

April 12, 1995

Mr. Chip Krohn  
Wisconsin Department of Natural Resources  
Richards Street Annex  
4041 North Richards Street  
Milwaukee, Wisconsin 53212

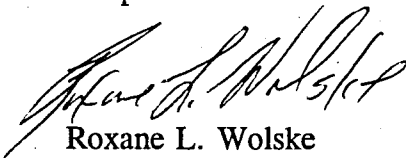
RE: Submittal of Limited Soil Assessment, North Oakland Avenue, Village of Shorewood Report

Dear Mr. Krohn:

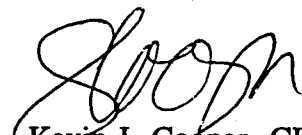
Enclosed is a copy of the Cooper Environmental & Engineering Resources, Incorporated (Cooper) report entitled "Limited Soil Assessment, North Oakland Avenue, Village of Shorewood", dated March 14, 1995.

The undersigned can be contacted at (414) 338-9697.

Sincerely,  
Cooper Environmental & Engineering Resources, Inc.



Roxane L. Wolske  
Staff Hydrogeologist



Kevin J. Cooper, CHMM  
President

RLW/lmd  
Enclosure

cc: Mr. James Lynch, Village of Shorewood  
Mr. John Penshorn, J.C. Zimmerman Engineering

SHWD0412.TR2

LIMITED SOIL ASSESSMENT  
North Oakland Avenue  
Village of Shorewood  
March 14, 1995

Prepared for:  
J.C. Zimmerman Engineering  
Corporation  
ATTN: Mr. John W. Penshorn  
5200 West Loomis Road  
Greendale, Wisconsin 53129

Submitted by:  
Cooper Environmental &  
Engineering Resources, Inc.  
1411 North Main Street  
West Bend, Wisconsin 53095

CERTIFICATION

This Limited Soil Assessment Report

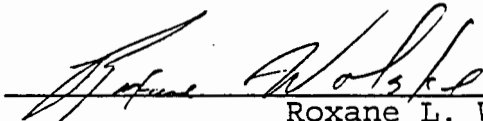
for

North Oakland Avenue, Village of Shorewood

dated March 14, 1995

was prepared by:

Cooper Environmental & Engineering Resources, Inc.  
Wisconsin Certification Number 00058



Roxane L. Wolske

Cooper Environmental & Engineering Resources, Inc.  
Staff Hydrogeologist



Kevin J. Cooper, CHMM

Cooper Environmental & Engineering Resources, Inc.  
President

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## EXECUTIVE SUMMARY

### Findings and Conclusions

On January 25 and 26, 1995, Cooper Environmental and Engineering Resources, Incorporated (Cooper) completed a limited assessment of the soil quality within the right of way of North Oakland Avenue, from Capitol Drive north to Glendale Avenue, in Shorewood, Wisconsin. The assessment consisted of the drilling and sampling of 18 Geoprobe® boreholes. The borehole locations were selected based on information provided by the Village of Shorewood relating to the historical use of the properties immediately adjacent to the right of way. Two boreholes were drilled and sampled within the right of way and immediately adjacent to each property where solvents or petroleum compounds are currently or were previously used. Soil samples were collected from each borehole at a depth of 1.0 to 3.0 feet below ground surface. The depth of sampling was selected to correlate with the anticipated depth of excavation during the right of way upgrade. At each sample location, soil was headspace field screened and samples were prepared and submitted for laboratory analysis of Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Volatile Organic Compounds (VOCs).

The following is a summary of the soil assessment results and findings:

- The soils encountered consist primarily of silty clays and clayey silts with occasional thin lenses of sand and gravel. Groundwater was not encountered during the investigation.
- Visual and olfactory observations indicated a petroleum odor associated with the borehole adjacent to 4230 North Oakland Avenue. No visual staining was noted within any of the soil samples.
- Field screening indicated elevated instrument readings associated with the soils collected from a borehole adjacent to 4230 North Oakland Avenue.
- Laboratory results indicate soils collected adjacent to 4230 North Oakland Avenue exceed the WDNR NR 720 interim soil clean-up guidelines for Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) and also contain the highest concentration of Volatile Organic Compounds (VOCs). No other soil sample exceeded the NR 720 guidelines for DRO, GRO, or any VOC compound.
- Tetrachloroethene, a solvent compound, was detected in a soil sample collected adjacent to 4300 North Oakland Avenue. The VOC compounds detected in all other soil samples consisted of petroleum related compounds.

- Low level VOC or DRO concentrations were detected within soils collected adjacent to 4559, 4301, and 4201 North Oakland Avenue.
- The field observations and laboratory findings and results indicate clean soil conditions exist at boring locations adjacent to 4144, 4170, 4514, and 4601 North Oakland Avenue.

### Recommendation

Based on the above findings and results, Cooper recommends the following:

- The owner of the property at 4230 North Oakland Avenue should be notified as to the exceedances of NR 720 guidelines. The WDNR currently requires responsible party(ies) to complete a site investigation when such exceedances occur.
- Tetrachloroethene is considered a potential carcinogen; therefore, health and safety precautions are recommended during the excavation of the soils located in the vicinity of 4300 North Oakland Avenue. The Village of Shorewood may consider contacting their WDNR caseworker to discuss whether further investigation with respect to impact extent is warranted.
- Soils containing low level DRO and VOC concentrations, below NR 720 guidelines, do not require remediation; however, these soils should be considered impacted and any removal or disposal will require proper management.
- Also, the soils containing low level DRO and/or VOC concentrations possibly represent the lateral extents of larger areas of impact. Therefore, the Village of Shorewood may want to discuss the results of this soil assessment with their WDNR caseworker. The WDNR may require individual responsible parties to conduct site investigations as to the full level and extent of impact.

## 1.0 INTRODUCTION

Cooper Environmental and Engineering Resources, Incorporated (Cooper) was contracted by J.C. Zimmerman Engineering Corporation on behalf of the Village of Shorewood, Wisconsin to conduct an assessment of soil quality within the right of way of North Oakland Avenue Shorewood, Wisconsin. The site assessment was conducted to generally assess the quality of soil which will be encountered during excavation of the existing right of way and the subsequent right of way and roadway upgrade. The scope of services provided by Cooper include the following:

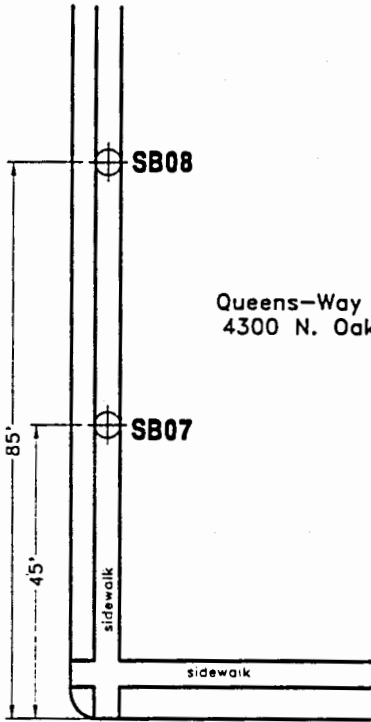
- Provide technical oversight during the geoprobe installation.
- Document soil types and the condition of soils at each geoprobe location.
- Collect representative soil samples for headspace field screening and laboratory analysis from each geoprobe borehole.
- Prepare a report summarizing the soil assessment field activities and the soil sampling findings and results.

### 1.1 Purpose and Scope

On January 25 and 26, 1995, Cooper completed assessment of the soil quality within the right of way of North Oakland Avenue, extending from Capitol Drive north to Glendale Avenue, in Shorewood, Wisconsin. Figures 1-1 through 1-3 are the borehole location maps. The soil assessment consisted of the drilling and sampling of 18 boreholes using a van-mounted hydraulic soil probe (Geoprobe®). Each borehole was completed to a depth of 3 feet below ground surface (bgs). The depth of sampling was selected to correlate with the maximum depth of soil excavation anticipated by the Village of Shorewood during the right of way upgrade. The location of the boreholes was based on information provided by the Village of Shorewood related to historical property use. Two boreholes were placed in the vicinity of each property where solvents or petroleum related compounds are currently or were formerly used (i.e. present or former gasoline stations and dry cleaners). The boreholes were drilled within or immediately adjacent to the sidewalk at each property to insure the closest possible sampling to potential source areas. At each borehole location, soil samples were collected from 1.0 to 3.0 feet below grade. A portion of each soil sample was headspace field screened using an Organic Vapor Monitor (OVM). The remaining portion of sample was submitted for laboratory analysis of Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Volatile Organic Compounds (VOCs). The drilling, soil sampling, and field screening procedures are described in Appendix A.



North Oakland Avenue

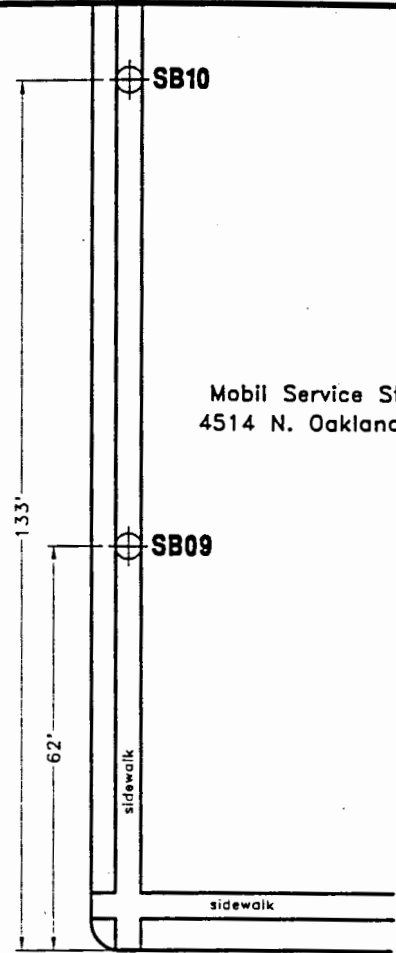


Queens-Way Dry Cleaners  
4300 N. Oakland Ave.

East Marion Street



North Oakland Avenue

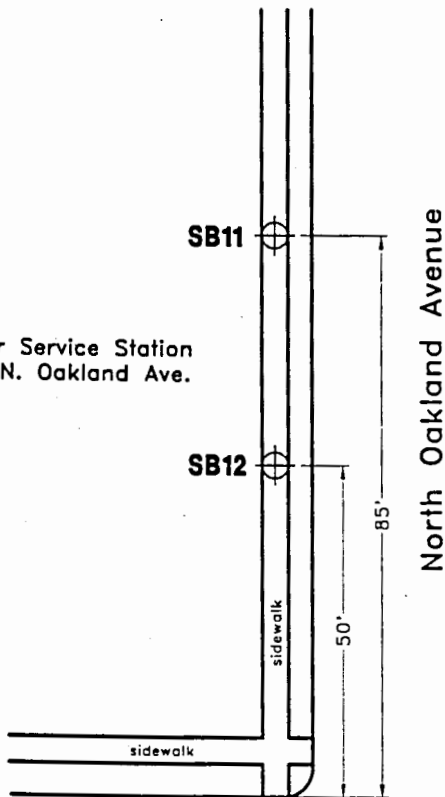


Mobil Service Station  
4514 N. Oakland Ave.

East Kensington Blvd



Former Service Station  
4601 N. Oakland Ave.



North Oakland Avenue

East Glendale Avenue

### LEGEND

⊕ SB01 = GEOPROBE LOCATION AND I.D.

**Figure 1-2**  
**BOREHOLE LOCATIONS**

**Village of Shorewood**  
**North Oakland Avenue**  
**Shorewood, WI**

DATE	DRAFTED BY:	CHECKED BY:	APPROVED BY:
2/27/95	PDF	RW	KA

# Cooper

Environmental & Engineering Resources Inc.  
1411 North Main Street, West Bend, Wisconsin 53095

SCALE 1" = 30'

FILE: C:\SHORWOOD\GPLOC2BL



## 2.0 RESULTS

### 2.1 Field Observations

The generalized site stratigraphy, based on the drilling and sampling of 18 boreholes, consists predominantly of red to brown clayey silts and silty clays with occasional thin (<0.5 feet thick) lenses of sand and gravel. The silty clays and clayey silts were generally dry and firm. Moisture content and plasticity of the sediments increased proportionally with increase in sand and gravel content. Groundwater was not encountered during the soil assessment. The soil boring forms and borehole abandonment forms are included in Appendix B.

Field observations indicated strong petroleum odors throughout the sampling interval of borehole SB06 (4230 North Oakland Avenue). Petroleum staining was not noted in any of the soil samples. Headspace field screening indicated a highly elevated OVM reading of 607.7 instrument units (i.u.) at borehole SB06 (4230 North Oakland Avenue). Low level OVM readings were recorded at SB05 (6.9 i.u.), SB07 (6.6 i.u.), SB08 (34.5 i.u.), and SB09 (4.7 i.u.) (Figures 2-1 through 2-3).

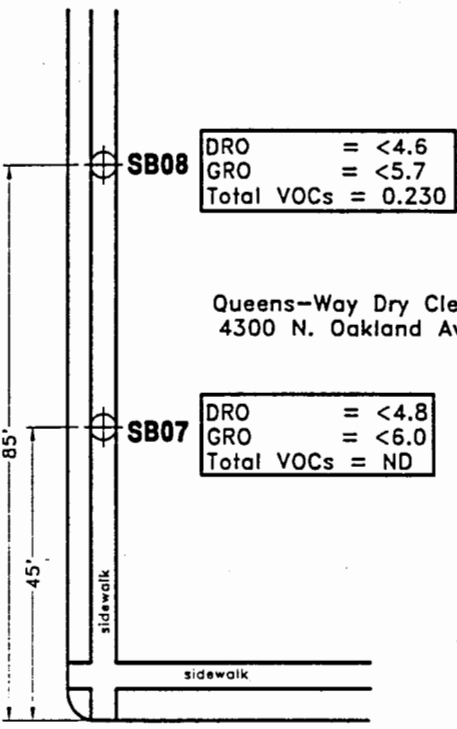
### 2.2 Analytical Results

The analytical results are summarized in Table 2-1 and the laboratory reports and chain of custody forms are included in Appendix C. The analytical results with corresponding sampling locations are shown on Figures 2-1 through 2-3. Laboratory results indicated the presence of impacted soil at boring SB06 (4230 North Oakland Avenue). The soil sample collected from SB06 contained 280 mg/kg DRO and 350 mg/kg GRO, exceeding the interim Wisconsin Department of Resources (WDNR) NR 720 soil cleanup guidelines of 100 to 250 mg/kg for both DRO and GRO. A low level concentration of 7.0 mg/kg DRO was detected at borehole SB17 (4201 North Oakland Avenue) and GRO was not detected within any of the remaining borehole soil samples.

VOC concentrations were detected in seven of the 18 boreholes. The VOC concentrations did not exceed interim NR 720 guidelines for any soil sample. The soil sample collected from SB06 (4230 North Oakland Avenue) contained the highest total VOC concentration at 2.859 mg/kg. The soil sample collected from SB08 (4300 North Oakland Avenue) contained 0.230 mg/kg total VOCs; of which the chlorinated solvent Tetrachloroethene comprised the entire total. The soil sample collected from SB08 was the only sample in which a solvent compound was detected. The VOCs detected in the remaining samples consisted of petroleum related compounds; predominantly ethylbenzene, the xylenes, and toluene. Low level total VOCs, less than 0.0059 mg/kg, were detected at boreholes SB13 and SB14 (4559 North Oakland Avenue), SB15 and SB16 (4301 North Oakland Avenue), and SB18 (4201 North Oakland Avenue). VOC concentrations were not detected in any of the remaining borehole samples.



North Oakland Avenue



SB08  
DRO = <4.6  
GRO = <5.7  
Total VOCs = 0.230

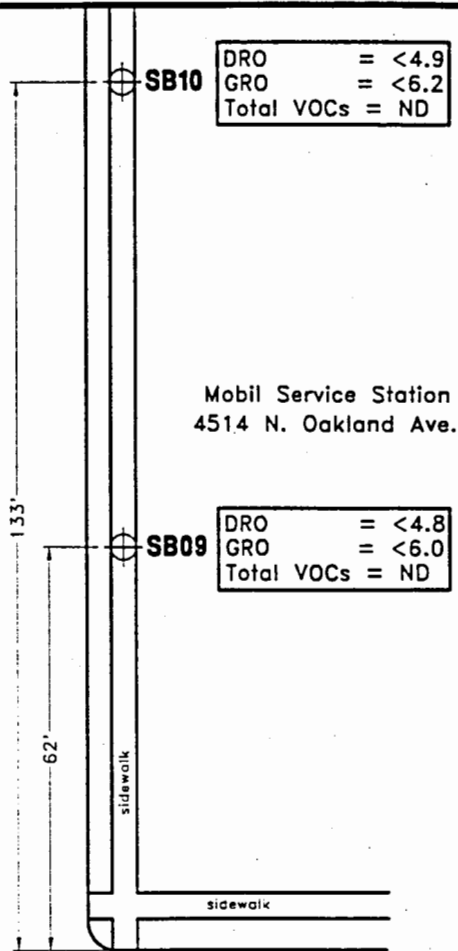
Queens-Way Dry Cleaners  
4300 N. Oakland Ave.

SB07  
DRO = <4.8  
GRO = <6.0  
Total VOCs = ND

East Marion Street



North Oakland Avenue



SB10  
DRO = <4.9  
GRO = <6.2  
Total VOCs = ND

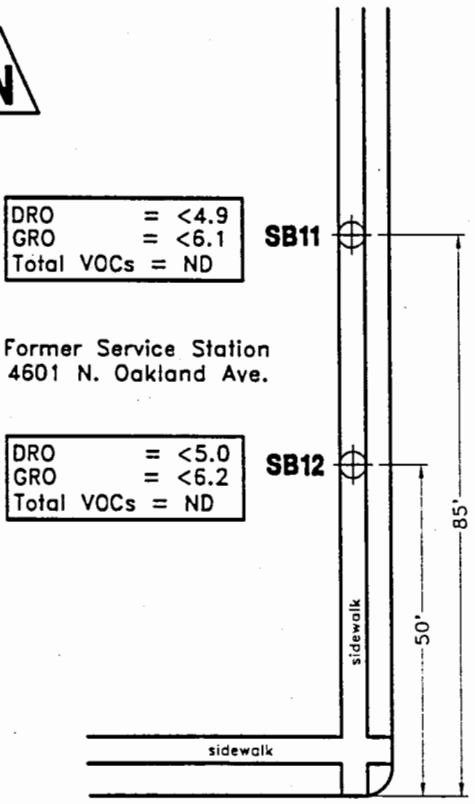
Mobil Service Station  
4514 N. Oakland Ave.

SB09  
DRO = <4.8  
GRO = <6.0  
Total VOCs = ND

East Kensington Blvd



North Oakland Avenue



SB11  
DRO = <4.9  
GRO = <6.1  
Total VOCs = ND

Former Service Station  
4601 N. Oakland Ave.

SB12  
DRO = <5.0  
GRO = <6.2  
Total VOCs = ND

East Glendale Avenue

**LEGEND**

- ⊕ SB01 = GEOPROBE LOCATION AND I.D.
- DRO = DIESEL RANGE ORGANICS (mg/kg)
- GRO = GASOLINE RANGE ORGANICS (mg/kg)
- Total VOC's = TOTAL VOLATILE ORGANIC COMPOUNDS (mg/kg)
- ND = NOT DETECTED

**Figure 2-2**

**BOREHOLE LOCATIONS AND ANALYTICAL RESULTS**

Village of Shorewood  
North Oakland Avenue  
Shorewood, WI

DATE	DRAFTED BY:	CHECKED BY:	APPROVED BY:
2/17/95	JAW	RW	<i>[Signature]</i>



Environmental & Engineering Resources Inc.  
1411 North Main Street, West Bend, Wisconsin 53095  
SCALE 1" = 30' FILE: C:\SHORWOOD\GPLOC2

**Table 2-1 (Continued)  
Village of Shorewood  
North Oakland Avenue  
Soil Analytical Results**

Address	4300 N. Oakland Ave.		4514 N. Oakland Ave.		4601 N. Oakland Ave.		NR720 INTERIM GUIDELINES (mg/kg)
Sample ID	VS/RW-SB07-1	VS/RW-SB08-1	VS/RW-SB09-1	VS/RW-SB10-1	VS/RW-SB11-1	VS/RW-SB12-1	
Date	1/25/95	1/25/95	1/25/95	1/25/95	1/26/95	1/26/95	
Depth (feet *bgs)	1.0-3.0	1.0-3.0	1.0-3.0	1.0-3.0	1.0-3.0	1.0-3.0	
<b>Detected Volatile Organic Compounds (VOCs) (mg/kg)</b>							
1,2,4-Trimethylbenzene	ND (<0.0012)	ND (<0.0011)	ND (<0.0012)	ND (<0.0012)	ND (<0.0012)	ND (<0.0012)	NG
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	NG
Ethylbenzene	ND	ND	ND	ND	ND	ND	2.9
Isopropylbenzene	ND	ND	ND	ND	ND	ND	NG
n-Butylbenzene	ND	ND	ND	ND	ND	ND	NG
n-Propylbenzene	ND	ND	ND	ND	ND	ND	NG
Naphthalene	ND (<0.0036)	ND (<0.0034)	ND (<0.0036)	ND (<0.0037)	ND (<0.0036)	ND (<0.0038)	NG
o-Xylene	ND (<0.0012)	ND (<0.0011)	ND (<0.0012)	ND (<0.0012)	ND (<0.0012)	ND (<0.0012)	4.1**
p,m-Xylenes	ND	ND	ND	ND	ND	ND	4.1**
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	NG
Tetrachloroethene	ND	<b>0.23</b>	ND	ND	ND	ND	NG
Toluene	ND	ND (<0.0011)	ND	ND	ND	ND	1.5
Total VOCs	ND	<b>0.23</b>	ND	ND	ND	ND	NG
<b>Diesel Range Organics (DRO) (mg/kg)</b>							
DRO	ND (<4.8)	ND (<4.6)	ND (<4.8)	ND (<4.9)	ND (<4.9)	ND (<5.0)	100-250***
<b>Gasoline Range Organics (GRO) (mg/kg)</b>							
GRO	ND (<6.0)	ND (<5.7)	ND (<6.0)	ND (<6.2)	ND (<6.1)	ND (<6.2)	100-250***

Notes: bgs\* = below ground surface  
 mg/kg = milligrams per kilogram (parts per million)  
 Bold type indicates compound detected above method detection limit  
 ND = Not detected (detection limit is in paranthesis)  
 NG = No guideline exists  
 \*\* = Guideline is for total xylenes  
 \*\*\* = Guideline for GRO and DRO are dependent on saturated hydraulic conductivity (K):  
       Guideline = 100 mg/kg if K>10E-6 cm/s  
       Guideline = 250 mg/kg if K=10E-6 cm/s or K<10E-6cm/s

### 3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the laboratory results, impacted soil exists in the vicinity of borehole SB06 (4230 North Oakland Avenue). The soil sample collected at borehole SB06 exceeds the proposed NR 720 guidelines for GRO and DRO. Due to the compounds detected and the level and proximity of the impacted soils to the adjacent property, it is likely the impacts are related to the gasoline station formerly located at 4230 North Oakland Avenue. The presence of the impacted soil should be reported to the current property owner. As required by the WDNR, the responsible party(ies) must conduct a site investigation to determine the extent and degree of the soil and possible groundwater impact.

Tetrachloroethene is considered a potential carcinogen by the National Institute for Occupational Safety and Health; therefore, health and safety precautions should be taken to limit occupational exposure during the excavation of soils located at 4300 North Oakland Avenue. Although laboratory results indicate a relatively low concentration of Tetrachloroethene, the potential exists for increased concentrations at depths greater than the sampling depth of 3 feet or at other locations along the property right of way. The Village of Shorewood may wish to consider contacting their WDNR caseworker to discuss the occurrence of Tetrachloroethene, and to determine whether any further investigation is warranted.

The soils which contain detectable concentrations of DRO and VOCs below the NR 720 guidelines, may not require remediation. However, any excavation and removal of these soils will require proper management. Proper management and treatment or disposal of these soil may include, and are not limited to, off-site bioremediation or landfilling. Also, the detection of low level DRO and/or VOC concentrations within the right of way suggests a potential for a lateral extent of the observed concentrations. The Village of Shorewood may wish to discuss the occurrence of these low level concentrations with the WDNR. The WDNR may require individual responsible party(ies) to conduct site investigations to determine the full level and extent of impacts.

Copies of this report have been forwarded to:

Mr. John W. Penshorn  
J. C. Zimmerman Engineering Corporation  
5200 West Loomis Road  
Greendale, Wisconsin 53129

#### 4.0 LIMITATIONS OF ASSESSMENT

The interpretations and conclusions contained within this report are based upon the result of independent laboratory tests and analysis intended to detect the presence and/or concentration of certain chemical constituents in samples taken from the subject property. Such testing and analysis have been conducted by independent state certified testing laboratories. Cooper has no control over such testing and analysis and, therefore, disclaims any responsibility for any errors or omissions arising therefrom.

Subsurface information was generalized from and interpolated between soil sampling locations. Information pertaining to actual subsurface conditions exists only at the described sample locations. It is possible that subsurface conditions may vary from those indicated.

Our assessment was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by Professional Consultants practicing in this or similar localities. No other warranty or guarantee, expressed or implied, is made as to the conclusion and professional advice included in this report.

The findings of this report are valid as of the present date of the assessment. However, changes in the conditions of a property can occur with the passage of time, whether due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, from the broadening of knowledge, or from other reasons. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. This report serves a specific purpose and may not be suitable for other applications.

## FIELD METHODS

### Soil Sampling

The following procedures were used to collect the soil samples:

- The soil borings were drilled using a van-mounted hydraulic soil probe (Geoprobe®) unit.
- The samples were collected using a 1.5-inch diameter, 24-inch long stainless steel large bore sampler with disposable acetate liners.
- New disposable latex gloves were used to collect and prepare the soil samples at each sampling point.
- The bore samplers were washed in a potable water/detergent solution and rinsed with distilled water between each sampling event. A new acetate liner was used at each sampling location.
- Five soil samples were collected from each sampling point; one for headspace field screening and four for laboratory analysis. The field screening sample was placed in a clean container, covered with aluminum foil, and capped with a metal lid. The following procedures were used in collection of soils for laboratory analysis:
  - For DRO sample analysis, approximately 25 grams of soil was placed in each of 2-2 oz jars.
  - For GRO sample analysis, approximately 25 grams of soil was placed in one 2 oz jar with methanol as a preservative.
  - For VOC sample analysis, soil was placed in two 4 oz jars with no headspace or preservative.
  - For dry weight determination, soil was placed in one laboratory supplied plastic bag and sealed.
- All laboratory samples were immediately refrigerated in an ice-filled cooler to maintain the samples at approximately 4°C.
- The samples were shipped to CBC Environmental Laboratories Inc., 140 East Ryan Road, Oak Creek, Wisconsin (WDNR Certification No. 241283020) for laboratory analysis.

## Field Screening

Field screening for ionizable organic compound (IOC) content was conducted with a Model 580B Thermo Environmental Instruments organic vapor monitor (OVM). The OVM is equipped with a 10.6 eV lamp, a positive displacement pump, and is calibrated daily to an isobutylene standard of 100 ppm. The following IOC field screening procedures were used:

- A portion of soil was transferred to a clean sample container, covered with aluminum foil, and capped with a screw lid.
- The samples were allowed to equilibrate in a heated area until they reached a temperature of approximately 70 F.
- The sample was agitated for at least 30 seconds to break up soil clods and release vapors.
- Following equilibration and agitation, the OVM probe was inserted into the headspace by breaking the aluminum foil seal. The highest IOC reading, in ppm i.u., was then recorded.

abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. min. Code, whichever is applicable. Also, see instructions on back.

<b>GENERAL INFORMATION</b>		<b>(12) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>Well/Drillhole/Borehole Location</u>	County <u>MILWAUKEE</u>	Original Well Owner (If Known) <u>VILLAGE OF SHOREWOOD</u>	
(If applicable) Gov't Lot _____ Grid Number _____		present well Owner <u>VILLAGE OF SHOREWOOD</u>	
Grid Location _____ ft. <input type="checkbox"/> N <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		Street or Route <u>3930 N. OAKLAND AVE</u>	
Civil Town Name <u>SHOREWOOD</u>		City, State, Zip Code <u>SHOREWOOD, WI 53211-0016</u>	
Street Address of Well <u>300 N. MAIN ST (RIGHT OF WAY)</u>		Facility Well No. and/or Name (If Applicable) <u>5807</u>	
City, Village <u>SHOREWOOD</u>		WI Unique Well No. _____	
Reason for Abandonment <u>SOIL ASSESSMENT COMPLETE</u>		Date of Abandonment <u>1/25/95</u>	

**WELL/DRILLHOLE/BOREHOLE INFORMATION**

1) Original Well/Drillhole/Borehole Construction Completed On (Date) 1/25/95

Monitoring Well  
 Water Well  
 Drillhole  
 Borehole

Construction Report Available?  
 Yes  No

Construction Type:  
 Drilled  Driven (Sandpoint)  Dug  
 Other (Specify) GEOPROBE

Formation Type:  
 Unconsolidated Formation  Bedrock

Total Well Depth (ft.) \_\_\_\_\_ Casing Diameter (ins.) \_\_\_\_\_  
 (From ground surface)

Casing Depth (ft.) \_\_\_\_\_

Was Well Annular Space Grouted?  Yes  No  Unknown  
 If Yes, To What Depth? \_\_\_\_\_ Feet

(4) Depth to Water (Feet) NA

Pump & Piping Removed?  Yes  No  Not Applicable  
 Liner(s) Removed?  Yes  No  Not Applicable  
 Screen Removed?  Yes  No  Not Applicable  
 Casing Left in Place?  Yes  No  
 If No, Explain \_\_\_\_\_

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

(5) Required Method of Placing Sealing Material

Conductor Pipe-Gravity  Conductor Pipe-Pumped  
 Dumb Bailer  Other (Explain) \_\_\_\_\_

(6) Sealing Materials

Neat Cement Grout  
 Sand-Cement (Concrete) Grout  
 Concrete  
 Clay-Sand Slurry  
 Bentonite-Sand Slurry  
 Chipped Bentonite

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>BENTONITE</u>	<u>Surface</u>	<u>3.0'</u>	<u>.02 SACKS</u>	

(8) Comments: \_\_\_\_\_

(9) Name of Person or Firm Doing Sealing Work  
COOPER ENVIRONMENTAL & ENGINEERING RESOURCES

Signature of Person Doing Work: [Signature] Date Signed: 2/24/95

Street or Route: 1411 N. MAIN ST Telephone Number: (414) 338-9697

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected: \_\_\_\_\_ District/County: \_\_\_\_\_

Reviewed/Inspector: \_\_\_\_\_

Follow-up Necessary: \_\_\_\_\_



All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>NA</u>	County <u>MILWAUKEE</u>	Original Well Owner (If Known) <u>VILLAGE OF SHOREWOOD</u>	
(If applicable) NW 1/4 of SW 1/4 of Sec. <u>3</u> ; T. <u>7</u> N. R. <u>22</u>		Present Well Owner <u>VILLAGE OF SHOREWOOD</u>	
Gov't Lot	Grid Number	Street or Route <u>3930 N. OAKLAND AVE</u>	
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>SHOREWOOD, WI 53211-0016</u>	
Civil Town Name		Factory Well No. and/or Name (If Applicable) <u>5308</u>	WI Unique Well No.
Street Address of Well <u>4300 N. OAKLAND AVE (RIGHT OF WAY)</u>		Reason for Abandonment <u>SOIL ASSESSMENT COMPLETE</u>	
City, Village <u>SHOREWOOD</u>		Date of Abandonment <u>1/25/95</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1/25/95</u>	(4) Depth to Water (Feet) <u>NA</u>
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole	Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Lines(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____
Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Did Sealing Material Rise to Surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (Specify) <u>GEOPROBE</u>	(5) Required Method of Placing Sealing Material: <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	(6) Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite
Total Well Depth (ft.) _____ Casing Diameter (ins.) _____ (From ground surface)	For monitoring wells and monitoring well boreholes only: <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Cement Grout
Casing Depth (ft.) _____	
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>BENTONITE</u>	<u>Surface</u>	<u>3.0'</u>	<u>.02 sacks</u>	

(8) Comments: \_\_\_\_\_

(9) Name of Person or Firm Doing Sealing Work <u>COOPER ENVIRONMENTAL + ENGINEERING RESOURCES</u>	(10) FOR DNR OR COUNTY USE ONLY	
	Date Received/Inspected	District/County
	Renewal/Inspector	
	Follow-up Necessary	
Signature of Person Doing Work <u>[Signature]</u>	Date Signed <u>2/24/95</u>	
Street or Route <u>1411 N. MAIN ST</u>	Telephone Number <u>(414) 338-9697</u>	
City, State, Zip Code <u> </u>		

Facility/Project Name: VILLAGE OF SHREWOOD License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: 5807

Boring Drilled By (Firm name and name of crew chief): BRIAN ENVIRONMENTAL CONTRACTORS Date Drilling Started: 01/25/95 Date Drilling Completed: 01/25/95 Drilling Method: GEOPROBE

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

Boring Location: State Plane \_\_\_\_\_ N \_\_\_\_\_ E S/C/R \_\_\_\_\_ Lat. \_\_\_\_\_ Local Grid Location (if applicable)  N  E  S  Y \_\_\_\_\_ feet \_\_\_\_\_ feet \_\_\_\_\_

County: MILWAUKEE DNR County Code: 40 Civil Town/City/ or Village: SHREWOOD

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQP/ Comments
Number	Length Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	
1	24			1.0'-2.2' = Brown to Red Clay/Silt w/ Trace Gravel, Firm, Dry 2.2'-3.0' = Brown to Red Silty Sand, Very Fine, Wet, 25% Gravel EDB @ 3.0'	ML			6.6						
				4300 N. OAKLAND AVE										
				SAMPLE: VS/RW-5807-1										

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

Signature: [Signature] Firm: Cooper Environmental & Engineering Resources, Inc.

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Fines not less than \$10 per more than \$1,000 for each violation. Fines 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 144.98 and 162.04, Wis. Stats.

Department of Natural Resources

**Cooper**  
Environmental & Engineering Resources, Inc.  
1611 North West Street, Fort Lauderdale, FL 33309

- Solid Waste
- Emergency Response
- Wastewater
- Hazardous Waste
- Underground Tanks
- Water Resources
- Other

Facility/Project Name: VILLAGE OF SHREWOOD License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: 5B08

Boring Drilled By (Firm name and name of crew chief): BROWN ENVIRONMENTAL CONTRACTORS Date Drilling Started: 01 25 95 Date Drilling Completed: 01 25 95 Drilling Method: GEOPROBE

DNR Facility Well No.: \_\_\_\_\_ WI Unique Well No.: \_\_\_\_\_ Common Well No.: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: \_\_\_\_\_ inches

Boring Location: State Plans \_\_\_\_\_ N \_\_\_\_\_ E S/C/N \_\_\_\_\_ Lat. \_\_\_\_\_ Local Grid Location (if applicable) \_\_\_\_\_ N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ Y \_\_\_\_\_ NW 1/4 of SW 1/4 of Section 3 T 7 N R 22 Long. \_\_\_\_\_ feet \_\_\_\_\_ feet \_\_\_\_\_

County: MILWAUKEE DNR County Code: \_\_\_\_\_ Civil Town/City/ or Village: SHREWOOD

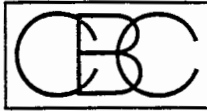
Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties				RQP/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	24		1.0	1.0'-2.8' = Brown to Red Clayey Silt - Very Firm	ML			34.5	Dry				
			3.0	2.8'-3.0' = Silty Sand, Very Fine Grained, 10% Trace Gravel, Moist									
				EDB @ 3.0'									
				4300 N. OAKLAND AVE									
				SAMPLE: VS/RW-5B08-1									

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

Signature: [Signature] Firm: Cooper Environmental & Engineering Resources, Inc.

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. Fines 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 144.93 and 162.04, Wis. Stats.

Cooper Project ID. No.: \_\_\_\_\_ Number of Soil Cutting Containers Accumulated: \_\_\_\_\_ Sample Intervals Submitted: \_\_\_\_\_



ENVIRONMENTAL LABORATORIES INC.

Date of Report: 02/09/95
Project Number: 09509560
Lab ID: 95-0001092
Account Number: 726
Date Collected: 01/25/95 14:25
Collected By: Client
Date Received: 01/27/95 12:00
C of C Number: 1
Temperature: Received on Ice.

Attention: Roxane Wolske
Cooper Environmental Resources
1411 North Main Street
West Bend WI 53095-0000

Sample Desc: VS/RW-SB07-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD 4380 N. OAKLAND AVE.

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

Table with 7 columns: Wet Result, Dry Result, Unit, Det. Limit, Procedure, Test Date. Rows include INORGANIC WET CHEMISTRY (Moisture %), ORGANIC GC VOLATILES (1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, etc.)

jml
wrs
WW
WW



**ENVIRONMENTAL  
LABORATORIES INC.**

Date of Report: 02/09/95  
Project Number: 09509560  
Lab ID: 95-0001092  
Account Number: 726  
Date Collected: 01/25/95 14:25  
Collected By: Client  
Date Received: 01/27/95 12:00  
C of C Number: 1  
Temperature: Received on Ice.

Attention: Roxane Wolske  
Cooper Environmental Resources  
1411 North Main Street  
West Bend WI 53095-0000

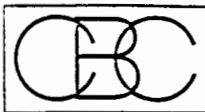
Sample Desc: VS/RW-SB07-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD <sup>4300 Lu</sup> ~~4144~~ N. OAKLAND AVE.

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	Det. Limit	Procedure	Test Date
Bromochloromethane	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Bromodichloromethane	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Bromoform	<0.0030	<0.0036	mg/kg	0.0036	SW 8021	02/02/95
Bromomethane (Methyl Bromide)	<0.0050	<0.0060	mg/kg	0.0060	SW 8021	02/02/95
Carbon Tetrachloride	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Chlorobenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Chloroethane	<0.0050	<0.0060	mg/kg	0.0060	SW 8021	02/02/95
Chloroform	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Chloromethane	<0.0050	<0.0060	mg/kg	0.0060	SW 8021	02/02/95
cis-1,2-Dichloroethene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
di-Isopropyl ether (isopropyl ether)	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Dibromochloromethane	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Dibromomethane	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Dichlorodifluoromethane (Freon 12)	<0.010	<0.012	mg/kg	0.012	SW 8021	02/02/95
Ethylbenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Hexachlorobutadiene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Isopropylbenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Methyl Tertiary Butyl Ether (MTBE)	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Methylene Chloride (Dichloromethane)	<0.0050	<0.0060	mg/kg	0.0060	SW 8021	02/02/95
n-Butylbenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
n-Propylbenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Naphthalene	<0.0030	<0.0036	mg/kg	0.0036	SW 8021	02/02/95
o-Xylene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
P,M-Xylenes	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
p-Isopropyltoluene (p-Cymene)	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95

wrs

WVW



**ENVIRONMENTAL  
LABORATORIES INC.**

Date of Report: 02/09/95  
Project Number: 09509560  
Lab ID: 95-0001092  
Account Number: 725  
Date Collected: 01/25/95 14:25  
Collected By: Client  
Date Received: 01/27/95 12:00  
C of C Number: 1  
Temperature: Received on Ice.

Attention: Roxane Wolske  
Cooper Environmental Resources  
1411 North Main Street  
West Bend WI 53095-0000

Sample Desc: VS/RW-SB07-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD <sup>4300</sup> ~~4144~~ N. OAKLAND AVE

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	Det. Limit	Procedure	Test Date
sec-Butylbenzene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Styrene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
tert-Butylbenzene	<0.0030	<0.0036	mg/kg	0.0036	SW 8021	02/02/95
Tetrachloroethene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Toluene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
trans-1,2-Dichloroethene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Trichloroethene	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Trichlorofluoromethane (Freon 11)	<0.0010	<0.0012	mg/kg	0.0012	SW 8021	02/02/95
Vinyl Chloride	<0.0030	<0.0036	mg/kg	0.0036	SW 8021	02/02/95
<b>LUST</b>						
Diesel Range Organics	<4.0	<4.8	mg/kg	4.8	WIMODDRO	02/03/95
Gasoline Range Organics	<5.0D	<6.0	mg/kg	6.0	WIMODGRO	01/30/95

Other heavier hydrocarbons present after the GRO window.

Please Contact Client Services with any questions. Water samples are disposed of 30 days after receipt; soil samples will be disposed of 6 weeks after receipt; waste samples (non-water, non-soil) will be returned 6 weeks after receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected.

D = Detected below the Quantitation Limit. J = Estimated below the Quantitation Limit.

⊃ = Elevated Detection Limits :

■ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

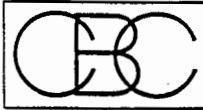
+ = Due to extract volume.

Reviewed and Approved by:

Reviewed and Approved by:

*WWS*  
Wes Saferite

*WJW*  
Joanne Lipo



**ENVIRONMENTAL  
LABORATORIES INC.**

Date of Report: 02/09/95  
Project Number: 09509560  
Lab ID: 95-0001093  
Account Number: 726  
Date Collected: 01/25/95 15:00  
Collected By: Client  
Date Received: 01/27/95 12:00  
C of C Number: 1  
Temperature: Received on Ice

Attention: Roxane Wolske  
Cooper Environmental Resources  
1411 North Main Street  
West Bend WI 53095-0000

Sample Desc: VS/RW-SB08-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD <sup>4300 SW</sup> ~~4144~~ N. OAKLAND AVE

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	Det. Limit	Procedure	Test Date
<b>INORGANIC</b>						
<b>WET CHEMISTRY</b>						
Moisture (%)	13		%	0.10	SW 5030	01/30
<b>ORGANIC</b>						
<b>GC VOLATILES</b>						
1,1,1,2-Tetrachloroethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,1,1-Trichloroethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,1,2,2-Tetrachloroethane	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01
1,1,2-Trichloroethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,1-Dichloroethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,1-Dichloroethene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,1-Dichloropropene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2,3-Trichlorobenzene	<0.0020	<0.0023	mg/kg	0.0023	SW 8021	02/01
1,2,3-Trichloropropane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2,4-Trichlorobenzene	<0.0020	<0.0023	mg/kg	0.0023	SW 8021	02/01
1,2,4-Trimethylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2-Dibromo-3-Chloropropane (DBCP)	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01
1,2-Dibromoethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2-Dichlorobenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2-Dichloroethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,2-Dichloropropane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,3,5-Trimethylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,3-Dichlorobenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,3-Dichloropropane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
1,4-Dichlorobenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
2,2-Dichloropropane	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01
2-Chlorotoluene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
4-Chlorotoluene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
Benzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01
Bromobenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01

jml WW  
wrs WW



**ENVIRONMENTAL  
LABORATORIES INC.**

Date of Report: 02/09/95  
Project Number: 09509560  
Lab ID: 95-0001093  
Account Number: 726  
Date Collected: 01/25/95 15:00  
Collected By: Client  
Date Received: 01/27/95 12:00  
C of C Number: 1  
Temperature: Received on Ice.

Attention: Roxane Wolske  
Cooper Environmental Resources  
1411 North Main Street  
West Bend WI 53095-0000

Sample Desc: VS/RW-SB08-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD <sup>4300 RW</sup> ~~4144~~ N. OAKLAND AVE.

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	Det. Limit	Procedure	Test Date
Bromochloromethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Bromodichloromethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Bromoform	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01/95
Bromomethane (Methyl Bromide)	<0.0050	<0.0057	mg/kg	0.0057	SW 8021	02/01/95
Carbon Tetrachloride	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Chlorobenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Chloroethane	<0.0050	<0.0057	mg/kg	0.0057	SW 8021	02/01/95
Chloroform	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Chloromethane	<0.0050	<0.0057	mg/kg	0.0057	SW 8021	02/01/95
cis-1,2-Dichloroethene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
di-Isopropyl ether (isopropyl ether)	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Dibromochloromethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Dibromomethane	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Dichlorodifluoromethane (Freon 12)	<0.010	<0.011	mg/kg	0.011	SW 8021	02/01/95
Ethylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Hexachlorobutadiene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Isopropylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Methyl Tertiary Butyl Ether (MTBE)	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Methylene Chloride (Dichloromethane)	<0.0050	<0.0057	mg/kg	0.0057	SW 8021	02/01/95
n-Butylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
n-Propylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Naphthalene	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01/95
o-Xylene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
P,M-Xylenes	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
p-Isopropyltoluene (p-Cymene)	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95

wrs MMW





**ENVIRONMENTAL  
LABORATORIES INC.**

Date of Report: 02/09/95  
Project Number: 09509560  
Lab ID: 95-0001093  
Account Number: 726  
Date Collected: 01/25/95 15:00  
Collected By: Client  
Date Received: 01/27/95 12:00  
C of C Number: 1  
Temperature: Received on Ice.

Attention: Roxane Wolske  
Cooper Environmental Resources  
1411 North Main Street  
West Bend WI 53095-0000

Sample Desc: VS/RW-SB08-1 (1.0-3.0') / SOIL / VILLAGE OF SHOREWOOD <sup>4300 Lw</sup> ~~3144~~ N. OAKLAND AVE.

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	Det. Limit	Procedure	Test Date
sec-Butylbenzene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Styrene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
tert-Butylbenzene	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01/95
Tetrachloroethene	0.20	0.23	mg/kg	0.0057	SW 8021	02/02/95
Toluene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
trans-1,2-Dichloroethene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Trichloroethene	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Trichlorofluoromethane (Freon 11)	<0.0010	<0.0011	mg/kg	0.0011	SW 8021	02/01/95
Vinyl Chloride	<0.0030	<0.0034	mg/kg	0.0034	SW 8021	02/01/95
<b>LUST</b>						
Diesel Range Organics	<4.0	<4.6	mg/kg	4.6	WIMODDRO	02/03/95
Gasoline Range Organics	<5.0D	<5.7	mg/kg	5.7	WIMODGRO	01/30/95

Other heavier hydrocarbons present after the GRO window.

Please Contact Client Services with any questions. Water samples are disposed of 30 days after receipt; soil samples will be disposed of 6 weeks after receipt; waste samples (non-water, non-soil) will be returned 6 weeks after receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected.

D = Detected below the Quantitation Limit. J = Estimated below the Quantitation Limit.

Elevated Detection Limits :

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

Reviewed and Approved by:

*WW*

Wes Saferite

Reviewed and Approved by:

*WW*

Joanne Lipo



**ENVIRONMENTAL LABORATORIES INC.**

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Form 4400-151 11-91

Note: This form is required by the Department of Natural Resources for leaking underground storage tank sites in compliance with ch. NR 500.540, NR 158 and NR 419, Wis. Adm. Code.

Sample Collector(s) <i>KORAVE WOLSKA</i>	Title/Work Station/Company <i>HYDROGEOLOGIST / COOPER ENVIRONMENTAL</i>	Telephone Number (include area code) <i>414 338-9697</i>
Property Owner <i>VILLAGE OF SHOREWOOD</i>	Property/Address <i>N. DAKLAND AVE</i>	Telephone Number (include area code) <i>(414) 963-6983</i>

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

Relinquished By (Signature) <i>Korave Wolska</i>	Date/Time <i>1/27/95 11:30</i>	Received By (Signature) <i>John Seager</i>
Relinquished By (Signature) <i>T. Larson</i>	Date/Time <i>1/27/95 13:40</i>	Received By (Signature) <i>T. Larson</i>
Relinquished By (Signature) <i>T. Larson</i>	Date/Time <i>1/27/95 13:40</i>	Received for Laboratory By (Signature) <i>To Lab</i>

Temperature of temperature blank: ROI Acct. 726  
1/27/95

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

Field ID Number	Date Collected	Time Collected	Sample		Preserv. Type	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	No./Type of Containers	Sample Condition			
			Type <sup>1</sup>	Device						Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
<i>RW-SB01-1</i>	<i>1/25/95</i>	<i>11:00 am</i>	<i>SOIL</i>	<i>600ml SPDOR</i>	<i>METHANOL HOC</i>	<i>4144 N. DAKLAND AVE SB01 @ 1.0'-3.0'</i>	<i>DED. GRD VOC</i>	<i>1086</i>	<i>2-4oz Jars 3-2oz Jars 2-Baggies</i>				
<i>RW-SB02-1</i>	<i>1/25/95</i>	<i>11:40 am</i>				<i>4144 N. DAKLAND AVE SB02 @ 1.0'-3.0'</i>		<i>1087</i>					
<i>S/RW-SB03-1</i>		<i>12:15 pm</i>				<i>4107 N. DAKLAND AVE SB03 @ 1.0'-3.0'</i>		<i>1088</i>					
<i>S/RW-SB04-1</i>		<i>12:35 pm</i>				<i>4107 N. DAKLAND AVE SB04 @ 1.0'-3.0'</i>		<i>1089</i>					
<i>IS/RW-SB05-1</i>		<i>1:25 pm</i>				<i>4230 N. DAKLAND AVE SB05 @ 1.0'-3.0'</i>		<i>1090</i>					
<i>RW-SB06-1</i>		<i>1:55 pm</i>				<i>4230 N. DAKLAND AVE SB06 @ 1.0'-3.0'</i>		<i>1091</i>					
<i>IS/RW-SB07-1</i>		<i>2:25 pm</i>				<i>4300 N. DAKLAND AVE SB07 @ 1.0'-3.0'</i>		<i>1092</i>					
<i>VS/RW-SB08-1</i>		<i>3:00 pm</i>				<i>4300 N. DAKLAND AVE SB08 @ 1.0'-3.0'</i>		<i>1093</i>					
<i>S/RW-SB09-1</i>		<i>3:40 pm</i>				<i>4514 N. DAKLAND AVE SB09 @ 1.0'-3.0'</i>		<i>1094</i>					

<sup>1</sup> Specify groundwater, surface water, soil, leachate, sludge, etc.

<sup>2</sup> Sample description must clearly correlate the sample ID to the sampling location.

*per cust ct.*

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS	DEPARTMENT USE ONLY
Disposition of unused portion of sample Laboratory should:	Split samples: Offered? <input type="checkbox"/> Yes <input type="checkbox"/> No (Check one)
<input type="checkbox"/> Dispose	Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No (Check one)
<input type="checkbox"/> Retain for ___ days	Accepted By: _____
<input type="checkbox"/> Return	Signature
<input type="checkbox"/> Other	