CO</u> | | | | Time: <u>7:40A</u> | | | |

1214 W. Venture Court
Mequon, WI 53092
414-241-3133
FAX 414-241-8222

372 West County Road D
New Brighton, MN 55112
612-635-9100
FAX 612-635-0643

952 Circle Drive
Green Bay, WI 54304
414-592-8400
FAX 414-592-8444

REQUEST FOR ANALYSIS

3847

Check office originating request

| Project No: <u>CLW131746</u> Task No: _____ | | | | Laboratory: <u>U.S. OIL</u> | | | | Sample Integrity - To be completed by receiving lab Seal intact upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | |
|---|------------------|------------|-------------|---|-------------|------|-------|---|--------------------------|--------------------------|------------------------|------------------------|-----------------------|--|---|------------------------|--|--|--|-------------|--|--|--|
| Project Location: (city) <u>CEDARBURG</u> | | | | Wisconsin DNR Certification #: <u>445027660</u> | | | | Method of Shipment _____ Contents Temperature _____ °C Refrigerator No: _____ | | | | | | | | | | | | | | | |
| Project Manager: <u>GSG</u> | | | | Laboratory Contact: <u>JIM S.</u> | | | | ANALYSES REQUESTED DRO (WI Modified Method) <input type="checkbox"/> GRO (WI Modified Method) <input type="checkbox"/> BETX (EPA Method 8020) <input type="checkbox"/> PVOC (EPA Method 8020) <input type="checkbox"/> VOC (EPA Method 8021) <input type="checkbox"/> PAH (EPA Method <input type="checkbox"/>) <input type="checkbox"/> Pb (EPA Method <input type="checkbox"/>) <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Sampler (name): <u>BRIAN KRANZ</u> | | | | Price Quote: _____ | | | | | | | | | | | | | | | | | | | |
| Sampler (signature): <u>Brian Kranz</u> | | | | TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Date Needed _____ | | | | | | | | | | | | | | | | | | | |
| Sampling Date(s): <u>6-8 & 6-9</u> | | | | | | | | | | | | | | | | | | | | | | | |
| Reports to be Sent to: <u>BRIAN KRANZ</u> | | | | | | | | | | | | | | | | | | | | | | | |
| Lab ID. No. | Sample No. | Collection | | No. of Containers, Size and Type | Description | | | Preservative | ANALYSES REQUESTED | | | | | | | | | | | | | | |
| | | Date | Time | | Water | Soil | Other | | DRO (WI Modified Method) | GRO (WI Modified Method) | BETX (EPA Method 8020) | PVOC (EPA Method 8020) | VOC (EPA Method 8021) | PAH (EPA Method <input type="checkbox"/>) | Pb (EPA Method <input type="checkbox"/>) | | | | | | | | |
| | <u>MW200</u> | <u>6-8</u> | <u>1530</u> | <u>1-LIT/3-40/1-250</u> | <u>X</u> | | | <u>HCL/HNO3</u> | <u>X</u> | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>MW300</u> | <u>6-8</u> | <u>1540</u> | | <u>X</u> | | | | <u>X</u> | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>MW400</u> | <u>6-8</u> | <u>1550</u> | | <u>X</u> | | | | <u>X</u> | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>MW500</u> | <u>6-9</u> | <u>1100</u> | | <u>X</u> | | | | <u>X</u> | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>TRP BLANK</u> | <u>6-8</u> | <u>N/A</u> | <u>2-40ml/1-250</u> | <u>X</u> | | | | | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>BP-1246</u> | <u>6-8</u> | <u>1530</u> | | <u>X</u> | | | | | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| | <u>FB-1246</u> | <u>6-9</u> | <u>1130</u> | | <u>X</u> | | | | | | | | <u>X</u> | <u>X</u> | | | | | | | | | |
| Packed for Shipping by: <u>BCK</u> | | | | Comments: _____ | | | | | | | | | | | | | | | | | | | |
| Shipment Date: <u>6-12-95</u> | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By: <u>Brian Kranz</u> | | | | Date: <u>6-12-95</u> | | | | Relinquished By: <u>R.S.</u> | | | | Date: <u>6-12-95</u> | | | | Relinquished By: _____ | | | | Date: _____ | | | |
| Company: <u>N.E.</u> | | | | Time: <u>11:00</u> | | | | Company: _____ | | | | Time: _____ | | | | Company: _____ | | | | Time: _____ | | | |
| Received By: <u>R.S.</u> | | | | Date: <u>6-12-95</u> | | | | Received By: _____ | | | | Date: _____ | | | | Received By: _____ | | | | Date: _____ | | | |
| Company: <u>11/11/11</u> | | | | Time: <u>11:00</u> | | | | Company: _____ | | | | Time: _____ | | | | Company: _____ | | | | Time: _____ | | | |

APPENDIX C4

**COMPARATIVE ENUMERATION ASSAY
AND NUTRIENT ANALYSIS REPORT**

NOTICE: This facsimile is intended only for the addressee shown below and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this transmission in error, please notify us immediately by telephone and return the original material to BioRenewal Technologies at the below address via U.S. Postal Service. Thank you for your cooperation.

To: **Brian Kranz**
Company: **Northern Environmental**
Phone: **414/241-3133**
Fax: **414/241-8222**

From: **M. Lynn Haugh**
Company: **BioRenewal Technologies, Inc.**
Phone: **608/276-8980**
Fax: **608/273-6989**

FAXED

Date: **July 10, 1995**

Pages (incl cover page): **4**

If there is a problem with this transmission, please call (608) 276-8980

Comments:

re: BioRenewal Job Code XP

Dear Brian:

Here are the results from our comparative enumeration assays and nutrient analyses for the 3 groundwater samples you sent us in connection with the site located in Cedarburg, WI (project number CLW131246). These samples were received by BioRenewal Technologies, Inc. on 6/9/95. I will enclose the invoice and chain of custody for this job with the mailed confirmation copy.

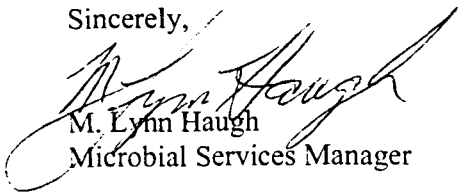
The analytical results requested are presented in the following sections:

- Site suitability for passive bioremediation in relation to suggested guidelines
- Microbial data summary
- Nutrient conditions
- Soil physical conditions.

These samples were processed by BioRenewal using diesel fuel as the sole carbon source for enumerating the "degrader" populations. Samples were received on ice and cold. One vial of MW 300 was broken in transit.

Please give me a call if you wish to further discuss these results or have other questions. Thank you for retaining BioRenewal for the project. We look forward to working again with you in the future.

Sincerely,


M. Lynn Haugh
Microbial Services Manager

Enclosures: Analytical results
Invoice
Chain of custody

Site Information

| | | | |
|----------------|------------------------|---------------------|-------------|
| Site Name | | Number samples | 3 |
| Location | Cedarburg, WI | Sample Type | groundwater |
| Contaminant | diesel | | |
| Consultant | Northern Environmental | Date received | 9-Jun-95 |
| Proj. Contact | Brian Kranz | Date of this Report | 7-Jul-95 |
| Project Ref ID | CLW131246 | BioRenewal Job Code | XP |

Section I - Summary of Bioremediation Data

Nutrient/physical factors are as suggested by Wisconsin DNR guidelines for site characterization requirements for natural biodegradation. Microbial factors are shown according to bio-engineering norms.

| | Soil microbial populations: | | Soil moist. | % | pH | % TON of | C:N | C:P |
|---------------------|---|--------|---------------------|------------|---------|----------|-----|------|
| | <u>Exceeds norm for:</u> | | content: | Air-filled | | organic | | |
| | Passive | Active | % of field capacity | pore space | | matter | | |
| Suggested guideline | >1E+06 | >1E+03 | 25-85% | >10% | 5.5-8.5 | >1.5% | <40 | <120 |
| Note Ref. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| MW 200 | Guidelines valid for soils only at this time. | | | | | | | |
| MW 300 | Guidelines valid for soils only at this time. | | | | | | | |
| MW 400 | Guidelines valid for soils only at this time. | | | | | | | |

The nutrient/physical parameters summarized above, in the case of unsaturated zone soils, reflect suggested minimum Wis Dept of Nat Res "site characterization requirements for natural biodegradation projects" as presented on pp 10-11 in Interim Guidance for Natural Biodegradation as a Remedial Action Option Dated February 8, 1993. BioRenewal stress that **these "suggested guidelines" are only intended to provide a working frame of reference for evaluation.** Each site is unique and requires professional judgement in order to select an appropriate remedial design. We provide this information in recognition that our clients need to work within the guidelines suggested by the state. Further, we hope this will facilitate continued evolution of a working framework for evaluating sites as to the potential for bioremediation whether through site augmentation or natural attenuation.

Notes: Check indicates that sample meets guideline. Blank indicates no detect or data not available for that sample.

* indicates sample does not meet guideline.

- 1) Microbial population levels in soils generally accepted as potentially adequate to support passive biodegradation. These levels are based on bio-engineering norms and not WDNR guidelines.
- 2) Microbial population levels in soils generally accepted as minimum to serve as an "inoculum" for implementing active bioremediation strategies.
- 3) See page 10, WDNR as referenced above. The suggested optimum range is 50-80% (P. 6).
- 4) See page 8 and 10, WDNR. WDNR suggests a minimum air-filled porosity in soil of 10% is necessary for adequate oxygen diffusion in the soil gas to support biodegradation.
- 5) See pages 7 and 11, WDNR.
- 6) See pages 9 and 11, WDNR. Total Organic Nitrogen (calculated from TKN values minus ammonium nitrogen values) divided by organic matter.
- 7) See pages 9 and 11, WDNR.
- 8) See pages 9 and 11, WDNR.

Section II - Microbial Data Summary continued

All values in cfu/ml

Groundwater

Samples

Low and High indicate 95% Confidence Range

Total populations

| | Mean | Low | High | 1.00E+01 | 1.00E+02 | 1.00E+03 | 1.00E+04 | 1.00E+05 | 1.00E+06 | 1.00E+07 | 1.00E+08 | 1.00E+09 |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| MW 200 | 1.53E+05 | 1.42E+05 | 1.68E+05 | | | | | | | | | |
| MW 300 | 6.73E+04 | 6.02E+04 | 7.58E+04 | | | | | | | | | |
| MW 400 | 6.17E+05 | 5.50E+05 | 6.91E+05 | | | | | | | | | |

Groundwater

Samples

Low and High indicate 95% Confidence Range

Degrader populations

| | Mean | Low | High | 1.00E+01 | 1.00E+02 | 1.00E+03 | 1.00E+04 | 1.00E+05 | 1.00E+06 | 1.00E+07 | 1.00E+08 | 1.00E+09 |
|---------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| MW 200 | 2.06E+04 | 1.92E+04 | 2.20E+04 | | | | | | | | | |
| MW 300 | 3.33E+03 | 2.84E+03 | 3.89E+03 | | | | | | | | | |
| MW 400 | 5.25E+04 | 4.63E+04 | 5.92E+04 | | | | | | | | | |
| Marginal inoculum | | | | | | | | | | | | |
| Inoculum levels | | | | | | | | | | | | |
| Active degradation levels | | | | | | | | | | | | |

Marginal inoculum = Degrader populations below 1.0E+03 are indicative of severe limitations and likely require major augmentation of site conditions to attain adequate cell mass to attain measurable biotransformation rates.

Inoculum levels = Degrader populations between 1.0E+03 and 1.0E+06 are amenable to site augmentation but generally are insufficient to attain adequate biotransformation without increased populations.

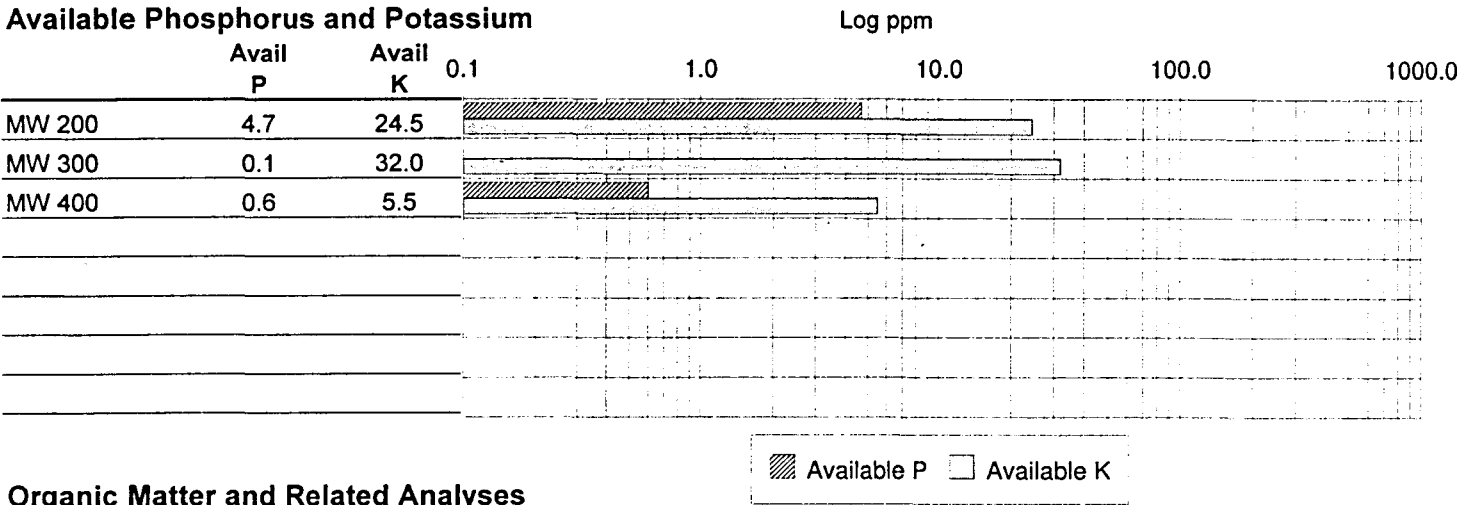
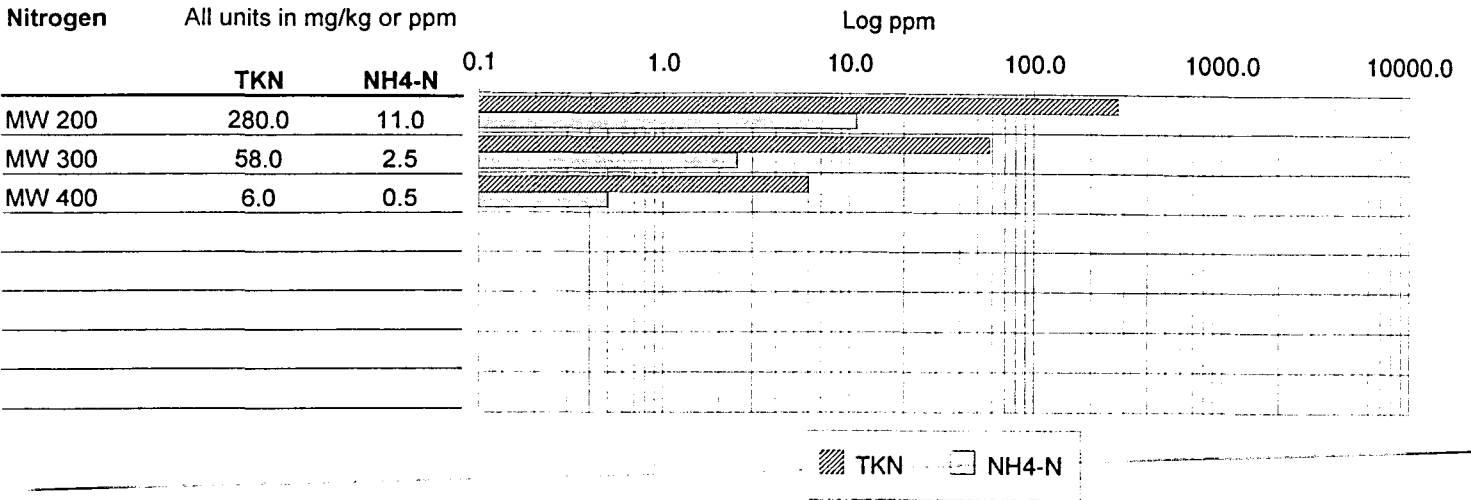
Active degradation levels = Degrader populations greater than 1.0E+06 are generally of sufficient magnitude to support measurable biotransformation. Additional site augmentation may still be required to attain desirable rates of transformation.

| Assay conditons | Carbon source | % Carbon (v/v) | Incubation Temperature | Growth Conditions | Degrees of Freedom** | |
|-----------------|---------------|----------------|------------------------|-------------------|----------------------|-----------|
| | | | | | Totals | Degraders |
| MW 200 | diesel | 1.0 | 22 | Aerobic | 9 | 9 |
| MW 300 | diesel | 1.0 | 22 | Aerobic | 4 | 4 |
| MW 400 | diesel | 1.0 | 22 | Aerobic | 4 | 4 |

* cfu/ml = colony forming units per ml of groundwater

** Degrees of freedom is number of replicates minus one. This parameter is used in calculation of 95% confidence intervals.

Section III - Nutrient Conditions



Organic Matter and Related Analyses

| Guideline Published Thresholds* | | C:N | C:P |
|---------------------------------|--|-----------|-----|
| Wis Dept. Natural Resources | | Below: 40 | 120 |
| Nat'l Academy of Sciences | | Below: 6 | 30 |

| | % Organic Matter | TOC** | Calculated Ratios | | Mg ppm | Ca ppm | Cation Exc Capacity Meq/100g | pH | SO4-S ppm | NO3-N ppm |
|--------|------------------|-------|-------------------|-----|--------|--------|------------------------------|-----|-----------|-----------|
| | | | C:N | C:P | | | | | | |
| MW 200 | NR | NR | NR | NR | NR | NR | NR | 7.2 | NR | 2.0 |
| MW 300 | NR | NR | NR | NR | NR | NR | NR | 7.4 | NR | <0.5 |
| MW 400 | NR | NR | NR | NR | NR | NR | NR | 7.6 | NR | 1.5 |

* Sources: Natural Biodegradation as a Remedial Action Option - Interim Guidance, Wisconsin Dept of Nat Res. (1993) and In-situ Bioremediation: When Does it Work?, B. Rittman, Ed., National Academy of Sciences, 1993 p 117.
 ** Estimated total organic carbon (expressed in ppm) calculated from % organic matter - See Methods.
 n/a = Not applicable
 Note To determine C:N and C:P ratios, phosphorus is expressed as available phosphorus, total organic carbon (TOC) is calculated from percent organic carbon and total organic nitrogen is calculated as total Kjeldahl nitrogen (TKN) minus ammonium nitrogen.

Contact person GARY GRAHAM Sampler BRIAN KRANZ
Project name CLW131246 Project # CLW131246
Project location CEDARBURG, WI

Site contaminant * diesel ^{via 624 (City)} 6/9 ^(state)
(used to determine degrader microbial populations)

* If available, a sample of free product is preferred for use as the carbon source for enumerating the degrader microbial populations. Free product included? yes No

| Requested analyses (✓) | |
|---|-------------|
| Comparative Enumeration Assay <input type="checkbox"/> Aerobic, <input checked="" type="checkbox"/> Anaerobic (soil or gw) | Intact core |
| Standard nutrient panel (soil or gw) - incl. TKN, ammonium nitrogen, available P and K, pH, % OM (s), % solids (s) | |
| Cation exchange capacity (soil) | |
| Particle size analysis (soil) | |
| % air-filled pore space (soil) | |
| Soil moisture holding capacity | |
| Bulk density (soil) | |
| Total minerals (soil or gw) | |
| Heavy metals (soil or gw) | |
| Other | |
| Other | |

| Sample ID | Lab use only | Date | Time | (✓) | | Sample depth | (#) | | | Additional comments |
|-----------|--------------|--------|------|------|----|--------------|------|-------|------|---------------------|
| | | | | Soil | Gw | | Jars | Vials | Core | |
| MW200 | XP01A | 6-8-95 | 1530 | X | | 13' | | 3 | | |
| MW300 | XP01B | 6-8-95 | 1545 | X | | 13' | | 3 | | |
| MW400 | XP01C | 6-8-95 | 1600 | X | | 13' | | 3 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Phone w/ 6/9 hrs

1 bottle broke mca

Relinquished by: Brian Kranz
Received by: M. Williams

Date/time: 6-8-95 1722
Date/time: 6/9/95 10:22 AM
Comments:

Sample condition upon arrival:
received on ice
MEA



BioRenewal Technologies, Inc.
The Faraday Center
2800 S. Fish Hatchery Rd.
Madison, WI 53711
(608)276-8980
Fax (608)273-6989

Send results to:
Name BRIAN KRANZ
Company NORTHERN ENVIRONMENTAL
Address 1214 W. VENTURE CT.
City MELROSE State WI Zip 53092
Phone 241-3133 Fax 241-8222

Send invoice to: Same as results
Name _____
Company _____
Address _____
City _____ State _____ Zip _____
Phone _____ Fax _____

APPENDIX D

**CEDARBURG LIGHT AND WATER COMMISSION
MUNICIPAL WELL #1 INFORMATION**

APPENDIX D1

**CEDARBURG LIGHT AND WATER COMMISSION
MUNICIPAL WELL #1 GEOLOGIC AND CONSTRUCTION LOG**

WATERWORKS WELL, CEDARBURG, WIS.

W. G. Kirchoffer, Engineer

W. L. Thorne Co., Contractors

Samples examined by F. T. Thwaites, U. W. Nos. 70045-70208

Elevation ~~790~~ 792'

SE $\frac{1}{4}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$, SEC. 27, T. 10N., R. 21E.

| | | | | | | |
|---|-----|---------|---------|---|-------------------------------------|--|
| DRIFT | 12 | 0-12 | | Surface, no sample | | |
| | | 12-125 | | Dolomite, light brownish gray | | |
| CLINTON & NIAGARA | | 125-150 | | Dolomite, white | | |
| | | 150-155 | | Dolomite, bluish gray | | |
| | | 155-325 | | Dolomite, white | | |
| | | 325-335 | | Dolomite, gray; chert, white | | |
| | | 335-350 | | Dolomite, light gray | | |
| | | 350-365 | | Dolomite, gray; chert, white | | |
| | | 365-400 | | Dolomite, light gray | | |
| | | 400-410 | | Dolomite, light gray; chert, white | | |
| | | 410-425 | | Dolomite, light gray | | |
| | | 425-440 | | Dolomite, light gray; chert, white | | |
| | | 440-455 | | Dolomite, dark gray; shaly? | | |
| | | 455-475 | | Dolomite, gray to white, in part shaly? | | |
| | | 475-480 | | Shale, brownish red; chert, white | | |
| | | 480-500 | | Dolomite, very light pinkish gray | | |
| | 498 | | 500-505 | | Dolomite, gray | |
| | | 505-510 | | Dolomite, dark gray, shaly | | |
| | | 510-520 | | Shale, blue, calcareous | | |
| | | 520-525 | | Dolomite, bluish gray, shaly | | |
| | | 525-630 | | Shale, bluish gray, calcareous | | |
| | | 630-635 | | Shale, brownish gray, calcareous | | |
| | | 635-705 | | Shale, bluish gray, calcareous | | |
| RICHMOND <small>(Cincinnati)</small> | | | 705-815 | | Dolomite, gray | |
| | | | 815-820 | | Dolomite, mixed gray and light blue | |
| | | | 820-830 | | Dolomite, gray | |
| | | 830-865 | | Dolomite, mixed light blue and gray | | |
| | | 195 | | | | |
| EV. & GALENA | | | | | | |
| | | | | | | |

12" hole
10" pipe

7 1/8" "

CEDARBURG 2

| | | | | | | |
|-----------|-----|-----------|--|--|--|----------|
| PLATT | 215 | 865-890 | | Dolomite, gray | | |
| | | 890-905 | | Dolomite, bluish gray and gray | | |
| | | 905-915 | | Dolomite, gray | | |
| | | 915-920 | | Dolomite, gray, sandy | | |
| | | 920-930 | | Sandstone, medium, gray, calcareous | | |
| ST. PETER | 205 | 930-1090 | | Sandstone, medium to fine, light gray | | K10 hole |
| | | 1090-1100 | | Sandstone, medium to fine, light gray; shaly, gray | | |
| | | 1100-1125 | | Sandstone, medium, white | | |
| EAUCLAIRE | 85 | 1125-1135 | | Sandstone, fine to very fine, gray | | |
| | | 1135-1145 | | Sandstone, very fine, very hard, non-calcareous | | |
| | | 1145-1210 | | Sandstone, medium to fine, gray to light pink | | |

APPENDIX D2

**CEDARBURG LIGHT AND WATER COMMISSION
MUNICIPAL WELL #1 1993 WATER QUALITY ANALYSIS**

VOLATILE ORGANIC ANALYSES
FROM COMMERCIAL LABORATORIES

Chapter NR 109 Wis Adm Code
Form 3300-216

Section I: To be completed by the Department of Natural Resources

System Name: CEDARBURG LIGHT & WATER COMMISSION City: CEDARBURG

PWS ID #: 24601082 County Code: 46 Route Code WS20

System Well No: 001 Entry Point ID: 101 WI Unique Well ID #: BG643

Sample Point Description: COLLECT SAMPLE AFTER RESERVOIR ASSOC. WITH WELL 1

| | | | |
|--|---|--|---|
| System Type | Source Code: | Sample Type | |
| <input checked="" type="checkbox"/> (MC) Municipal Community | <input type="checkbox"/> W Well | <input checked="" type="checkbox"/> D (SDWA) Compliance Sample | |
| <input type="checkbox"/> (OC) OTM Community | <input checked="" type="checkbox"/> E Entry Point | <input type="checkbox"/> C (SDWA) Confirmation | <u> </u> / <u> </u> / <u> </u> |
| <input type="checkbox"/> (NN) Nontransient Noncommunity | <input type="checkbox"/> D Distribution | <input type="checkbox"/> W Raw Water | (Initial Sample Date) |
| <input type="checkbox"/> (TN) Transient Noncommunity | | <input type="checkbox"/> I Investigation | |

Collect sample by: 03 - 31 - 1993 Return results to DNR by: 04 - 10 - 1993

Section II: To be completed by SAMPLER

Sample Collection Date: 02 - 16 - 93 Sample Collection Time: 08 : 15

Sample Point Address: W61 N623 MEQUON STREET, CEDARBURG, WI

Sample Point Description: BOOSTER PUMP DISCHARGE AFTER RESERVOIR

First initial and last name of sampler D - HINTZ How long was the well pump running prior to sampling: 01 : 30
(Complete only if taking sample from well)

Section III: To be completed by LABORATORY OFFICIAL Report analytical results on back.

Laboratory ID Number: 99976690 Laboratory Name: EHL

Date Sample Received: 02 - 17 - 93 Time Sample Received: 12 : 30 Laboratory Sample ID: 53828

Signature of Receiving Laboratory Official: *Donna Martis* Date Reported: 03 - 15 - 93

Condition of Sample Upon Receipt: ICED

Section IV: To be completed by WATER SUPPLY SYSTEM OFFICIAL after analysis has been done.

I certify that I have personally examined and am familiar with the information submitted on this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true and accurate, and complete. I also certify that the values being submitted are the actual values found in the sample; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature : _____ Title: _____

Date Signed: _____

Return to: Department of Natural Resources, Bureau of Water Supply, P.O. Box 7921, Madison, WI 53707

This page to be completed by WATER SUPPLY SYSTEM OFFICIAL or laboratory performing analysis.

| STORET Code | Parameter | SDWA Method | MDL (ug/L) | Results (ug/L) | MCL (ug/L) |
|-------------|---------------------------------|-------------|------------|----------------|------------|
| 34235 | X Benzene | 524.2 | 0.1 | <0.1 | 5 |
| 81555 | X Bromobenzene | 524.2 | 0.2 | <0.2 | --- |
| 32101 | X Bromodichloromethane | 524.2 | 0.1 | 0.7 | --- |
| 32104 | X Bromoform | 524.2 | 0.1 | 0.4 | --- |
| 34413 | X Bromomethane | 524.2 | 0.5 | <0.5 | --- |
| 32102 | X Carbon Tetrachloride | 524.2 | 0.1 | <0.1 | 5 |
| 34301 | X Chlorobenzene | 524.2 | 0.2 | <0.2 | 100 |
| 34311 | X Chloroethane | 524.2 | 0.5 | <0.5 | --- |
| 32106 | X Chloroform | 524.2 | 0.1 | 0.3 | --- |
| 34418 | X Chloromethane | 524.2 | 0.5 | <0.5 | --- |
| 77275 | X 1,2-Chlorotoluene (o-) | 524.2 | 0.2 | <0.2 | --- |
| 77277 | X 1,4-Chlorotoluene (p-) | 524.2 | 0.2 | <0.2 | --- |
| 32105 | X Dibromochloromethane | 524.2 | 0.1 | 1.1 | --- |
| 77596 | X Dibromomethane | 524.2 | 0.1 | <0.1 | --- |
| 34566 | X 1,3-Dichlorobenzene (m-) | 524.2 | 0.1 | <0.1 | --- |
| 34536 | X 1,2-Dichlorobenzene (o-) | 524.2 | 0.1 | <0.1 | 600 |
| 34571 | X 1,4-Dichlorobenzene (p-) | 524.2 | 0.1 | <0.1 | 75 |
| 34496 | X 1,1 Dichloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34531 | X 1,2 Dichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 34501 | X 1,1 Dichloroethylene | 524.2 | 0.2 | <0.2 | 7 |
| 77093 | X 1,2 Dichloroethylene, cis | 524.2 | 0.1 | 0.3 | 70 |
| 34546 | X 1,2 Dichloroethylene, trans | 524.2 | 0.1 | <0.1 | 100 |
| 34423 | X Dichloromethane | 524.2 | 0.5 | <0.5 | 5 |
| 34541 | X 1,2 Dichloropropane | 524.2 | 0.1 | <0.1 | 5 |
| 77173 | X 1,3 Dichloropropane | 524.2 | 0.1 | <0.1 | --- |
| 77170 | X 2,2 Dichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 77168 | X 1,1 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34562 | X 1,3 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34371 | X Ethylbenzene | 524.2 | 0.1 | <0.1 | 700 |
| 77128 | X Styrene | 524.2 | 0.2 | <0.2 | 100 |
| 77562 | X 1,1,1,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34516 | X 1,1,1,2,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34475 | X Tetrachloroethylene | 524.2 | 0.2 | <0.2 | 5 |
| 34481 | X Toluene | 524.2 | 0.2 | <0.2 | 1000 |
| 34551 | X 1,2,4-Trichlorobenzene | 524.2 | 0.2 | <0.2 | 70 |
| 34506 | X 1,1,1 - Trichloroethane | 524.2 | 0.1 | 0.1 | 200 |
| 34511 | X 1,1,2 - Trichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 39180 | X Trichloroethylene | 524.2 | 0.1 | 0.3 | 5 |
| 77443 | X 1,2,3 - Trichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 39175 | X Vinyl Chloride | 524.2 | 0.2 | <0.2 | 0.2 |
| 79724 | X Xylenes, Total | 524.2 | 0.2 | <0.2 | 10000 |

Approved By:

Reviewed By:

Paul P. [Signature]

Finalized By:

John E. [Signature]

Comments:

Date

03-19-93

Date

3-19-93

* Health Advisory

VOLATILE ORGANIC ANALYSES
FROM COMMERCIAL LABORATORIES

Chapter NR 109 Wis Adm Code
Form 3300-216

Section I: To be completed by the Department of Natural Resources

System Name: CEDARBURG L & W COMMISSION City: CEDARBURG

PWS ID #: 24601082 County Code: 46 Route Code WS20

System Well No: 001 Entry Point ID: 101 WI Unique Well ID #: BG643

Sample Point Description: COLLECT SAMPLE AFTER RESERVOIR ASSOC. WI

| System Type | Source Code: | Sample Type |
|--|---|--|
| <input checked="" type="checkbox"/> (MC) Municipal Community | <input type="checkbox"/> W Well | <input checked="" type="checkbox"/> D (SDWA) Compliance Sample |
| <input type="checkbox"/> (OC) OTM Community | <input checked="" type="checkbox"/> E Entry Point | <input type="checkbox"/> C (SDWA) Confirmation |
| <input type="checkbox"/> (NN) Nontransient Noncommunity | <input type="checkbox"/> D Distribution | <input type="checkbox"/> W Raw Water |
| <input type="checkbox"/> (TN) Transient Noncommunity | | <input type="checkbox"/> I Investigation |

____/____/____
(Initial Sample Date)

Collect sample by: 12 - 31 - 1993 Return results to DNR by: 01 - 10 - 1994

Section II: To be completed by SAMPLER

Sample Collection Date: 12 - 01 - 93 Sample Collection Time: 07 : 45

Sample Point Address: W61 N623 MEQUON ST.

Sample Point Description: SILL COCK AFTER RESERVOIR

First initial and last name of sampler D - HINTZ

How long was the well pump running prior to sampling: _____ : _____
(Complete only if taking sample from well)

Section III: To be completed by LABORATORY OFFICIAL. Report analytical results on back.

Laboratory ID Number: 99976690 Laboratory Name: EHL

Date Sample Received: 12 - 02 - 93 Time Sample Received: 13 : 00 Laboratory Sample ID: 94320

Signature of Receiving Laboratory Official: *Donna Martin* Date Reported: 12 - 21 - 93

Condition of Sample Upon Receipt: ICED

Section IV: To be completed by WATER SUPPLY SYSTEM OFFICIAL after analysis has been done.

I certify that I have personally examined and am familiar with the information submitted on this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true and accurate, and complete. I also certify that the values being submitted are the actual values found in the sample; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature: *Dale Galt* Title: Manager

Date Signed: January 4, 1994

This page to be completed by WATER SUPPLY SYSTEM OFFICIAL or laboratory performing analysis.

| STORET Code | Parameter | SDWA Method | MDL (ug/L) | Results (ug/L) | MCL (ug/L) |
|-------------|-------------------------------|-------------|------------|----------------|------------|
| 34235 | X Benzene | 524.2 | 0.5 | <0.5 | 5 |
| 81555 | X Bromobenzene | 524.2 | 0.2 | <0.2 | --- |
| 32101 | X Bromodichloromethane | 524.2 | 0.1 | <0.1 | --- |
| 32104 | X Bromoform | 524.2 | 0.1 | <0.1 | --- |
| 34413 | X Bromomethane | 524.2 | 0.5 | <0.5 | --- |
| 32102 | X Carbon Tetrachloride | 524.2 | 0.1 | <0.1 | 5 |
| 34301 | X Chlorobenzene | 524.2 | 0.2 | <0.2 | 100 |
| 34311 | X Chloroethane | 524.2 | 0.5 | <0.5 | --- |
| 32106 | X Chloroform | 524.2 | 0.1 | <0.1 | --- |
| 34418 | X Chloromethane | 524.2 | 0.5 | <0.5 | --- |
| 77275 | X 2-Chlorotoluene (o-) | 524.2 | 0.2 | <0.2 | --- |
| 77277 | X 4-Chlorotoluene (p-) | 524.2 | 0.2 | <0.2 | --- |
| 32105 | X Dibromochloromethane | 524.2 | 0.1 | <0.1 | --- |
| 77596 | X Dibromomethane | 524.2 | 0.1 | <0.1 | --- |
| 34566 | X 1,3-Dichlorobenzene (m-) | 524.2 | 0.1 | <0.1 | --- |
| 34536 | X 1,2-Dichlorobenzene (o-) | 524.2 | 0.1 | <0.1 | 600 |
| 34571 | X 1,4-Dichlorobenzene (p-) | 524.2 | 0.1 | <0.1 | 75 |
| 34496 | X 1,1 Dichloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34531 | X 1,2 Dichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 34501 | X 1,1 Dichloroethylene | 524.2 | 0.2 | <0.2 | 7 |
| 77093 | X 1,2 Dichloroethylene, cis | 524.2 | 0.1 | <0.1 | 70 |
| 34546 | X 1,2 Dichloroethylene, trans | 524.2 | 0.1 | <0.1 | 100 |
| 34423 | X Dichloromethane | 524.2 | 0.5 | <0.5 | 5 |
| 34541 | X 1,2 Dichloropropane | 524.2 | 0.1 | <0.1 | 5 |
| 77173 | X 1,3 Dichloropropane | 524.2 | 0.1 | <0.1 | --- |
| 77170 | X 2,2 Dichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 77168 | X 1,1 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34562 | X 1,3 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34371 | X Ethylbenzene | 524.2 | 0.1 | <0.1 | 700 |
| 77128 | X Styrene | 524.2 | 0.2 | <0.2 | 100 |
| 77562 | X 1,1,1,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34516 | X 1,1,2,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34475 | X Tetrachloroethylene | 524.2 | 0.2 | <0.2 | 5 |
| 34481 | X Toluene | 524.2 | 0.5 | <0.5 | 1000 |
| 34551 | X 1,2,4-Trichlorobenzene | 524.2 | 0.2 | <0.2 | 70 |
| 34506 | X 1,1,1 - Trichloroethane | 524.2 | 0.1 | <0.1 | 200 |
| 34511 | X 1,1,2 - Trichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 39180 | X Trichloroethylene | 524.2 | 0.1 | 0.4 | 5 |
| 77443 | X 1,2,3 - Trichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 39175 | X Vinyl Chloride | 524.2 | 0.2 | <0.2 | 0.2 |
| 79724 | X Xylenes, Total | 524.2 | 0.2 | <0.2 | 10000 |

VOLATILE ORGANIC ANALYSES
FROM COMMERCIAL LABORATORIES

Chapter NR 109 Wis Adm Code
Form 3300-216

Section I: To be completed by the Department of Natural Resources

System Name: CEDARBURG L & W COMMISSION City: CEDARBURG

PWS ID #: 24601082 County Code: 46 Route Code WS20

System Well No: 001 Entry Point ID: 101 WI Unique Well ID #: BG643

Sample Point Description: COLLECT SAMPLE AFTER RESERVOIR ASSOC. WITH WELL 1

| | | |
|--|---|--|
| System Type | Source Code: | Sample Type |
| <input checked="" type="checkbox"/> (MC) Municipal Community | <input type="checkbox"/> W Well | <input checked="" type="checkbox"/> D (SDWA) Compliance Sample |
| <input type="checkbox"/> (OC) OTM Community | <input checked="" type="checkbox"/> E Entry Point | <input type="checkbox"/> C (SDWA) Confirmation |
| <input type="checkbox"/> (NN) Nontransient Noncommunity | <input type="checkbox"/> D Distribution | <input type="checkbox"/> W Raw Water |
| <input type="checkbox"/> (TN) Transient Noncommunity | | <input type="checkbox"/> I Investigation |

____/____/____
(Initial Sample Date)

Collect sample by: 06 - 30 - 1993 Return results to DNR by: 07 - 10 - 1993

Section II: To be completed by SAMPLER

Sample Collection Date: 06 - 07 - 93 Sample Collection Time: 08 : 00

Sample Point Address: W61 N. 623 MEQUON ST.

Sample Point Description: AFTER RESERVOIR AT BOOSTER PUMPS (AFTER CHLORINATION)

First Initial and last name of sampler D - HINTZ How long was the well pump running prior to sampling: 00 : 15
(Complete only if taking sample from well)

Section III: To be completed by LABORATORY OFFICIAL. Report analytical results on back.

Laboratory ID Number: 99976690 Laboratory Name: EHL

Date Sample Received: 06 - 08 - 93 Time Sample Received: 12 : 00 Laboratory Sample ID: 63074

Signature of Receiving Laboratory Official: *Donna Mattia* Date Reported: 06 - 18 - 93

Condition of Sample Upon Receipt: ICED

Section IV: To be completed by WATER SUPPLY SYSTEM OFFICIAL after analysis has been done.

I certify that I have personally examined and am familiar with the information submitted on this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true and accurate, and complete. I also certify that the values being submitted are the actual values found in the sample; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature: *Alan Frank* Title: Manager

Date Signed: June 30, 1993

This page to be completed by WATER SUPPLY SYSTEM OFFICIAL or laboratory performing analysis.

| STORET Code | Parameter | SDWA Method | MDL (ug/L) | Results (ug/L) | MCL (ug/L) |
|-------------|---------------------------------|-------------|------------|----------------|------------|
| 34235 | X Benzene | 524.2 | 0.5 | <0.5 | 5 |
| 81555 | X Bromobenzene | 524.2 | 0.2 | <0.2 | --- |
| 32101 | X Bromodichloromethane | 524.2 | 0.1 | <0.1 | --- |
| 32104 | X Bromoform | 524.2 | 0.1 | <0.1 | --- |
| 34413 | X Bromomethane | 524.2 | 0.5 | <0.5 | --- |
| 32102 | X Carbon Tetrachloride | 524.2 | 0.1 | <0.1 | 5 |
| 34301 | X Chlorobenzene | 524.2 | 0.2 | <0.2 | 100 |
| 34311 | X Chloroethane | 524.2 | 0.5 | <0.5 | --- |
| 32106 | X Chloroform | 524.2 | 0.1 | <0.1 | --- |
| 34418 | X Chloromethane | 524.2 | 0.5 | <0.5 | --- |
| 77275 | X 2-Chlorotoluene (o-) | 524.2 | 0.2 | <0.2 | --- |
| 77277 | X 4-Chlorotoluene (p-) | 524.2 | 0.2 | <0.2 | --- |
| 32105 | X Dibromochloromethane | 524.2 | 0.1 | <0.1 | --- |
| 77596 | X Dibromomethane | 524.2 | 0.1 | <0.1 | --- |
| 34566 | X 1,3-Dichlorobenzene (m-) | 524.2 | 0.1 | <0.1 | --- |
| 34536 | X 1,2-Dichlorobenzene (o-) | 524.2 | 0.1 | <0.1 | 600 |
| 34571 | X 1,4-Dichlorobenzene (p-) | 524.2 | 0.1 | 0.5 | 75 |
| 34496 | X 1,1 Dichloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34531 | X 1,2 Dichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 34501 | X 1,1 Dichloroethylene | 524.2 | 0.2 | <0.2 | 7 |
| 77093 | X 1,2 Dichloroethylene, cis | 524.2 | 0.1 | 0.5 | 70 |
| 34546 | X 1,2 Dichloroethylene, trans | 524.2 | 0.1 | <0.1 | 100 |
| 34423 | X Dichloromethane | 524.2 | 0.5 | <0.5 | 5 |
| 34541 | X 1,2 Dichloropropane | 524.2 | 0.1 | <0.1 | 5 |
| 77173 | X 1,3 Dichloropropane | 524.2 | 0.1 | <0.1 | --- |
| 77170 | X 2,2 Dichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 77168 | X 1,1 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34562 | X 1,3 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34371 | X Ethylbenzene | 524.2 | 0.1 | <0.1 | 700 |
| 77128 | X Styrene | 524.2 | 0.2 | <0.2 | 100 |
| 77562 | X 1,1,1,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34516 | X 1,1,1,2,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34475 | X Tetrachloroethylene | 524.2 | 0.2 | <0.2 | 5 |
| 34481 | X Toluene | 524.2 | 0.5 | <0.5 | 1000 |
| 34551 | X 1,2,4-Trichlorobenzene | 524.2 | 0.2 | <0.2 | 70 |
| 34506 | X 1,1,1 - Trichloroethane | 524.2 | 0.1 | 0.2 | 200 |
| 34511 | X 1,1,2 - Trichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 39180 | X Trichloroethylene | 524.2 | 0.1 | 1.0 | 5 |
| 77443 | X 1,2,3 - Trichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 39175 | X Vinyl Chloride | 524.2 | 0.2 | <0.2 | 0.2 |
| 79724 | X Xylenes, Total | 524.2 | 0.2 | <0.2 | 10000 |

Approved By:

Reviewed By:

Jeff Brown

Date

06/21/93

Finalized By:

Wanda Day

Date

6/22/93

Comments:

VOLATILE ORGANIC ANALYSES
FROM COMMERCIAL LABORATORIES

Chapter NR 109 Wis Adm Code
Form 3300-216

Section I: To be completed by the Department of Natural Resources

System Name: CEDARBURG L & W COMMISSION City: CEDARBURG
PWS ID #: 24601082 County Code: 46 Route Code WS20
System Well No: 001 Entry Point ID: 101 WI Unique Well ID #: BG643

Sample Point Description: TAKE SAMPLE AT THE ENTRY POINT

| | | | |
|--|---|--|---|
| System Type | Source Code: | Sample Type | |
| <input checked="" type="checkbox"/> (MC) Municipal Community | <input type="checkbox"/> W Well | <input checked="" type="checkbox"/> D (SDWA) Compliance Sample | |
| <input type="checkbox"/> (OC) OTM Community | <input checked="" type="checkbox"/> E Entry Point | <input type="checkbox"/> C (SDWA) Confirmation | <u> </u> / <u> </u> / <u> </u> |
| <input type="checkbox"/> (NN) Nontransient Noncommunity | <input type="checkbox"/> D Distribution | <input type="checkbox"/> W Raw Water | (Initial Sample Date) |
| <input type="checkbox"/> (TN) Transient Noncommunity | | <input type="checkbox"/> I Investigation | |

Collect sample by: 09 - 30 - 1993 Return results to DNR by: 10 - 10 - 1993

Section II: To be completed by SAMPLER

Sample Collection Date: 09 - 07 - 93 Sample Collection Time: 08 : 00

Sample Point Address: W61 N623 MEQUON ST.

Sample Point Description: BOOSTER PUMP SAMPLING FAUCET AFTER RESERVOIR

First initial and last name of sampler D - HINTZ How long was the well pump running prior to sampling: :
(Complete only if taking sample from well)

Section III: To be completed by LABORATORY OFFICIAL. Report analytical results on back.

Laboratory ID Number: 99976690 Laboratory Name: EHL

Date Sample Received: 09 - 08 - 93 Time Sample Received: 12 : 00 Laboratory Sample ID: 79417

Signature of Receiving Laboratory Official: *Donna Martis* Date Reported: 09 - 24 - 93

Condition of Sample Upon Receipt: ICED

Section IV: To be completed by WATER SUPPLY SYSTEM OFFICIAL after analysis has been done.

I certify that I have personally examined and am familiar with the information submitted on this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true and accurate, and complete. I also certify that the values being submitted are the actual values found in the sample; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature: *Kevin Frank* Title: Manager

Date Signed: September 30, 1993

This page to be completed by WATER SUPPLY SYSTEM OFFICIAL or laboratory performing analysis.

| STORET Code | Parameter | SDWA Method | MDL (ug/L) | Results (ug/L) | MCL (ug/L) |
|-------------|-------------------------------|-------------|------------|----------------|------------|
| 34235 | X Benzene | 524.2 | 0.5 | <0.5 | 5 |
| 81555 | X Bromobenzene | 524.2 | 0.2 | <0.2 | --- |
| 32101 | X Bromodichloromethane | 524.2 | 0.1 | <0.1 | --- |
| 32104 | X Bromoform | 524.2 | 0.1 | <0.1 | --- |
| 34413 | X Bromomethane | 524.2 | 0.5 | <0.5 | --- |
| 32102 | X Carbon Tetrachloride | 524.2 | 0.1 | <0.1 | 5 |
| 34301 | X Chlorobenzene | 524.2 | 0.2 | <0.2 | 100 |
| 34311 | X Chloroethane | 524.2 | 0.5 | <0.5 | --- |
| 32106 | X Chloroform | 524.2 | 0.1 | <0.1 | --- |
| 34418 | X Chloromethane | 524.2 | 0.5 | <0.5 | --- |
| 77275 | X 2-Chlorotoluene (o-) | 524.2 | 0.2 | <0.2 | --- |
| 77277 | X 4-Chlorotoluene (p-) | 524.2 | 0.2 | <0.2 | --- |
| 32105 | X Dibromochloromethane | 524.2 | 0.1 | <0.1 | --- |
| 77596 | X Dibromomethane | 524.2 | 0.1 | <0.1 | --- |
| 34566 | X 1,3-Dichlorobenzene (m-) | 524.2 | 0.1 | <0.1 | --- |
| 34536 | X 1,2-Dichlorobenzene (o-) | 524.2 | 0.1 | <0.1 | 600 |
| 34571 | X 1,4-Dichlorobenzene (p-) | 524.2 | 0.1 | <0.1 | 75 |
| 34496 | X 1,1 Dichloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34531 | X 1,2 Dichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 34501 | X 1,1 Dichloroethylene | 524.2 | 0.2 | <0.2 | 7 |
| 77093 | X 1,2 Dichloroethylene, cis | 524.2 | 0.1 | 0.6 | 70 |
| 34546 | X 1,2 Dichloroethylene, trans | 524.2 | 0.1 | <0.1 | 100 |
| 34423 | X Dichloromethane | 524.2 | 0.5 | <0.5 | 5 |
| 34541 | X 1,2 Dichloropropane | 524.2 | 0.1 | <0.1 | 5 |
| 77173 | X 1,3 Dichloropropane | 524.2 | 0.1 | <0.1 | --- |
| 77170 | X 2,2 Dichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 77168 | X 1,1 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34562 | X 1,3 Dichloropropene | 524.2 | 0.1 | <0.1 | --- |
| 34371 | X Ethylbenzene | 524.2 | 0.1 | <0.1 | 700 |
| 77128 | X Styrene | 524.2 | 0.2 | <0.2 | 100 |
| 77562 | X 1,1,1,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34516 | X 1,1,2,2 - Tetrachloroethane | 524.2 | 0.1 | <0.1 | --- |
| 34475 | X Tetrachloroethylene | 524.2 | 0.2 | <0.2 | 5 |
| 34481 | X Toluene | 524.2 | 0.5 | <0.5 | 1000 |
| 34551 | X 1,2,4-Trichlorobenzene | 524.2 | 0.2 | <0.2 | 70 |
| 34506 | X 1,1,1 - Trichloroethane | 524.2 | 0.1 | 0.1 | 200 |
| 34511 | X 1,1,2 - Trichloroethane | 524.2 | 0.1 | <0.1 | 5 |
| 39180 | X Trichloroethylene | 524.2 | 0.1 | 0.7 | 5 |
| 77443 | X 1,2,3 - Trichloropropane | 524.2 | 0.2 | <0.2 | --- |
| 39175 | X Vinyl Chloride | 524.2 | 0.2 | <0.2 | 0.2 |
| 79724 | X Xylenes, Total | 524.2 | 0.2 | <0.2 | 10000 |