



ENVIRONMENTAL & REGULATORY SERVICES  
101 West Pleasant Street, Suite 100A  
Milwaukee, Wisconsin 53212  
Fax: (414) 220-5374  
[www.commerce.state.wi.us](http://www.commerce.state.wi.us)  
[www.wisconsin.gov](http://www.wisconsin.gov)  
Scott McCallum, Governor  
Brenda J. Blanchard, Secretary

June 8, 2001

Mr. Thomas Reinsch  
Condon Companies  
P.O. Box 184  
Ripon, WI 54971-0184

RE: **COMMERCE # 53012-2106-50**  
Condon Bulk Facility, N52 W5358 Portland Road, Cedarburg, WI  
Nine 15,500-gallon Aboveground Storage Tanks removed in 1983; One 1,000-gallon  
Diesel Underground Storage Tank removed in 1994 and One 2,500-gallon Diesel  
Underground Storage Tank removed in 1998

**Final Closure**

Dear Mr. Reinsch:

The Department has received all the items required as conditions for closure of the referenced site. Therefore, this site is now listed as "closed" on the Commerce database.

Thank you for your efforts in the protection of Wisconsin's environment. If you have any questions, please contact me at (414) 220-5376 or in writing at the letterhead address.

Sincerely,

A handwritten signature in black ink, appearing to read 'L.M.' followed by a long, horizontal flourish.

Linda M. Michalets  
Hydrogeologist  
Site Review Section

cc: Mr. Timothy P. Welch, Sigma Environmental Services, Inc.  
Commerce electronic file

RECEIVED

APR 13 2001

ERS DIVISION  
MILWAUKEE

Project Reference #1966

April 12, 2001

Ms. Linda Michalets  
Wisconsin Department of Commerce  
101 West Pleasant Street, Suite 205  
Milwaukee, WI 53212

RE: **COMMERCE #53012-2106-50**  
**Former Condon Bulk Facility**  
**W52 W5358 Portland Road**  
**Cedarburg, Wisconsin**

**CASE CLOSURE DOCUMENTATION**

Dear Ms. Michalets:


Enclosed please find the following documentation required for case closure at the facility referenced above:

- Two signed and recorded Notices of Contamination for the property which was leased by Condon Companies (Wisconsin Central, Ltd. and CMC Heartland Partners)
- One signed and recorded Notice of Contamination for the property, which was to the southeast of the property, leased by Condon Companies (Economy Glass- Jack and Cecelia Dunfee)
- Copies of the contamination notifications to the City of Cedarburg Clerk and Department of Public Works
- Copies of the monitoring well abandonment forms

With the submittal of the enclosed documentation, please enter the case as "closed" on the Wisconsin Department of Commerce and Wisconsin Department of Natural Resources database. If you have any questions, please contact me at (414) 768-7144.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.



Timothy P. Welch, P.G.  
Project Hydrogeologist/Manager

Enclosures

cc: Mr. Tom Reinsch  
Mr. Scott Prill (w/o enclosures)



Document Number	NOTICE OF CONTAMINATION TO PROPERTY
-----------------	--

2001 JAN 26 PM 4: 00

Legal Description of the Property: In re:

See attached Exhibit A. STATE OF ~~WISCONSIN~~ ILLINOIS  
 ) ss  
 COUNTY OF COOK )

*Ronald H. Voigt*  
 REGISTER OF DEEDS  
 STAMPEE COUNTY, WI  
 ✓

Section 1. CMC Heartland Partners  
 (Owner) is the owner of the above-described property.

Recording Area	
Name and Return Address	
J. Bushnell Nielsen	
Reinhart, Boerner, Van Deuren, Norris & Rieselbach, s.c.	
1000 North Water Street	\$14
Milwaukee, Wisconsin 53202	
Parcel Identification	
Number (PIN): <u>Part of 13-</u>	
<u>050-18-00-000 *</u>	

Section 2. One or more petroleum discharges have occurred at this property. Petroleum contaminated groundwater above NR 140 enforcement standards and soils above NR 720 residual contaminant levels of the Wisconsin Administration Code exist on this property in the area of:

Monitoring Well: MW-1 (Benzene = 12 parts per billion [ppb])--based on 6/30/99 Analytical Data, and Soil Sample Locations: SW-4 (DRO = 1,190 parts per million [ppm], GRO = 256 ppm and Napthalene = 3,650 ppb), SW-11 (DRO = 21,000 ppm, GRO = 1,860 ppm, Benzene = <8,610 ppb and Ethylbenzene = 18,600 ppb), SW-12 (DRO = 5,000 ppm, GRO = 5,350 ppm, Benzene = 57,000 ppb, Ethylbenzene = 83,700 ppb, Toluene = <8,720 ppb, and Xylenes: 367,000 ppb), SW-14 (GRO = 350 ppm and Benzene = <3,500 ppb), SW-15 (DRO = 1,200 ppm, GRO = 502 ppm and Benzene = 2,450 ppb), Base 16 (Benzene = 1,710 ppb), Base 17 (Benzene= 960 ppb and Toluene = 3,310 ppb), Base 18 (Benzene = 960 ppb and Toluene = 3,310 ppb) and Base 19 (Benzene = <23,390 ppb, and Napthalene 984 ppb). The Monitoring Well and Soil Sample Locations are presented on Figures 2 and 3, respectively.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and

Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with Benzene levels as high as <23,390 ppb remains on this site in the area of Base 19. It has been shown that these levels are protective of health and the environment. If this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction, are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

By signing this document, he/she acknowledges that he/she is duly authorized to sign this document on behalf of Owner.

IN WITNESS WHEREOF, Owner has executed this document this 16<sup>th</sup> day of January, 2000.

CMC Heartland Partners,

BY *J. G. Righeimer*  
Its Vice President

State of Illinois)

: SS

County of Cook)

This instrument was acknowledged before me on January 16, 2000 by J.G. RIGHEIMER as VICE PRESIDENT of CMC Heartland Partners

*Patricia Johnson*  
Patricia Johnson )

[SEAL]



Notary Public, State of Illinois  
My commission expires 2/19/2004

## Exhibit A

An irregularly shaped parcel of land located in the Southeast Quarter of the Southwest Quarter (SE $\frac{1}{4}$ SW $\frac{1}{4}$ ) of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the point where the northerly line of Northern Avenue in the Town of Cedarburg, in the County and State aforesaid, intersects the southeasterly boundary line of the Canadian Pacific Railroad Company's station ground property; thence northeasterly along said boundary line a distance of 340 feet to the point of beginning; thence northwesterly at right angles 20 feet, more or less, to a point distant 50 feet of said Railroad Company's track, thence northeasterly parallel to said track a distance of 130 feet, more or less, to said southeasterly boundary line, thence southwesterly along said boundary line a distance of 130 feet, more or less, to the point of beginning.

Containing 1,300 square feet, more or less.

670830

PAGE 01-3  
RECORDED

Document Number

NOTICE OF CONTAMINATION TO  
PROPERTY

2001 FEB 16 PM 2:00

Legal Description of the Property: In re:  
See attached Exhibit A

*Renald H. Voigt*  
REGISTER OF DEEDS  
OZAUKEE COUNTY, WI

Recording Area

Name and Return Address

J. Bushneil Nielsen  
Reinhart, Boerner, Van Deuren, Norris &  
Rieselbach, s.c.  
1000 North Water Street  
Milwaukee, Wisconsin 53202

*416/199*

STATE OF WISCONSIN )  
  ) ss  
COUNTY OF OZAUKEE )

**13050-18-15-000 \***  
Parcel Identification Number (PIN)

Section 1. Jack Dunfee and Cecelia P. Dunfee, husband and wife, are the owners of the above-described property.

Section 2. One or more petroleum discharges have occurred at the property northwest of this site, leased by Condon Companies, at N52 W5358 Portland Road, Cedarburg. Petroleum contaminated groundwater above NR 140 enforcement standards of the Wisconsin Administration Code exists on this property in the area of Monitoring Wells:

MW-5 (Benzene = 340 parts per billion (ppb)), MW-6 (Benzene = 170 ppb) and S-3 (Benzene = 150 ppb) - Based on 6/30/99 Analytical Data. A Site Plan Map showing the locations of the monitoring wells, is attached as Figure 2.

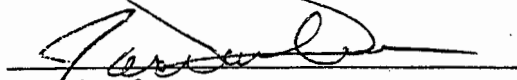
Section 3. The owners hereby declare that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

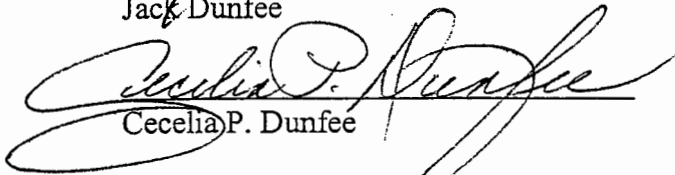
Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are

applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws of this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owners of the property has executed this document this 1st day of December, 2000.

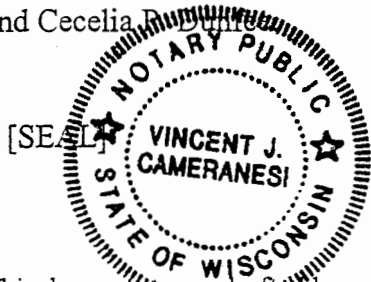
  
\_\_\_\_\_  
Jack Dunfee

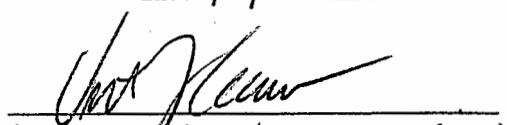
  
\_\_\_\_\_  
Cecelia P. Dunfee



State of Wisconsin         )  
  : SS  
County of Ozaukee         )

This instrument was acknowledged before me on 12/1/00, 2000 by Jack Dunfee and Cecelia P. Dunfee



  
\_\_\_\_\_  
( Vincent J. Cameranesi )  
Notary Public, State of Wisconsin  
My commission Expires 7-11-04

This document was drafted by:  
Donald P. Gallo, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
Suite 1900  
1000 North Water Street  
Milwaukee, Wisconsin 53202-3186

Exhibit A

VOL 1138 PAGE 731

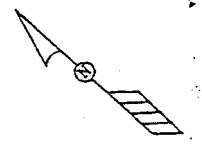
Lot 15, Block 18, of Assessor's Plat, being a part of the Southwest 1/4 of Section 26, Town 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin, TOGETHER WITH the right of way over a strip of land thirty feet wide, east of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad, and adjoining the same, and running from the Section Road to the above described land for road purposes.

AND

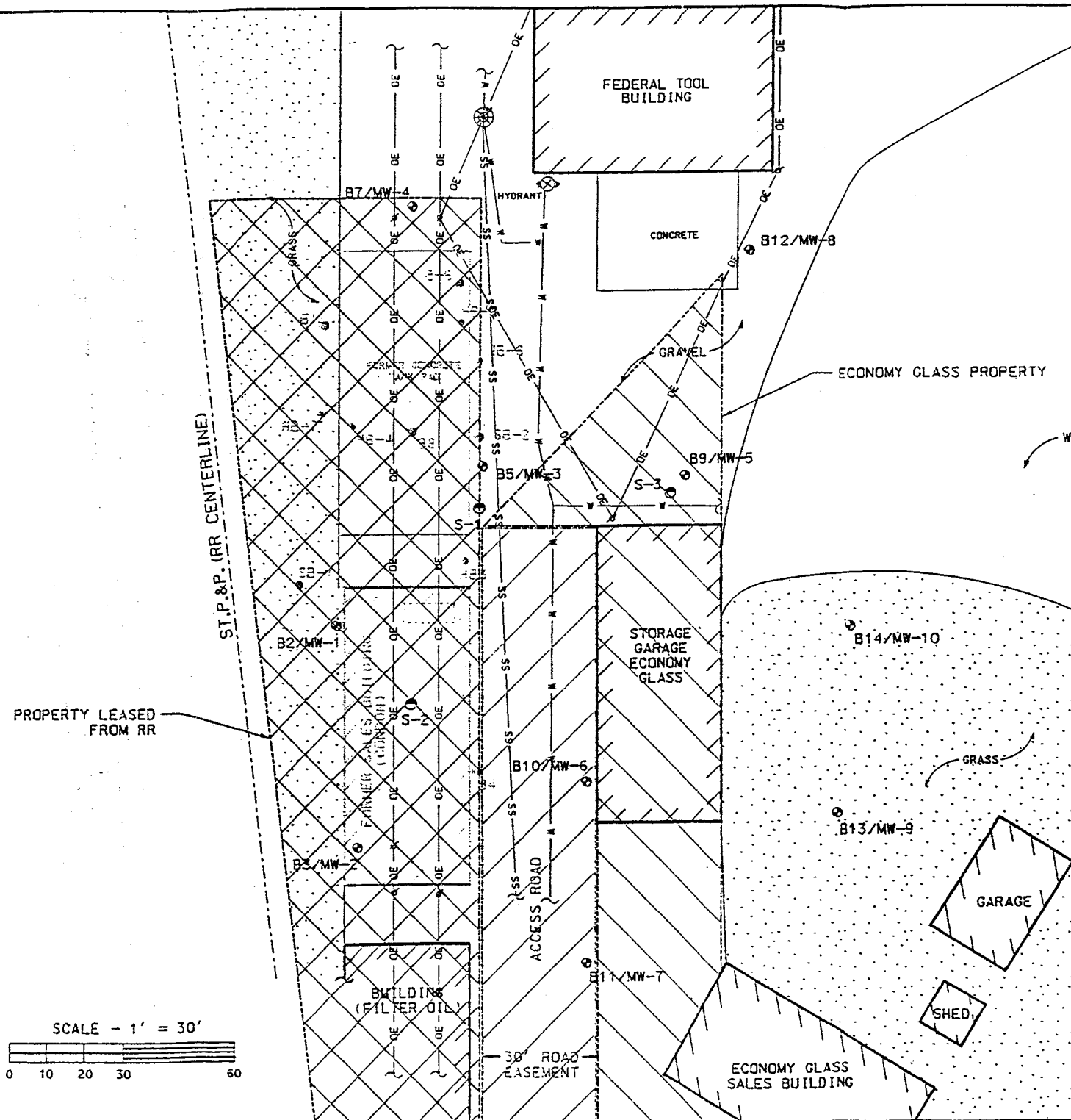
An irregularly shaped parcel of land being in the Southeast Quarter of the Southwest Quarter of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the intersection of the south line of said Section 26 and the southeasterly station ground line of the former Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence northeasterly along said southeasterly station ground line to the north line of Northern Avenue; thence continuing along said southeasterly station ground line 340 feet; thence northwesterly at right angles to the last described line to a point 50 feet southeasterly of as measured radially from the centerline of the aforementioned former Railroad Company's main track; thence southwesterly along a line parallel to and 50 feet southeasterly of as measured radially to said main track centerline to a point on the south line of the aforementioned Section 26; thence easterly along said south line to the point of beginning.





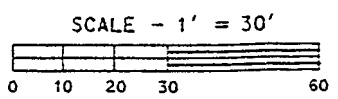
TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)




NOTES:  
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED  
2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊕ = HAND AUGER SOIL BORING LOCATION
- ⊗ = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI			 ENVIRONMENTAL SERVICES, INC.
DATE: 1-22-99	DR. BY: TMM	DR. # 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

VOL. 1000 P. 1000

RECORDED

Document Number

NOTICE OF CONTAMINATION TO  
PROPERTY

2001 APR -2 AM 8:30

Legal Description of the Property: In re: See attached Exhibit A.

STATE OF ~~WISCONSIN~~ **ILLINOIS** )  
 )  
 COUNTY OF **COOK** ) ss

*Ronald H. Vaigt*  
 REGISTER OF DEEDS  
 MILWAUKEE COUNTY, WI

Section 1. Wisconsin Central Ltd. (Owner) is the owner of the above-described property.

## Recording Area

Name and Return Address  
 J. Bushnell Nielsen  
 Reinhart, Boerner, Van Deuren, Norris &  
 Rieselbach, s.c.  
 1000 North Water Street  
 Milwaukee, Wisconsin 53202 **\$20**

Parcel Identification Number (PIN): Part of  
13-050-18-00-000 \*

Monitoring Well: MW-1 (Benzene = 12 parts per billion [ppb])--based on 6/30/99 Analytical Data, and Soil Sample Locations: SW-4 (DRO = 1,190 parts per million [ppm], GRO = 256 ppm and Napthalene = 3,650 ppb), SW-11 (DRO = 21,000 ppm, GRO = 1,860 ppm, Benzene = <8,610 ppb and Ethylbenzene = 18,600 ppb), SW-12 (DRO = 5,000 ppm, GRO = 5,350 ppm, Benzene = 57,000 ppb, Ethylbenzene = 83,700 ppb, Toluene = <8,720 ppb, and Xylenes: 367,000 ppb), SW-14 (GRO = 350 ppm and Benzene = <3,500 ppb), SW-15 (DRO = 1,200 ppm, GRO = 502 ppm and Benzene = 2,450 ppb), Base 16 (Benzene = 1,710 ppb), Base 17 (Benzene = 960 ppb and Toluene = 3,310 ppb), Base 18 (Benzene = 960 ppb and Toluene = 3,310 ppb) and Base 19 (Benzene = <23,390 ppb, and Napthalene 984 ppb). The Monitoring Well and Soil Sample Locations are presented on Figures 2 and 3, respectively.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with Benzene levels as high as <23,390 ppb remains on this site in the area of Base 19. It has been shown that these levels are protective of health and the environment. If

this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction, are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

By signing this document, he/she acknowledges that he/she is duly authorized to sign this document on behalf of Owner.

IN WITNESS WHEREOF, Owner has executed this document this 20th day of MARCH, 2001.

WISCONSIN CENTRAL LTD.

By [Signature]  
Its VICE PRESIDENT ENGINEERING

State of ~~Wisconsin~~ ILLINOIS )

: SS

County of COOK )

This instrument was acknowledged before me on MARCH 20, 2001 by RANDY H. HENKE as VICE PRESIDENT ENGINEERING of Wisconsin Central Ltd.

Gregory L. Davis, Sr.  
( )

Notary Public, State of ~~Wisconsin~~ ILLINOIS

My commission expires 7-14-01

[SEAL]



This document was drafted by:

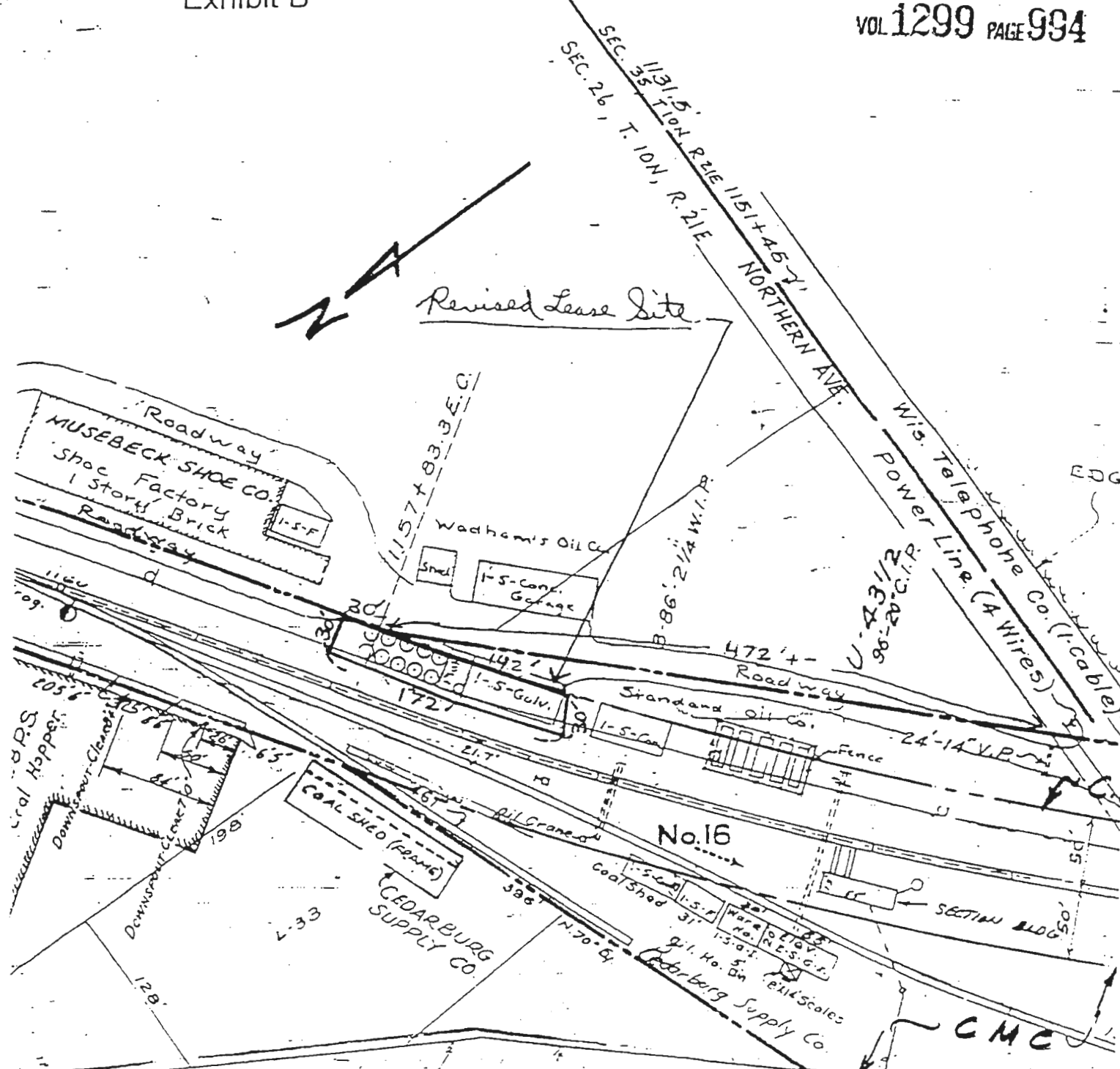
J. Bushnell Nielsen, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
1000 N. Water Street, Suite 1900  
Milwaukee, WI 53202

## EXHIBIT A

Land in the City of Cedarburg, Ozaukee County, Wisconsin, lying in the southwest 1/4 of the southwest 1/4 of Section 26, Township 10N, Range 21 east, bounded and described as follows:

START at the point where the northerly line of Portland Avenue, formerly known as Northern Avenue, intersects the southeasterly boundary line of lands formerly known as the Chicago, Milwaukee, Pacific and St. Paul Railroad station ground property, which property was conveyed to Jack Dunfee and Cecelia P. Dunfee by deed recorded on November 17, 1998 as document number 617491; thence northeasterly along the entire distance of said boundary line and continuing along said boundary line extended to the current southerly boundary line of the existing railroad right-of-way now owned by Wisconsin Central Ltd., a combined distance of 472 feet, more or less, to the point of beginning of the land to be described; thence along the southerly Wisconsin Central Ltd. right-of-way a distance of 30 feet, more or less; thence northwesterly at right angles to the right-of-way 30 feet, more or less, to the point distant 20 feet southeasterly of, as measured at right angles to, the center line of the Wisconsin Central Ltd's main track; thence northeasterly parallel to said main track 172 feet; thence southeasterly at right angles 30 feet, more or less, to said southeasterly boundary line; thence southwesterly along said boundary line 142 feet, more or less, to the point of beginning.

The location of the property is more particularly indicated on the plat attached hereto as Exhibit B and made a part hereof.



Revised Lease Site

Roadway  
 MUSEBECK SHOE CO.  
 Shoe Factory  
 1 Story Brick  
 1-5-F

Wadham's Oil Co.  
 1-5-Cont. Garage  
 1-5-Gulv.

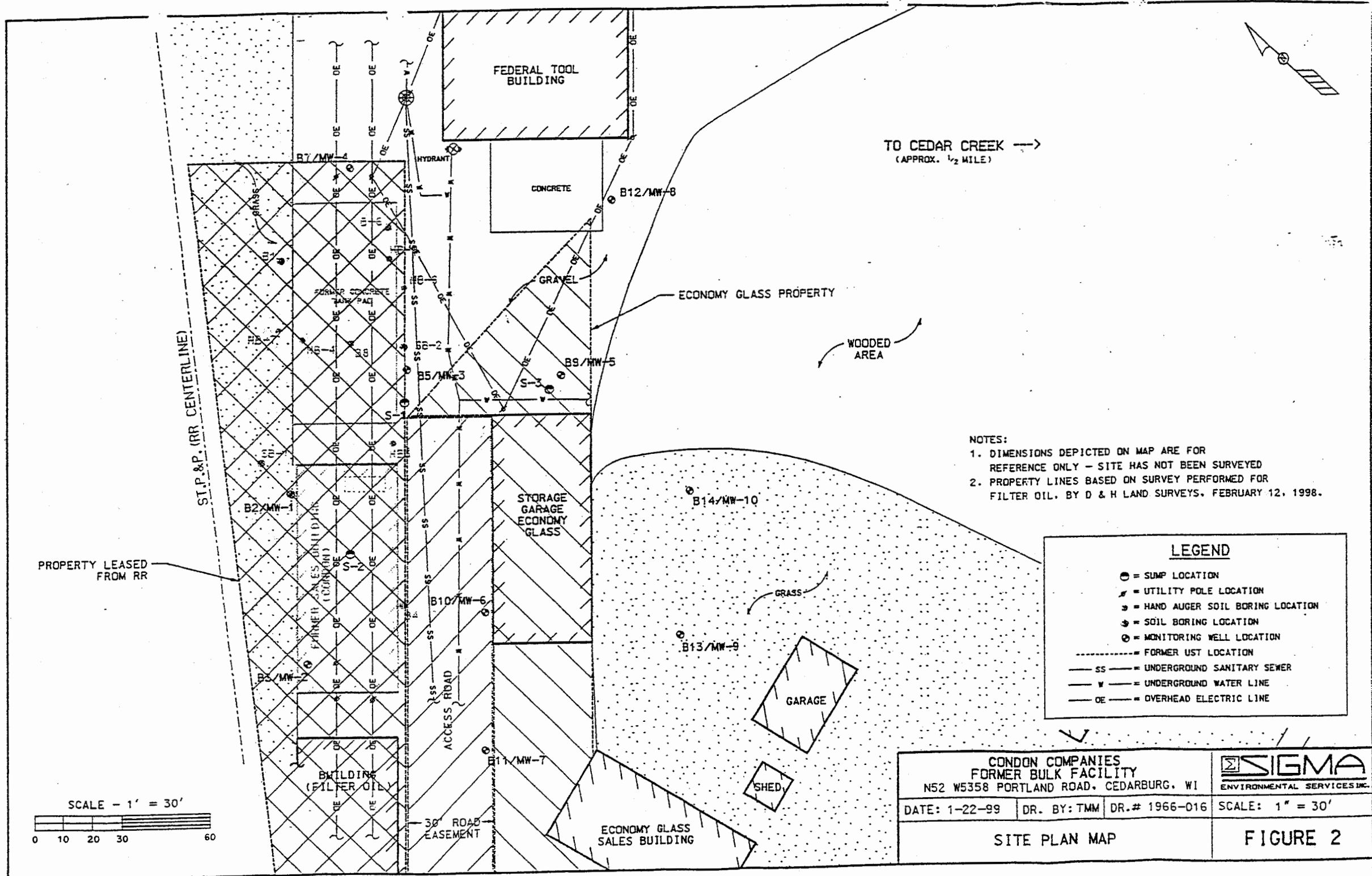
Standard Oil Co.  
 1-5-Store  
 No. 16

Coal Shed (Frame)  
 CEDARBURG SUPPLY CO.

Coal Shed  
 Cedarberg Supply Co.  
 Scales

Present Street  
 HIGHLAND DRIVE

<b>WISCONSIN CENTRAL LTD.</b>	
TOWN CEDARBURG COUNTY OZAUKEE STATE WISCO	
LEASE for CONDON OIL COMPANY	
SCALE 1" = 100' SEC. 26 TWP. 10N RGE. 21E	
VAL. SEC. W1 5 SALE <input type="checkbox"/> LEASE <input checked="" type="checkbox"/> LICENSE <input type="checkbox"/>	
MAP S-4A AREA = 5160 SQ. FT. = .12 ACRES	

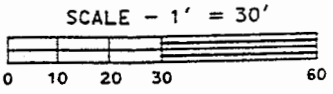


TO CEDAR CREEK →  
(APPROX. 1/2 MILE)

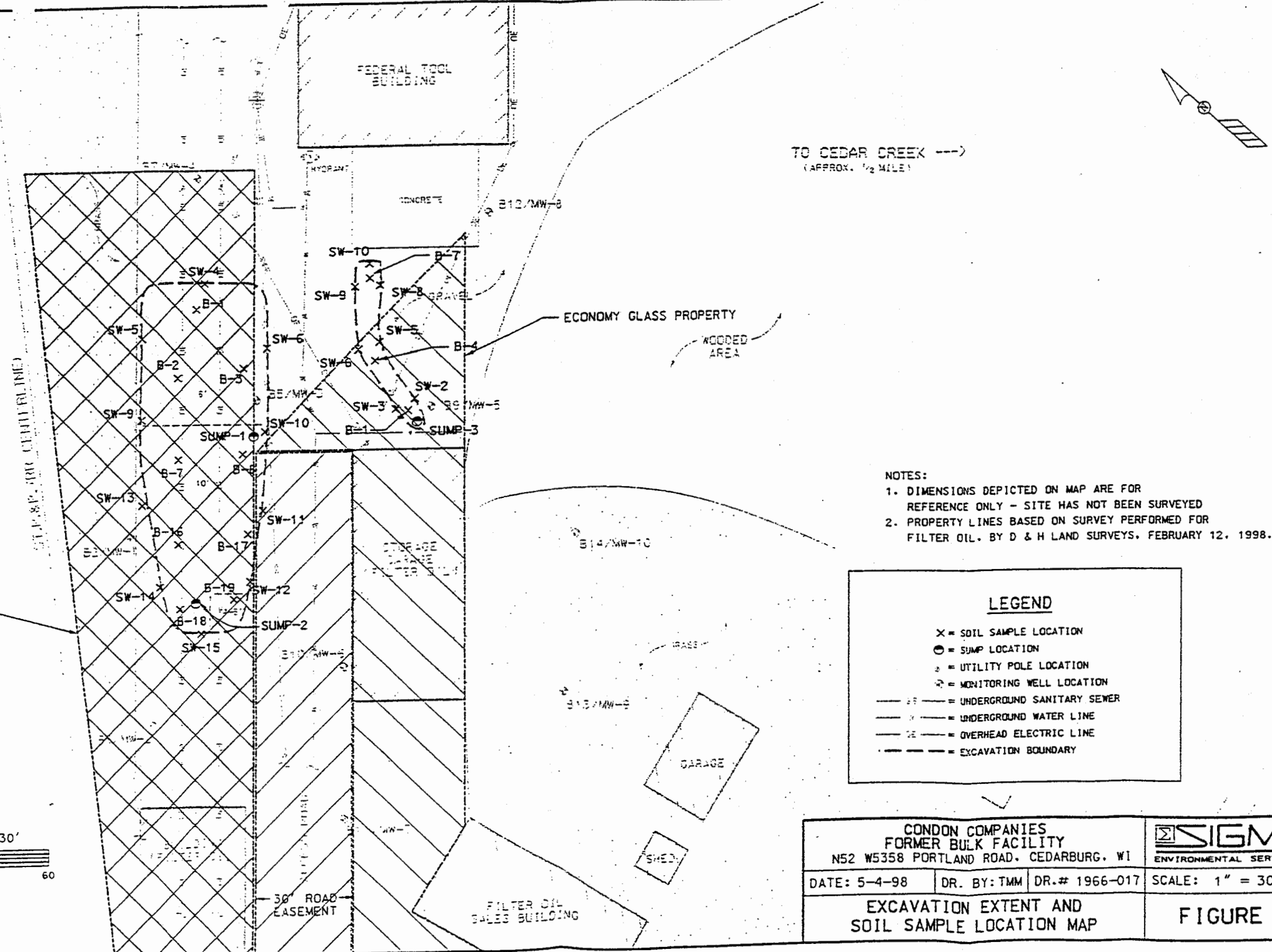
- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL. BY D & H LAND SURVEYS. FEBRUARY 12, 1998.

**LEGEND**

- = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊕ = HAND AUGER SOIL BORING LOCATION
- ⊗ = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		SIGMA ENVIRONMENTAL SERVICES INC.	
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

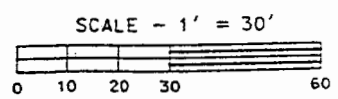


TO CEDAR CREEK ---  
(APPROX. 1/2 MILE)

- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- X = SOIL SAMPLE LOCATION
- = SUMP LOCATION
- = UTILITY POLE LOCATION
- ⊕ = MONITORING WELL LOCATION
- (with dashed line) = UNDERGROUND SANITARY SEWER
- (with solid line) = UNDERGROUND WATER LINE
- (with double line) = OVERHEAD ELECTRIC LINE
- - - - = EXCAVATION BOUNDARY



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		 ENVIRONMENTAL SERVICES INC.
DATE: 5-4-98	DR. BY: TMM	DR.# 1966-017
EXCAVATION EXTENT AND SOIL SAMPLE LOCATION MAP		SCALE: 1" = 30'  <b>FIGURE 3</b>





applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

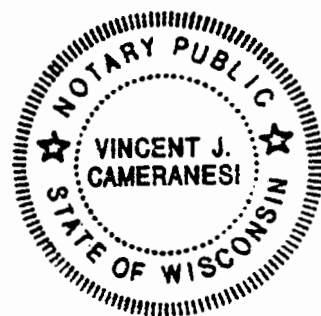
Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws of this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owners of the property has executed this document this 1st day of December, 2000.

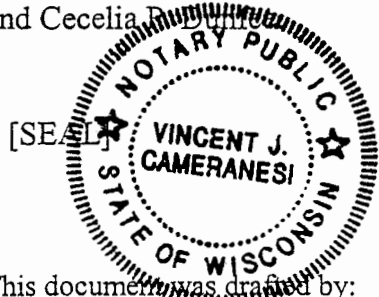
[Signature]  
Jack Dunfee

[Signature]  
Cecelia P. Dunfee

State of Wisconsin )  
  : SS  
County of Ozaukee )



This instrument was acknowledged before me on 12/1/00, 2000 by Jack Dunfee and Cecelia P. Dunfee



[Signature]  
( Vincent J. Cameranesi )  
Notary Public, State of Wisconsin  
My commission Expires 7-11-04

This document was drafted by:  
Donald P. Gallo, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
Suite 1900  
1000 North Water Street  
Milwaukee, Wisconsin 53202-3186

Exhibit A

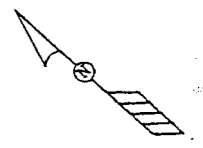
VOL 1138 PAGE 731

Lot 15, Block 18, of Assessor's Plat, being a part of the Southwest 1/4 of Section 26, Town 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin, TOGETHER WITH the right of way over a strip of land thirty feet wide, east of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad, and adjoining the same, and running from the Section Road to the above described land for road purposes.

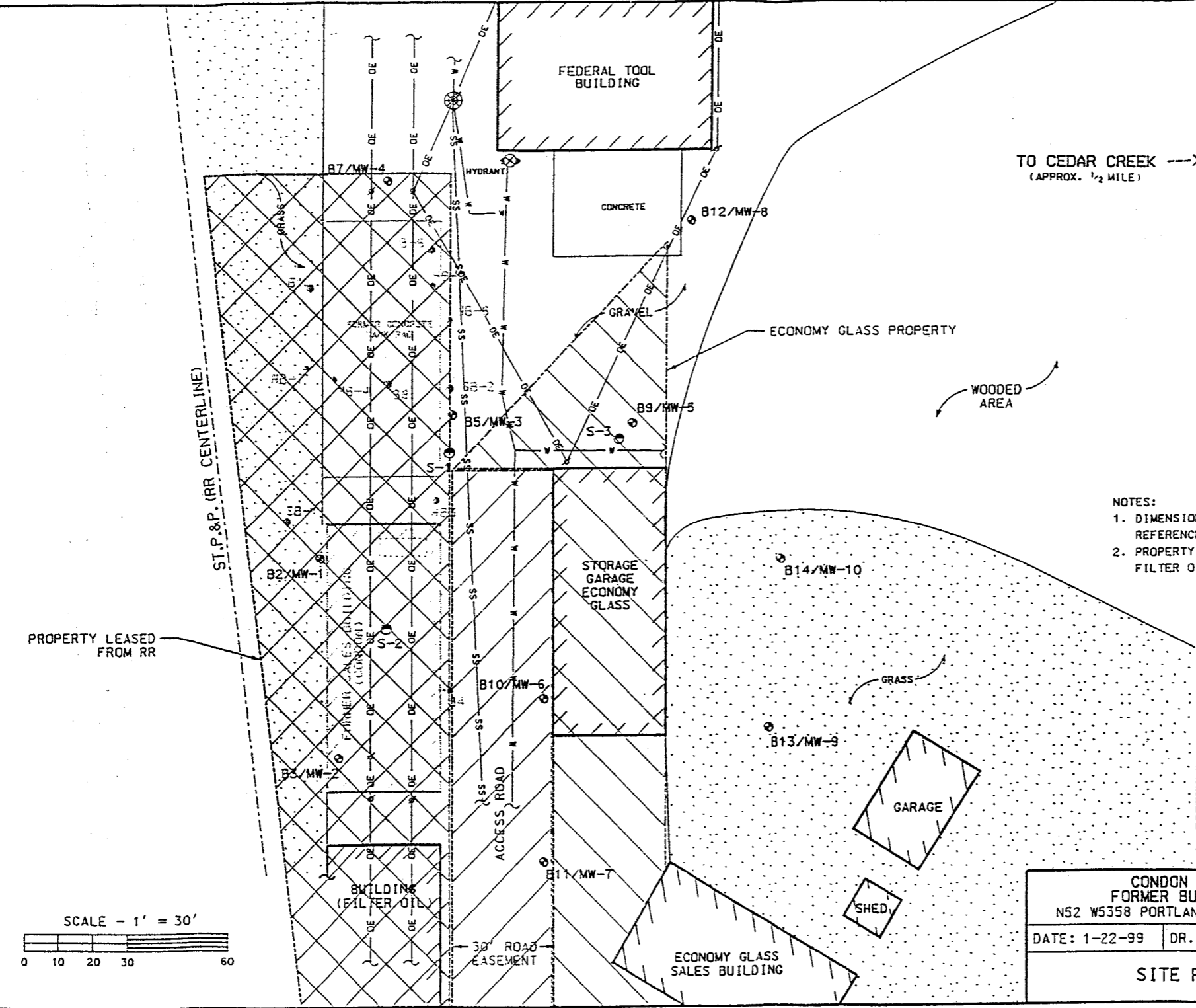
AND

An irregularly shaped parcel of land being in the Southeast Quarter of the Southwest Quarter of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the intersection of the south line of said Section 26 and the southeasterly station ground line of the former Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence northeasterly along said southeasterly station ground line to the north line of Northern Avenue; thence continuing along said southeasterly station ground line 340 feet; thence northwesterly at right angles to the last described line to a point 50 feet southeasterly of as measured radially from the centerline of the aforementioned former Railroad Company's main track; thence southwesterly along a line parallel to and 50 feet southeasterly of as measured radially to said main track centerline to a point on the south line of the aforementioned Section 26; thence easterly along said south line to the point of beginning.



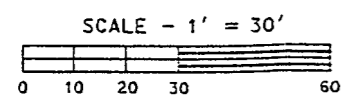
TO CEDAR CREEK →  
(APPROX. 1/2 MILE)



- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- ⊙ = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊙ = HAND AUGER SOIL BORING LOCATION
- ⊙ = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- ⊙ = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI			<b>SIGMA</b> ENVIRONMENTAL SERVICES INC.
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

VOLUME 1000 PAGE 1000

November 1, 2000

**RECEIVED**

**APR 13 2001**

**ERS DIVISION  
MILWAUKEE**

Project Reference #1966

Ms. Sandra Ingram  
City Clerk  
City of Cedarburg  
P.O. Box 49  
Cedarburg, WI 53012

Mailed 11/1/00

RE: Notice of Residual Petroleum Impacts  
Within Public Street or Right-of-Way  
Former Condon Companies Bulk Facility  
Cedarburg, Wisconsin

Dear Ms. Ingram:

Enclosed please find a copy of the Notice of Residual Petroleum Impacts letter, which was filed with the City of Cedarburg Department of Public Works. Chapter NR 726.05 (2)(b)(4) of the Wisconsin Administrative Code requires the Municipal Clerk and Municipal Department responsible for maintaining the street or highway be given written notification of the presence of petroleum impacts within the right-of-way. The attached letter serves as this notification. Please place a copy of this notification in the appropriate files.

If you have any questions or comments regarding this notification, please feel free to contact me at (414) 768-7144.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.



Timothy P. Welch, P.G.  
Project Hydrogeologist\Manager

tpw

Attachment

cc: Tom Reinsch- Condon Companies  
Linda Michalets- Wisconsin Department of Commerce



November 1, 2000

Project Reference #1966

Mr. Thomas Wiza  
Director of Public Works & Engineering  
City of Cedarburg  
P.O. Box 49  
Cedarburg, WI 53012

RE: Notice of Residual Petroleum Impacts  
Within Public Street or Right-of-Way  
Former Condon Company's Bulk Facility  
N52 W5358 Portland Road  
Cedarburg, Wisconsin

Dear Mr. Wiza:

On behalf of Condon Companies, Sigma Environmental Services, Inc. (Sigma) is notifying the City of Cedarburg Public Works Department regarding the presence of residual petroleum hydrocarbon impacts within soil and groundwater located beneath the city access drive in the vicinity of the above referenced site. The Wisconsin Department of Commerce (COMM) has granted closure for the site, conditional upon filing of appropriate deed restrictions and notifying municipal authorities of petroleum impacts extending into public right-of-ways.

Sigma is notifying your department pursuant to Wisconsin Administrative Code, Chapter NR 726.05 (2)(b)(4), of the presence of soil and groundwater impacts beneath the access drive, which may exceed applicable Wisconsin Administrative Code, Chapter NR 720 and NR 140 standards for soil and groundwater, respectively.

Sigma has enclosed tables summarizing soil and groundwater quality and a site map showing soil boring locations, monitoring well locations and remedial excavation boundaries. Petroleum impacted groundwater above Wisconsin Administrative Code (WAC), Chapter NR 140 enforcement standards and residually impacted soil above WAC NR 720 Soil Standards, exists near the sewer and water lines. Sigma's investigation, remediation and monitoring data has confirmed that the groundwater contaminant plume is stable or receding and that natural attenuation will restore the groundwater to NR 140 standards and soil beneath NR 720 standards within a reasonable period of time.

If future construction activities disturb soil beneath the access drive in the vicinity of the above referenced site, the excavated soil may be considered a solid waste and



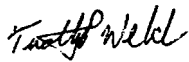
Mr. Thomas Wiza  
November 1, 2000  
Page 2

require proper disposal. In addition, if future construction activities require dewatering, or if groundwater is to be otherwise extracted from the access drive in the vicinity of the above referenced site, the groundwater shall be sampled and managed in compliance with applicable statutes and rules.

If you have any questions or comments, please contact me at (414) 768-7144.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

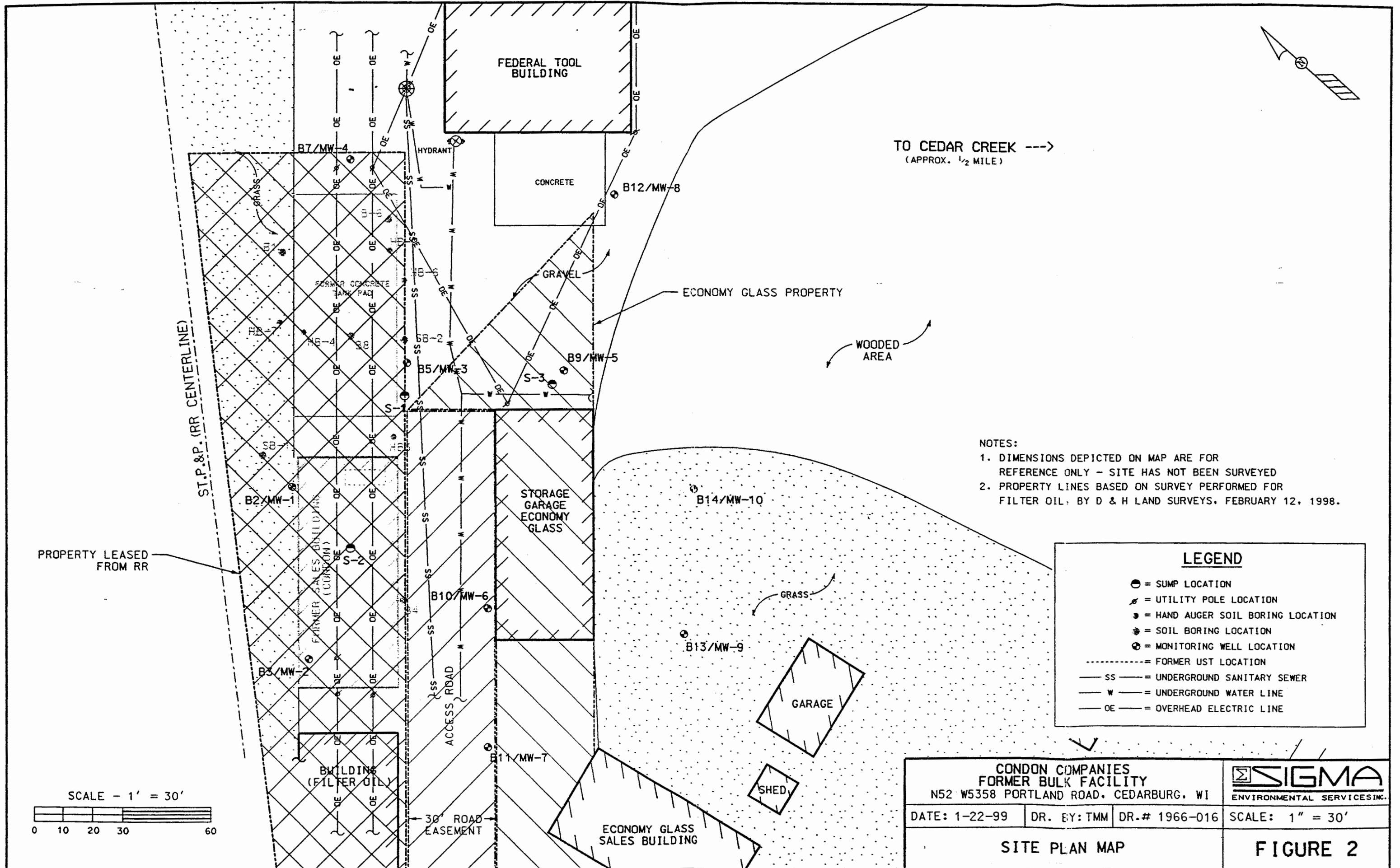


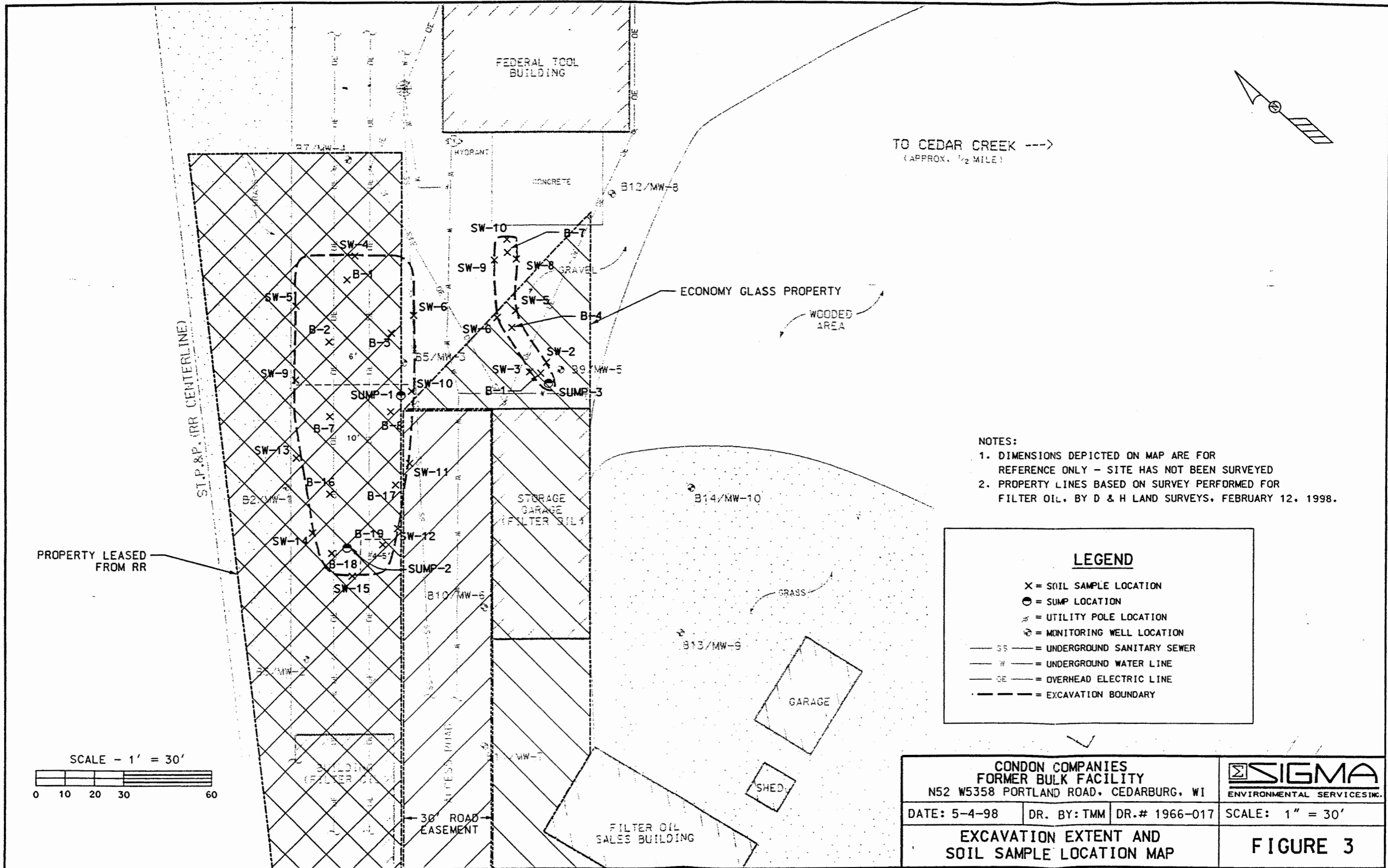
Timothy P. Welch, P.G.  
Project Hydrogeologist/Manager

tpw

Enclosure

cc: Tom Reinsch- Condon Companies  
Linda Michalets- Wisconsin Department of Commerce  
Sandra Ingram- Cedarburg City Clerk  
Don Gallo- Reinhart, Boerner





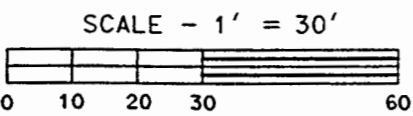
TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

**NOTES:**

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**LEGEND**

- X = SOIL SAMPLE LOCATION
- = SUMP LOCATION
- ⊕ = UTILITY POLE LOCATION
- ⊗ = MONITORING WELL LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE
- - - = EXCAVATION BOUNDARY



<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 5-4-98	DR. BY: TMM	DR.# 1966-017	
<b>EXCAVATION EXTENT AND SOIL SAMPLE LOCATION MAP</b>			<b>FIGURE 3</b>



**TABLE 2**  
**LABORATORY ANALYSIS - EXCAVATION SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 6' 4/28/98	Base 2 6' 4/28/98	Base 3 6' 4/28/98	SW-4 3' 4/28/98	SW-5 3' 4/28/98	SW-6 3' 4/28/98	Base 7 10' 4/28/98	Base 8 10' 4/28/98	SW-9 6' 4/29/98	SW-10 6' 4/29/98	SW-11 6' 4/29/98	SW-12 6' 4/29/98	SW-13 6' 4/29/98	SW-14 6' 4/29/98	SW-15 4' 4/29/98	Base 16 10' 4/29/98	Base 17 10' 4/29/98	Base 18 10' 4/29/98	Base 19 5' 4/29/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	<4.5	<4.5	<4.5	8.6	<4.6	<4.5	<4.5	<4.5	<4.6	<4.7	5.9	6.3	<4.7	<4.7	<4.8	<4.6	<4.6	<4.6	<4.5	50	NS
DRO (mg/kg)	5.9	5.7	<5.6	1,190	<5.7	100	8.9	10	180	249	21,000	5,000	27	140	1,200	65	39	25	181	250	NS
GRO (mg/kg)	17	27	<5.6	256	7.3	<5.7	<5.6	<5.6	48	97	1,860	5,350	55	350	502	<5.8	8.9	21	181	250	NS
Benzene	<234	<324	<28	<150	<28	<28	<28	<28	<29	<296	<8,610	<57,000	<340	<3,500	<2,630	2,320	1,710	960	<23,390	5.5	347
Ethylbenzene	<36	<64	<28	<365	<28	<28	<28	<28	<29	711	18,600	83,700	<790	<6,760	7,060	<29	160	1,370	6,450	2900	13,000
Methyl-t-butyl ether	<99	<134	<28	<150	<28	<28	<28	<28	<29	<261	<815	<30,200	<110	<443	<455	<29	<51	<100	<871	NS	NS
Toluene	<30	<33	<28	<150	35	<28	<28	<28	<29	<45	<803	<8,720	<94	<2,450	<490	100	194	3,310	<701	1500	19,000
1,2,4-Trimethylbenzene	45	112	<28	3,530	54	37	<28	<28	<630	3,440	75,700	157,000	730	8,280	16,700	<29	83	274	8,940	NS	NS
1,3,5-Trimethylbenzene	301	391	<28	1,340	<28	<28	<28	<28	<180	1,100	<3,490	48,800	450	3,150	6,340	<29	32	89	3,170	NS	NS
Xylenes, Total	<84	<84	<84	<792	<85	<85	<84	<84	<86	2,840	23,300	367,000	330	11,100	19,100	<87	194	1,940	20,400	4,100	58,310
Anthracene	NT	<5.6	<5.2	23	<5.4	<5.7	NT	NT	NT	NT	NT	36	NT	<5.6	<5.9	NT	NT	<5.7	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	19	NT	<5.6	24	NT	NT	<5.7	23	17,000*	NS
Benzo(b)fluoranthene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	13	NT	<5.6	19	NT	NT	<5.7	<5.6	48,000*	NS
Chrysene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	21	NT	<5.6	61	NT	NT	<5.7	<5.6	37,000*	NS
1-Methylnaphthalene	NT	<33	<32	5,120	<32	<34	NT	NT	NT	NT	NT	3,950	NT	90	610	NT	NT	<34	328	23,000*	NS
2-Mehtylnaphthalene	NT	<28	<26	10,200	<27	<28	NT	NT	NT	NT	NT	8,490	NT	175	921	NT	NT	<29	701	20,000*	NS
Naphthalene	NT	<33	<32	3,650	<32	<34	NT	NT	NT	NT	NT	3,950	NT	175	1,670	NT	NT	<34	984	400*	NS
Phenanthrene	NT	<5.6	<5.2	171	<5.4	<5.7	NT	NT	NT	NT	NT	953	NT	<5.6	24	NT	NT	<5.7	62	1,800*	NS
Pyrene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	314	NT	<5.6	26	NT	NT	<5.7	34	8,700,000*	NS
Fluoranthene	NT	<11	<10	37	<10	<11	NT	NT	NT	NT	NT	558	NT	<12	110	NT	NT	<11	53	500,000*	NS
Fluorene	NT	<11	<10	658	<10	<11	NT	NT	NT	NT	NT	279	NT	<12	<12	NT	NT	<11	35	100,000*	NS

All units in micrograms per kilogram (µg/kg) unless specified otherwise.

\* Proposed cleanup guidelines

▨ = Exceeds RCL

NS = No soil cleanup standard

RCL = SESOIL Calculated Residual Contaminant Level

NT = Not tested

**TABLE 2**  
**LABORATORY ANALYSIS - EXCAVATION SOIL SAMPLES**  
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**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 6' 4/28/98	Base 2 6' 4/28/98	Base 3 6' 4/28/98	SW-4 3' 4/28/98	SW-5 3' 4/28/98	SW-6 3' 4/28/98	Base 7 10' 4/28/98	Base 8 10' 4/28/98	SW-9 6' 4/29/98	SW-10 6' 4/29/98	SW-11 6' 4/29/98	SW-12 6' 4/29/98	SW-13 6' 4/29/98	SW-14 6' 4/29/98	SW-15 4' 4/29/98	Base 16 10' 4/29/98	Base 17 10' 4/29/98	Base 18 10' 4/29/98	Base 19 5' 4/29/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	<4.5	<4.5	<4.5	8.6	<4.6	<4.5	<4.5	<4.5	<4.6	<4.7	5.9	6.3	<4.7	<4.7	<4.8	<4.6	<4.6	<4.6	<4.5	50	NS
DRO (mg/kg)	5.9	5.7	<5.6	1,190	<5.7	100	8.9	10	180	249	21,000	5,000	27	140	1,200	65	39	25	181	250	NS
GRO (mg/kg)	17	27	<5.6	256	7.3	<5.7	<5.6	<5.6	48	97	1,860	5,350	55	350	502	<5.8	8.9	21	181	250	NS
Benzene	<234	<324	<28	<150	<28	<28	<28	<28	<29	<296	<8,610	<57,000	<340	<3,500	<2,630	2,320	1,710	960	<23,390	5.5	347
Ethylbenzene	<36	<64	<28	<365	<28	<28	<28	<28	<29	711	18,600	83,700	<790	<6,760	7,060	<29	160	1,370	6,450	2900	13,000
Methyl-t-butyl ether	<99	<134	<28	<150	<28	<28	<28	<28	<29	<261	<815	<30,200	<110	<443	<455	<29	<51	<100	<871	NS	NS
Toluene	<30	<33	<28	<150	35	<28	<28	<28	<29	<45	<803	<8,720	<94	<2,450	<490	100	194	3,310	<701	1500	19,000
1,2,4-Trimethylbenzene	45	112	<28	3,530	54	37	<28	<28	<630	3,440	75,700	157,000	730	8,280	16,700	<29	83	274	8,940	NS	NS
1,3,5-Trimethylbenzene	301	391	<28	1,340	<28	<28	<28	<28	<180	1,100	<3,490	48,800	450	3,150	6,340	<29	32	89	3,170	NS	NS
Xylenes, Total	<84	<84	<84	<792	<85	<85	<84	<84	<86	2,840	23,300	367,000	330	11,100	19,100	<87	194	1,940	20,400	4,100	58,310
Anthracene	NT	<5.6	<5.2	23	<5.4	<5.7	NT	NT	NT	NT	NT	36	NT	<5.6	<5.9	NT	NT	<5.7	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	19	NT	<5.6	24	NT	NT	<5.7	23	17,000*	NS
Benzo(b)fluoranthene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	13	NT	<5.6	19	NT	NT	<5.7	<5.6	48,000*	NS
Chrysene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	21	NT	<5.6	61	NT	NT	<5.7	<5.6	37,000*	NS
1-Methylnaphthalene	NT	<33	<32	5,120	<32	<34	NT	NT	NT	NT	NT	3,950	NT	90	610	NT	NT	<34	328	23,000*	NS
2-Mehtylnaphthalene	NT	<28	<26	10,200	<27	<28	NT	NT	NT	NT	NT	8,490	NT	175	921	NT	NT	<29	701	20,000*	NS
Naphthalene	NT	<33	<32	3,650	<32	<34	NT	NT	NT	NT	NT	3,950	NT	175	1,670	NT	NT	<34	984	400*	NS
Phenanthrene	NT	<5.6	<5.2	171	<5.4	<5.7	NT	NT	NT	NT	NT	953	NT	<5.6	24	NT	NT	<5.7	62	1,800*	NS
Pyrene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	314	NT	<5.6	26	NT	NT	<5.7	34	8,700,000*	NS
Fluoranthene	NT	<11	<10	37	<10	<11	NT	NT	NT	NT	NT	558	NT	<12	110	NT	NT	<11	53	500,000*	NS
Fluorene	NT	<11	<10	658	<10	<11	NT	NT	NT	NT	NT	279	NT	<12	<12	NT	NT	<11	35	100,000*	NS

All units in micrograms per kilogram (µg/kg) unless specified otherwise.

\* Proposed cleanup guidelines

▨ = Exceeds RCL

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**TABLE 3**  
**LABORATORY ANALYSIS - TRENCH SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 10' 4/30/98	SW-2 6' 4/30/98	SW-3 6' 4/30/98	Base 4 8' 4/30/98	SW-5 6' 4/30/98	SW-6 6' 4/30/98	Base 7 8' 4/30/98	SW-8 6' 4/30/98	SW-9 6' 4/30/98	SW-10 6' 4/30/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	5.7	21	<4.6	<4.5	<4.7	<4.8	6.5	<4.9	<4.6	<4.5	50	NS
DRO (mg/kg)	6.9	<5.7	87	<5.6	<5.8	<6.0	6.3	<6.1	<5.8	<5.6	NS	NS
GRO (mg/kg)	<5.7	<5.7	<5.7	<5.6	<5.8	<6.0	<5.6	<6.1	<5.8	<5.6	NS	NS
Benzene	64	<29	<29	<28	<29	<30	<28	<31	<29	<28	5.5	347
Ethylbenzene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	2900	13,000
Methyl-t-butyl ether	<29	<29	<29	<28	<29	<30	<28S	<31	<29	<28	NS	NS
Toluene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	1500	19,000
1,2,4-Trimethylbenzene	252	<29	32	<28	<29	110	<28	<31	<29	<28	NS	NS
1,3,5-Trimethylbenzene	206	<29	<29	<28	<29	<30	<28	<31	<29	<28	NS	NS
Xylenes, Total	241	<86	<86	<84	<87	<90	<84	<92	<87	<84	4,100	58,310
Anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	17,000*	NS
Benzo(b)fluoranthene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	48,000*	NS
Chrysene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	37,000*	NS
1-Methylnaphthalene	NT	NT	<31	<33	NT	<36	<33	NT	NT	<34	23,000*	NS
2-Mehtylnaphthalene	NT	NT	<26	<27	NT	<30	<27	NT	NT	<28	20,000*	NS
Naphthalene	NT	NT	50	<33	NT	<36	<33	NT	NT	<34	400*	NS
Phenanthrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	1,800*	NS
Pyrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	8,700,000*	NS

All units in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) unless specified otherwise.

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DRO (mg/kg)	6.9	<5.7	87	<5.6	<5.8	<6.0	6.3	<6.1	<5.8	<5.6	NS	NS
GRO (mg/kg)	<5.7	<5.7	<5.7	<5.6	<5.8	<6.0	<5.6	<6.1	<5.8	<5.6	NS	NS
Benzene	64	<29	<29	<28	<29	<30	<28	<31	<29	<28	5.5	347
Ethylbenzene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	2900	13,000
Methyl-t-butyl ether	<29	<29	<29	<28	<29	<30	<28S	<31	<29	<28	NS	NS
Toluene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	1500	19,000
1,2,4-Trimethylbenzene	252	<29	32	<28	<29	110	<28	<31	<29	<28	NS	NS
1,3,5-Trimethylbenzene	206	<29	<29	<28	<29	<30	<28	<31	<29	<28	NS	NS
Xylenes, Total	241	<86	<86	<84	<87	<90	<84	<92	<87	<84	4,100	58,310
Anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	17,000*	NS
Benzo(b)fluoranthene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	48,000*	NS
Chrysene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	37,000*	NS
1-Methylnaphthalene	NT	NT	<31	<33	NT	<36	<33	NT	NT	<34	23,000*	NS
2-Mehtylnaphthalene	NT	NT	<26	<27	NT	<30	<27	NT	NT	<28	20,000*	NS
Naphthalene	NT	NT	50	<33	NT	<36	<33	NT	NT	<34	400*	NS
Phenanthrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	1,800*	NS
Pyrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	8,700,000*	NS

All units in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) unless specified otherwise.

\* Proposed cleanup guidelines

NS = No soil cleanup standard

NT = Not tested

**TABLE 5**  
**GROUNDWATER ANALYTICAL SUMMARY : GRO, PVOC & NAPHTHALENE**  
**DETECTED COMPOUNDS ONLY**  
**CONDON BULK FACILITY**  
**N52 W5358 Portland Road**  
**Cedarburg, Wisconsin**

WELL	Date	GRO (µg/l)	Lead (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	1,2,4-TMB (µg/l)	1,3,5-TMB (µg/l)	Napthalene (µg/l)
MW-1	12/08/94	1100	NA	<1.0	1.7	28	24.7	1.1	12	36	**
	09/07/95	NA	NA	14	<3.0	116	44	<14	15	36	NA
	08/27/96	1700	NA	<15*	<10*	<5.0	63	70	26	39	NA
	07/09/97	1900	2	<0.16	<0.36	41	44.1	4.2	27	31	**
	12/17/97	1600	<1.5	<0.32	1.7	36	40.4	12	28	32	**
	05/14/98	1300	1.7	<3.0	<2.0	38	32	<3.0	19	15	**
	08/24/98	NA	NA	41	11	36	28	<8.8	21	22	**
	12/10/98	NA	NA	<0.41	4.5	22	24	<0.41	20	28	NA
	03/22/99	NA	NA	<4.5	<1.8	35	27	<1.2	24	28	NA
	06/30/99	NA	NA	12	<2.5	25	18	26	13	14	6.1
	MW-2	12/08/94	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
09/07/95		NA	NA	<0.5	<0.6	<0.6	<1.7	<14	<1.7	<0.9	NA
08/27/96		<50	NA	<0.05	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
07/09/97		<50	1.6	<0.16	<0.36	<0.29	<1.15	<0.20	<0.30	<0.34	**
12/17/97		<50	<1.6	<0.16	<0.36	<0.29	<0.21	0.23	<0.30	<0.34	**
05/14/98		<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.60	<0.22	<0.29	**
08/24/98		NA	NA	0.18	<0.20	<0.22	0.36	<0.16	<0.22	<0.29	NA
12/10/98		NA	NA	<0.41	<0.38	<0.43	<1.4	<0.41	<0.42	<0.58	NA
03/22/99		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
06/30/99		NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
MW-3		12/08/94	1100	NA	13	<2.5	83	482.9	<2.5	150	64
	09/07/95	NA	NA	17	2.4	181	225	<2.7	103	43	NA
	08/27/96	690	NA	6.1	1.1	57	100	<1.0	62	18	NA
	07/09/97	2100	2.8	9.1	2.6	190	394.3	2.3	210	72	**
	12/17/97	3400	<1.5	14	4.1	260	596.1	12	300	99	**
MW-4	12/08/94	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**
	09/07/95	NA	NA	<0.5	<0.6	<0.6	<1.7	<2.7	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	1.9	<0.16	<0.36	<0.29	<1.15	<0.20	<0.34	<0.30	**
	12/17/97	<50	<1.5	<0.16	<0.36	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.60	<0.22	<0.29	**
	08/24/98	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.41	0.72	<0.43	<1.4	<0.41	<0.42	<0.58	NA
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
	MW-5	09/07/95	1490	NA	1050	8.2	3.7	94.9	<2.7	16	2.4
08/27/96		2000	NA	980	15	<10	200	<10	55	<10	NA
07/09/97		2300	2.9	950	14	4.9	225.9	1.2	63	7.8	**
12/17/97		2200	<1.8	1100	15	3.2	225.4	2	49	5.8	**
05/14/98		1400	<0.89	600	8.9	1.7	140	<1.0	35	2.6	**
08/24/98		NA	NA	840	16	4.4	270	0.8	76	4.4	**
12/10/98		NA	NA	820	12	4.7	160	<0.41	46	<0.58	NA
03/22/99		NA	NA	3.8	<0.20	<0.22	1.4	<0.16	0.32	<0.29	<0.46
06/30/99		NA	NA	340	8.2	1.8	160	<4.5	49	0.69	0.79
MW-6	09/07/95	1930	NA	294	7.8	8.6	<22	<27	<17	<9.0	NA
	08/27/96	2300	NA	410	10	40	9.8	40	4.8	14	NA
	07/09/97	2500	<1.8	370	8.3	37	3.9	5.7	3.2	4.7	**
	12/17/97	2800	<1.6	310	7.8	39	5.9	17	6.9	8.5	**
	05/14/98	970	<0.89	290	4.6	21	1.3	<2.5	3.2	<1.5	**
	12/10/98	NA	NA	170	8.2	24	2.1	<10	4.9	4.2	NA
	03/22/99	NA	NA	220	6.7	25	2.7	1.8	7.2	<0.28	NA
	06/30/99	NA	NA	170	4.1	14	<1.2	<2.1	2	<1.5	6

**TABLE 5**  
**GROUNDWATER ANALYTICAL SUMMARY : GRO, PVOC & NAPHTHALENE**  
**DETECTED COMPOUNDS ONLY**  
**CONDON BULK FACILITY**  
 N52 W5358 Portland Road  
 Cedarburg, Wisconsin

WELL	Date	GRO (µg/l)	Lead (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	1,2,4-TMB (µg/l)	1,3,5-TMB (µg/l)	Naphthalene (µg/l)
MW-7	09/07/95	61	NA	<0.50	<0.6	<0.6	<2.3	<2.7	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	3.4	<0.16	<0.36	<0.29	<1.15	<0.20	<0.30	<0.34	**
	12/17/97	<50	<1.6	<0.16	<0.36	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	0.13	<0.20	<0.22	0.26	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.41	<0.38	<0.43	<1.4	<0.41	<0.42	<0.58	NA
	03/22/99	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	06/30/99	NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
	MW-8	09/07/95	<28	NA	<0.50	<0.6	<0.6	<2.2	<2.7	<1.7	<0.9
08/27/96		<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
07/09/97		<50	2.3	<0.16	<0.36	<0.29	<1.15	4.8	<0.30	<0.34	**
12/17/97		<50	<1.6	<0.16	<0.36	<0.29	<0.21	13	<0.30	<0.34	**
05/14/98		<50	<0.89	<0.13	<0.20	<0.22	<0.23	<3.6	<0.22	<0.29	**
08/24/98		NA	NA	<0.13	<0.20	<0.22	<0.23	4.6	<0.22	<0.29	NA
12/10/98		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
03/22/99		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
06/30/99		NA	NA	<0.13	<0.20	<0.22	<0.23	0.98	<0.22	<0.29	<0.46
MW-9		11/16/95	167	NA	<0.50	1.3	<0.6	<1.7	<2.7	<1.7	<0.9
	07/09/97	510	NA	<0.16	<0.36	<0.29	<1.15	1.1	<0.3	<0.34	NA
	05/14/98	<50	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/10/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/22/99	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
MW-10	11/16/95	61	NA	1.7	1.0	<0.6	<1.7	NA	<1.7	<0.9	NA
	08/27/96	210	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	190	1.6	0.4	<0.36	<0.29	<1.15	0.41	0.41	<0.34	**
	12/17/97	68	<1.5	<0.16	0.67	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	110	<0.89	0.97	<0.20	<0.22	<0.28	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	0.9	<1.5	<0.22	0.79	<0.17	0.26	<0.29	NA
	12/10/98	NA	NA	0.49	0.62	<0.22	0.36	1.3	<0.22	<0.29	NA
	03/22/99	NA	NA	<0.15	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	06/30/99	NA	NA	<0.13	0.77	<0.22	0.26	<0.16	<0.22	<0.29	<0.46
	Sump 1	05/14/98	<50	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29
08/24/98		NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
12/10/98		NA	NA	<0.13	<0.20	<0.22	<0.23	1.1	<0.22	<0.29	NA
03/22/99		NA	NA	<0.13	<0.20	<0.22	<0.23	1.1	<0.22	<0.29	<0.46
06/30/99		NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
Sump 2	05/14/98	3500	NA	510	130.0	100	520	<3.2	240	85	NA
	08/24/98	NA	NA	0.94	<0.47	0.53	3.2	<0.40	1.2	0.64	NA
	12/10/98	NA	NA	0.35	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	03/22/99	NA	NA	0.42	0.3	0.46	0.66	<0.16	0.57	<0.29	<0.46
	06/30/99	NA	NA	3.7	0.3	0.77	0.35	<0.20	0.42	<0.29	0.97
Sump 3	05/14/98	1300	NA	240	5.6	17	130	<4.0	24	<55	NA
	08/24/98	NA	NA	160	4.3	7.7	77	<0.16	29	19	NA
	12/10/98	NA	NA	150	3.7	14	54	1.7	30	0.81	NA
	03/22/99	NA	NA	95	2.0	1.8	32	<0.32	24	1.7	11
	06/30/99	NA	NA	150	3.1	16	37	<1.8	36	<0.58	16
	Duplicate <sup>1</sup>	12/08/94	NA	NA	13	<2.5	81	472.7	<2.5	140	62
09/07/95		NA	NA	14	7	53	46	<2.7	16	34	NA
11/16/95		NA	NA	1.7	0.8	<0.6	<1.7	<2.7	<1.7	<0.9	NA
08/27/96		2600	NA	1100	14	<10	220	<10	69	<10	NA
07/09/97		NA	NA	1000	15	6.4	227.1	<2.0	62	7.7	NA
12/17/97		2400	NA	1100	16	4.1	286.9	<2.0	80	7.7	NA
05/14/98		1400	NA	590	8.6	1.7	140	<1.0	35	2.9	NA
08/24/98		NA	NA	760	15	3.5	240	<0.80	70	4.0	NA
12/10/98		NA	NA	720	11	2.9	160	<1.2	45	1.0	NA
03/22/99		NA	NA	4.3	<0.20	<0.22	1.4	<0.16	0.32	<0.29	NA
NR140 ES		---	15	5	343	700	620	60	480	480	40
NR140 PAL		---	1.5	0.5	68.6	140	124	12	96	96	8

KEY: \* = Matrix Interference  
 \*\* = Naphthalene run as Polynuclear Aromatic Hydrocarbons (PAH; EPA Method 8310)  
<sup>1</sup> = Duplicates taken at MW-3 on 02/08/94, MW-1 on 09/07/95, and MW-5 on 08/27/96, 07/09/97, 12/17/97, and 5/14/98.  
 µg/l = micrograms per liter  
 GRO = Gasoline Range Organics  
 MTBE = Methyl-tert-Butyl Ether  
 TMB = Trimethylbenzene  
 ES = Chapter NR 140, Wisconsin Administrative Code Enforcement Standard  
 PAL = Chapter NR140, Wisconsin Administrative Code Preventive Action Limit  
 --- = Exceeds NR 140 ES  
 NA = Not Analyzed  
 --- = No Established Standard or Limit  
 MW-3 abandoned by excavation activities on 4/27/98

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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-41</u>	County <u>DEKAUKEE</u>	Original Well Owner (If Known) <u>CONDON COMPANIES</u>	
SE 1/4 of SW 1/4 of Sec. <u>26</u> ; T. <u>10</u> N: R. <u>21</u> (If applicable)		Present Well Owner <u>SAME</u>	
Grid Location Gov't Lot _____ Grid Number _____		Street or Route <u>126 EAST JACKSON</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>RIPON, WI. 54971-0184</u>	
Civil Town Name <u>GEDARBURG</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No. <u>MW-1</u>   _____	
Street Address of Well <u>N52 W5358 PORTLAND ROAD</u> (City) Village. <u>GEDARBURG</u>		Reason For Abandonment <u>PROTECT CLOSURE</u>	
		Date of Abandonment <u>11-28-00</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet)</b> <u>4.35</u>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) _____  <input checked="" type="checkbox"/> Monitoring Well      Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____  Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock  Total Well Depth (ft.) _____ Casing Diameter (ins.) <u>2"</u> (From ground surface)  Casing Depth (ft.) _____  Was Well Annular Space Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____  Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input 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	
		<b>(5) Required Method of Placing Sealing Material</b> <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		<b>(6) Sealing Materials</b> For monitoring wells and monitoring well boreholes c	
		<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>25 lb.</u>	

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

(9) Name of Person or Firm Doing Sealing Work  
SIGMA

Signature of Person Doing Work <u>Pham</u>	Date Signed
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected: _____	District/County: _____
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-3</u>	County <u>Ozaukee</u>	Original Well Owner (If Known) <u>Cordon Companies</u>	
(If applicable) <u>SE</u> 1/4 of <u>SW</u> 1/4 of Sec. <u>26</u> : T. <u>10</u> N.; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W Gov't Lot _____ Grid Number _____		Present Well Owner <u>Same</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>126 East Jackson</u>	
Civil Town Name <u>Cedarburg</u>		City, State, Zip Code <u>Ripon, WI 54971-0184</u>	
Street Address of Well <u>N52 W 5358 Portland Road</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No. <u>MW-3</u>   <u>MW-3</u>	
City, Village <u>Cedarburg</u>		Reason For Abandonment <u>Removed to facilitate remedial excavat.</u>	
		Date of Abandonment <u>4-28-98</u>	

**WELL/DRILLHOLE/BOREHOLE INFORMATION**

<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>11-22-94</u>  <input checked="" type="checkbox"/> Monitoring Well      Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____  Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock  Total Well Depth (ft.) <u>15</u> Casing Diameter (ins.) <u>2.0</u> (From ground surface)  Casing Depth (ft.) <u>15</u>  Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	<b>(4) Depth to Water (Feet)</b> <u>3.0</u> Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicabl. Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicabl. Screen Removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicabl. Casing Left in Place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If No, Explain <u>Entire monitoring well was removed during excavation.</u> Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u>
<b>(5) Required Method of Placing Sealing Material</b> <u>NA</u> <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)	
<b>(6) Sealing Materials</b> <u>NA</u> For monitoring wells and monitoring well boreholes or <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>NONE</u>	Surface			

(8) Comments: Entire monitoring well (casing, filter pack, bentonite protective flush mount cover, etc.) was removed during excavation activities.

(9) Name of Person or Firm Doing Sealing Work  
Sigma Environmental Services, Inc.

Signature of Person Doing Work: [Signature]      Date Signed: 4-28-98

Street or Route: 220 E Ryan Rd.      Telephone Number: 414-712-1144

**FOR DNR OR COUNTY USE ONLY**

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

Reviewer/Inspector: \_\_\_\_\_



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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-4</u>	County <u>OZAUKEE</u>	Original Well Owner (If Known) <u>CONDON COMPANIES</u>	
SE 1/4 of SW 1/4 of Sec. <u>26</u> ; T. <u>10</u> N.R. <u>21</u> (If applicable)		Present Well Owner <u>SAME</u>	
Grid Location Gov't Lot _____ Grid Number _____		Street or Route <u>126 EAST JACKSON</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>OSHTOSH, WI. 54971-0184</u>	
Civil Town Name <u>CEDARBURG</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No. <u>MW-4</u>   _____	
Street Address of Well <u>N52 W535B PORTLAND ROAD</u>		Reason for Abandonment <u>PROJECT CLOSURE</u>	
City Village <u>CEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet)</b> <u>4.32</u>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) _____  <input checked="" type="checkbox"/> Monitoring Well <input checked="" type="checkbox"/> Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	
		Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input 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	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock  Total Well Depth (ft.) _____ Casing Diameter (ins.) <u>2"</u> (From ground surface)  Casing Depth (ft.) _____  Was Well Annular Space Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		<b>(5) Required Method of Placing Sealing Material</b> <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		<b>(6) Sealing Materials</b> For monitoring wells and monitoring well boreholes c	
		<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>25 lb.</u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
SIGMA

Signature of Person Doing Work <u>Frank M...</u>	Date Signed
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected: _____	District/County: _____
Reviewer/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 <i>MW-5</i>	County <i>OZAUKEE</i>	Original Well Owner (if Known) <i>CONDON COMPANIES</i>
1/4 of _____ 1/4 of Sec. _____ : T. _____ N:R. _____ <input type="checkbox"/> E <input type="checkbox"/> W (If applicable)		Present Well Owner <i>SAME</i>
Gov't Lot _____ Grid Number _____ Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		Street or Route <i>126 EAST JACKSON</i>
Civil Town Name <i>CEDARBURG</i>		City, State, Zip Code <i>RIPON, WI. 54971-0184</i>
Street Address of Well <i>N 52 W 535B PORTLAND ROAD</i>		Facility Well No. and/or Name (if Applicable)   WI Unique Well No. <i>MW-5</i>   _____
City/Village <i>CEDARBURG</i>		Reason For Abandonment <i>PROJECT CLOSURE</i>
		Date of Abandonment <i>11-28-00</i>

**WELL/DRILLHOLE/BOREHOLE INFORMATION**

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

Monitoring Well      Construction Report Available?  Yes  No  
 Water Well  
 Drillhole  
 Borehole

Construction Type:  
 Drilled       Driven (Sandpoint)       Dug  
 Other (Specify) \_\_\_\_\_

Formation Type:  
 Unconsolidated Formation       Bedrock

Total Well Depth (ft.) \_\_\_\_\_ Casing Diameter (ins.) *2*"  
 (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) *3.89*

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  
 Dump Bailer       Other (Explain) \_\_\_\_\_

(6) Sealing Materials

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

For monitoring wells and monitoring well boreholes c

Bentonite Pellets  
 Granular Bentonite

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<i>Chipped Bentonite + Concrete</i>	<i>Surface</i>		<i>25.16</i>	

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

(9) Name of Person or Firm Doing Sealing Work  
*SIGMA*

Signature of Person Doing Work <i>From Sigma</i>	Date Signed
Street or Route <i>220 East Rayan</i>	Telephone Number <i>(414) 768-7144</i>
City, State, Zip Code <i>Oak Creek WI 53154</i>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-6</u>	County <u>OZAUKEE</u>	Original Well Owner (if known) <u>LONDON COMPANIES</u>	
SE 1/4 of SW 1/4 of Sec. 26 : T. 10 N: R. 21 <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner <u>SAME</u>	
(If applicable) Gov't Lot _____ Grid Number _____		Street or Route <u>126 EAST JACKSON</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>RIPON, WI. 54971-0184</u>	
Civil Town Name <u>CEDARBURG</u>		Facility Well No. and/or Name (if Applicable) <u>MW-6</u>	WI Unique Well No. _____
Street Address of Well <u>N 52 W 5358 PORTLAND ROAD</u>		Reason For Abandonment <u>PROTECT CLOSURE</u>	
City Village <u>CEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet) <u>3.87</u></b>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) _____		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	
<input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input 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 Restopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>(5) Required Method of Placing Sealing Material</b>	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
Total Well Depth (ft.) _____ Casing Diameter (ins.) <u>2"</u> (From ground surface)  Casing Depth (ft.) _____		<b>(6) Sealing Materials</b>	
Was Well Annular Space Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		For monitoring wells and monitoring well boreholes c <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>25 lb</u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
SIGMA

Signature of Person Doing Work <u>[Signature]</u>	Date Signed
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected	District/County
Reviewer/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>MW-7</u>	County <u>WAUKESHA</u>	Original Well Owner (if Known) <u>CONDON COMPANIES</u>	Present Well Owner <u>SAME</u>
SE 1/4 of SW 1/4 of Sec. <u>26</u> : T. <u>10</u> N. R. <u>21</u> (If applicable)		Street or Route <u>126 EAST JACKSON</u>	City, State, Zip Code <u>RIPON WI. 54971-0184</u>
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Gov't Lot _____ Grid Number _____	Facility Well No. and/or Name (if Applicable) <u>MW-7</u>	WI Unique Well No. _____
Civil Town Name <u>CEARBURG</u>	Street Address of Well <u>152 W 5358 PORTLAND ROAD</u>	Reason For Abandonment <u>PROJECT CLOSURE</u>	Date of Abandonment <u>11-28-00</u>
(City) Village <u>CEARBURG</u>			

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____		(4) Depth to Water (Feet) <u>5.00</u>	
<input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole	Construction Report Available? <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did Sealing Material Rise to Surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Total Well Depth (ft.) _____ Casing Diameter (ins.) <u>2"</u> (From ground surface)		Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If Yes, Was Hole Recapped? <input type="checkbox"/> Yes <input type="checkbox"/> No
Casing Depth (ft.) _____		(5) Required Method of Placing Sealing Material	
Was Well Annular Space Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		(6) Sealing Materials	
		For monitoring wells and monitoring well boreholes	
		<input type="checkbox"/> Near Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout	
		<input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets	
		<input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite	
		<input type="checkbox"/> Bentonite-Sand Slurry	
		<input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>25 lb</u>	

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

(9) Name of Person or Firm Doing Sealing Work  
SIGMA

Signature of Person Doing Work <u>[Signature]</u>	Date Signed
Street or Route <u>200 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-9</u>	County <u>OZAUKEE</u>	Original Well Owner (If Known) <u>CONDON COMPANIES</u>	
(If applicable) <u>SE 1/4 of SW 1/4 of Sec. 26 : T. 10 N. R. 21</u>		Present Well Owner <u>SAME</u>	
Gov't Loc _____	Grid Number _____	Street or Route <u>126 EAST JACKSON</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>RIPON, WI. 54971-0184</u>	
Civil Town Name <u>LEDARBURG</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No. <u>MW-9</u>   _____	
Street Address of Well <u>N 52 W 5358 PORTLAND ROAD</u>		Reason for Abandonment <u>PROJECT CLOSURE</u>	
City/Village <u>LEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet)</b> <u>3.04</u>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) _____		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
<input checked="" type="checkbox"/> Monitoring Well	Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
<input type="checkbox"/> Water Well		Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	
<input type="checkbox"/> Drillhole		Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Borehole		If No, Explain _____	
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug		Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input checked="" type="checkbox"/> Other (Specify) <u>HAND AUGER</u>		Did Sealing Material Rise to Surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Total Well Depth (ft.) _____ Casing Diameter (ins.) <u>1.25"</u>		If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Casing Depth (ft.) _____		<b>(5) Required Method of Placing Sealing Material</b>	
Was Well Annular Space Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	If Yes, To What Depth? _____ Feet	<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped	
		<input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		<b>(6) Sealing Materials</b> For monitoring wells and monitoring well boreholes	
		<input type="checkbox"/> Neat Cement Grout	
		<input type="checkbox"/> Sand-Cement (Concrete) Grout	
		<input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets	
		<input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite	
		<input type="checkbox"/> Bentonite-Sand Slurry	
		<input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>516</u>	

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

<b>(9) Name of Person or Firm Doing Sealing Work</b>		<b>(10) FOR DNR OR COUNTY USE ONLY</b>	
<u>SIGMA</u>		Date Received/Inspected: _____ District/County: _____	
Signature of Person Doing Work <u>[Signature]</u>	Date Signed _____	Reviewer/Inspector: _____	
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>	Follow-up Necessary: _____	
City, State, Zip Code <u>Oak Creek WI 53154</u>			

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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>MW-10</u>	County <u>OSHAUKEE</u>	Original Well Owner (If Known) <u>CONDON COMPANIES</u>	
(If applicable) <u>SE</u> 1/4 of <u>SW</u> 1/4 of Sec. <u>26</u> ; T. <u>10</u> N. R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W Gov't Lot _____ Grid Number _____		Present Well Owner <u>SAME</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>126 EAST JACKSON</u>	
Civil Town Name <u>CEDARBURG</u>		City, State, Zip Code <u>RIPON, WI. 54971-0184</u>	
Street Address of Well <u>N52 W5358 PORTLAND ROAD</u>		Facility Well No. and/or Name (If Applicable) <u>MW-10</u>	
City, Village <u>CEDARBURG</u>		Reason For Abandonment <u>PROJECT CLOSURE</u>	
		Date of Abandonment <u>3/15/01</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>			
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____ <input checked="" type="checkbox"/> Monitoring Well      Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____ Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock Total Well Depth (ft.) <u>7.98</u> Casing Diameter (ins.) <u>1"</u> (From ground surface) Casing Depth (ft.) <u>8.0</u> Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		(4) Depth to Water (Feet) <u>4.0 ft</u> Pump & Piping Removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Liner(s) Removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Screen Removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If No, Explain _____ 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
		(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) _____	
		(6) Sealing Materials                      For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Bentonite - Cement Grout <input checked="" type="checkbox"/> Chipped Bentonite	

7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
	Surface			
<u>Concrete</u>			<u>3 LBS</u>	
<u>Bentonite</u>			<u>5 LBS</u>	

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

9) Name of Person or Firm Doing Sealing Work  
Sigma Environmental

Signature of Person Doing Work <u>[Signature]</u>	Date Signed <u>3/15/01</u>
Street or Route <u>220 ERYAN RD</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI. 53154</u>	

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>S-1</u>	County <u>OZAUKEE</u>	Original Well Owner (if Known) <u>CONDON COMPANIES</u>	
SE 1/4 of SW 1/4 of Sec. 26 : T. 10 N:R. 21 <input checked="" type="checkbox"/> E <input type="checkbox"/> W (If applicable)		Present Well Owner <u>SAME</u>	
Gov't Lot	Grid Number	Street or Route <u>126 EAST JACKSON</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>RIPON, WI. 54971-0184</u>	
Civil Town Name <u>CEDARBURG</u>		Facility Well No. and/or Name (if Applicable) <u>S-1</u>	WI Unique Well No.
Street Address of Well <u>N52 W535B PORTLANDA ROAD</u>		Reason for Abandonment <u>PROJECT CLOSURE</u>	
(City) Village <u>CEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

**WELL/DRILLHOLE/BOREHOLE INFORMATION**

<p><b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>APRIL 28, 1998</u></p> <p><input type="checkbox"/> Monitoring Well      <input type="checkbox"/> Construction Report Available?  <input type="checkbox"/> Water Well                      <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No  <input type="checkbox"/> Drillhole  <input type="checkbox"/> Borehole  <input checked="" type="checkbox"/> <u>RECOVERY SUMP</u></p> <p>Construction Type:  <input type="checkbox"/> Drilled                      <input type="checkbox"/> Driven (Sandpoint)    <input type="checkbox"/> Dug  <input checked="" type="checkbox"/> Other (Specify) <u>INSTALLED IN BACKFILLED EXCAVATION</u></p> <p>Formation Type:  <input checked="" type="checkbox"/> Unconsolidated Formation    <input type="checkbox"/> Bedrock</p> <p>Total Well Depth (ft.) <u>10'</u>    Casing Diameter (ins.) <u>6"</u> (From ground surface)</p> <p>Casing Depth (ft.) <u>5'</u></p> <p>Was Well Annular Space Grouted?    <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No    <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet</p>	<p><b>(4) Depth to Water (Feet)</b> <u>1.30</u></p> <p>Pump &amp; Piping Removed?    <input type="checkbox"/> Yes    <input type="checkbox"/> No    <input checked="" type="checkbox"/> Not Applicable  Liner(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 type="checkbox"/> Not Applicable  Casing Left in Place?        <input type="checkbox"/> Yes    <input type="checkbox"/> No  If No, Explain _____</p> <p>Was Casing Cut Off Below Surface?    <input checked="" type="checkbox"/> Yes    <input 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</p> <p><b>(5) Required Method of Placing Sealing Material</b>  <input checked="" type="checkbox"/> Conductor Pipe-Gravity    <input type="checkbox"/> Conductor Pipe-Pumped  <input type="checkbox"/> Dump Bailer                      <input type="checkbox"/> Other (Explain)</p> <p><b>(6) Sealing Materials</b>                      For monitoring wells and monitoring well boreholes c</p> <p><input type="checkbox"/> Near Cement Grout  <input type="checkbox"/> Sand-Cement (Concrete) Grout  <input checked="" type="checkbox"/> Concrete                              <input type="checkbox"/> Bentonite Pellets  <input type="checkbox"/> Clay-Sand Slurry                      <input type="checkbox"/> Granular Bentonite  <input type="checkbox"/> Bentonite-Sand Slurry  <input checked="" type="checkbox"/> Chipped Bentonite</p>
---	---

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>150 lb</u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
SIGMA

Signature of Person Doing Work <u>Frank M...</u>	Date Signed
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected	District/County
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>S-2</u>	County <u>OSHAUKEE</u>	Original Well Owner (If Known) <u>CONDON COMPANIES</u>	
(If applicable) <u>SE 1/4 of SW 1/4 of Sec. 26 ; T. 10 N: R. 21</u>		Present Well Owner <u>SAME</u>	
Gov't Lot _____	Grid Number _____	Street or Route <u>126 EAST JACKSON</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>RIPON, WI. 54971-0184</u>	
Civil Town Name <u>CEDARBURG</u>		Facility Well No. and/or Name (If Applicable) <u>S-2</u>	WI Unique Well No. _____
Street Address of Well <u>N52 W5358 PORTLAND ROAD</u>		Reason For Abandonment <u>PROJECT CLOSURE</u>	
(City) Village <u>CEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

**WELL/DRILLHOLE/BOREHOLE INFORMATION**

<p><b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>APRIL 28, 1998</u></p> <p> <input type="checkbox"/> Monitoring Well  <input type="checkbox"/> Water Well  <input type="checkbox"/> Drillhole  <input type="checkbox"/> Borehole  <input checked="" type="checkbox"/> <u>RECOVERY SUMP</u>          Construction Type:  <input type="checkbox"/> Drilled    <input type="checkbox"/> Driven (Sandpoint)    <input type="checkbox"/> Dug  <input checked="" type="checkbox"/> Other (Specify) <u>INSTALLED IN BACKFILLED EXCAVATION</u> </p> <p>         Formation Type:  <input checked="" type="checkbox"/> Unconsolidated Formation    <input type="checkbox"/> Bedrock       </p> <p>Total Well Depth (ft.) <u>10'</u>    Casing Diameter (ins.) <u>6"</u> (From ground surface)</p> <p>Casing Depth (ft.) <u>5'</u></p> <p>Was Well Annular Space Grouted?    <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No    <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet</p>	<p><b>(4) Depth to Water (Feet)</b> <u>1.25</u></p> <p>         Pump &amp; Piping Removed?    <input type="checkbox"/> Yes    <input type="checkbox"/> No    <input checked="" type="checkbox"/> Not Applicable          Liner(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 type="checkbox"/> Not Applicable          Casing Left in Place?    <input type="checkbox"/> Yes    <input type="checkbox"/> No          If No, Explain _____       </p> <p>         Was Casing Cut Off Below Surface?    <input checked="" type="checkbox"/> Yes    <input 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 Restopped?    <input type="checkbox"/> Yes    <input type="checkbox"/> No       </p> <p><b>(5) Required Method of Placing Sealing Material</b></p> <p> <input checked="" type="checkbox"/> Conductor Pipe-Gravity    <input type="checkbox"/> Conductor Pipe-Pumped  <input type="checkbox"/> Dump Bailer    <input type="checkbox"/> Other (Explain) _____       </p> <p><b>(6) Sealing Materials</b>    For monitoring wells and monitoring well boreholes</p> <p> <input type="checkbox"/> Neat Cement Grout  <input type="checkbox"/> Sand-Cement (Concrete) Grout  <input checked="" type="checkbox"/> Concrete    <input type="checkbox"/> Bentonite Pellets  <input type="checkbox"/> Clay-Sand Slurry    <input type="checkbox"/> Granular Bentonite  <input type="checkbox"/> Bentonite-Sand Slurry  <input checked="" type="checkbox"/> Chipped Bentonite       </p>
--	--

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>2516</u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
SIGMA

Signature of Person Doing Work <u>From Matt</u>	Date Signed
Street or Route <u>200 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected	District/County
Reviewer/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>S-3</u>	County <u>OSHAUKEE</u>	Original Well Owner (if Known) <u>CONDON COMPANIES</u>	
(If applicable) <u>SE 1/4 of SW 1/4 of Sec. 26 : T. 10 N: R. 21</u>		Present Well Owner <u>SAME</u>	
Gov't Lot	Grid Number	Street or Route <u>126 EAST JACKSON</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>RIPON WI. 54971-0184</u>	
Civil Town Name <u>GEDARBURG</u>		Facility Well No. and/or Name (if Applicable) <u>S-3</u>	WI Unique Well No.
Street Address of Well <u>N52 W535B PORTLAND ROAD</u>		Reason For Abandonment <u>PROJECT CLOSURE</u>	
(City) Village <u>GEDARBURG</u>		Date of Abandonment <u>11-28-00</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>APRIL 28, 1998</u>		(4) Depth to Water (Feet) <u>3.42</u>	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole <input checked="" type="checkbox"/> RECOVERY Sump	Construction Report Available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	Was Casing Cut Off Below Surface? <input checked="" type="checkbox"/> Yes <input 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 Restopped? <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>INSTALLED IN BACKFILLED EXCAVATION</u>	Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	(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)	
Total Well Depth (ft.) <u>10'</u> Casing Diameter (ins.) <u>6"</u> (From ground surface)	Casing Depth (ft.) <u>5'</u>	(6) Sealing Materials <input type="checkbox"/> Near Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		For monitoring wells and monitoring well boreholes c <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Chipped Bentonite + Concrete</u>	<u>Surface</u>		<u>150 lb</u>	

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

(9) Name of Person or Firm Doing Sealing Work  
SIGMA

Signature of Person Doing Work <u>Frank [Signature]</u>	Date Signed
Street or Route <u>220 East Rayan</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>Oak Creek WI 53154</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

NOTICE OF CONTAMINATION TO PROPERTY

Document Number

RECORDED

2001 JAN 26 PM 4: 00

Legal Description of the Property: In re:

See attached Exhibit A. STATE OF ~~WISCONSIN~~ ILLINOIS

COUNTY OF COOK )

) ss )

*Conrad H. Voigt*  
REGISTER OF DEEDS  
LAKE COUNTY, WI  
✓

Section 1. CMC Heartland Partners  
(Owner) is the owner of the above-described property.

Recording Area
Name and Return Address
J. Bushnell Nielsen
Reinhart, Boerner, Van Deuren, Norris & Rieselbach, s.c.
1000 North Water Street \$14
Milwaukee, Wisconsin 53202
Parcel Identification
Number (PIN): <u>Part of 13-</u>
<u>050-18-00-000 *</u>

Section 2. One or more petroleum discharges have occurred at this property. Petroleum contaminated groundwater above NR 140 enforcement standards and soils above NR 720 residual contaminant levels of the Wisconsin Administration Code exist on this property in the area of:

Monitoring Well: MW-1 (Benzene = 12 parts per billion [ppb])--based on 6/30/99 Analytical Data, and Soil Sample Locations: SW-4 (DRO = 1,190 parts per million [ppm], GRO = 256 ppm and Napthalene = 3,650 ppb), SW-11 (DRO = 21,000 ppm, GRO = 1,860 ppm, Benzene = <8,610 ppb and Ethylbenzene = 18,600 ppb), SW-12 (DRO = 5,000 ppm, GRO = 5,350 ppm, Benzene = 57,000 ppb, Ethylbenzene = 83,700 ppb, Toluene = <8,720 ppb, and Xylenes: 367,000 ppb), SW-14 (GRO = 350 ppm and Benzene = <3,500 ppb), SW-15 (DRO = 1,200 ppm, GRO = 502 ppm and Benzene = 2,450 ppb), Base 16 (Benzene = 1,710 ppb), Base 17 (Benzene= 960 ppb and Toluene = 3,310 ppb), Base 18 (Benzene = 960 ppb and Toluene = 3,310 ppb) and Base 19 (Benzene = <23,390 ppb, and Napthalene 984 ppb). The Monitoring Well and Soil Sample Locations are presented on Figures 2 and 3, respectively.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and

Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with Benzene levels as high as <23,390 ppb remains on this site in the area of Base 19. It has been shown that these levels are protective of health and the environment. If this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction, are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

By signing this document, he/she acknowledges that he/she is duly authorized to sign this document on behalf of Owner.

IN WITNESS WHEREOF, Owner has executed this document this 16<sup>th</sup> day of January, 2000.

CMC Heartland Partners

BY [Signature]  
Its Vice President

State of Illinois )

: SS

County of Cook )

This instrument was acknowledged before me on January 16, 2000 by J.G. RIGHEIMER as VICE PRESIDENT of CMC Heartland Partners

[Signature]  
Patricia Johnson )

[SEAL]



Notary Public, State of Illinois  
My commission expires 2/19/2004

## Exhibit A

An irregularly shaped parcel of land located in the Southeast Quarter of the Southwest Quarter (SE $\frac{1}{4}$ SW $\frac{1}{4}$ ) of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the point where the northerly line of Northern Avenue in the Town of Cedarburg, in the County and State aforesaid, intersects the southeasterly boundary line of the Canadian Pacific Railroad Company's station ground property; thence northeasterly along said boundary line a distance of 340 feet to the point of beginning; thence northwesterly at right angles 20 feet, more or less, to a point distant 50 feet of said Railroad Company's track, thence northeasterly parallel to said track a distance of 130 feet, more or less, to said southeasterly boundary line, thence southwesterly along said boundary line a distance of 130 feet, more or less, to the point of beginning.

Containing 1,300 square feet, more or less.

670830

VOL 1286 PAGE 613

RECORDED

Document Number

NOTICE OF CONTAMINATION TO PROPERTY

2001 FEB 16 PM 2:00

Legal Description of the Property: In re: See attached Exhibit A

Ken H. Vogt REGISTER OF DEEDS OZAUKEE COUNTY, WI

Recording Area

Name and Return Address

J. Bushneil Nielsen Reinhart, Boerner, Van Deuren, Norris & Rieselbach, s.c. 1000 North Water Street Milwaukee, Wisconsin 53202

4/6/01

STATE OF WISCONSIN ) ) COUNTY OF OZAUKEE ) ss )

13050-18-15-000 \* Parcel Identification Number (PIN)

Section 1. Jack Dunfee and Cecelia P. Dunfee, husband and wife, are the owners of the above-described property.

Section 2. One or more petroleum discharges have occurred at the property northwest of this site, leased by Condon Companies, at N52 W5358 Portland Road, Cedarburg. Petroleum contaminated groundwater above NR 140 enforcement standards of the Wisconsin Administration Code exists on this property in the area of Monitoring Wells:

MW-5 (Benzene = 340 parts per billion (ppb)), MW-6 (Benzene = 170 ppb) and S-3 (Benzene = 150 ppb) - Based on 6/30/99 Analytical Data. A Site Plan Map showing the locations of the monitoring wells, is attached as Figure 2.

Section 3. The owners hereby declare that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are

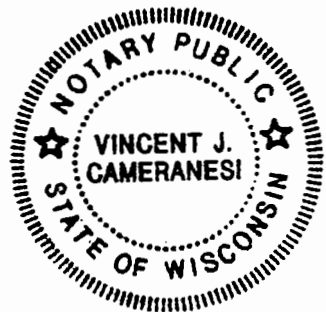
applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws of this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owners of the property has executed this document this 1st day of December, 2000.

[Signature]  
Jack Dunfee

[Signature]  
Cecelia P. Dunfee



State of Wisconsin     )  
                                      : SS  
County of Ozaukee     )

This instrument was acknowledged before me on 12/1/00, 2000 by Jack Dunfee and Cecelia P. Dunfee



[Signature]  
( Vincent J. Cameranesi )  
Notary Public, State of Wisconsin  
My commission Expires 7-11-04

This document was drafted by:  
Donald P. Gallo, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
Suite 1900  
1000 North Water Street  
Milwaukee, Wisconsin 53202-3186

Exhibit A

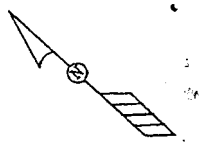
VOL 1138 PAGE 731

Lot 15, Block 18, of Assessor's Plat, being a part of the Southwest 1/4 of Section 26, Town 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin, TOGETHER WITH the right of way over a strip of land thirty feet wide, east of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad, and adjoining the same, and running from the Section Road to the above described land for road purposes.

AND

An irregularly shaped parcel of land being in the Southeast Quarter of the Southwest Quarter of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

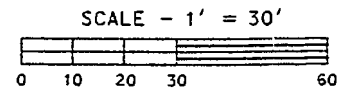
Beginning at the intersection of the south line of said Section 26 and the southeasterly station ground line of the former Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence northeasterly along said southeasterly station ground line to the north line of Northern Avenue; thence continuing along said southeasterly station ground line 340 feet; thence northwesterly at right angles to the last described line to a point 50 feet southeasterly of as measured radially from the centerline of the aforementioned former Railroad Company's main track; thence southwesterly along a line parallel to and 50 feet southeasterly of as measured radially to said main track centerline to a point on the south line of the aforementioned Section 26; thence easterly along said south line to the point of beginning.



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

ST.P.&P. (RR CENTERLINE)

PROPERTY LEASED FROM RR



30' ROAD EASEMENT

BUILDING (FILTER OIL)

ECONOMY GLASS SALES BUILDING

SHED

GARAGE

B13/MW-9

B14/MW-10

STORAGE GARAGE ECONOMY GLASS

B9/MW-5

B5/MW-3

B2/MW-1

CONCRETE

GRAVEL

WOODED AREA

ECONOMY GLASS PROPERTY

FEDERAL TOOL BUILDING

HYDRANT

B7/MW-4

B12/MW-8

NOTES:

- 1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
- 2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

LEGEND

- ⊙ = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊙ = HAND AUGER SOIL BORING LOCATION
- ⊙ = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE

CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI			ENVIRONMENTAL SERVICES INC.
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

VOL. 1600 PAGE 110



RECORDED

2001 FEB 16 PM 2:00

*Renee H. Voigt*  
REGISTER OF DEEDS  
OZAUKEE COUNTY, WI

Document Number

NOTICE OF CONTAMINATION TO  
PROPERTY

Legal Description of the Property: In re:  
See attached Exhibit A

Recording Area

Name and Return Address

J. Bushneil Nielsen  
Reinhart, Boerner, Van Deuren, Norris &  
Rieselbach, s.c.  
1000 North Water Street  
Milwaukee, Wisconsin 53202

*416/AF*

STATE OF WISCONSIN            )  
  )    ss  
COUNTY OF OZAUKEE            )

13050-18-15-000 \*  
Parcel Identification Number (PIN)

Section 1.        Jack Dunfee and Cecelia P. Dunfee, husband and wife, are the owners of the above-described property.

Section 2.        One or more petroleum discharges have occurred at the property northwest of this site, leased by Condon Companies, at N52 W5358 Portland Road, Cedarburg. Petroleum contaminated groundwater above NR 140 enforcement standards of the Wisconsin Administration Code exists on this property in the area of Monitoring Wells:

MW-5 (Benzene = 340 parts per billion (ppb)), MW-6 (Benzene = 170 ppb) and S-3 (Benzene = 150 ppb) - Based on 6/30/99 Analytical Data. A Site Plan Map showing the locations of the monitoring wells, is attached as Figure 2.

Section 3.        The owners hereby declare that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are

applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws of this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owners of the property has executed this document this 1st day of December 2000.

[Signature]  
Jack Dunfee

[Signature]  
Cecelia P. Dunfee



State of Wisconsin )  
  : SS  
County of Ozaukee )

This instrument was acknowledged before me on 12/1/00, 2000 by Jack Dunfee and Cecelia P. Dunfee



[Signature]  
( Vincent J. Cameranesi )  
Notary Public, State of Wisconsin  
My commission Expires 7-11-04

This document was drafted by:  
Donald P. Gallo, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
Suite 1900  
1000 North Water Street  
Milwaukee, Wisconsin 53202-3186

Exhibit A

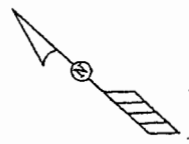
VOL 1138 PAGE 731

Lot 15, Block 18, of Assessor's Plat, being a part of the Southwest 1/4 of Section 26, Town 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin, TOGETHER WITH the right of way over a strip of land thirty feet wide, east of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad, and adjoining the same, and running from the Section Road to the above described land for road purposes.

AND

An irregularly shaped parcel of land being in the Southeast Quarter of the Southwest Quarter of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the intersection of the south line of said Section 26 and the southeasterly station ground line of the former Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence northeasterly along said southeasterly station ground line to the north line of Northern Avenue; thence continuing along said southeasterly station ground line 340 feet; thence northwesterly at right angles to the last described line to a point 50 feet southeasterly of as measured radially from the centerline of the aforementioned former Railroad Company's main track; thence southwesterly along a line parallel to and 50 feet southeasterly of as measured radially to said main track centerline to a point on the south line of the aforementioned Section 26; thence easterly along said south line to the point of beginning.



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

FEDERAL TOOL BUILDING

CONCRETE

GRAVEL

ECONOMY GLASS PROPERTY

WOODED AREA

NOTES:

1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL. BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

LEGEND

- = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊕ = HAND AUGER SOIL BORING LOCATION
- ⊗ = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS --- = UNDERGROUND SANITARY SEWER
- W --- = UNDERGROUND WATER LINE
- OE --- = OVERHEAD ELECTRIC LINE

PROPERTY LEASED FROM RR

ST. P. & P. (RR CENTERLINE)

B2/MW-1

B7/MW-4

B5/MW-3

B9/MW-5

STORAGE GARAGE ECONOMY GLASS

B14/MW-10

B13/MW-9

GARAGE

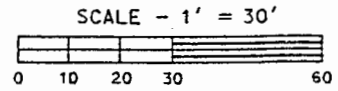
SHED

ACCESS ROAD

30' ROAD EASEMENT

ECONOMY GLASS SALES BUILDING

BUILDING (FILTER OIL)



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

VOL 1 COU PAGE 110

RECORDED

2001 APR -2 AM 8:30

*Ronald H. Voigt*  
REGISTER OF DEEDS  
WISCONSIN COUNTY, WI

U

NOTICE OF CONTAMINATION TO  
PROPERTY

Document Number

Legal Description of the Property: In re: See attached Exhibit A.

STATE OF ~~WISCONSIN~~ **ILLINOIS** )  
 )  
 ) SS  
COUNTY OF **COOK** )

Section 1. Wisconsin Central Ltd. (Owner) is the owner of the above-described property.

Section 2. One or more petroleum discharges have occurred at this property. Petroleum contaminated groundwater above NR 140 enforcement standards and soils above NR 720 residual contaminant levels of the Wisconsin Administration Code exist on this property in the area of:

Recording Area

Name and Return Address  
J. Bushnell Nielsen  
Reinhart, Boerner, Van Deuren, Norris &  
Rieselbach, s.c.  
1000 North Water Street  
Milwaukee, Wisconsin 53202 \$20

Parcel Identification Number (PIN): Part of  
13-050-18-00-000 \*

Monitoring Well: MW-1 (Benzene = 12 parts per billion [ppb])--based on 6/30/99 Analytical Data, and Soil Sample Locations: SW-4 (DRO = 1,190 parts per million [ppm], GRO = 256 ppm and Napthalene = 3,650 ppb), SW-11 (DRO = 21,000 ppm, GRO = 1,860 ppm, Benzene = <8,610 ppb and Ethylbenzene = 18,600 ppb), SW-12 (DRO = 5,000 ppm, GRO = 5,350 ppm, Benzene = 57,000 ppb, Ethylbenzene = 83,700 ppb, Toluene = <8,720 ppb, and Xylenes: 367,000 ppb), SW-14 (GRO = 350 ppm and Benzene = <3,500 ppb), SW-15 (DRO = 1,200 ppm, GRO = 502 ppm and Benzene = 2,450 ppb), Base 16 (Benzene = 1,710 ppb), Base 17 (Benzene = 960 ppb and Toluene = 3,310 ppb), Base 18 (Benzene = 960 ppb and Toluene = 3,310 ppb) and Base 19 (Benzene = <23,390 ppb, and Napthalene 984 ppb). The Monitoring Well and Soil Sample Locations are presented on Figures 2 and 3, respectively.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with Benzene levels as high as <23,390 ppb remains on this site in the area of Base 19. It has been shown that these levels are protective of health and the environment. If

this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction, are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

By signing this document, he/she acknowledges that he/she is duly authorized to sign this document on behalf of Owner.

IN WITNESS WHEREOF, Owner has executed this document this 20th day of MARCH, 2001.

WISCONSIN CENTRAL LTD.

By [Signature]  
Its VICE PRESIDENT ENGINEERING

State of ~~Wisconsin~~ ILLINOIS )

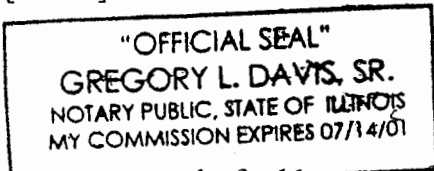
: SS

County of COOK )

This instrument was acknowledged before me on MARCH 20, 2001 by RANDY H. HENKE as VICE PRESIDENT ENGINEERING of Wisconsin Central Ltd.

Gregory L. Davis, Sr.  
( )

[SEAL]



Notary Public, State of ~~Wisconsin~~ ILLINOIS  
My commission expires 7-14-01

This document was drafted by:

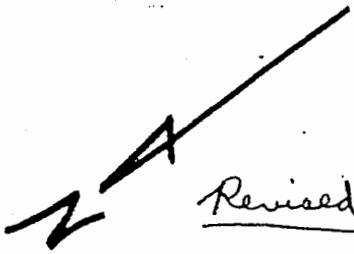
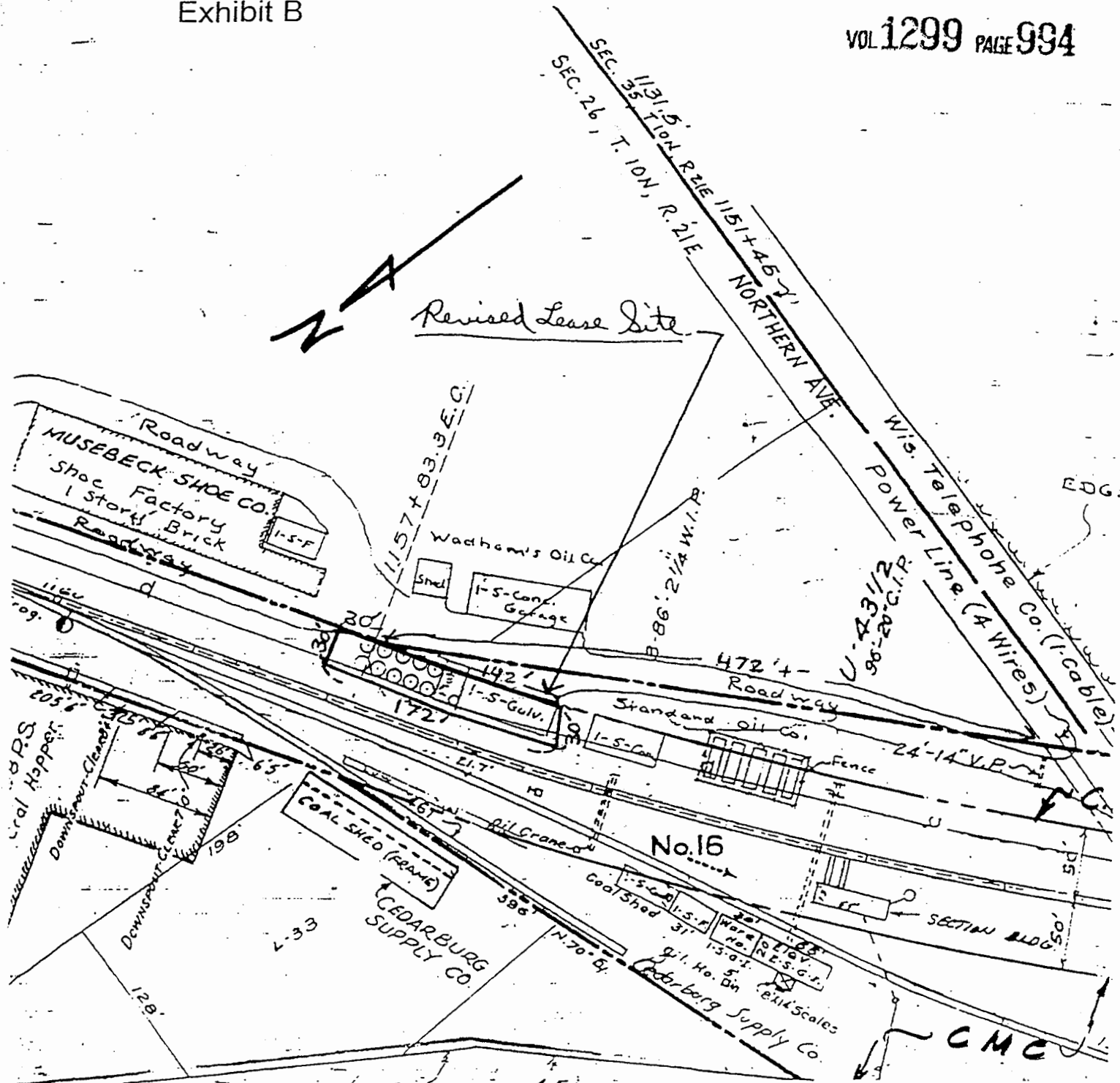
J. Bushnell Nielsen, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
1000 N. Water Street, Suite 1900  
Milwaukee, WI 53202

EXHIBIT A

Land in the City of Cedarburg, Ozaukee County, Wisconsin, lying in the southwest 1/4 of the southwest 1/4 of Section 26, Township 10N, Range 21 east, bounded and described as follows:

START at the point where the northerly line of Portland Avenue, formerly known as Northern Avenue, intersects the southeasterly boundary line of lands formerly known as the Chicago, Milwaukee, Pacific and St. Paul Railroad station ground property, which property was conveyed to Jack Dunfee and Cecelia P. Dunfee by deed recorded on November 17, 1998 as document number 617491; thence northeasterly along the entire distance of said boundary line and continuing along said boundary line extended to the current southerly boundary line of the existing railroad right-of-way now owned by Wisconsin Central Ltd., a combined distance of 472 feet, more or less, to the point of beginning of the land to be described; thence along the southerly Wisconsin Central Ltd. right-of-way a distance of 30 feet, more or less; thence northwesterly at right angles to the right-of-way 30 feet, more or less, to the point distant 20 feet southeasterly of, as measured at right angles to, the center line of the Wisconsin Central Ltd's main track; thence northeasterly parallel to said main track 172 feet; thence southeasterly at right angles 30 feet, more or less, to said southeasterly boundary line; thence southwesterly along said boundary line 142 feet, more or less, to the point of beginning.

The location of the property is more particularly indicated on the plat attached hereto as Exhibit B and made a part hereof.

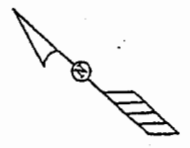


Revised Lease Site

Present Street Line  
 HIGHLAND DRIVE

<b>WISCONSIN CENTRAL LTD.</b>	
TOWN CEDARBURG COUNTY OZAUKEE STATE WISCO	
LEASE for CONDON OIL COMPANY	
SCALE 1" = 100' SEC. 26 TWP. 10N RGE. 21E	
VAL. SEC. W1 5 SALE <input type="checkbox"/> LEASE <input checked="" type="checkbox"/> LICENSE <input type="checkbox"/>	
MAP S-4A AREA = 5,160 SQ. FT. = .12 ACRES	





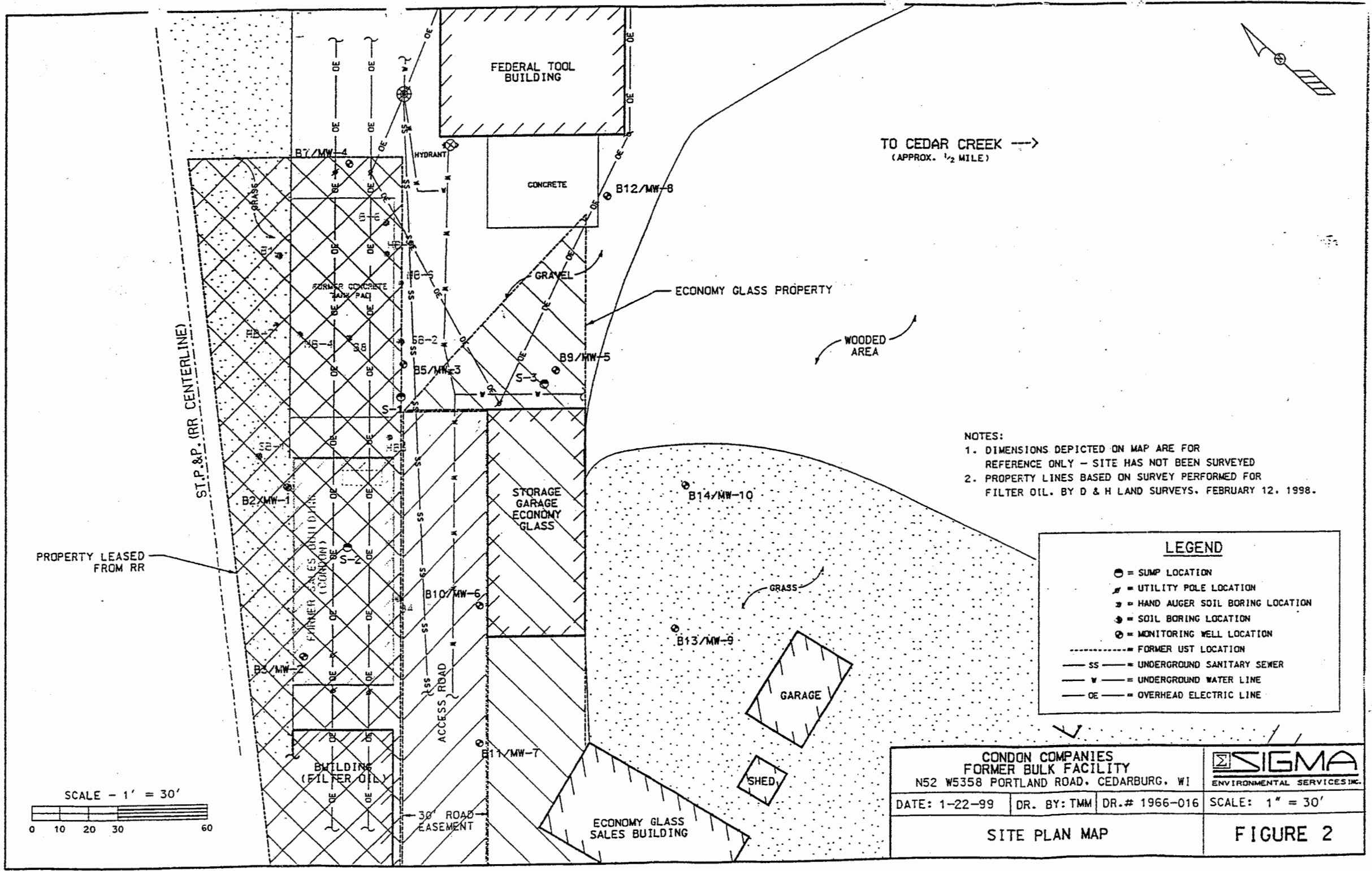
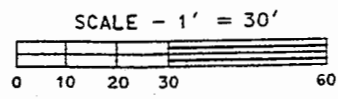
TO CEDAR CREEK →  
(APPROX. 1/2 MILE)

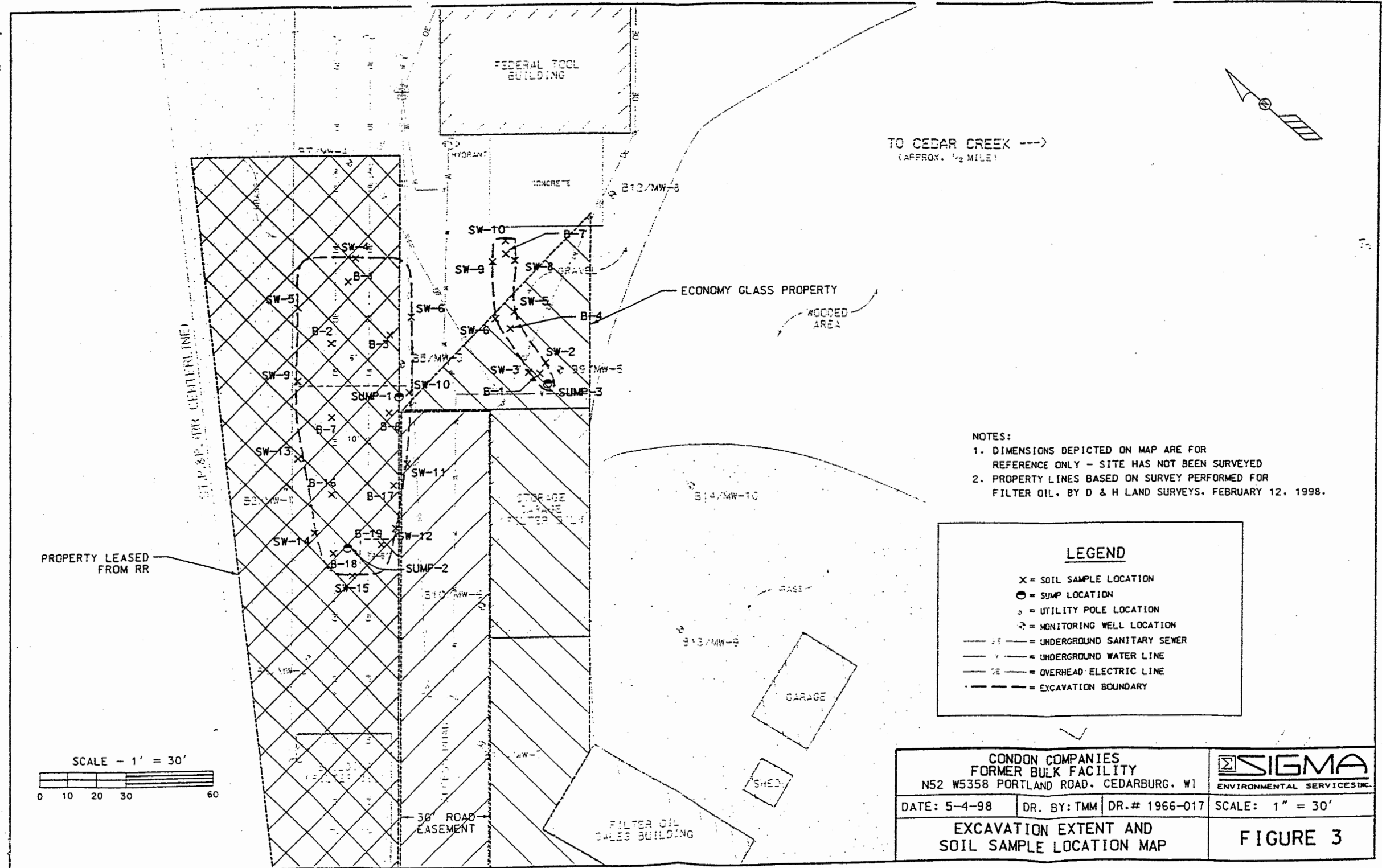
- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊕ = HAND AUGER SOIL BORING LOCATION
- ⊖ = SOIL BORING LOCATION
- ⊗ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE

CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2



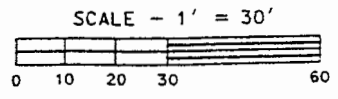


TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- X = SOIL SAMPLE LOCATION
- = SUMP LOCATION
- ⊙ = UTILITY POLE LOCATION
- ⊕ = MONITORING WELL LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- E — = OVERHEAD ELECTRIC LINE
- - - - = EXCAVATION BOUNDARY



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		ENVIRONMENTAL SERVICES INC.	
DATE: 5-4-98	DR. BY: TMM	DR. # 1966-017	SCALE: 1" = 30'
<b>EXCAVATION EXTENT AND SOIL SAMPLE LOCATION MAP</b>			<b>FIGURE 3</b>



October 27, 2000

Mr. Scott D. Prill  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, S.C.  
P.O. Box 514000  
Milwaukee, WI 53203-3400

RE: **COMMERCE # 53012-2106-50**  
Condon Bulk Facility, N52 W5358 Portland Road, Cedarburg, WI

**Draft Notice of Contamination to the Property**

Dear Mr. Prill:

The Department received draft versions of the *Notice of Contamination to Property*, in submittals dated October 6 and October 18, 2000 for approval of the deed language for on and off property deed instruments. Based upon a review of the submittals, the descriptions of the contamination and contaminated areas on and off the source property appear acceptable. However, please note that the Department is making no determination on the accuracy of the legal description information. It is up to the owner to ensure that the property location information is correctly stated.

Upon receipt of the recorded, notarized copies of the deed instruments, municipality notification documentation and monitoring well abandonment documentation, this case will be entered as "closed" on the Commerce database. If you have any questions, feel free to contact me at (414) 220-5376.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Michalets', with a long horizontal flourish extending to the right.

Linda M. Michalets  
Hydrogeologist  
Site Review Section

cc: Commerce electronic file

REINHART | BOERNER | VAN DEUREN  
NORRIS & RIESELBACH, S.C.

ATTORNEYS AT LAW

October 18, 2000

Scott D. Prill, Environmental Consultant  
Direct Dial: 414-298-8212  
sprill@reinhardtlaw.com

DELIVERED BY MESSENGER

Linda M. Michalets, Hydrogeologist  
Site Review Section  
Wisconsin Department of Commerce  
101 West Pleasant Street  
Suite 205  
Milwaukee, WI 53212

RECEIVED

OCT 18 2000

PECFA SITE REVIEW  
MILWAUKEE OFFICE

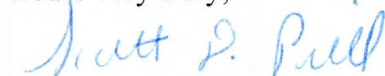
Dear Ms. Michalets:

Re: Commerce No. 53012-2106-50

I enclose a draft Notice of Contamination to Property (the "Notice") for the Condon Oil facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin (the "Property"). On August 31, 2000, the Wisconsin Department of Commerce issued a "Case Closure-Conditional Upon Receipt of Documentation" letter to the Condon Companies. The first condition for closure pertained to placement of a groundwater use restriction and notification of residual soil contamination on the deed to the Property. The enclosed Notice satisfies that condition of closure. Please review and provide us with any comments you have regarding the attached Notice. Once we receive your approval, we will have the Notice finalized and recorded with the Ozaukee County Register of Deeds (as well as the notice for the adjacent Economy Glass property previously submitted to you for review on October 6, 2000).

If you have any questions regarding the attached document, please call me. Thank you for your assistance in this matter.

Yours very truly,



Scott D. Prill  
Environmental Consultant, CHMM

MW\667574SDP:LK

Enc.

cc D. Gallo (w/o enc.)

NOTICE OF CONTAMINATION TO  
PROPERTY

Document Number

Legal Description of the Property: In re:

See attached Exhibit A. STATE OF WISCONSIN

COUNTY OF

) ss

)

Section 1.

(Owner) is the owner of the above-described property.

Recording Area

Name and Return Address

J. Bushnell Nielsen  
Reinhart, Boerner, Van Deuren, Norris &  
Rieselbach, s.c.  
1000 North Water Street  
Milwaukee, Wisconsin 53202

Parcel Identification

Number (PIN): Part of 13-  
050-18-00-000

Section 2. One or more petroleum discharges have occurred at this property. Petroleum contaminated groundwater above NR 140 enforcement standards and soils above NR 720 residual contaminant levels of the Wisconsin Administration Code exist on this property in the area of:

Monitoring Well: MW-1 (Benzene = 12 parts per billion [ppb])--based on 6/30/99 Analytical Data, and Soil Sample Locations: SW-4 (DRO = 1,190 parts per million [ppm], GRO = 256 ppm and Napthalene = 3,650 ppb), SW-11 (DRO = 21,000 ppm, GRO = 1,860 ppm, Benzene = <8,610 ppb and Ethylbenzene = 18,600 ppb), SW-12 (DRO = 5,000 ppm, GRO = 5,350 ppm, Benzene = 57,000 ppb, Ethylbenzene = 83,700 ppb, Toluene = <8,720 ppb, and Xylenes: 367,000 ppb), SW-14 (GRO = 350 ppm and Benzene = <3,500 ppb), SW-15 (DRO = 1,200 ppm, GRO = 502 ppm and Benzene = 2,450 ppb), Base 16 (Benzene = 1,710 ppb), Base 17 (Benzene= 960 ppb and Toluene = 3,310 ppb), Base 18 (Benzene = 960 ppb and Toluene = 3,310 ppb) and Base 19 (Benzene = <23,390 ppb, and Napthalene 984 ppb). The Monitoring Well and Soil Sample Locations are presented on Figures 2 and 3, respectively.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and

Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with Benzene levels as high as <23,390 ppb remains on this site in the area of Base 19. It has been shown that these levels are protective of health and the environment. If this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction, are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

By signing this document, he/she acknowledges that he/she is duly authorized to sign this document on behalf of Owner.

IN WITNESS WHEREOF, Owner has executed this document this \_\_\_\_ day of \_\_\_\_\_, 2000.

\_\_\_\_\_

BY \_\_\_\_\_

Its \_\_\_\_\_

State of \_\_\_\_\_ )

: SS

County of \_\_\_\_\_ )

This instrument was acknowledged before me on \_\_\_\_\_, 2000 by \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_.

[SEAL]

( \_\_\_\_\_ )

Notary Public, State of Illinois

My commission expires \_\_\_\_\_

EXHIBIT A

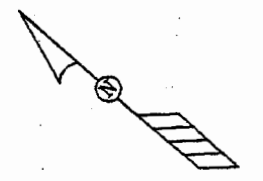
Land in the City of Cedarburg, Ozaukee County, Wisconsin, lying in the southwest 1/4 of the southwest 1/4 of Section 26, Township 10N, Range 21 east, bounded and described as follows:

START at the point where the northerly line of Portland Avenue, intersects the southeasterly boundary line of the Chicago, Milwaukee, Pacific and St. Paul Railroad former station ground property; thence northeasterly along said boundary line 340 feet to the point of beginning of the land to be described; thence northwesterly at right angles 55 feet, more or less, to the point distant 20 feet southeasterly of, as measured at right angles to, the center line of the Railroad Company's main track; thence northeasterly parallel to said main track 172 feet; thence southeasterly at right angles 30 feet, more or less, to said southeasterly boundary line; thence southwesterly along said boundary line 165 feet, more or less, to the point of beginning.

CONTAINING 7,224 square feet, more or less, the location thereof being more particularly indicated in red on the plat attached hereto and made a part hereof.

This document was drafted  
by:

Doanld P. Gallo, Esq.  
Reinhart, Boerner, Van  
Deuren,  
Norris & Rieselbach, s.c.  
1000 N. Water Street, Suite  
1900  
Milwaukee, WI 53202



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

ST.P.&P. (RR CENTERLINE)

PROPERTY LEASED FROM RR

FEDERAL TOOL BUILDING

CONCRETE

ECONOMY GLASS PROPERTY

WOODED AREA

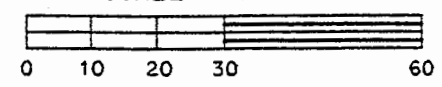
NOTES:

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- ⊙ = SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE

SCALE - 1" = 30'



BUILDING (FILTER OIL)

30' ROAD EASEMENT

ACCESS ROAD

STORAGE GARAGE ECONOMY GLASS

GARAGE

SHED

ECONOMY GLASS SALES BUILDING

FORMER SALES BUILDING (CONCRETE)

B2/MW-1

B3/MW-2

B7/MW-4

B5/MW-3

B10/MW-6

B11/MW-7

B9/MW-5

B12/MW-8

B13/MW-9

B14/MW-10

CONDON COMPANIES  
FORMER BULK FACILITY  
N52 W5358 PORTLAND ROAD, CEDARBURG, WI



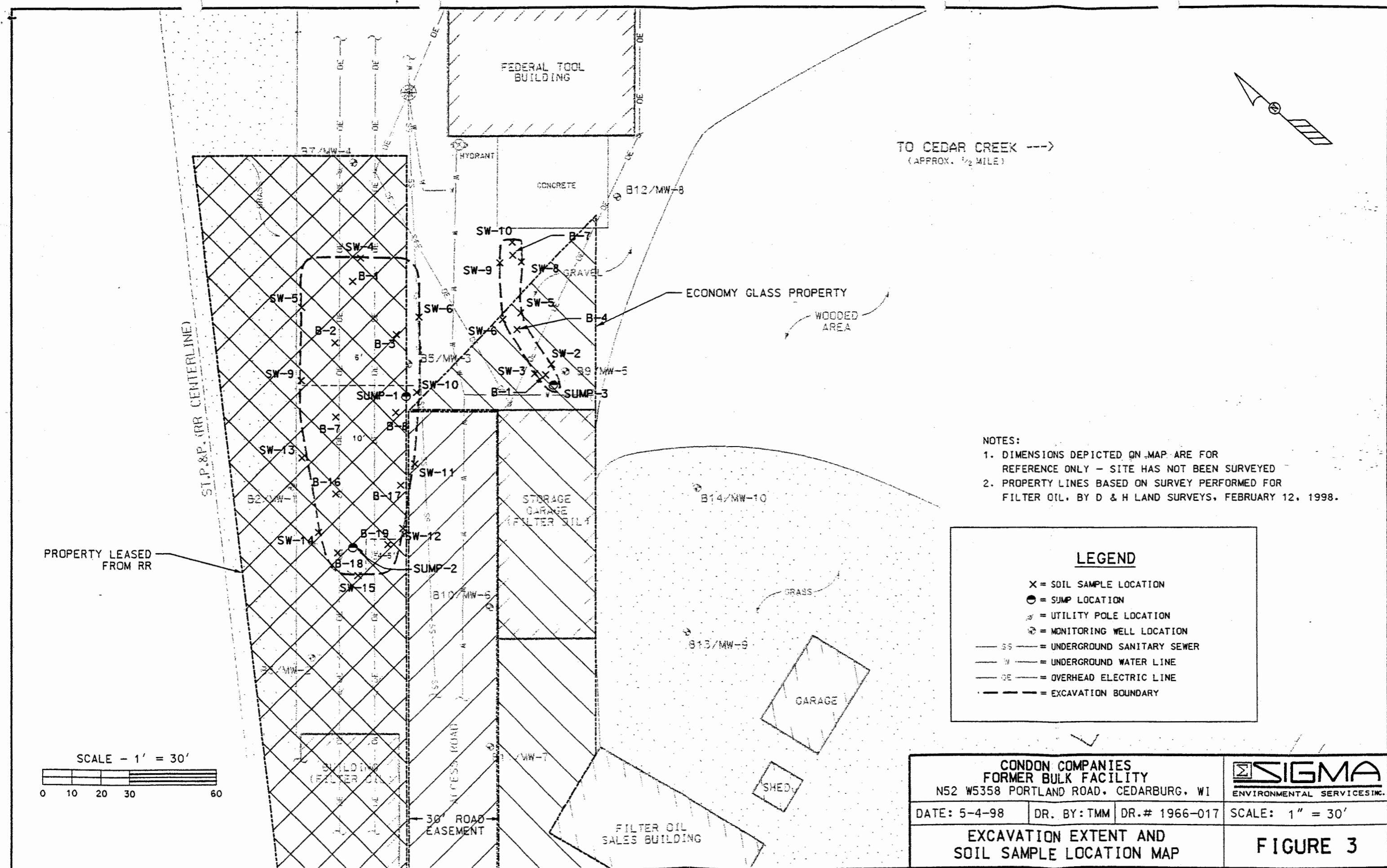
DATE: 1-22-99 DR. BY: TMM DR.# 1966-016

SCALE: 1" = 30'

SITE PLAN MAP

FIGURE 2



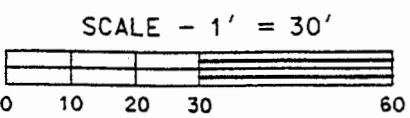


TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- X = SOIL SAMPLE LOCATION
- = SUMP LOCATION
- ⊕ = UTILITY POLE LOCATION
- ⊙ = MONITORING WELL LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE
- - - - = EXCAVATION BOUNDARY



<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 5-4-98	DR. BY: TMM	DR.# 1966-017	SCALE: 1" = 30'
<b>EXCAVATION EXTENT AND SOIL SAMPLE LOCATION MAP</b>			<b>FIGURE 3</b>

REINHART | BOERNER | VAN DEUREN  
NORRIS & RIESELBACH, S.C.

ATTORNEYS AT LAW

October 6, 2000

Direct Dial: 414-298-8212  
sprill@reinhardtlaw.com

RECEIVED

OCT 06 2000

PECFA SITE REVIEW  
MILWAUKEE OFFICE

DELIVERED BY MESSENGER

Linda M. Michalets, Hydrogeologist  
Site Review Section  
Wisconsin Department of Commerce  
101 West Pleasant Street  
Suite 205  
Milwaukee, WI 53212

Dear Ms. Michalets:

Re: Commerce No. 53012-2106-50

I enclose a draft Notice of Contamination to Property (the "Notice") for the Economy Glass property located adjacent to the Condon Bulk facility (N52 W5358 Portland Road, Cedarburg, Wisconsin). On August 31, 2000, the Wisconsin Department of Commerce issued a "Case Closure-Conditional Upon Receipt of Documentation" letter to the Condon Companies. The second condition for closure pertained to placement of a groundwater use restriction on the deed to the property located to the southeast and identified as the Economy Glass property. The enclosed Notice satisfies that condition of closure. Please review and provide us with any comments you have regarding the attached notice. Once we receive your approval, we will have the Notice finalized and recorded with the Ozaukee County Register of Deeds.

On a related item, we are in the process of preparing a draft groundwater use restriction and notification of residual soil contamination for the property leased by Condon Companies as well as the other two conditional closure items and will provide you with them when they are available.

If you have any questions regarding the attached document, please call me. Thank you for your assistance in this matter.

Yours very truly,

Scott D. Prill

Environmental Consultant, CHMM

MW\663849SDP:LK

Enc.

Document Number

NOTICE OF CONTAMINATION TO  
PROPERTY

Legal Description of the Property: In re:  
See attached Exhibit A

**DRAFT**

Recording Area

Name and Return Address

J. Bushnell Nielsen  
Reinhart, Boerner, Van Deuren, Norris &  
Rieselbach, s.c.  
1000 North Water Street  
Milwaukee, Wisconsin 53202

STATE OF WISCONSIN )  
 ) ss  
COUNTY OF OZAUKEE )

013050-18-15-000  
Parcel Identification Number (PIN)

Section 1. Jack Dunfee and Cecelia P. Dunfee, husband and wife, are the owners of the above-described property.

Section 2. One or more petroleum discharges have occurred at the property northwest of this site, leased by Condon Companies, at N52 W5358 Portland Road, Cedarburg. Petroleum contaminated groundwater above NR 140 enforcement standards of the Wisconsin Administration Code exists on this property in the area of Monitoring Wells:

MW-5 (Benzene = 340 parts per billion (ppb)), MW-6 (Benzene = 170 ppb) and S-3 (Benzene = 150 ppb) - Based on 6/30/99 Analytical Data. A Site Plan Map showing the locations of the monitoring wells, is attached as Figure 2.

Section 3. The owners hereby declare that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are

applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws of this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owners of the property has executed this document this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

\_\_\_\_\_  
Jack Dunfee

\_\_\_\_\_  
Cecelia P. Dunfee

State of Wisconsin     )  
                                      : SS  
County of Ozaukee     )

This instrument was acknowledged before me on \_\_\_\_\_, 2000 by Jack Dunfee and Cecelia P. Dunfee.

[SEAL]

\_\_\_\_\_  
(  
Notary Public, State of Wisconsin  
My commission \_\_\_\_\_)

This document was drafted by:  
Donald P. Gallo, Esq.  
Reinhart, Boerner, Van Deuren,  
Norris & Rieselbach, s.c.  
Suite 1900  
1000 North Water Street  
Milwaukee, Wisconsin 53202-3186

Exhibit A

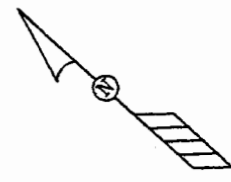
VOL 1138 PAGE 731

Lot 15, Block 18, of Assessor's Plat, being a part of the Southwest 1/4 of Section 26, Town 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin, TOGETHER WITH the right of way over a strip of land thirty feet wide, east of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad, and adjoining the same, and running from the Section Road to the above described land for road purposes.

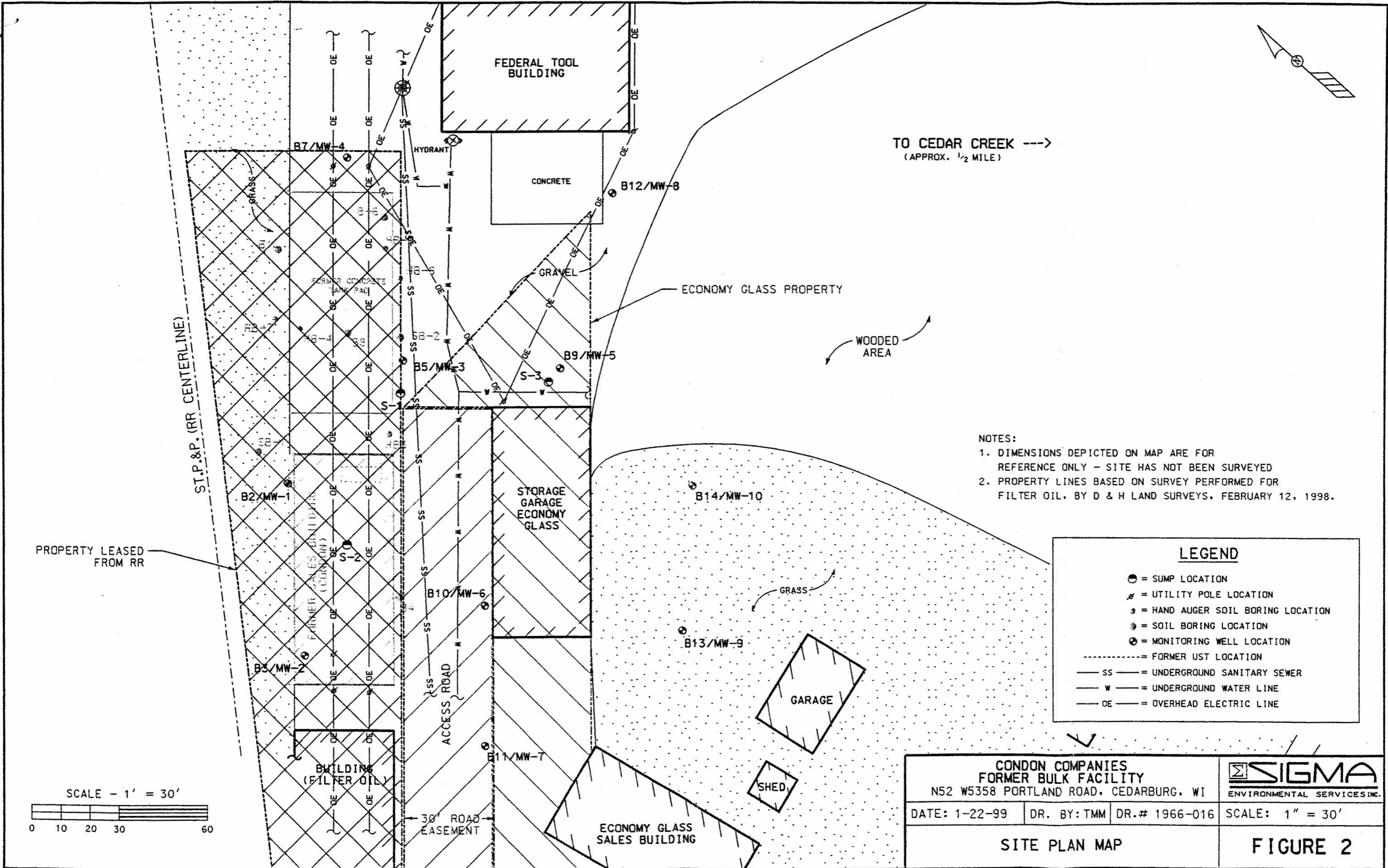
AND

An irregularly shaped parcel of land being in the Southeast Quarter of the Southwest Quarter of Section 26, Township 10 North, Range 21 West, Town of Cedarburg, Ozaukee County, Wisconsin, more particularly described as follows:

Beginning at the intersection of the south line of said Section 26 and the southeasterly station ground line of the former Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence northeasterly along said southeasterly station ground line to the north line of Northern Avenue; thence continuing along said southeasterly station ground line 340 feet; thence northwesterly at right angles to the last described line to a point 50 feet southeasterly of as measured radially from the centerline of the aforementioned former Railroad Company's main track; thence southwesterly along a line parallel to and 50 feet southeasterly of as measured radially to said main track centerline to a point on the south line of the aforementioned Section 26; thence easterly along said south line to the point of beginning.



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)



NOTES:  
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED  
2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

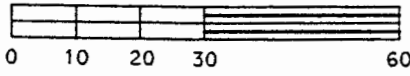
**LEGEND**

- = SUMP LOCATION
- = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS --- = UNDERGROUND SANITARY SEWER
- W --- = UNDERGROUND WATER LINE
- OE --- = OVERHEAD ELECTRIC LINE

PROPERTY LEASED FROM RR

ST.P.&P. (RR CENTERLINE)

SCALE - 1" = 30'



CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		<b>SIGMA</b> ENVIRONMENTAL SERVICES INC.
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016
SITE PLAN MAP		SCALE: 1" = 30'
		<b>FIGURE 2</b>

August 31, 2000

Mr. Thomas Reinsch  
Condon Companies  
P.O. Box 184  
Ripon, WI 54971-0184

RE: **COMMERCE # 53012-2106-50**  
Condon Bulk Facility, N52 W5358 Portland Road, Cedarburg, WI  
Nine 15,500-gallon Aboveground Storage Tanks removed in 1983; One 1,000-gallon  
Diesel Underground Storage Tank removed in 1994 and One 2,500-gallon Diesel  
Underground Storage Tank removed in 1998

**Case Closure - Conditional upon Receipt of Documentation**

Dear Mr. Reinsch:

On June 30, 2000, the Wisconsin Department of Natural Resources (WDNR) transferred the referenced case to the Wisconsin Department of Commerce for regulatory oversight. On July 13, 2000, the Department received a case closure request for the referenced site. The Department has reviewed the case file to determine if closure is appropriate.

It is understood that residual soil and groundwater contamination remain at this site. In April 1998, Sigma Environmental Services, Inc. oversaw the removal of approximately 2,400 tons of petroleum impacted soil from the former aboveground and underground storage tank (AST and UST) areas. Residual soil contamination remains primarily along the southern excavation base and sidewalls on site, extending under the access road. Groundwater contamination is also present, with benzene concentrations above enforcement standard (ES) on site, extending off site to the southeast. Using the standards established in NR 700 and the risk criteria of Comm 46, the Department has determined that this site does not pose a significant threat to the environment and human health and no further investigation or remedial action is necessary.

**The following items are necessary to satisfy the conditions of closure:**

- A groundwater use restriction and notification of residual soil contamination must be placed on the deed to the property leased by Condon Companies. The deed instrument must state that residual petroleum contamination exists on the site and that if a potable well is ever constructed, the Wisconsin Department Natural Resources water supply unit must be contacted to assist in proper design and placement. An example of the deed language is enclosed for your reference. Please submit a copy that has been signed, notarized, and filed with the County Register of Deeds. If you wish to modify the language, submit a copy to this office for review prior to filing.
- A groundwater use restriction must be placed on the deed to the property to the southeast, identified on figures as the Economy Glass Property. The deed instrument must state that if a potable well is ever constructed, the Wisconsin Department Natural Resources water supply unit must be contacted to assist in proper design and placement. An example of the deed language is enclosed for your reference. Please submit a copy that has been signed, notarized, and filed with the County Register of

Mr. Thomas Reinsch

**RE: Commerce # 53012-2106-50**  
Condon Oil Bulk Facility  
N52 W5358 Portland Road, Cedarburg, WI

August 31, 2000

Page 2

Deeds. If you wish to modify the language, submit a copy to this office for review prior to filing.

- The municipal department or property owner responsible for maintaining the access road must be notified in writing that petroleum contaminated soil remains within the roadway. Please provide the Department with documentation that the municipality/owner was notified.
- Monitoring wells should be abandoned per chapter NR 141 requirements. Please submit copies of the well abandonment forms to this office.

**IMPORTANT:** Before this case can be officially listed as "closed" on the Wisconsin Department of Commerce/Natural Resources computer database, you or your consultant must submit the requested information.

If, in the future, site conditions indicate that any contamination that remains poses a threat, the need for further remediation would be determined and required if necessary. If subsequent information indicates a need to reopen this case, any original claim under the PECFA fund would also reopen and you may apply for assistance to the extent of remaining eligibility.

If the land use conditions change in the future and the contaminated soil is disturbed, appropriate measures must be implemented to assure any residual contamination is managed following all applicable State of Wisconsin regulations and standards.

Upon receipt of all the requested documents, the case will be entered as "closed" on the database. If you have any questions, feel free to contact me at (414) 220-5376.

Sincerely,



Linda M. Michalets  
Hydrogeologist  
Site Review Section

Enclosures

cc: Mr. Timothy P. Welch, Sigma Environmental Services, Inc.  
Commerce electronic file



**Document Number**

**NOTICE OF CONTAMINATION TO  
PROPERTY**

Legal Description of the Property: In re:

(as it appears on the most recent deed)

**Recording Area**

**Name and Return Address**

STATE OF WISCONSIN            )  
  ) ss  
COUNTY OF                    )

**Parcel Identification Number (PIN)**

Section 1. \_\_\_\_\_ is the owner of the above-described property.

Section 2. One or more petroleum discharges have occurred at this property. \_\_\_\_\_ contaminated groundwater above NR 140 enforcement standards and soils above NR 720 residual contaminant levels of the Wisconsin Administrative Code exist on this property in the area of \_\_\_\_\_.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

Residual petroleum contaminated soil with \_\_\_\_\_ levels as high as \_\_\_\_\_ remains on this site in the area of \_\_\_\_\_. It has been shown that these levels are protective of health and the environment. If this contaminated soil is excavated in the future, it may be considered a solid waste and will need to be disposed in accordance with all applicable laws.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the

restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

IN WITNESS WHEREOF, the owner of the property has executed this document, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**[When appropriate use the following clause]:**

By signing this document, [he/she] acknowledges that [he/she] is duly authorized to sign this document on behalf of \_\_\_\_\_.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn to before me  
this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public, State of \_\_\_\_\_  
My commission \_\_\_\_\_

This document was drafted by the Wisconsin Department of Commerce.

Document Number

NOTICE OF CONTAMINATION TO  
PROPERTY

Legal Description of the Property: In re:

(as it appears on the most recent deed)

Recording Area

Name and Return Address

STATE OF WISCONSIN            )  
  ) ss  
COUNTY OF                        )

Parcel Identification Number (PIN)

Section 1. \_\_\_\_\_ is the owner of the above-described property.

Section 2. One or more petroleum discharges have occurred at the property northwest of this site, leased by Condon Companies, at N52 W5358 Portland Road, Cedarburg. \_\_\_\_\_ contaminated groundwater above NR 140 enforcement standards of the Wisconsin Administrative Code exists on the referenced property in the area of \_\_\_\_\_.

Section 3. The owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitations and/or restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific prohibitions or requirements are applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

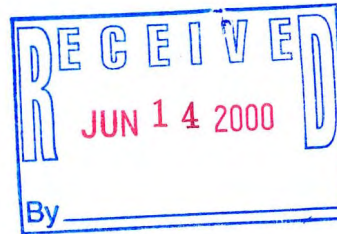
Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Commerce, or its successor, issue a determination that the restrictions set forth in this covenant are no longer required. That property owner shall provide any and all necessary information to the Department in order for the Department to be able to make a determination. Upon receipt of such a request, the Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the site specific standards, rules and laws for this property. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this restriction, or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the Department's written determination.

RECEIVED  
JUL 13 2000  
ERG DIVISION

June 8, 2000

Project Reference #1966

Program Assistant  
Wisconsin Department of Natural Resources  
P.O. Box 12436  
4041 North Richards Street  
Milwaukee, Wisconsin 53212



RE: **Former Condon Co. Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin  
FID # 246121150 PECFA Claim # 53012-2106-50**

Good Day:

62-46-098521

Enclosed is a copy of Sigma Environmental Services' report entitled *"A Report of the Remedial Activities and Request for Case Closure for the Former Condon Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin"*. The report provides a synopsis of remedial activities completed to date including source removal and quarterly groundwater monitoring. **This project is listed on the data base as a Wisconsin Department of Commerce (COMM) site, therefore, it is requested that this report and the project file be forwarded to COMM.**

Based on the results of remedial activities and a COMM 46 risk evaluation, Sigma, on behalf of the Condon Companies, requests case closure. If you have any questions or comments regarding this site or Sigma's report, please call our office at (414) 768-7144.

Respectfully submitted,

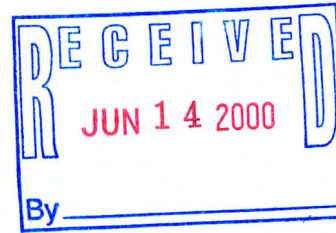
**SIGMA ENVIRONMENTAL SERVICES, INC.**

Timothy P. Welch, P.G.  
Project Manager

Enclosure

cc: Thomas Reinsch, Condon Companies





**A REPORT OF  
REMEDIAL ACTIVITIES AND REQUEST FOR  
CASE CLOSURE  
FOR THE  
FORMER CONDON COMPANIES BULK FACILITY  
N52 W5358 PORTLAND ROAD  
CEDARBURG, WISCONSIN**

**RECEIVED  
JUL 13 2000  
ERS DIVISION**

**FID # 246121150  
PECFA #53012-2106-50**

**PREPARED FOR:  
CONDON COMPANIES  
P.O. Box 184  
Ripon, Wisconsin 54971-0184**

**PREPARED BY:  
SIGMA ENVIRONMENTAL SERVICES, INC.  
220 East Ryan Road  
Oak Creek, Wisconsin 53154-4533  
(414) 768-7144**

**PROJECT #1966**

**JUNE 2000**

**Randy E. Boness, P.G.  
Senior Project Manager**

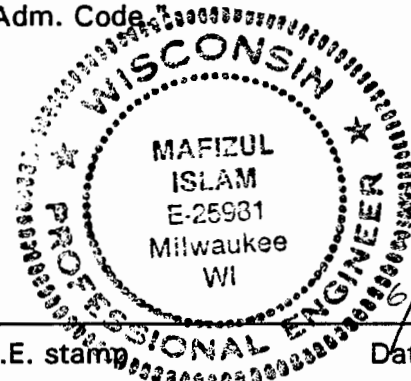
**Timothy P. Welch, P.G.  
Project Hydrogeologist**

**Mafizul Islam, P.E.  
Senior Project Engineer**

**CERTIFICATIONS**


"I, Mafizul Islam, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

*Mafizul Islam* *SR. PROJECT ENGR.*  
Signature, Title and P.E. number

  
P.E. stamp 6/8/00  
Date

"I, Timothy P. Welch, 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."

*Timothy P. Welch* *- PROJECT HYDROGEOLOGIST*  
Signature, Title, and P.G. Number *G-558*

  
P.G. Stamp 6/8/00  
Date

## EXECUTIVE SUMMARY

Sigma Environmental Services, Inc. (Sigma) of Oak Creek, Wisconsin was retained by Condon Companies (Condon) to provide environmental consulting and engineering services for remedial activities performed at property located at N52 W5358 Portland Road, Cedarburg, Wisconsin. The property, leased by Condon, is a former bulk petroleum storage and distribution facility. The remedial activities completed at the site included excavation of impacted soil to a site specific standard and quarterly groundwater monitoring, to demonstrate that natural attenuation will effectively address residual petroleum contaminants, and to meet regulatory closure requirements. The remedial activities were recommended by Sigma at the completion of a subsurface investigation, which delineated the extent of soil and groundwater contamination.

On August 26, 1993 petroleum impacts were identified during an environmental pre-assessment at the site. The impacts originated from the former aboveground storage tank (AST) bulk storage and distribution facility, which housed nine 15,000 gallon tanks, containing leaded and unleaded gasoline, fuel oil, diesel fuel and kerosene. Petroleum impacts were also encountered at the base of a 1,000 gallon diesel Underground Storage Tank (UST) which was located adjacent to the AST's. A release of petroleum hydrocarbons was reported to the Wisconsin Department of Natural Resources (DNR) on April 21, 1994. The DNR subsequently identified Condon as the responsible party required to determine the magnitude and extent of the petroleum release.

Between November 1994 and November 1995, Sigma conducted a multi-phase subsurface investigation at the site. Based upon the investigative results, an estimated 9,200 tons of soil, impacted to concentrations above those specified by the Wisconsin Administrative Code's (WAC) Chapter NR 720 Soil Quality Standards, were identified at the site. In addition, groundwater samples obtained from the groundwater monitoring well network were impacted to concentrations which exceeded the WAC Chapter NR 140 Groundwater Quality Enforcement Standards. Based on a review of technically feasible alternatives, Sigma recommended a remediation program which consisted of the excavation and landfill biotreatment of impacted soil, performed in conjunction with quarterly groundwater sampling and pumping\ off-site disposal.

On July 23, 1996 the Department of Industry, Labor, and Human Resource (DILHR), now the Department of Commerce (COMM), rejected the aforementioned remedial alternative and recommended using site specific soil standards to reduce the volume of soil requiring active remediation. In response, Sigma performed a Biofeasibility Study and SESOIL modeling which provided the data necessary to comply with DILHR's request. The volume of impacted soil requiring excavation and disposal was reduced to 2300 tons. The placement of an Oxygen Release Compound (ORC) along the base of the excavations was incorporated into the scope of work to enhance aerobic degradation of residual contaminants.

During April 1998, remedial activities were completed at the site which resulted in the removal of 2400 tons of petroleum impacted soil. After excavation and ORC placement activities were completed, three six inch diameter groundwater recovery sumps (S-1, S-2, and S-3) were installed in the excavations. Based on a review of confirmation soil sample analytical results, residually impacted soil exceeding the SESOIL model residual contaminant level remains along the southern base and sidewalls.

The monitoring wells were sampled as a means to evaluate the effectiveness of the remedial activities and to establish a statistical baseline to document groundwater contaminant attenuation. Laboratory analysis of groundwater samples detected concentrations of benzene, above WAC Chapter NR 140 groundwater quality Enforcement Standards, remaining in monitoring wells MW-5, MW-6 and Sump 3, each of which are located downgradient and off-site from the former source area. A review of the five completed rounds (post excavation) of groundwater quality data indicates, however, that the benzene concentration in wells MW-5, MW-6 and Sump 3 are decreasing or stable.

Based on data available to date, conditions at the site fall within the requirements for closure under NR 746\COMM 46, with the exception of some residual soil contamination above NR 746.06 Table 1 screening levels. Therefore, Sigma, on behalf of the Condon Companies, respectfully requests departmental review for case closure.



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### **FIGURES**

1. Site Location Map
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3. Excavation Extent and Soil Sample Location Map
4. Groundwater Contour Map (12/10/98)
5. Groundwater Contour Map (3/22/99)
6. Groundwater Quality Map (PVOCs)
7. Geochemical Quality Map (Post Excavation)

### **APPENDICES**

- A. Department of Commerce Remedial Action Plan Approval
- B. Generator's Waste Profile Sheet, Laboratory Analytical Report, and Off-Site Bioremediation Approval
- C. Monitoring Well Abandonment Forms
- D. Tank Closure Documentation
- E. Remedial Excavation Soil Verification and Transport Sample Laboratory Analytical Reports
- F. Groundwater Laboratory Reports

## 1. INTRODUCTION

The Condon Companies (Condon) retained Sigma Environmental Services, Inc. (Sigma) to implement remedial action activities at a property which they lease, located at N52 W5358 Portland Road in Cedarburg, Wisconsin (Figures 1 and 2). A former bulk petroleum storage and distribution facility was located at the property. This report provides a synopsis of the remedial actions, approved by the Wisconsin Department of Commerce (COMM) in October 1997 (Appendix A), and presents the results of the five post excavation groundwater monitoring data, to support case closure.

1.1 Scope of Work. Sigma coordinated, scheduled, and implemented the work associated with the remediation of petroleum impacted soil and groundwater. Sigma supplied the following technical services:

- Preparation of a remedial action plan for the site and the development of a contractor bid package. The remedial action was implemented on April 27, 1998, and Sigma observed the removal of approximately 2400 tons of petroleum impacted soil.
- Headspace analyses of confirmation soil samples using a Flame ionization Detector (FID) equipped with an internal hydrogen cylinder and calibrated for direct response to a 1000 ppm methane standard.
- Documentation of the extent of the excavation and lithology within the excavation.
- Documentation of excavation activities, transportation, and off-site disposal of petroleum impacted soil to the Orchard Ridge RDF Biosite in Menomonee Falls, Wisconsin.
- Collection of confirmation soil samples from the excavation sidewalls and base for laboratory analyses of Gasoline Range Organics (GRO), Diesel Range Organics (DRO), Petroleum Volatile Organic Compounds (PVOCs), and Total Lead to verify the removal of impacted soil. In addition, select soil samples were submitted for Polynuclear Aromatic Hydrocarbons (PAHs) analyses.

- Collection of impacted confirmation samples from soil removed from the property for laboratory analyses of GRO and benzene to verify that soil being transported to the Biosite was impacted.
- The placement of Oxygen Release Compound along the base of the excavations to enhance aerobic degradation of residual contaminants.
- The installation of three groundwater recovery sumps at select locations within the excavation to monitor groundwater quality and facilitate future pumping activities.
- Collection of groundwater samples, on a quarterly basis, from the monitoring well network for chemical analyses of PVOCs, Soluble Lead, nitrate-nitrite, soluble manganese, sulfate and various field measurements (dissolved oxygen, ferrous iron, and oxidation/reduction).
- Preparation of this report to document the observations, procedures, and laboratory results of the excavation activities, the quarterly post excavation groundwater monitoring, and recommendations for future activities at the site

## **1.2 Project Team**

The firms and contractors involved with the project include:

### Environmental Consulting Firm:

Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek, Wisconsin 53154-4533  
Telephone: (414) 768-7144  
Project Manager/Hydrogeologist: Timothy P. Welch, P.G.  
Project Engineer: Mafizul Islam, P.E.

### Remedial Services Contractor:

Gene Frederickson Trucking & Excavating, Inc.  
W1732 County Road KK  
Kaukauna, Wisconsin 54130

Laboratory Services:

NET Laboratory (now operating as TestAmerica)  
501 Commerce Drive  
Watertown, Wisconsin 53094  
Telephone: (800) 833-7036  
WDNR Certification #128053530

Off-Site Bioremediation Facility:

Waste Management of Wisconsin, Inc.  
Orchard Ridge Recycling and Disposal Facility  
N96 W13475 County Line Road  
Menomonee Falls, Wisconsin 53051  
Telephone: (414) 253-8620

**2. SUMMARY OF PREVIOUS ENVIRONMENTAL ACTIVITIES**

Condon Companies (Condon) retained Sigma Environmental Services, Inc. (Sigma) of Oak Creek, Wisconsin to conduct a subsurface investigation at the former petroleum bulk storage and distribution facility, located at N52 W5358 Portland Road, Cedarburg, Wisconsin. Condon currently leases the property. The purpose of the investigation was to evaluate the extent and character of petroleum impacts identified during a preliminary environmental assessment conducted by Sigma near the former diesel fuel underground storage tank (UST) and nine former 15,500 gallon steel aboveground storage tanks (ASTs) containing leaded and unleaded gasoline, kerosene, fuel oil, and diesel fuel at the site. The investigation was performed on-site and off-site to the south (Economy Glass, Federal Tool & Engineering, Inc., and Herbert Effenhiem property) in general accordance with Wisconsin Administrative Code (WAC) Ch. NR 716, "Site Investigation" requirements. The scope of work included 1) drilling exploratory soil borings, 2) installing groundwater monitoring wells, 3) collecting soil and groundwater samples for laboratory analysis, 4) evaluating the investigative results, and 5) developing a remedial action plan.

On August 26, 1993, Sigma conducted a preliminary environmental assessment to determine if petroleum impacted soil was present near the UST and former AST systems at the site. Based on the presence of discolored soil and petroleum odors, it was determined that a release had occurred. Three soil

samples were collected during the assessment. Based on independent laboratory analysis, petroleum impacted soil was present above the current NR 720 soil cleanup standards.

On April 11, 1994, one 1,000 gallon diesel fuel UST was removed from the property. Sigma observed the removal activities, tank cleaning procedures, inspected the integrity of the tank systems, and examined the open excavation. Sigma noted discolored soil along the sidewalls of the excavation and detected odors in the backfill and native soil. Based on field observations, a release in the tank pit had occurred. To confirm the release and determine the concentration of impacts, one sample was analyzed for Diesel Range Organics (DRO). The laboratory reported a DRO concentration of 81 parts per million (ppm).

The Wisconsin Department of Natural Resources (WDNR) was notified of the release, and they assigned the site to the **MEDIUM PRIORITY RANK GROUP** with no hazard score. In an April 21, 1994 letter, the WDNR required Condon to 1) conduct an investigation to determine the extent of soil and groundwater contamination, 2) remediate all environmental impacts caused by the release, and 3) sample any private water supply wells which may have been impacted by the release.

From November 1994 until December 1995, Sigma conducted an investigation to characterize the subsurface environment and determine the nature and extent of petroleum impacts beneath the site, and off-site to the south. The investigation included drilling fourteen soil borings on and off-site. The borings were drilled as a means to investigate potential release areas, classify the subsurface soil, and determine potential migration pathways. Ten soil borings were converted into groundwater monitoring wells to assess groundwater quality, determine groundwater flow direction, calculate the hydraulic gradient, and to monitor fluctuations in the shallow water table.

Review of laboratory results indicated that impacted soil was present on and off-site above the NR 720 soil cleanup standards. Soil impacts commingled and appear to have originated primarily in the vicinity of the former 1,000 gallon diesel fuel UST and the former 15,500 gallon ASTs. The majority of impacted soil was located adjacent to the former tank systems. The relatively

impermeable native silty clay and clayey silt beneath the site appeared to have prevented the widespread areal migration of impacts. Slight horizontal migration was attributed to small sand and silt stringers found in various borings and to the permeable backfill surrounding the underground utilities (sanitary sewer and water) located immediately east of the former UST and AST systems. The vertical extent of impacts ranged from the surface to ten feet below ground surface (bgs). Based on data from the preliminary assessment, UST closure assessment and subsurface investigation, the impacts were most concentrated from two to eight feet bgs across the entire site and off-site to the south and east. After reviewing the results of the assessments and subsurface investigation, an estimated 9,200 tons of petroleum impacted soil (GRO and/or DRO above 100 ppm) existed beneath the site. An additional estimated 675 tons of impacted soil located beneath a garage owned by the Filter Oil Company was deemed inaccessible.

During the investigation, ten groundwater monitoring wells were installed on and off-site. The wells were installed to assess groundwater quality, flow direction and horizontal hydraulic gradient. Laboratory analytical results of groundwater samples collected from the monitoring well network, indicated that Volatile Organic Compounds (VOCs) were present at concentrations above the WAC Chapter NR 140 Enforcement Standards (ES) or Preventive Action Limit (PAL) in groundwater samples from on and off-site locations. The impacts were most prevalent at and downgradient from the former tank systems. A shallow water table (approximately three to six feet bgs) may have inhibited the vertical migration of hydrocarbons, and a relatively flat hydraulic gradient (0.08 feet per foot) limited the lateral dispersion of impacts.

Based on the results of Sigma's subsurface investigation, the extent and character of soil and groundwater impacts were defined on-site and off-site to the southwest. However, the laboratory reported a Benzene concentration slightly above the NR 720 Enforcement Standard in monitoring well MW-1 located upgradient of the source area. The investigation generated data necessary to evaluate several remediation alternatives to restore soil and groundwater quality to WDNR NR 720 and NR 140 standards, respectively. The following alternatives were considered based on their technical feasibility, remediation efficiency and life cycle cost:

1. Excavation and active offsite bioremediation impacted soil, with quarterly groundwater recovery, off-site treatment and monitoring.
2. Excavation and landfill bioremediation of impacted soil greater than 2,000 ppm GRO/DRO coupled with landfill disposal of the remaining impacted soil, and quarterly groundwater recovery, disposal and monitoring.
3. Excavation and thermal destruction of impacted soil, quarterly groundwater recovery, off-site treatment, and monitoring.

All three remedial approaches were deemed technically feasible; however, landfilling coupled with the bioremediation of impacted soil and thermal treatment costs exceeded the cost to bioremediate the soil at a permitted bioremediation facility. In-situ soil remediation alternatives were not evaluated because they were not considered technically feasible in the silty clay lithology.

Based on an evaluation of viable remedial methods, Sigma recommended that petroleum impacted soil at the site, be remediated by excavating the soil for bioremediation at Waste Management's Orchard Ridge Recycling and Disposal Facility. Groundwater would be recovered quarterly and treated off-site. Additionally, a quarterly groundwater monitoring program would be instituted to assess the effectiveness of the remediation, and to document the site for closure under Chapter 726.

The aforementioned remedial alternative analysis (RAA) was submitted to the Department of Industry, Labor and Human Relations (DILHR) on February 23, 1996. On July 3, 1996, DILHR sent a response which disapproved of the recommended alternative. Subsequently, Sigma collected soil and groundwater samples and submitted them for a biofeasibility study. The study was performed to determine in-situ kinetic decay rates of contaminants, and obtain degradation rate constants which were utilized as input parameters for the unsaturated zone contaminant transport model SESOIL. The SESOIL model generated site specific clean-up levels for soils, which reduced the volume of impacted soils requiring active remediation.



On September 9, 1997, a revised RAA was submitted to the Department of Commerce (DCOM), which recommended the limited excavation and landfill bioremediation of 2,300 tons of impacted soil. Also, the recommendation included placement of 700 pounds of Oxygen Release Compound (ORC), placed along the base of the excavation to enhance the aerobic degradation of residual contaminants. A quarterly groundwater monitoring program would be implemented for a two year period to document contaminant attenuation, and evaluate the progress of the remediation. The DCOM approved the RAA on October 22, 1997.

### **3. DEVELOPMENT OF RESIDUAL CONTAMINANT LEVELS**

**3.1 Soil Cleanup Standards.** Prior to the implementation of the remedial activities, Sigma calculated a residual contaminant level (RCL), utilizing the Seasonal Soil Compartment (SESOIL®) model. The model evaluates subsurface movement and the transformation of Benzene, Toluene, Ethyl benzene and Total Xylenes (BTEX) compounds under various hydrogeologic conditions typical of southeastern Wisconsin, to calculate the residual concentration of BTEX that can potentially remain in the unsaturated soil and not be a continuous source of petroleum hydrocarbon contamination to groundwater, at concentrations above Chapter NR140 groundwater quality standards. The RCL for benzene was calculated using Chapter NR140 groundwater quality preventive action limit (PAL) of 0.5 micrograms per liter ( $\mu\text{g/l}$ ) as the target concentration. Based on the results of the SESOIL® modeling, Sigma calculated the following site specific RCLs:

Benzene: 347 micrograms per kilograms ( $\mu/\text{kg}$ )

Ethyl benzene: 13,000  $\mu\text{g/kg}$

Toluene: 19,000  $\mu\text{g/kg}$

Total Xylene's: 58,310  $\mu\text{g/kg}$

Documentation of the SESOIL® modeling results were included in Sigma's August 1997 report entitled, " Revised Remedial Alternative Analysis, Condon Oil- Former Cedarburg Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin", which was submitted to COMM.

## **4. SITE REMEDIATION**

### **4.1 Permitting**

With analytical data obtained during the site's subsurface investigation, a permit for the off-site bioremediation of petroleum impacted soil was approved by Waste Management of Wisconsin for its Orchard Ridge Recycling and Disposal Facility's Bio-Site® located in Menomonee Falls, Wisconsin. The Generator Waste Profile Sheet (profile number BIO468945), landfill characterization sample laboratory analytical report and facility approval are presented in Appendix B of this report.

### **4.2 Soil Excavation**

The soil removal activities were performed from April 27 through 30, 1998 within two areas of the property. The first area designated as "Excavation" was in the vicinity of the former UST and AST systems. The second area designated as "Trench" was located south of the water main lateral and east of Filter Oil's storage garage. The excavation boundaries were pre-determined based on subsurface investigation data, site specific residual contaminant levels, the required railroad track set - back and the location of site underground utilities. Site features are presented in Figure 2. Specifics of the excavation in the two areas is presented in the following sections.

**4.2.1 Excavation Activities.** On April 27, 1998, Gene Fredrickson Trucking (Fredrickson) initiated soil excavation in the vicinity of the former UST and AST systems. Native soil consists of a light brown, soft, silty clay to clayey silt with traces of fine to medium sand from the surface to approximately eight feet below ground surface (bgs). Below this depth, the silty clay/clayey silt becomes stiff and changes in color to a gray-brown to approximately 10 feet bgs. Removal of native soil continued in an westerly direction toward the former Condon sales building. The sales building was razed in March 1998 prior to the initiation of excavation activities. Directly off the northeast corner of the former building, a 2500 gallon diesel UST and associated piping was discovered at approximately three feet below ground surface (bgs). The UST was accessed and found to contain four feet of liquid material. To facilitate continued excavation activities, the area around the UST was left in place until the Cedarburg Fire Department and Independent Inspections,

Ltd. were contacted for notification, observation, and documentation purposes.

The excavation continued in a easterly and northerly direction maintaining an extended depth of ten feet bgs. The north boundary was maintained by the restriction of not excavating beyond 25 feet from the center of the railroad tracks. At approximately 35 feet east of groundwater monitoring well MW-1, the base of the excavation platformed up to six feet bgs based on reduced Flame Ionization Detector (FID) readings and field observations ( both olfactory and soil color ). Additionally, groundwater monitoring well MW-3 was abandoned by complete removal to facilitate excavation of impacted soil in this area. A monitoring well abandonment form is included as Appendix C.

Fredrickson contacted their UST removal and cleaning crew to take care of the UST. Approximately 1500 gallons of free liquids ( appeared to be groundwater - no odors or sheen ) was pumped into plastic containment vessels for temporary storage until a tanker was available to transport it off site. The UST was then removed, cleaned, and loaded onto a trailer for transport to Fredrickson's yard for dismantling and disposal. Independent Inspections, Ltd. came to the site to observe these activities. However, the field representative- Ron Habermann, deemed it unnecessary for him to witness the entire process and requested that paperwork be properly filled out and forwarded to their office for processing. Disposal information (sludge, scrap receipt, tank inventory form, and UST checklist) are presented in Appendix D.

Upon completion of UST removal activities, the excavation continued in the area of the tank. Impacts surrounding the tank were removed and activities progressed westerly in the area of the former building. Strong petroleum odors, elevated FID readings, and soil discoloration were prevalent beyond the proposed excavation boundary on the west end.

Therefore, the extent of excavation was expanded. The most severe impacts appeared to be from surface to four feet bgs.

The base of the excavation remained at six feet bgs on the east end extending to the former concrete retaining wall. All concrete (both retaining walls and base slabs) were removed as excavation progressed. The concrete debris was segregated for disposal and/or recycling purposes. The northern boundary extended beyond the restriction limit of 25 feet from railroad tracks, due to piping encountered at two feet bgs along the wall and the subsequent impacted soil that collapsed into the excavation. The northern boundary for a run of approximately 40 feet (east to west) was reduced to 18 feet from the railroad tracks.

The excavation was then continued parallel to the 6 inch PVC sewer line and six inch cast iron water main heading from east to west. From the eastern end extending west, soil was removed to within approximately one foot of the sewer line and began tapering away as the sewer line itself tapered in this direction. The excavation progressed in this fashion to the western most end. Additional soil was then removed from the area beneath the former building. The base of the excavation was platformed up to five feet bgs to accommodate the removal of the most severe impacts and stay within the projected volume of impacted soil to be removed.

A total of 80 truck loads were removed from the excavation and transported to Orchard Ridge RDF (approximately 2200 tons). The extent of excavation is presented as Figure 3.

**4.2.2 Trench Activities.** A separate excavation, south of the water lateral and east of Economy Glass's storage garage, which extended toward the Federal Tool building, was started. The excavation was a trench, which was approximately eight feet wide and extended a length of approximately 55 feet to a depth of eight feet bgs. Soil was continuously screened with the FID to ensure that only impacts were

removed. Clean soil was segregated and placed off to the side for later backfilling (approximately 80 tons). A total of five truck loads (approximately 130 tons) of impacted soil was removed. The extent of excavation is presented as Figure 3.

#### **4.3 Soil Transportation**

Impacted soil was transported to the Bio-Site® for bioremediation treatment by Frederickson Trucking and its sub-contractors. Samples of the transported soil were field screened with a FID to ensure that only impacted soil was leaving the site. The FID readings for these samples ranged from 110 to 999 meter units.

In accordance with the DNR's Soil Sampling Requirements for LUST Site Investigations and Excavations (Publ SW-127), soil transport samples were obtained upon the excavation of every 300 cubic yards of impacted soil. Samples were submitted to the project laboratory for Gasoline Range Organic compounds (GRO; Wisconsin Modified Method) and Benzene (PVOC; EPA Method 8020) analyses. The transport sample\ landfill confirmation soil sample analytical results are presented on Table 1, and a copy of the laboratory analytical reports are included in Appendix E.

#### **4.4 Confirmation Soil Sampling**

At the conclusion of the excavation activities, Sigma collected 29 soil samples from the base and perimeter of the remedial excavations to evaluate soil chemical quality. Duplicate soil samples from each sample location were collected for field screening by means of headspace analysis with a FID. The soil samples were collected from the backhoe bucket by the sampler equipped with single-use latex gloves to prevent cross-contamination. The verification soil sample locations are depicted on Figure 3.

Verification samples were analyzed for GRO, Diesel Range Organic (DRO; Wisconsin Modified Method), Total Lead (EPA Method 7421), and Petroleum Volatile Organic Compounds (PVOCs; EPA Method 8020). Additional samples were obtained from the base of the "excavation" and submitted for Polynuclear Aromatic Hydrocarbon analysis (PAH; EPA Method 8310). The samples for GRO/PVOC analysis were weighed to approximately 25 grams, placed in two-ounce glass jars, preserved with methanol, and sealed with Teflon-lined screw-

on lids. The samples for DRO analysis were handled similarly with the exception of methanol preservation. The laboratory sample jars were labeled, placed in a cooler with ice, and transported with a chain-of-custody document to the project laboratory for analysis. A methanol blank was included in the soil sampling program to determine if any contaminants infiltrated the sample during transportation or field procedures.

#### **4.5 Evaluation of Confirmation Sampling Results**

Sigma's review of the verification soil sample analytical results indicates that petroleum hydrocarbon impacts remain along the southern base and sidewalls, of the excavation. The highest concentrations are located along the southern boundary of the "excavation" along a sanitary sewer line and at the west end of the "excavation". Benzene concentrations exceeding the established site-specific residual contaminant level (RCL) of 347 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), and above the Table 1 Residual Contaminant Levels (RCLs) established in NR 720.09 of the Wisconsin Administrative Code, were reported in 13 of the 19 "excavation" base and sidewall samples. Concentrations of ethylbenzene, toluene, total xylenes exceeding Chapter NR 720.09 Table 1 RCLs were also reported in soil samples obtained from the west end of the "excavation". The samples, were, however obtained from beneath the expected water table, therefore, the results may be indicative of groundwater impacts. A summary of laboratory analytical results for the excavation and trench locations are presented as Tables 2 and 3, respectively. Copies of the laboratory reports are included in Appendix E of this report.

#### **4.6 ORC® Placement**

Following the excavation of petroleum-impacted soil, approximately 400 pounds of Oxygen Release Compound (ORC®) was placed along the northern, western and southern boundaries of the "excavation" and along the northern boundary of the "trench" to facilitate the biodegradation of residual petroleum hydrocarbon contaminants.

#### **4.7 Sump Installation and Excavation Backfill**

Upon completion of the excavating activities and ORC® placement, Sigma observed the installation of three, six inch diameter PVC groundwater recovery sumps designated as S-1, S-2 and S-3. Sump S-1 was installed in the area of former MW-1, and Sump S-2 was installed on the west end of the excavation.

Sump S-3 was installed adjacent to groundwater monitoring well MW-5 within the trench. The screened portion of the sumps were backfilled with a 3/4 inch washed stone which extended from five to ten ft bgs (approximately 20 cubic yards) . After completion, the excavation was backfilled with a sandy bank-run gravel and compacted, until the excavation was within one foot of grade. A 12 inch layer of traffic bond road gravel was used to return the area to grade. The location of each sump at the site is depicted in Figure 2

#### **4.8 Groundwater Sampling and Analyses**

**4.8.1 Surveying and Static Water Level Measurements.** The elevations of all reference points, riser pipes, and natural ground surfaces had previously been referenced to the nearest 0.01 foot relative to an on-site benchmark. To determine groundwater flow direction, calculate the horizontal hydraulic gradient and monitor temporal fluctuations in the water table at the property, water level elevation measurements were taken in the groundwater monitoring well network. Water levels were measured, to the nearest one hundredth of a foot, using an electronic water level measuring tape. Historical static water level measurements are presented on Table 4.

**4.8.2 Hydrogeologic Conditions.** Static water levels, measured in the developed monitoring well network, ranged from 2.8 to 5.36 ft bgs in May 1998, from 6.15 to 7.88 in August 1998, from 4.87 to 6.64 in December 1998 and 2.74 to 8.93 in March 1999. Based on static groundwater elevations, the horizontal component of groundwater flow beneath the site is consistently to the south/southeast. Using December 1998 data, the calculated average hydraulic gradient, using the groundwater elevations at monitoring wells MW-2, MW-5 and MW-10 is 0.080 feet per foot. Groundwater contour maps for the December 10, 1998 and March 22, 1999 monitoring events are included as Figures 4 and 5, respectively.

**4.8.3 Groundwater Sampling.** Post-remedial activities have included five groundwater sampling events. The monitoring well network was sampled on May 14, 1998, August 29, 1998, December 10, 1998, March 22, 1998 and June 30, 1999. Samples were collected by lowering decontaminated teflon bailers into the wells and transferring the

water samples via a bottom emptying device into sample bottles containing the appropriate preservatives. The sample containers were labeled, preserved as required, placed in a cooler with ice and transported with a Chain-of-Custody document to the laboratory for chemical analysis of Wisconsin Modified GRO, EPA Method 8020 PVOCs, EPA Method 6010 Soluble Lead, Wisconsin Modified DRO, EPA Method 8310 PAHs, manganese, sulfate, and total nitrate.

Dissolved oxygen (DO), oxidation/reduction potential (redox), ferrous iron, conductivity, pH and temperature field readings were collected from the well network, during each sampling event.

Trip blanks and field blanks were included in the groundwater sampling program. The blanks were analyzed to determine if contaminants infiltrated the sample during transportation or field procedures. Additionally, duplicate groundwater samples were analyzed to measure laboratory precision.

All equipment used during monitoring well, purging and sampling was decontaminated using the following procedure: Alconox soap wash, tap water rinse, hexane rinse and de-ionized water rinse. New bailer rope was used for each bailer and new tubing was used with the peristaltic pump on each well.

4.8.4 Groundwater Quality. In the five post source soil excavation sampling events, dissolved phase Benzene concentrations above WAC NR 140 Groundwater Quality Enforcement Standards (ES), have been detected in three of the nine monitoring wells (MW-1, MW-5 and MW-6), and one of the three sumps (S-3). There have been no other substances detected above WAC NR 140 Standards. Monitoring well MW-1, which is located on-site, had a Benzene concentration of below the analytical method detection limit and 12 micrograms per liter ( $\mu\text{g/L}$ ) in the March 22 and June 30, 1999 sampling events, respectively. There is a direct correlation between water table fluctuation and contaminant flux. The static water levels were 4.10 and 6.17 for the March 22 and June 30 events, respectively.



Off-site wells MW-5, MW-6 and S-3 located on Economy Glass property, have had relatively stable contaminant concentrations. At monitoring well MW-5, benzene concentrations have decreased from a pre-remedial action concentration of 1050 micrograms per liter ( $\mu\text{g/L}$ ) to 3.8  $\mu\text{g/L}$  (3/22/99), then increased in response to a water level drop, 340  $\mu\text{g/L}$  (6/30/99). In S-3, located in the trench excavation adjacent to MW-5, benzene concentrations have fluctuated from a high of 240  $\mu\text{g/L}$  (5/14/99) to 150  $\mu\text{g/L}$  (6/30/99). At MW-6, the benzene concentration is relatively stable, with an average post-remedial action benzene concentration of 212.50  $\mu\text{g/L}$ . Other PVOC compounds are below applicable WAC Chapter NR 140 groundwater standards. Although there is off-site groundwater contamination, with Benzene concentrations above the NR140 ES, the concentrations are well below the Table 1 value (1,500  $\mu\text{g/L}$ ) concentrations listed in COMM 46.

According to field measurements, the redox potentials ranged from -74.1 to 363.1 millivolts in the monitoring well network. These values generally indicate reduced oxygen conditions, but are acceptable for aerobic biodegradation. The higher range dissolved oxygen (DO) concentrations, indicative of levels observed in shallow flow systems (2-6 milligrams per liter [mg/l]) are present in monitoring wells MW-2, MW-4, MW-9, S-1 and S-2. However, lower ranges of DO concentrations are observed (0-1 mg/l) in wells MW-1, MW-5 and MW-6, (contaminated wells) indicating available oxygen has been or is being used for aerobic degradation.

Based on the results of geochemical analyses, groundwater pH is within the optimal range of pH for microbial degradation. In addition, levels of nutrients (nitrogen, manganese, and sulfate) appear to be high enough to support in-situ bioremediation. Elevated dissolved manganese (MN) levels in monitoring well MW-5 and MW-6 indicate intrinsic bioremediation in anaerobic zones since  $\text{MN}^{+4}$  is used as a terminal electron acceptor by microorganisms to yield reduced water soluble manganese ( $\text{MN}^{+2}$ ).

In general, the primary line of evidence of natural attenuation, decreasing contaminant trends using historical data, in conjunction with

an apparent stable or receding plume, indicate that natural attenuation is occurring. The secondary lines of evidence, geochemical indicator parameter analysis, are indicative of biodegradation processes occurring in the groundwater plume. Specifically, evaluation of the electron acceptors- dissolved oxygen, nitrate-nitrite and sulfate, which are utilized by microbes during biodegradation, suggest that attenuation is occurring. If biodegradation is occurring, it is expected that dissolved oxygen, and perhaps nitrate and/or sulfate will be depleted within the contaminant plume. Dissolved oxygen is depleted within the plume, as expected, however, there is not a clear correlation between nitrate and sulfate depletion. Manganese (soluble) and ferrous iron, are metabolic byproducts of microbial metabolism. When biodegradation is occurring, it is expected that concentrations will be elevated within the plume. Ferrous iron and manganese concentrations are elevated within the plume.

Laboratory analytical results for the post-remediation groundwater sampling events are summarized in Tables 5 and 6, and depicted in Figure 6. The geochemical laboratory analytical results and the field measurements are presented in Table 7. A geochemical quality map (post excavation) is presented as Figure 7. A copy of the Laboratory Reports and Chain-of-Custody Forms are presented as Appendix F.

## **5. SUMMARY OF REMEDIAL ACTIVITIES**

The following summary is based on the information gathered during remedial activities at the site.

- o A total of 2400 tons of petroleum-impacted soil was excavated from the site and transported to Waste Management's Orchard Ridge Recycling and Disposal Facility in Menomonee Falls, Wisconsin, for bioremediation treatment. The excavation included the former UST / AST area in addition to a trench located perpendicularly from a former Filter oil storage garage.
- o Sigma's review of the excavation soil verification sample analytical results indicates that the majority of petroleum hydrocarbon impacted

soil has been removed, although impacts remain. Benzene concentrations ranging from less than the laboratory detection limit to 2320  $\mu\text{g}/\text{kg}$  were reported in the soil samples obtained from the north, south and west walls of the "excavation" while a concentration of 64  $\mu\text{g}/\text{kg}$  was reported in a single soil sample obtained from the west base of the "trench". Concentrations of ethylbenzene, toluene, total xylenes exceeding Chapter NR 720.09 Table 1 RCLs were also reported in soil samples obtained from the west end of the "excavation". These samples were, however obtained from depths greater than the estimated groundwater table and may be indicative of groundwater impacts only.

- The subsurface soils at the site consist of silty clay and clayey silt. The predominant native soil lithology consists of a light brown, soft, silty clay to clayey silt with traces of fine to medium sand to approximately eight ft bgs. Below this depth, the silty clay/clayey silt becomes stiff and changes to a grey-brown color at approximately 10 ft bgs.
- During the excavation activities, monitoring well MW-3 was removed from the site. At the conclusion of the excavation activities, a total of three, six inch diameter PVC recovery sumps were installed in the "excavation" and the "trench".
- A monitoring well network of nine monitoring wells and three recovery sumps are located on and off-site. Groundwater samples were obtained in 1998 and 1999 in five consecutive quarterly groundwater sampling events. Samples were field screened for DO, pH, temperature, conductivity, ferrous iron and redox potential, and samples were submitted for PVOC, PAH, nitrate, sulfate, and dissolved manganese laboratory analysis.
- Laboratory analysis initially confirmed benzene concentrations, above WAC Chapter NR 140 Enforcement Standards, in two of the nine monitoring wells (MW-5 and MW-6) and within one of the sumps (S-3). The benzene concentrations at MW-5 and sump S-3, each located off-site and downgradient from the excavated areas, fluctuate with temporal changes in the water table. Benzene concentrations at MW-6, located at the south end of the "excavation", appear to be stable.

- o Based on five rounds of post source soil excavation groundwater monitoring, RNA appears to be on-going and addressing the remaining impacts at the site.
- o Potable water for the site and surrounding properties is provided by the City of Cedarburg.

**6. EVALUATION OF CHAPTER NR 746\COMM 46 RISK CRITERIA**

In accordance with the current and revised Chapter NR 746\COMM 46 (effective May 2000), the site was assessed to determine whether any of the risk screening criteria were present at the site including:

- a. Presence or absence of COMM 47 Environmental Factors (EFs) or the satisfactory response to any EF present including:
  - 1) Documented expansion of plume margin
  - 2) Verified contaminant concentrations in a private or public potable well that attains or exceeds the preventive action limit
  - 3) Contamination within bedrock or within 1 meter of bedrock
  - 4) Petroleum product that is not in the dissolved phase (floating product) is present with a thickness of 0.01 feet or more, and has been verified by more than one sampling event
  - 5) Documented contamination discharges to a surface water or wetland;

*None of the above noted factors have been identified at the site.*

- 1. No soil contamination is present at the site that exceeds any of the soil screening levels in Table 1, COMM 46.06

*Contaminated soil is present at concentrations above Table 1 values, in two of the sidewall confirmatory samples (SW-11 and SW-12) which were collected during the excavation, at depths of 6 feet below ground surface.*

- 2. There is no soil contamination within 4 feet of the ground surface that exceeds any of the direct contact soil concentrations for the substances listed in Table 2, COMM 46.06

*Approximately 2,400 tons of contaminated soil has been removed from the site. Contaminated soil remains at the northern, western and southern property boundaries of the "excavation", adjacent to a Wisconsin Central Railroad line. Additional excavation was not feasible due to the presence of the railroad and underground utilities. It appears that residually contaminated soils are present at depths below four feet.*

3. For substances not listed in Table 2 that are present within 4 feet of the ground surface and have been approved by the agency with administrative authority for the site as contaminants of concern as defined in s. NR 720.03 (2), any potential human health risk from direct contact has been addressed.

*It appears that there are no other contaminants of concern which would pose a potential human health risk. Contaminated soils which remain are present at depths greater than 4 feet.*

4. If there are petroleum-product contaminants in soil or groundwater, the most recent release that caused or contribute to the contamination is more than 10 years old.

*Condon Oil obtained the lease from Goetz Oil on November 23, 1982. Condon never operated the bulk plant and the AST's were emptied shortly after the November 1982 agreement. The AST's were removed from the site in 1983.*

5. There is no evidence of migration of petroleum product contamination within a utility corridor or within a permeable material or soil along which vapors, free product or contaminated water may flow.

*Some contaminated soil remains along the sewer and water lines. The sewer and water utility corridor may behave as a contaminant migration pathway, however, the monitoring wells located south of the residual contamination (MW-2 and MW-7) and down slope topographically, have consistently had no detects of contaminants above analytical method detection limits.*

6. There is no evidence of migration or imminent migration of petroleum product contamination to building foundation drain tile, sumps or other points of entry into a basement or other enclosed structure where petroleum vapors could collect and create odors or an adverse impact on indoor air quality or where the contaminants may pose an explosion hazard.

*There is no evidence to support contaminant/vapor migration to other structures. The Economy Glass storage garage is constructed slab on grade, and there are no other downgradient structures within the dissolved phase contaminant plume.*

7. No enforcement standard is attained or exceeded in any groundwater within 1000 feet of a well operated by a public utility, as defined in s. 196.01 (5), Stats., or within 100 feet of any other well used to provide water for human consumption.

*The City of Cedarburg is provided by a municipal water supply system, and no public wells were identified within 1,000 feet of the site. A private well is located within 100 feet of the site, however, it is believed that the well is used strictly for irrigation, and it is cased into bedrock. Also, groundwater from downgradient sentinel monitoring wells MW-9 and MW-10 (located between the contaminant plume and the private well) have historically been clean.*

## **7. CONCLUSIONS AND RECOMMENDATIONS**

Based on the information obtained to date, and in accordance with NR 746/COMM 46, "No Further Action" is recommended at the site. The majority of the source soil has been removed and the remaining groundwater impacts are remediating by the natural attenuation process. Therefore, considering that the existing site use and NR 746\COMM 46 risk criteria evaluation, Sigma on behalf of Condon, requests case closure status for the site.

## **8. LIMITATIONS OF INVESTIGATION**

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 conclusions and professional advice included in this report.

The interpretations and conclusions contained in this report are based upon the result of independent laboratory tests and analysis intended to detect the presence and/or concentrations of certain chemical constituents in samples taken from the subject property. Sigma has no control over such testing and analysis and therefore, disclaims any responsibility for any errors and omissions arising therefrom.

This report is issued with the understanding that it is the responsibility of the owner(s) to ensure that the information and recommendations contained herein are brought to the attention of the appropriate regulatory agency(ies).

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## **TABLES**



**TABLE 1**  
**LANDFILL CONFIRMATION SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Cu Yds	Date	Benzene ( $\mu\text{g}/\text{kg}$ )	GRO ( $\text{mg}/\text{kg}$ )
0 - 300	4/27/98	< 10,000	3,930
300 - 600	4/27/98	< 5,830	2,020
600 - 900	4/28/98	< 4,670	2,040
900 - 1,200	4/28/98	< 13,900	4,040
1,200 - 1,500	4/28/98	< 12,300	3,940
Key: Cu yds = Cubic yards of impacted soil transported to landfill $\mu\text{g}/\text{kg}$ = Laboratory reporting units -micrograms per kilogram $\text{mg}/\text{kg}$ = Laboratory reporting units - milligrams per kilogram GRO = Gasoline Range Organics			

**TABLE 2  
LABORATORY ANALYSIS - EXCAVATION SOIL SAMPLES  
CONDON COMPANIES  
FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 6' 4/28/98	Base 2 6' 4/28/98	Base 3 6' 4/28/98	SW-4 3' 4/28/98	SW-5 3' 4/28/98	SW-6 3' 4/28/98	Base 7 10' 4/28/98	Base 8 10' 4/28/98	SW-9 6' 4/29/98	SW-10 6' 4/29/98	SW-11 6' 4/29/98	SW-12 6' 4/29/98	SW-13 6' 4/29/98	SW-14 6' 4/29/98	SW-15 4' 4/29/98	Base 16 10' 4/29/98	Base 17 10' 4/29/98	Base 18 10' 4/29/98	Base 19 5' 4/29/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	<4.5	<4.5	<4.5	8.6	<4.6	<4.5	<4.5	<4.5	<4.6	<4.7	5.9	6.3	<4.7	<4.7	<4.8	<4.6	<4.6	<4.6	<4.5	50	NS
DRO (mg/kg)	5.9	5.7	<5.6	1,190	<5.7	100	8.9	10	180	249	21,000	5,000	27	140	1,200	65	39	25	181	250	NS
GRO (mg/kg)	17	27	<5.6	256	7.3	<5.7	<5.6	<5.6	48	97	1,860	5,350	55	350	502	<5.8	8.9	21	181	250	NS
Benzene	<234	<324	<28	<150	<28	<28	<28	<28	<29	<296	<8,610	<57,000	<340	<3,500	<2,630	2,320	1,710	960	<23,390	5.5	347
Ethylbenzene	<36	<64	<28	<365	<28	<28	<28	<28	<29	711	18,600	83,700	<790	<6,760	7,060	<29	160	1,370	6,450	2900	13,000
Methyl-t-butyl ether	<99	<134	<28	<150	<28	<28	<28	<28	<29	<261	<815	<30,200	<110	<443	<455	<29	<51	<100	<871	NS	NS
Toluene	<30	<33	<28	<150	35	<28	<28	<28	<29	<45	<803	<8,720	<94	<2,450	<490	100	194	3,310	<701	1500	19,000
1,2,4-Trimethylbenzene	45	112	<28	3,530	54	37	<28	<28	<630	3,440	75,700	157,000	730	8,280	16,700	<29	83	274	8,940	NS	NS
1,3,5-Trimethylbenzene	301	391	<28	1,340	<28	<28	<28	<28	<180	1,100	<3,490	48,800	450	3,150	6,340	<29	32	89	3,170	NS	NS
Xylenes, Total	<84	<84	<84	<792	<85	<85	<84	<84	<86	2,840	23,300	367,000	330	11,100	19,100	<87	194	1,940	20,400	4,100	58,310
Anthracene	NT	<5.6	<5.2	23	<5.4	<5.7	NT	NT	NT	NT	NT	36	NT	<5.6	<5.9	NT	NT	<5.7	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	19	NT	<5.6	24	NT	NT	<5.7	23	17,000*	NS
Benzo(b)fluoranthene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	13	NT	<5.6	19	NT	NT	<5.7	<5.6	48,000*	NS
Chrysene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	21	NT	<5.6	61	NT	NT	<5.7	<5.6	37,000*	NS
1-Methylnaphthalene	NT	<33	<32	5,120	<32	<34	NT	NT	NT	NT	NT	3,950	NT	90	610	NT	NT	<34	328	23,000*	NS
2-Mehtylnaphthalene	NT	<28	<26	10,200	<27	<28	NT	NT	NT	NT	NT	8,490	NT	175	921	NT	NT	<29	701	20,000*	NS
Naphthalene	NT	<33	<32	3,650	<32	<34	NT	NT	NT	NT	NT	3,950	NT	175	1,670	NT	NT	<34	984	400*	NS
Phenanthrene	NT	<5.6	<5.2	171	<5.4	<5.7	NT	NT	NT	NT	NT	953	NT	<5.6	24	NT	NT	<5.7	62	1,800*	NS
Pyrene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	314	NT	<5.6	26	NT	NT	<5.7	34	8,700,000*	NS
Fluoranthene	NT	<11	<10	37	<10	<11	NT	NT	NT	NT	NT	558	NT	<12	110	NT	NT	<11	53	500,000*	NS
Fluorene	NT	<11	<10	658	<10	<11	NT	NT	NT	NT	NT	279	NT	<12	<12	NT	NT	<11	35	100,000*	NS

All units in micrograms per kilogram (µg/kg) unless specified otherwise.

\* Proposed cleanup guidelines

NS = No soil cleanup standard

NT = Not tested

█ = Exceeds RCL

RCL = SESOIL Calculated Residual Contaminant Level

**TABLE 2**  
**LABORATORY ANALYSIS - EXCAVATION SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 6' 4/28/98	Base 2 6' 4/28/98	Base 3 6' 4/28/98	SW-4 3' 4/28/98	SW-5 3' 4/28/98	SW-6 3' 4/28/98	Base 7 10' 4/28/98	Base 8 10' 4/28/98	SW-9 6' 4/29/98	SW-10 6' 4/29/98	SW-11 6' 4/29/98	SW-12 6' 4/29/98	SW-13 6' 4/29/98	SW-14 6' 4/29/98	SW-15 4' 4/29/98	Base 16 10' 4/29/98	Base 17 10' 4/29/98	Base 18 10' 4/29/98	Base 19 5' 4/29/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	<4.5	<4.5	<4.5	8.6	<4.6	<4.5	<4.5	<4.5	<4.6	<4.7	5.9	6.3	<4.7	<4.7	<4.8	<4.6	<4.6	<4.6	<4.5	50	NS
DRO (mg/kg)	5.9	5.7	<5.6	1,190	<5.7	100	8.9	10	180	249	21,000	5,000	27	140	1,200	65	39	25	181	250	NS
GRO (mg/kg)	17	27	<5.6	256	7.3	<5.7	<5.6	<5.6	48	97	1,860	5,350	55	350	502	<5.8	8.9	21	181	250	NS
Benzene	<234	<324	<28	<150	<28	<28	<28	<28	<29	<296	<8,610	<57,000	<340	<3,500	<2,630	2,320	1,710	960	<23,390	5.5	347
Ethylbenzene	<36	<64	<28	<365	<28	<28	<28	<28	<29	711	18,600	83,700	<790	<6,760	7,060	<29	160	1,370	6,450	2900	13,000
Methyl-t-butyl ether	<99	<134	<28	<150	<28	<28	<28	<28	<29	<261	<815	<30,200	<110	<443	<455	<29	<51	<100	<871	NS	NS
Toluene	<30	<33	<28	<150	35	<28	<28	<28	<29	<45	<803	<8,720	<94	<2,450	<490	100	194	3,310	<701	1500	19,000
1,2,4-Trimethylbenzene	45	112	<28	3,530	54	37	<28	<28	<630	3,440	75,700	157,000	730	8,280	16,700	<29	83	274	8,940	NS	NS
1,3,5-Trimethylbenzene	301	391	<28	1,340	<28	<28	<28	<28	<180	1,100	<3,490	48,800	450	3,150	6,340	<29	32	89	3,170	NS	NS
Xylenes, Total	<84	<84	<84	<792	<85	<85	<84	<84	<86	2,840	23,300	367,000	330	11,100	19,100	<87	194	1,940	20,400	4,100	58,310
Anthracene	NT	<5.6	<5.2	23	<5.4	<5.7	NT	NT	NT	NT	NT	36	NT	<5.6	<5.9	NT	NT	<5.7	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	19	NT	<5.6	24	NT	NT	<5.7	23	17,000*	NS
Benzo(b)fluoranthene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	13	NT	<5.6	19	NT	NT	<5.7	<5.6	48,000*	NS
Chrysene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	21	NT	<5.6	61	NT	NT	<5.7	<5.6	37,000*	NS
1-Methylnaphthalene	NT	<33	<32	5,120	<32	<34	NT	NT	NT	NT	NT	3,950	NT	90	610	NT	NT	<34	328	23,000*	NS
2-Mehtylnaphthalene	NT	<28	<26	10,200	<27	<28	NT	NT	NT	NT	NT	8,490	NT	175	921	NT	NT	<29	701	20,000*	NS
Naphthalene	NT	<33	<32	3,650	<32	<34	NT	NT	NT	NT	NT	3,950	NT	175	1,670	NT	NT	<34	984	400*	NS
Phenanthrene	NT	<5.6	<5.2	171	<5.4	<5.7	NT	NT	NT	NT	NT	953	NT	<5.6	24	NT	NT	<5.7	62	1,800*	NS
Pyrene	NT	<5.6	<5.2	<5.8	<5.4	<5.7	NT	NT	NT	NT	NT	314	NT	<5.6	26	NT	NT	<5.7	34	8,700,000*	NS
Fluoranthene	NT	<11	<10	37	<10	<11	NT	NT	NT	NT	NT	558	NT	<12	110	NT	NT	<11	53	500,000*	NS
Fluorene	NT	<11	<10	658	<10	<11	NT	NT	NT	NT	NT	279	NT	<12	<12	NT	NT	<11	35	100,000*	NS

All units in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) unless specified otherwise.  
\* Proposed cleanup guidelines      ■ = Exceeds RCL  
NS = No soil cleanup standard      RCL = SESOIL Calculated Residual Contaminant Level  
NT = Not tested

**TABLE 3**  
**LABORATORY ANALYSIS - TRENCH SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 10' 4/30/98	SW-2 6' 4/30/98	SW-3 6' 4/30/98	Base 4 8' 4/30/98	SW-5 6' 4/30/98	SW-6 6' 4/30/98	Base 7 8' 4/30/98	SW-8 6' 4/30/98	SW-9 6' 4/30/98	SW-10 6' 4/30/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	5.7	21	<4.6	<4.5	<4.7	<4.8	6.5	<4.9	<4.6	<4.5	50	NS
DRO (mg/kg)	6.9	<5.7	87	<5.6	<5.8	<6.0	6.3	<6.1	<5.8	<5.6	NS	NS
GRO (mg/kg)	<5.7	<5.7	<5.7	<5.6	<5.8	<6.0	<5.6	<6.1	<5.8	<5.6	NS	NS
Benzene	64	<29	<29	<28	<29	<30	<28	<31	<29	<28	5.5	347
Ethylbenzene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	2900	13,000
Methyl-t-butyl ether	<29	<29	<29	<28	<29	<30	<28S	<31	<29	<28	NS	NS
Toluene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	1500	19,000
1,2,4-Trimethylbenzene	252	<29	32	<28	<29	110	<28	<31	<29	<28	NS	NS
1,3,5-Trimethylbenzene	206	<29	<29	<28	<29	<30	<28	<31	<29	<28	NS	NS
Xylenes, Total	241	<86	<86	<84	<87	<90	<84	<92	<87	<84	4,100	58,310
Anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	17,000*	NS
Benzo(b)fluoranthene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	48,000*	NS
Chrysene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	37,000*	NS
1-Methylnaphthalene	NT	NT	<31	<33	NT	<36	<33	NT	NT	<34	23,000*	NS
2-Mehtylnaphthalene	NT	NT	<26	<27	NT	<30	<27	NT	NT	<28	20,000*	NS
Naphthalene	NT	NT	50	<33	NT	<36	<33	NT	NT	<34	400*	NS
Phenanthrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	1,800*	NS
Pyrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	8,700,000*	NS

All units in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) unless specified otherwise.

\* Proposed cleanup guidelines

NS = No soil cleanup standard

NT = Not tested

**TABLE 3**  
**LABORATORY ANALYSIS - TRENCH SOIL SAMPLES**  
**CONDON COMPANIES**  
**FORMER CEDARBURG BULK FACILITY, CEDARBURG, WISCONSIN**

Location Depth (ft. bgs) Date	Base 1 10' 4/30/98	SW-2 6' 4/30/98	SW-3 6' 4/30/98	Base 4 8' 4/30/98	SW-5 6' 4/30/98	SW-6 6' 4/30/98	Base 7 8' 4/30/98	SW-8 6' 4/30/98	SW-9 6' 4/30/98	SW-10 6' 4/30/98	NR 720 Soil Cleanup Standards	RCL
Lead (mg/kg)	5.7	21	<4.6	<4.5	<4.7	<4.8	6.5	<4.9	<4.6	<4.5	50	NS
DRO (mg/kg)	6.9	<5.7	87	<5.6	<5.8	<6.0	6.3	<6.1	<5.8	<5.6	NS	NS
GRO (mg/kg)	<5.7	<5.7	<5.7	<5.6	<5.8	<6.0	<5.6	<6.1	<5.8	<5.6	NS	NS
Benzene	64	<29	<29	<28	<29	<30	<28	<31	<29	<28	5.5	347
Ethylbenzene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	2900	13,000
Methyl-t-butyl ether	<29	<29	<29	<28	<29	<30	<28S	<31	<29	<28	NS	NS
Toluene	<29	<29	<29	<28	<29	<30	<28	<31	<29	<28	1500	19,000
1,2,4-Trimethylbenzene	252	<29	32	<28	<29	110	<28	<31	<29	<28	NS	NS
1,3,5-Trimethylbenzene	206	<29	<29	<28	<29	<30	<28	<31	<29	<28	NS	NS
Xylenes, Total	241	<86	<86	<84	<87	<90	<84	<92	<87	<84	4,100	58,310
Anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	3,000,000*	NS
Benzo(a)anthracene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	17,000*	NS
Benzo(b)fluoranthene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	48,000*	NS
Chrysene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	37,000*	NS
1-Methylnaphthalene	NT	NT	<31	<33	NT	<36	<33	NT	NT	<34	23,000*	NS
2-Mehtylnaphthalene	NT	NT	<26	<27	NT	<30	<27	NT	NT	<28	20,000*	NS
Naphthalene	NT	NT	50	<33	NT	<36	<33	NT	NT	<34	400*	NS
Phenanthrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	1,800*	NS
Pyrene	NT	NT	<5.2	<5.4	NT	<5.9	<5.4	NT	NT	<5.6	8,700,000*	NS

All units in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) unless specified otherwise.

\* Proposed cleanup guidelines

NS = No soil cleanup standard

NT = Not tested

**Table 4**  
**HISTORICAL STATIC WATER LEVEL MEASUREMENTS**  
**CONDON BULK FACILITY**  
N52 W5358 Portland Road  
Cedarburg, Wisconsin

Well #	Elevation Top of Casing	Elevation Ground Surface	Static Water Level from Top of Well Casing	Groundwater Elevations	Date
MW-1	781.27	777.93	4.03	777.24	12/08/94
			4.66	776.61	09/07/95
			6.03	775.24	08/27/96
			3.83	777.44	07/09/97
			4.55	776.72	12/17/97
			3.90	777.37	05/14/98
			6.15	775.12	08/24/98
			4.87	776.40	12/10/98
			4.10	777.17	03/22/99
6.17	775.10	06/30/99			
MW-2	780.40	777.25	5.03	775.37	12/08/94
			4.74	775.66	09/07/95
			5.71	774.69	08/27/96
			3.89	776.51	07/09/97
			4.98	775.42	12/17/97
			4.18	776.22	05/14/98
			6.30	774.10	08/24/98
			5.25	775.15	12/10/98
			4.07	776.33	03/22/99
6.18	774.22	06/30/99			
MW-3	776.33	776.58	3.01	773.32	12/08/94
			3.84	772.49	09/07/95
			4.11	772.22	08/27/96
			2.74	773.59	07/09/97
			3.02	773.31	12/17/97
5.25	771.08	12/10/98			
MW-4	780.66	777.93	5.34	775.32	12/08/94
			6.28	774.38	09/07/95
			7.85	772.81	08/27/96
			4.23	776.43	07/09/97
			5.85	774.81	12/17/97
			4.38	776.28	05/14/98
			7.88	772.78	08/24/98
			5.29	775.37	12/10/98
			4.20	776.46	03/22/99
7.27	773.39	06/30/99			
MW-5	774.47	775.17	5.78	768.69	09/07/95
			7.36	767.11	08/27/96
			5.70	768.77	07/09/97
			6.57	767.90	12/17/97
			5.36	769.11	05/14/98
			6.30	768.17	08/24/98
			6.25	768.22	12/10/98
			3.63	770.84	03/22/99
			6.70	767.77	06/30/99
MW-6	774.93	775.19	4.32	770.61	09/07/95
			5.05	769.88	08/27/96
			4.40	770.53	07/09/97
			5.44	769.49	12/17/97
			4.36	770.57	05/14/98
			5.97	768.96	12/10/98
			3.62	771.31	03/22/99
			4.92	770.01	06/30/99

**Table 4**  
**HISTORICAL STATIC WATER LEVEL MEASUREMENTS**  
**CONDON BULK FACILITY**  
N52 W5358 Portland Road  
Cedarburg, Wisconsin

Well #	Elevation Top of Casing	Elevation Ground Surface	Static Water Level from Top of Well Casing	Groundwater Elevations	Date
MW-7	775.53	775.95	5.28	770.25	09/07/95
			8.12	767.41	08/27/96
			5.08	770.45	07/09/97
			6.58	768.95	12/17/97
			4.71	770.82	05/14/98
			6.45	769.08	08/24/98
			6.64	768.89	12/10/98
			4.77	770.76	03/22/99
			5.66	769.87	06/30/99
MW-8	774.03	774.57	4.91	769.12	09/07/95
			7.12	766.91	08/27/96
			3.90	770.13	07/09/97
			6.34	767.69	12/17/97
			3.97	770.06	05/14/98
			6.55	767.48	08/24/98
			not found	not found	12/10/98
			2.74	771.29	03/22/99
			6.43	767.60	06/30/99
MW-9	770.61	770.96	5.10	765.51	11/16/95
			4.90	765.71	07/09/97
			dry	dry	12/17/97
			4.80	765.81	05/14/98
			dry	dry	08/24/98
			dry	dry	12/10/98
			6.45	764.16	03/22/99
dry	dry	06/30/99			
MW-10	768.18	768.63	3.12	765.06	11/16/95
			7.29	760.89	08/27/96
			3.50	764.68	07/09/97
			6.62	761.56	12/17/97
			2.80	765.38	05/14/98
			6.70	761.48	08/24/98
			6.19	761.99	12/10/98
			8.93	759.25	03/22/99
			5.33	762.85	06/30/99
S-1	*	*	3.64	*	08/24/98
			2.85		12/10/98
			0.98		03/22/99
			3.16		06/30/99
S-2	*	*	3.43	*	08/24/98
			2.10		12/10/98
			0.93		03/22/99
			2.97		06/30/99
S-3	*	*	6.50	*	08/24/98
			6.11		12/10/98
			3.11		03/22/99
			6.20		06/30/99

Site benchmark is a manhole cover in the intersection of Portland Road and Struck Lane (744.19 mean sea level).

\* = Has Not Been Surveyed

**TABLE 5**  
**GROUNDWATER ANALYTICAL SUMMARY : GRO, PVOC & NAPHTHALENE**  
**DETECTED COMPOUNDS ONLY**  
**CONDON BULK FACILITY**  
 N52 W5358 Portland Road  
 Cedarburg, Wisconsin

WELL	Date	GRO (µg/l)	Lead (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	1,2,4-TMB (µg/l)	1,3,5-TMB (µg/l)	Naphthalene (µg/l)
MW-1	12/08/94	1100	NA	<1.0	1.7	28	24.7	1.1	12	36	**
	09/07/95	NA	NA	14	<3.0	116	44	<1.4	15	36	NA
	08/27/96	1700	NA	<15*	<10*	<5.0	63	70	26	39	NA
	07/09/97	1900	2	<0.16	<0.36	41	44.1	4.2	27	31	**
	12/17/97	1600	<1.5	<0.32	1.7	36	40.4	12	28	32	**
	05/14/98	1300	1.7	<3.0	<2.0	38	32	<3.0	19	15	**
	08/24/98	NA	NA	41	11	36	28	<8.8	21	22	**
	12/10/98	NA	NA	<0.41	4.5	22	24	<0.41	20	28	NA
	03/22/99	NA	NA	<4.5	<1.8	35	27	<1.2	24	28	NA
	06/30/99	NA	NA	12	<2.5	25	18	26	13	14	6.1
MW-2	12/08/94	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**
	09/07/95	NA	NA	<0.5	<0.6	<0.6	<1.7	<1.4	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.05	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	1.6	<0.16	<0.36	<0.29	<1.15	<0.20	<0.30	<0.34	**
	12/17/97	<50	<1.6	<0.16	<0.36	<0.29	<0.21	0.23	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.60	<0.22	<0.29	**
	08/24/98	NA	NA	0.18	<0.20	<0.22	0.36	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.41	<0.38	<0.43	<1.4	<0.41	<0.42	<0.58	NA
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
MW-3	12/08/94	1100	NA	13	<2.5	83	482.9	<2.5	150	64	**
	09/07/95	NA	NA	17	2.4	181	225	<2.7	103	43	NA
	08/27/96	690	NA	6.1	1.1	57	100	<1.0	62	18	NA
	07/09/97	2100	2.8	9.1	2.6	190	394.3	2.3	210	72	**
	12/17/97	3400	<1.5	14	4.1	260	596.1	12	300	99	**
MW-4	12/08/94	<50	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**
	09/07/95	NA	NA	<0.5	<0.6	<0.6	<1.7	<2.7	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	1.9	<0.16	<0.36	<0.29	<1.15	<0.20	<0.34	<0.30	**
	12/17/97	<50	<1.5	<0.16	<0.36	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.60	<0.22	<0.29	**
	08/24/98	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.41	0.72	<0.43	<1.4	<0.41	<0.42	<0.58	NA
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
MW-5	09/07/95	1490	NA	1050	8.2	3.7	94.9	<2.7	16	2.4	NA
	08/27/96	2000	NA	980	15	<10	200	<10	55	<10	NA
	07/09/97	2300	2.9	950	14	4.9	225.9	1.2	63	7.8	**
	12/17/97	2200	<1.8	1100	15	3.2	225.4	2	49	5.8	**
	05/14/98	1400	<0.89	600	8.9	1.7	140	<1.0	35	2.6	**
	08/24/98	NA	NA	840	16	4.4	270	0.8	76	4.4	**
	12/10/98	NA	NA	820	12	4.7	160	<0.41	46	<0.58	NA
	03/22/99	NA	NA	3.8	<0.20	<0.22	1.4	<0.16	0.32	<0.29	<0.46
	06/30/99	NA	NA	340	8.2	1.8	160	<4.5	49	0.69	0.79
	MW-6	09/07/95	1930	NA	294	7.8	8.6	<22	<27	<17	<9.0
08/27/96		2300	NA	410	10	40	9.8	40	4.8	14	NA
07/09/97		2500	<1.8	370	8.3	37	3.9	5.7	3.2	4.7	**
12/17/97		2800	<1.6	310	7.8	39	5.9	17	6.9	8.5	**
05/14/98		970	<0.89	290	4.6	21	1.3	<2.5	3.2	<1.5	**
12/10/98		NA	NA	170	8.2	24	2.1	<10	4.9	4.2	NA
03/22/99		NA	NA	220	6.7	25	2.7	1.8	7.2	<0.28	NA
06/30/99		NA	NA	170	4.1	14	<1.2	<2.1	2	<1.5	6



**TABLE 5  
GROUNDWATER ANALYTICAL SUMMARY : GRO, PVOC & NAPHTHALENE  
DETECTED COMPOUNDS ONLY  
CONDON BULK FACILITY  
N52 W5358 Portland Road  
Cedarburg, Wisconsin**

WELL	Date	GRO (µg/l)	Lead (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	1,2,4-TMB (µg/l)	1,3,5-TMB (µg/l)	Naphthalene (µg/l)
MW-7	09/07/95	61	NA	<0.50	<0.6	<0.6	<2.3	<2.7	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	3.4	<0.16	<0.36	<0.29	<1.15	<0.20	<0.30	<0.34	**
	12/17/97	<50	<1.6	<0.16	<0.36	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	0.13	<0.20	<0.22	0.26	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.41	<0.38	<0.43	<1.4	<0.41	<0.42	<0.58	NA
	03/22/99	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	06/30/99	NA	NA	<0.13	<0.2	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
MW-8	09/07/95	<28	NA	<0.50	<0.6	<0.6	<2.2	<2.7	<1.7	<0.9	NA
	08/27/96	<50	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	<50	2.3	<0.16	<0.36	<0.29	<1.15	4.8	<0.30	<0.34	**
	12/17/97	<50	<1.6	<0.16	<0.36	<0.29	<0.21	13	<0.30	<0.34	**
	05/14/98	<50	<0.89	<0.13	<0.20	<0.22	<0.23	<3.6	<0.22	<0.29	**
	08/24/98	NA	NA	<0.13	<0.20	<0.22	<0.23	4.6	<0.22	<0.29	NA
	12/10/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	<0.13	<0.20	<0.22	<0.23	0.98	<0.22	<0.29	<0.46
MW-9	11/16/95	167	NA	<0.50	1.3	<0.6	<1.7	<2.7	<1.7	<0.9	NA
	07/09/97	510	NA	<0.16	<0.36	<0.29	<1.15	1.1	<0.3	<0.34	NA
	05/14/98	<50	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/10/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
03/22/99	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA	
MW-10	11/16/95	61	NA	1.7	1.0	<0.6	<1.7	NA	<1.7	<0.9	NA
	08/27/96	210	NA	<0.50	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	NA
	07/09/97	190	1.6	0.4	<0.36	<0.29	<1.15	0.41	0.41	<0.34	**
	12/17/97	68	<1.5	<0.16	0.67	<0.29	<0.21	<0.20	<0.30	<0.34	**
	05/14/98	110	<0.89	0.97	<0.20	<0.22	<0.28	<0.16	<0.22	<0.29	**
	08/24/98	NA	NA	0.9	<1.5	<0.22	0.79	<0.17	0.26	<0.29	NA
	12/10/98	NA	NA	0.49	0.62	<0.22	0.36	1.3	<0.22	<0.29	NA
	03/22/99	NA	NA	<0.15	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	06/30/99	NA	NA	<0.13	0.77	<0.22	0.26	<0.16	<0.22	<0.29	<0.46
Sump 1	05/14/98	<50	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	08/24/98	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	12/10/98	NA	NA	<0.13	<0.20	<0.22	<0.23	1.1	<0.22	<0.29	NA
	03/22/99	NA	NA	<0.13	<0.20	<0.22	<0.23	1.1	<0.22	<0.29	<0.46
	06/30/99	NA	NA	<0.13	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	<0.46
Sump 2	05/14/98	3500	NA	510	130.0	100	520	<3.2	240	85	NA
	08/24/98	NA	NA	0.94	<0.47	0.53	3.2	<0.40	1.2	0.64	NA
	12/10/98	NA	NA	0.35	<0.20	<0.22	<0.23	<0.16	<0.22	<0.29	NA
	03/22/99	NA	NA	0.42	0.3	0.46	0.66	<0.16	0.57	<0.29	<0.46
	06/30/99	NA	NA	3.7	0.3	0.77	0.35	<0.20	0.42	<0.29	0.97
Sump 3	05/14/98	1300	NA	240	5.6	17	130	<4.0	24	<55	NA
	08/24/98	NA	NA	160	4.3	7.7	77	<0.16	29	19	NA
	12/10/98	NA	NA	150	3.7	14	54	1.7	30	0.81	NA
	03/22/99	NA	NA	95	2.0	1.8	32	<0.32	24	1.7	11
	06/30/99	NA	NA	150	3.1	16	37	<1.8	36	<0.58	16
Duplicate <sup>1</sup>	12/08/94	NA	NA	13	<2.5	81	472.7	<2.5	140	62	NA
	09/07/95	NA	NA	14	7	53	46	<2.7	16	34	NA
	11/16/95	NA	NA	1.7	0.8	<0.6	<1.7	<2.7	<1.7	<0.9	NA
	08/27/96	2600	NA	1100	14	<10	220	<10	69	<10	NA
	07/09/97	NA	NA	1000	15	6.4	227.1	<2.0	62	7.7	NA
	12/17/97	2400	NA	1100	16	4.1	286.9	<2.0	80	7.7	NA
	05/14/98	1400	NA	590	8.6	1.7	140	<1.0	35	2.9	NA
	08/24/98	NA	NA	760	15	3.5	240	<0.80	70	4.0	NA
	12/10/98	NA	NA	720	11	2.9	160	<1.2	45	1.0	NA
	03/22/99	NA	NA	4.3	<0.20	<0.22	1.4	<0.16	0.32	<0.29	NA
NR140 ES	---	15	5	343	700	620	60	480	480	40	
NR140 PAL	---	1.5	0.5	68.6	140	124	12	96	96	8	

KEY:  
 \* = Matrix Interference  
 \*\* = Naphthalene run as Polynuclear Aromatic Hydrocarbons (PAH; EPA Method 8310)  
<sup>1</sup> = Duplicates taken at MW-3 on 02/08/94, MW-1 on 09/07/95, and MW-5 on 08/27/96, 07/09/97, 12/17/97, and 5/14/98.  
 µg/l = micrograms per liter  
 GRO = Gasoline Range Organics  
 MTBE = Methyl-tert-Butyl Ether  
 TMB = Trimethylbenzene  
 ES = Chapter NR 140, Wisconsin Administrative Code Enforcement Standard  
 PAL = Chapter NR140, Wisconsin Administrative Code Preventive Action Limit  
 [Pattern] = Exceeds NR 140 ES  
 NA = Not Analyzed  
 --- = No Established Standard or Limit  
 MW-3 abandoned by excavation activities on 4/27/98

**TABLE 6**  
**GROUNDWATER ANALYTICAL SUMMARY: DRO and PAH**  
**DETECTED COMPOUNDS ONLY**  
**CONDON BULK FACILITY**  
**N52 W5358 Portland Road**  
**Cedarburg, Wisconsin**

WELL	Date	DRO (µg/l)	Acenaphthylene (µg/l)	1-Methylnaphthalene (µg/l)	2-Methylnaphthalene (µg/l)	Fluorene (µg/l)	Naphthalene (µg/l)	Phenanthrene (µg/l)	Pyrene (µg/l)
MW-1	12/08/94	880	<2.5	1.6	<1.3	0.99	2.2	<0.25	<0.25
	07/09/97	630	0.69	3.3	1.9	<0.061	5.3	<0.050	<0.010
	12/17/97	600	1.2	2.9	1.9	0.35	4.8	<0.050	<0.010
	05/14/98	850	<0.57	7.6	<0.62	<0.030	3.2	<0.014	<0.048
	08/24/98	NA	<0.59	4.3	0.53	<0.031	9.2	<0.015	<0.050
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
MW-2	12/08/94	250	<1.0	<0.5	<0.5	<0.10	<0.5	<0.10	<0.10
	07/09/97	190	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	12/17/97	<100	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	05/14/98	200	<0.59	<0.43	<0.65	<0.031	<0.24	0.13	<0.051
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
	MW-3	12/08/94	4300	<5.0	8.6	6.4	<0.5	10	<0.5
07/09/97		5400	<0.46	59	76	<1.5	130	<1.2	<0.25
12/17/97		2100	0.93	31	31	<0.85	70	3.8	0.013
MW-4	12/08/94	190	<1.0	<0.5	<0.5	<0.10	<0.5	<0.10	<0.10
	07/09/97	150	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	0.01
	12/17/97	180	<0.46	<0.45	<0.42	<0.061	<0.48	0.08	0.012
	05/14/98	150	<0.58	<0.42	<0.63	<0.030	<0.23	<0.015	<0.049
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
	MW-5	09/07/95	3490	NA	NA	NA	NA	NA	NA
07/09/97		3100	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
12/17/97		690	<0.46	<0.45	<0.42	0.073	<0.48	<0.050	<0.010
05/14/98		2800	<0.58	0.66	<0.63	<0.030	0.41	<0.015	<0.049
08/24/98		NA	<0.55	0.73	<0.60	<0.029	0.56	<0.014	<0.047
03/22/99		NA	NA	NA	NA	NA	*	NA	NA
06/30/99		NA	NA	NA	NA	NA	*	NA	NA
MW-6	09/07/95	3060	NA	NA	NA	NA	NA	NA	NA
	07/09/97	2800	<0.46	1.7	<0.42	0.16	0.62	0.057	<0.010
	12/17/97	2400	<0.46	2.5	0.85	0.15	0.7	<0.050	0.026
	05/14/98	2800	<2.8	<2.0	<3.0	<0.14	<1.1	<0.070	<0.24
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
MW-7	09/07/95	1100	NA	NA	NA	NA	NA	NA	NA
	07/09/97	540	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	12/17/97	430	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	05/14/98	450	<0.57	<0.42	<0.62	<0.030	<0.23	<0.015	<0.049
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
MW-8	09/07/95	310	NA	NA	NA	NA	NA	NA	NA
	07/09/97	250	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	12/17/97	140	<0.46	<0.45	<0.42	<0.061	<0.48	<0.050	<0.010
	05/14/98	0.19	<0.60	<0.44	<0.66	<0.032	<0.24	<0.015	<0.052
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
MW-9	05/14/98	NA	<0.64	<0.46	<0.70	<0.034	<0.26	0.057	<0.055
MW-10	07/09/97	490	NA	NA	NA	NA	NA	NA	NA
	12/17/97	1600	<0.67	<0.65	<0.61	<0.088	<0.70	<0.072	<0.014
	05/14/98	320	<0.60	<0.44	<0.65	<0.032	<0.24	0.14	0.076
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
Sump 1	05/14/98	420	NA	NA	NA	NA	NA	NA	NA
	03/22/99	NA	NA	NA	NA	NA	*	NA	NA
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
Sump 2	05/14/98	380	NA	NA	NA	NA	NA	NA	NA
	03/22/99	NA	NA	NA	NA	NA	*	NA	NA
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
Sump 3	05/14/98	430	NA	NA	NA	NA	NA	NA	NA
	03/22/99	NA	NA	NA	NA	NA	*	NA	NA
	06/30/99	NA	NA	NA	NA	NA	*	NA	NA
NR140 ES		---	---	---	---	400	40	---	---
NR140 PAL		---	---	---	---	80	8	---	---

KEY: µg/l = micrograms per liter  
 \* = Naphthalene runs as Volatile Organic Compound (VOC; EPA Method 8020)  
 DRO = Diesel Range Organics  
 ES = Chapter NR 140, Wisconsin Administrative Code Enforcement Standard  
 PAL = Chapter NR140, Wisconsin Administrative Code Preventive Action Limit  
 [Pattern] = Exceeds NR 140 ES  
 NA = Not Analyzed  
 --- = No Established Standard or Limit  
 MW-3 abandoned by excavation activities on 4/27/98

**TABLE 7**  
**HISTORICAL GROUNDWATER GEOCHEMICAL PARAMETERS AND FIELD MEASUREMENTS**  
**CONDON BULK FACILITY**  
 N52 W5358 Portland Road  
 Cedarburg, Wisconsin

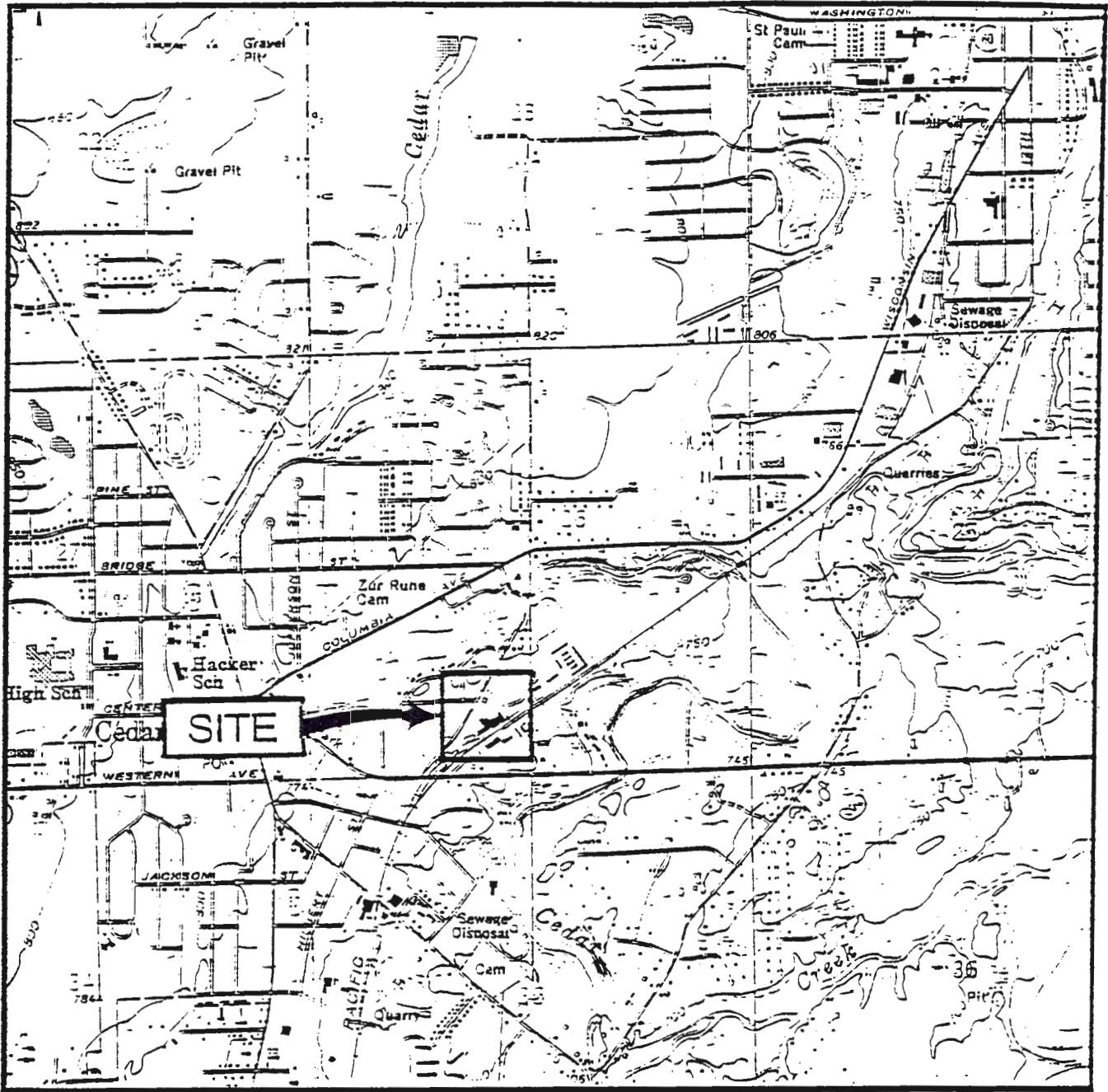
Well	Date	Laboratory Parameters						Field Parameters			
		Sulfate	Nitrate-Nitrogen	Nitrite-Nitrogen	Nitrate-Nitrite	Manganese	Chloride	Dissolved	Redox	Conductivity	Ferrous Iron
		mg/l	mg/l	µg/l	mg/l	µg/l	mg/l	Oxygen (mg/l)	Potential (mV)	(mS)	mg/l
MW-1	08/27/96	NA	NA	NA	NA	NA	NA	5.4	NA	NA	NA
	07/09/97	12	<0.016	<0.0016	NA	300	31	0.22	336	0.987	0.6
	12/17/97	18	<0.0026	NA	NA	290	NA	0.62	78.6	0.944	0.4
	05/14/98	25	NA	NA	0.038	180	NA	0.15	207	1.12	1
	08/24/98	NA	NA	NA	NA	NA	NA	0.29	NA	0.943	4.5
	12/10/98	32	NA	NA	<0.017	0.35	NA	0.59	-9.0	NA	0.8
	03/22/99	43	NA	NA	<0.017	0.21	NA	0.77	296.1	0.31	1.0
	06/30/99	43	NA	NA	<0.017	0.34	NA	0.49	39.0	NA	1.0
MW-2	08/27/96	NA	NA	NA	NA	NA	NA	6.5	NA	NA	NA
	07/09/97	36	0.026	<0.0016	NA	60	21	0.36	340	0.878	0
	12/17/97	34	<0.0026	NA	NA	42	NA	0.68	82	1.09	0
	05/14/98	31	NA	NA	0.041	64	NA	1.85	275.5	0.979	0
	08/24/98	37	NA	NA	<0.017	0.059	NA	0.24	53.9	0.986	0
	12/10/98	46	NA	NA	<0.017	0.037	NA	0.96	37.7	NA	0
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	NA	NA	NA	NA	6.55	144	NA	0
MW-3	08/27/96	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
	07/09/97	<4.9	0.035	<0.0016	NA	520	21	0.13	114.6	1.03	3
	12/17/97	17	<0.0026	NA	NA	610	NA	0.35	45	971 µS	3
MW-4	08/27/96	NA	NA	NA	NA	NA	NA	2.8	NA	NA	NA
	07/09/97	30	0.016	<0.0016	NA	52	55	0.56	236.4	0.897	0
	12/17/97	31	<0.026	NA	NA	79	NA	1	102.2	1.03	0
	05/14/98	16	NA	NA	<0.017	58	NA	5.4	282.4	0.731	0
	08/24/98	34	NA	NA	<0.017	0.19	NA	0.39	100.6	0.82	0
	12/10/98	47	NA	NA	<0.017	0.042	NA	2.25	38	NA	0
	03/22/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/30/99	NA	NA	NA	NA	NA	NA	1.78	127.8	NA	0
MW-5	08/27/96	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
	07/09/97	14	0.025	<0.0016	NA	500	46	0.15	247.5	0.992	0.4
	12/17/97	15	<0.026	NA	NA	520	NA	0.27	91.1	1.7	1
	05/14/98	26	NA	NA	0.11	420	NA	0.16	70.3	1.13	0.8
	08/24/98	26	NA	NA	0.094	0.48	NA	0.45	56.2	0.916	1
	12/10/98	36	NA	NA	<0.017	0.51	NA	0.48	-12.2	NA	1.6
	03/22/99	18	NA	NA	0.45	0.14	NA	0.65	150.2	0.24	0
	06/30/99	60	NA	NA	<0.017	0.43	NA	0.42	115.6	NA	1.3
MW-6	08/27/96	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
	07/09/97	15	0.021	<0.0016	NA	930	28	0.2	219.1	0.946	0.6
	12/17/97	14	0.068	NA	NA	720	NA	0.4	76.7	1.01	0
	05/14/98	33	NA	NA	0.032	510	NA	0.13	-74.1	1.45	0
	12/10/98	30	NA	NA	<0.017	0.7	NA	0.54	-21.3	NA	0.6
	03/22/99	47	NA	NA	<0.017	0.82	NA	0.84	234.4	0.7	1.0
	06/30/99	64	NA	NA	0.018	0.68	NA	0.43	103.6	NA	1.2

**TABLE 7  
HISTORICAL GROUNDWATER GEOCHEMICAL PARAMETERS AND FIELD MEASUREMENTS  
CONDON BULK FACILITY  
N52 W5358 Portland Road  
Cedarburg, Wisconsin**

Well	Date	Laboratory Parameters						Field Parameters			
		Sulfate	Nitrate-Nitrogen	Nitrite-Nitrogen	Nitrate-Nitrite	Manganese	Chloride	Dissolved	Redox	Conductivity	Ferrous Iron
MW-7	08/27/96	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
	07/09/97	26	1.1	<0.0016	NA	18	64	0.21	234.1	1.006	0
	12/17/97	30	<0.0026	NA	NA	46	NA	1.96	76.2	1.06	0
	05/14/98	39	NA	NA	2.5	15	NA	0.8	136.3	1.37	0
	08/24/98	33	NA	NA	0.22	0.048	NA	0.76	52.1	0.883	0
	12/10/98	37	NA	NA	<0.017	0.03	NA	0.93	-4.5	NA	0
	03/22/99	56	NA	NA	0.18	0.04	NA	3.49	363.3	0.3	0
	06/30/99	NA	NA	NA	NA	NA	NA	1.2	143	NA	0
MW-8	08/27/96	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
	07/09/97	42	1	<0.0016	NA	2.5	52	0.49	28.1	1.081	0.6
	12/17/97	27	0.092	NA	NA	17	NA	1.32	71.3	1.087	0
	05/14/98	48	NA	NA	1.6	<6.3	NA	1.2	151.6	0.021	0
	08/24/98	43	NA	NA	0.54	0.036	NA	0.41	76.4	1.032	0
	06/30/99	NA	NA	NA	NA	NA	NA	1.89	132.5	NA	1.2
MW-9	05/14/98	NA	NA	NA	NA	NA	NA	4.3	NA	NA	0
	03/22/99	31	NA	NA	1.8	0.027	NA	NA	365.0	0.45	0
MW-10	08/27/96	NA	NA	NA	NA	NA	NA	2.8	NA	NA	NA
	07/09/97	25	0.02	<0.0016	NA	140	110	0.3	207.1	0.847	0.8
	12/17/97	<2.0	<0.026	NA	NA	420	NA	NA	NA	NA	NA
	05/14/98	33	NA	NA	<0.017	150	NA	0.66	1.1	1.317	1
	08/24/98	24	NA	NA	<0.017	0.34	NA	1.12	49.3	NA	0
	12/10/98	38	NA	NA	<0.017	NA	NA	NA	NA	NA	NA
	03/22/99	52	NA	NA	0.08	0.14	NA	NA	403.8	0.34	0
	06/30/99	61	NA	NA	0.022	0.16	NA	1.06	114.7	NA	0
Sump 1	05/14/98	NA	NA	NA	NA	NA	NA	3.47	184.8	0.686	0
	08/24/98	NA	NA	NA	NA	NA	NA	0.25	93.7	0.651	0
	12/10/98	NA	NA	NA	NA	NA	NA	0.98	24.3	NA	0
	03/22/99	NA	NA	NA	NA	NA	NA	0.77	324.7	0.38	0
	06/30/99	54	NA	NA	<0.017	0.21	NA	0.39	101.3	NA	0.8
Sump 2	05/14/98	NA	NA	NA	NA	NA	NA	3.32	154.4	0.601	0
	08/24/98	NA	NA	NA	NA	NA	NA	0.22	88.1	0.886	0
	12/10/98	NA	NA	NA	NA	NA	NA	1.43	18.6	NA	0
	03/22/99	NA	NA	NA	NA	NA	NA	1.00	219.5	0.43	0.8
	06/30/99	69	NA	NA	0.09	0.087	NA	3.40	145.1	NA	0
Sump 3	05/14/98	NA	NA	NA	NA	NA	NA	0.6	214	1.333	0
	08/24/98	NA	NA	NA	NA	NA	NA	0.45	291	1.265	0
	12/10/98	NA	NA	NA	NA	NA	NA	1.14	-63.4	NA	4.2
	03/22/99	NA	NA	NA	NA	NA	NA	0.8	172.5	0.65	1.0
	06/30/99	70	NA	NA	0.071	0.4	NA	0.48	-31.2	NA	5.4

KEY:  $\mu\text{g/l}$  = micrograms per liter  
 $\text{mg/l}$  = milligrams per liter  
mV = millivolts  
mS = millisiemens  
 $\mu\text{S}$  = microsiemens  
NA = Not Analyzed  
MW-3 abandoned by excavation activities on 4/27/98.

## FIGURES




SE/4 SW/4 Sec. 26 T. 10 R. 21

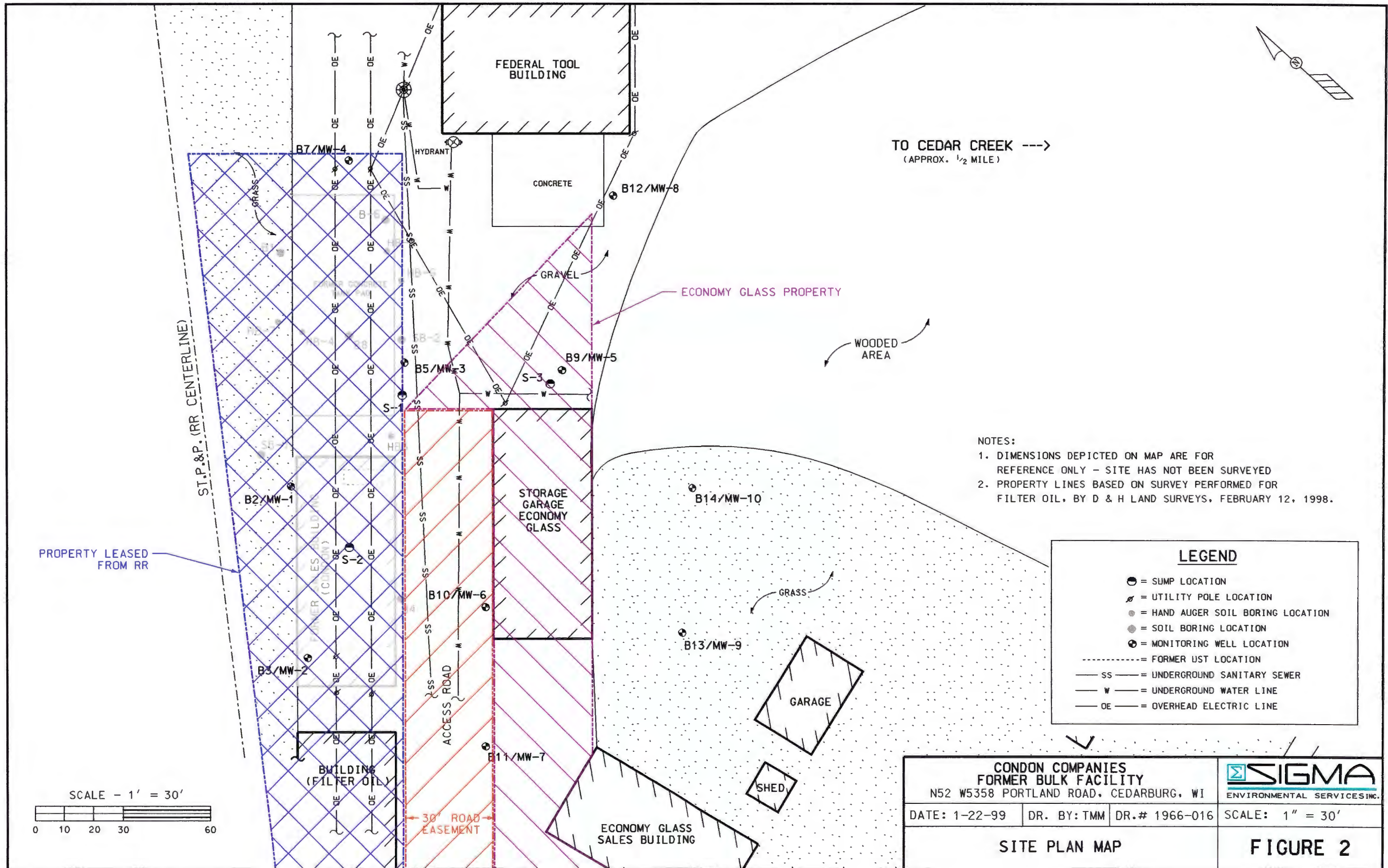


WISCONSIN

ADAPTED FROM U.S.G.S. 7.5 MINUTE SERIES, CEDARBURG, WISCONSIN QUADRANGLE DATED 1958 PHOTOREVISED 1971



CONDON COMPANIES BULK FACILITY		 ENVIRONMENTAL SERVICES INC.
N32 W5358 PORTLAND ROAD, CEDARBURG, WI		
DATE: 12-8-95	DR. BY: TMM	DR. # 1966-001
SCALE: SEE ABOVE		
SITE LOCATION MAP		FIGURE 1



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

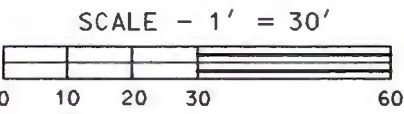
ECONOMY GLASS PROPERTY

WOODED AREA

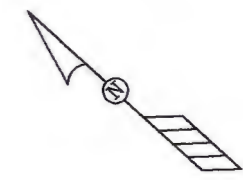
- NOTES:
1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

**LEGEND**

- = SUMP LOCATION
- ⊗ = UTILITY POLE LOCATION
- ⊙ = HAND AUGER SOIL BORING LOCATION
- ⊘ = SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE



<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-016	
<b>SITE PLAN MAP</b>			<b>FIGURE 2</b>



TO CEDAR CREEK ---->  
(APPROX. 2 MILE)

FEDERAL TOOL BUILDING

HYDRANT

CONCRETE

B12/MW-8

ECONOMY GLASS PROPERTY

WOODED AREA

ST. J. & P. RR CENTERLINE

B14/MW-10

STORAGE GARAGE FILTER OIL

B13/MW-3

GARAGE

SHED

FILTER OIL SALES BUILDING

NOTES:

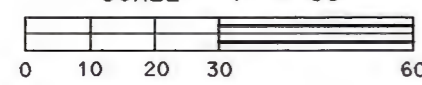
- 1. DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
- 2. PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.

LEGEND

- X = SOIL SAMPLE LOCATION
- = SUMP LOCATION
- ⊗ = UTILITY POLE LOCATION
- ⊕ = MONITORING WELL LOCATION
- S — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- E — = OVERHEAD ELECTRIC LINE
- — — = EXCAVATION BOUNDARY

PROPERTY LEASED FROM RR

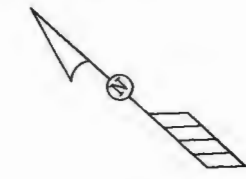
SCALE - 1" = 30'



30' ROAD EASEMENT

<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI		
DATE: 5-4-98	DR. BY: TMM DR.# 1966-017	
<b>EXCAVATION EXTENT AND SOIL SAMPLE LOCATION MAP</b>		<b>FIGURE 3</b>



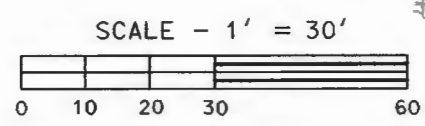


TO CEDAR CREEK --  
(APPROX. 1/2 MILE)

GROUNDWATER ELEVATION SUMMARY				
WELL ID *	DATE	TOP OF CASING ELEVATION (msl)	STATIC WATER LEVEL FROM TOC (ft.)	GROUND-WATER ELEVATION (msl)
MW-1	12-10-98	781.27	4.87	776.40
MW-2	12-10-98	780.40	5.25	775.15
MW-3	12-10-98	776.33	5.25	771.08
MW-4	12-10-98	780.66	5.29	775.37
MW-5	12-10-98	774.47	6.25	768.22
MW-6	12-10-98	774.93	5.97	768.96
MW-7	12-10-98	775.53	6.64	768.89
MW-8	12-10-98	WELL NOT FOUND		
MW-9	12-10-98	770.61	DRY	DRY
MW-10	12-10-98	768.18	6.19	761.99

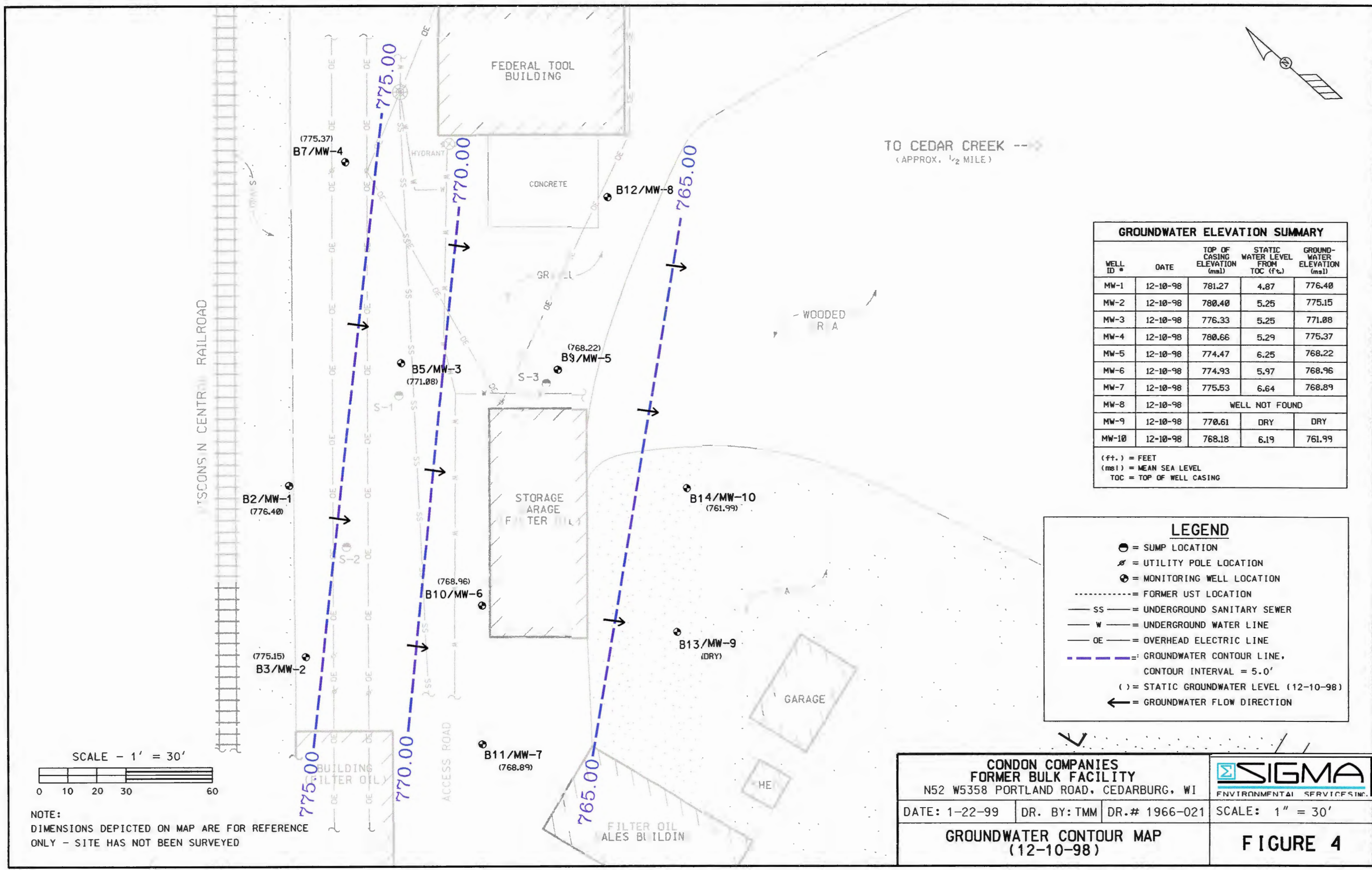
(ft.) = FEET  
(msl) = MEAN SEA LEVEL  
TOC = TOP OF WELL CASING

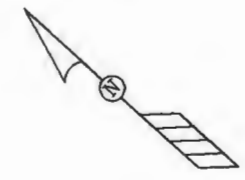
LEGEND	
	= SUMP LOCATION
	= UTILITY POLE LOCATION
	= MONITORING WELL LOCATION
	= FORMER UST LOCATION
	= UNDERGROUND SANITARY SEWER
	= UNDERGROUND WATER LINE
	= OVERHEAD ELECTRIC LINE
	= GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = 5.0'
	= ( ) = STATIC GROUNDWATER LEVEL (12-10-98)
	= GROUNDWATER FLOW DIRECTION



NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE  
ONLY - SITE HAS NOT BEEN SURVEYED

CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		
DATE: 1-22-99	DR. BY: TMM	DR.# 1966-021
GROUNDWATER CONTOUR MAP (12-10-98)		SCALE: 1" = 30'
		FIGURE 4





TO CEDAR CREEK ---->  
(APPRX 1/2 MILE)

WISCONSIN CENTRAL RAILROAD

FEDERAL TOOL BUILDING

CONCRETE

GRAVEL

WOODED AREA

STORAGE GARAGE (FILTER OIL)

GARAGE

SHED

FILTER OIL SALES BUILDING

B7/MW-4  
(776.46)

B12/MW-8  
(771.29)

(770.84)  
B9/MW-5

B2/MW-1  
(776.40)

B14/MW-10  
(759.25)

B3/MW-2  
(775.15)

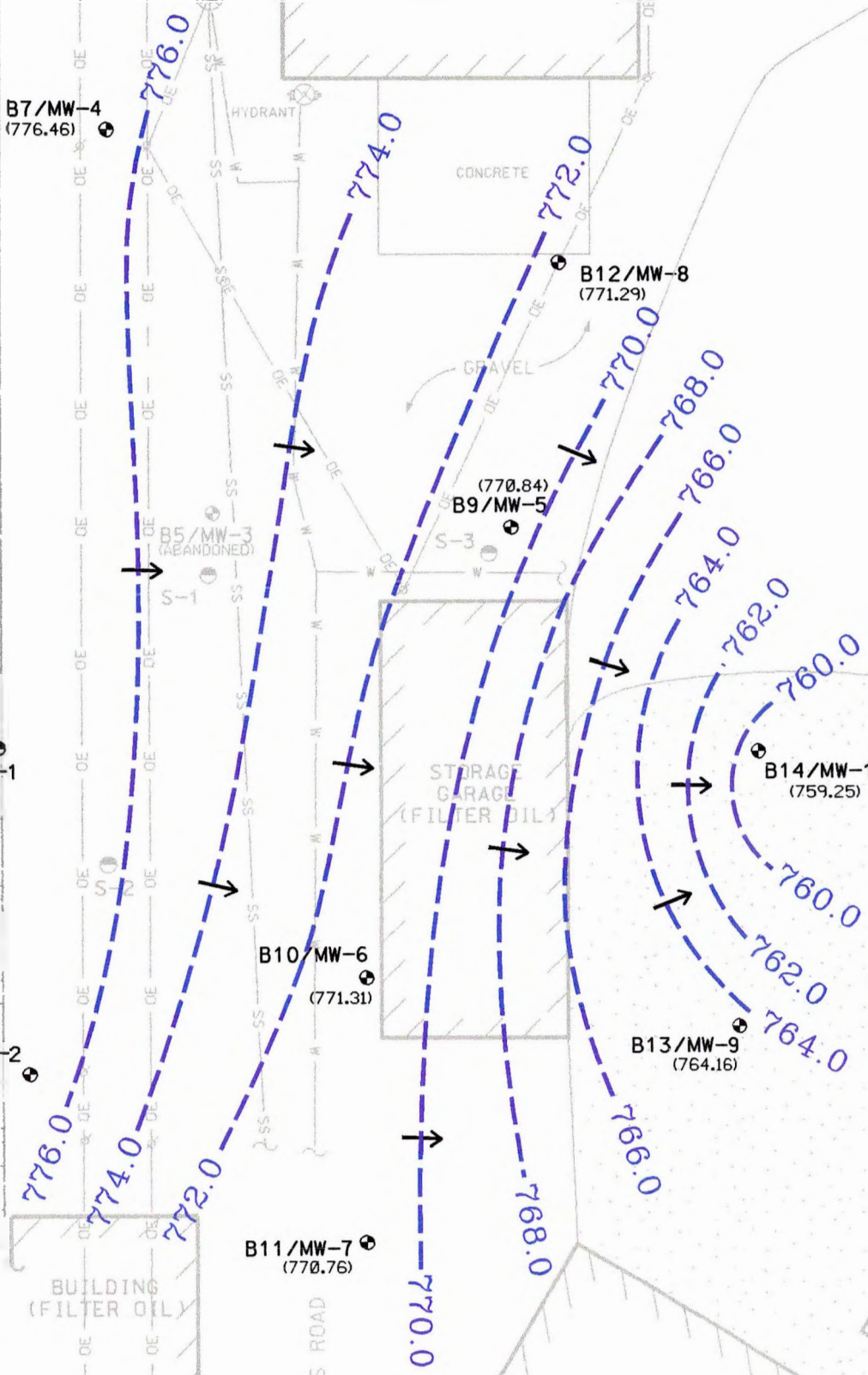
B10/MW-6  
(771.31)

B13/MW-9  
(764.16)

B11/MW-7  
(770.76)

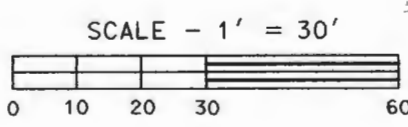
BUILDING (FILTER OIL)

CC S ROAD



**LEGEND**

- = SUMP LOCATION
- ⊕ = UTILITY POLE LOCATION
- ⊙ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE
- (000.00) = GROUNDWATER ELEVATION (3-22-99)
- - - - = GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = 2.0'
- ← = GROUNDWATER FLOW DIRECTION



NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED

CONDON COMPANIES FORMER BULK FACILITY N52 W5358 PORTLAND ROAD, CEDARBURG, WI		
DATE: 4-22-99	DR. BY: BEB	DR.# 1966-025
GROUNDWATER CONTOUR MAP (3-22-99)		SCALE: 1" = 30'
		<b>FIGURE 5</b>

MW-4					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	<0.13	<0.41	NA	<0.13
T	<0.20	<0.20	0.72	NA	<0.2
E	<0.22	<0.22	<0.43	NA	<0.22
X	<0.23	<0.23	<1.4	NA	<0.23
MTBE	<0.60	<0.16	<0.41	NA	<0.16
1,2,4-TMB	<0.22	<0.22	<0.42	NA	<0.22
1,3,5-TMB	<0.29	<0.29	<0.58	NA	<0.29
N	**	NA	NA	NA	<0.46

SUMP-1					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	<0.13	<0.13	<0.13	<0.13
T	<0.20	<0.20	<0.20	<0.20	<0.20
E	<0.22	<0.22	<0.22	<0.22	<0.22
X	<0.23	<0.23	<0.23	<0.23	<0.23
MTBE	<0.16	<0.16	1.1	1.1	<0.16
1,2,4-TMB	<0.22	<0.22	<0.22	<0.22	<0.22
1,3,5-TMB	<0.29	<0.29	<0.29	<0.29	<0.29
N	NA	NA	NA	<0.46	<0.46

MW-6					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	[290]	NS	[170]	[220]	[170]
T	4.6	NS	8.2	6.7	4.1
E	21	NS	24	25	14
X	1.3	NS	2.1	2.7	<1.2
MTBE	<2.5	NS	<10	1.8	<2.1
1,2,4-TMB	3.2	NS	4.9	7.2	2
1,3,5-TMB	<1.5	NS	4.2	<0.28	<1.5
N	**	NS	NA	NA	6

MW-1					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<3.0	[41]	<0.41	<4.5	12
T	<2.0	11	4.5	<1.8	<2.5
E	38	36	22	35	25
X	32	28	24	27	18
MTBE	<3.0	<8.8	<0.41	<1.2	26
1,2,4-TMB	19	21	20	24	13
1,3,5-TMB	15	22	28	28	14
N	**	**	NA	NA	6.1

SUMP-2					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	[510]	0.94	0.35	0.42	3.7
T	130	<0.47	<0.20	0.3	0.3
E	100	0.53	<0.22	0.46	0.77
X	520	3.2	<0.23	0.66	0.35
MTBE	<3.2	<0.40	<0.16	<0.16	<0.20
1,2,4-TMB	240	1.2	<0.22	0.57	0.42
1,3,5-TMB	85	0.64	<0.29	<0.29	<0.29
N	NA	NA	NA	<0.46	0.97

MW-2					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	0.18	<0.41	NA	<0.13
T	<0.20	<0.20	<0.38	NA	<0.2
E	<0.22	<0.22	<0.43	NA	<0.22
X	<0.23	0.36	<1.4	NA	<0.23
MTBE	<0.60	<0.16	<0.41	NA	<0.16
1,2,4-TMB	<0.22	<0.22	<0.42	NA	<0.22
1,3,5-TMB	<0.29	<0.29	<0.58	NA	<0.29
N	**	NA	NA	NA	<0.46

MW-7					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	0.13	<0.41	<0.13	<0.13
T	<0.20	<0.20	<0.38	<0.20	<0.2
E	<0.22	<0.22	<0.43	<0.20	<0.22
X	<0.23	0.26	<1.4	<0.23	<0.23
MTBE	<0.16	<0.16	<0.41	<0.16	<0.16
1,2,4-TMB	<0.22	<0.22	<0.42	<0.22	<0.22
1,3,5-TMB	<0.29	<0.29	<0.58	<0.29	<0.29
N	**	NA	NA	NA	<0.46

MW-8					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	0.13	NA	NA	<0.13
T	<0.20	<0.20	NA	NA	<0.20
E	<0.22	<0.22	NA	NA	<0.22
X	<0.23	0.26	NA	NA	<0.23
MTBE	<3.6	<0.16	NA	NA	0.98
1,2,4-TMB	<0.22	<0.22	NA	NA	<0.22
1,3,5-TMB	<0.29	<0.29	NA	NA	<0.29
N	**	NA	NA	NA	<0.46

MW-5					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	[600]	[840]	[820]	3.8	340
T	8.9	16	12	<0.20	8.2
E	1.7	4.4	4.7	<0.22	1.8
X	140	220	160	1.4	160
MTBE	<1.0	0.8	<0.41	<0.16	<4.5
1,2,4-TMB	35	76	46	0.32	49
1,3,5-TMB	2.6	4.4	<0.58	<0.29	0.69
N	**	**	NA	<0.46	0.79

SUMP-3					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	[240]	[160]	[150]	[95]	[150]
T	5.6	4.3	3.7	2.0	3.1
E	17	7.7	14	1.8	16
X	130	77	54	32	37
MTBE	<4.0	<0.16	1.7	<0.32	<1.8
1,2,4-TMB	24	29	30	24	36
1,3,5-TMB	<55	19	0.81	1.7	<0.58
N	NA	NA	NA	11	16

MW-10					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	0.97	0.9	0.49	<0.15	<0.13
T	<0.20	<1.5	0.62	<0.20	0.77
E	<0.22	<0.22	<0.22	<0.22	<0.22
X	<0.28	0.79	0.36	<0.23	0.26
MTBE	<0.16	<0.17	1.3	<0.16	<0.16
1,2,4-TMB	<0.22	0.26	<0.22	<0.22	<0.22
1,3,5-TMB	<0.29	<0.29	<0.29	<0.29	<0.29
N	**	NA	NA	NA	<0.46

MW-9					
DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
B	<0.13	NA	NA	<0.13	<0.13
T	<0.20	NA	NA	<0.20	<0.20
E	<0.22	NA	NA	<0.22	<0.22
X	<0.23	NA	NA	<0.23	<0.23
MTBE	<0.16	NA	NA	<0.16	<0.16
1,2,4-TMB	<0.22	NA	NA	<0.22	<0.22
1,3,5-TMB	<0.29	NA	NA	<0.29	<0.29
N	**	NA	NA	NA	NA

TO CEDAR CREEK --->  
(APPROX. MILE)

WOODED AREA

### ANALYTICAL KEY

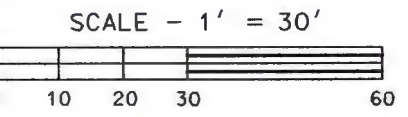
B = BENZENE  
T = TOLUENE  
E = ETHYLBENZENE  
X = TOTAL XYLENES  
MTBE = METYL-TERT-BUTYL-ETHER  
1,2,4-TMB = 1,2,4-TRIMETHYLBENZENE  
1,3,5-TMB = 1,3,5-TRIMETHYLBENZENE  
N = NAPHTHALENE  
NA = NOT ANALYZED  
[ ] = DETECTED ABOVE NR 140 STANDARDS

ALL RESULTS EXPRESS AS MICROGRAMS PER LITER (ug/l)

- NOTES:**
- DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
  - PROPERTY LINES BASED ON SURVEY PERFORMED FOR FILTER OIL, BY D & H LAND SURVEYS, FEBRUARY 12, 1998.
  - MW-3 ABANDONED BY EXCAVATION ON (4-27-98)

### LEGEND

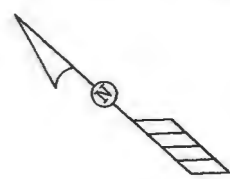
- = SUMP LOCATION
- ⊗ = UTILITY POLE LOCATION
- ⊕ = MONITORING WELL LOCATION
- S — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE



PROPERTY LEASED FROM RR

30' ROAD EASEMENT

<b>CONDON COMPANIES FORMER BULK FACILITY</b>		<b>SIGMA</b> ENVIRONMENTAL SERVICES INC.	
N52 W5358 PORTLAND ROAD, CEDARBURG, WI		SCALE: 1" = 30'	
DATE: 4-21-99	DR. BY: BEB	DR.# 1966-024	SCALE: 1" = 30'
<b>GROUNDWATER QUALITY MAP (PVOCS)</b>			<b>FIGURE 6</b>



TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

- WOODED REA

**ANALYTICAL KEY**

NA = NOT ANALYZED  
(mg/l) = MILLIGRAMS PER LITER  
(ug/l) = MICROGRAMS PER LITER  
  
SULFATE AND NITRATE-NITRITE ARE EXPRESSED IN (mg/l) AND MANGANESE IS EXPRESSED IN (ug/l).

**LEGEND**

- = SUMP LOCATION
- = UTILITY POLE LOCATION
- ⊕ = MONITORING WELL LOCATION
- = UNDERGROUND SANITARY SEWER
- = UNDERGROUND WATER LINE
- = OVERHEAD ELECTRIC LINE

FEDERAL TOOL BUILDING

CONCRETE

B12/MW-8

GR. YEL

B9/MW-5

S-3

B10/MW-6

B11/MW-7

B13/MW-9

B14/MW-10

MW-9

DATE	5-14-98	3-22-99
SULFATE	NA	31
NITRATE-NITRITE	NA	1.8
MANGANESE	NA	0.027

MW-8

DATE	5-14-98	8-24-98
SULFATE	48	43
NITRATE-NITRITE	1.6	0.54
MANGANESE	<6.3	0.036

MW-5

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	26	26	36	18	60
NITRATE-NITRITE	0.11	0.094	<0.017	0.45	<0.017
MANGANESE	420	0.48	0.51	0.14	0.43

MW-6

DATE	5-14-98	12-10-98	3-22-99	6-30-99
SULFATE	33	30	47	64
NITRATE-NITRITE	0.032	<0.017	<0.017	0.018
MANGANESE	510	0.7	0.82	0.68

MW-7

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	39	33	37	56	NA
NITRATE-NITRITE	2.5	0.22	<0.017	0.18	NA
MANGANESE	15	0.048	0.03	0.04	NA

MW-10

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	33	24	38	52	61
NITRATE-NITRITE	<0.017	<0.017	<0.017	0.08	0.022
MANGANESE	150	0.34	NA	0.14	0.16

MW-4

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	16	34	47	NA	NA
NITRATE-NITRITE	<0.017	<0.017	<0.017	NA	NA
MANGANESE	58	0.19	0.042	NA	NA

SUMP-3

DATE	6-30-99
SULFATE	70
NITRATE-NITRITE	0.071
MANGANESE	0.4

SUMP-1

DATE	6-30-99
SULFATE	54
NITRATE-NITRITE	<0.017
MANGANESE	0.21

MW-1

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	25	NA	32	43	43
NITRATE-NITRITE	0.038	NA	<0.017	<0.017	<0.017
MANGANESE	180	NA	0.35	0.21	0.34

MW-2

DATE	5-14-98	8-24-98	12-10-98	3-22-99	6-30-99
SULFATE	31	37	46	NA	NA
NITRATE-NITRITE	0.041	<0.017	<0.017	NA	NA
MANGANESE	64	0.059	0.037	NA	NA

SUMP-2

DATE	6-30-99
SULFATE	69
NITRATE-NITRITE	0.09
MANGANESE	0.087

B10/MW-6

B3/MW-2

BUILDING (FILTER OIL)

B11/MW-7

FILTER OIL SALES BUILDING

GARAGE

SHED

WISCONSIN CENTRAL RAILROAD

GRASS

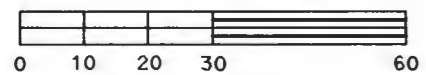
HYDRANT

S-1

S-2

ASS

SCALE - 1" = 30'



NOTES:

- DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED
- MW-3 ABANDONED BY EXCAVATION ON (4-27-98)

<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 1-25-99	DR. BY: TMM	DR. # 1966-022	SCALE: 1" = 30'
<b>GROUNDWATER GEOCHEMICAL QUALITY MAP (POST EXCAVATION)</b>			<b>FIGURE 7</b>

**APPENDIX A**

**Department of Commerce  
Remedial Action Plan Approval**

**REMEDIAL ALTERNATIVE COST RESPONSE**

**CONSULTING FIRM:**  
Sigma Environmental Services, Inc.  
220 E. Ryan Rd.  
Oak Creek, WI 53154-4533

**CLAIM # 53012-2106-50**  
**SITE:**  
Condon Oil - Former Cedarburg Bulk Plant  
N52 W5358 Portland Rd.  
Cedarburg, WI 53012

**RECOMMENDED ALTERNATIVE:**  
Limited Excavation (~2300 tons)  
W/ enhanced bioremediation

**SUBMITTAL DATE: 11 September 1997**

**APPROVED:** XXX

**DISAPPROVED:** \_\_\_\_\_


**NOT APPLICABLE:** \_\_\_\_\_

**MAXIMUM CONSULTANT COST:** \$ 50,697.00  
**ESTIMATED COMMODITY COST:** \$ 95,011.00  
**TOTAL COST (first year):** \$ 145,708.00

**COMMENTS:**

Any efforts to reduce costs will be greatly appreciated by the PECFA program.

- The owner or operator shall select the lowest cost remediation alternative which is approvable by the Department of Natural Resources (DNR). The responsible party may select a higher cost alternative if they certify to the department in writing that the additional costs will not be claimed for PECFA reimbursement.
- The approval does not guarantee the reimbursement of costs. Final determination regarding the eligibility of costs will be determined at the time of claim review. The department's approval is based on the limited information submitted in the remedial alternative cost approval document and does not imply that the department concurs that the recommended remedial alternative will achieve the remedial results anticipated by the consultant or required by law.
- Monitoring costs were established above for the first year only. Per §ILHR 47.33(3), when the site enters into long-term monitoring or long-term operation and maintenance, a schedule of costs shall be developed.
- ILHR 47.01, par. (3) states: Intent of PECFA. (a) the PECFA fund does not relieve a responsible party from liability. The individual or organization responsible for a contaminated property shall carry out the remediation of that property as specified by the Department of Natural Resources. PECFA's role is to provide monetary awards to responsible parties who have completed and paid for remediation activities and services. The availability or unavailability of PECFA funding shall not be the determining factor as to whether a remediation shall be completed.

**SIGNATURE**   
Gregory S. Michael (tel. 414-220-5375)  
Hydrogeologist  
PECFA Site Review Section

**DATE:** October 28, 1997

**COPY**

Cc: electronic filing: sbpecfa:\530\53012\210650\ra.doc

966 Condon

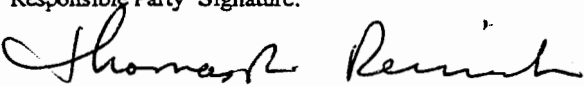
**APPENDIX B**

**Generator's Waste Profile Sheet,  
Laboratory Analytical Report, and  
Off-site Bioremediation Approval**

This form is required by the Department of Natural Resources (DNR) to ensure that the remediation of petroleum contaminated soil and water is in compliance with NR 158, NR 500-540, NR 419 and NR 445, Wis. Adm. Code. Failure to comply with applicable statutes and administrative rules may lead to violations of subchapters III and IV of Ch. 144, Wis. Stats. and may result in forfeitures of not less than \$10 or more than \$25,000 for each violation, pursuant to ss. 144.426(1), 144.74(1), 144.99, Wis. Stats., or fines of not less than \$100 or more than \$150,000 or imprisonment for not more than 10 years, or both, pursuant to s. 144.74(2), Wis. Stats. Each day of a continuing violation constitutes a separate violation. Except for the remediation of virgin petroleum spills, this form needs to be submitted to the DNR 10 business days prior to the commencement of the remediation. Personally identifiable information found on this form is not intended to be used for any other purpose.

**DIRECTIONS:** 1) complete both sides of the form. 2) Have the responsible party sign the form. This signature certifies that the information on this form and in all supporting documents is accurate. 3) Submit the form with supporting documentation, lab reports and any maps to the appropriate District Air Management Program at least 10 business days prior to the commencement of remediation. 4) Submit a copy of this form to the DNR project manager and retain a copy for your records.

**PART I - GENERAL INFORMATION**

Site Name & Address:  Former Condon Oil Bulk Facility N52 W5358 Portland Road Cedarburg, WI 53012	Date of Form Completion:  March 11, 1998
Site Number:  FID #246121150	Do Other Remediation Systems Exist at This Site:  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
County:  Ozaukee	Site Type: <input checked="" type="checkbox"/> LUST <input type="checkbox"/> ERP <input type="checkbox"/> CERCLA <input type="checkbox"/> Other, Explain:
Responsible Party Name & Address:  Condon Companies 126 East Jackson Street Ripon, WI 54971	Responsible Party Signature:  Telephone Number: <del>(920) 361-2262</del> 920-748-3186
Consulting Firm Name & Address:  Sigma Environmental Services, Inc. 220 East Ryan Road Oak Creek, WI 53154	Consulting Firm Contact:  Tim Welch  Telephone Number: (414) 768-7144

**PART II - SOIL AND WATER DATA (Attach Lab Reports and Calculations)**

Type of Contamination:	<input checked="" type="checkbox"/> Gasoline	<input type="checkbox"/> Diesel	<input type="checkbox"/> Fuel Oil	<input type="checkbox"/> Waste Oil			
	<input type="checkbox"/> Chlorinated Organics	<input type="checkbox"/> Other: _____					
Soil Concentration:							
GRO:	<u>1100</u> mg/kg/10 <sup>6</sup>	x	2800 lb/yd <sup>3</sup>	x	<u>1540</u> yd <sup>3</sup>	=	<u>474.32</u> lb
DRO:	<u>10000</u> mg/kg/10 <sup>6</sup>	x	2800 lb/yd <sup>3</sup>	x	<u>1540</u> yd <sup>3</sup>	=	<u>4310.00</u> lb
Benzene:	_____ mg/kg/10 <sup>6</sup>	x	2800 lb/yd <sup>3</sup>	x	_____ yd <sup>3</sup>	=	_____ lb
Chlorinated Organics:	_____ mg/kg/10 <sup>6</sup>	x	2800 lb/yd <sup>3</sup>	x	_____ yd <sup>3</sup>	=	_____ lb
Other:	_____ mg/kg/10 <sup>6</sup>	x	2800 lb/yd <sup>3</sup>	x	_____ yd <sup>3</sup>	=	_____ lb
Water Concentration:							
GRO:	<u>3.4</u> mg/L	DRO:	_____ mg/L	Benzene:	<u>1.1</u> mg/L		
	Chlorinated Organics:	_____ mg/L	Other:	_____ mg/L			



### PART III - TREATMENT OR DISPOSAL FACILITY INFORMATION

Treatment/Disposal Facility Name & Address: Orchard Ridge RDF N96 W13475 County Line Road Menomonee Falls, WI 53051	Facility ID: 3783
Facility Contact: Suzanne Choren	Air Pollution Control Permit Number: Exempt Per NR419
Telephone Number: (414) 253-8620	Facility Located in 10-county Area in Southeast Wisconsin? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Headquarter Address: Waste Management of Wisconsin W124 N9355 Boundary Road Menomonee Falls, WI 53051	Distance to Nearest Residence or Business: 1000 feet
	<u>Portable Sources Only:</u> Has a Portable Source Relocation Notification (Form 4500-25) Been Submitted for This Location? <input type="checkbox"/> Yes <input type="checkbox"/> No

### PART III - SOIL VACUUM EXTRACTION OR GROUNDWATER REMEDIATION

Site Contact :  Telephone Number: (    )	<u>Proposed Operations:</u> (Attach Calculations)
Site Located in 10-county Area in Southeast Wisconsin? <input type="checkbox"/> Yes <input type="checkbox"/> No	Anticipated Start-Up Date:
Distance to Nearest Residence or Business:	Estimated Project Duration:
<u>Pilot Test/Soil Venting Only:</u> (Attach Lab Reports and Calculations)	Number of Wells:
Date of Test:	Number of Emission Points:
Flow Rate (scfm):	Stack Height:
Total Withdrawal of Air (scf):	Maximum Equipment Flow Rate (scfm or gpm):
Total VOC Emission Rate (lb/hr):	Total VOC Emission Rate (lb/hr):
Benzene Emission Rate (lb/hr):	Benzene Emission Rate (lb/hr):
	Benzene Emission Rate (lb/yr):

### PART III - OTHER REMEDIATION METHODS (Attach Lab Reports and Calculations)

Proposing Other Remediation Method?  Yes    Method Name: \_\_\_\_\_

Attach a project description for other remediation methods including landspreading, passive aeration and bioremediation. At a minimum, the information submitted should include the following items (with any supporting lab reports and calculations):

- √ Address/Location of Remediation Site - Indicate if this location is in the 10-county area in Southeast Wisconsin and the distance to the nearest residence or business. Include a map or site plan if appropriate.
- √ Description of Remediation Method.
- √ Project Contact & Telephone Number.
- √ Anticipated Start-Up and Estimated Project Duration.
- √ Highest Estimated Hourly VOC Emissions.
- √ Highest Estimated Hourly and Annual Benzene Emissions.
- √ Emission Testing Methodology.
- √ Final Destination of Soil.



# MIDWEST REGION GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Waste Profile Sheet Code

                     MW 468945

Proposed Management Facility ORCHARD RIDGE

This form is to be used to comply with the requirements of a waste agreement.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE ATTACHED

Decision Expiration Date:   /  /  

### A. WASTE GENERATOR INFORMATION

1. Generator Name: FARMER CONDON OIL BULK FACILITY 2. SIC Code: \_\_\_\_\_

3. Facility Address (site of waste generation): N 52 W 358 PORTLAND ROAD

4. Generator City, State: CEDARBURG WISCONSIN 5. Zip/Postal Code: 53012

6. State ID#: N/A

7. Technical Contact: TIM WELCH 8. Phone: (414) 768-7144

### B. WASTE STREAM INFORMATION (See Instructions)

1. Name of Waste: CONTAMINATED SOIL (PETROLEUM)

2. Process Generating Waste: AST/UST SPILL CLEAN-UP

3. Amount/Units: 2,300 TONS / 1 TIME 4. Type A  Type B

5. Special Handling Instructions/Supplemental Information: \_\_\_\_\_

6. Incidental Waste Types and Amounts: \_\_\_\_\_

### C. TRANSPORTATION INFORMATION

1. Method of Shipment:  Bulk Liquid  Bulk Sludge  Bulk Solid  Drum/Box  Other \_\_\_\_\_

2. Supplemental Shipping Information: \_\_\_\_\_

### D. PHYSICAL CHARACTERISTICS OF WASTE (See Instructions) (Omit for Type B)

1. Color	2. Does the waste have a strong incidental odor? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes; if so, describe: <u>PETROLEUM</u>	3. Physical State @ 70°F/21°C: <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Semi-Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Powder <input type="checkbox"/> Other: _____	4. Layers <input type="checkbox"/> Multi-layered <input type="checkbox"/> Bi-layered <input type="checkbox"/> Single Phased	5. Specific Gravity Range _____	6. Free Liquids <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Volume: _____%
----------	--	---	--	------------------------------------	--

7. pH:  ≤ 2  > 2 - 4  4 - 7  7  7 - 10  10 - < 12.5  ≥ 12.5  Range  NA

8. Flash Point:  None  < 140°F/60°C  140 - 199°F/60 - 93°C  ≥ 200°F/93°C  Closed Cup  Open Cup

### E. CHEMICAL COMPOSITION (Omit for Type B) RANGE (MIN-MAX)

1. <u>SOIL</u>	<u>- 100</u> %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
Total:	_____ %

### 2. Does the waste contain any of the following?

(provide concentration if known):

	NO	OR LESS THAN	OR ACTUAL
PCB's	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Cyanides	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Sulfides	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Phenols	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm

The total composition must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

F. SAMPLING SOURCE (Omit for Type B) (e.g., Drum, Lagoon, Pit, Pond, Tank, Vat) AUGER SPOILS COMPOSITE

G. REPRESENTATIVE SAMPLE CERTIFICATION (Omit for Type B)

1. Print Sampler's Name: \_\_\_\_\_ 2. Sample Date: \_\_\_\_\_  
3. Sampler's Title: \_\_\_\_\_  
4. Sampler's Employer (if other than Generator): \_\_\_\_\_  
The sampler's signature certifies that any sample submitted is representative of the waste described above pursuant to 40 CFR 261.20(c) or equivalent rules.  
5. Sampler's Signature \_\_\_\_\_

H. GENERATOR CERTIFICATION

By signing this profile sheet, the Generator certifies:

1. This waste is not "Hazardous Waste" as defined by USEPA and/or state regulation.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCB's (Polychlorinated Biphenyls).
3. The waste does not contain regulated concentrations of the following pesticides and herbicides: Chlordane, Endrin, Heptachlor (and it's epoxide), Lindane, Methoxychlor, Toxaphene, 2, 4-D, or 2, 4, 5-TP (Silvex).
4. The waste does not contain halogenated compounds such as: tetrachloroethylene, trichloroethylene, methylene chloride, 1, 1, 1-trichloroethane, carbon tetrachloride, chloroform, ortho-dichlorobenzene, dichlorodifluoromethane, 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, trichlorofluoromethane 1, 1-dichloroethylene, and 1, 2-dichloroethylene at greater than 1% (10,000 ppm) total solvent concentration. This listing includes any combination of the above named halogenated compounds where the total concentration or the sum of the concentrations of the individual compounds exceed 1% or 10,000 ppm on a weight to weight basis.
5. This sheet and the attachments contain true and accurate descriptions of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
6. The Generator has read and understands the Contractor's Definition of Special Waste included in Part B.5. of the attached instructions form. All types and amounts of special wastes provided in incidental amounts have been identified in section B.6. of this form.
7. The analytical data presented herein or attached hereto were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
8. If any changes occur in the character of the waste, the Generator shall notify the Contractor prior to providing the waste to the Contractor.

9. Signature Thomas R Reinsch 10. Title V.P. Rel. op  
11. Name (Type or Print) THOMAS R REINSCH 12. Date 3-30-98

Note: Omit sections D., E., F., and G., for Type B waste.

Comments:



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

03/24/1998

Job No: 98.01735

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
288092	Auger Spoils Comp. #1966 Condon	03/09/1998	03/09/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

Brian D. DeJong  
Organic Operations Manager



**NATIONAL  
ENVIRONMENTAL  
TESTING, INC.**

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

03/24/1998  
Job No: 98.01735  
Sample No: 288092  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Auger Spoils Comp. #1966 Condon  
Rec'd 4 degrees C

Date Taken: 03/09/1998

Date Received: 03/09/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.9	%	n/a	S-5030	03/13/1998	2104
ACID CMPDS - 8270 NONAQUEOUS						
Cresols, Total	<1.1	mg/kg	1.0	S-8270	03/19/1998	199
Pentachlorophenol	<5.7	mg/kg	5.0	S-8270	03/19/1998	199
Phenol	<1.1	mg/kg	1.0	S-8270	03/19/1998	199
2,4,5-Trichlorophenol	<1.1	mg/kg	1.0	S-8270	03/19/1998	199
2,4,6-Trichlorophenol	<1.1	mg/kg	1.0	S-8270	03/19/1998	199
Surr: Phenol-d6	75.5	%	n/a	S-8270	03/19/1998	199
Surr: 2-Fluorophenol	64.2	%	n/a	S-8270	03/19/1998	199
Surr: 2,4,6-Tribromophenol	80.4	%	n/a	S-8270	03/19/1998	199
BASE/NEUTRALS-8270 NONAQUEOUS			COMPLETE			
1,4-Dichlorobenzene	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
2,4-Dinitrotoluene	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
Hexachlorobenzene	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
Hexachlorobutadiene	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
Hexachloroethane	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
Nitrobenzene	<1.1	mg/kg	1.0	S-8270	03/19/1998	194
Pyridine	<9.1	mg/kg	8.0	S-8270	03/19/1998	194
Surr: Nitrobenzene-d5	81.2	%	n/a	S-8270	03/19/1998	194
Surr: 2-Fluorobiphenyl	79.5	%	n/a	S-8270	03/19/1998	194
Surr: Terphenyl-d14	83.7	%	n/a	S-8270	03/19/1998	194



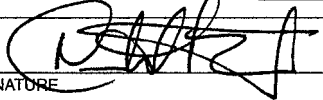
# CHAIN OF CUSTODY RECORD

9/10/100

COMPANY Sigma Environmental Services, Inc.  
 ADDRESS 220 E Ryan Rd.  
 PHONE 414-768-7144 FAX 414-768-7158  
 PROJECT NAME/LOCATION Condor - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

REPORT TO: Tim Welch  
 INVOICE TO: Condor Company  
 P.O. NO. C/O Sigma  
 NET QUOTE NO. 987001

SAMPLED BY DAVID A. KUHTZ  
 (PRINT NAME)  
 (PRINT NAME)

SIGNATURE   
 SIGNATURE

## ANALYSES

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers						OTHER	
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	VAP.	OTHER		
3-9-98		Auger Spoils Camp.	S		X						X	X	

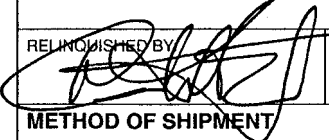
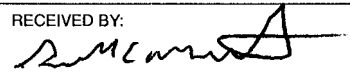
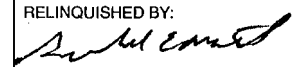
COMMENTS  
 (4) 4oz glass jars

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO \_\_\_\_\_  
 FIELD FILTERED? YES / NO \_\_\_\_\_

COC SEALS PRESENT AND INTACT? YES / NO \_\_\_\_\_  
 VOLATILES FREE OF HEADSPACE? YES / NO \_\_\_\_\_

TEMPERATURE UPON RECEIPT: 70C  
 Bottles supplied by NET? YES  NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE \_\_\_\_\_

RELINQUISHED BY: 	DATE: <u>3-9-98</u>	TIME: <u>14:30</u>	RECEIVED BY: 	RELINQUISHED BY: 	DATE: <u>3/9/98</u>	TIME: <u>16:10</u>	RECEIVED FOR NET BY:
METHOD OF SHIPMENT			REMARKS: <u>BNA only per WLT / Tim Welch 3/10 (M)</u>				



## Waste Management<sup>SM</sup>

Waste Management of Wisconsin, Inc.  
Special Waste Service Center  
W124 N9355 Boundary Road  
Menomonee Falls, WI 53051

Phone 414.253.8620 • 888.964.4700  
Fax 414.253.1322

June 1, 1998

Mr. Tim Welch  
Sigma Environmental  
220 East Ryan Road  
Oak Creek, WI 53154

RE: Condon Oil - BIO468945-A

Dear Mr. Welch:

Thank you for choosing Waste Management.

This letter serves to confirm the approval of your waste.

Attached is a complete copy of the approval for your records. Please follow all conditions for disposal stated on the attached Special Waste Management Decision Section II B.

If you have any questions please do not hesitate to call me at 414/253-8620 / toll free 888-964-4700

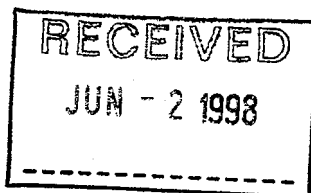
Sincerely,

Waste Management of Wisconsin, Inc.  
Special Waste Service Center

A handwritten signature in cursive script, appearing to read "Peggy Slind".

Peggy Slind  
Special Waste Coordinator

Enclosures



0m98052317271

BR



# SPECIAL WASTE MANAGEMENT DECISION FOR BIOREMEDIATION

BIO 468945-A  
Waste Profile Sheet Code

I. Request For Decision:  Initial  Renewal

GENERATOR NAME: Pendon Oil Company ADDRESS: 152 W5358 Portland Rd

CITY, STATE/PROVINCE: Bedford, WI 53012

WASTE NAME(S): Tank Sludge - Diesel Fuel UST

PROPOSED MANAGEMENT FACILITY: ~~Bedford~~ ORC

PROPOSED INTERMEDIATE TRANSFER FACILITY: \_\_\_\_\_ TRANSPORTER: Sigma

WMNA REQUESTOR: S. Chasen SIGNATURE: [Signature]

II. TECHNICAL MANAGER DECISION: (circle one) **APPROVED**  DISAPPROVED  Check if additional information is attached.

If Disapproved, Explain: \_\_\_\_\_

If Approved, Complete A, B, C and D Below:

A Management Method(s): BIOREMEDIATION

**WDR Approval Required  
Prior to Disposal**

B Precautions, Conditions, or Limitations on Approval: DAILY COVER, BERMS, ROAD BASE, AND OTHER FEATURES NOT LOCATED ON EXTERIOR SLOPES. IF COMBINED DRO AND GRO ARE LESS THAN 250 MG/KG. USE ON EXTERIOR SLOPES IF COMBINED DRO AND GRO IS LESS THAN 10 MG/KG.

C Decision Expiration Date: 5/18/99

D For Type A Wastes, Laboratory Analysis of a Representative Sample Was: (Check only one)

Waived  Supplied By Generator  From a WMI-Approved Lab  From Both Generator and WMI-Approved Lab

TECH. MGR. SIGNATURE: [Signature] NAME: (Print) RICHARD L. PAGER DATE: 5/18/98

III. WMI MANAGEMENT FACILITY GENERAL MANAGER DECISION: (circle one) **APPROVED**  DISAPPROVED

If Approved, State any Additional Precautions, Conditions or Limitations: \_\_\_\_\_

GENERAL MGR SIGNATURE: [Signature] NAME: (Print) JAMES M. DUNHAM DATE: 5/29/98

IV. WMI INTERMEDIATE TRANSFER FACILITY GENERAL MANAGER DECISION: (circle one)  APPROVED  DISAPPROVED

If Approved, State any Additional Precautions, Conditions or Limitations: \_\_\_\_\_

GENERAL MGR SIGNATURE: \_\_\_\_\_ NAME: (Print) \_\_\_\_\_ DATE: \_\_\_\_\_





# MIDWEST REGION GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Waste Profile Sheet Code

CRC BIC MAW 468945-A

Proposed Management Facility ORCHARD RIDGE

This form is to be used to comply with the requirements of a waste agreement.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE ATTACHED

Decision Expiration Date: 1/1

### A. WASTE GENERATOR INFORMATION

1. Generator Name: FORMER CONDON OIL BULK FACILITY 2. SIC Code: 5171 4398 tb

3. Facility Address (site of waste generation): N 52 W 5358 PORTLAND ROAD

4. Generator City, State: GERARDTOWN, WISCONSIN 5. Zip/Postal Code: 53012

6. State ID#: N/A

7. Technical Contact: TIM WELCH 8. Phone: (414) 768-7144

### B. WASTE STREAM INFORMATION (See Instructions)

1. Name of Waste: CONTAMINATED SOIL (PETROLEUM) \* Gasoline and Fuel Oil / Tank Sludge Diesel fuel

2. Process Generating Waste: AST/UST SPILL CLEAN-UP

3. Amount/Units: 2,300 TONS / 1 TIME and 1 drum (55 gallons) 4. Type A  Type B

5. Special Handling Instructions/Supplemental Information: \_\_\_\_\_

6. Incidental Waste Types and Amounts: \_\_\_\_\_

### C. TRANSPORTATION INFORMATION

1. Method of Shipment:  Bulk Liquid  Bulk Sludge  Bulk Solid  Drum/Box  Other \_\_\_\_\_

2. Supplemental Shipping Information: \_\_\_\_\_

### D. PHYSICAL CHARACTERISTICS OF WASTE (See Instructions) (Omit for Type B)

1. Color <u>Brown</u>	2. Does the waste have a strong incidental odor? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes; if so, describe: <u>PETROLEUM</u>	3. Physical State @ 70°F/21°C: <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Semi-Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Powder <input type="checkbox"/> Other: _____	4. Layers * <input type="checkbox"/> Multi-layered <input type="checkbox"/> Bi-layered <input checked="" type="checkbox"/> Single Phased	*5. Specific Gravity Range <u>&gt; 1</u>	6. Free Liquids <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Volume: _____ %
--------------------------	--	---	---	---	---

7. pH:  ≤ 2  > 2 - 4  4 - 7  7  7 - 10  10 - < 12.5  ≥ 12.5  Range  NA

8. Flash Point:  None  < 140°F/60°C  140 - 199°F/60 - 93°C  ≥ 200°F/93°C  Closed Cup  Open Cup

### E. CHEMICAL COMPOSITION (Omit for Type B) RANGE (MIN-MAX)

1. <u>SOIL</u>	-	100	%
	-		%
	-		%
	-		%
	-		%
<u>Sludge</u>	100	-	%
	-		%
	-		%
Total:	* -	100	%

2. Does the waste contain any of the following?  
(provide concentration if known):

	NO OR LESS THAN	OR ACTUAL	
PCB's	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Cyanides	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Sulfides	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm
Phenols	<input checked="" type="checkbox"/>	<input type="checkbox"/> < 50 ppm	_____ ppm

The total composition must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

\* Per Tim Welch @ Sigma  
4-3-98 th



# LABORATORIES, Inc.

140 E. Ryan Road, Oak Creek, WI 53154-4599  
414-764-7005 • FAX 414-764-0486 • 1-800-422-2195

**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



WI DNR Lab Certification #241283020

**FINAL REPORT**

Report Date: 14 May 1998

Lab Number: 98-N767

Work Order #: 26-384

Lab Matrix: SL

Account #: 029182

Date Sampled: 5 May 1998

Sampled By: Dave Kutz

Date Received: 5 May 1998 13:57

TIM WELCH  
SIGMA ENVIRONMENTAL SERVICES  
220 EAST RYAN ROAD  
OAK CREEK WI 53154

Temperature at Receipt: NW

Purchase Order Number: 1966/Condon-Cedarburg

Chain of Custody Number: 29498

Project Name: Condon-Cedarburg  
Sample Desc: Tank sludge

Project Number: 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	LOD	LOQ	Procedure	Test Date
DRO Extraction						WIMODDRO	6 May 1998
Percent Moisture	57	N/A	%	0.1	0.1	SN 5030	8 May 1998
Free Liquids	6.0	N/A	%	N/A	N/A	SN 9095	5 May 1998
Flash Point	> 210	N/A	deg F	50.	50.	SN 1020	7 May 1998
Diesel Range Organics	77	180	mg/Kg	2.2	7.2	WIMODDRO	8 May 1998
Benzene	0.19	0.43	mg/Kg	0.033	0.11	SN 8021B-E	13 May 1998

Sample weighed & preserved in the laboratory for diesel range organics and benzene.

Diesel concentration makes up 75 mg/kg of the total DRO window.

Other lighter hydrocarbons present before the DRO window.

Post-it® Fax Note	7671	Date	5/14/98	# of pages	1
To	SUE CHOREN	From	TIM WELCH		
Co./Dept.	ORLAND RIDGE	Co.	SIGMA		
Phone #		Phone #			
Fax #	253-1322	Fax #			

Approved by: PDF  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the LOQ. J = Estimated below the LOQ.

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of



THE PEOPLE WE SERVE . . CARE ABOUT THE ENVIRONMENT Chain-of-Custody: 29498

140 EAST RYAN ROAD • OAK CREEK • WISCONSIN • 53154 • 414-764-7005 • 1-800-422-2195 • CLIENT SERVICES 414-768-7460 • FAX 414-764-0486

(1) CLIENT: <u>S. Gung</u>		(3) UST STATE		(5) MATRIX					(6) ANALYSIS REQUESTED (METHODS & DETECTION LIMITS)				LAB USE ONLY			
PROJECT NAME/#: <u>Condon - Cedarburg #1966</u>		WPDES NPDES RCRA PECPA OTHER											WORK ORDER #			
PROJECT MANAGER: <u>Tim Welch</u>																
SAMPLER: <u>Dave Kuhlitz</u>																
P.O. #																
<u>Location Cedarburg Sme Posts per Tim Welch</u>													ACCT # <u>029180</u>			
													DATE <u>5-5-98</u>			
													TEMP <u>(NR) ROI</u>			
													MVTL WORK ORDER #			
(2) SAMPLE IDENTIFICATION		DATE	TIME	(4) GRAB COMPOSITE	# OF CONTAINERS	SOIL	GROUND WATER	WASTE	WASTEWATER	OTHER	PRESERVATION TYPE	<u>Flash Point</u>	<u>Free liquid</u>	<u>DRO</u>	<u>BENZENE</u>	(7) REMARKS
(1)	<u>Tank Sludge</u>	<u>5-5-98</u>	<u>AM/PM</u>	<u>X</u>	<u>1</u>						<u>Unp</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>98-N1767</u>
(2)			<u>AM/PM</u>													
(3)			<u>AM/PM</u>													
(4)			<u>AM/PM</u>													
(5)			<u>AM/PM</u>													
(6)			<u>AM/PM</u>													
(7)			<u>AM/PM</u>													
(8)			<u>AM/PM</u>													

Post-It® Fax Note 7671 Date 5/14/98 # of pages 1

To SVE CHOREN From TIM WELCH

Co./Dept. ORCHARD RIDGE Co. 516MBA

Phone # \_\_\_\_\_ Phone # \_\_\_\_\_

Fax # 253-1322 Fax # \_\_\_\_\_

REMOVED BY [Signature] DATE 5-5-98 TIME 12:30 AM

J. Larson 5/5/98 12:30 AM Lab

DATA PACKAGE OF THIS SAMPLE (PLEASE CIRCLE IF REQUIRED) PACKAGE A B

SEE BACK FOR COMPLETE PACKAGE DESCRIPTIONS

OTHER SPECIAL INSTRUCTIONS: Run Flashpoint + Hold on other analysis per Dave

IN CASE WE HAVE QUESTIONS WHEN SAMPLES ARRIVE, MVTL LABORATORIES, INC. SHOULD CALL:

NAME: \_\_\_\_\_ PHONE # \_\_\_\_\_

SEND REPORTS TO \_\_\_\_\_

TOTAL P. 01



**Waste Management of Wisconsin, Inc.**

Special Waste Service Center  
W124 N9355 Boundary Road  
Menomonee Falls, Wisconsin 53051  
414/253-8620 • Fax: 414/253-1322  
Toll Free: 1-888-964-4700

May 20, 1998

Mr. John Schwabe  
State of Wisconsin  
Department of Natural Resource  
Southeast District Office  
P.O. Box 12436  
Milwaukee, WI 53212

RE: Special Waste Approval Request  
Orchard Ridge Recycling and Disposal Facility BioSite<sup>SM</sup>  
Menomonee Falls, WI 53051  
License# 03783  
Special Waste Profile Number: BIO468945-A  
Special Waste Name: Tank Sludge-Diesel Fuel UST  
Anticipated Annual Volume: 2300 tons & 1 55 gallon drum  
Process Generating Waste: AST/UST Spill Clean up

Dear Mr. Schwabe:

Attached please find a copy of the special waste paperwork for tank sludge generated from an underground diesel fuel storage tank located in Cedarburg, WI. I am requesting WI DNR approval because we are not requesting TCLP testing.

If you are in agreement with the bioremediation of this non-hazardous waste, please respond in writing at your earliest convenience, as the generator is extremely anxious to dispose of this material as soon as possible. If you have any questions or comments, please do not hesitate to call me immediately, at 414/253-8620.

Sincerely,

Orchard Ridge Recycling and Disposal Facility  
A WMI BioSite<sup>SM</sup>  
A Division of Waste Management of Wisconsin, Inc.

  
Suzanne Choren  
Special Waste Consultant

Enclosures

PROJECT MEMORANDUM

PROJECT Orchard Ridge RDF Bio Site Approval

REC'D CALL X DATE 5/29/98 TIME 11:20am

CALLED Smc NAME Ken Hein John Schwabe

MET WITH \_\_\_\_\_ OF WDR

REGARDING John Schwabe

Ken Hein called to approve the following profiles for bioremediation at Orchard Ridge:

BIO 468945-A Approved by ANR  
Condor Oil

ACTION REQUIRED BY \_\_\_\_\_

ACTION TO BE TAKEN \_\_\_\_\_

BY J. Heur

R. Tager



Waste Management of Wisconsin, Inc.  
 W124 N9355 Boundary Road  
 Menomonee Falls, WI 53051  
 (414) 253-8620 Fax: (414) 253-1822  
 Toll Free: 1-888-964-4700

**SERVICE AGREEMENT  
 NON-HAZARDOUS WASTE DISPOSAL**

The above-named disposal facility and corporation are referred to herein as "Facility" and "Contractor," respectively.

**CUSTOMER'S BILLING NAME**  
 Condon Oil Company

**CUSTOMER'S BILLING ADDRESS**  
 126 EAST JACKSON

**CITY, STATE/PROVINCE, ZIP/POSTAL CODE**  
 RIPON, WISCONSIN 54971-0184

**CUSTOMER CONTACT**  
 Thomas Reinsch

**PHONE NUMBER**  
 (920) - 748-3186

**BANK REFERENCE**

**BANK CONTACT**                      **PHONE NUMBER**  
 (   )

Credit may be extended to Customer after appropriate credit information, in a form acceptable to Contractor, has been presented to and reviewed by Contractor. Contractor may, in its sole discretion, require a collateral deposit (in the form of cash, letter of credit or surety bond) acceptable to Contractor. It is the responsibility of the Customer to keep said collateral deposit current. Collateral deposits, where utilized, may be adjusted when there is an increase in disposal tonnage and/or rates. Collateral deficiencies must be corrected within 30 days of notice of required adjustment.

**This is a legally binding contract, and Contractor agrees to provide and Customer agrees to accept the waste disposal services subject to the terms and conditions specified in this contract.**

ESTIMATED MONTHLY AMOUNT OF WASTE FOR DISPOSAL:

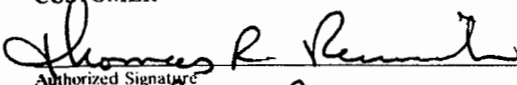
Approximately 2,300 tons Gasoline and Fuel Oil Contaminated Soil  
 (Include units e.g., cubic yards, pounds, kilograms)

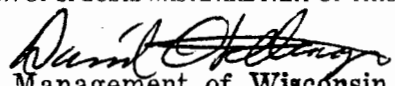
SPECIAL INSTRUCTIONS:

See Section I on the attached Special Waste Management Decision (Profile No. BI0468945 .)  
 for the approved management facility. Follow all conditions for disposal stated on the Special Waste  
 Management Decision Section II B. All loads must be manifested.

INCIDENTAL SPECIAL WASTE TYPES AND AMOUNTS:

THE TERMS AND CONDITIONS ON REVERSE SIDE AND THE ATTACHED CONTRACTOR'S DEFINITION OF SPECIAL WASTE ARE PART OF THIS AGREEMENT.

**CUSTOMER**  
  
 Authorized Signature  
 Vice Pres. Petroleum Operations  
 Title

**CONTRACTOR**  
  
 Waste Management of Wisconsin, Inc.  
 Representative  
 Environmental Engineer  
 Title

**APPENDIX C**

**Monitoring Well Abandonment Forms**

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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location	County <u>Ozaukee</u>	Original Well Owner (If Known) <u>Condon Companies</u>	
<u>SE 1/4 of SW 1/4 of Sec. 26 ; T. 10 N. R. 21</u> (If applicable)	<input checked="" type="checkbox"/> E <input type="checkbox"/> W	Present Well Owner <u>Same</u>	
Gov't Lot	Grid Number	Street or Route <u>126 East Jackson</u>	
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Ripon, WI 54971-0184</u>	
Civil Town Name <u>Cedarburg</u>		Facility Well No. and/or Name (If Applicable)	WI Unique Well No. <u>MW-3</u>
Street Address of Well <u>N52 W 5358 Portland Road</u>		Reason For Abandonment <u>Removed to facilitate remedial excavation</u>	
City, Village <u>Cedarburg</u>		Date of Abandonment <u>4-28-98</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>11-22-94</u>  <input checked="" type="checkbox"/> Monitoring Well      Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____  Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock  Total Well Depth (ft.) <u>15</u> Casing Diameter (ins.) <u>2.0</u> (From ground surface)  Casing Depth (ft.) <u>15</u>  Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	<b>(4) Depth to Water (Feet)</b> <u>3.0</u> Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If No, Explain <u>Entire monitoring well was removed during excavation.</u> Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u> If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u>
<b>(5) Required Method of Placing Sealing Material</b> <u>NA</u> <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)	
<b>(6) Sealing Materials</b> <u>NA</u> For monitoring wells and monitoring well boreholes or <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>NONE</u>	<u>Surface</u>			

(8) Comments: Entire monitoring well (casing, filter pack, bentonite protective flush mount cover, etc.) was removed during excavation activities.

(9) Name of Person or Firm Doing Sealing Work  
Sigma Environmental Services, Inc.

Signature of Person Doing Work: [Signature]      Date Signed: 4-28-98

Street or Route: 220 Ryan Rd      Telephone Number: 414-768-7144  
Oak Creek, WI 53154

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected	District/County
Reviewer/Inspector:	



**APPENDIX D**

**Tank Closure Documentation**

# UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Send Completed Form To:  
Department of Commerce  
ERS Division  
Bureau of Storage Tank Regulation  
P.O. Box 7969, Madison, WI 53707

WI Tank ID#: \_\_\_\_\_

Information Required By Section 101.142, Wis. Stats.

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form?  Yes  No If yes, are you correcting/updating information only?  Yes  No

Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):			Fire Department providing fire coverage where tank is located:
1A. <input type="checkbox"/> In Use or	4. <input checked="" type="checkbox"/> Closed - Tank Removed	8. <input type="checkbox"/> Ownership Change (Indicate new owner name in block 2)	<input checked="" type="checkbox"/> City <input type="checkbox"/> Village
1B. <input type="checkbox"/> Newly Installed	6. <input type="checkbox"/> Closed - Filled with Inert Materials		<input type="checkbox"/> Town of <u>Cedarburg</u>
2. <input type="checkbox"/> Abandoned with Product	7. <input type="checkbox"/> Out of Service - Provide Date: _____		
3. <input type="checkbox"/> Abandoned No Product (empty) or with Water			

**A. IDENTIFICATION (Please Print)**

1. Tank Site Name <u>Condon Companies</u>	Site Address <u>W52 W5358 Portland Rd.</u>	Site Telephone Number <u>( )</u>
<input checked="" type="checkbox"/> City <u>Cedarburg</u> <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State <u>WI</u>	Zip Code <u>53012</u>
2. Tank Owner Name <u>Condon Company</u>	Mailing Address <u>126 E Jackson P.O. Box 184</u>	Telephone Number
<input checked="" type="checkbox"/> City <u>Ripon</u> <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State <u>WI</u>	Zip Code <u>54971</u>
3. Previous Name	Previous site address if different than #1	
4. Tank Age (date installed, if known or years old) <u>Unknown</u>	5. Tank Capacity (gallons) <u>2000</u>	6. If more than one tank is located at facility, please provide tank #

**B. TYPE OF USER (check one)**

1. <input type="checkbox"/> Gas/Retail Sales	2. <input checked="" type="checkbox"/> Bulk Storage	3. <input type="checkbox"/> Utility	4. <input type="checkbox"/> Mercantile/Commercial	5. <input type="checkbox"/> Industrial
6. <input type="checkbox"/> Government	7. <input type="checkbox"/> School	8. <input type="checkbox"/> Residential	9. <input type="checkbox"/> Agricultural	10. <input type="checkbox"/> Other (specify):
11. <input type="checkbox"/> Tribal Nation	12. <input type="checkbox"/> Federal Property	13. <input type="checkbox"/> Backup Generator		

**C. TANK CONSTRUCTION (check one)**

1. <input checked="" type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)	3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass	5. <input type="checkbox"/> Other (specify):	6. <input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite	7. <input type="checkbox"/> Unknown
Approval: 1. <input type="checkbox"/> Nat'l Std.	2. <input type="checkbox"/> UL	3. <input type="checkbox"/> Other:	Is tank double walled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Overfill Protection Provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, identify type:		Spill Containment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Tank leak detection method: <u>N/A</u>	1. <input type="checkbox"/> Automatic tank gauging	2. <input type="checkbox"/> Vapor monitoring	3. <input type="checkbox"/> Groundwater monitoring			
	4. <input type="checkbox"/> Inventory control and tightness testing	5. <input type="checkbox"/> Interstitial monitoring	6. <input type="checkbox"/> Statistical Inventory Reconciliation (SIR)			
	7. <input type="checkbox"/> Manual tank gauging (only for tanks of 1,000 gallons or less)					

**D. PIPING CONSTRUCTION**

1. <input type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)	3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass	5. <input type="checkbox"/> Other (Specify):	6. <input checked="" type="checkbox"/> Unknown
Vapor Recovery/Stage II 4. <input type="checkbox"/> Fiberglass	5. <input type="checkbox"/> Flexible	6. <input type="checkbox"/> Other (specify):	CARB #: _____ Operational - Provide Date (mo/day/yr): _____		
Piping System Type: <u>N/A</u>	1. <input type="checkbox"/> Pressurized piping with A. <input type="checkbox"/> auto shutoff; B. <input type="checkbox"/> alarm or C. <input type="checkbox"/> flow restrictor	2. <input type="checkbox"/> Suction piping with check valve at tank	3. <input type="checkbox"/> Suction piping with check valve at pump and inspectable	4. <input type="checkbox"/> Not needed if waste oil	
Piping leak detection method: used if pressurized or check valve at tank:	1. <input type="checkbox"/> Vapor monitoring	2. <input type="checkbox"/> Interstitial monitoring			
3. <input type="checkbox"/> Groundwater monitoring	4. <input type="checkbox"/> Tightness testing	5. <input type="checkbox"/> Line leak detector	6. <input type="checkbox"/> Not required	8. <input type="checkbox"/> SIR	
Approval: 1. <input type="checkbox"/> Nat'l Std.	2. <input type="checkbox"/> UL	3. <input type="checkbox"/> Other:	Is pipe double walled? <input type="checkbox"/> Yes <input type="checkbox"/> No		

**E. TANK CONTENTS**

1. <input checked="" type="checkbox"/> Diesel	2. <input type="checkbox"/> Leaded	3. <input type="checkbox"/> Unleaded	4. <input type="checkbox"/> Fuel Oil	5. <input type="checkbox"/> Gasohol
6. <input type="checkbox"/> Other (Specify):	7. <input type="checkbox"/> Empty*	8. <input type="checkbox"/> Sand/Gravel/Slurry*	9. <input type="checkbox"/> Unknown*	10. <input type="checkbox"/> Premix
11. <input type="checkbox"/> Waste/Used Motor Oil	13. <input type="checkbox"/> Chemical _____	14. <input type="checkbox"/> Kerosene	15. <input type="checkbox"/> Aviation	

(Indicate chemical name and number)

\* If 7, 8, 9, or 13 is chosen, this tank is NOT PECFA eligible.

If Tank Closed/Abandoned or Out of Service, give date (mo/day/yr): <u>April 27, 1998</u>	Has a site assessment been completed (see reverse side for details) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Owner or Operator Name (please print): <u>CONDON OIL CO. - THOMAS R. REINSCH V.P. Pet. Op.</u>	Indicate whether: <input checked="" type="checkbox"/> Owner or <input type="checkbox"/> Operator
Owner or Operator Signature: <u>Thomas R. Reinsch V.P. Pet. Op. Condon</u>	Date Signed: <u>5-14-98</u>

**IMPORTANT:** Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible.

# UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Send Completed Form To:  
Department of Commerce  
ERS Division  
Bureau of Storage Tank Regulation  
P.O. Box 7969, Madison, WI 53707

WI Tank ID#: \_\_\_\_\_

Information Required By Section 101.142, Wis. Stats.

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form?  Yes  No If yes, are you correcting/updating information only?  Yes  No

Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):			Fire Department providing fire coverage where tank is located:
1A. <input type="checkbox"/> In Use or	4. <input checked="" type="checkbox"/> Closed - Tank Removed	8. <input type="checkbox"/> Ownership Change (Indicate new owner name in block 2)	<input checked="" type="checkbox"/> City <input type="checkbox"/> Village
1B. <input type="checkbox"/> Newly Installed	6. <input type="checkbox"/> Closed - Filled with Inert Materials		<input type="checkbox"/> Town of <u>Cedarburg</u>
2. <input type="checkbox"/> Abandoned with Product	7. <input type="checkbox"/> Out of Service - Provide Date: _____		
3. <input type="checkbox"/> Abandoned No Product (empty) or with Water			

**A. IDENTIFICATION (Please Print)**

1. Tank Site Name <u>Condon Companies</u>	Site Address <u>W52 W5358 Portland Rd.</u>	Site Telephone Number <u>( )</u>
<input checked="" type="checkbox"/> City <u>Cedarburg</u> <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State <u>WI</u> Zip Code <u>53012</u>	County <u>DZAUKEE</u>
2. Tank Owner Name <u>Condon Company</u>	Mailing Address <u>126 E Jackson P.O. Box 184</u>	Telephone Number
<input checked="" type="checkbox"/> City <u>Ripon</u> <input type="checkbox"/> Village <input type="checkbox"/> Town of:	State <u>WI</u> Zip Code <u>54971</u>	County <u>FOND DU LAC</u>
3. Previous Name	Previous site address if different than #1	
4. Tank Age (date installed, if known or years old) <u>Unknown</u>	5. Tank Capacity (gallons) <u>2000</u>	6. If more than one tank is located at facility, please provide tank #

**B. TYPE OF USER (check one)**

1. <input type="checkbox"/> Gas/Retail Sales	2. <input checked="" type="checkbox"/> Bulk Storage	3. <input type="checkbox"/> Utility	4. <input type="checkbox"/> Mercantile/Commercial	5. <input type="checkbox"/> Industrial
6. <input type="checkbox"/> Government	7. <input type="checkbox"/> School	8. <input type="checkbox"/> Residential	9. <input type="checkbox"/> Agricultural	10. <input type="checkbox"/> Other (specify):
11. <input type="checkbox"/> Tribal Nation	12. <input type="checkbox"/> Federal Property	13. <input type="checkbox"/> Backup Generator		

**C. TANK CONSTRUCTION (check one)**

1. <input checked="" type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)
3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass
5. <input type="checkbox"/> Other (specify): _____	6. <input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite
7. <input type="checkbox"/> Lined - Date: _____	8. <input type="checkbox"/> Unknown

Approval: 1.  Nat'l Std. 2.  UL 3.  Other: \_\_\_\_\_

Is tank double walled?  Yes  No

Overfill Protection Provided?  Yes  No If yes, identify type: \_\_\_\_\_

Spill Containment?  Yes  No

Tank leak detection method: N/A

1. <input type="checkbox"/> Automatic tank gauging	2. <input type="checkbox"/> Vapor monitoring	3. <input type="checkbox"/> Groundwater monitoring
4. <input type="checkbox"/> Inventory control and tightness testing	5. <input type="checkbox"/> Interstitial monitoring	
6. <input type="checkbox"/> Manual tank gauging (only for tanks of 1,000 gallons or less)	7. <input type="checkbox"/> Statistical Inventory Reconciliation (SIR)	

**D. PIPING CONSTRUCTION**

1. <input type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)
3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass
5. <input type="checkbox"/> Other (Specify): _____	6. <input checked="" type="checkbox"/> Unknown

Vapor Recovery/Stage II N/A

4. <input type="checkbox"/> Fiberglass	5. <input type="checkbox"/> Flexible	6. <input type="checkbox"/> Other (specify): _____	CARB #: _____
			Operational - Provide Date (mo/day/yr): _____

Piping System Type: N/A

1. <input type="checkbox"/> Pressurized piping with A. <input type="checkbox"/> auto shutoff, B. <input type="checkbox"/> alarm or C. <input type="checkbox"/> flow restrictor	2. <input type="checkbox"/> Suction piping with check valve at tank	3. <input type="checkbox"/> Suction piping with check valve at pump and inspectable	4. <input type="checkbox"/> Not needed if waste oil
--	---	---	---

Piping leak detection method: used if pressurized or check valve at tank:

1. <input type="checkbox"/> Vapor monitoring	2. <input type="checkbox"/> Interstitial monitoring
3. <input type="checkbox"/> Groundwater monitoring	4. <input type="checkbox"/> Tightness testing
5. <input type="checkbox"/> Line leak detector	6. <input type="checkbox"/> Not required
7. <input type="checkbox"/> SIR	

Approval: 1.  Nat'l Std. 2.  UL 3.  Other: \_\_\_\_\_

Is pipe double walled?  Yes  No

**E. TANK CONTENTS**

1. <input checked="" type="checkbox"/> Diesel	2. <input type="checkbox"/> Leaded	3. <input type="checkbox"/> Unleaded	4. <input type="checkbox"/> Fuel Oil	5. <input type="checkbox"/> Gasohol
6. <input type="checkbox"/> Other (Specify): _____	7. <input type="checkbox"/> Empty*	8. <input type="checkbox"/> Sand/Gravel/Slurry*	9. <input type="checkbox"/> Unknown*	10. <input type="checkbox"/> Premix
11. <input type="checkbox"/> Waste/Used Motor Oil	13. <input type="checkbox"/> Chemical _____	14. <input type="checkbox"/> Kerosene	15. <input type="checkbox"/> Aviation	

(Indicate chemical name and number)

\* If 7, 8, 9, or 13 is chosen, this tank is NOT PECFA eligible.

If Tank Closed/Abandoned or Out of Service, give date (mo/day/yr): <u>April 27, 1998</u>	Has a site assessment been completed (see reverse side for details) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

Owner or Operator Name (please print): <u>CONDON OIL CO. - THOMAS R. REINSCH V.P. Per-op.</u>	Indicate whether: <input checked="" type="checkbox"/> Owner or <input type="checkbox"/> Operator
Owner or Operator Signature: <u>Thomas R. Reinsch V.P. Per-op. Condon</u>	Date Signed: <u>5-14-98</u>

**IMPORTANT:** Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible.

**Complete one form for each site closure.**

The information you provide may be used by other government agency programs [Privacy Law, s.15.04 (1)(m)].

**CHECK ONE:**  
 **UNDERGROUND**  
 **ABOVEGROUND**  
 FOR PORTIONS OF THE FORM THAT DO NOT APPLY CHECK THE N/A BOX

Wisconsin Department of Commerce  
 ERS Division  
 Bureau of Storage Tank Regulation  
 P.O. Box 7969  
 Madison, WI 53707

**A. IDENTIFICATION: (Please Print) Indicate whether closure is for:**  Tank System  Tank Only  Piping Only

1. Site Name <i>CONDON Companies</i>		2. Owner Name <i>Condon Companies</i>	
Site Street Address (not P.O. Box) <i>W 52 W 5358 PORTLAND Rd.</i>		Owner Street Address <i>120 E JACKSON P.O. Box 184</i>	
<input checked="" type="checkbox"/> City <i>EDAMBURG</i>	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:	<input type="checkbox"/> City <i>Ripon</i>
State <i>WI</i>	Zip Code <i>53013</i>	County <i>OZAUKEE</i>	State <i>WI</i>
3. Closure Company Name (print) <i>ENVIRONMENTAL SERVICES Plus</i>		Closure Company Street Address <i>W 132 COUNTY ROAD KK</i>	
Closure Company Telephone No. (include area code) <i>(920) 766-6756</i>		Closure Company City, State, Zip Code <i>BAUKAMIA WI 54130</i>	
4. Name of Company Performing Closure Assessment <i>Sigma Env. Services, Inc.</i>		Assessment Company Street Address, City, State, Zip Code <i>220 E RYAN Rd. Oak Creek, WI 53154</i>	
Telephone # (include area code) <i>(414) 768-7144</i>	Certified Assessor Name (print) <i>David A. Kultz</i>	Assessor Signature <i>[Signature]</i>	Assessor Certification No. <i>41711</i>

Tank ID #	Closure	Temp. Closure	Closure in Place	Tank Capacity	Contents*	Closure Assessment	
1.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>2000</i>	<i>Oil</i>	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y	<input type="checkbox"/> N
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y	<input type="checkbox"/> N
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y	<input type="checkbox"/> N
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y	<input type="checkbox"/> N
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y	<input type="checkbox"/> N

\* Indicate which product by numeric code: 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 10-Premix; 11-Waste Oil; 13-Chemical (indicate the chemical name(s) or number(s)); 14-Kerosene; 15-Aviation.

Written notification was provided to the local agent 15 days in advance of closure date.  Y  N  NA  
 All local permits were obtained before beginning closure.  Y  N  NA

**Check applicable box at right in response to all statements in Sections B-E.**

**B. TEMPORARILY OUT OF SERVICE**

Written inspector approval of temporary closure obtained, which is effective until (provide date) \_\_\_\_\_

1. Product Removed	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
a. Product lines drained into tank (or other container) and resulting liquid removed, AND	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
b. All product removed to bottom of suction line, OR	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
c. All product removed to within 1" of bottom.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
3. All product lines at the islands or pumps located elsewhere are removed and capped, OR	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
4. Dispensers/pumps left in place but locked and power disconnected.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
5. Vent lines left open.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
6. Inventory form filed indicating temporary closure.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>

**C. CLOSURE BY REMOVAL**

1. Product from piping drained into tank (or other container).	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
2. Piping disconnected from tank and removed.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input type="checkbox"/>
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input type="checkbox"/>
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
<b>NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR.</b>				
6. Vent lines left connected until tanks purged.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
7. Tank openings temporarily plugged so vapors exit through vent.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input checked="" type="checkbox"/>
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input type="checkbox"/>
9. Tank removed from excavation after PURGING/INERTING; placed on level ground and blocked to prevent movement.	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input type="checkbox"/>
10. Tank cleaned before being removed from site.	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA	<input type="checkbox"/>

- 11. Tank labeled in 2" high letters after removal but before being moved from site.  Y  N
- NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING TREATMENT; DATE.**
- 12. Tank vent hole (1/8" in uppermost part of tank) installed prior to moving the tank from site.  Y  N
- 13. Inventory form ERS-7437 filed by owner with the Department of Commerce indicating closure by removal.  Y  N
- 14. Site security is provided while the excavation is open.  Y  N

**CLOSURE IN PLACE**

**NOTE: CLOSURES IN PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF COMMERCE OR LOCAL AGENT.**

- 1. Product from piping drained into tank (or other container).  Y  N
- 2. Piping disconnected from tank and removed.  Y  N
- 3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.  Y  N
- 4. All pump motors and suction hoses bonded to tank or otherwise grounded.  Y  N
- 5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.  Y  N

**NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR - EDUCTOR OUTPUT 12 FT. ABOVE GRADE.**

- 6. Vent lines left connected until tanks purged.  Y  N
- 7. Tank openings temporarily plugged so vapors exit through vent.  Y  N
- 8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) see Section F.  Y  N
- 9. Tank properly cleaned to remove all sludge and residue.  Y  N
- 10. Solid inert material (sand, cyclone boiler slag, pea gravel recommended) introduced and tank filled.  Y  N
- 11. Vent line disconnected or removed.  Y  N
- 12. Inventory form filed by owner with the Department of Commerce indicating closure in place.  Y  N

**CLOSURE ASSESSMENTS**

**NOTE: DETERMINE IF A CLOSURE ASSESSMENT IS REQUIRED BY REFERRING TO ILHR 10.**

- 1. Individual conducting the assessment has a closure assessment plan (written) which is used as the basis for their work on the site.  Y  N
  - 2. Do points of obvious contamination exist?  Y  N
  - 3. Are there strong odors in the soils?  Y  N
  - 4. Was a field screening instrument used to pre-screen soil sample locations?  Y  N
  - 5. Was a closure assessment omitted because of obvious contamination?  Y  N
  - 6. Was the DNR notified of suspected or obvious contamination?  Y  N
- Agency, office and person contacted: \_\_\_\_\_
7. Contamination suspected because of:  Odor  Soil Staining  Free Product  Sheen on Groundwater  Field Instrument Test

**METHOD OF ACHIEVING 10% LEVEL DESCRIPTION**

- Eductor Or Diffused Air Blower  
Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground. Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.
- Dry Ice  
Dry ice introduced at 1.5 pounds per 100 gallons of tank capacity. Dry ice crushed and distributed over the greatest possible tank area. Dry ice evaporated before proceeding.
- Inert Gas (CO/2 or N/2) **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT.**  
Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent. Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.
- Tank atmosphere monitored for flammable or combustible vapor levels.  
Calibrate combustible gas indicator. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank. Readings of 10% or less of the lower flammable range (LEL) obtained before removing tank from ground.

**G. NOTE SPECIFIC PROBLEMS OR NONCOMPLIANCE ISSUES BELOW**

*Handwritten note: 10% LEL was not achieved, tank was closed during...*

**H. REMOVER/CLEANER INFORMATION**

JAMES MCGRAW      James McGraw      11575      4/27/93  
 Remover Name (print)      Remover Signature      Remover Certification No.      Date Signed

**I. INSPECTOR INFORMATION**

RONALD HABERMANN      Ronald Habermann      70270  
 Inspector Name (print)      Inspector Signature      Inspector Certification No.  
4513 CEDAR BUCK      1-800-422-5220      6/16/93  
 FDID # For Location Where Inspection Performed      Inspector Telephone Number      Date Signed

**TANK INVENTORY FORM ERS-7437 SIGNED BY THE OWNER MUST BE SUBMITTED WITH EACH CLOSURE CHECKLIST**

OWNER

REMOVED

**Environmental** W1732 County Road KK, Kaukauna, WI 54130 ph 766-6756  
fx 766-3788

**Services**

**Plus, LTD**

Mr. Tim Welch-Project Manager  
Sigma Environmental  
220 East Ryan Road  
Oak Creek, WI 53154

May 12, 1998

RE: Condon Companies  
N52 W5358 Portland Road  
Cedarburg, WI.

UST removal

Introduction

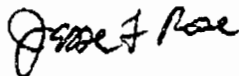
On April 27, 1998, Environmental Services Plus, Ltd cleaned and rendered "vapor free" one (1) 2,000 gallon gasoline underground storage tank located at Condon Oil in Cedarburg, WI.

The tank was cleaned and tested "vapor free" thereby rendering it useless for all but scrap. The tank was transported to our shop yard to cut up and recycle.

Approximately 1700 gallons of impacted water was pumped out of the ust. Upon completed analytical testing, the impacted water shall be disposed of. Documentation shall be provided to you upon completion.

Thank you, for the opportunity to be of service to you.

Sincerely,



Environmental Services Plus  
Jesse Rose

10-4-98

Condon, Cedarburg

JJ (9:00 - 9:30)

\* Picked up (1) 55 gal drum 4/4 full of Tank Sludge. Transported drum to Orchard Ridge recycling for disposal.

West Bend #2558

JJ

9:30 (10:30 - 12:30)

202 - Installed Sampler 4C for 24hr T.C. monitoring. Sampler was set on time to sample once every 15 min 4x per hour.  
meter read - 0022267.

203 - Installed Sampler 6C for 24hr T.C. monitoring. Sampler was set on time to sample once every 15 min 4x per hour.  
meter read - 0925114.

205 - Installed Sampler 5C for 24hr T.C. monitoring. Sampler was set on time to sample once every 15 min 4x per hour.  
meter read - 138007.

204 - Installed Sampler 7C for 24hr T.C. monitoring. Sampler was set on time to sample once every 15 min 4x per hour.  
meter read - 440199

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

**CHAIN OF CUSTODY RECORD**



**Analytical Lab**

1090 Kennedy Ave. • Kimberly, WI 54136  
 (920) 735-8295 • FAX 920-739-1738 • 800-490-4902  
 USALAB@AOL.COM

Rev. Date: 11-11-97

Chain # No **10495**

Page **1** of **1**

Lab I.D. # **5021423**  
 Account No. : \_\_\_\_\_ Quote No.: \_\_\_\_\_

Project #: **CEDARBURG - WATER**  
 Sampler: (signature) **Jm McGowan**

Sample Integrity - To be completed by receiving lab.  
 Method of Shipment : **Client** Temp. of Temp. Blank. \_\_\_\_\_ °C On Ice:   
 Cooler seal intact upon receipt:  Yes \_\_\_\_\_ No Labcoded By: **JL**

Project (Name / Location): **NS2 W5358 PORTLAND ROAD**  
 Reports To: **JESSE F ROSE** Invoice To: **JESSE F ROSE**  
 Company **GENE FREDERICKSON** Company  
 Address **W1732 COUNTY RD** Address  
 City State Zip **KAUKAUNA WI** City State Zip  
 Phone **920-266-6756** Phone

Analysis Requested										Other Analysis		
Sample Handling Request												
<input checked="" type="checkbox"/> Rush Analysis Date Required <b>5/13</b> <input checked="" type="checkbox"/> Normal Turn Around												
DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8020)	BTEX (EPA 8020)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point			PID/FID
		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>				

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8020)	BTEX (EPA 8020)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	PID/FID
<b>5021423</b>	<b>AT-2000</b>	<b>4-27</b>	<b>1:15</b>	<b>500ml</b>					<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	

**Department Use Only**  
 Split Samples: Offered? \_\_\_\_\_ Yes \_\_\_\_\_ No  
 Accepted? \_\_\_\_\_ Yes \_\_\_\_\_ No  
 Accepted By: \_\_\_\_\_

Comments/ Special Instructions  
 \*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.

**Department Use Optional for Soil Samples**  
 Disposition of unused portion of sample  
 Lab Should:  
 \_\_\_\_\_ Dispose \_\_\_\_\_ Retain for \_\_\_\_\_ days  
 \_\_\_\_\_ Return \_\_\_\_\_ Other

Relinquished By: (sign) **Jesse Rose** Time **1:35** Date **5/11/98** Received By: (sign) \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_  
 Received in Laboratory By: **KAMA** Date: **5/11/98** Time: **13:45**





**Analytical Laboratory**

WI DNR Certified Lab #445027660

1090 Kennedy Ave. Kimberly, WI 54136  
920-735-8285

JESSE F ROSE  
GENE FREDERICKSON TRUCKING  
W1732 COUNTY RD KK  
KAUKAUNA WI 54130

Project #: Cedarburg-Water  
Project : N52 W5358 Portland Rd  
Sample ID: AT-2000  
Lab Code: 5021423A  
Sample Type: Water  
Sample Date: 27-Apr-98

Report Date: 14-May-98

Test	Result	LOD	LOQ	Unit	pH	Dilution Factor	Date Analyzed	Analyzed By	QC Code
FLASH POINT SETA CLOSED	> 141			°F			12-May-98	RMB	1
PVOC					1.6		13-May-98	KAF	
SW846 8020									
Benzene	< 0.32	0.32	1.1	UG/L		1			1
Ethylbenzene	< 0.34	0.34	1.1	UG/L		1			1
MTBE	20	0.31	1.03	UG/L		1			1
Toluene	< 0.35	0.35	1.2	UG/L		1			1
1,2,4-Trimethylbenzene	< 0.35	0.35	1.2	UG/L		1			1
1,3,5-Trimethylbenzene	< 0.64	0.64	2.1	UG/L		1			1
Xylenes	< 0.98	0.98	3.3	UG/L		1			1
Fluorobenzene Surrogate	110			% Rec.					

LOD = Limit of Detection

"J" Flag: Analyte detected between LOD and LOQ.

LOQ = Limit of Quantitation

QC SUMMARY

CODE:

1

All laboratory QC requirements were met for this sample.

Authorized Signature \_\_\_\_\_

**STRAIGHT BILL OF LADING - SHORT FORM - Original - Not Negotiable**

Shipper's No. \_\_\_\_\_

(Carrier) FREDERICKSON TRUCKING SCAC. \_\_\_\_\_ Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at W1732 County Rd K Kaukauna WI, date 5/22/98 from \_\_\_\_\_

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee for purposes of notification only.)

**TO:**  
 Consignee HEART OF THE UDIUM  
 Street Thilmany RD  
 Destination Kaukauna WI Zip 54130  
 Route: \_\_\_\_\_

**FROM:** CONDON COMPANIES  
 Shipper N52 W5358 PORTLAND ROAD  
 Street CEARBURG WI Zip \_\_\_\_\_  
 Origin \_\_\_\_\_

**Delivering Carrier**

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
		<u>APPROX 1800 CONONS</u>							
		<u>WATER APRIL 27<sup>th</sup></u>							
		<u>Delivered: J. Jachstern</u>							
		<u>By: 05-30-98</u>							

Remit C.O.D. to:  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**COD** AMT: \$ \_\_\_\_\_

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

**C. O. D. FEE:**  
 Prepaid   
 Collect  \$ \_\_\_\_\_

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \_\_\_\_\_ per \_\_\_\_\_

Charges Advanced \$ \_\_\_\_\_

(Signature of consignor)

**FREIGHT CHARGES**  
 Prepaid  Collect

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

**PLACARDS REQUIRED**

**PLACARDS SUPPLIED**

YES  NO - FURNISHED BY CARRIER  
 DRIVER'S SIGNATURE: \_\_\_\_\_

SHIPPER: CONDON COMPANIES  
 PER: \_\_\_\_\_ DATE: APRIL 27

CARRIER: FREDERICKSON  
 PER: \_\_\_\_\_ DATE: \_\_\_\_\_

Permanent post office address of shipper

EMERGENCY RESPONSE  
 TELEPHONE NUMBER: ( ) \_\_\_\_\_  
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

(DRIVER: PLEASE SIGN BELOW)

REFERENCE NO.  
387521  
06/04/1998

(PLEASE SIGN HERE)	Loc	LOCATION	County	ST	Pct
	MTLW	MILWAUKEE		WI	100%

*Jennife Adams*

GROSS: 0.000 MAN WT  
 TARE: 0.000 MAN WT  
 NET: 0.000

Oper	Time	Date
In: RFP	09:26 AM	06/04/1998
Out: RFP	09:26 AM	06/04/1998

Orchard Ridge RDF  
 W124 N9355 Boundary Road  
 Menomonee Falls, WI  
 414-253-8620 FAX: 414-253-1322

COMMENTS

CUSTOMER NO. 0002101	TRUCK NO. 1	
-------------------------	----------------	--

CUSTOMER  
 SIGMA ENVIRONMENTAL  
 220 E RYAN ROAD

OAK CREEK

WI 53154

PROFILE NO. 850468945-A
MANIFEST NO. 372978
PERMIT NO.

LOAD CODE	LOAD DESCRIPTION	LOAD QUANTITY	AMOUNT
DRB	DRUM DISP./BIOREMEDI	1.00	

DCE-260-97-OR

ORIGINAL

SPECIAL WASTE MANIFEST DISPOSAL TICKET

372978

Orchard Ridge  
~~PARKVIEW~~ RECYCLING  
and DISPOSAL FACILITY



A Waste Management Company

BILL TO: SIGMA ENVIRONMENTAL

TRANSPORTER: SIGMA

GENERATOR: FORMER COMMON CEMENT/BLOCK BULK FACILITY

GENERATORS SIGNATURE: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Date

WASTE DESCRIPTION: SLUDGE

PROFILE # BIO 468945-A

ACCEPTED BY: [Signature] 6/4/98  
Date

DRIVERS SIGNATURE: [Signature] 06/04/98  
Date

TRUCK NO. \_\_\_\_\_ TONS/YARDS \_\_\_\_\_

WHITE & YELLOW - TRANSPORTER COPY / PINK - DISPOSAL SITE COPY / GOLD - GENERATOR COPY

DCE-009-92

**APPENDIX E**

**Remedial Excavation Soil Verification and  
Transport Sample Laboratory Analytical Reports**

**PETROLEUM IMPACTED SOIL  
TRANSPORTATION TRACKING FORM**

GENERATOR Condon Companies

Page 1

Disposal Site/  
License # Orchard Ridge RDF Profile # B10468945

Waste Description Petroleum Contam. Sol

Load #/ Manifest #	Receipt Refer. #	Transporter/ Social Waste Hauling #	Screening Results	Date	Tonnage Comments
1	622690	Fredrickson 641	339	4-27-81	28.54
2	91	661	501		27.36
3	92	645	473		26.77
4	93	656	616		28.76
5	94	657	342		28.80
6	95	641	314		26.96
7	96	661	497		28.85
8	97	645	368		25.49
9	98	656	610		27.47
10	99	657	316		26.59
11	700	641	255		27.04
12	01	661	488		28.93
13	02	645	303		26.41
14	03	657	319		22.60
15	04	656	221		26.54
16	05	641	467		27.12
17	06	661	272		26.85
18	07	645	384		24.22
19	08	657	493		27.92
20	09	656	478		27.53
21	10	641	210		30.45
22	11	661	244		28.40
23	12	645 <del>657</del>	315		25.00
24	13	657 <del>656</del>	337		28.13
25	14	656	522		26.02
26	15	641	216		27.28
27	16	661	734		27.17
28	17	645	366		29.04

**PETROLEUM IMPACTED SOIL  
TRANSPORTATION TRACKING FORM**

GENERATOR Condon Companies

Page 2

Disposal Site/ License # Orchard Ridge ADF Profile # 010468945 Waste Description Petroleum Contam. Soil

Load #/ Manifest #	Receipt Refer. #	Transporter/ Special Waste Hauling #	Screening Results	Date	Tonnage Comments
29	18	657	475	4-27-98	24.50
30	19	656	396		27.65
31	20	641	501		28.65
32	21	661	969		28.86
33	22	645	873		26.22
34	23	657	945		27.81
35	24	656	925		27.99
36	25	645	816	4-28-98	26.29
37	26	661	511		29.50
38	27	656	639		28.26
39	28	641	427		27.50
40	29	657	301		28.91
41	30	645	725		26.52
42	31	661	694		26.29
43	32	656	771		28.75
44	33	657	808		27.52
45	34	641	657		29.31
46	35	645	513		26.39
47	36	661	342		27.23
48	37	656	289		25.50
49	38	657	565		28.83
50	39	641	410		28.02
51	40	645	372		24.26
52	41	661 <del>656</del>	557		<del>28.81</del> 30.81
53	42	656 <del>661</del>	693		28.64
54	43	657	306		27.96
55	44	641	714		27.03
56	45	645	429		24.51

956

**PETROLEUM IMPACTED SOIL  
TRANSPORTATION TRACKING FORM**

GENERATOR Condon Companies

Page 3

Disposal Site / License # Orchard Ridge RIF Profile # B0468945

Waste Description Petroleum Contam. So.

Load # Manifest #	Receipt Refer. #	Transporter/ Special Waste Hauling #	Screening Results	Date	Tonnage <del>Comments</del>
57	46	661	736	4-28-98	32.05
58	47	657	627		25.65
59	48	656	501		25.12
60	49	641	915		28.00
61	50	645	322		26.45
62	51	661	533		30.97
63	52	657	625		27.17
64	53	656*	744		28.05
65	54	641	737		28.11
66	55	645	988		27.39
67	56	661	709		26.61
68	57	657	873		26.99
69	58	656	999		27.51
70	59	641	754		25.89
71	60	645 <del>661</del>	651		29.81
72	61	661 <del>657</del>	795		24.69
73	62	657 <del>656</del>	901		27.77
74	63	656	894		27.08
75	64	641	676		27.68
76	65	657	872		27.85
77	66	645	764		26.64
78	67	656	690		25.80
79	68	641	662		30.07
80	69	661 <del>657</del>	569		30.64
81	70	641	110		26.92
82	71	656	128		29.14
83	72	661	315		30.14
84	73	656 <del>661</del>	262		26.20
85	639861 <del>74</del>	641	-		





## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998

Job No: 98.03443

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
294494	LF Confirmation 0-300 #1966 Con	04/27/1998	04/29/1998
294495	LF Confirmation 300-600 #1966 C	04/27/1998	04/29/1998
294496	MeOH Blank #1966 Condon	04/28/1998	04/29/1998
294497	LF Confirmation 600-900 #1966 C	04/28/1998	04/29/1998
294498	Base #1 6' #1966 Condon	04/28/1998	04/29/1998
294499	Base #2 6' #1966 Condon	04/28/1998	04/29/1998
294500	Base #3 6' #1966 Condon	04/28/1998	04/29/1998
294501	Sidewall SW #4 3' #1966 Condon	04/28/1998	04/29/1998
294502	SW #5 3' #1966 Condon	04/28/1998	04/29/1998
294503	SW #6 5' #1966 Condon	04/28/1998	04/29/1998
294504	Base #7 10' #1966 Condon	04/28/1998	04/29/1998
294505	Base #8 10' #1966 Condon	04/28/1998	04/29/1998
294506	LF Conf. 900-1200 #1966 Condon	04/28/1998	04/29/1998
294507	LF Conf. 1200-1500 #1966 Condon	04/28/1998	04/29/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

Brian D. DeJong  
Organic Operations Manager



**NATIONAL  
ENVIRONMENTAL  
TESTING, INC.**

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294494  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: LF Confirmation 0-300 #1966 Condon  
Rec'd on ice

Date Taken: 04/27/1998 11:00

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	84.0	%	n/a	S-5030	05/07/1998	2162
VOC - NONAQUEOUS						
Benzene	M <10,100	ug/kg	25	S-8020	05/06/1998	1895
GRO	H 3,930	mg/kg	5.0	WDNR	05/06/1998	1895
Surr: Bromofluorobenzene	96.0	%	n/a	S-8020	05/06/1998	1895



NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294495  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: LF Confirmation 300-600 #1966 Condon  
Rec'd on ice

Date Taken: 04/27/1998 15:00

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	84.0	%	n/a	S-5030	05/07/1998	2162
PVOC - NONAQUEOUS						
Benzene	M <5,830	ug/kg	25	S-8020	05/06/1998	1895
GRO	H 2,020	mg/kg	5.0	WDNR	05/06/1998	1895
Surf: Bromofluorobenzene	92.0	%	n/a	S-8020	05/06/1998	1895



NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294496  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: MeOH Blank #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
GRO - NONAQUEOUS	<5.0	mg/kg	5.0	WDNR	05/06/1998	1183



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294497  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: LF Confirmation 600-900 #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 11:00

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	83.5	%	n/a	S-5030	05/07/1998	2162
SVOC - NONAQUEOUS						
Benzene	M <4,670	ug/kg	25	S-8020	05/06/1998	1895
GRO	H 2,040	mg/kg	5.0	WDNR	05/06/1998	1895
Surr: Bromofluorobenzene	94.5	%	n/a	S-8020	05/06/1998	1895



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294498  
Account No: 51021  
Page 6

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #1 6' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 10:30

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.7	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS	M					
Benzene	<234	ug/kg	25	S-8020	05/07/1998	1897
Ethylbenzene	<36	ug/kg	25	S-8020	05/07/1998	1897
Methyl-t-butyl ether	<99	ug/kg	25	S-8020	05/07/1998	1897
Toluene	<30	ug/kg	25	S-8020	05/07/1998	1897
1,2,4-Trimethylbenzene	45	ug/kg	25	S-8020	05/07/1998	1897
1,3,5-Trimethylbenzene	301	ug/kg	25	S-8020	05/07/1998	1897
Xylenes, Total	<84	ug/kg	75	S-8020	05/07/1998	1897
GRO	17	mg/kg	5.0	WDNR	05/07/1998	1897
Surf: Bromofluorobenzene	99.0	%	n/a	S-8020	05/07/1998	1897
DRO - NONAQUEOUS	5.9	mg/kg	5.0	WDNR	05/07/1998	934 1624



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294499  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #2 6' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 10:45

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.6	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS	M					
Benzene	<324	ug/kg	25	S-8020	05/07/1998	1897
Ethylbenzene	<64	ug/kg	25	S-8020	05/07/1998	1897
Methyl-t-butyl ether	<134	ug/kg	25	S-8020	05/07/1998	1897
Toluene	<33	ug/kg	25	S-8020	05/07/1998	1897
1,2,4-Trimethylbenzene	112	ug/kg	25	S-8020	05/07/1998	1897
1,3,5-Trimethylbenzene	391	ug/kg	25	S-8020	05/07/1998	1897
Xylenes, Total	<84	ug/kg	75	S-8020	05/07/1998	1897
DRO	27	mg/kg	5.0	WDNR	05/07/1998	1897
Surr: Bromofluorobenzene	103.0	%	n/a	S-8020	05/07/1998	1897
DRO - NONAQUEOUS	5.7	mg/kg	5.0	WDNR	05/08/1998	934 1624
PNA Extraction	05/01/98			S-3550	05/01/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<56	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<95	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<28	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	70.4	%	n/a	S-8310	05/07/1998	274 692



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294500  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #3 6' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 11:00

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.3	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/06/1998	1895
Ethylbenzene	<28	ug/kg	25	S-8020	05/06/1998	1895
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/06/1998	1895
Toluene	<28	ug/kg	25	S-8020	05/06/1998	1895
1,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/06/1998	1895
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/06/1998	1895
Xylenes, Total	<84	ug/kg	75	S-8020	05/06/1998	1895
GRO	<5.6	mg/kg	5.0	WDNR	05/06/1998	1895
Burr: Bromofluorobenzene	103.0	%	n/a	S-8020	05/06/1998	1895
DRO - NONAQUEOUS	<5.6	mg/kg	5.0	WDNR	05/07/1998	934 1624
PNA Extraction	05/01/98			S-3550	05/01/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<52	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<88	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<32	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<26	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<32	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Burr: 2-Fluorobiphenyl	81.0	%	n/a	S-8310	05/07/1998	274 692





ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294501  
Account No: 51021  
Page 9

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Sidewall SW #4 3' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 11:30 Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	82.1	%	n/a	S-5030	05/07/1998	2162
Lead, AA	8.6	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS	M					
Benzene	<150	ug/kg	25	S-8020	05/07/1998	1897
Ethylbenzene	<365	ug/kg	25	S-8020	05/07/1998	1897
Methyl-t-butyl ether	<150	ug/kg	25	S-8020	05/07/1998	1897
Toluene	<150	ug/kg	25	S-8020	05/07/1998	1897
1,2,4-Trimethylbenzene	3,530	ug/kg	25	S-8020	05/07/1998	1897
1,3,5-Trimethylbenzene	1,340	ug/kg	25	S-8020	05/07/1998	1897
Xylenes, Total	<792	ug/kg	75	S-8020	05/07/1998	1897
GRO	H 256	mg/kg	5.0	WDNR	05/07/1998	1897
Burr: Bromofluorobenzene	108.5	%	n/a	S-8020	05/07/1998	1897
DRO - NONAQUEOUS	1,190	mg/kg	5.0	WDNR	05/09/1998	934 1625
PNA Extraction	05/01/98			S-3550	05/01/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<58	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<95	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	23	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	37	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	658	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	5,120	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	10,200	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	3,650	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	171	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.8	ug/kg	5.0	S-8310	05/07/1998	274 692
Burr: 2-Fluorobiphenyl	48.8	%	n/a	S-8310	05/07/1998	274 692



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53151-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294502  
Account No: 51021  
Page 10

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #5 3' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 11:45

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.8	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/07/1998	1897
Ethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1897
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/07/1998	1897
Toluene	35	ug/kg	25	S-8020	05/07/1998	1897
1,2,4-Trimethylbenzene	54	ug/kg	25	S-8020	05/07/1998	1897
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1897
Xylenes, Total	<85	ug/kg	75	S-8020	05/07/1998	1897
DRO H	7.3	mg/kg	5.0	WDNR	05/07/1998	1897
Surr: Bromofluorobenzene	100.0	%	n/a	S-8020	05/07/1998	1897
DRO - NONAQUEOUS	<5.7	mg/kg	5.0	WDNR	05/07/1998	934 1624
PNA Extraction	05/01/98			S-3550	05/01/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<54	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<92	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<32	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<27	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<32	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	81.4	%	n/a	S-8310	05/07/1998	274 692



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294503  
Account No: 51021  
Page 11

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #6 5' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 12:00

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	88.3	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Ethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/07/1998	1895
Toluene	<28	ug/kg	25	S-8020	05/07/1998	1895
1,2,4-Trimethylbenzene	37	ug/kg	25	S-8020	05/07/1998	1895
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Xylenes, Total	<85	ug/kg	75	S-8020	05/07/1998	1895
GRO	<5.7	mg/kg	5.0	WDNR	05/07/1998	1895
Surr: Bromofluorobenzene	105.0	%	n/a	S-8020	05/07/1998	1895
DRO - NONAQUEOUS	100	mg/kg	5.0	WDNR	05/08/1998	934 1624
PNA Extraction	05/01/98			S-3550	05/01/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<57	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<96	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<28	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	71.2	%	n/a	S-8310	05/07/1998	274 692



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WDNR No. 128053530

**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294504  
Account No: 51021  
Page 12

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #7 10' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 13:15

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.0	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction	04/30/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Ethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/07/1998	1895
Toluene	<28	ug/kg	25	S-8020	05/07/1998	1895
1,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Xylenes, Total	<84	ug/kg	75	S-8020	05/07/1998	1895
GRO	<5.6	mg/kg	5.0	WDNR	05/07/1998	1895
Surr: Bromofluorobenzene	102.5	%	n/a	S-8020	05/07/1998	1895
DRO - NONAQUEOUS	8.9	mg/kg	5.0	WDNR	05/08/1998	934 1624



NATIONAL  
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TESTING, INC.

Watertown Division  
602 Commerce Drive  
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Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294505  
Account No: 51021  
Page 13

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #8 10' #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 13:30

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.8	%	n/a	S-5030	05/07/1998	2162
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	947 873
DRO Extraction PVOC - NONAQUEOUS	04/30/98			WDNR	05/05/1998	934
Benzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Ethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/07/1998	1895
Toluene	<28	ug/kg	25	S-8020	05/07/1998	1895
1,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/07/1998	1895
Xylenes, Total	<84	ug/kg	75	S-8020	05/07/1998	1895
GRO	<5.6	mg/kg	5.0	WDNR	05/07/1998	1895
Surr: Bromofluorobenzene	101.5	%	n/a	S-8020	05/07/1998	1895
DRO - NONAQUEOUS	10	mg/kg	5.0	WDNR	05/08/1998	934 1624



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294506  
Account No: 51021  
Page 14

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: LF Conf. 900-1200 #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 14:30

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	79.2	%	n/a	S-5030	05/08/1998	2163
PVOC - NONAQUEOUS						
Benzene	M <13,900	ug/kg	25	S-8020	05/07/1998	1897
GRO	H 4,040	mg/kg	5.0	WDNR	05/07/1998	1897
Surr: Bromofluorobenzene	102.5	%	n/a	S-8020	05/07/1998	1897



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/13/1998  
Job No: 98.03443  
Sample No: 294507  
Account No: 51021  
Page 15

JOB DESCRIPTION: #1966 Condon - Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: LF Conf. 1200-1500 #1966 Condon  
Rec'd on ice

Date Taken: 04/28/1998 15:30

Date Received: 04/29/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	78.7	%	n/a	S-5030	05/08/1998	2163
SVOC - NONAQUEOUS						
Benzene	M <12,300	ug/kg	25	S-8020	05/07/1998	1897
GRO	H 3,940	mg/kg	5.0	WDNR	05/07/1998	1897
Surr: Bromofluorobenzene	106.5	%	n/a	S-8020	05/07/1998	1897



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

78.03473

COMPANY Sigma Environ. Services, Inc.  
 ADDRESS 220 E Ryan Rd., Oak Creek, WI  
 PHONE 768-7144 FAX 768-7158  
 PROJECT NAME/LOCATION Condon - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

REPORT TO: Tim Welch  
 INVOICE TO: Condon Companies  
 P.O. NO. c/o Sigma  
 NET QUOTE NO. \_\_\_\_\_

SAMPLED BY David A Kultz  
 (PRINT NAME)  
 (PRINT NAME)

SIGNATURE [Signature]  
 SIGNATURE

## ANALYSES

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers						GRO	Benzene	GRO/ PULCS	ORO	PATS	90 Moist.	Lead
						HCl	NaOH	HNO3	H2SO4	OTHER								
4-27-98	11:00A	LF Confirmation (0-300)									2	X	X					
4-27-98	3:00P	LF Confirm. (300-600)									2	X	X					
4-28-98	-	MEOH Trip Blank									1	X						
	11:00A	LF Confirm. (600-900)									2	X	X					
	10:30A	Base # 1 - 6' bgs									3		X	X		X	X	
	10:45A	Base # 2 - 6' bgs									4		X	X	X	X	X	
	11:00A	Base # 3 - 6' bgs									4		X	X	X	X	X	
	11:30A	Sidewall(SW) # 4 - 3' bgs									4		X	X	X	X	X	
	11:45A	SW # 5 - 3' bgs									4		X	X	X	X	X	
	NOON	SW # 6 - 5' bgs									4		X	X	X	X	X	
	1:15P	Base # 7 - 10' bgs									3		X	X		X	X	
	1:30P	Base # 8 - 10' bgs									3		X	X		X	X	
	2:30P	LF Conf. (900-1200)									2	X	X					
	3:30P	LF Conf. (1200-1500)									2	X	X					

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

## COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO \_\_\_\_\_  
 FIELD FILTERED? YES / NO \_\_\_\_\_

COC SEALS PRESENT AND INTACT? YES / NO \_\_\_\_\_  
 VOLATILES FREE OF HEADSPACE? YES / NO \_\_\_\_\_

TEMPERATURE UPON RECEIPT: iced  
 Bottles supplied by NET?  YES  NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE 8/30/98 8:16

RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>4-28-98</u>	TIME: <u>13:00</u>	RECEIVED BY: <u>[Signature]</u>	RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>4/29/98</u>	TIME: <u>15:30</u>	RECEIVED FOR NET BY: <u>[Signature]</u>	<u>4/30/98</u>
METHOD OF SHIPMENT: <u>4/29/98 (6pm)</u>			REMARKS:					





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## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998

Job No: 98.03497

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
294723	SW #9 6' #1966 Condon	04/29/1998	04/30/1998
294724	SW #10 6' #1966 Condon	04/29/1998	04/30/1998
294725	SW #11 6' #1966 Condon	04/29/1998	04/30/1998
294726	SW #12 6' #1966 Condon	04/29/1998	04/30/1998
294727	SW #13 6' #1966 Condon	04/29/1998	04/30/1998
294728	SW #14 6' #1966 Condon	04/29/1998	04/30/1998
294729	SW #15 1' #1966 Condon	04/29/1998	04/30/1998
294730	Base #16 10' #1966 Condon	04/29/1998	04/30/1998
294731	Base #17 10' #1966 Condon	04/29/1998	04/30/1998
294732	Base #18 10' #1966 Condon	04/29/1998	04/30/1998
294733	Base #19 5' #1966 Condon	04/29/1998	04/30/1998
294734	MeOH Blank #1966 Condon	04/29/1998	04/30/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

Brian D. DeJong  
Organic Operations Manager



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294723  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #9 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 08:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<29	ug/kg	25	S-8020	05/09/1998	1899
Ethylbenzene	<29	ug/kg	25	S-8020	05/09/1998	1899
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/09/1998	1899
Toluene	<29	ug/kg	25	S-8020	05/09/1998	1899
1,2,4-Trimethylbenzene	<630	ug/kg	25	S-8020	05/09/1998	1899
1,3,5-Trimethylbenzene	<180	ug/kg	25	S-8020	05/09/1998	1899
Xylenes, Total	<86	ug/kg	75	S-8020	05/09/1998	1899
DRO	H 48	mg/kg	5.0	WDNR	05/09/1998	1899
Surf: Bromofluorobenzene	104.0	%	n/a	S-8020	05/09/1998	1899
DRO - NONAQUEOUS	180	mg/kg	5.0	WDNR	05/09/1998	936 1626



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294724  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #10 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 08:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
solids, Total	84.4	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.7	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<296	ug/kg	25	S-8020	05/09/1998	1899
Ethylbenzene	711	ug/kg	25	S-8020	05/09/1998	1899
Methyl-t-butyl ether	<261	ug/kg	25	S-8020	05/09/1998	1899
Toluene	<45	ug/kg	25	S-8020	05/09/1998	1899
1,2,4-Trimethylbenzene	3,440	ug/kg	25	S-8020	05/09/1998	1899
1,3,5-Trimethylbenzene	1,100	ug/kg	25	S-8020	05/09/1998	1899
Xylenes, Total	2,840	ug/kg	75	S-8020	05/09/1998	1899
GRO	H 97	mg/kg	5.0	WDNR	05/09/1998	1899
Surf: Bromofluorobenzene	106.5	%	n/a	S-8020	05/09/1998	1899
DRO - NONAQUEOUS	249	mg/kg	5.0	WDNR	05/09/1998	936 1626



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294725  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #11 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:00

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	85.9	%	n/a	S-5030	05/11/1998	2168
Lead, AA	5.9	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<8,610	ug/kg	25	S-8020	05/09/1998	1899
Ethylbenzene	18,600	ug/kg	25	S-8020	05/09/1998	1899
Methyl-t-butyl ether	<815	ug/kg	25	S-8020	05/09/1998	1899
Toluene	<803	ug/kg	25	S-8020	05/09/1998	1899
1,2,4-Trimethylbenzene	75,700	ug/kg	25	S-8020	05/09/1998	1899
1,3,5-Trimethylbenzene	<3,490	ug/kg	25	S-8020	05/09/1998	1899
Xylenes, Total	23,300	ug/kg	75	S-8020	05/09/1998	1899
GRO	H 1,860	mg/kg	5.0	WDNR	05/09/1998	1899
Burr: Bromofluorobenzene	117.0	%	n/a	S-8020	05/09/1998	1899
DRO - NONAQUEOUS	21,000	mg/kg	5.0	WDNR	05/10/1998	936 1628



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294726  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #12 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:00

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	86.0	%	n/a	S-5030	05/11/1998	2168
Lead, AA	6.3	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<57,000	ug/kg	25	S-8020	05/09/1998	1899
Ethylbenzene	83,700	ug/kg	25	S-8020	05/09/1998	1899
Methyl-t-butyl ether	<30,200	ug/kg	25	S-8020	05/09/1998	1899
Toluene	<8,720	ug/kg	25	S-8020	05/09/1998	1899
1,2,4-Trimethylbenzene	157,000	ug/kg	25	S-8020	05/09/1998	1899
1,3,5-Trimethylbenzene	48,800	ug/kg	25	S-8020	05/09/1998	1899
Xylenes, Total	367,000	ug/kg	75	S-8020	05/09/1998	1899
DRO	H 5,350	mg/kg	5.0	WDNR	05/09/1998	1899
Burr: Bromofluorobenzene	105.0	%	n/a	S-8020	05/09/1998	1899
DRO - NONAQUEOUS	5,000	mg/kg	5.0	WDNR	05/10/1998	936 1628
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<54	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<92	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	36	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	19	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	13	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	21	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	558	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	279	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	3,950	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	8,490	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	3,950	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	953	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	314	ug/kg	5.0	S-8310	05/07/1998	274 692
Burr: 2-Fluorobiphenyl	102.8	%	n/a	S-8310	05/07/1998	274 692



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294727  
Account No: 51021  
Page 6

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #13 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:15

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	86	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.7	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<340	ug/kg	25	S-8020	05/12/1998	1904
Ethylbenzene	<790	ug/kg	25	S-8020	05/12/1998	1904
Methyl-t-butyl ether	<110	ug/kg	25	S-8020	05/12/1998	1904
Toluene	<94	ug/kg	25	S-8020	05/12/1998	1904
1,2,4-Trimethylbenzene	730	ug/kg	25	S-8020	05/12/1998	1904
1,3,5-Trimethylbenzene	450	ug/kg	25	S-8020	05/12/1998	1904
Xylenes, Total	330	ug/kg	75	S-8020	05/12/1998	1904
GRO	55	mg/kg	5.0	WDNR	05/12/1998	1904
Surr: Bromofluorobenzene	110.0	%	n/a	S-8020	05/12/1998	1904
DRO - NONAQUEOUS	27	mg/kg	5.0	WDNR	05/09/1998	936 1626



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294728  
Account No: 51021  
Page 7

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #14 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:15

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Patch
Solids, Total	85.8	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.7	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<3,500	ug/kg	25	S-8020	05/09/1998	1899
Ethylbenzene	<6,760	ug/kg	25	S-8020	05/09/1998	1899
Methyl-t-butyl ether	<443	ug/kg	25	S-8020	05/09/1998	1899
Toluene	<2,450	ug/kg	25	S-8020	05/09/1998	1899
1,2,4-Trimethylbenzene	8,280	ug/kg	25	S-8020	05/09/1998	1899
1,3,5-Trimethylbenzene	3,150	ug/kg	25	S-8020	05/09/1998	1899
Xylenes, Total	11,100	ug/kg	75	S-8020	05/09/1998	1899
DRO	H 350	mg/kg	5.0	WDNR	05/09/1998	1899
Burr: Bromofluorobenzene	111.0	%	n/a	S-8020	05/09/1998	1899
DRO - NONAQUEOUS	140	mg/kg	5.0	WDNR	05/09/1998	936 1626
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<56	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<95	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	90	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	175	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	175	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Burr: 2-Fluorobiphenyl	92.4	%	n/a	S-8310	05/07/1998	274 692



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294729  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: SW #15 4' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:15

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	83.6	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.8	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<2,630	ug/kg	25	S-8020	05/12/1998	1904
Ethylbenzene	7,060	ug/kg	25	S-8020	05/12/1998	1904
Methyl-t-butyl ether	<455	ug/kg	25	S-8020	05/12/1998	1904
Toluene	<490	ug/kg	25	S-8020	05/12/1998	1904
1,2,4-Trimethylbenzene	16,700	ug/kg	25	S-8020	05/12/1998	1904
1,3,5-Trimethylbenzene	6,340	ug/kg	25	S-8020	05/12/1998	1904
Xylenes, Total	19,100	ug/kg	75	S-8020	05/12/1998	1904
DRO	H 502	mg/kg	5.0	WDNR	05/12/1998	1904
Surr: Bromofluorobenzene	111.0	%	n/a	S-8020	05/12/1998	1904
DRO - NONAQUEOUS	1,200	mg/kg	5.0	WDNR	05/11/1998	936 1630
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<59	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<98	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	24	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	19	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	61	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	110	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	610	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	921	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	1,670	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	24	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	26	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	91.4	%	n/a	S-8310	05/07/1998	274 692





**NATIONAL  
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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294730  
Account No: 51021  
Page 9

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #16 10' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	86.3	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/08/1998	949 874
-RO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS						
benzene	2,320	ug/kg	25	S-8020	05/10/1998	1899
ethylbenzene	<29	ug/kg	25	S-8020	05/10/1998	1899
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/10/1998	1899
Toluene	100	ug/kg	25	S-8020	05/10/1998	1899
,2,4-Trimethylbenzene	<29	ug/kg	25	S-8020	05/10/1998	1899
,3,5-Trimethylbenzene	<29	ug/kg	25	S-8020	05/10/1998	1899
xylenes, Total	<87	ug/kg	75	S-8020	05/10/1998	1899
GRO	<5.8	mg/kg	5.0	WDNR	05/10/1998	1899
urr: Bromofluorobenzene	95.5	%	n/a	S-8020	05/10/1998	1899
RO - NONAQUEOUS	65	mg/kg	5.0	WDNR	05/09/1998	936 1626



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294731  
Account No: 51021  
Page 10

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #17 10' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.6	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/08/1998	949 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS						
Benzene	1,710	ug/kg	25	S-8020	05/10/1998	1899
Ethylbenzene	160	ug/kg	25	S-8020	05/10/1998	1899
Methyl-t-butyl ether	<51	ug/kg	25	S-8020	05/10/1998	1899
Toluene	194	ug/kg	25	S-8020	05/10/1998	1899
1,2,4-Trimethylbenzene	83	ug/kg	25	S-8020	05/10/1998	1899
1,3,5-Trimethylbenzene	32	ug/kg	25	S-8020	05/10/1998	1899
Xylenes, Total	194	ug/kg	75	S-8020	05/10/1998	1899
GRO	8.9	mg/kg	5.0	WDNR	05/10/1998	1899
Surr: Bromofluorobenzene	86.5	%	n/a	S-8020	05/10/1998	1899
DRO - NONAQUEOUS	39	mg/kg	5.0	WDNR	05/10/1998	936 1628



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294732  
Account No: 51021  
Page 11

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #18 10' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.5	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/08/1998	950 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS						
Benzene	960	ug/kg	25	S-8020	05/12/1998	1904
Ethylbenzene	1,370	ug/kg	25	S-8020	05/12/1998	1904
Methyl-t-butyl ether	M <100	ug/kg	25	S-8020	05/12/1998	1904
Toluene	3,310	ug/kg	25	S-8020	05/12/1998	1904
1,2,4-Trimethylbenzene	274	ug/kg	25	S-8020	05/12/1998	1904
1,3,5-Trimethylbenzene	89	ug/kg	25	S-8020	05/12/1998	1904
Xylenes, Total	1,940	ug/kg	75	S-8020	05/12/1998	1904
GRO	21	mg/kg	5.0	WDNR	05/12/1998	1904
Burr: Bromofluorobenzene	97.5	%	n/a	S-8020	05/12/1998	1904
DRO - NONAQUEOUS	25	mg/kg	5.0	WDNR	05/09/1998	936 1626
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<57	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<97	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<29	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.7	ug/kg	5.0	S-8310	05/07/1998	274 692
Burr: 2-Fluorobiphenyl	67.8	%	n/a	S-8310	05/07/1998	274 692



**NATIONAL ENVIRONMENTAL TESTING, INC.**

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WDNR No. 128053530

**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294733  
Account No: 51021  
Page 12

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Base #19 5' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998 09:30

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	88.4	%	n/a	S-5030	05/11/1998	2168
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/08/1998	950 874
DRO Extraction	05/01/98			WDNR	05/07/1998	936
PVOC - NONAQUEOUS	M					
Benzene	<3,390	ug/kg	25	S-8020	05/12/1998	1904
Ethylbenzene	6,450	ug/kg	25	S-8020	05/12/1998	1904
Methyl-t-butyl ether	<871	ug/kg	25	S-8020	05/12/1998	1904
Toluene	<701	ug/kg	25	S-8020	05/12/1998	1904
1,2,4-Trimethylbenzene	8,940	ug/kg	25	S-8020	05/12/1998	1904
1,3,5-Trimethylbenzene	3,170	ug/kg	25	S-8020	05/12/1998	1904
Xylenes, Total	20,400	ug/kg	75	S-8020	05/12/1998	1904
GRO	H 464	mg/kg	5.0	WDNR	05/12/1998	1904
Surr: Bromofluorobenzene	81.5	%	n/a	S-8020	05/12/1998	1904
DRO - NONAQUEOUS	181	mg/kg	5.0	WDNR	05/09/1998	936 1626
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<56	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<94	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	23	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	53	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	35	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	328	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	701	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	984	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	62	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	34	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	94.6	%	n/a	S-8310	05/07/1998	274 692



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/15/1998  
Job No: 98.03497  
Sample No: 294734  
Account No: 51021  
Page 13

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: MeOH Blank #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/29/1998

Date Received: 04/30/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
PVOC - NONAQUEOUS						
Benzene	<25	ug/kg	25	S-8020	05/10/1998	1899
Ethylbenzene	<25	ug/kg	25	S-8020	05/10/1998	1899
Methyl-t-butyl ether	<25	ug/kg	25	S-8020	05/10/1998	1899
Toluene	<25	ug/kg	25	S-8020	05/10/1998	1899
1,2,4-Trimethylbenzene	<25	ug/kg	25	S-8020	05/10/1998	1899
1,3,5-Trimethylbenzene	<25	ug/kg	25	S-8020	05/10/1998	1899
Xylenes, Total	<75	ug/kg	75	S-8020	05/10/1998	1899
BRO	<5.0	mg/kg	5.0	WDNR	05/10/1998	1899
Surr: Bromofluorobenzene	100.5	%	n/a	S-8020	05/10/1998	1899



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

COMPANY Sigma Environmental Services, Inc.  
 ADDRESS 220 E Ryan Rd., Oak Creek, WI 53154  
 PHONE 768-7144 FAX 768-7158  
 PROJECT NAME/LOCATION Condon - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

98.0 FT  
 REPORT TO: Tim Welch  
 INVOICE TO: Condon Companies  
 P.O. NO. C/O Sigma  
 NET QUOTE NO. \_\_\_\_\_

SAMPLED BY David A. Kultz  
 (PRINT NAME)  
 (PRINT NAME)

SIGNATURE [Signature]  
 SIGNATURE

### ANALYSES

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers						GRO/AVOCs	DRO	AAHS	Lead	Glo Moist.
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	METH	OTHER					
4-29-98	8:30A	SW #9 - 6' bgs	S	X								X	X		X	X
	8:30A	SW #10 - 6' bgs	S	X								X	X		X	X
	9:00A	SW #11 - 6' bgs	S	X								X	X		X	X
	9:00A	SW #12 - 6' bgs	S	X								X	X	X	X	X
	9:15A	SW #13 - 6' bgs	S	X								X	X		X	X
	9:15A	SW #14 - 6' bgs	S	X								X	X	X	X	X
	9:15A	SW #15 - 4' bgs	S	X								X	X	X	X	X
	9:30A	Base #16 - 10' bgs	S	X								X	X		X	X
	9:30A	Base #17 - 10' bgs	S	X								X	X		X	X
	9:30A	Base #18 - 10' bgs	S	X								X	X	X	X	X
	9:30A	Base #19 - 5' bgs	S	X								X	X	X	X	X
	-	METH Trip Blank	S	X								X	X			

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

### COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
 FIELD FILTERED? YES / NO

COC SEALS PRESENT AND INTACT? YES / NO  
 VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: 40C  
 Bottles supplied by NET?  YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE 8/5/18:24

RELINQUISHED BY: [Signature] DATE: 4-29-98 TIME: \_\_\_\_\_

RECEIVED BY: Akassu 43098 RELINQUISHED BY: Akassu 43098 DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: NET REMARKS: \_\_\_\_\_

RECEIVED FOR NET BY: [Signature] DATE: 5/1/98 TIME: \_\_\_\_\_



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WDNR No. 128053530

## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998

Job No: 98.03530

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
294850	Trench Base #1 10' #1966 Condo	04/30/1998	05/01/1998
294851	Trench SW #2 6' #1966 Condon	04/30/1998	05/01/1998
294852	Trench SW #3 6' #1966 Condon	04/30/1998	05/01/1998
294853	Trench Base #4 8' #1966 Condon	04/30/1998	05/01/1998
294854	Trench SW #5 6' #1966 Condon	04/30/1998	05/01/1998
294855	Trench SW #6 6' #1966 Condon	04/30/1998	05/01/1998
294856	Trench Base #7 8' #1966 Condon	04/30/1998	05/01/1998
294857	Trench SW #8 6' #1966 Condon	04/30/1998	05/01/1998
294858	Trench SW #9 6' #1966 Condon	04/30/1998	05/01/1998
294859	Trench SW #10 6' #1966 Condon	04/30/1998	05/01/1998
294860	MeOH Blank #1966 Condon	04/30/1998	05/01/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

Brian D. DeJong  
Organic Operations Manager



**NATIONAL  
ENVIRONMENTAL  
TESTING, INC.**

Watertown Division  
602 Commerce Drive  
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Tel: (920) 261-1660  
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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294850  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench Base #1 10' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:00

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.2	%	n/a	S-5030	05/11/1998	2169
Lead, AA	5.7	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	64	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<29	ug/kg	25	S-8020	05/14/1998	1907
m,2,4-Trimethylbenzene	252	ug/kg	25	S-8020	05/14/1998	1907
m,3,5-Trimethylbenzene	206	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	241	ug/kg	75	S-8020	05/14/1998	1907
GRO	<5.7	mg/kg	5.0	WDNR	05/14/1998	1907
Burr: Bromofluorobenzene	90.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	6.9	mg/kg	5.0	WDNR	05/07/1998	934 1624





**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294851  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #2 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:00

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87	%	n/a	S-5030	05/11/1998	2169
Lead, AA	21	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<86	ug/kg	75	S-8020	05/14/1998	1907
GRO	<5.7	mg/kg	5.0	WDNR	05/14/1998	1907
Surr: Bromofluorobenzene	98.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<5.7	mg/kg	5.0	WDNR	05/07/1998	934 1624



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294852  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #3 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:00

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	87.3	%	n/a	S-5030	05/11/1998	2169
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<29	ug/kg	25	S-8020	05/15/1998	1908
Ethylbenzene	<29	ug/kg	25	S-8020	05/15/1998	1908
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/15/1998	1908
Toluene	<29	ug/kg	25	S-8020	05/15/1998	1908
1,2,4-Trimethylbenzene	32	ug/kg	25	S-8020	05/15/1998	1908
1,3,5-Trimethylbenzene	<29	ug/kg	25	S-8020	05/15/1998	1908
Xylenes, Total	<86	ug/kg	75	S-8020	05/15/1998	1908
GRO	H <5.7	mg/kg	5.0	WDNR	05/15/1998	1908
Surr: Bromofluorobenzene	99.5	%	n/a	S-8020	05/15/1998	1908
DRO - NONAQUEOUS	87	mg/kg	5.0	WDNR	05/08/1998	934 1624
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<52	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<88	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<10	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<31	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<26	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	50	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.2	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	94.6	%	n/a	S-8310	05/07/1998	274 692



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294853  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench Base #4 8' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:30 Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.3	%	n/a	S-5030	05/11/1998	2169
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/15/1998	910 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<28	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<84	ug/kg	75	S-8020	05/14/1998	1907
GRO	<5.6	mg/kg	5.0	WDNR	05/14/1998	1907
Surr: Bromofluorobenzene	101.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<5.6	mg/kg	5.0	WDNR	05/08/1998	934 1624
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<54	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<91	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<27	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	93.6	%	n/a	S-8310	05/07/1998	274 692



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294854  
Account No: 51021  
Page 6

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #5 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	86	%	n/a	S-5030	05/11/1998	2169
Lead, AA	<4.7	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<87	ug/kg	75	S-8020	05/14/1998	1907
DRO	<5.8	mg/kg	5.0	WDNR	05/14/1998	1907
Surr: Bromofluorobenzene	102.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<5.8	mg/kg	5.0	WDNR	05/07/1998	934 1624



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294855  
Account No: 51021  
Page 7

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #6 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 09:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	83.4	%	n/a	S-5030	05/12/1998	2169
Lead, AA	<4.8	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<30	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<30	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<30	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<30	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	110	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<30	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<90	ug/kg	75	S-8020	05/14/1998	1907
GRO	<6.0	mg/kg	5.0	WDNR	05/14/1998	1907
Surr: Bromofluorobenzene	99.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<6.0	mg/kg	5.0	WDNR	05/07/1998	934 1624
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<59	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<99	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a) anthracene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b) fluoranthene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k) fluoranthene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a) pyrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi) perylene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a, h) anthracene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<12	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd) pyrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<36	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<30	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<36	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.9	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	91.6	%	n/a	S-8310	05/07/1998	274 692



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294856  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench Base #7 8' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 10:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89.4	%	n/a	S-5030	05/12/1998	2169
Lead, AA	6.5	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Methylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<28	ug/kg	25	S-8020	05/14/1998	1907
-,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
-,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<84	ug/kg	75	S-8020	05/14/1998	1907
DRO	<5.6	mg/kg	5.0	WDNR	05/14/1998	1907
Furr: Bromofluorobenzene	100.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	6.3	mg/kg	5.0	WDNR	05/08/1998	934 1624
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<54	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<92	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<27	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<33	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.4	ug/kg	5.0	S-8310	05/07/1998	274 692
Furr: 2-Fluorobiphenyl	96.4	%	n/a	S-8310	05/07/1998	274 692



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294857  
Account No: 51021  
Page 9

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #8 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 10:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	81.9	%	n/a	S-5030	05/12/1998	2169
Lead, AA	<4.9	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<31	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<31	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<31	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<31	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<31	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<31	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<92	ug/kg	75	S-8020	05/14/1998	1907
ERO	<6.1	mg/kg	5.0	WDNR	05/14/1998	1907
Burr: Bromofluorobenzene	100.5	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<6.1	mg/kg	5.0	WDNR	05/08/1998	934 1624



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294858  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #9 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 10:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	86.3	%	n/a	S-5030	05/12/1998	2169
Lead, AA	<4.6	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<29	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<29	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<87	ug/kg	75	S-8020	05/14/1998	1907
GRO	<5.8	mg/kg	5.0	WDNR	05/14/1998	1907
Burr: Bromofluorobenzene	100.0	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<5.8	mg/kg	5.0	WDNR	05/08/1998	934 1624





## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294859  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: Trench SW #10 6' #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998 10:30

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
Solids, Total	89	%	n/a	S-5030	05/12/1998	2169
Lead, AA	<4.5	mg/kg	4.0	S-7420	05/15/1998	950 876
DRO Extraction	05/02/98			WDNR	05/05/1998	934
PVOC - NONAQUEOUS						
Benzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Ethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Methyl-t-butyl ether	<28	ug/kg	25	S-8020	05/14/1998	1907
Toluene	<28	ug/kg	25	S-8020	05/14/1998	1907
1,2,4-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
1,3,5-Trimethylbenzene	<28	ug/kg	25	S-8020	05/14/1998	1907
Xylenes, Total	<84	ug/kg	75	S-8020	05/14/1998	1907
GRO	<5.6	mg/kg	5.0	WDNR	05/14/1998	1907
Surr: Bromofluorobenzene	101.0	%	n/a	S-8020	05/14/1998	1907
DRO - NONAQUEOUS	<5.6	mg/kg	5.0	WDNR	05/07/1998	934 1624
PNA Extraction	05/04/98			S-3550	05/04/1998	274
PNA - 8310 NONAQUEOUS						
Acenaphthene	<56	ug/kg	50	S-8310	05/07/1998	274 692
Acenaphthylene	<96	ug/kg	85	S-8310	05/07/1998	274 692
Anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)anthracene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(b)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(k)fluoranthene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(a)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Benzo(ghi)perylene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Chrysene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Dibenzo(a,h)anthracene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluoranthene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Fluorene	<11	ug/kg	10	S-8310	05/07/1998	274 692
Indeno(1,2,3-cd)pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
1-Methylnaphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
2-Methylnaphthalene	<28	ug/kg	25	S-8310	05/07/1998	274 692
Naphthalene	<34	ug/kg	30	S-8310	05/07/1998	274 692
Phenanthrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Pyrene	<5.6	ug/kg	5.0	S-8310	05/07/1998	274 692
Surr: 2-Fluorobiphenyl	78.0	%	n/a	S-8310	05/07/1998	274 692



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094

Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/18/1998  
Job No: 98.03530  
Sample No: 294860  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Soil Analysis  
SAMPLE DESCRIPTION: MeOH Blank #1966 Condon  
Rec'd 4 degrees C

Date Taken: 04/30/1998

Date Received: 05/01/1998

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
SVOC - NONAQUEOUS						
Benzene	<25	ug/kg	25	S-8020	05/14/1998	1905
Ethylbenzene	<25	ug/kg	25	S-8020	05/14/1998	1905
Methyl-t-butyl ether	<25	ug/kg	25	S-8020	05/14/1998	1905
Toluene	<25	ug/kg	25	S-8020	05/14/1998	1905
1,2,4-Trimethylbenzene	<25	ug/kg	25	S-8020	05/14/1998	1905
1,3,5-Trimethylbenzene	<25	ug/kg	25	S-8020	05/14/1998	1905
Xylenes, Total	<75	ug/kg	75	S-8020	05/14/1998	1905
BRO	<5.0	mg/kg	5.0	WDNR	05/14/1998	1905
Burr: Bromofluorobenzene	93.5	%	n/a	S-8020	05/14/1998	1905



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

90.05530

COMPANY Sigma Env. Services, Inc.  
 ADDRESS 220 E RYAN Rd Oak Creek, WI 53154  
 PHONE 768-7144 FAX 768-1158  
 PROJECT NAME/LOCATION Condon - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

REPORT TO: Tim Welch  
 INVOICE TO: Condon Companies  
 P.O. NO. C/O Sigma  
 NET QUOTE NO. \_\_\_\_\_

SAMPLED BY David A Kubit  
 (PRINT NAME)  
 (PRINT NAME)

SIGNATURE [Signature]  
 SIGNATURE

## ANALYSES

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers						GRO/AVOCs	DRO	Lead	Pb M.I.S.T	PAH	
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	MEDIA	OTHER						
4-30-98	9:00	Trench Base #1 - 10'	S	X								3	X	X	X	X	
	9:00	" SW #2 - 6'	S	X								3	X	X	X	X	
	9:00	" SW #3 - 6'	S	X								4	X	X	X	X	X
	9:30	" Base #4 - 8'	S	X								4	X	X	X	X	X
	9:30	" SW #5 - 6'	S	X								3	X	X	X	X	
	9:30	" SW #6 - 6'	S	X								4	X	X	X	X	X
	10:30	" Base #7 - 8'	S	X								4	X	X	X	X	X
	10:30	" SW #8 - 6'	S	X								3	X	X	X	X	
	10:30	" SW #9 - 6'	S	X								3	X	X	X	X	
	10:30	" SW #10 - 6'	S	X								4	X	X	X	X	X
		MEOH Trip Blank	S	X								1	X				

## COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO \_\_\_\_\_ COC SEALS PRESENT AND INTACT? YES / NO \_\_\_\_\_ TEMPERATURE UPON RECEIPT: 4°C  
 FIELD FILTERED? YES / NO \_\_\_\_\_ VOLATILES FREE OF HEADSPACE? YES / NO \_\_\_\_\_ Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_ DATE 8/5/98 8:00  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_

RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>4-30-98</u>	TIME: <u>13:55</u>	RECEIVED BY: <u>[Signature]</u>	RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>5/1/98</u>	TIME: <u>16:40</u>	RECEIVED FOR NET BY: <u>[Signature]</u>
METHOD OF SHIPMENT: <u>5-1-98 (air)</u>		REMARKS:					

**APPENDIX F**

**Groundwater Laboratory Reports**

## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

07/15/1999

Job No: 99.05696

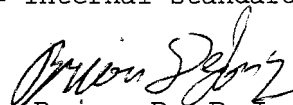
Page 1 of 16

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

Sample Number	Sample Description	Date Taken	Date Received
356357	MW-1 #1966	06/30/1999	07/01/1999
356358	MW-2 #1966	06/30/1999	07/01/1999
356359	MW-4 #1966	06/30/1999	07/01/1999
356360	MW-5 #1966	06/30/1999	07/01/1999
356361	MW-6 #1966	06/30/1999	07/01/1999
356362	MW-7 #1966	06/30/1999	07/01/1999
356363	MW-8 #1966	06/30/1999	07/01/1999
356364	MW-10 #1966	06/30/1999	07/01/1999
356365	S-1 #1966	06/30/1999	07/01/1999
356366	S-2 #1966	06/30/1999	07/01/1999
356367	S-3 #1966	06/30/1999	07/01/1999
356368	Duplicate #1966	06/30/1999	07/01/1999
356369	Trip Blank #1966	06/30/1999	07/01/1999
356370	Equip. Blank #1966	06/30/1999	07/01/1999

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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



Brian D. DeJong  
Organic Operations Manager

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356357  
 Account No: 65300  
 Page 2 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-1 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	43	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.34	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS	H						
Benzene	12	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	25	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	26	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	M <2.5	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	13	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	14	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	18	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	114.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	6.1	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356358  
 Account No: 65300  
 Page 3 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-2 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	107.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356359  
 Account No: 65300  
 Page 4 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-4 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
PVOC - AQUEOUS							
	H						
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	96.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/07/1999	1365



## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356360  
 Account No: 65300  
 Page 5 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-5 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	60	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.43	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS							
Benzene	340	ug/L	0.13	0.44	SW 8020	07/08/1999	5722
Ethylbenzene	1.8	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	M <4.5	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	8.2	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	49	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	0.69	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	160	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	102.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	0.79	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356361  
 Account No: 65300  
 Page 6 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-6 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.018	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	64	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.68	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS	H						
Benzene	170	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	14	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	M <2.1	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	4.1	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	2.0	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<1.5	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<1.2	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	85.0	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	6.0	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356362  
 Account No: 65300  
 Page 7 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-7 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN      Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/08/1999	5722
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/08/1999	5722
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/08/1999	5722
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/08/1999	5722
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/08/1999	5722
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/08/1999	5722
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/08/1999	5722
Surr: Bromofluorobenzene	98.5	%	n/a	n/a	SW 8020	07/08/1999	5722
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/08/1999	1368

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356363  
 Account No: 65300  
 Page 8 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-8 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	0.98	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	100.0	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356364  
 Account No: 65300  
 Page 9 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-10 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	0.022	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	61	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.16	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS	H						
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	0.77	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	0.26	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
surr: Bromofluorobenzene	90.0	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356365  
 Account No: 65300  
 Page 10 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-1 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	54	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.21	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	100.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356366  
 Account No: 65300  
 Page 11 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-2 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	0.090	mg/L	0.017	0.059	EPA 353.2	07/13/1999	870
Sulfate	69	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.087	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS	H						
Benzene	3.7	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	0.77	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	M <0.20	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	0.30	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	0.42	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	0.35	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	91.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	0.97	ug/L	0.46	1.6	SW 8020	07/07/1999	1365

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356367  
 Account No: 65300  
 Page 12 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-3 #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.071	mg/L	0.017	0.059	EPA 353.2	07/13/1999	917
Sulfate	70	mg/L	2.0	7.2	EPA 375.2	07/14/1999	752
Manganese, Dissolved	0.40	mg/L	0.0086	0.030	EPA 243.1	07/12/1999	850
PVOC - AQUEOUS	H						
Benzene	150	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	16	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	M <1.8	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	3.1	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	36	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.58	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	37	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	98.5	%	n/a	n/a	SW 8020	07/07/1999	5718
Naphthalene	16	ug/L	0.46	1.6	SW 8020	07/07/1999	1365



## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356368  
 Account No: 65300  
 Page 13 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Duplicate #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
	H						
Benzene	180	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	13	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<1.5	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
	M						
Toluene	4.0	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	1.9	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<1.5	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<1.2	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	89.5	%	n/a	n/a	SW 8020	07/07/1999	5718

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356369  
 Account No: 65300  
 Page 14 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Trip Blank #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN      Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	104.0	%	n/a	n/a	SW 8020	07/07/1999	5718

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

07/15/1999  
 Job No: 99.05696  
 Sample No: 356370  
 Account No: 65300  
 Page 15 of 16

JOB DESCRIPTION: #1966  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Equip. Blank #1966  
 Rec'd on Ice

Date/Time Taken: 06/30/1999 UNKNOWN Date Received: 07/01/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	07/07/1999	5718
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	07/07/1999	5718
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	07/07/1999	5718
Toluene	0.51	ug/L	0.20	0.64	SW 8020	07/07/1999	5718
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	07/07/1999	5718
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	07/07/1999	5718
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	07/07/1999	5718
Surr: Bromofluorobenzene	109.0	%	n/a	n/a	SW 8020	07/07/1999	5718

## QUALITY CONTROL REPORT

### BLANKS

07/15/1999

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

Job No: 99.05696  
 Account No: 65300

Page 16 of 16

Job Description: #1966

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units
N-Nitrate + Nitrite Sulfate		870	<0.017	0.017	0.059	mg/L
Manganese, Dissolved		752	4.1	2.0	7.2	mg/L
PVOC - AQUEOUS		850	<0.0086	0.0086	0.030	mg/L
Benzene		5718	<0.13	0.13	0.44	ug/L
Ethylbenzene		5718	<0.22	0.22	0.70	ug/L
Methyl-t-butyl ether		5718	<0.16	0.16	0.53	ug/L
Toluene		5718	<0.20	0.20	0.64	ug/L
1,2,4-Trimethylbenzene		5718	<0.22	0.22	0.71	ug/L
1,3,5-Trimethylbenzene		5718	<0.29	0.29	0.92	ug/L
Xylenes, Total		5718	<0.23	0.23	0.82	ug/L
Surr: Bromofluorobenzene		5718	89.5	n/a	n/a	%
PVOC - AQUEOUS						
Benzene		5722	<0.13	0.13	0.44	ug/L
Ethylbenzene		5722	<0.22	0.22	0.70	ug/L
Methyl-t-butyl ether		5722	<0.16	0.16	0.53	ug/L
Toluene		5722	<0.20	0.20	0.64	ug/L
1,2,4-Trimethylbenzene		5722	<0.22	0.22	0.71	ug/L
1,3,5-Trimethylbenzene		5722	<0.29	0.29	0.92	ug/L
Xylenes, Total		5722	<0.23	0.23	0.82	ug/L
Surr: Bromofluorobenzene		5722	99.0	n/a	n/a	%
Naphthalene		1365	<0.46	0.46	1.6	ug/L
Naphthalene		1368	<0.46	0.46	1.6	ug/L

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d

Chain of Custody Record

# TESTAMERICA INC.

97-05614

- |  |   |  |  |  |   |  |  |  |
|--|---|--|--|--|---|--|--|--|
| <input type="checkbox"/> Asheville, NC (A)<br>(828) 254-5169 | <input type="checkbox"/> Bartlett, IL (C)<br>(630) 289-3100 | <input type="checkbox"/> Cedar Falls, IA (E)<br>(319) 277-2401 | <input type="checkbox"/> Charlotte, NC (G)<br>(704) 392-1164 | <input type="checkbox"/> Dayton, OH (I)<br>(937) 294-6856    | <input type="checkbox"/> Lumberton, NC (K)<br>(910) 738-6190    | <input type="checkbox"/> Nashville, TN (M)<br>(615) 726-0177 | <input type="checkbox"/> Pontiac, MI (O)<br>(248) 332-1940 | <input type="checkbox"/> Rockford, IL (Q)<br>(815) 874-2171  |
| <input type="checkbox"/> Atlanta, GA (B)<br>(770) 368-0636   | <input type="checkbox"/> Brighton, CO (D)<br>(303) 659-0497 | <input type="checkbox"/> Charleston, SC (F)<br>(843) 849-6550  | <input type="checkbox"/> Columbia, SC (H)<br>(803) 796-8989  | <input type="checkbox"/> Davenport, IA (J)<br>(319) 323-7944 | <input type="checkbox"/> Indianapolis, IN (L)<br>(317) 842-4261 | <input type="checkbox"/> Macon, GA (N)<br>(912) 757-0811     | <input type="checkbox"/> Orlando, FL (P)<br>(407) 851-2560 | <input type="checkbox"/> Watertown, WI (R)<br>(920) 261-1660 |

Client: <u>Sigma</u>	Project No.: <u>1906</u>
Report Address: <u>200 E. Ryan Rd</u>	Invoice Address: <u>Sumner</u>
<u>Back Creek, WI 53154</u>	
Attn: <u>Tim Welch</u>	Attn:
Phone No.: <u>414 768 7144</u>	Sampled By: <u>Ryan Lewerson</u>
Fax No.: <u>414 768 7158</u>	P.O. No:
<b>TURNAROUND TIME</b>	Quote No.
<input type="checkbox"/> Standard	State Samples Collected
<input type="checkbox"/> Rush (surcharges may apply)	Date Needed: _____

REQUESTED PARAMETERS	
<i>PHOC + Naphthalene</i> <i>Nitrate - Nitrite</i> <i>Sulfate</i> <i>Sol. Manganese</i>	

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply:  
 RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	# and type of containers						REMARKS	
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	None		
MW-1	6-30		G	GW	X	X	X	X					
MW-2													
MW-4													
MW-5						X	X	X					
MW-6						X	X	X					
MW-7													
MW-8													
MW-10						X	X	X					
S-1						X	X	X					
S-2						X	X	X					

QC Deliverables:  None  Level 2 - Batch QC  Level 3  Level 4  Other

116  
Init Lab Temp      Rec Lab Temp

COMMENTS:

Relinquished By: <i>[Signature]</i>	Date: <u>6-30-99</u> Time: <u>13:11</u>	Received By: <i>[Signature]</i>	Date: <u>99</u> Time: <u>13:11</u>	<b>LAB USE ONLY:</b>  Custody Seal: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Bottles Supplied by TA: <input type="checkbox"/> Yes <input type="checkbox"/> No
Relinquished By: <i>[Signature]</i>	Date: <u>7-2-99</u> Time: <u>13:11</u>	Received By: <i>[Signature]</i>	Date: <u>7/2</u> Time: <u>13:11</u>	
Relinquished By:	Date:   Time	Received By:	Date:   Time	
Relinquished By:	Date:   Time	Received By: <u>Shelley Coons</u>	Date: <u>7/10/99</u> Time:	

# TESTAMERICA INC.

99.05697

Chain of Custody Record

- Asheville, NC (A) (828) 254-5169  
  Bartlett, IL (C) (630) 289-3100  
  Cedar Falls, IA (E) (319) 277-2401  
  Charlotte, NC (G) (704) 392-1164  
  Dayton, OH (I) (937) 294-6856  
  Lumberton, NC (K) (910) 738-6190  
  Nashville, TN (M) (615) 726-0177  
  Pontiac, MI (O) (248) 332-1940  
  Rockford, IL (Q) (815) 874-2171  
 Atlanta, GA (B) (770) 368-0636  
  Brighton, CO (D) (303) 659-0497  
  Charleston, SC (F) (843) 849-6550  
  Columbia, SC (H) (803) 796-8989  
  Davenport, IA (J) (319) 323-7944  
  Indianapolis, IN (L) (317) 842-4261  
  Macon, GA (N) (912) 757-0811  
  Orlando, FL (P) (407) 851-2560  
  Watertown, WI (R) (920) 261-1660

Client: Sigma      Project No.: 1960  
 Report Address: 220 E. Ryan Rd      Invoice Address: same  
Oak Creek, WI 53154  
 Attn: Tim Welch      Attn:  
 Phone No.: 414 768 7144      Sampled By:  
 Fax No.: 414 768 7158      P.O. No.:  
 Quote No.:  
 State Samples Collected:  
 TURNAROUND TIME  
 Standard      Date Needed:  
 Rush (surcharges may apply)

**REQUESTED PARAMETERS**

<i>PIOCs + Nephthalen</i>	<i>PIOCs</i>	<i>Nitrate - Nitrite</i>	<i>Sulfate</i>	<i>Sol. Magnesium</i>
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Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_  
 Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_  
 Which regulations apply:  
 RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	# and type of containers						REMARKS	
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	None		
<u>S-3</u>	<u>6-30</u>					X		X	X	X			
<u>Duplicate</u>							X						
<u>Trip Blank</u>							X						
<u>Equip Blank</u>							X						

QC Deliverables:  None     Level 2 - Batch QC  
 Level 3     Level 4     Other

ICE  
 Init Lab Temp      Rec Lab Temp

COMMENTS:

Relinquished By: <u>[Signature]</u>	Date: <u>6-30-13</u> Time: <u>1:48</u>	Received By: <u>[Signature]</u>	Date: <u>6-21-19</u> Time: <u>1:31</u>
Relinquished By: <u>[Signature]</u>	Date: <u>7-2</u> Time: <u>8:40</u>	Received By: <u>[Signature]</u>	Date: <u>7-2</u> Time: <u>10:05</u>
Relinquished By:	Date:   Time	Received By:	Date:   Time
Relinquished By:	Date:   Time	Received By: <u>Shelby Lobbis</u>	Date: <u>7/6/19</u> Time:

**LAB USE ONLY:**

Custody Seal:  Yes     No     N/A

Bottles Supplied by TA:  Yes     No

## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

04/02/1999

Job No: 99.02342

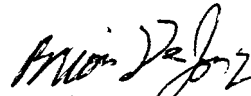
Page 1 of 14

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

Sample Number	Sample Description	Date Taken	Date Received
343064	MW-1 #1966 Condon	03/22/1999	03/23/1999
343065	MW-5 #1966 Condon	03/22/1999	03/23/1999
343066	MW-6 #1966 Condon	03/22/1999	03/23/1999
343067	MW-7 #1966 Condon	03/22/1999	03/23/1999
343068	MW-9 #1966 Condon	03/22/1999	03/23/1999
343069	MW-10 #1966 Condon	03/22/1999	03/23/1999
343070	S-1 #1966 Condon	03/22/1999	03/23/1999
343071	S-2 #1966 Condon	03/22/1999	03/23/1999
343072	S-3 #1966 Condon	03/22/1999	03/23/1999
343073	Duplicate #1966 Condon	03/22/1999	03/23/1999
343074	Trip Blank #1966 Condon	03/22/1999	03/23/1999
343075	Equip Blank #1966 Condon	03/22/1999	03/23/1999

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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



Brian D. DeJong  
Organic Operations Manager

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343064  
 Account No: 51021  
 Page 2 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-1 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	03/30/1999	813
Sulfate	43	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.21	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS							
Benzene	<4.5	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	35	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<1.2	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<1.8	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	24	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	28	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	27	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	104.5	%	n/a	n/a	SW 8020	03/31/1999	5504



## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343065  
 Account No: 51021  
 Page 3 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-5 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	0.45	mg/L	0.017	0.059	EPA 353.2	03/30/1999	813
Sulfate	18	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.14	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS							
Benzene	3.8	ug/L	0.13	0.44	SW 8020	03/31/1999	5507
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5507
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5507
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5507
1,2,4-Trimethylbenzene	0.32	ug/L	0.22	0.71	SW 8020	03/31/1999	5507
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5507
Xylenes, Total	1.4	ug/L	0.23	0.82	SW 8020	03/31/1999	5507
Surr: Bromofluorobenzene	93.5	%	n/a	n/a	SW 8020	03/31/1999	5507
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	03/31/1999	1274

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343066  
 Account No: 51021  
 Page 4 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-6 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN

Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	03/30/1999	813
Sulfate	47	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.82	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS	H						
Benzene	220	ug/L	0.13	0.44	SW 8020	03/30/1999	5504
Ethylbenzene	25	ug/L	0.22	0.70	SW 8020	03/30/1999	5504
Methyl-t-butyl ether	1.8	ug/L	0.16	0.53	SW 8020	03/30/1999	5504
Toluene	6.7	ug/L	0.20	0.64	SW 8020	03/30/1999	5504
1,2,4-Trimethylbenzene	7.2	ug/L	0.22	0.71	SW 8020	03/30/1999	5504
1,3,5-Trimethylbenzene	<0.58	ug/L	0.29	0.92	SW 8020	03/30/1999	5504
Xylenes, Total	2.7	ug/L	0.23	0.82	SW 8020	03/30/1999	5504
Surr: Bromofluorobenzene	89.0	%	n/a	n/a	SW 8020	03/30/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343067  
 Account No: 51021  
 Page 5 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-7 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	0.18	mg/L	0.017	0.059	EPA 353.2	03/30/1999	814
Sulfate	56	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.040	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	93.0	%	n/a	n/a	SW 8020	03/31/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343068  
 Account No: 51021  
 Page 6 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-9 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	1.8	mg/L	0.017	0.059	EPA 353.2	03/30/1999	814
Sulfate	31	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.027	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	99.5	%	n/a	n/a	SW 8020	03/31/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343069  
 Account No: 51021  
 Page 7 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: MW-10 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	0.080	mg/L	0.017	0.059	EPA 353.2	03/30/1999	814
Sulfate	52	mg/L	2.0	7.2	EPA 375.2	04/01/1999	687
Manganese, Dissolved	0.14	mg/L	0.0086	0.030	EPA 243.1	03/25/1999	808
PVOC - AQUEOUS							
	H,S						
Benzene	<0.15	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	103.5	%	n/a	n/a	SW 8020	03/31/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343070  
 Account No: 51021  
 Page 8 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-1 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Ru.
						Analyzed	Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	92.0	%	n/a	n/a	SW 8020	03/31/1999	5504
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	03/31/1999	1272

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343071  
 Account No: 51021  
 Page 9 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-2 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS		H					
Benzene	0.42	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	0.46	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	0.34	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	0.57	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	0.66	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	102.5	%	n/a	n/a	SW 8020	03/31/1999	5504
Naphthalene	<0.46	ug/L	0.46	1.6	SW 8020	03/31/1999	1272

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343072  
 Account No: 51021  
 Page 10 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: S-3 #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS	H						
Benzene	95	ug/L	0.13	0.44	SW 8020	03/31/1999	5507
Ethylbenzene	1.8	ug/L	0.22	0.70	SW 8020	03/31/1999	5507
Methyl-t-butyl ether	<0.32	ug/L	0.16	0.53	SW 8020	03/31/1999	5507
Toluene	2.0	ug/L	0.20	0.64	SW 8020	03/31/1999	5507
1,2,4-Trimethylbenzene	24	ug/L	0.22	0.71	SW 8020	03/31/1999	5507
1,3,5-Trimethylbenzene	1.7	ug/L	0.29	0.92	SW 8020	03/31/1999	5507
Xylenes, Total	32	ug/L	0.23	0.82	SW 8020	03/31/1999	5507
Surr: Bromofluorobenzene	93.0	%	n/a	n/a	SW 8020	03/31/1999	5507
Naphthalene	11	ug/L	0.46	1.6	SW 8020	03/31/1999	1274



## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343073  
 Account No: 51021  
 Page 11 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Duplicate #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	4.3	ug/L	0.13	0.44	SW 8020	03/31/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/31/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/31/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/31/1999	5504
1,2,4-Trimethylbenzene	0.32	ug/L	0.22	0.71	SW 8020	03/31/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/31/1999	5504
Xylenes, Total	1.4	ug/L	0.23	0.82	SW 8020	03/31/1999	5504
Surr: Bromofluorobenzene	91.5	%	n/a	n/a	SW 8020	03/31/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343074  
 Account No: 51021  
 Page 12 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Trip Blank #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	03/30/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/30/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/30/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/30/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/30/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/30/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/30/1999	5504
Surr: Bromofluorobenzene	90.0	%	n/a	n/a	SW 8020	03/30/1999	5504

## ANALYTICAL REPORT

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

04/02/1999  
 Job No: 99.02342  
 Sample No: 343075  
 Account No: 51021  
 Page 13 of 14

JOB DESCRIPTION: #1966 Condon-Cedarburg  
 PROJECT DESCRIPTION: Groundwater Analysis  
 SAMPLE DESCRIPTION: Equip Blank #1966 Condon  
 Rec'd on ice

Date/Time Taken: 03/22/1999 UNKNOWN Date Received: 03/23/1999

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	03/30/1999	5504
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	03/30/1999	5504
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	03/30/1999	5504
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	03/30/1999	5504
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	03/30/1999	5504
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	03/30/1999	5504
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	03/30/1999	5504
Surr: Bromofluorobenzene	86.5	%	n/a	n/a	SW 8020	03/30/1999	5504

## QUALITY CONTROL REPORT

### BLANKS

04/02/1999

Mr. Tim Welch  
 SIGMA ENVIRONMENTAL SERV.  
 220 East Ryan Road  
 Oak Creek, WI 53154-4533

Job No: 99.02342  
 Account No: 51021

Page 14 of 14

Job Description: #1966 Condon-Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units
N-Nitrate + Nitrite		813	<0.017	0.017	0.059	mg/L
N-Nitrate + Nitrite		814	<0.017	0.017	0.059	mg/L
Sulfate		687	2.3	2.0	7.2	mg/L
Manganese, Dissolved		808	<0.0086	0.0086	0.030	mg/L
PVOC - AQUEOUS						
Benzene		5504	<0.13	0.13	0.44	ug/L
Ethylbenzene		5504	<0.22	0.22	0.70	ug/L
Methyl-t-butyl ether		5504	<0.16	0.16	0.53	ug/L
Toluene		5504	<0.20	0.20	0.64	ug/L
1,2,4-Trimethylbenzene		5504	<0.22	0.22	0.71	ug/L
1,3,5-Trimethylbenzene		5504	<0.29	0.29	0.92	ug/L
Xylenes, Total		5504	<0.23	0.23	0.82	ug/L
Surr: Bromofluorobenzene		5504	97.0	n/a	n/a	%
PVOC - AQUEOUS						
Benzene		5507	<0.13	0.13	0.44	ug/L
Ethylbenzene		5507	<0.22	0.22	0.70	ug/L
Methyl-t-butyl ether		5507	<0.16	0.16	0.53	ug/L
Toluene		5507	<0.20	0.20	0.64	ug/L
1,2,4-Trimethylbenzene		5507	<0.22	0.22	0.71	ug/L
1,3,5-Trimethylbenzene		5507	<0.29	0.29	0.92	ug/L
Xylenes, Total		5507	<0.23	0.23	0.82	ug/L
Surr: Bromofluorobenzene		5507	100.5	n/a	n/a	%
Naphthalene		1272	<0.46	0.46	1.6	ug/L
Naphthalene		1274	<0.46	0.46	1.6	ug/L

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d



# CHAIN OF CUSTODY RECORD

9702715

COMPANY Sigma  
 ADDRESS 220 E Ryan Rd Oak Creek, WI 53154  
 PHONE 414 708 7144 FAX \_\_\_\_\_  
 PROJECT NAME/LOCATION London - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

REPORT TO: Sigma - Tim Welch  
 INVOICE TO: Sigma  
 P.O. NO. \_\_\_\_\_  
 QUOTE NO. \_\_\_\_\_

SAMPLED BY  
Evan M. Heerason  
 (PRINT NAME)  
 \_\_\_\_\_  
 (PRINT NAME)

Evan M. Heerason  
 SIGNATURE  
 \_\_\_\_\_  
 SIGNATURE

## ANALYSES

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers					PVOC	Naphthalene	Nitrate - Nitrite	Sulfate	Sol. Manganese
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	OTHER					
3-22		MW-1	GW	X		3		1	1	1	X		X	X	X
		MW-5						1	1	1		X			
		MW-6						1	1	1					
		MW-7						1	1	1					
		MW-9						1	1	1					
		MW-10						1	1	1					
		S-1										X			
		S-2										X			
		S-3										X			
		Duplicate													
		Trip Blank						2							
		Equip Blank						3							

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

## COMMENTS

HNO<sub>3</sub> containers filtered.

CONDITION OF SAMPLE: BOTTLES INTACT? YES/NO  
 FIELD FILTERED? YES/NO

COC SEALS PRESENT AND INTACT? YES/NO  
 VOLATILES FREE OF HEADSPACE? YES/NO

TEMPERATURE UPON RECEIPT: see  
 Bottles supplied by LAB? YES/NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST LAB TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE \_\_\_\_\_

RELINQUISHED BY: <u>Evan M. Heerason</u>	DATE <u>3-22</u>	TIME	RECEIVED BY: <u>Ed Lestico</u>	<u>3 33 99</u> <u>11 20</u>	RELINQUISHED BY: <u>Ed Lestico</u>	DATE <u>3 23 99</u>	TIME <u>1400</u>	RECEIVED FOR LAB BY: <u>J. Hedrick</u>
METHOD OF SHIPMENT			REMARKS: <u>A Yacht 3/23/99</u>					



# CHAIN OF CUSTODY RECORD

COMPANY Sigma  
 ADDRESS 220 E Ryan Rd Oak Creek, WI 53154  
 PHONE 414 203 7144 FAX \_\_\_\_\_  
 PROJECT NAME/LOCATION London / Cedarburg  
 PROJECT NUMBER 1766  
 PROJECT MANAGER Tim Wolk

REPORT TO: Sigma - Tim Wolk  
 INVOICE TO: Sigma  
 P.O. NO. \_\_\_\_\_  
 QUOTE NO. \_\_\_\_\_

SAMPLED BY Cyan M. Larson  
 (PRINT NAME)  
 (PRINT NAME)

SIGNATURE [Signature]  
 SIGNATURE

## ANALYSES

To assist us in selecting the proper method  
 Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_  
 Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_  
 Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers						PROC	Aliphatic	Nitrate-Nitrite	Sulfate	Sol. Phosphate
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	OTHER						
3-22		MW-1	6L	X		3		1	1			X	X	X	X	
		MW-5						1	1			X				
		MW-6						1	1							
		MW-7						1	1							
		MW-9						1	1							
		MW-10						1	1							
		S-1										X				
		S-2										X				
		S-3										X				
		Duplicate														
		Tri Blank						2								
		Equip Blank						3								

## COMMENTS

HNO<sub>3</sub> containers S.H. used.

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
 FIELD FILTERED? YES / NO  
 COC SEALS PRESENT AND INTACT? YES / NO  
 VOLATILES FREE OF HEADSPACE? YES / NO  
 TEMPERATURE UPON RECEIPT: \_\_\_\_\_  
 Bottles supplied by LAB? YES / NO  
 SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST LAB TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE \_\_\_\_\_

RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>3-22</u>	TIME: _____	RECEIVED BY: _____	RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED FOR LAB BY: _____
METHOD OF SHIPMENT			REMARKS:				



**ANALYTICAL AND QUALITY CONTROL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999

Job No: 98.11910

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
330307	MW-1 #1966 Condon	12/10/1998	12/11/1998
330308	MW-2 #1966 Condon	12/10/1998	12/11/1998
330309	MW-4 #1966 Condon	12/10/1998	12/11/1998
330310	MW-5 #1966 Condon	12/10/1998	12/11/1998
330311	MW-6 #1966 Condon	12/10/1998	12/11/1998
330312	MW-7 #1966 Condon	12/10/1998	12/11/1998
330313	MW-10 #1966 Condon	12/10/1998	12/11/1998
330314	S-1 #1966 Condon	12/10/1998	12/11/1998
330315	S-2 #1966 Condon	12/10/1998	12/11/1998
330316	S-3 #1966 Condon	12/10/1998	12/11/1998
330317	Duplicate #1966 Condon	12/10/1998	12/11/1998
330318	Trip Blank #1966 Condon	12/10/1998	12/11/1998
330319	Equip. Blank #1966 Condon	12/10/1998	12/11/1993

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

  
Brian D. DeJong  
Organic Operations Manager  
KRW



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330307  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-1 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	32	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.35	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	752
VOC - AQUEOUS - EPA 8021							
Benzene	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2085
Ethylbenzene	22	ug/L	0.43	1.4	SW 8021B	12/22/1998	2085
Toluene	4.5	ug/L	0.38	1.3	SW 8021B	12/22/1998	2085
1,2,4-Trimethylbenzene	20	ug/L	0.42	1.3	SW 8021B	12/22/1998	2085
1,3,5-Trimethylbenzene	28	ug/L	0.58	1.9	SW 8021B	12/22/1998	2085
Xylenes, Total	24	ug/L	1.4	4.7	SW 8021B	12/22/1998	2085
Methyl-t-butyl ether	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2085
Surr: Bromofluorobenzene	106.5	%	n/a	n/a	SW 8021B	12/22/1998	2085





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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330308  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-2 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	46	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.037	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	758
VOC - AQUEOUS - EPA 8021							
Benzene	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2084
Ethylbenzene	<0.43	ug/L	0.43	1.4	SW 8021B	12/22/1998	2084
Toluene	<0.38	ug/L	0.38	1.3	SW 8021B	12/22/1998	2084
1,2,4-Trimethylbenzene	<0.42	ug/L	0.42	1.3	SW 8021B	12/22/1998	2084
1,3,5-Trimethylbenzene	<0.58	ug/L	0.58	1.9	SW 8021B	12/22/1998	2084
Xylenes, Total	<1.4	ug/L	1.4	4.7	SW 8021B	12/22/1998	2084
Methyl-t-butyl ether	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2084
Surr: Bromofluorobenzene	94.5	%	n/a	n/a	SW 8021B	12/22/1998	2084



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330309  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-4 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	47	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.042	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	758
VOC - AQUEOUS - EPA 8021							
Benzene	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2084
Ethylbenzene	<0.43	ug/L	0.43	1.4	SW 8021B	12/22/1998	2084
Toluene	0.72	ug/L	0.38	1.3	SW 8021B	12/22/1998	2084
1,2,4-Trimethylbenzene	<0.42	ug/L	0.42	1.3	SW 8021B	12/22/1998	2084
1,3,5-Trimethylbenzene	<0.58	ug/L	0.58	1.9	SW 8021B	12/22/1998	2084
Xylenes, Total	<1.4	ug/L	1.4	4.7	SW 8021B	12/22/1998	2084
Methyl-t-butyl ether	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2084
Surr: Bromofluorobenzene	90.0	%	n/a	n/a	SW 8021B	12/22/1998	2084



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330310  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-5 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	36	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.51	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	758
VOC - AQUEOUS - EPA 8021							
Benzene	820	ug/L	0.41	1.4	SW 8021B	12/22/1998	2085
Ethylbenzene	4.7	ug/L	0.43	1.4	SW 8021B	12/22/1998	2084
Toluene	12	ug/L	0.38	1.3	SW 8021B	12/22/1998	2084
1,2,4-Trimethylbenzene	46	ug/L	0.42	1.3	SW 8021B	12/22/1998	2084
1,3,5-Trimethylbenzene	<0.58	ug/L	0.58	1.9	SW 8021B	12/22/1998	2084
Xylenes, Total	160	ug/L	1.4	4.7	SW 8021B	12/22/1998	2084
Methyl-t-butyl ether	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2084
Surr: Bromofluorobenzene	97.0	%	n/a	n/a	SW 8021B	12/22/1998	2084



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330311  
Account No: 51021  
Page 6

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-6 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	30	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.70	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	758
PVOC - AQUEOUS	H						
Benzene	170	ug/L	0.13	0.44	SW 8020	12/24/1998	5274
Ethylbenzene	24	ug/L	0.22	0.70	SW 8020	12/24/1998	5274
Methyl-t-butyl ether	M <10	ug/L	0.16	0.53	SW 8020	12/24/1998	5274
Toluene	8.2	ug/L	0.20	0.64	SW 8020	12/24/1998	5274
1,2,4-Trimethylbenzene	4.9	ug/L	0.22	0.71	SW 8020	12/24/1998	5274
1,3,5-Trimethylbenzene	4.2	ug/L	0.29	0.92	SW 8020	12/24/1998	5274
Xylenes, Total	2.1	ug/L	0.23	0.82	SW 8020	12/24/1998	5274
Surr: Bromofluorobenzene	108.0	%	n/a	n/a	SW 8020	12/24/1998	5274



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330312  
Account No: 51021  
Page 7

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-7 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	37	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
Manganese, Dissolved	0.030	mg/L	0.0063	0.022	EPA 243.1	12/16/1998	758
VOC - AQUEOUS - EPA 8021							
Benzene	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2085
Ethylbenzene	<0.43	ug/L	0.43	1.4	SW 8021B	12/22/1998	2085
Toluene	<0.38	ug/L	0.38	1.3	SW 8021B	12/22/1998	2085
1,2,4-Trimethylbenzene	<0.42	ug/L	0.42	1.3	SW 8021B	12/22/1998	2085
1,3,5-Trimethylbenzene	<0.58	ug/L	0.58	1.9	SW 8021B	12/22/1998	2085
Xylenes, Total	<1.4	ug/L	1.4	4.7	SW 8021B	12/22/1998	2085
Methyl-t-butyl ether	<0.41	ug/L	0.41	1.4	SW 8021B	12/22/1998	2085
Surr: Bromofluorobenzene	93.5	%	n/a	n/a	SW 8021B	12/22/1998	2085



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330313  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-10 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	01/04/1999	739
Sulfate	38	mg/L	2.0	7.2	EPA 375.2	12/18/1998	620
PVOC - AQUEOUS	H						
Benzene	0.49	ug/L	0.13	0.44	SW 8020	12/24/1998	5273
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	12/24/1998	5273
Methyl-t-butyl ether	1.3	ug/L	0.16	0.53	SW 8020	12/24/1998	5273
Toluene	0.62	ug/L	0.20	0.64	SW 8020	12/24/1998	5273
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	12/24/1998	5273
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	12/24/1998	5273
Xylenes, Total	0.36	ug/L	0.23	0.82	SW 8020	12/24/1998	5273
Surr: Bromofluorobenzene	106.5	%	n/a	n/a	SW 8020	12/24/1998	5273



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330314  
Account No: 51021  
Page 9

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: S-1 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	12/24/1998	5274
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	12/24/1998	5274
Methyl-t-butyl ether	1.1	ug/L	0.16	0.53	SW 8020	12/24/1998	5274
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	12/24/1998	5274
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	12/24/1998	5274
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	12/24/1998	5274
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	12/24/1998	5274
Surr: Bromofluorobenzene	103.5	%	n/a	n/a	SW 8020	12/24/1998	5274



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330315  
Account No: 51021  
Page 10

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: S-2 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
PVOC - AQUEOUS							
	H, T						
Benzene	0.35	ug/L	0.13	0.44	SW 8020	12/24/1998	5274
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	12/24/1998	5274
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	12/24/1998	5274
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	12/24/1998	5274
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	12/24/1998	5274
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	12/24/1998	5274
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	12/24/1998	5274
Surr: Bromofluorobenzene	94.0	%	n/a	n/a	SW 8020	12/24/1998	5274





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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330316  
Account No: 51021  
Page 11

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: S-3 #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS	H						
Benzene	150	ug/L	0.13	0.44	SW 8020	12/24/1998	5272
Ethylbenzene	14	ug/L	0.22	0.70	SW 8020	12/24/1998	5272
Methyl-t-butyl ether	1.7	ug/L	0.16	0.53	SW 8020	12/24/1998	5272
Toluene	3.7	ug/L	0.20	0.64	SW 8020	12/24/1998	5272
1,2,4-Trimethylbenzene	30	ug/L	0.22	0.71	SW 8020	12/24/1998	5272
1,3,5-Trimethylbenzene	0.81	ug/L	0.29	0.92	SW 8020	12/24/1998	5272
Xylenes, Total	54	ug/L	0.23	0.82	SW 8020	12/24/1998	5272
Surr: Bromofluorobenzene	86.0	%	n/a	n/a	SW 8020	12/24/1998	5272



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330317  
Account No: 51021  
Page 12

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Duplicate #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
PVOC - AQUEOUS							
Benzene	J 720	ug/L	0.13	0.44	SW 8020	12/24/1998	5272
Ethylbenzene	2.9	ug/L	0.22	0.70	SW 8020	12/24/1998	5272
Methyl-t-butyl ether	M <1.2	ug/L	0.16	0.53	SW 8020	12/24/1998	5272
Toluene	11	ug/L	0.20	0.64	SW 8020	12/24/1998	5272
1,2,4-Trimethylbenzene	45	ug/L	0.22	0.71	SW 8020	12/24/1998	5272
1,3,5-Trimethylbenzene	1.0	ug/L	0.29	0.92	SW 8020	12/24/1998	5272
Xylenes, Total	160	ug/L	0.23	0.82	SW 8020	12/24/1998	5272
Surr: Bromofluorobenzene	90.0	%	n/a	n/a	SW 8020	12/24/1998	5272



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330318  
Account No: 51021  
Page 13

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Trip Blank #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	12/23/1998	5272
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	12/23/1998	5272
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	12/23/1998	5272
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	12/23/1998	5272
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	12/23/1998	5272
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	12/23/1998	5272
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	12/23/1998	5272
Surr: Bromofluorobenzene	104.0	%	n/a	n/a	SW 8020	12/23/1998	5272



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WDNR No. 128053530

### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999  
Job No: 98.11910  
Sample No: 330319  
Account No: 51021  
Page 14

JOB DESCRIPTION: #1966 Condon  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Equip. Blank #1966 Condon  
Rec'd on ice

Date Taken: 12/10/1998

Date Received: 12/11/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS	X						
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	12/23/1998	5272
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	12/23/1998	5272
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	12/23/1998	5272
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	12/23/1998	5272
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	12/23/1998	5272
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	12/23/1998	5272
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	12/23/1998	5272
Surr: Bromofluorobenzene	101.5	%	n/a	n/a	SW 8020	12/23/1998	5272



QUALITY CONTROL REPORT  
BLANKS

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999

Job No: 98.11910  
Account No: 51021

Page 15

Job Description: #1966 Condon

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
N-Nitrate + Nitrite		739	<0.017	0.017	0.059	mg/L	
Sulfate		620	<2.0	2.0	7.2	mg/L	
Manganese, Dissolved		758	<0.0063	0.0063	0.022	mg/L	
PVOC - AQUEOUS							
Benzene		5272	<0.13	0.13	0.44	ug/L	
Ethylbenzene		5272	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		5272	<0.16	0.16	0.53	ug/L	
Toluene		5272	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		5272	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		5272	<0.29	0.29	0.92	ug/L	
Xylenes, Total		5272	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		5272	101.0	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		5273	<0.13	0.13	0.44	ug/L	
Ethylbenzene		5273	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		5273	<0.16	0.16	0.53	ug/L	
Toluene		5273	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		5273	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		5273	<0.29	0.29	0.92	ug/L	
Xylenes, Total		5273	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		5273	94.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		5274	<0.13	0.13	0.44	ug/L	
Ethylbenzene		5274	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		5274	<0.16	0.16	0.53	ug/L	
Toluene		5274	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		5274	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		5274	<0.29	0.29	0.92	ug/L	
Xylenes, Total		5274	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		5274	101.5	n/a	n/a	%	
VOC - AQUEOUS - EPA 8021							
Benzene		2084	<0.41	0.41	1.4	ug/L	
Ethylbenzene		2084	<0.43	0.43	1.4	ug/L	
Toluene		2084	<0.38	0.38	1.3	ug/L	
1,2,4-Trimethylbenzene		2084	<0.42	0.42	1.3	ug/L	
1,3,5-Trimethylbenzene		2084	<0.58	0.58	1.9	ug/L	
Xylenes, Total		2084	<1.4	1.4	4.7	ug/L	
Methyl-t-butyl ether		2084	<0.41	0.41	1.4	ug/L	
Surr: Bromofluorobenzene		2084	104.0	n/a	n/a	%	



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## QUALITY CONTROL REPORT

### BLANKS

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

01/04/1999

Job No: 98.11910  
Account No: 51021

Page 16

Job Description: #1966 Condon

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
VOC - AQUEOUS - EPA 8021							
Benzene		2085	<0.41	0.41	1.4	ug/L	
Ethylbenzene		2085	<0.43	0.43	1.4	ug/L	
Toluene		2085	<0.38	0.38	1.3	ug/L	
1,2,4-Trimethylbenzene		2085	<0.42	0.42	1.3	ug/L	
1,3,5-Trimethylbenzene		2085	<0.58	0.58	1.9	ug/L	
Xylenes, Total		2085	<1.4	1.4	4.7	ug/L	
Methyl-t-butyl ether		2085	<0.41	0.41	1.4	ug/L	
Surr: Bromofluorobenzene		2085	105.5	n/a	n/a	%	



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

COMPANY Sigma Environmental  
 ADDRESS 220 E. Ryan Rd. Oak Creek, WI 53154  
 PHONE 414 708 7144 FAX \_\_\_\_\_  
 PROJECT NAME/LOCATION Condon - Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Tim Welch

78-1191U

REPORT TO: Sigma  
 INVOICE TO: Sigma  
 P.O. NO. \_\_\_\_\_  
 NET QUOTE NO. \_\_\_\_\_

SAMPLED BY  
Ryan M. Heverson  
 (PRINT NAME)  
 \_\_\_\_\_  
 (PRINT NAME)

Ryan M. Heverson  
 SIGNATURE  
 \_\_\_\_\_  
 SIGNATURE

## ANALYSES

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	# and Type of Containers										PDOC	Sulfate	Nitrate-Nitrogen	Sol. Manganese	
			MATRIX	GRAB	COMP	HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	OTHER							
12-10		MW-1	GW	X		3							X	X	X	X	
12-10		MW-2															
		MW-4															
		MW-5															
		MW-6															
		MW-7															
		MW-10															
		S-1															
		S-2															
		S-3															
		Duplicate															
		Trip blank															
		Equip blank															

## COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
 FIELD FILTERED? Yes / NO  
 COC SEALS PRESENT AND INTACT? YES / NO  
 VOLATILES FREE OF HEADSPACE? YES / NO  
 TEMPERATURE UPON RECEIPT: iced  
 Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE \_\_\_\_\_

RELINQUISHED BY: <u>Ryan M. Heverson</u>	DATE <u>12-11</u>	TIME <u>11:00</u>	RECEIVED BY: <u>Paul Edmund</u>	RELINQUISHED BY: <u>Paul Edmund</u>	DATE <u>12/11/08</u>	TIME <u>15:50</u>	RECEIVED FOR NET BY: <u>J. Becker</u>
METHOD OF SHIPMENT			REMARKS:				



## ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998

Job No: 98.07750

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
312389	MW-1 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312390	MW-2 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312391	MW-4 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312392	MW-5 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312393	MW-7 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312394	MW-8 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312395	MW-10 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312396	Sump 1 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312397	Sump 2 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312398	Sump 3 #1966 Condon Cedarburg	08/24/1998	08/24/1998
312399	Duplicate #1966 Condon Cedarburg	08/24/1998	08/24/1998
312400	Trip Blank #1966 Condon Cedarburg	08/24/1998	08/24/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

*Brian D. DeJong*

Brian D. DeJong  
Organic Operations Manager

*KRW*





ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312389  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-1 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:20

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS	H						
Benzene	41	ug/L	0.13	0.44	SW 8020	09/01/1998	4956
Ethylbenzene	36	ug/L	0.22	0.70	SW 8020	09/01/1998	4956
Methyl-t-butyl ether	M <8.8	ug/L	0.16	0.53	SW 8020	09/01/1998	4956
Toluene	11	ug/L	0.20	0.64	SW 8020	09/01/1998	4956
1,2,4-Trimethylbenzene	21	ug/L	0.22	0.71	SW 8020	09/01/1998	4956
1,3,5-Trimethylbenzene	22	ug/L	0.29	0.92	SW 8020	09/01/1998	4956
Xylenes, Total	28	ug/L	0.23	0.82	SW 8020	09/01/1998	4956
Surr: Bromofluorobenzene	100.0	%	n/a	n/a	SW 8020	09/01/1998	4956
PNA Extraction	08/28/98				SW 3510C	08/28/1998	687
PNA - 8310 AQUEOUS							
Acenaphthene	<0.23	ug/L	0.22	0.76	SW 8310	09/04/1998	687 1046
Acenaphthylene	<0.58	ug/L	0.55	1.9	SW 8310	09/04/1998	687 1046
Anthracene	<0.019	ug/L	0.018	0.062	SW 8310	09/04/1998	687 1046
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	SW 8310	09/04/1998	687 1046
Benzo(b)fluoranthene	<0.046	ug/L	0.043	0.15	SW 8310	09/04/1998	687 1046
Benzo(k)fluoranthene	<0.031	ug/L	0.029	0.10	SW 8310	09/04/1998	687 1046
Benzo(a)pyrene	<0.029	ug/L	0.027	0.096	SW 8310	09/04/1998	687 1046
Benzo(ghi)perylene	<0.11	ug/L	0.10	0.36	SW 8310	09/04/1998	687 1046
Chrysene	<0.014	ug/L	0.013	0.046	SW 8310	09/04/1998	687 1046
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	SW 8310	09/04/1998	687 1046
Fluoranthene	<0.11	ug/L	0.10	0.36	SW 8310	09/04/1998	687 1046
Fluorene	<0.031	ug/L	0.029	0.10	SW 8310	09/04/1998	687 1046
Indeno(1,2,3-cd)pyrene	<0.088	ug/L	0.083	0.29	SW 8310	09/04/1998	687 1046
1-Methylnaphthalene	4.3	ug/L	0.40	1.4	SW 8310	09/04/1998	687 1046
2-Methylnaphthalene	0.53	ug/L	0.60	2.1	SW 8310	09/04/1998	687 1046
Naphthalene	9.2	ug/L	0.22	0.80	SW 8310	09/04/1998	687 1046
Phenanthrene	<0.015	ug/L	0.014	0.048	SW 8310	09/04/1998	687 1046
Pyrene	<0.050	ug/L	0.047	0.17	SW 8310	09/04/1998	687 1046
Surr: 2-Fluorobiphenyl	91.6	%	n/a	n/a	SW 8310	09/04/1998	687 1046



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312390  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-2 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:00

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	08/26/1998	639
Sulfate	37	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.059	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS							
Benzene	0.18	ug/L	0.13	0.44	SW 8020	09/01/1998	4956
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/01/1998	4956
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	09/01/1998	4956
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	09/01/1998	4956
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/01/1998	4956
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/01/1998	4956
Xylenes, Total	0.36	ug/L	0.23	0.82	SW 8020	09/01/1998	4956
Surr: Bromofluorobenzene	101.5	%	n/a	n/a	SW 8020	09/01/1998	4956



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312391  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-4 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:10

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	08/26/1998	629
Sulfate	34	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.19	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	09/01/1998	4956
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/01/1998	4956
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	09/01/1998	4956
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	09/01/1998	4956
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/01/1998	4956
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/01/1998	4956
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	09/01/1998	4956
Surr: Bromofluorobenzene	96.0	%	n/a	n/a	SW 8020	09/01/1998	4956



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**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312392  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-5 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:30

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.094	mg/L	0.017	0.059	EPA 353.2	08/26/1998	629
Sulfate	26	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.48	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS							
Benzene	840	ug/L	0.13	0.44	SW 8020	09/03/1998	4962
Ethylbenzene	4.4	ug/L	0.22	0.70	SW 8020	09/03/1998	4962
Methyl-t-butyl ether	0.80	ug/L	0.16	0.53	SW 8020	09/03/1998	4962
Toluene	16	ug/L	0.20	0.64	SW 8020	09/03/1998	4962
1,2,4-Trimethylbenzene	76	ug/L	0.22	0.71	SW 8020	09/03/1998	4962
1,3,5-Trimethylbenzene	4.4	ug/L	0.29	0.92	SW 8020	09/03/1998	4962
Xylenes, Total	270	ug/L	0.23	0.82	SW 8020	09/03/1998	4962
Surr: Bromofluorobenzene	87.0	%	n/a	n/a	SW 8020	09/03/1998	4962
PNA Extraction	08/28/98				SW 3510C	08/28/1998	687
PNA - 8310 AQUEOUS							
Acenaphthene	<0.22	ug/L	0.22	0.76	SW 8310	09/04/1998	687 1046
Acenaphthylene	<0.55	ug/L	0.55	1.9	SW 8310	09/04/1998	687 1046
Anthracene	<0.018	ug/L	0.018	0.062	SW 8310	09/04/1998	687 1046
Benzo(a)anthracene	<0.017	ug/L	0.017	0.060	SW 8310	09/04/1998	687 1046
Benzo(b)fluoranthene	<0.043	ug/L	0.043	0.15	SW 8310	09/04/1998	687 1046
Benzo(k)fluoranthene	<0.029	ug/L	0.029	0.10	SW 8310	09/04/1998	687 1046
Benzo(a)pyrene	<0.027	ug/L	0.027	0.096	SW 8310	09/04/1998	687 1046
Benzo(ghi)perylene	<0.10	ug/L	0.10	0.36	SW 8310	09/04/1998	687 1046
Chrysene	<0.013	ug/L	0.013	0.046	SW 8310	09/04/1998	687 1046
Dibenzo(a,h)anthracene	<0.16	ug/L	0.16	0.55	SW 8310	09/04/1998	687 1046
Fluoranthene	<0.10	ug/L	0.10	0.36	SW 8310	09/04/1998	687 1046
Fluorene	<0.029	ug/L	0.029	0.10	SW 8310	09/04/1998	687 1046
Indeno(1,2,3-cd)pyrene	<0.083	ug/L	0.083	0.29	SW 8310	09/04/1998	687 1046
1-Methylnaphthalene	0.73	ug/L	0.40	1.4	SW 8310	09/04/1998	687 1046
2-Methylnaphthalene	<0.60	ug/L	0.60	2.1	SW 8310	09/04/1998	687 1046
Naphthalene	0.56	ug/L	0.22	0.80	SW 8310	09/04/1998	687 1046
Phenanthrene	<0.014	ug/L	0.014	0.048	SW 8310	09/04/1998	687 1046
Pyrene	<0.047	ug/L	0.047	0.17	SW 8310	09/04/1998	687 1046
Surr: 2-Fluorobiphenyl	89.4	%	n/a	n/a	SW 8310	09/04/1998	687 1046



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312393  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-7 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:40

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.22	mg/L	0.017	0.059	EPA 353.2	08/26/1998	629
Sulfate	33	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.048	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS							
Benzene	0.13	ug/L	0.13	0.44	SW 8020	09/02/1998	4961
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/02/1998	4961
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	09/02/1998	4961
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	09/02/1998	4961
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/02/1998	4961
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/02/1998	4961
Xylenes, Total	0.26	ug/L	0.23	0.82	SW 8020	09/02/1998	4961
Surr: Bromofluorobenzene	106.5	%	n/a	n/a	SW 8020	09/02/1998	4961



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312394  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-8 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:45

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.54	mg/L	0.017	0.059	EPA 353.2	08/26/1998	629
Sulfate	43	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.036	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	09/02/1998	4956
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/02/1998	4956
Methyl-t-butyl ether	4.6	ug/L	0.16	0.53	SW 8020	09/02/1998	4956
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	09/02/1998	4956
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/02/1998	4956
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/02/1998	4956
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	09/02/1998	4956
Surr: Bromofluorobenzene	94.0	%	n/a	n/a	SW 8020	09/02/1998	4956



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## ANALYTICAL REPORT

Mr. Tim Welch  
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220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312395  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-10 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 12:55

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	EPA 353.2	08/26/1998	629
Sulfate	24	mg/L	2.0	7.2	EPA 375.2	08/27/1998	531
Manganese, Dissolved	0.34	mg/L	0.0063	0.022	EPA 243.1	09/02/1998	695
PVOC - AQUEOUS	H						
Benzene	0.90	ug/L	0.13	0.44	SW 8020	09/02/1998	4956
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/02/1998	4956
Methyl-t-butyl ether	M <0.17	ug/L	0.16	0.53	SW 8020	09/02/1998	4956
Toluene	M <1.5	ug/L	0.20	0.64	SW 8020	09/02/1998	4956
1,2,4-Trimethylbenzene	0.26	ug/L	0.22	0.71	SW 8020	09/02/1998	4956
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/02/1998	4956
Xylenes, Total	0.79	ug/L	0.23	0.82	SW 8020	09/02/1998	4956
Surr: Bromofluorobenzene	92.5	%	n/a	n/a	SW 8020	09/02/1998	4956



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312396  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump 1 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 13:05

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	09/02/1998	4956
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/02/1998	4956
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	09/02/1998	4956
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	09/02/1998	4956
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/02/1998	4956
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/02/1998	4956
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	09/02/1998	4956
Surr: Bromofluorobenzene	80.5	%	n/a	n/a	SW 8020	09/02/1998	4956





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## ANALYTICAL REPORT

Mr. Tim Welch  
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220 East Ryan Road  
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09/08/1998  
Job No: 98.07750  
Sample No: 312397  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump 2 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 13:10

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	0.94	ug/L	0.13	0.44	SW 8020	09/02/1998	4956
Ethylbenzene	0.53	ug/L	0.22	0.70	SW 8020	09/02/1998	4956
Methyl-t-butyl ether	<0.40	ug/L	0.16	0.53	SW 8020	09/02/1998	4956
Toluene	<0.47	ug/L	0.20	0.64	SW 8020	09/02/1998	4956
1,2,4-Trimethylbenzene	1.2	ug/L	0.22	0.71	SW 8020	09/02/1998	4956
1,3,5-Trimethylbenzene	0.64	ug/L	0.29	0.92	SW 8020	09/02/1998	4956
Xylenes, Total	3.2	ug/L	0.23	0.82	SW 8020	09/02/1998	4956
Surr: Bromofluorobenzene	90.0	%	n/a	n/a	SW 8020	09/02/1998	4956



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## ANALYTICAL REPORT

Mr. Tim Welch  
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220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312398  
Account No: 51021  
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JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump 3 #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998 13:20

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS	H						
Benzene	160	ug/L	0.13	0.44	SW 8020	09/02/1998	4956
Ethylbenzene	7.7	ug/L	0.22	0.70	SW 8020	09/02/1998	4956
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	09/02/1998	4956
Toluene	4.3	ug/L	0.20	0.64	SW 8020	09/02/1998	4956
1,2,4-Trimethylbenzene	29	ug/L	0.22	0.71	SW 8020	09/02/1998	4956
1,3,5-Trimethylbenzene	19	ug/L	0.29	0.92	SW 8020	09/02/1998	4956
Xylenes, Total	77	ug/L	0.23	0.82	SW 8020	09/02/1998	4956
Surr: Bromofluorobenzene	97.0	%	n/a	n/a	SW 8020	09/02/1998	4956



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## ANALYTICAL REPORT

Mr. Tim Welch  
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220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312399  
Account No: 51021  
Page 12

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Duplicate #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	760	ug/L	0.13	0.44	SW 8020	09/03/1998	4962
Ethylbenzene	3.5	ug/L	0.22	0.70	SW 8020	09/03/1998	4962
Methyl-t-butyl ether	<0.80	ug/L	0.16	0.53	SW 8020	09/03/1998	4962
Toluene	15	ug/L	0.20	0.64	SW 8020	09/03/1998	4962
1,2,4-Trimethylbenzene	70	ug/L	0.22	0.71	SW 8020	09/03/1998	4962
1,3,5-Trimethylbenzene	4.0	ug/L	0.29	0.92	SW 8020	09/03/1998	4962
Xylenes, Total	240	ug/L	0.23	0.82	SW 8020	09/03/1998	4962
Surr: Bromofluorobenzene	87.0	%	n/a	n/a	SW 8020	09/03/1998	4962



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### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

09/08/1998  
Job No: 98.07750  
Sample No: 312400  
Account No: 51021  
Page 13

JOB DESCRIPTION: #1966 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Trip Blank #1966 Condon Cedarburg  
Rec'd on Ice

Date Taken: 08/24/1998

Date Received: 08/24/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	09/02/1998	4959
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	09/02/1998	4959
Methyl-t-butyl ether	M <0.20	ug/L	0.16	0.53	SW 8020	09/02/1998	4959
Toluene	0.24	ug/L	0.20	0.64	SW 8020	09/02/1998	4959
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	09/02/1998	4959
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	09/02/1998	4959
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	09/02/1998	4959
Surr: Bromofluorobenzene	Q 93.0	%	n/a	n/a	SW 8020	09/02/1998	4959



**QUALITY CONTROL REPORT**

**BLANKS**

09/08/1998

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

Job No: 98.07750  
Account No: 51021

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Job Description: #1966 Condon Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
N-Nitrate + Nitrite Sulfate		629	<0.017	0.017	0.059	mg/L	
Manganese, Dissolved		531	2.1	2.0	7.2	mg/L	
PVOC - AQUEOUS		695	<0.0063	0.0063	0.022	mg/L	
Benzene		4956	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4956	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4956	<0.16	0.16	0.53	ug/L	
Toluene		4956	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4956	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4956	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4956	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		4956	91.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4959	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4959	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4959	<0.16	0.16	0.53	ug/L	
Toluene		4959	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4959	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4959	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4959	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		4959	92.0	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4961	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4961	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4961	<0.16	0.16	0.53	ug/L	
Toluene		4961	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4961	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4961	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4961	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		4961	101.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4962	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4962	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4962	<0.16	0.16	0.53	ug/L	
Toluene		4962	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4962	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4962	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4962	<0.23	0.23	0.82	ug/L	
Surr: Bromofluorobenzene		4962	91.5	n/a	n/a	%	



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## QUALITY CONTROL REPORT

### BLANKS

09/08/1998

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

Job No: 98.07750  
Account No: 51021

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Job Description: #1966 Condon Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
PNA - 8310 AQUEOUS							
Acenaphthene	687	1046	<0.22	0.22	0.76	ug/L	08/28/1998
Acenaphthylene	687	1046	<0.55	0.55	1.9	ug/L	08/28/1998
Anthracene	687	1046	<0.018	0.018	0.062	ug/L	08/28/1998
Benzo(a)anthracene	687	1046	<0.017	0.017	0.060	ug/L	08/28/1998
Benzo(b)fluoranthene	687	1046	<0.043	0.043	0.15	ug/L	08/28/1998
Benzo(k)fluoranthene	687	1046	<0.029	0.029	0.10	ug/L	08/28/1998
Benzo(a)pyrene	687	1046	<0.027	0.027	0.096	ug/L	08/28/1998
Benzo(ghi)perylene	687	1046	<0.10	0.10	0.36	ug/L	08/28/1998
Chrysene	687	1046	<0.013	0.013	0.046	ug/L	08/28/1998
Dibenzo(a,h)anthracene	687	1046	<0.16	0.16	0.55	ug/L	08/28/1998
Fluoranthene	687	1046	<0.10	0.10	0.36	ug/L	08/28/1998
Fluorene	687	1046	<0.029	0.029	0.10	ug/L	08/28/1998
Indeno(1,2,3-cd)pyrene	687	1046	<0.083	0.083	0.29	ug/L	08/28/1998
1-Methylnaphthalene	687	1046	<0.40	0.40	1.4	ug/L	08/28/1998
2-Methylnaphthalene	687	1046	<0.60	0.60	2.1	ug/L	08/28/1998
Naphthalene	687	1046	<0.22	0.22	0.80	ug/L	08/28/1998
Phenanthrene	687	1046	<0.014	0.014	0.048	ug/L	08/28/1998
Pyrene	687	1046	<0.047	0.047	0.17	ug/L	08/28/1998
Surr: 2-Fluorobiphenyl	687	1046	96.0	n/a	n/a	%	08/28/1998



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

COMPANY Sigma  
 ADDRESS 220 E Ryan Rd.  
 PHONE 768-7144 FAX \_\_\_\_\_  
 PROJECT NAME/LOCATION Condon-Cedarburg  
 PROJECT NUMBER 1966  
 PROJECT MANAGER Jim Welch

78.01750

REPORT TO: Jim Welch  
 INVOICE TO: \_\_\_\_\_  
 P.O. NO. \_\_\_\_\_  
 NET QUOTE NO. \_\_\_\_\_

**SAMPLED BY**

(PRINT NAME) CH  
 (PRINT NAME) JJ

SIGNATURE \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

**ANALYSES**

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers					PVOC	PAH	Sulfate	Nitrate	Nitrite	# Sol. Mang.
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	OTHER						
8/24/98	12:20P	MW-1	SB	X		3					X	X				
	12P	MW-2		X		3					X	X	X	X		
	12:10	MW-4				3					X	X	X	X		
	12:30	MW-5				3					X	X	X	X		
	12:40	MW-7				3					X	X	X	X		
	12:45	-8				3					X	X	X	X		
		-9									X	X	X	X		
	12:55	-10				3					X	X	X	X		
	1:05	Sump-1				3					X	X	X	X		
	1:10	-2				3					X	X	X	X		
	1:20	-3				3					X	X	X	X		
		Duplicate				3					X	X	X	X		
		Trip Blank				1					X					

**COMMENTS**

1/3 w/h.s.  
 3/3 " "  
 2/3 w/h.s.  
 1/3 w/h.s.  
 1/3 w/h.s.  
 2/3 w/h.s.  
 1/3 w/h.s.  
 Trip blank rec'd\*

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
 FIELD FILTERED? YES / NO

COC SEALS PRESENT AND INTACT? YES / NO  
 VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: iced  
 Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE 8/25/98 7:47

RELINQUISHED BY: <u>Carol Hazard</u>	DATE: <u>8/24/98</u>	TIME: <u>14:50</u>	RECEIVED BY: <u>Jim Welch</u>	RELINQUISHED BY: <u>Jim Welch</u>	DATE: <u>8/29/98</u>	TIME: <u>16:45</u>	RECEIVED FOR NET BY: <u>Sheryl Loomis</u>
METHOD OF SHIPMENT			REMARKS:				



**ANALYTICAL AND QUALITY CONTROL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998

Job No: 98.04110

Page 1

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

Sample Number	Sample Description	Date Taken	Date Received
297095	MW-1 #1966-G1 Condon	05/14/1998	05/15/1998
297096	MW-2 #1966-G1 Condon	05/14/1998	05/15/1998
297097	MW-4 #1966-G1 Condon	05/14/1998	05/15/1998
297098	MW-5 #1966-G1 Condon	05/14/1998	05/15/1998
297099	MW-6 #1966-G1 Condon	05/14/1998	05/15/1998
297100	MW-7 #1966-G1 Condon	05/14/1998	05/15/1998
297101	MW-8 #1966-G1 Condon	05/14/1998	05/15/1998
297102	MW-9 #1966-G1 Condon	05/14/1998	05/15/1998
297103	MW-10 #1966-G1 Condon	05/14/1998	05/15/1998
297104	Sump-1 #1966-G1 Condon	05/14/1998	05/15/1998
297105	Sump-2 #1966-G1 Condon	05/14/1998	05/15/1998
297106	Sump-3 #1966-G1 Condon	05/14/1998	05/15/1998
297107	Duplicate #1966-G1 Condon	05/14/1998	05/15/1998
297108	Trip Blank #1966-G1 Condon	05/14/1998	05/15/1998

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

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

*Brian D. DeJong*  
Brian D. DeJong  
Organic Operations Manager





**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297095  
Account No: 51021  
Page 2

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-1 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 12:50

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite Sulfate	0.038	mg/L	0.017	0.059	E-353.2	05/27/1998	537
Lead, Dissolved, GFAA	25	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Manganese, Dissolved	0.0017	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
DRO Extraction	0.18	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
PVOC - AQUEOUS	05/20/98				WDNR	05/20/1998	1118
Benzene	M <3.0	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	38	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	M <3.0	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	M <2.0	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	19	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	15	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	32	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	1,300	ug/L	50	50	WDNR	05/27/1998	4587
Surr: Bromofluorobenzene	M 125.5	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.85	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.23	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.57	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.019	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.044	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.028	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.013	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.16	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.085	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	7.6	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.62	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	3.2	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	<0.014	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Watertown Division  
602 Commerce Drive  
P.O. Box 288  
Watertown, WI 53094  
Tel: (920) 261-1660  
Fax: (920) 261-8120  
WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297095  
Account No: 51021  
Page 3

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-1 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 12:50

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
Pyrene	<0.048	ug/L	0.047	0.17	S-8310	05/21/1998	613 950
Surr: 2-Fluorobiphenyl	82.6	%	n/a	n/a	S-8310	05/21/1998	613 990



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297096  
Account No: 51021  
Page 4

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-2 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:00

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.041	mg/L	0.017	0.059	E-353.2	05/27/1998	537
Sulfate	31	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	0.064	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	M <0.60	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	106.0	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.20	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.24	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.59	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.019	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.046	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.031	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.029	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.11	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	0.11	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.031	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.090	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.43	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.65	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.24	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	0.13	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



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WDNR No. 128053530

### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297096  
Account No: 51021  
Page 5

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-2 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:00

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
Pyrene	<0.051	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	82.6	%	n/a	n/a	S-8310	05/21/1998	613 990



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**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297097  
Account No: 51021  
Page 6

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-4 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:10

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	E-353.2	05/27/1998	538
Sulfate	16	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	0.058	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	M <0.60	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	98.5	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.15	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.23	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.58	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.019	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.045	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.028	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.087	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.42	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.63	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.23	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	<0.015	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



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WDNR No. 128053530

### ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297097  
Account No: 51021  
Page 7

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-4 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:10

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	<0.049	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	80.6	%	n/a	n/a	S-8310	05/21/1998	613 990



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297098  
Account No: 51021  
Page 8

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-5 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:14

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite Sulfate	0.11	mg/L	0.017	0.059	E-353.2	05/27/1998	538
Lead, Dissolved, GFAA	26	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Manganese, Dissolved	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
DRO Extraction	0.42	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
PVOC - AQUEOUS	05/20/98				WDNR	05/20/1998	1118
Benzene	600	ug/L	0.13	0.44	S-8020	05/26/1998	4697
Ethylbenzene	1.7	ug/L	0.22	0.70	S-8020	05/26/1998	4697
Methyl-t-butyl ether	M <1.0	ug/L	0.16	0.53	S-8020	05/26/1998	4697
Toluene	8.9	ug/L	0.20	0.64	S-8020	05/26/1998	4697
1,2,4-Trimethylbenzene	35	ug/L	0.22	0.71	S-8020	05/26/1998	4697
1,3,5-Trimethylbenzene	2.6	ug/L	0.29	0.92	S-8020	05/26/1998	4697
Xylenes, Total	140	ug/L	0.23	0.82	S-8020	05/26/1998	4697
GRO	1,400	ug/L	50	50	WDNR	05/26/1998	4697
Surr: Bromofluorobenzene	97.0	%	n/a	n/a	S-8020	05/26/1998	4697
DRO - AQUEOUS	2.8	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.23	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.58	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.019	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.045	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.028	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.087	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	0.66	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.63	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	0.41	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	<0.015	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297098  
Account No: 51021  
Page 9

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-5 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:14

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	<0.049	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	83.2	%	n/a	n/a	S-8310	05/21/1998	613 990





**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297099  
Account No: 51021  
Page 10

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-6 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:35

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	0.032	mg/L	0.017	0.059	E-353.2	05/27/1998	538
Sulfate	33	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	0.51	mg/L	0.0063	0.022	E-243.1	05/28/1998	67
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	290	ug/L	0.13	0.44	S-8020	05/26/1998	4697
Ethylbenzene	21	ug/L	0.22	0.70	S-8020	05/26/1998	4697
Methyl-t-butyl ether	M <2.5	ug/L	0.16	0.53	S-8020	05/26/1998	4697
Toluene	4.6	ug/L	0.20	0.64	S-8020	05/26/1998	4697
1,2,4-Trimethylbenzene	3.2	ug/L	0.22	0.71	S-8020	05/26/1998	4697
1,3,5-Trimethylbenzene	<1.5	ug/L	0.29	0.92	S-8020	05/26/1998	4697
Xylenes, Total	1.3	ug/L	0.23	0.82	S-8020	05/26/1998	4697
GRO	970	ug/L	50	50	WDNR	05/26/1998	4697
Surr: Bromofluorobenzene	113.0	%	n/a	n/a	S-8020	05/26/1998	4697
DRO - AQUEOUS	2.8	mg/L	0.10	0.10	WDNR	05/23/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS	M						
Acenaphthene	<1.1	ug/L	0.22	0.76	S-8310	05/26/1998	613 991
Acenaphthylene	<2.8	ug/L	0.55	1.9	S-8310	05/26/1998	613 991
Anthracene	<0.090	ug/L	0.018	0.062	S-8310	05/26/1998	613 991
Benzo(a)anthracene	<0.085	ug/L	0.017	0.060	S-8310	05/26/1998	613 991
Benzo(b)fluoranthene	<0.22	ug/L	0.043	0.15	S-8310	05/26/1998	613 991
Benzo(k)fluoranthene	<0.14	ug/L	0.029	0.10	S-8310	05/26/1998	613 991
Benzo(a)pyrene	<0.14	ug/L	0.027	0.096	S-8310	05/26/1998	613 991
Benzo(ghi)perylene	<0.50	ug/L	0.10	0.36	S-8310	05/26/1998	613 991
Chrysene	<0.065	ug/L	0.013	0.046	S-8310	05/26/1998	613 991
Dibenzo(a,h)anthracene	<0.80	ug/L	0.16	0.55	S-8310	05/26/1998	613 991
Fluoranthene	<0.50	ug/L	0.10	0.36	S-8310	05/26/1998	613 991
Fluorene	<0.14	ug/L	0.029	0.10	S-8310	05/26/1998	613 991
Indeno(1,2,3-cd)pyrene	<0.42	ug/L	0.083	0.29	S-8310	05/26/1998	613 991
1-Methylnaphthalene	<2.0	ug/L	0.40	1.4	S-8310	05/26/1998	613 991
2-Methylnaphthalene	<3.0	ug/L	0.60	2.1	S-8310	05/26/1998	613 991
Naphthalene	<1.1	ug/L	0.22	0.80	S-8310	05/26/1998	613 991
Phenanthrene	<0.070	ug/L	0.014	0.048	S-8310	05/26/1998	613 991



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297099  
Account No: 51021  
Page 11

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-6 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:35

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	<0.24	ug/L	0.047	0.17	S-8310	05/26/1998	613 991
Surr: 2-Fluorobiphenyl	89.0	%	n/a	n/a	S-8310	05/26/1998	613 991



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297100  
Account No: 51021  
Page 12

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-7 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:50

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
N-Nitrate + Nitrite	2.5	mg/L	0.017	0.059	E-353.2	05/27/1998	54
Sulfate	39	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	0.015	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	104.0	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.45	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.23	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.57	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.019	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.018	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.045	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.028	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.10	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.030	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.086	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.42	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.62	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.23	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	<0.015	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297100  
Account No: 51021  
Page 13

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-7 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 13:50

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	<0.049	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	82.4	%	n/a	n/a	S-8310	05/21/1998	613 990



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297101  
Account No: 51021  
Page 14

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-8 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:00

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	1.6	mg/L	0.017	0.059	E-353.2	05/27/1998	538
Sulfate	48	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	<0.0063	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4699
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4699
Methyl-t-butyl ether	M <3.6	ug/L	0.16	0.53	S-8020	05/27/1998	4699
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4699
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4699
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4699
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4699
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4699
Surr: Bromofluorobenzene	99.0	%	n/a	n/a	S-8020	05/27/1998	4699
DRO - AQUEOUS	0.19	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.24	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.60	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.020	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.019	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.047	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.032	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.030	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.11	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.18	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.11	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.032	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.091	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.44	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.66	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.24	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	<0.015	ug/L	0.014	0.048	S-8310	05/21/1998	613 990



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297101  
Account No: 51021  
Page 15

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-8 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:00

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	<0.052	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	76.0	%	n/a	n/a	S-8310	05/21/1998	613 990



## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297102  
Account No: 51021  
Page 16

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-9 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:00

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	105.0	%	n/a	n/a	S-8020	05/27/1998	4697
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.26	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.64	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	<0.021	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.020	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.050	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.034	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.031	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.12	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.015	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.19	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	<0.12	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.034	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.096	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.46	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.70	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.26	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	0.057	ug/L	0.014	0.048	S-8310	05/21/1998	613 990
Pyrene	<0.055	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	C 38.4	%	n/a	n/a	S-8310	05/21/1998	613 990



**ANALYTICAL REPORT**

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297103  
Account No: 51021  
Page 17

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-10 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:15

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
N-Nitrate + Nitrite	<0.017	mg/L	0.017	0.059	E-353.2	05/27/1998	538
Sulfate	33	mg/L	2.0	7.2	E-375.2	05/29/1998	445
Lead, Dissolved, GFAA	<0.00089	mg/L	0.00089	0.0031	E-200.9	05/27/1998	1381
Manganese, Dissolved	0.15	mg/L	0.0063	0.022	E-243.1	05/28/1998	636
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	0.97	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	M <0.28	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	110	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	90.5	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.32	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549
PNA Extraction	05/19/98				S-3510	05/19/1998	613
PNA - 8310 AQUEOUS							
Acenaphthene	<0.24	ug/L	0.22	0.76	S-8310	05/21/1998	613 990
Acenaphthylene	<0.60	ug/L	0.55	1.9	S-8310	05/21/1998	613 990
Anthracene	0.039	ug/L	0.018	0.062	S-8310	05/21/1998	613 990
Benzo(a)anthracene	<0.019	ug/L	0.017	0.060	S-8310	05/21/1998	613 990
Benzo(b)fluoranthene	<0.047	ug/L	0.043	0.15	S-8310	05/21/1998	613 990
Benzo(k)fluoranthene	<0.032	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Benzo(a)pyrene	<0.029	ug/L	0.027	0.096	S-8310	05/21/1998	613 990
Benzo(ghi)perylene	<0.11	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Chrysene	<0.014	ug/L	0.013	0.046	S-8310	05/21/1998	613 990
Dibenzo(a,h)anthracene	<0.17	ug/L	0.16	0.55	S-8310	05/21/1998	613 990
Fluoranthene	0.13	ug/L	0.10	0.36	S-8310	05/21/1998	613 990
Fluorene	<0.032	ug/L	0.029	0.10	S-8310	05/21/1998	613 990
Indeno(1,2,3-cd)pyrene	<0.090	ug/L	0.083	0.29	S-8310	05/21/1998	613 990
1-Methylnaphthalene	<0.44	ug/L	0.40	1.4	S-8310	05/21/1998	613 990
2-Methylnaphthalene	<0.65	ug/L	0.60	2.1	S-8310	05/21/1998	613 990
Naphthalene	<0.24	ug/L	0.22	0.80	S-8310	05/21/1998	613 990
Phenanthrene	0.14	ug/L	0.014	0.048	S-8310	05/21/1998	613 990





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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297103  
Account No: 51021  
Page 18

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: MW-10 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:15

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
Pyrene	0.076	ug/L	0.047	0.17	S-8310	05/21/1998	613 990
Surr: 2-Fluorobiphenyl	66.8	%	n/a	n/a	S-8310	05/21/1998	613 990



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297104  
Account No: 51021  
Page 19

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump-1 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:30

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	109.5	%	n/a	n/a	S-8020	05/27/1998	4697
DRO - AQUEOUS	0.42	mg/L	0.10	0.10	WDNR	05/22/1998	1118 1549



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297105  
Account No: 51021  
Page 20

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump-2 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:40

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	510	ug/L	0.13	0.44	S-8020	05/28/1998	4702
Ethylbenzene	100	ug/L	0.22	0.70	S-8020	05/28/1998	4702
Methyl-t-butyl ether	<3.2	ug/L	0.16	0.53	S-8020	05/28/1998	4702
Toluene	130	ug/L	0.20	0.64	S-8020	05/28/1998	4702
1,2,4-Trimethylbenzene	240	ug/L	0.22	0.71	S-8020	05/28/1998	4702
1,3,5-Trimethylbenzene	85	ug/L	0.29	0.92	S-8020	05/28/1998	4702
Xylenes, Total	520	ug/L	0.23	0.82	S-8020	05/28/1998	4702
GRO	3,500	ug/L	50	50	WDNR	05/28/1998	4702
Surr: Bromofluorobenzene	99.0	%	n/a	n/a	S-8020	05/28/1998	4702
DRO - AQUEOUS	3.8	mg/L	0.10	0.10	WDNR	05/23/1998	1118 1549



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297106  
Account No: 51021  
Page 21

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Sump-3 #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998 14:50

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
DRO Extraction	05/20/98				WDNR	05/20/1998	1118
PVOC - AQUEOUS							
Benzene	240	ug/L	0.13	0.44	S-8020	05/28/1998	4704
Ethylbenzene	17	ug/L	0.22	0.70	S-8020	05/28/1998	4704
Methyl-t-butyl ether	M <4.0	ug/L	0.16	0.53	S-8020	05/28/1998	4704
Toluene	5.6	ug/L	0.20	0.64	S-8020	05/28/1998	4704
1,2,4-Trimethylbenzene	24	ug/L	0.22	0.71	S-8020	05/28/1998	4704
1,3,5-Trimethylbenzene	M <55	ug/L	0.29	0.92	S-8020	05/28/1998	4704
Xylenes, Total	130	ug/L	0.23	0.82	S-8020	05/28/1998	4704
GRO	1,300	ug/L	50	50	WDNR	05/28/1998	4704
Surr: Bromofluorobenzene	98.5	%	n/a	n/a	S-8020	05/28/1998	4704
DRO - AQUEOUS	4.3	mg/L	0.10	0.10	WDNR	05/23/1998	1118 1549



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## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297107  
Account No: 51021  
Page 22

JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Duplicate #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	590	ug/L	0.13	0.44	S-8020	05/26/1998	4697
Ethylbenzene	1.7	ug/L	0.22	0.70	S-8020	05/26/1998	4697
Methyl-t-butyl ether	M <1.0	ug/L	0.16	0.53	S-8020	05/26/1998	4697
Toluene	8.6	ug/L	0.20	0.64	S-8020	05/26/1998	4697
1,2,4-Trimethylbenzene	35	ug/L	0.22	0.71	S-8020	05/26/1998	4697
1,3,5-Trimethylbenzene	2.9	ug/L	0.29	0.92	S-8020	05/26/1998	4697
Xylenes, Total	140	ug/L	0.23	0.82	S-8020	05/26/1998	4697
GRO	1,400	ug/L	50	50	WDNR	05/26/1998	4697
Surr: Bromofluorobenzene	97.0	%	n/a	n/a	S-8020	05/26/1998	4697



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WDNR No. 128053530

## ANALYTICAL REPORT

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

05/29/1998  
Job No: 98.04110  
Sample No: 297108  
Account No: 51021  
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JOB DESCRIPTION: #1966-G1 Condon Cedarburg  
PROJECT DESCRIPTION: Groundwater Analysis  
SAMPLE DESCRIPTION: Trip Blank #1966-G1 Condon  
Rec'd on ice

Date Taken: 05/14/1998

Date Received: 05/15/1998

Parameter	Results	Units	MDL	LOQ	Method	Date	Prep/Run
						Analyzed	Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	S-8020	05/27/1998	4697
Ethylbenzene	<0.22	ug/L	0.22	0.70	S-8020	05/27/1998	4697
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	S-8020	05/27/1998	4697
Toluene	<0.20	ug/L	0.20	0.64	S-8020	05/27/1998	4697
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	S-8020	05/27/1998	4697
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	S-8020	05/27/1998	4697
Xylenes, Total	<0.23	ug/L	0.23	0.82	S-8020	05/27/1998	4697
GRO	<50	ug/L	50	50	WDNR	05/27/1998	4697
Surr: Bromofluorobenzene	102.0	%	n/a	n/a	S-8020	05/27/1998	4697



QUALITY CONTROL REPORT

BLANKS

05/29/1998

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

Job No: 98.04110  
Account No: 51021

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Job Description: #1966-G1 Condon Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
N-Nitrate + Nitrite		537	<0.017	0.017	0.059	mg/L	
N-Nitrate + Nitrite		538	<0.017	0.017	0.059	mg/L	
Sulfate		445	<2.0	2.0	7.2	mg/L	
Lead, Dissolved, GFAA		1381	<0.00089	0.00089	0.0031	mg/L	
Manganese, Dissolved		136	<0.0063	0.0063	0.022	mg/L	
PVOC - AQUEOUS							
Benzene		4697	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4697	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4697	<0.16	0.16	0.53	ug/L	
Toluene		4697	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4697	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4697	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4697	<0.23	0.23	0.82	ug/L	
GRO		4697	<50	50	50	ug/L	
Surr: Bromofluorobenzene		4697	107.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4699	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4699	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4699	<0.16	0.16	0.53	ug/L	
Toluene		4699	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4699	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4699	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4699	<0.23	0.23	0.82	ug/L	
GRO		4699	<50	50	50	ug/L	
Surr: Bromofluorobenzene		4699	106.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4702	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4702	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4702	<0.16	0.16	0.53	ug/L	
Toluene		4702	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4702	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4702	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4702	<0.23	0.23	0.82	ug/L	
GRO		4702	<50	50	50	ug/L	
Surr: Bromofluorobenzene		4702	95.5	n/a	n/a	%	
PVOC - AQUEOUS							
Benzene		4704	<0.13	0.13	0.44	ug/L	
Ethylbenzene		4704	<0.22	0.22	0.70	ug/L	
Methyl-t-butyl ether		4704	<0.16	0.16	0.53	ug/L	



**QUALITY CONTROL REPORT  
BLANKS**

05/29/1998

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154 4533

Job No: 98.04110  
Account No: 51021

Page 25

Job Description: #1966-G1 Condon Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
Toluene		4704	<0.20	0.20	0.64	ug/L	
1,2,4-Trimethylbenzene		4704	<0.22	0.22	0.71	ug/L	
1,3,5-Trimethylbenzene		4704	<0.29	0.29	0.92	ug/L	
Xylenes, Total		4704	<0.23	0.23	0.82	ug/L	
GRO		4704	<50	50	50	ug/L	
Surr: Bromofluorobenzene		4704	108.0	n/a	n/a	%	
DRO - AQUEOUS	1118	1549	<0.050	0.10	0.10	mg/L	05/20/1998
PNA - 8310 AQUEOUS							
Acenaphthene	613	991	<0.22	0.22	0.76	ug/L	05/18/1998
Acenaphthylene	613	991	<0.55	0.55	1.9	ug/L	05/18/1998
Anthracene	613	991	0.13	0.018	0.062	ug/L	05/18/1998
Benzo (a) anthracene	613	991	0.071	0.017	0.060	ug/L	05/18/1998
Benzo (b) fluoranthene	613	991	<0.043	0.043	0.15	ug/L	05/18/1998
Benzo (k) fluoranthene	613	991	<0.029	0.029	0.10	ug/L	05/18/1998
Benzo (a) pyrene	613	991	<0.027	0.027	0.096	ug/L	05/18/1998
Benzo (ghi) perylene	613	991	<0.10	0.10	0.36	ug/L	05/18/1998
Chrysene	613	991	<0.013	0.013	0.046	ug/L	05/18/1998
Dibenzo (a, h) anthracene	613	991	<0.16	0.16	0.55	ug/L	05/18/1998
Fluoranthene	613	991	0.34	0.10	0.36	ug/L	05/18/1998
Fluorene	613	991	<0.029	0.029	0.10	ug/L	05/18/1998
Indeno (1, 2, 3-cd) pyrene	613	991	<0.083	0.083	0.29	ug/L	05/18/1998
1-Methylnaphthalene	613	991	<0.40	0.40	1.4	ug/L	05/18/1998
2-Methylnaphthalene	613	991	<0.60	0.60	2.1	ug/L	05/18/1998
Naphthalene	613	991	<0.22	0.22	0.80	ug/L	05/18/1998
Phenanthrene	613	991	0.35	0.014	0.048	ug/L	05/18/1998
Pyrene	613	991	0.15	0.047	0.17	ug/L	05/18/1998
Surr: 2-Fluorobiphenyl	613	991	97.2	n/a	n/a	%	05/18/1998
PNA - 8310 AQUEOUS							
Acenaphthene	613	990	<0.22	0.22	0.76	ug/L	05/19/1998
Acenaphthylene	613	990	<0.55	0.55	1.9	ug/L	05/19/1998
Anthracene	613	990	<0.018	0.018	0.062	ug/L	05/19/1998
Benzo (a) anthracene	613	990	<0.017	0.017	0.060	ug/L	05/19/1998
Benzo (b) fluoranthene	613	990	<0.043	0.043	0.15	ug/L	05/19/1998
Benzo (k) fluoranthene	613	990	<0.029	0.029	0.10	ug/L	05/19/1998
Benzo (a) pyrene	613	990	<0.027	0.027	0.096	ug/L	05/19/1998
Benzo (ghi) perylene	613	990	<0.10	0.10	0.36	ug/L	05/19/1998
Chrysene	613	990	<0.013	0.013	0.046	ug/L	05/19/1998
Dibenzo (a, h) anthracene	613	990	<0.16	0.16	0.55	ug/L	05/19/1998
Fluoranthene	613	990	<0.10	0.10	0.36	ug/L	05/19/1998





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WDNR No. 128053530

QUALITY CONTROL REPORT  
BLANKS

05/29/1998

Mr. Tim Welch  
SIGMA ENVIRONMENTAL SERV.  
220 East Ryan Road  
Oak Creek, WI 53154-4533

Job No: 98.04110  
Account No: 51021

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Job Description: #1966-G1 Condon Cedarburg

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units	Date Prepped
Fluorene	613	990	<0.029	0.029	0.10	ug/L	05/19/1998
Indeno (1,2,3-cd)pyrene	613	990	<0.083	0.083	0.29	ug/L	05/19/1998
1-Methylnaphthalene	613	990	<0.40	0.40	1.4	ug/L	05/19/1998
2-Methylnaphthalene	613	990	<0.60	0.60	2.1	ug/L	05/19/1998
Naphthalene	613	990	<0.22	0.22	0.80	ug/L	05/19/1998
Phenanthrene	613	990	<0.014	0.014	0.048	ug/L	05/19/1998
Pyrene	613	990	<0.047	0.047	0.17	ug/L	05/19/1998
Surr: 2-Fluorobiphenyl	613	990	81.8	n/a	n/a	%	05/19/1998



NATIONAL ENVIRONMENTAL TESTING, INC.

# CHAIN OF CUSTODY RECORD

97.04710

COMPANY Sigma Env.  
 ADDRESS 270 E. Ryan Rd  
 PHONE 708-7144 FAX \_\_\_\_\_  
 PROJECT NAME/LOCATION Condor Cedarburg  
 PROJECT NUMBER 1966-61  
 PROJECT MANAGER Tim Welch

REPORT TO: Tim Welch  
 INVOICE TO: \_\_\_\_\_  
 P.O. NO. \_\_\_\_\_  
 NET QUOTE NO. \_\_\_\_\_

SAMPLED BY: David Dailey  
 (PRINT NAME) David Dailey  
 SIGNATURE  
Ryan Levenson  
 (PRINT NAME) \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

## ANALYSES

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes \_\_\_ No \_\_\_

Is this work being conducted for regulatory enforcement action? Yes \_\_\_ No \_\_\_

Which regulations apply: RCRA \_\_\_ NPDES Wastewater \_\_\_  
 UST \_\_\_ Drinking Water \_\_\_  
 Other \_\_\_ None \_\_\_

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers				VOCs/GRO	DRO	PAH's	Lead	Sulfate	N-nitrate/N-nitrite	Mang.
						HCl	NaOH	HNO3	H2SO4							
5-14-98	12:50	MW-1	E	X		4		1	1	2	X	X	X	X	X	X
	1:00	MW-2		X		4		1	1	2	X	X	X	X	X	X
	1:10	MW-4		X		4		1	1	2	X	X	X	X	X	X
	1:14	MW-5		X		4		1	1	2	X	X	X	X	X	X
	1:35	MW-6		X		4		1	1	2	X	X	X	X	X	X
	1:50	MW-7		X		4		1	1	2	X	X	X	X	X	X
	2:00	MW-8		X		4		1	1	2	X	X	X	X	X	X
	2:00-2:00	MW-9		X		3				1	X		X			
	2:15	MW-10		X		4		1	1	2	X		X	X	X	X
	2:30	Sump-1		X		4					X	X				
	2:40	Sump-2		X		4					X	X				
	2:50	Sump-3		X		4					X	X				
		Duplicate		X		3					X	X				
		Trip									X	X				

## COMMENTS

5-19  
 # has a DRO bottle (analyze)  
 5-20  
 No DRO Bottle Run dup. delete

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
 FIELD FILTERED? YES / NO

COC SEALS PRESENT AND INTACT? YES / NO  
 VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: iced  
 Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
 I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE 8/3 5/18 8:13

RELINQUISHED BY: <u>David Dailey</u>	DATE: <u>5-14-98</u>	TIME: <u>13:30</u>	RECEIVED BY: <u>[Signature]</u>	RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>5/15/98</u>	TIME: <u>16:00</u>	RECEIVED FOR NET BY: <u>[Signature]</u>	
METHOD OF SHIPMENT: <u>5-15-98</u>			REMARKS: <u>5/18 - Diss Pb/mn per WLT/Tim Welch</u>					<u>5/20 Tim Welch</u>
								<u>W TOPIC</u>
								<u>See comments</u>



September 9, 1997

Project Reference # 1966 .

Mr. Mike Farley  
Wisconsin Department of Natural Resources  
4041 North Richards Street  
P. O. Box 12436  
Milwaukee, Wisconsin 53212

RE: Condon Oil Property- Former Cedarburg Bulk Facility  
N52 W5358 Portland Road  
Cedarburg, Wisconsin  
File Reference #246121150

LOST

RECEIVED  
JUN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

Dear Mr. Farley:

Attached please find the Sigma Environmental Services, Inc (Sigma) document entitled, "Revised Remedial Alternative Analysis, Condon Oil-Former Cedarburg Bulk Facility, ...." Sigma understands the consultant\responsible party self-steer process toward closure, however, this project involves a property transaction. Therefore, it is requested that your office provide a review and written response to the proposed remedial strategy.

If you have any questions regarding this request, or the project in general, please contact me at your convenience.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.



Timothy P. Welch, P.G.  
Project Hydrogeologist

cc: Condon Oil- Tom Reinsch

RECEIVED  
SEP 10 1997  
D.N.R. SED Hqtrs.  
Milwaukee, WI



**REVISED REMEDIAL ALTERNATIVE ANALYSIS  
CONDON OIL - FORMER CEDARBURG BULK FACILITY  
N52 W5358 PORTLAND ROAD  
CEDARBURG , WISCONSIN  
FILE REFERENCE # 246121150  
PECFA CLAIM # 53012-2106-50**

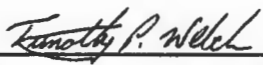
**PREPARED FOR:  
MR. TOM REINSCH  
CONDON OIL COMPANY  
126 EAST JACKSON STREET  
RIPON, WISCONSIN 54971-0184**


**PREPARED BY:  
SIGMA ENVIRONMENTAL SERVICES, INC.  
220 EAST RYAN ROAD  
OAK CREEK, WISCONSIN 53154-4533  
(414) 768-7144**

**PROJECT REFERENCE #1966**

**SEPTEMBER 1997**

**RECEIVED  
JUN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE**

  
\_\_\_\_\_  
Timothy P. Welch, P.G.  
Project Hydrogeologist

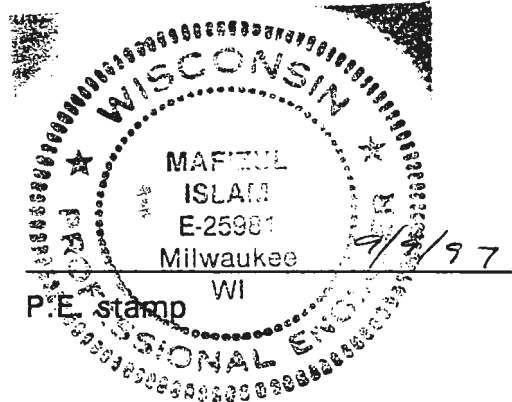
  
\_\_\_\_\_  
Randy E. Boness, P.G.  
Senior Project Manager

  
\_\_\_\_\_  
Mafizul Islam, P.E.  
Senior Project Engineer

**CERTIFICATIONS**

"I, Mafizul Islam, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

*Mafizul Islam* *S.R. PROJECT ENGR.*  
Signature, title and P.E. number



"I, Timothy P. Welch, 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."

*Timothy P. Welch - Project Hydrogeologist*  
Signature and title

*September 9, 1997*  
Date



RECEIVED

SEP 10 1997

D.N.R. SED Hqtrs.  
Milwaukee, WI

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### TABLE

#### Table

1. Cost Opinion of Remediation Strategies

### FIGURE

#### Figure

6. Estimated Extent of Soil Impact Map

### APPENDICES

#### Appendix

- A. Remedial Action Alternative Analysis (February 23, 1996)
- B. Remedial Alternative Cost Response (July 3, 1996)
- C. Biofeasibility Study
- D. Site Specific Cleanup Level Estimation

## 1. INTRODUCTION

Sigma Environmental Services, Inc. (Sigma) was retained by Condon Oil Company (Condon) to provide environmental consulting services for subsurface remedial investigative activities, feasibility studies and evaluation of remedial action options at the Condon property located at N52 W5358 Portland Road, Cedarburg, Wisconsin (Condon - Former Cedarburg Bulk Facility). The subsurface remedial investigation was conducted to assess soil and groundwater quality, in response to a petroleum hydrocarbon release from the former Aboveground Storage Tank (AST) Bulk Storage facility which was located on the property. The investigation was performed in accordance with the Wisconsin Department of Natural Resources (WDNR) guidelines and the Wisconsin Administrative Code, Chapter NR 716, "Site Investigations".

This report was prepared in response to the Department of Commerce (DCOM) letter dated July 3, 1996, and to satisfy the requirements for property owners seeking reimbursement under ILHR Rule 47. A summary of completed investigation activities, feasibility studies, and site conditions, as well as an evaluation of three Remedial Action Options (RAO) for remediation of impacted soil and groundwater is included. Per the DCOM letter, the proposed remedial strategy has been modified, and costs have been revised. Therefore, the revised RAO evaluation 1) includes modifications to the proposed remedial option, 2) a revised analysis of the costs which would be incurred for each option, and 3) the identified steps to implement the most cost effective option.

## 2. PROJECT BACKGROUND

On August 26, 1993 petroleum impacts were identified during an environmental pre- assessment at the Condon - Cedarburg site. The impacts originated from the former AST Bulk storage facility, which contained nine 15,000 gallon tanks. The AST's contained leaded and unleaded gasoline, fuel oil, diesel fuel and kerosene. Also, petroleum impacted soil was encountered in the base of a 1,000 gallon diesel Underground Storage Tank (UST). The UST was located adjacent to the AST's.

Between November 1994 and November 1995, Sigma conducted a multi-phase subsurface investigation. The subsurface investigation consisted of the drilling of 14 soil borings, with 10 of the borings converted into groundwater monitoring wells. Based upon laboratory analysis and investigative results, an estimated 9,200 tons of impacted soil above NR 720 Soil Quality Standards was identified. Additionally, substances above the WDNR NR 140 Groundwater Quality Enforcement Standards were detected in four of the 10 groundwater monitoring wells. The remedial alternative which was selected, consisted of the excavation and landfill biotreatment of impacted soil, performed in conjunction with quarterly pumping and off-site disposal of groundwater from recovery sumps. A quarterly groundwater monitoring program would be performed to evaluate contaminant attenuation and provide closure documentation. Details of the Subsurface Investigation and Remedial Action Alternative Analysis are presented in the February 7, 1996 Sigma report entitled, "Report of a Subsurface Investigation and Remedial Alternative Analysis at the Former Condon Companies Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin".

On February 23, 1996 Sigma submitted a Remedial Action Alternative Cost Analysis to the Wisconsin Department of Industry, Labor and Human Relations (DILHR) for review and approval of the selected alternative ( Appendix A). On July 3, 1996 DILHR sent a Remedial Alternative Cost Response, (Appendix B) which disapproved of the recommended alternative for soil and groundwater remediation. DILHR stated that, "Due to the high cost of the proposed alternative, and potential liability to the PECFA fund, please consider using site specific soil standards to reduce the volume of soil requiring active remediation".

Subsequently, Sigma collected soil and groundwater samples in August 1996, and submitted the samples to MVTL Laboratories for a biofeasibility study. The study was performed to determine the potential for in-situ natural biodegradation of petroleum contaminants detected in the soil and groundwater at the site, and to determine in-situ kinetic decay rates of the contaminants.



One soil and one groundwater sample were analyzed for a Comparative Enumeration Assay, to evaluate the Total Heterotrophic and Petroleum Hydrocarbon Degradable microbial populations. Also, the soil and groundwater samples were analyzed for nutrients, to evaluate background conditions and determine if any nutrients would be the limiting factor for biodegradation. The degradation constants and other site specific data which were generated from the laboratory analysis, were utilized as input parameters for the unsaturated zone contaminant transport model SESOIL, which was utilized to develop site specific soil standards.

### 3. SITE CONDITIONS

In general, soil at the site consists of a silty clay to clayey silts, with traces of fine to coarse grained sand. Specifically, the lithology beneath the site consists of soft, silty clay - clayey silt from ground surface to approximately eight feet below ground surface (bgs), which becomes stiff to 18 feet bgs. Sand and silt seams are common throughout.

A groundwater contour map, drawn from water level measurements collected on September 7, 1995 shows that groundwater flow is toward the south, with a hydraulic gradient of approximately 0.08 feet/foot. Groundwater was encountered at depths ranging from three to six feet bgs.

The geometric hydraulic conductivity for the tested monitoring wells was calculated to be  $1.3 \times 10^{-4}$  centimeters per second.

The property and surrounding properties receive municipal sewer and water services from the City of Cedarburg. Several potential contaminant receptors were identified down gradient of the release. The City of Cedarburg Water and Light department was contacted to identify any private wells in the immediate vicinity. The department stated that there are not any wells within 1,000 feet of the Condon property, however, there is a well located approximately 100 feet to the southeast, on the Herbert Effenheim property. Also, Cedar Creek is

located approximately one-half mile from the property. The subsurface utilities (sewer and water laterals) are receptors and have acted as contaminant migration pathways. The water lateral is constructed of six inch diameter cast iron pipe, while the sewer lateral is constructed of six inch diameter PVC. Both laterals are located six feet bgs, in separate trenches, adjacent to the contaminant source.

#### **4. CONCLUSIONS**

Based on a review of the site hydrogeologic characteristics and the extent of petroleum hydrocarbon impacts, it was determined that an unsaturated zone contaminant transport model (SESOIL), was appropriate to develop site specific soil cleanup levels for the property. The objective of the SESOIL modeling effort was to estimate specific concentrations of BTEX compounds which could be left in place , and not result in additional groundwater contamination above NR 140 Groundwater Quality Enforcement Standards. Based on SESOIL model results, site specific cleanup values of 347 parts per billion (ppb) for Benzene, 13,000 ppb for Ethylbenzene, 190 ppb for Toluene, and 58,310 ppb for Xylenes were estimated.

Based on a review of the laboratory analytical results, it is apparent that there is a 2,400 ft<sup>2</sup> area which has petroleum impacted soil in exceedance of the WDNR soil cleanup standards listed in WAC Chapter NR 720, and the site specific cleanup values determined from SESOIL modeling. Approximately 2,300 tons of impacted soil will require active remediation, to minimize the potential for additional groundwater impacts (Figure 8). Details of the SESOIL modeling effort and the Biofeasibility Study will be submitted to the WDNR, for their review and files.

There are subsurface contaminant impacts which extend off-site to the south and east (Filter Oil Property), however, excavation and treatment of the most highly impacted source materials, in conjunction with the enhanced biodegradation of residual impacts, should eventually reduce the concentrations of the dissolved phase groundwater plume moving off-site. Therefore, a

groundwater monitoring program will be implemented following source removal activities, to develop a baseline for evaluation of remediation by natural attenuation.

## **5. RECOMMENDATION**

The performance of the Biofeasibility Study, and the subsequent SESOIL modeling effort, have provided data necessary to reduce the volume of impacted soil which requires active remediation.

To remediate petroleum impacted soil and groundwater to acceptable WDNR standards at the property, Sigma recommends the limited excavation and landfill bioremediation treatment and recycling of 2,300 tons of impacted soil. Also, 700 pounds of Oxygen Release Compound (ORC) will be placed along the base of the excavations to enhance aerobic degradation of contaminants. A quarterly groundwater monitoring program will be implemented for a two year period, to document contaminant attenuation and evaluate the progress of the remediation. After two years of monitoring, the data will be evaluated to determine if additional natural attenuation monitoring will be performed. This is the most cost-effective and time efficient remedial action option to remove the highly impacted contaminant source, and minimize downgradient groundwater impacts.

## **6. REMEDIAL ALTERNATIVES**

Four remedial alternatives were evaluated for cleanup of impacted soil and groundwater at the Condon Oil- Former Cedarburg Bulk property. They are as follows:

1. Limited excavation and landfill bioremediation treatment and recycling of impacted soil performed in conjunction with the introduction of ORC to enhance the bioremediation of impacted groundwater. Also, two

years of quarterly groundwater monitoring for natural attenuation evaluation, will be performed.

2. Limited excavation and thermal treatment and recycling of impacted soil, in conjunction with the introduction of ORC to enhance bioremediation of impacted groundwater. Also, two years of quarterly groundwater monitoring for natural attenuation evaluation, will be performed.
3. Excavation and landfill/bioremediation treatment and recycling of impacted soil, performed in conjunction with the quarterly pumping and off-site disposal of groundwater from sumps. Also, two years of quarterly groundwater monitoring for natural attenuation evaluation, will be performed.
4. Passive bioremediation/remediation by natural attenuation of impacted soils and groundwater, per WAC NR 700 series, NR 140 and ILHR 47.335.

The first three alternatives (alternatives 1, 2, and 3) are the most appropriate remedial techniques and were evaluated based on technical feasibility, remediation efficiency, WDNR permitting and monitoring requirements, anticipated project duration, estimated initial capital costs, and annual monitoring and reporting costs. A summary of the estimated present value costs associated with the three remedial alternatives are presented as Table 1.

Natural Attenuation (Alternative 4) was evaluated, however, based upon 1) the contaminant concentrations of soil ( maximum 10,000 milligrams per kilogram Diesel Range Organics and 2,800 micrograms per kilogram Benzene), 2) groundwater contaminant concentrations above WAC Chapter NR 140 Groundwater Enforcement Standards (off-site), and 3) the presence of contaminant receptors (water supply wells and Cedar Creek) and transport mechanisms ( sanitary sewer and water lines at 6 feet bgs), this strategy was not considered as a stand alone option.



Upon review of the four alternatives, it appears that Alternative 1, limited excavation and landfill bioremediation treatment and recycling of impacted soil from the immediate vicinity of the source(s), performed in conjunction with the introduction of Oxygen Release Compound (ORC™) to enhance bioremediation of residual contaminants, is the most cost-effective remedial alternative. A quarterly groundwater monitoring program will be implemented for a two year period to document groundwater contaminant attenuation and evaluate the progress of the remediation. The following are summaries of each alternative.

**Alternative 1: Limited Excavation and Landfill Bioremediation Treatment of Petroleum Impacted Soil, Performed in Conjunction With the Introduction of Oxygen Release Compounds, and Quarterly Groundwater Monitoring.** Limited excavation and landfill bioremediation treatment of approximately 1,530 cubic yards (2,300 tons) of petroleum impacted soil, performed in conjunction with the introduction of oxygen release compounds in the subsurface to enhance bioremediation of residual contaminants, is the most cost-effective and time-efficient remedial option (Table 1). Additionally, a quarterly groundwater monitoring program will be implemented for two years to document groundwater contaminant attenuation and evaluate the progress of the remedial action. After two years of monitoring, the data will be evaluated to determine if additional attenuation monitoring is necessary.

The purpose of the limited excavation and landfill bioremediation of petroleum contaminated soil and introduction of oxygen releasing compounds is: 1) to remove hot spot soil impact areas above site-specific soil cleanup levels ; 2) to prevent further migration of petroleum contaminants to groundwater; and 3) to introduce oxygen into the saturated interval to enhance biodegradation. The biofeasibility study of the subsurface materials indicate that subsurface conditions at the site are favorable for biodegradation of petroleum hydrocarbon compounds. By introducing supplemental oxygen into the subsurface, biodegradation can be substantially enhanced.

The costs for limited excavation and landfill bioremediation of petroleum impacted soil, performed in conjunction with the enhanced bioremediation of impacted groundwater utilizing oxygen release compounds, and implementation of a quarterly groundwater monitoring program to document groundwater attenuation are lower than Alternatives 2 and 3. Sigma recommends this remedial alternative. A summary of the scope of work includes the following:

- The "Application to Treat or Dispose of Petroleum Contaminated Soil, Asphalt Plant or Other Type of Thermal Treatment Unit" will be completed and submitted to the WDNR.
- Preparation of a specification\bid package, and bidding of the project to a minimum of three qualified contractors. The lowest bidder will be selected to implement the remedial action.
- A limited volume of impacted soil (approximately 2,300 tons) will be excavated and transported to Valley Trail Recycling and Disposal Facility in Berlin, Wisconsin by the remedial contractor.
- Per requirements outlined in the WDNR's "Guidance for Conducting Environmental Response Actions" (Publ. SW-157-92), soil samples will be collected at a minimum of one sample every 25 feet (grid interval) along the walls and base of the excavation to document the concentration of the petroleum impacted soil remaining. The samples will be analyzed for GRO, DRO, PVOC, PAH and Total Lead. Sigma anticipates that 20 soil samples will be collected and submitted for laboratory analysis.
- Petroleum impacted soil excavated for landfill bioremediation treatment will be field screened with a PID every 15 yds<sup>3</sup>. A field log will be prepared to document field screening results for every 15 yds<sup>3</sup> of impacted soil removed. For every 300 yds<sup>3</sup>, one soil sample will be submitted for GRO and Benzene analysis, to confirm that impacted soil

is being excavated and transported to the landfill. It is estimated that five soil disposal samples will be collected and submitted for laboratory analysis.

- The base of the three excavations, will be lined with ORC. The excavation will then be backfilled with clean, imported sand and gravel after petroleum impacted soil is removed. One, six inch diameter recovery well will be installed within the excavation during backfilling. The recovery well will be utilized as a monitoring point (MW-3 will be removed during excavation), and can be used as a groundwater recovery sump, if needed in the future.
- The groundwater monitoring well network will be sampled and the groundwater analyzed for PVOCs, PAHs, GRO, DRO and Soluble Lead on a quarterly basis to document contaminant attenuation and evaluate the success of the remedial action. Additionally, water level measurements, dissolved oxygen and re-dox potential readings will be collected each quarter. Select monitoring wells will be sampled for the following geochemical indicator parameters: Sulfate, Nitrate-nitrite, Manganese, and Total Organic Carbon.
- After the soil remediation is complete, a detailed technical report will be prepared to document project activities and results. Groundwater quality status reports will be prepared on a semi-annual basis and submitted to the WDNR. If groundwater quality results are below the PALs, the groundwater monitoring/recovery program will be terminated and Sigma may request site closure under NR 726. However, if groundwater quality results are above the WDNR PAL and ES limits, then Sigma may continue quarterly sampling of groundwater.

**Alternative 2: Limited Excavation and Off-site Thermal Treatment with Quarterly Groundwater Monitoring.** This alternative would include the excavation of the estimated 1,526 cubic yards (2,300 tons) of impacted soil



and off-site thermal treatment, with quarterly groundwater sampling and monitoring. The costs for this alternative are included in Table 1. Under this alternative, soil excavation activities and sampling would be the same as described in Alternative 1. However, the soil would be treated using thermal desorption with the thermally treated soil transported back to the site and replaced in the excavations. The impacted soil will be loaded and trucked to a thermal treatment plant in Oak Creek, Wisconsin and then re-loaded and transported back to the site. The costs to transport, treat and re-transport impacted soil are greater than Alternative 1, therefore, this alternative is not recommended for the site.

**Alternative 3: Landfill Bioremediation Treatment of Impacted Soil. Performed in Conjunction with Quarterly Groundwater Recovery and Off-site Disposal with Quarterly Monitoring.** Excavation and landfill bioremediation treatment of approximately 9,200 tons of petroleum impacted soil, performed in conjunction with the quarterly recovery and off-site disposal of groundwater from recovery sumps, is the strategy which would be performed under this alternative. Additionally, a quarterly groundwater monitoring program will be implemented for two years to document groundwater contaminant attenuation and evaluate the progress of the remedial action. After one year of monitoring, the data will be evaluated to determine if additional attenuation monitoring is necessary. Under this alternative, soil would be excavated and sampled as discussed in Alternative 1. The costs associated with this alternative are greater than Alternative 1, therefore, this alternative is not recommended.

**Alternative 4: Passive Bioremediation.** Passive bioremediation/remediation by natural attenuation was evaluated as a remedial alternative in accordance with ILHR 47.335, WAC NR 700 series and NR 140 guidelines and standards (October 1996).

Based upon soil contaminant concentrations, groundwater NR 140 Enforcement Standard exceedances off-site, and the presence of contaminant receptors and

transport mechanisms, natural attenuation was not evaluated as a stand alone remedial alternative.

### **Conclusion**

Based on Sigma's evaluation of the effectiveness and cost considerations of the three applicable remedial alternatives, Alternative 1 - limited excavation and landfill bioremediation treatment of petroleum impacted soil, performed in conjunction with the introduction of ORC to enhance bioremediation of residual contaminants, has been selected as the preferred remedial alternative. A cost opinion of the remediation strategies evaluated is presented in Table 1. The projected costs for the selected alternative are attached.

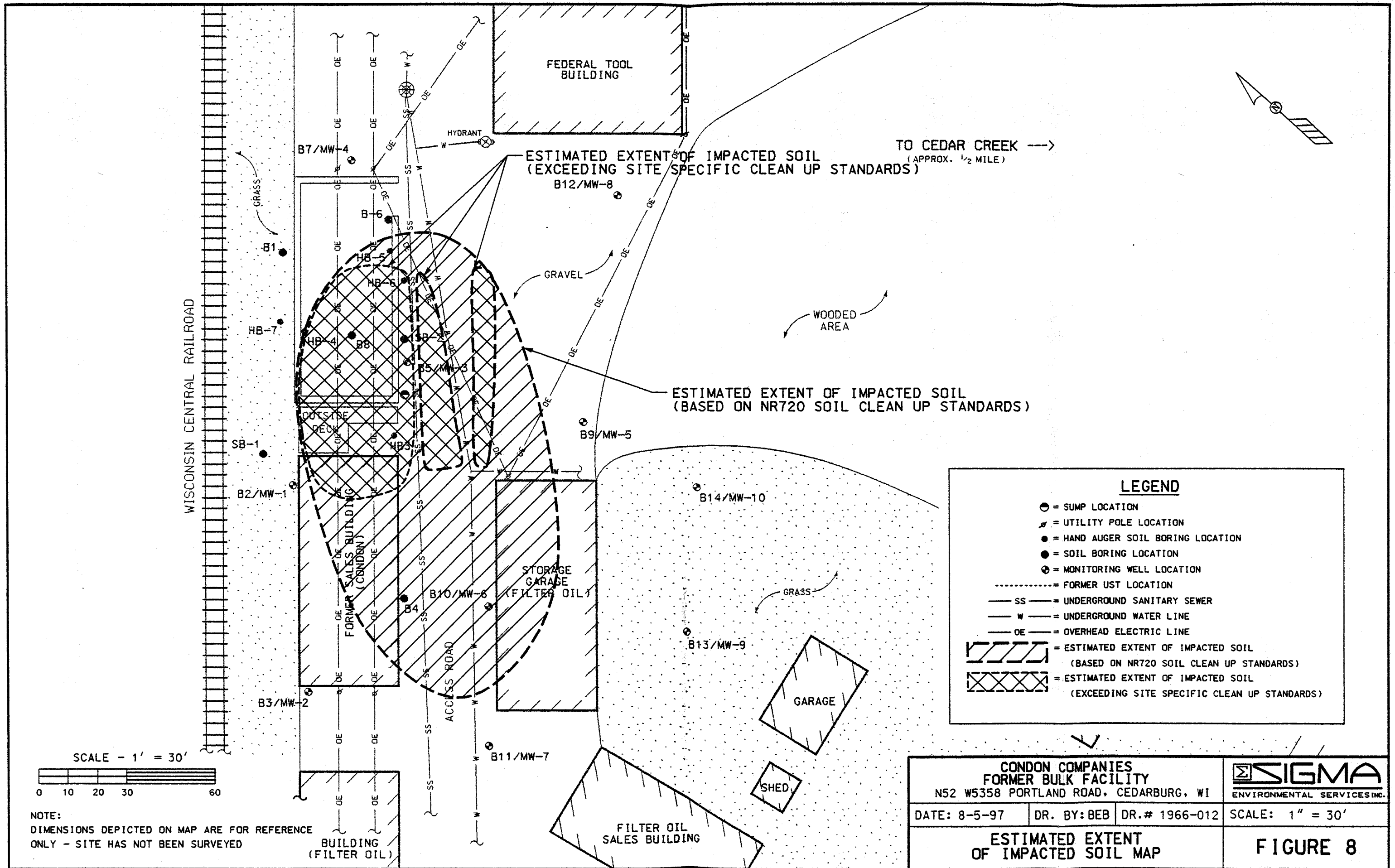
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**TABLE 1  
COST OPINION OF REMEDIATION STRATEGIES  
CONDON OIL- FORMER CEDARBURG BULK FACILITY  
CEDARBURG, WISCONSIN**

Alternatives	Task	Total Cost	Assumptions
1. Limited Excavation and Landfill Bioremediation Treatment and Recycling, ORC Application and Quarterly Groundwater Monitoring	<ul style="list-style-type: none"> <li>◦ Professional Services for Soil Removal . . . \$</li> <li>◦ Soil Excavation and Hauling . . . . . \$</li> <li>◦ Biotreatment of Impacted Soil . . . . . \$</li> <li>◦ Soil Analysis . . . . . \$</li> <li>◦ Overexcavation Report . . . . . \$</li> <li>◦ Quarterly Groundwater Monitoring (1st Year) . . . . . \$</li> <li>◦ Quarterly Groundwater Monitoring (2nd Year) . . . . . \$</li> </ul>	<ul style="list-style-type: none"> <li>24,600</li> <li>35,700</li> <li>41,500</li> <li>1,000</li> <li>5,000</li> <li>19,500</li> <li>19,500</li> </ul>	<ul style="list-style-type: none"> <li>◦ 2,300 Tons of Soil Treated</li> <li>◦ 700# of ORC Along Excavation Bases</li> <li>◦ Quarterly Sampling of Wells for PVOC's, PAH's, DRO, GRO, and Soluble Lead</li> <li>◦ Quarterly Sampling of Wells for Sulfate, Nitrite, Manganese, and Total Organic Carbon</li> </ul>
<b>*TOTAL PRESENT COST</b>		<b>\$ 145,700</b>	
2. Limited Excavation and Off-site Thermal Treatment with Quarterly Groundwater Monitoring	<ul style="list-style-type: none"> <li>◦ Professional Services for Soil Removal . . . \$</li> <li>◦ Soil Excavation and Hauling . . . . . \$</li> <li>◦ Soil Treatment . . . . . \$</li> <li>◦ Soil Analysis . . . . . \$</li> <li>◦ Documentation Report . . . . . \$</li> <li>◦ Quarterly Groundwater Monitoring (1st Year) . . . . . \$</li> <li>◦ Quarterly Groundwater Monitoring (2nd Year) . . . . . \$</li> </ul>	<ul style="list-style-type: none"> <li>27,400</li> <li>26,200</li> <li>52,700</li> <li>1,000</li> <li>5,000</li> <li>19,500</li> <li>19,500</li> </ul>	<ul style="list-style-type: none"> <li>◦ 2,300 Tons of Soil Treated</li> <li>◦ 700# of ORC Along Excavation Bases</li> <li>◦ Quarterly Sampling of Wells for PVOC's, PAH's, DRO, GRO, and Soluble Lead</li> <li>◦ Quarterly Sampling of Wells for Sulfate, Nitrite, Manganese, and Total Organic Carbon</li> </ul>
<b>*TOTAL PRESENT COST</b>		<b>\$ 150,100</b>	
3. Excavation and Landfill Bioremediation Treatment and Recycling, with Quarterly Groundwater Recovery and Off-Site Disposal and Quarterly Groundwater Monitoring	<ul style="list-style-type: none"> <li>◦ Professional Services for Soil Removal \$</li> <li>◦ Soil Excavation and Hauling . . . . . \$</li> <li>◦ Biotreatment of Impacted Soil . . . . . \$</li> <li>◦ Soil Analysis . . . . . \$</li> <li>◦ Overexcavation Report . . . . . \$</li> <li>◦ Groundwater Recovery and Monitoring (1st Year) . . . . . \$</li> <li>◦ Groundwater Recovery and Monitoring (2nd Year) . . . . . \$</li> </ul>	<ul style="list-style-type: none"> <li>23,000</li> <li>111,300</li> <li>186,300</li> <li>17,600</li> <li>5,000</li> <li>41,100</li> <li>41,100</li> </ul>	<ul style="list-style-type: none"> <li>◦ 9,200 Tons of Soil Treated</li> <li>◦ 20,000 Gallons of Water Pumped from Recovery Wells Yearly</li> <li>◦ Quarterly Sampling of Wells for PVOC's, PAH's, DRO, GRO, and Soluble Lead</li> </ul>
<b>*TOTAL PRESENT COST</b>		<b>\$ 423,700</b>	

\*Present Worth analysis based on a 5% discount rate compounded annually at the end of each year. Total present cost rounded to thousands of dollars.



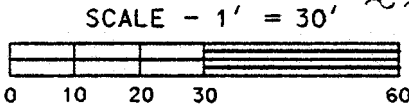
ESTIMATED EXTENT OF IMPACTED SOIL  
(EXCEEDING SITE SPECIFIC CLEAN UP STANDARDS)

ESTIMATED EXTENT OF IMPACTED SOIL  
(BASED ON NR720 SOIL CLEAN UP STANDARDS)

TO CEDAR CREEK --->  
(APPROX. 1/2 MILE)

**LEGEND**

- = SUMP LOCATION
- ⊕ = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE
- = ESTIMATED EXTENT OF IMPACTED SOIL (BASED ON NR720 SOIL CLEAN UP STANDARDS)
- = ESTIMATED EXTENT OF IMPACTED SOIL (EXCEEDING SITE SPECIFIC CLEAN UP STANDARDS)



NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE  
ONLY - SITE HAS NOT BEEN SURVEYED

<b>CONDON COMPANIES FORMER BULK FACILITY</b> N52 W5358 PORTLAND ROAD, CEDARBURG, WI			 <b>SIGMA</b> ENVIRONMENTAL SERVICES INC.
DATE: 8-5-97	DR. BY: BEB	DR.# 1966-012	SCALE: 1" = 30'
<b>ESTIMATED EXTENT OF IMPACTED SOIL MAP</b>			<b>FIGURE 8</b>

# COST ESTIMATE-CONDON CEDARBURG BULK FACILITY

## Landfill Bio-Pile, Off-Site Treatment and Quarterly Monitoring - Option 1

Task Description	Consulting Costs		Commodity Services		Total Cost
	Total Labor Costs	Equipment & Expenses	Sub-Contracting Expenses	Analytical Expenses	
<b>TASK 1 - Pro. Serv. for Soil Removal</b>					
Prepare Specifications	\$3,130				\$3,130
Project Management	\$2,190				\$2,190
Feasibility Study/Groundwater Monitoring	\$12,000			\$2,100	\$14,100
On-Site Supervision	\$4,540	\$655			\$5,195
<b>TOTAL - TASK 1</b>	<b>\$21,860</b>	<b>\$655</b>	<b>\$0</b>	<b>\$2,100</b>	<b>\$24,615</b>
<b>TASK 2 - Soil Excavation and Hauling</b>					
Soil Excavation and Hauling	\$0		\$11,500		\$11,500
Backfill Replacement	\$0		\$14,950		\$14,950
ORC Placement	\$0		\$8,556		\$8,556
Recovery Well Installation	\$0		\$700		\$700
<b>TOTAL - TASK 2</b>	<b>\$0</b>	<b>\$0</b>	<b>\$35,706</b>	<b>\$0</b>	<b>\$35,706</b>
<b>TASK 3 - BioTreatment of Impacted Soil</b>					
Soil Treatment	\$0		\$41,400		\$41,400
<b>TOTAL - TASK 3</b>	<b>\$0</b>	<b>\$0</b>	<b>\$41,400</b>	<b>\$0</b>	<b>\$41,400</b>
<b>TASK 4 - Soil Analysis</b>					
Confirmatory Samples (Impacted)	\$0			\$305	\$305
Confirmatory Samples (Clean)	\$0			\$662	\$662
<b>TOTAL - TASK 4</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$967</b>	<b>\$967</b>
<b>TASK 5 - Overexcavation Report</b>					
Overexcavation Report	\$4,505				\$4,505
PECFA Claim	\$500				\$500
<b>TOTAL - TASK 5</b>	<b>\$5,005</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,005</b>
<b>TASK 6-Quarterly GW Monitoring</b>					
Project Management	\$2,875				\$2,875
Quarterly GW Monitoring	\$4,000	\$1,456		\$7,600	\$13,056
Quarterly Status Reports	\$3,540				\$3,540
<b>TOTAL TASK- 6</b>	<b>\$10,415</b>	<b>\$1,456</b>	<b>\$0</b>	<b>\$7,600</b>	<b>\$19,471</b>
<b>TASK 7-Second Year Quarterly GW Monitoring</b>					
Project Management	\$2,875				\$2,875
Quarterly GW Monitoring	\$4,000	\$1,456		\$7,600	\$13,056
Quarterly Status Reports	\$3,540				\$3,540
<b>TOTAL TASK- 7</b>	<b>\$10,415</b>	<b>\$1,456</b>	<b>\$0</b>	<b>\$7,600</b>	<b>\$19,471</b>
<b>TOTAL CONSULTING COSTS</b>					<b>\$51,262</b>
<b>TOTAL COMMODITY SERVICES COST</b>					<b>\$95,373</b>
<b>TOTAL PROJECT COST</b>					<b>\$146,635</b>
<b>PRESENT VALUE: CONSULTING COST</b>					<b>\$50,697</b>
<b>PRESENT VALUE: COMMODITY SERVICES COST</b>					<b>\$95,011</b>
<b>PRESENT VALUE: TOTAL PROJECT COST</b>					<b>\$145,708</b>

**Assumptions:**

Groundwater will be remediated in two years, below NR 140 Enforcement Standards.

Remediation of impacted soil on Condon Property only.

Assumes the building and concrete pad on Condon property will be razed.

Assumes that the utilities will be shored up and excavated around or will be removed entirely during remediation.

Assumes no water will be encountered during remedial activities.

Tommy Thompson  
Governor

Carol Skornicka  
Secretary



RECEIVED JUL 1

SAFETY & BUILDINGS DIVISION

201 E. Washington Avenue  
P.O. Box 7969  
Madison, Wisconsin 53707

State of Wisconsin  
Department of Industry, Labor and Human Relations

REMEDIAL ALTERNATIVE COST RESPONSE

COPY

CONSULTING FIRM:

Stuart Gross  
Sigma Environmental Services, Inc.  
102 Progress Drive  
Saukville, WI 53080

CLAIM # 53012-2106-50

SITE:  
Condon Bulk Facility (former)  
N52 W5358 Portland Road  
Cedarburg, WI 53012

RECOMMENDED ALTERNATIVE:

Soil excavation and landfill biotreatment of soil (9200 tons)  
Groundwater recovery, treatment (off-site disposal), and monitoring

SUBMITTAL DATE: April 1, 1996

APPROVED: \_\_\_\_\_

DISAPPROVED: XXX

NOT APPLICABLE: \_\_\_\_\_

MAXIMUM CONSULTANT COST:	\$	000,000.00
ESTIMATED COMMODITY COST:	\$	000,000.00
TOTAL COST:	\$	423,727.00

COMMENTS:

Due to the high cost of the proposed remedial alternative, and potential liability to the PECFA fund, please consider using site specific soil standards (NR 720.19 Wis. Adm. Code) to reduce the volume of soil requiring active remediation.

The owner or operator shall select the lowest cost remediation alternative which is approvable by the Department of Natural Resources (DNR). The responsible party may select a higher cost alternative if they certify to the department in writing that the additional costs will not be claimed for PECFA reimbursement.

The approval does not guarantee the reimbursement of costs. Final determination regarding the eligibility of costs will be determined at the time of claim review. The department's approval is based on the limited information submitted in the remedial alternative cost approval document and does not imply that the department concurs that the recommended remedial alternative will achieve the remedial results anticipated by the consultant or required by law.

Monitoring costs were established above for the first year only. Per §ILHR 47.33(3), when the site enters into long-term monitoring or long-term operation and maintenance, a schedule of costs shall be developed.

SIGNATURE: Nancy S. Kochis  
Nancy S. Kochis (tel. 414-229-0844)  
Hydrogeologist

DATE: July 3, 1996

orig: Tom Reinsch, Condon Companies, 126 E. Jackson St., P.O. Box 184, Ripon WI 54971-0184  
cc: ✓ Stuart Gross, Sigma Environmental Services, Saukville  
File (2)

February 23, 1996

Mailed

*Filed*  
*3/28*

102 Progress Drive  
Saukville, WI 53080  
414-284-6824  
FAX: 414-284-6859

Sigma Project Reference #1966-02  
WDNR FID #246121150

Mr. Eric Scott  
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS  
201 East Washington Avenue  
P.O. Box 7969  
Madison, WI 53707

Re: Remedial Action at the Condon Oil Company - Former Bulk Facility  
LUST Site - PECFA Claim #53012-2106-50

Dear Mr. Scott:

Petroleum impacts were initially identified in August 1993 during a preliminary site assessment conducted at the Condon Oil Company's former bulk facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin. Based on laboratory results, petroleum impacts beneath the site are the result of a release from a 1,000 gallon diesel fuel underground storage tank (UST) and former aboveground storage tank (AST) systems located on the property.

During November 1994 and December 1995, a total of fourteen soil borings and ten monitoring wells were installed at the site to define the extent and character of soil and groundwater impacts. Based on laboratory results, an estimated 9,875 tons of petroleum impacted soil will require remediation. However, an estimated 675 tons of soil is located off-site beneath the Filter Oil property and will not be remediated.

Based on laboratory data, groundwater underlying the site has been impacted by the petroleum release. Laboratory analysis detected Volatile Organic Compounds (VOCs) at concentrations above various Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standards (ES). Therefore, groundwater remediation will be required.

Enclosed is documentation comparing soil and groundwater remediation alternatives and a recommendation for excavation and active bioremediation (Waste Management - Biosites system) of impacted soil coupled with groundwater recovery, off-site disposal, and quarterly monitoring. The total estimated first year present value cost for the selected remediation is \$384,745 (includes first year operations and maintenance). The estimated present value lifecycle cost for the project is \$423,727. This information is provided so the Department of Industry, Labor and Human Relations (DILHR) can grant approval for the cost to implement our remedial action.




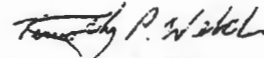
Department of Industry, Labor and Human Relations  
February 23, 1996  
Page 2

If you have any questions or comments, please contact our office at (414) 284-6824.  
Your prompt attention to this matter is greatly appreciated.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

  
Stuart J. Gross  
Staff Hydrogeologist

  
Timothy P. Welch, PG  
Project Hydrogeologist

SJG/mee

Enclosure

cc: Mr. Tom Reinsch - Condon Oil Company  
Ms. Giselle Red - Wisconsin Department of Natural Resources



**CONDON OIL COMPANY - FORMER BULK FACILITY**  
**SOIL AND GROUNDWATER REMEDIATION ALTERNATIVES**

The four strategies evaluated for the remediation of petroleum impacted soil and groundwater at the Condon Oil Company - Former Bulk Facility consist of the following:

- Option 1. Excavation and landfill biotreatment (at Waste Management's "Biosites") of impacted soil greater than 100 ppm; with quarterly groundwater recovery, treatment, and monitoring.
- Option 2. Excavation and landfill bioremediation of impacted soil greater than 2,000 ppm GRO/DRO coupled with landfill disposal of remaining impacted soil; with quarterly groundwater recovery, disposal, and monitoring.
- Option 3. Excavation and thermal treatment of impacted soil; and quarterly groundwater recovery, disposal, and monitoring.
- Option 4. Passive bioremediation (not technically feasible).

The four remediation alternatives were evaluated based upon technical feasibility, remediation efficiency, Wisconsin Department of Natural Resources (WDNR) permitting and monitoring requirements, anticipated project duration, estimated initial capital costs and annual operation and maintenance costs. The estimated lifecycle costs for the remedial options is summarized in Table 1.

<b>TABLE 1</b>				
<b>ESTIMATED PRESENT VALUE LIFECYCLE REMEDIATION COSTS</b>				
<b>CONDON OIL COMPANY - FORMER BULK FACILITY</b>				
	<u>Option 1</u> Bioremediation & Groundwater Recovery, Disposal and Monitoring	<u>Option 2</u> Bioremediation/Landfill Disposal & Groundwater Recovery, Disposal and Monitoring	<u>Option 3</u> Thermal Treatment & Groundwater Recovery, Disposal and Monitoring	<u>Option 4</u> Passive Bioremediation
<u>Soil Remediation</u>				Not Technically Feasible
Consulting Cost	\$ 28,385	\$ 30,765	\$ 28,385	
Subcontractor Cost	\$ 315,240	\$ 315,240	\$ 362,160	
<b>Subtotal</b>	<b>\$ 343,625</b>	<b>\$ 346,005</b>	<b>\$ 390,545</b>	
<u>Groundwater Remediation (1st year)</u>				
Consulting Cost	\$ 16,220	\$ 16,220	\$ 16,220	
Subcontractor Cost	\$ 24,900	\$ 24,900	\$ 24,900	
<b>Subtotal</b>	<b>\$ 41,120</b>	<b>\$ 41,120</b>	<b>\$ 41,120</b>	
<b>First Year Present Value Total</b>	<b>\$ 384,745</b>	<b>\$ 387,125</b>	<b>\$ 431,665</b>	
<b>Total Estimated Present Value Lifecycle Costs</b>	<b>\$ * 423,727</b>	<b>\$ * 426,108</b>	<b>\$ * 470,647</b>	

\* Lifecycle costs assume two years of groundwater recovery, disposal and monitoring to remediate groundwater at the site. Present worth analysis includes 5% discount rate.

## **EVALUATION OF REMEDIAL OPTIONS**

Passive bioremediation was not recommended due to the elevated levels of soil impacts (GRO > 2,000 ppm) and the presence of groundwater with concentrations of VOCs (e.g. Benzene) in excess of NR 140 Enforcement Standards.

Thermal destruction or active bioremediation of the impacted soil, coupled with groundwater treatment, is not recommended due to the higher cost of soil treatment.

Based on technical feasibility and lifecycle costs, Sigma recommends that the site be remediated through excavation and active bioremediation of impacted soil coupled with groundwater recovery, off-site disposal and quarterly monitoring. This alternative is technically feasible and, of the three alternatives considered, is the cost-effective means to remediate petroleum impacts at the site. The required tasks and estimated costs for the recommended alternative are summarized in the following section and attached spreadsheet.

## **EXCAVATION AND LANDFILL BIOTREATMENT OF SOIL; GROUNDWATER RECOVERY, TREATMENT, AND MONITORING**

Waste Management, Inc. provides an alternative solution for remediating petroleum impacted soil off-site. The remediation strategy known as "Biosites" implements an aboveground bio-venting process. Soil of any geologic type (sand, gravel, silt, or clay) is transported to the Waste Management facility and placed in select cells of an aboveground pile (bio-pile) network. The system uses the principles of biodegradation and vapor extraction to remediate the soil to practical levels as defined by the WDNR. The remediation process is enhanced by adding bacteria able to break the chemical bonds of petroleum compounds, inorganic nutrients necessary for bacterial growth, and oxygen to the impacted soil during bio-pile construction and operation activities. The system is designed to allow year-round operation.

Remediated soil will remain at the Waste Management facility for beneficial re-use as fill or cover materials. Waste Management is currently requiring the same analytical requirements for permitting as those for landfill disposal. The level of treatment for each bio-pile cell will be dependent upon contaminant type and concentrations. The scope of work to implement this strategy will include the following:

- Sigma will submit analytical reports to secure a landfill disposal permit from the Orchard Ridge Recycling and Disposal Facility.
- The "Application to Treat or Dispose of Petroleum Contaminated Soil" will be completed and submitted to the WDNR.

- Approximately 9,200 tons of impacted soil (GRO/DRO > 100 ppm) will be overexcavated and transported by a WDNR-certified special waste hauler to Waste Management's Orchard Ridge Recycling and Disposal Facility. The soil will be treated in a "Biosites" system.
- Per requirements outlined in the WDNR's "Guidance for Conducting Environmental Response Actions" (Publ. SW-157-92), confirmatory soil samples will be collected at a minimum of one sample every twenty-five feet (grid interval) from the base and sidewalls of the excavation. The samples from the excavation base and sidewalls will be sampled to confirm that all impacted soil was removed and to document the site for closure. The samples will be analyzed for GRO, DRO, Total Lead, PVOCs, and PAHs. Sigma anticipates a total of forty-two clean confirmation samples will be submitted for laboratory analysis.
- Additionally, impacted soils excavated for landfill disposal must to be field screened with a PID every 15 yds<sup>3</sup> and one sample must be submitted for GRO, DRO, and Benzene analysis every 300 yds<sup>3</sup> to confirm that impacted soil is being disposed. A field log will be prepared to document field screening requirements of every 15 yds<sup>3</sup> of impacted soil which is removed. Sigma anticipates a total to twenty-one landfill disposal samples will be submitted for laboratory analysis.
- A detailed report will be prepared to document remedial field activities and the results of laboratory analysis.
- After all impacted soil is excavated and transported for landfill disposal, the excavation area will be backfilled with clean material. Three 6 inch diameter recovery wells will be installed within the excavation to recover impacted groundwater for disposal at an off-site treatment facility once per quarter.
- A quarterly groundwater monitoring program will be instituted to assess the effectiveness of the remediation for a period of one year. Samples collected from the monitoring wells and recovery sumps will be analyzed for GRO, DRO, PVOCs, and Soluble Lead.
- Quarterly groundwater monitoring reports will be prepared to document groundwater recovery and monitoring. The final quarterly report will include a recommendation for site closure or additional groundwater recovery and monitoring.

### **COST OPINION**

The cost estimate to implement the recommended remedial alternative is based on the information obtained from the subsurface investigation, design assumptions (attached), and our experiences with similar projects. The costs to complete the remediation are dependent upon several on-site conditions which have potential to vary the actual costs. Costs associated with commodity services are opinions. A bid package for commodity services will be prepared and submitted to a minimum of three contractors upon WDNR and DILHR approval of the Remedial Action Plan. The lowest cost qualified bidder will be awarded the contract. Work conducted by Sigma personnel will be performed on a time-and-material basis. Every effort will be exercised to perform this project in a cost effective manner. In the event that on-site or off-site conditions warrant changes to this scope of work, the Condon Oil Company and DILHR representatives will be notified that additional effort and associated costs may be incurred prior to proceeding with any further activities.

**REMEDATION/COST ASSUMPTIONS  
CONDON OIL COMPANY - FORMER BULK FACILITY  
N52 W5358 PORTLAND ROAD  
CEDARBURG, WISCONSIN**

The following assumptions were used when evaluating remedial alternatives and remediation costs:

- assumes impacted soil greater than 100 ppm GRO/DRO will be excavated and bioremediated. The 100 ppm soil standard is based on the hydraulic conductivity of the site.
- assumes the building and the concrete pad on Condon property will be razed prior to excavation
- assumes the subsurface utilities on Condon property will be shored or removed entirely during the excavation
- assume that no soil will be excavated beneath the Filter Oil building
- assume that 3 recovery wells/sumps will be placed within the excavation to remediate the inaccessible soil beneath the Filter Oil garage
- assume that excavated soil will be transported to Orchard Ridge RDF for landfill or bio option or to Clean Soils in Oak Creek for thermal
- assume that no groundwater will need to be pumped during the excavation activities
- assume that quarterly groundwater recovery, disposal, and monitoring will effectively remediate groundwater over a period of two years
- assume majority of work (i.e. excavation, backfilling, etc.) will be completed in 12 working days
- unit costs for bio/landfill obtained through verbal quote from Waste Management
- unit costs for thermal obtained through quote from Clean Soils Inc. dated December 8, 1995
- unit costs for commodity services obtained from previous projects

**COST ESTIMATE-CONDON COMPANIES BULK FACILITY, OPTION 1  
BIOTREATMENT @ ORCHARD RIDGE**

Task Description	Total Labor Costs	Equipment & Expenses	Sub-Contracting Expenses	Analytical Expenses	Total Cost
<b>TASK 1 - Pro. Serv. for Soil Removal</b>					
Bids & Specifications	\$2,590				\$2,590
Project Management	\$3,510				\$3,510
Utility Preparation Pre Excavation	\$4,200				\$4,200
On-Site Supervision	\$11,040	\$1,675			\$12,715
<b>TOTAL - TASK 1</b>	<b>\$21,340</b>	<b>\$1,675</b>	<b>\$0</b>	<b>\$0</b>	<b>\$23,015</b>
<b>TASK 2 - Soil Excavation and Hauling</b>					
Soil Excavation and Hauling	\$0		\$46,000		\$46,000
Backfill Replacement	\$0		\$59,800		\$59,800
Concrete/Asphalt Removal/Hauling			\$2,500		\$2,500
Disposal of Excavation Water				\$0	\$0
Install Three Recovery Wells			\$3,000		\$3,000
<b>TOTAL - TASK 2</b>	<b>\$0</b>	<b>\$0</b>	<b>\$111,300</b>	<b>\$0</b>	<b>\$111,300</b>
<b>TASK 3 - BioTreatment of Impacted Soil</b>					
Soil Treatment			\$186,300		\$186,300
<b>TOTAL - TASK 3</b>	<b>\$0</b>	<b>\$0</b>	<b>\$186,300</b>	<b>\$0</b>	<b>\$186,300</b>
<b>TASK 4 - Soil Analysis</b>					
Confirmatory Samples (Impacted)	\$0			\$3,990	\$3,990
Confirmatory Samples (Clean)	\$0			\$13,650	\$13,650
<b>TOTAL - TASK 4</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,640</b>	<b>\$17,640</b>
<b>TASK 5 - Overexcavation Report</b>					
Overexcavation Report	\$4,870				\$4,870
PECFA Claim	\$500				\$500
<b>TOTAL - TASK 5</b>	<b>\$5,370</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,370</b>
<b>TASK 6-GW Rec. &amp; Mon. (1st year)</b>					
Project Management	\$2,750				\$2,750
GW Pump and Treatment(4Qtrs)	\$1,300	\$200	\$16,000		\$17,500
GW Monitoring (4 qtrs)	\$5,040	\$1,770		\$8,900	\$15,710
GW Quarterly Reports (4 Qtrs)	\$5,160				\$5,160
<b>TOTAL TASK- 6</b>	<b>\$14,250</b>	<b>\$1,970</b>	<b>\$16,000</b>	<b>\$8,900</b>	<b>\$41,120</b>
<b>TASK 6-GW Rec. &amp; Mon. (2nd year)</b>					
Project Management	\$2,750				\$2,750
GW Pump and Treatment(4Qtrs)	\$1,300	\$200	\$16,000		\$17,500
GW Monitoring (4 qtrs)	\$5,040	\$1,770		\$8,900	\$15,710
GW Quarterly Reports (4 Qtrs)	\$5,160				\$5,160
<b>TOTAL TASK- 6</b>	<b>\$14,250</b>	<b>\$1,970</b>	<b>\$16,000</b>	<b>\$8,900</b>	<b>\$41,120</b>
<b>TOTAL CONSULTING COSTS</b>					<b>\$60,825</b>
<b>TOTAL COMMODITY SERVICES COST</b>					<b>\$365,040</b>
<b>TOTAL PROJECT COST</b>					<b>\$425,865</b>
<b>Present Worth Total Cost</b>					<b>\$423,727</b>

**Assumptions:**

- 1) Present Worth Total is based on a 5% discount factor for the 2nd year of groundwater recovery and monitoring. \$41,120 - 5.2% = \$38,982 so \$2,138 was subtracted from the total project cost to determine Present Worth Cost.
- 2) The 20,000 gallons of groundwater will be pumped from the 3 recovery wells quarterly.
- 3) That groundwater will be remediated in two years, below NR 140 Enforcement Standards.
- 4) Remediation of impacted soil on Condon Property only.
- 5) Assumes the building and concrete pad on Condon property will be razed.
- 6) Assumes that the utilities will be shored up and excavated around or will be removed entirely during remediation.
- 7) Assumes no water will be encountered during remedial activities.
- 8) Assumes a total of 5,000 gallons of water will be pumped from the recovery wells on a quarterly basis.

**APPENDIX C**  
**BIOFEASIBILITY STUDY**

## **APPENDIX B**

### **BIOFEASIBILITY STUDY**

#### **1.0 Introduction**

To evaluate the potential for bioremediation of hydrocarbon compounds detected in the subsurface, a laboratory biofeasibility study was performed on soil and groundwater samples collected from the Condon-Cedarburg Site. Experiments utilizing microcosms were conducted in order to collect suitable data to allow for the construction of time-course for the disappearance of the hydrocarbon contaminants. The study included complete characterization of the samples for petroleum hydrocarbon compounds, nutrient panel, total heterotrophic bacteria and hydrocarbon degrading bacteria plate count. The results of the analysis were compared with the available WDNR and/or industry standards to assess the suitability of in-situ bioremediation of the impacted soil and groundwater at the site.

The biofeasibility study was setup with two sets of eight subsamples for viable biodegradation and one set of eight subsamples for abiotic control (kill bacteria) to monitor processes other than biodegradation. The objectives of the studies were to monitor the disappearance of petroleum hydrocarbon compounds (BTEX compounds) in the samples over time under conditions similar to that of the subsurface, and to demonstrate biodegradation of these compounds in the subsurface. The results of the studies were also used to determine the site-specific kinetic decay rates of these compounds.

#### **2.0 Sample Collection, Sample Preparation and Analysis**

Soil samples were collected from hand auger soil borings at locations previously identified as having petroleum impacted soil (near soil borings B-8 and B-4). Based on field screening results, impacted soil was observed at depth intervals 2 to 4 feet below ground surface (bgs) and 4 to 6 feet bgs for samples FS-1 and FS-2, respectively. Therefore, soil samples were collected from the impacted intervals and placed into one liter containers supplied by the project laboratory (MVTL Laboratories, Inc.) for the biofeasibility study. Additional samples were also collected using standard protocols for PVOCs, Comparative Enumeration Assay (CEA), and bulk density and submitted to the project laboratory. A groundwater sample was collected from on-site monitoring well MW-5, using standard protocol and preserved in



laboratory supplied containers for PVOC, CEA and biofeasibility study, and submitted to the project laboratory.

Both soil and groundwater samples were homogenized in the laboratory to prepare uniform subsamples for the biofeasibility study. Based on the initial characterization analyses (Section 3), a determination was made whether homogenized samples required spiking with hydrocarbon constituents. Soil samples contained levels of BTEX compounds suitable for the biofeasibility study, therefore, spiking was not necessary. However, the groundwater sample contained relatively low levels of BTEX compounds, therefore it was spiked with BTEX compounds for the biofeasibility study. Microcosms were established in 20 mL vials for twenty four soil and water subsamples. The vials were sealed with teflon lined screw caps and incubated in the dark at 9°C. Duplicate sets of eight subsamples of water and soil were also prepared for sterilized (abiotic) control microcosms which contained five percent Hydrochloric Acid as a biocide for water and one-to-one ratio methanol as biocide for soil, and incubated in the dark at 9°C.

Subsamples of soil and groundwater for both viable and abiotic controls were removed from the incubator on day 0, day 5, day 7, day 10, day 14, day 20, day 30, and day 35 and analyzed for PVOC compounds using EPA Method 8021. Laboratory analytical reports are included as an attachment to this appendix.

### **3.0 Characterization Analysis**

Chemical analyses of the samples were performed by the MVTL Laboratories, Inc. of Oak Creek, Wisconsin. The initial concentrations of BTEX, nutrient panel and CEA are presented in Table 1. A review of the data indicates soil impacts (BTEX compounds) are present at the subsurface. The nutrient panel and bacterial enumeration results indicate that a healthy population of hydrocarbon degraders are present in the nutrient rich soil environment. A comparison of the industry norm for carbon, nitrogen and phosphorus ratios indicates carbon and nitrogen are present in good proportion, however, phosphorous levels appears to be relatively low. Other inorganic compounds are present in concentrations suitable for biodegradation of hydrocarbon compounds.

A review of the groundwater results indicates relatively low level of BTEX compounds in the samples. These results compare well with the investigation data collected from the site soil borings/monitoring wells. Bacterial enumeration also indicates a relatively small populations of hydrocarbon degraders are present in the groundwater.

<b>Table 1</b>			
<b>Soil and Groundwater Characterization</b>			
<b>Analysis</b>	<b>Soil Sample FS-1 (2' - 4')</b>	<b>Soil Sample FS-2 (4' - 6')</b>	<b>MW-2 Groundwater</b>
BTEX, total	169 ppm	35.06 ppm	796 ppb
Benzene	3.0 ppm	1.7 ppm	16 ppb
Ethylbenzene	27 ppm	10 ppm	280 ppb
Xylenes	139 ppm	23 ppm	500 ppb
Toluene	<0.16 ppm	0.36 ppm	<6.8 ppb
Heterotrophic Plate Count *	720 col/ml	370 col/ml	24 col/ml
Hydrocarbon Degradar *	970 col/ml	3000 col/ml	500 col/ml
Nitrogen, Ammonia	17 ppm	50 ppm	NA
Nitrogen, Total Kjeldahl	1000 ppm	680 ppm	NA
Orthophosphate, Soluble	<2.4 ppm	<2.5 ppm	NA
Sulfate	1100 ppm	270 ppm	NA
TOC	>230000 ppm	45000 ppm	NA
Iron, Total	20000 ppm	24000 ppm	NA
Magnesium, Total	62000 ppm	31000 ppm	NA
Manganese, Total	690 ppm	350 ppm	NA
Moisture Content	14%	12%	-

Note: (\*) Comparative Enumeration Assay was completed with incubation period of 2 days for total heterotrophic plate count, and 5 days for hydrocarbon degraders.

ND - Not Detected

NA - Not Analyzed

#### 4.0 Kinetic Rate Study

Experiments utilizing microcosms were conducted in order to collect suitable data to allow for the construction of a time-course for the disappearance of the hydrocarbon contaminants (BTEX) as a result of biodegradation. Review of the laboratory study reports indicates both soil samples provided consistent degradation data when compared with that of the groundwater rate study. Two factors may be considered responsible for such inconsistency in the groundwater rate study. Because groundwater at the site has no hydrocarbon impacts, indigenous bacterial population is unacclimatized to the petroleum hydrocarbon environment. Therefore, during the laboratory study, when water sample was spiked with hydrocarbon compounds to prepare microcosm for kinetic study, indigenous bacteria likely went into a "shock" before being acclimatized to the new food source. Secondly, acclimatization period may extend for several months, however, study duration was only continued for five weeks - too short a period for complete acclimatization and metabolic activity to set in. Therefore, the groundwater study report may not provide as good a fit when used in estimating the kinetic rate.

The data from viable microcosms were corrected for abiotic losses and methodological variability by reducing the viable data to a ratio of the abiotic data and plotted in a semi-log graph against time. A straight line was fit through the data points using linear regression method to obtain biodegradation rate constant in accordance with the first order decay function,

$$C_t = C_o e^{(-kt)}$$

where,  $C_t$  is the concentration at time  $t$ ,  $C_o$  is the initial concentration at  $t=0$ ,  $k$  is the first order rate constant, and  $t$  is the time.

Attached plots (Figures 1 thru 14) present the biodegradation rate estimation for soil and groundwater samples using first order decay function. For the purpose of calculation,  $C_v$  was substituted for  $C$ , which represents concentration of viable sample at time  $t$  and  $C_a$  was substituted for  $C_o$ , which represents concentration of abiotic control sample at time  $t$ , to account for the correction for abiotic losses and methodological variability. The slope of the straight line plotted in the semi-log graph represents the decay rate. Table 2 presents a summary of the decay rates and half-lives calculated from microcosm studies completed for the soil and water sample collected from the Condon Cedarburg Site.

**TABLE 2**  
**ESTIMATED BIODEGRADATION DECAY RATES AND HALF-LIVES**

<i>Parameters</i>	<i>Soil Decay Rates (1/day)</i>	<i>Water Decay Rates (1/Day)</i>	<i>Soil Half - life (Days)</i>	<i>Water Half - life (Days)</i>
Benzene	0.028	0.014	27.5	51
Ethylbenzene	0.036	0.14	36	5
O - Xylene	0.014	0.006	49.5	114
m, p - Xylenes	0.017	0.012	45	56
Toluene	0.028	0.014	25	50

A review of the data indicates biodegradation half-lives for BTEX compounds range between 5 and 114 days, which compares well with the published values for aerobic biodegradation of these compounds. It is important to note that microcosm studies involve certain degree of uncertainty to simulate prevailing site conditions within the subsurface. As such, higher decay rates due to sampling and analytical biases can easily occur. Although the kinetic rate study was performed under conditions similar to that of the subsurface, factors such as sample collection, handling, and laboratory test procedures could easily introduce oxygen to the sample and biased the study towards a high decay rate estimation. The "true" in-situ biodegradation rates are expected to be one to two orders-of-magnitude slower than that estimated from the lab studies, based on the fact that subsurface environments are typically oxygen limiting (not completely aerobic condition).

In conclusion, the biofeasibility studies demonstrated that subsurface conditions at the Condon Cedarburg Site are favorable for supporting bioremediation of hydrocarbon constituents considering the population of microorganisms and nutrient levels present in the subsurface soil.



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Report : 09/17/96

Report: 09/17/96

Project Number: 00250782  
Lab ID: 96-0012149  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 13:00  
Collected By: Client  
Date Received: 08/15/96 16:55  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: FS-1/2-4'/BGS/Condor-Cedarburg/Project 1966

Container Integrity: Meets Standard. Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>LUST</b>							
moisture	14		%	0.10	0.10	SW 5030	08/16/96
<b>ALS</b>							
Iron, Total	17000	20000	mg/kg	0.12	2.9	SW 6010A	08/28/96
Magnesium, Total	53000	62000	mg/kg	11	140	SW 6010A	08/26/96
Manganese, Total	590	690	mg/kg	0.50	2.9	SW 6010A	08/22/96
Iron, Manganese, and Magnesium analysis completed by MVTL - New Ulm; WDNR Certification #999447680.							
<b>MICROBIOLOGY</b>							
Hydrocarbon Degrading Bacterial Pla	970		col/m	1.0	1.0	in house-1	08/16/96
Heterotrophic Plate Count	720		col/m	10	10	SM 9215C	08/19/96
Hydrocarbon Degrading Bacterial Plate Count and Heterotrophic Plate Count analysis completed by MVTL - New Ulm; WDNR Certification #999447680.							
The 15-day hydrocarbon degrading bacterial plate count result was 2200 col/mL.							
<b>NUTRIENT</b>							
<b>CONTRACT</b>							
Total Nitrogen	900	1000	mg/kg	0.064	4.6	Calc.	08/23/96
Nitrogen, Ammonia, Dissolved	15	17	mg/kg	0.027	0.58	EPA 350.1	08/26/96
Orthophosphate, Soluble	<2.1	<2.4	mg/kg	0.00	2.4	SS 59:39-4	08/27/96
Sulfate	970	1100	mg/kg	9.2	23	SW 9036	08/21/96
Total Organic Carbon, Non-Aqueous	>200000	>230000	mg/kg	0.00	1.2	SW 9060	08/22/96
Nutrient analysis completed by MVTL - New Ulm; WDNR Certification #999447680.							
Total Organic Carbon analysis completed by EMT, Inc.; WDNR Certification #999888890.							
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	2.6	3.0	mg/kg	0.17	0.87	SW 8020-E	08/16/96
Ethylbenzene	23	27	mg/kg	0.16	0.81	SW 8020-E	08/16/96
Xylene	25	29	mg/kg	0.21	1.0	SW 8020-E	08/16/96

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.



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Final Report : 09/17/96

Report: 09/17/96  
Project Number: 00250782  
Lab ID: 96-0012149  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 13:00  
Collected By: Client  
Date Received: 08/15/96 16:55  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: FS-1/2-4' /BGS/Condor-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
m-Xylenes	96	110	mg/kg	0.34	1.7	SW 8020-E	08/16/96
toluene	<0.14 #	<0.16	mg/kg	0.16	0.81	SW 8020-E	08/16/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.

\$ = Due to sample quantity.      + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report : 09/17/96

Report: 09/17/96

Project Number: 00261269

Lab ID: 96-0012281

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 /FS-1/2-4'/Condon-Cedarburg /Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>LOST</b>							
Moisture	15		%	0.10	0.10	SW 5030	08/20/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	2.5	2.9	mg/kg	0.070	0.35	SW 8021-E	09/09/96
Toluene	13	15	mg/kg	0.82	4.1	SW 8021-E	08/22/96
Xylenes	15	18	mg/kg	1.0	5.3	SW 8021-E	08/22/96
P,M-Xylenes	73	86	mg/kg	1.6	8.5	SW 8021-E	08/22/96
Biphenyl	1.3 J	1.5	mg/kg	0.82	4.1	SW 8021-E	08/22/96

SW 8020-E Benzene analysis completed on the 25th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity.      + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report : 09/17/96

Report: 09/17/96  
Project Number: 00261269  
Lab ID: 96-0012428  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 B/ FS-1/ 2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ANIONIC</b>							
<b>VOLATILES</b>							
Benzene	2.8	3.3	mg/kg	0.035	0.18	SW 8021-E	09/09/96
o-benzene	14	16	mg/kg	0.33	1.6	SW 8021-E	08/21/96
p-xylene	15	18	mg/kg	0.42	2.1	SW 8021-E	08/21/96
P,M-Xylenes	77	90	mg/kg	0.68	3.4	SW 8021-E	08/21/96
Toluene	1.1 J	1.3	mg/kg	0.33	1.6	SW 8021-E	08/21/96

SW 8020-E Benzene analysis completed on the 25th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.





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al Report : 09/17/96

Report: 09/17/96  
Project Number: 00261269  
Lab ID: 96-0012429  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 C/ FS-1/ 2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.4	1.6	mg/kg	0.035	0.18	SW 8021-E	09/09/96
toluene	13	15	mg/kg	0.82	4.1	SW 8021-E	08/22/96
o-xylene	14	16	mg/kg	1.0	5.3	SW 8021-E	08/22/96
p,m-Xylenes	73	86	mg/kg	1.6	8.5	SW 8021-E	08/22/96
oluene	0.84 J	0.99	mg/kg	0.82	4.1	SW 8021-E	08/22/96

SW 8020-E Benzene analysis completed on the 25th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.



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al Report : 09/17/96

Report: 09/17/96

Project Number: 00261269

Lab ID: 96-0012282

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

ention: Tim Welch

Sigma Environmental Services, Inc.

220 East Ryan Road

Oak Creek WI 53154-0000

Sample Desc: DAY 00/DUP Preserved /FS-1/2-4'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	2.1	2.5	mg/kg	0.070	0.35	SW 8021-E	09/09/96
toluene	13	15	mg/kg	0.82	4.1	SW 8021-E	08/22/96
o-xylene	14	16	mg/kg	1.0	5.3	SW 8021-E	08/22/96
p,m-Xylenes	75	88	mg/kg	1.6	8.5	SW 8021-E	08/22/96
chloroethane	0.89 J	1.0	mg/kg	0.82	4.1	SW 8021-E	08/22/96

SW 8020-E Benzene analysis completed on the 25th calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.



# LABORATORIES, Inc.

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Report : 09/17/96

Report: 09/17/96

Project Number: 00261269

Lab ID: 96-0012283

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.

220 East Ryan Road

Oak Creek WI 53154-0000

Sample Desc: DAY 00/ Triplicate/FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	1.8	2.1	mg/kg	0.070	0.35	SW 8021-E	09/09/96
o-Toluenes	13	15	mg/kg	0.82	4.1	SW 8021-E	08/22/96
p-Toluenes	14	16	mg/kg	1.0	5.3	SW 8021-E	08/22/96
m-Xylenes	71	84	mg/kg	1.6	8.5	SW 8021-E	08/22/96
Toluene	0.79 J	0.93	mg/kg	0.82	4.1	SW 8021-E	08/22/96

SW 8020-E Benzene analysis completed on the 25th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.



# LABORATORIES, Inc.

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Report : 09/16/96

Report: 09/16/96  
Project Number: 00261271  
Lab ID: 96-0012284  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05 /FS-1/2-4' / Condon-Cedarburg /Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/24/96
<b>INORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.3	1.5	mg/kg	0.18	0.88	SW 8020-E	08/26/96
toluene	10	12	mg/kg	0.16	0.82	SW 8020-E	08/26/96
o-xylene	12	14	mg/kg	0.21	1.0	SW 8020-E	08/26/96
p,p'-DDE	56	66	mg/kg	0.34	1.7	SW 8020-E	08/26/96
o-xylene	1.2	1.4	mg/kg	0.16	0.82	SW 8020-E	08/26/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.



# LABORATORIES, Inc.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261271  
Lab ID: 96-0012285  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05/DUP Preserved/FS-1/2-4' /Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	1.8	2.1	mg/kg	0.18	0.88	SW 8020-E	08/26/96
toluene	14	16	mg/kg	0.16	0.82	SW 8020-E	08/26/96
o-xylene	16	19	mg/kg	0.21	1.0	SW 8020-E	08/26/96
p,m-Xylenes	73	86	mg/kg	0.34	1.7	SW 8020-E	08/26/96
chloroethane	2.1	2.5	mg/kg	0.16	0.82	SW 8020-E	08/26/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.

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# LABORATORIES, Inc.

140 E. Ryan Road, Oak Creek, WI 53154-4599  
414-764-7005 • FAX 414-764-0486 • 1-800-422-2195  
WE ARE AN EQUAL OPPORTUNITY EMPLOYER



Report : 09/16/96

Report: 09/16/96

Project Number: 00261271  
Lab ID: 96-0012286  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05/ Triplicate /FS-1/2-4'/ Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>INORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.4 J	1.6	mg/kg	0.35	1.8	SW 8020-E	08/27/96
o-xylene	11	13	mg/kg	0.33	1.6	SW 8020-E	08/27/96
m-xylene	12	14	mg/kg	0.42	2.1	SW 8020-E	08/27/96
p,p'-DDE	59	69	mg/kg	0.68	3.4	SW 8020-E	08/27/96
Toluene	1.0 J	1.2	mg/kg	0.33	1.6	SW 8020-E	08/27/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.  
N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL  
Elevated Detection Limits:  
@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261273  
Lab ID: 96-0012287  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 07 /FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/27/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	1.0	1.2	mg/kg	0.035	0.18	SW 8020-E	08/29/96
ethylbenzene	8.4	9.9	mg/kg	0.033	0.16	SW 8020-E	08/29/96
ylene	11	13	mg/kg	0.042	0.21	SW 8020-E	08/29/96
Toluene	0.79	0.93	mg/kg	0.033	0.16	SW 8020-E	08/29/96
p,M-Xylenes	61	72	mg/kg	0.34	1.7	SW 8020-E	08/30/96

Approved By:

  
Signatory

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All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

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Report : 09/16/96

Report: 09/16/96

Project Number: 00261273

Lab ID: 96-0012288

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 07/DUP Preserved /FS-1/2-4' /Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard. Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>TEST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/27/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	2.1	2.5	mg/kg	0.035	0.18	SW 8020-B	08/29/96
o-xylene	13	15	mg/kg	0.033	0.16	SW 8020-B	08/29/96
m-xylene	15	18	mg/kg	0.042	0.21	SW 8020-B	08/29/96
toluene	2.5	2.9	mg/kg	0.033	0.16	SW 8020-B	08/29/96
p-xylene	80	94	mg/kg	0.34	1.7	SW 8020-B	08/30/96

Approved By:

  
Signature

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.





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al Report : 09/16/96

Report: 09/16/96

Project Number: 00261273  
Lab ID: 96-0012289  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 07 /Triplicate /PS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard. Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>JUST</b>							
moisture	15		%	0.10	0.10	SW 5030	08/27/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.98	1.2	mg/kg	0.088	0.44	SW 8020-E	08/28/96
vlbenzene	10	12	mg/kg	0.082	0.41	SW 8020-E	08/28/96
ylene	12	14	mg/kg	0.10	0.53	SW 8020-E	08/28/96
P,M-Xylenes	58	68	mg/kg	0.17	0.85	SW 8020-E	08/28/96
oluene	0.86	1.0	mg/kg	0.082	0.41	SW 8020-E	08/28/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261275  
Lab ID: 96-0012290  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

le Desc: DAY 10 /FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
Moisture	17		%	0.10	0.10	SW 5030	08/30/96
<b>UNIC</b>							
<b>VOLATILES</b>							
Benzene	0.54	0.65	mg/kg	0.090	0.45	SW 8020-E	08/31/96
Toluene	5.1	6.1	mg/kg	0.084	0.42	SW 8020-E	08/31/96
Xylenes	11	13	mg/kg	0.11	0.54	SW 8020-E	08/31/96
P,M-Xylenes	48	58	mg/kg	0.17	0.87	SW 8020-E	08/31/96
o-Toluene	0.48	0.58	mg/kg	0.084	0.42	SW 8020-E	08/31/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
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D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity. + = Due to extract volume.

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al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261275  
Lab ID: 96-0012291  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /DUP Preserved/FS-1/2-4'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>TEST</b>							
% moisture	17		%	0.10	0.10	SW 5030	09/03/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	2.5	3.0	mg/kg	0.090	0.45	SW 8020-E	08/31/96
o-toluenes	14	17	mg/kg	0.084	0.42	SW 8020-E	08/31/96
p-xylene	15	18	mg/kg	0.11	0.54	SW 8020-E	08/31/96
m,p-Xylenes	69	83	mg/kg	0.17	0.87	SW 8020-E	08/31/96
Toluene	3.2	3.8	mg/kg	0.084	0.42	SW 8020-E	08/31/96

Approved By:  
  
Sighatory

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



nal Report : 09/16/96

Report: 09/16/96  
Project Number: 00261275  
Lab ID: 96-0012292  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /Triplicate/FS-1/ 2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
JST							
% moisture	17		%	0.10	0.10	SW 5030	09/03/96
INORGANIC							
VOLATILES							
Benzene	0.89	1.1	mg/kg	0.090	0.45	SW 8020-E	08/31/96
Toluene	6.2	7.5	mg/kg	0.084	0.42	SW 8020-E	08/31/96
o-xylene	12	14	mg/kg	0.11	0.54	SW 8020-E	08/31/96
p,m-Xylenes	57	69	mg/kg	0.17	0.87	SW 8020-E	08/31/96
Toluene	0.82	0.99	mg/kg	0.084	0.42	SW 8020-E	08/31/96

Approved By:

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

D = Detected below the PQL J = Estimated below the PQL

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# = Due to sample concentration.

\$ = Due to sample quantity.

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Report Date: 09/20/96

Report: 09/20/96  
Project Number: 00261277  
Lab ID: 96-0012293  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 /FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
IST							
% moisture	14		%	0.10	0.10	SW 5030	09/04/96
INORGANIC							
: VOLATILES							
Benzene	1.3	1.5	mg/kg	0.017	0.087	SW 8020-E	09/12/96
o-xylbenzene	2.3	2.7	mg/kg	0.016	0.081	SW 8020-E	09/12/96
m-xylene	12	14	mg/kg	0.21	1.0	SW 8020-E	09/16/96
p,M-Xylenes	54	63	mg/kg	0.34	1.7	SW 8020-E	09/16/96
Toluene	2.5	2.9	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 32nd calendar day from collection.

Approved By:  
*AWW/TBB*  
Signatory

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All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity.      + = Due to extract volume.

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nal Report : 09/20/96

Report: 09/20/96  
Project Number: 00261277  
Lab ID: 96-0012294  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 /DUP Preserved/FS-1/2-4' /Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
JST							
% moisture	14		%	0.10	0.10	SW 5030	09/04/96
INORGANIC							
VOLATILES							
Benzene	2.6	3.0	mg/kg	0.017	0.087	SW 8020-E	09/12/96
Ethylbenzene	13	15	mg/kg	0.16	0.81	SW 8020-E	09/16/96
p-Xylene	14	16	mg/kg	0.21	1.0	SW 8020-E	09/16/96
m,p-Xylenes	67	78	mg/kg	0.34	1.7	SW 8020-E	09/16/96
Toluene	3.8	4.4	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 32nd calendar day from collection.

Approved By:

*AMW / JBS*  
Signatory

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All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL, J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference, # = Due to sample concentration.

\$ = Due to sample quantity, + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



nal Report : 09/20/96

Report: 09/20/96  
Project Number: 00261277  
Lab ID: 96-0012295  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 /Triplicate/ FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
UST							
† moisture	14		†	0.10	0.10	SW 5030	09/04/96
GANIC							
C VOLATILES							
Benzene	1.5	1.7	mg/kg	0.017	0.087	SW 8020-E	09/12/96
Ethylbenzene	2.4	2.8	mg/kg	0.016	0.081	SW 8020-E	09/12/96
ylene	12	14	mg/kg	0.21	1.0	SW 8020-E	09/16/96
P,M-Xylenes	56	65	mg/kg	0.34	1.7	SW 8020-E	09/16/96
Toluene	2.2	2.6	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 32nd calendar day from collection.

Approved By:  
*MW/TGS*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL, J = Estimated below the PQL

Elevated Detection Limits:

⊗ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



nal Report : 09/27/96

Report: 09/27/96  
Project Number: 00261279  
Lab ID: 96-0012296  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 / FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard. Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
UST							
% moisture	14		%	0.10	0.10	SW 5030	09/10/96
ORGANIC							
C VOLATILES							
Benzene	1.5	1.7	mg/kg	0.017	0.087	SW 8020-E	09/25/96
Ethylbenzene	2.6	3.0	mg/kg	0.016	0.081	SW 8020-E	09/25/96
m-Xylene	11	13	mg/kg	0.10	0.52	SW 8020-E	09/26/96
p-Xylenes	29	34	mg/kg	0.17	0.84	SW 8020-E	09/26/96
Toluene	3.5	4.1	mg/kg	0.016	0.081	SW 8020-E	09/25/96

SW 8020-E analysis completed on the 41st & 42nd calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.





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Report : 09/27/96

Report: 09/27/96

Project Number: 00261279

Lab ID: 96-0012297

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00 .

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.

220 East Ryan Road

Oak Creek WI 53154-0000

Sample Desc: DAY 20 /DUP Preserved/FS-1/2-4'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
IN ORGANIC							
IF							
moisture	14		%	0.10	0.10	SW 5030	09/10/96
IN ORGANIC							
VOLATILES							
Benzene	2.0	2.3	mg/kg	0.035	0.17	SW 8020-E	09/25/96
ethylbenzene	13	15	mg/kg	0.032	0.16	SW 8020-E	09/25/96
toluene	15	17	mg/kg	0.042	0.21	SW 8020-E	09/25/96
xylenes	88	100	mg/kg	0.34	1.7	SW 8020-E	09/26/96
Toluene	4.6	5.3	mg/kg	0.032	0.16	SW 8020-E	09/25/96

SW 8020-E analysis completed on the 41st & 42nd calendar day from collection.

Approved by:

Signatory



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Final Report : 09/27/96

Report: 09/27/96  
Project Number: 00261279  
Lab ID: 96-0012298  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 / Triplicate/ FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
ST							
moisture	14		%	0.10	0.10	SW 5030	09/10/96
ORGANIC							
VOLATILES							
benzene	1.6	1.9	mg/kg	0.017	0.087	SW 8020-E	09/25/96
Ethylbenzene	2.9	3.4	mg/kg	0.016	0.081	SW 8020-E	09/25/96
p-xylene	17	20	mg/kg	0.10	0.52	SW 8020-E	09/26/96
m-xylene	57	66	mg/kg	0.17	0.84	SW 8020-E	09/26/96
Toluene	3.4	4.0	mg/kg	0.016	0.081	SW 8020-E	09/25/96

SW 8020-E analysis completed on the 41st & 42nd calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report : 10/04/96

Report: 10/04/96  
Project Number: 00261281  
Lab ID: 96-0012299  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 / FS-1/2-4' / Condon-Cedarburg / Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>INORGANIC</b>							
<b>MOISTURE</b>							
% moisture	14		%	0.10	0.10	SW 5030	09/24/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.1	1.3	mg/kg	0.070	0.35	SW 8020-E	10/02/96
Toluene	2.2	2.6	mg/kg	0.065	0.32	SW 8020-E	10/02/96
Xylenes	11	13	mg/kg	0.084	0.42	SW 8020-E	10/02/96
P,M-Xylenes	24	28	mg/kg	0.13	0.67	SW 8020-E	10/02/96
Toluene	2.2	2.6	mg/kg	0.065	0.32	SW 8020-E	10/02/96

Approved By:  
*EBM/AMW*  
Signature

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.

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Report : 11/14/96

Report: 11/14/96  
Project Number: 00261281  
Lab ID: 96-0012300  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 /DUP Preserved/FS-1/2-4'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
moisture	14		%	0.10	0.10	SW 5030	09/24/96
VOLATILES							
Benzene	1.4	1.6	mg/kg	0.070	0.35	SW 8020-B	11/06/96
toluene	14	16	mg/kg	0.065	0.32	SW 8020-B	11/06/96
o-xylene	19	22	mg/kg	0.084	0.42	SW 8020-B	11/06/96
m,p-Xylenes	67	78	mg/kg	0.14	0.65	SW 8020-B	11/06/96
Toluene	10	12	mg/kg	0.065	0.32	SW 8020-B	11/06/96

SW 8020-B analysis completed on the 83rd calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.  
\$ = Due to sample quantity.      + = Due to extract volume.



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al Report : 10/04/96

Report: 10/04/96  
Project Number: 00261281  
Lab ID: 96-0012301  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 30 / Triplicate/ PS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC MUST							
% moisture	14		%	0.10	0.10	SW 5030	09/24/96
ANIC							
VOLATILES							
Benzene	1.1	1.3	mg/kg	0.017	0.087	SW 8020-B	10/02/96
Toluene	1.7	2.0	mg/kg	0.016	0.081	SW 8020-B	10/02/96
Xylenes	8.2	9.5	mg/kg	0.021	0.10	SW 8020-B	10/02/96
p,M-Xylenes	16	19	mg/kg	0.034	0.17	SW 8020-B	10/02/96
oluene	2.3	2.7	mg/kg	0.016	0.081	SW 8020-B	10/02/96

Approved By:

*EBM / AMW*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Final Report : 10/28/96

Report: 10/28/96  
Project Number: 00261283  
Lab ID: 96-0012302  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 35 / FS-1/2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUFT</b>							
moisture	14		%	0.10	0.10	SW 5030	09/18/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.4	1.6	mg/kg	0.087	0.44	SW 8020-E	10/23/96
toluene	3.3	3.8	mg/kg	0.16	0.81	SW 8020-E	10/16/96
styrene	14	16	mg/kg	0.21	1.0	SW 8020-E	10/16/96
P,M-Xylenes	37	43	mg/kg	0.34	1.7	SW 8020-E	10/16/96
chlorobenzene	4.1	4.8	mg/kg	0.16	0.81	SW 8020-E	10/16/96

SW 8020-E analysis completed on the 69th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.

\$ = Due to sample quantity.      + = Due to extract volume.

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Report : 10/28/96

Report: 10/28/96  
 Project Number: 00261283  
 Lab ID: 96-0012303  
 Lab Matrix: sl  
 Account Number: 189-29182  
 Date Collected: 08/15/96 00:00  
 Collected By: Client  
 Date Received: 08/19/96 00:00  
 C of C Number: 21865  
 Temperature: Received on Ice.

Attention: Tim Welch  
 Sigma Environmental Services, Inc.  
 220 East Ryan Road  
 Oak Creek WI 53154-0000

Sample Desc: DAY 35 /DUP Preserved/FS-1/2-4'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet	Dry	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>MOISTURE</b>							
Moisture	19		%	0.10	0.10	SW 5030	09/18/96
<b>ORGANIC</b>							
<b>GC VOLATILES</b>							
Benzene	2.2	2.7	mg/kg	0.037	0.18	SW 8020-E	10/16/96
1-benzene	12	15	mg/kg	0.034	0.17	SW 8020-E	10/16/96
-ylene	14	17	mg/kg	0.044	0.22	SW 8020-E	10/16/96
P,M-Xylenes	39	48	mg/kg	0.072	0.36	SW 8020-E	10/16/96
luene	5.2	6.4	mg/kg	0.034	0.17	SW 8020-E	10/16/96

SW 8020-E analysis completed on the 61st calendar day from collection.

Approved By:  
  
 JBS  
 Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
 All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
 D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
 \$ = Due to sample quantity. + = Due to extract volume.

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Report : 10/28/96

Report: 10/28/96

Project Number: 00261283

Lab ID: 96-0012304

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.

220 East Ryan Road

Oak Creek WI 53154-0000

Sample Desc: DAY 35 / Triplicate/ PS-1/ 2-4' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>MOIST</b>							
* moisture	14		%	0.10	0.10	SW 5030	09/30/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.45	0.52	mg/kg	0.087	0.44	SW 8020-E	10/16/96
Chlorobenzene	1.9	2.2	mg/kg	0.081	0.41	SW 8020-E	10/16/96
Toluene	12	14	mg/kg	0.10	0.52	SW 8020-E	10/16/96
P,M-Xylenes	38	44	mg/kg	0.17	0.84	SW 8020-E	10/16/96
Styrene	1.7	2.0	mg/kg	0.081	0.41	SW 8020-E	10/16/96

SW 8020-E analysis completed on the 61st calendar day from collection.

Approved By:

Signature

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

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Report: 09/17/96  
Project Number: 00250782  
Lab ID: 96-0012150  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 14:30  
Collected By: Client  
Date Received: 08/15/96 16:55  
C of C Number: 21865  
Temperature: Received on Ice.

Print Report : 09/17/96

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: FS-2/4-6'/BGS/Condor-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>PHYSICAL</b>							
Moisture	12		%	0.10	0.10	SW 5030	08/16/96
<b>CHEMICAL</b>							
Iron, Total	21000	24000	mg/kg	110	2800	SW 6010A	08/28/96
Magnesium, Total	27000	31000	mg/kg	110	1400	SW 6010A	08/22/96
Manganese, Total	310	350	mg/kg	0.49	2.8	SW 6010A	08/22/96
Iron, Manganese, and Magnesium analysis completed by MVTL - New Ulm; WDNR Certification #999447680.							
<b>BIOLOGICAL</b>							
Hydrocarbon Degrading Bacterial Pla	3000		col/m	1.0	1.0	in house-1	08/16/96
Heterotrophic Plate Count	370		col/m	10	10	SM 9215C	08/19/96
The 15-day hydrocarbon degrading bacterial plate count result was 3000 col/mL. Hydrocarbon Degrading Bacterial Plate Count and Heterotrophic Plate Count analysis completed by MVTL - New Ulm; WDNR Certification #999447680.							
<b>ROUTINE</b>							
<b>CONTRACT</b>							
Total Nitrogen	600	680	mg/kg	0.062	4.5	Calc.	08/23/96
Nitrogen, Ammonia, Dissolved	44	50	mg/kg	0.026	0.57	EPA 350.1	08/26/96
Orthophosphate, Soluble	<2.2	<2.5	mg/kg	0.00	2.5	SS 59:39-4	08/27/96
Sulfate	240	270	mg/kg	9.0	23	SW 9036	08/21/96
Total Organic Carbon, Non-Aqueous	40000	45000	mg/kg	0.00	1.1	SW 9060	08/22/96
Nutrient analysis completed by MVTL - New Ulm; WDNR Certification #999447680. Total Organic Carbon analysis completed by EMT, Inc.; WDNR Certification #999888890.							
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	1.5	1.7	mg/kg	0.17	0.85	SW 8020-E	08/16/96
Ethylbenzene	8.9	10	mg/kg	0.16	0.80	SW 8020-E	08/16/96
p-Xylene	4.4	5.0	mg/kg	0.20	1.0	SW 8020-E	08/16/96

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL, J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference, # = Due to sample concentration.  
\$ = Due to sample quantity, + = Due to extract volume.

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Report: 09/17/96

Project Number: 00250782

Lab ID: 96-0012150

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 14:30

Collected By: Client

Date Received: 08/15/96 16:55

C of C Number: 21865

Temperature: Received on Ice.

Report : 09/17/96

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: FS-2/4-6' /BGS/Condor-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
m-Xylenes	16	18	mg/kg	0.33	1.6	SW 8020-E	08/16/96
toluene	0.32 J	0.36	mg/kg	0.16	0.80	SW 8020-E	08/16/96

Approved By:

  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.

\$ = Due to sample quantity.      + = Due to extract volume.

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140 E. Ryan Road, Oak Creek, WI 53154-4599  
414-764-7005 • FAX 414-764-0486 • 1-800-422-2195

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al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261285  
Lab ID: 96-0012305  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00/ PS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/21/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.32 J	0.38	mg/kg	0.088	0.44	SW 8020-E	08/24/96
toluene	3.3	3.9	mg/kg	0.082	0.41	SW 8020-E	08/24/96
ylene	1.4	1.6	mg/kg	0.10	0.53	SW 8020-E	08/24/96
P,M-Xylenes	6.0	7.0	mg/kg	0.17	0.85	SW 8020-E	08/24/96
oluene	0.29 J	0.34	mg/kg	0.082	0.41	SW 8020-E	08/24/96

Approved By:

Signatory

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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Page: 1



Lab Report : 09/16/96

Report: 09/16/96  
Project Number: 00261285  
Lab ID: 96-0012430  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 B/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet	Dry	Unit	MDL	PQL	Procedure	Test
	Result	Result					Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>ANIONIC</b>							
<b>VOLATILES</b>							
Benzene	0.20 J	0.24	mg/kg	0.088	0.44	SW 8020-E	08/24/96
o-benzene	2.6	3.0	mg/kg	0.082	0.41	SW 8020-E	08/24/96
m-benzene	1.1	1.3	mg/kg	0.10	0.53	SW 8020-E	08/24/96
p,p'-M-Xylenes	4.5	5.3	mg/kg	0.17	0.85	SW 8020-E	08/24/96
toluene	0.25 J	0.29	mg/kg	0.082	0.41	SW 8020-E	08/24/96

Approved By:

*[Signature]*  
Signatory

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All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.

\$ = Due to sample quantity.      + = Due to extract volume.

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Final Report : 09/16/96

Report: 09/16/96  
Project Number: 00261285  
Lab ID: 96-0012431  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 C/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>NON-VOLATILES</b>							
Benzene	0.22 J	0.26	mg/kg	0.18	0.88	SW 8020-E	08/24/96
o-Xylenes	2.5	2.9	mg/kg	0.16	0.82	SW 8020-E	08/24/96
m-Xylenes	1.2	1.4	mg/kg	0.21	1.0	SW 8020-E	08/24/96
p-Xylenes	3.7	4.4	mg/kg	0.34	1.7	SW 8020-E	08/24/96
Toluene	0.31 J	0.36	mg/kg	0.16	0.82	SW 8020-E	08/24/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261285  
Lab ID: 96-0012306  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 00/DUP Preserved/PS-2/4-6' /Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet		Dry		PQL	Procedure	Test Date
	Result	Unit	Result	MDL			
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15	%	0.10	0.10	SW 5030	08/26/96	
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.55 J	mg/kg	0.65	0.18	0.88	SW 8020-E	08/23/96
Toluene	4.5	mg/kg	5.3	0.16	0.82	SW 8020-E	08/23/96
Xylenes	1.9	mg/kg	2.2	0.21	1.0	SW 8020-E	08/23/96
P,M-Xylenes	7.0	mg/kg	8.2	0.34	1.7	SW 8020-E	08/23/96
Chlorobenzene	<0.14 #	mg/kg	<0.16	0.16	0.82	SW 8020-E	08/23/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity. + = Due to extract volume.

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Report Date: 09/16/96

Report: 09/16/96  
Project Number: 00261285  
Lab ID: 96-0012307  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Client: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00/ Triplicate/ FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	15		%	0.10	0.10	SW 5030	08/26/96
<b>INORGANIC</b>							
<b>SEMIVOLATILES</b>							
Benzene	0.22 J	0.26	mg/kg	0.088	0.44	SW 8020-E	08/24/96
o-xylbenzene	2.8	3.3	mg/kg	0.082	0.41	SW 8020-E	08/24/96
m-xylene	1.2	1.4	mg/kg	0.10	0.53	SW 8020-E	08/24/96
p,m-Xylenes	5.0	5.9	mg/kg	0.17	0.85	SW 8020-E	08/24/96
Toluene	0.24 J	0.28	mg/kg	0.082	0.41	SW 8020-E	08/24/96

Approved By:

Signatory

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D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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Lab Report : 09/16/96

Report: 09/16/96  
Project Number: 00261286  
Lab ID: 96-0012308  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05/ PS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet		Dry		PQL	Procedure	Test Date
	Result	Unit	Result	MDL			
<b>ORGANIC</b>							
<b>LIST</b>							
Moisture	9.0	%	0.10	0.10	0.10	SW 5030	08/24/96
<b>INORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.24	mg/kg	0.26	0.033	0.16	SW 8020-E	08/26/96
o-xylene	2.7	mg/kg	3.0	0.031	0.15	SW 8020-E	08/26/96
m-xylene	1.1	mg/kg	1.2	0.040	0.20	SW 8020-E	08/26/96
p-xylene	5.4	mg/kg	5.9	0.064	0.32	SW 8020-E	08/26/96
Toluene	<0.028 #	mg/kg	<0.031	0.031	0.15	SW 8020-E	08/26/96

Approved By:

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

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Report : 09/16/96

Report: 09/16/96  
Project Number: 00261286  
Lab ID: 96-0012309  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05/DUP Preserved/FS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>TEST</b>							
moisture	9.0		%	0.10	0.10	SW 5030	08/26/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.27	0.30	mg/kg	0.033	0.16	SW 8020-E	08/26/96
Toluene	2.9	3.2	mg/kg	0.031	0.15	SW 8020-E	08/26/96
Xylene	1.2	1.3	mg/kg	0.040	0.20	SW 8020-E	08/26/96
p,p'-DDE	5.7	6.3	mg/kg	0.064	0.32	SW 8020-E	08/26/96
Chlorobenzene	<0.028 #	<0.031	mg/kg	0.031	0.15	SW 8020-E	08/26/96

Approved By:  
  
Signatory

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D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity.      + = Due to extract volume.

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Report : 09/16/96

Report: 09/16/96  
Project Number: 00261286  
Lab ID: 96-0012310  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05/ Triplicate/ FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LOST</b>							
moisture	9.0		%	0.10	0.10	SW 5030	08/26/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.33	0.36	mg/kg	0.066	0.33	SW 8020-E	08/26/96
Toluene	3.7	4.1	mg/kg	0.062	0.31	SW 8020-E	08/26/96
Xylenes	1.4	1.5	mg/kg	0.079	0.40	SW 8020-E	08/26/96
P,M-Xylenes	6.5	7.1	mg/kg	0.13	0.64	SW 8020-E	08/26/96
Chlorobenzene	<0.056	<0.062	mg/kg	0.062	0.31	SW 8020-E	08/26/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.      # = Due to sample concentration.

\$ = Due to sample quantity.      + = Due to extract volume.

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Final Report : 09/16/96

Report: 09/16/96

Project Number: 00261287

Lab ID: 96-0012311

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 07/ FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>PHYSICAL</b>							
moisture	13		%	0.10	0.10	SW 5030	08/27/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.28	0.32	mg/kg	0.017	0.086	SW 8020-E	08/28/96
o-toluidine	2.2	2.5	mg/kg	0.016	0.080	SW 8020-E	08/28/96
p-xylene	1.0	1.1	mg/kg	0.021	0.10	SW 8020-E	08/28/96
m-xylene	5.1	5.9	mg/kg	0.033	0.17	SW 8020-E	08/28/96
toluene	<0.014	<0.016	mg/kg	0.016	0.080	SW 8020-E	08/28/96

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity. + = Due to extract volume.

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Final Report : 09/16/96

Report: 09/16/96  
Project Number: 00261287  
Lab ID: 96-0012312  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 07/DUP Preserved/PS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>PHYSICAL</b>							
% moisture	13		%	0.10	0.10	SW 5030	08/27/96
<b>ORGANIC</b>							
<b>HC VOLATILES</b>							
Benzene	0.39	0.45	mg/kg	0.017	0.086	SW 8020-E	08/28/96
Toluene	2.7	3.1	mg/kg	0.016	0.080	SW 8020-E	08/28/96
Xylenes	1.3	1.5	mg/kg	0.021	0.10	SW 8020-E	08/28/96
P,M-Xylenes	6.2	7.1	mg/kg	0.033	0.17	SW 8020-E	08/28/96
Toluene	<0.014	<0.016	mg/kg	0.016	0.080	SW 8020-E	08/28/96

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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# LABORATORIES, Inc.

140 E. Ryan Road, Oak Creek, WI 53154-4599  
414-764-7005 • FAX 414-764-0486 • 1-800-422-2195

**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



al Report : 09/16/96

Report: 09/16/96  
Project Number: 00261287  
Lab ID: 96-0012313  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 07/ Triplicate/ FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LIST</b>							
% moisture	13		%	0.10	0.10	SW 5030	08/27/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.22	0.25	mg/kg	0.034	0.17	SW 8020-E	08/28/96
ethylbenzene	2.6	3.0	mg/kg	0.032	0.16	SW 8020-E	08/28/96
ylene	1.1	1.3	mg/kg	0.041	0.21	SW 8020-E	08/28/96
P,M-Xylenes	5.2	6.0	mg/kg	0.067	0.33	SW 8020-E	08/28/96
Toluene	<0.028 #	<0.032	mg/kg	0.032	0.16	SW 8020-E	08/28/96

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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Report : 09/17/96

Report: 09/17/96  
Project Number: 00261288  
Lab ID: 96-0012314  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
moisture	17		%	0.10	0.10	SW 5030	08/30/96
<b>ORGANIC VOLATILES</b>							
Benzene	0.096	0.12	mg/kg	0.018	0.090	SW 8020-E	09/10/96
toluene	1.3	1.6	mg/kg	0.017	0.084	SW 8020-E	09/10/96
ethylene	0.58	0.70	mg/kg	0.022	0.11	SW 8020-E	09/10/96
P,M-Xylenes	2.6	3.1	mg/kg	0.035	0.17	SW 8020-E	09/10/96
toluene	<0.014	<0.017	mg/kg	0.017	0.084	SW 8020-E	09/10/96

SW 8020-E analysis completed on the 26th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

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al Report : 09/17/96

Report: 09/17/96  
Project Number: 00261288  
Lab ID: 96-0012315  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /DUP Preserved/FS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUFT</b>							
moisture	17		%	0.10	0.10	SW 5030	09/03/96
<b>ANIC</b>							
<b>VOLATILES</b>							
Benzene	0.33	0.40	mg/kg	0.018	0.090	SW 8020-E	09/10/96
toluene	2.6	3.1	mg/kg	0.017	0.084	SW 8020-E	09/10/96
o-xylene	1.2	1.4	mg/kg	0.022	0.11	SW 8020-E	09/10/96
p,m-Xylenes	5.8	7.0	mg/kg	0.035	0.17	SW 8020-E	09/10/96
oluene	<0.014	<0.017	mg/kg	0.017	0.084	SW 8020-E	09/10/96

SW 8020-E analysis completed on the 26th calendar day from collection.

Approved By:  
  
Signatory

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Report : 09/17/96

Report: 09/17/96  
Project Number: 00261288  
Lab ID: 96-0012316  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

File Desc: DAY 10 / Triplicate/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>TEST</b>							
% moisture	17		%	0.10	0.10	SW 5030	08/30/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.27	0.32	mg/kg	0.018	0.090	SW 8020-E	09/10/96
o-benzene	2.5	3.0	mg/kg	0.017	0.084	SW 8020-E	09/10/96
m-benzene	1.1	1.3	mg/kg	0.022	0.11	SW 8020-E	09/10/96
p,p'-M-Xylenes	5.6	6.7	mg/kg	0.035	0.17	SW 8020-E	09/10/96
o-Toluene	<0.014	<0.017	mg/kg	0.017	0.084	SW 8020-E	09/10/96

SW 8020-E analysis completed on the 26th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
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D = Detected below the PQL, J = Estimated below the PQL

Elevated Detection Limits:

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# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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Report Date: 09/17/96

Report: 09/17/96  
Project Number: 00261289  
Lab ID: 96-0012317  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 / PS-2/ 4-6' / Condon-Cedarburg / Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
Moisture	14		%	0.10	0.10	SW 5030	09/04/96
<b>NON-VOLATILES</b>							
Benzene	0.15	0.17	mg/kg	0.017	0.087	SW 8020-E	09/12/96
o-xylene	1.7	2.0	mg/kg	0.016	0.081	SW 8020-E	09/12/96
m-xylene	1.0	1.2	mg/kg	0.021	0.10	SW 8020-E	09/12/96
p,p'-DDE	3.9	4.5	mg/kg	0.034	0.17	SW 8020-E	09/12/96
toluene	<0.014	<0.016	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 28th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
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D = Detected below the PQL J = Estimated below the PQL

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al Report : 09/17/96

Report: 09/17/96  
Project Number: 00261289  
Lab ID: 96-0012318  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

ention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

ple Desc: DAY 14 /DUP Preserved/PS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
% moisture	14		%	0.10	0.10	SW 5030	09/04/96
<b>NON-ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.35	0.41	mg/kg	0.017	0.087	SW 8020-E	09/12/96
o-xylene	2.6	3.0	mg/kg	0.016	0.081	SW 8020-E	09/12/96
m-xylene	1.4	1.6	mg/kg	0.021	0.10	SW 8020-E	09/12/96
p-xylene	5.8	6.7	mg/kg	0.034	0.17	SW 8020-E	09/12/96
Toluene	<0.014	<0.016	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 28th calendar day from collection.

Approved By:  
  
Signatory

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N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. += Due to extract volume.

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Report : 09/17/96

Report: 09/17/96  
Project Number: 00261289  
Lab ID: 96-0012319  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 / Triplicate/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
moisture	14		%	0.10	0.10	SW 5030	09/04/96
<b>INORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.16	0.19	mg/kg	0.017	0.087	SW 8020-E	09/12/96
Toluene	1.8	2.1	mg/kg	0.016	0.081	SW 8020-E	09/12/96
Xylenes	0.79	0.92	mg/kg	0.021	0.10	SW 8020-E	09/12/96
P,M-Xylenes	3.9	4.5	mg/kg	0.034	0.17	SW 8020-E	09/12/96
Chlorobenzene	<0.014	<0.016	mg/kg	0.016	0.081	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 28th calendar day from collection.

Approved By:  
  
Signatory

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All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

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File Report : 09/26/96

Report: 09/26/96  
Project Number: 00261290  
Lab ID: 96-0012320  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 / FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>LIST</b>							
Moisture	15		%	0.10	0.10	SW 5030	09/10/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.14	0.16	mg/kg	0.018	0.088	SW 8020-E	09/12/96
Toluene	1.6	1.9	mg/kg	0.016	0.082	SW 8020-E	09/12/96
o-Xylene	0.95	1.1	mg/kg	0.021	0.10	SW 8020-E	09/12/96
m-Xylenes	3.5	4.1	mg/kg	0.034	0.17	SW 8020-E	09/12/96
p-Toluene	<0.014	<0.016	mg/kg	0.016	0.082	SW 8020-E	09/12/96

SW 8020-E analysis completed on the 28th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

**Elevated Detection Limits:**

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



Report Date: 09/26/96

Report: 09/26/96  
Project Number: 00261290  
Lab ID: 96-0012321  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 /DUP Preserved/PS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>LUST</b>							
moisture	15		%	0.10	0.10	SW 5030	09/10/96
<b>INORGANIC</b>							
<b>SEMI-VOLATILES</b>							
Benzene	0.22	0.26	mg/kg	0.018	0.088	SW 8020-E	09/13/96
Ethylbenzene	2.2	2.6	mg/kg	0.016	0.082	SW 8020-E	09/13/96
Toluene	1.2	1.4	mg/kg	0.021	0.10	SW 8020-E	09/13/96
p,p'-Xylenes	4.8	5.6	mg/kg	0.034	0.17	SW 8020-E	09/13/96
o-Xylene	<0.014	<0.016	mg/kg	0.016	0.082	SW 8020-E	09/13/96

SW 8020-E analysis completed on the 29th calendar day from collection.

Approved By:  
*[Signature]*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

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\$ = Due to sample quantity.      + = Due to extract volume.

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WE ARE AN EQUAL OPPORTUNITY EMPLOYER



al Report : 09/26/96

Report: 09/26/96  
Project Number: 00261290  
Lab ID: 96-0012322  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 / Triplicate/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC							
MOISTURE	15		%	0.10	0.10	SW 5030	09/10/96
NON-VOLATILES							
Benzene	0.42	0.49	mg/kg	0.018	0.088	SW 8020-E	09/25/96
ethylbenzene	1.8	2.1	mg/kg	0.016	0.082	SW 8020-E	09/25/96
toluene	1.5	1.8	mg/kg	0.021	0.10	SW 8020-E	09/25/96
Xylenes	5.0	5.9	mg/kg	0.034	0.17	SW 8020-E	09/25/96
Styrene	<0.014	<0.016	mg/kg	0.016	0.082	SW 8020-E	09/25/96

SW 8020-E analysis completed on the 41st calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.



# LABORATORIES, Inc.

140 E. Ryan Road, Oak Creek, WI 53154-4599  
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al Report : 10/04/96

Report: 10/04/96  
Project Number: 00261291  
Lab ID: 96-0012323  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 / FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>ST</b>							
Moisture	15		%	0.10	0.10	SW 5030	09/18/96
<b>NON-VOLATILES</b>							
<b>Benzene</b>							
Benzene	0.058 J	0.068	mg/kg	0.035	0.18	SW 8020-E	10/02/96
<b>Chlorobenzene</b>							
Chlorobenzene	1.4	1.6	mg/kg	0.033	0.16	SW 8020-E	10/02/96
<b>Bromobenzene</b>							
Bromobenzene	0.40	0.47	mg/kg	0.042	0.21	SW 8020-E	10/02/96
<b>Xylenes</b>							
Xylenes	2.1	2.5	mg/kg	0.068	0.34	SW 8020-E	10/02/96
<b>Toluene</b>							
Toluene	0.066 J	0.078	mg/kg	0.033	0.16	SW 8020-E	10/02/96

Approved By:

*EBM/Ann*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report : 10/04/96

Report: 10/04/96  
Project Number: 00261291  
Lab ID: 96-0012324  
Lab Matrix: si  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 / DUP Preserved/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
ORGANIC MUST							
% moisture	15		%	0.10	0.10	SW 5030	09/20/96
ANIC							
VOLATILES							
Benzene	0.25	0.29	mg/kg	0.035	0.18	SW 8020-E	10/02/96
ethylbenzene	2.4	2.8	mg/kg	0.033	0.16	SW 8020-E	10/02/96
toluene	1.4	1.6	mg/kg	0.042	0.21	SW 8020-E	10/02/96
Xylenes	4.8	5.6	mg/kg	0.068	0.34	SW 8020-E	10/02/96
Toluene	<0.028 #	<0.033	mg/kg	0.033	0.16	SW 8020-E	10/02/96

Approved By:

*Edm/Ann*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.





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al Report : 10/04/96

Report: 10/04/96  
Project Number: 00261291  
Lab ID: 96-0012325  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 / Triplicate/ PS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC LIST</b>							
Moisture	15		%	0.10	0.10	SW 5030	09/20/96
<b>ORGANIC VOLATILES</b>							
Benzene	0.16	0.19	mg/kg	0.018	0.088	SW 8020-E	10/03/96
Ethylbenzene	1.7	2.0	mg/kg	0.016	0.082	SW 8020-E	10/03/96
Styrene	1.2	1.4	mg/kg	0.021	0.10	SW 8020-E	10/03/96
Xylenes	3.7	4.4	mg/kg	0.034	0.17	SW 8020-E	10/03/96
Toluene	0.087 J	0.10	mg/kg	0.016	0.082	SW 8020-E	10/03/96

Approved By:

*EWN/Ann*  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL      J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference.

# = Due to sample concentration.

\$ = Due to sample quantity.

+ = Due to extract volume.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



Report : 10/18/96

Report: 10/18/96

Project Number: 00261292

Lab ID: 96-0012326

Lab Matrix: sl

Account Number: 189-29182

Date Collected: 08/15/96 00:00

Collected By: Client

Date Received: 08/19/96 00:00

C of C Number: 21865

Temperature: Received on Ice.

Attention: Tim Welch

Sigma Environmental Services, Inc.

220 East Ryan Road

Oak Creek WI 53154-0000

Sample Desc: DAY 35 / FS-2/4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>MOISTURE</b>							
Moisture	12		%	0.10	0.10	SW 5030	09/24/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.11	0.12	mg/kg	0.017	0.085	SW 8020-E	10/17/96
o-xylene	1.5	1.7	mg/kg	0.016	0.080	SW 8020-E	10/17/96
m-xylene	1.0	1.1	mg/kg	0.020	0.10	SW 8020-E	10/17/96
p-xylene	3.1	3.5	mg/kg	0.033	0.16	SW 8020-E	10/17/96
toluene	<0.014	<0.016	mg/kg	0.016	0.080	SW 8020-E	10/17/96

SW 8020-E analysis completed on the 63rd calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.



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Report : 10/18/96

Report: 10/18/96  
Project Number: 00261292  
Lab ID: 96-0012327  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 35 /DUP Preserved/PS-2/4-6'/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>INORGANIC</b>							
<b>TEST</b>							
% moisture	12		%	0.10	0.10	SW 5030	09/30/96
<b>ORGANIC</b>							
<b>VOLATILES</b>							
Benzene	0.28	0.32	mg/kg	0.017	0.085	SW 8020-E	10/17/96
ethylbenzene	2.2	2.5	mg/kg	0.016	0.080	SW 8020-E	10/17/96
xylene	1.4	1.6	mg/kg	0.020	0.10	SW 8020-E	10/17/96
xylenes	4.8	5.4	mg/kg	0.033	0.16	SW 8020-E	10/17/96
Toluene	<0.014	<0.016	mg/kg	0.016	0.080	SW 8020-E	10/17/96

SW 8020-E analysis completed on the 63rd calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

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Report : 10/18/96

Report: 10/18/96  
Project Number: 00261292  
Lab ID: 96-0012328  
Lab Matrix: sl  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 35 / Triplicate/ FS-2/ 4-6' / Condon-Cedarburg/ Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Wet Result	Dry Result	Unit	MDL	PQL	Procedure	Test Date
<b>ORGANIC</b>							
<b>MOISTURE</b>							
% moisture	12		%	0.10	0.10	SW 5030	09/30/96
<b>ANIONIC</b>							
<b>VOLATILES</b>							
Benzene	0.29	0.33	ug/kg	0.017	0.085	SW 8020-E	10/17/96
Ethylbenzene	2.2	2.5	ug/kg	0.016	0.080	SW 8020-E	10/17/96
Styrene	1.5	1.7	ug/kg	0.020	0.10	SW 8020-E	10/17/96
Xylenes	5.2	5.9	ug/kg	0.033	0.16	SW 8020-E	10/17/96
Toluene	<0.014	<0.016	ug/kg	0.016	0.080	SW 8020-E	10/17/96

SW 8020-E analysis completed on the 63rd calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

⊙ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

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inal Report : 09/18/96

Report: 09/18/96  
 Project Number: 00250782  
 Lab ID: 96-0012152  
 Lab Matrix: GW  
 Account Number: 189-29182  
 Date Collected: 08/15/96 15:00  
 Collected By: Client  
 Date Received: 08/15/96 16:55  
 C of C Number: 21865  
 Temperature: Received on Ice.

Attention: Tim Welch  
 Sigma Environmental Services, Inc.  
 220 East Ryan Road  
 Oak Creek WI 53154-0000

ample Desc: MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ICRO</b>					
<b>BIOREMEDIATION</b>					
Hydrocarbon Degrading Bacterial Plate Ct	500	col/ml	1.0	in house-1	08/16/96
Heterotrophic Plate Count	24	col/ml	10	SM 9215C	08/19/96
Hydrocarbon Degrading Bacterial Plate Count and Heterotrophic Plate Count analysis completed by MVTL - New Ulm; WDNR Certification #999447680.					
The 15-day hydrocarbon degrading bacterial plate count result was 470 col/mL.					
<b>NIC</b>					
<b>GC VOLATILES</b>					
1,2,4-Trimethylbenzene	340	ug/l	9.5	SW 8020	08/20/96
1,3,5-Trimethylbenzene	120	ug/l	9.2	SW 8020	08/20/96
Benzene	16	ug/l	4.0	SW 8020	08/20/96
Ethylbenzene	280	ug/l	9.2	SW 8020	08/20/96
Methyl Tertiary Butyl Ether (MTBE)	<7.8 #	ug/l	7.8	SW 8020	08/20/96
o-Xylene	<9.5 D,#	ug/l	9.5	SW 8020	08/20/96
p,M-Xylenes	500	ug/l	18	SW 8020	08/20/96
Toluene	<6.8 D,#	ug/l	6.8	SW 8020	08/20/96
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/20/96

Approved By:  
  
 Signatory

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 All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
 D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
 \$ = Due to sample quantity. + = Due to extract volume.



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Printed on: 08/29/96

Final Report

Date of Report: 08/29/96  
Project Number: 00261270  
Lab ID: 96-0012329  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GC VOLATILES</b>					
1,2,4-Trimethylbenzene	2300	ug/l	95	SW 8020	08/23/96
1,3,5-Trimethylbenzene	600	ug/l	92	SW 8020	08/23/96
Benzene	900	ug/l	40	SW 8020	08/23/96
Ethylbenzene	920	ug/l	92	SW 8020	08/23/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/23/96
o-Xylene	1900	ug/l	95	SW 8020	08/23/96
P,M-Xylenes	4300	ug/l	180	SW 8020	08/23/96
Toluene	4300	ug/l	67	SW 8020	08/23/96
pH (GC VOCs 8020)	7.0	N/A	N/A	SW 9041	08/23/96

Sample pH greater than 2; SW 8020 aromatic analysis completed on 8th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

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Printed on: 08/29/96

Final Report

Date of Report: 08/29/96  
Project Number: 00261270  
Lab ID: 96-0012330  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 00 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GC VOLATILES</b>					
1,2,4-Trimethylbenzene	2200	ug/l	95	SW 8020	08/23/96
1,3,5-Trimethylbenzene	560	ug/l	92	SW 8020	08/23/96
Benzene	860	ug/l	40	SW 8020	08/23/96
Ethylbenzene	1100	ug/l	92	SW 8020	08/23/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/23/96
o-Xylene	1800	ug/l	95	SW 8020	08/23/96
p,M-Xylenes	4200	ug/l	180	SW 8020	08/23/96
Toluene	4200	ug/l	67	SW 8020	08/23/96
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/23/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



# LABORATORIES, Inc.

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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



Printed On: 08/29/96

Final Report

Date of Report: 08/29/96  
Project Number: 00261272  
Lab ID: 96-0012331  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>AROMATIC VOLATILES</b>					
1,2,4-Trimethylbenzene	2200	ug/l	95	SW 8020	08/27/96
1,3,5-Trimethylbenzene	650	ug/l	18	SW 8020	08/26/96
Benzene	900	ug/l	8.0	SW 8020	08/26/96
Ethylbenzene	510	ug/l	18	SW 8020	08/26/96
Methyl Tertiary Butyl Ether (MTBE)	<16 #	ug/l	16	SW 8020	08/26/96
o-Xylene	1800	ug/l	19	SW 8020	08/26/96
p,m-Xylenes	4200	ug/l	180	SW 8020	08/27/96
Toluene	4200	ug/l	67	SW 8020	08/27/96
pH (GC VOCs 8020)	7.0	N/A	N/A	SW 9041	08/26/96

Sample pH greater than 2; SW 8020 aromatic analysis completed on 9th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.





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Page: 1



Printed On: 08/29/96

Final Report

Date of Report: 08/29/96  
Project Number: 00261272  
Lab ID: 96-0012332  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 05 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GC VOLATILES</b>					
1,2,4-Trimethylbenzene	1900	ug/l	19	SW 8020	08/26/96
1,3,5-Trimethylbenzene	520	ug/l	18	SW 8020	08/26/96
Benzene	760	ug/l	8.0	SW 8020	08/26/96
Ethylbenzene	940	ug/l	18	SW 8020	08/26/96
Methyl Tertiary Butyl Ether (MTBE)	<16 #	ug/l	16	SW 8020	08/26/96
o-Xylene	1500	ug/l	19	SW 8020	08/26/96
p,m-Xylenes	4100	ug/l	180	SW 8020	08/27/96
Toluene	4200	ug/l	67	SW 8020	08/27/96
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/26/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Printed On: 08/29/96

Final Report

Date of Report: 08/29/96  
Project Number: 00261274  
Lab ID: 96-0012333  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 07 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

ANIC

IC VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
1,2,4-Trimethylbenzene	2200	ug/l	95	SW 8020	08/28/96
1,3,5-Trimethylbenzene	660	ug/l	92	SW 8020	08/28/96
Benzene	890	ug/l	40	SW 8020	08/28/96
Ethylbenzene	130	ug/l	92	SW 8020	08/28/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/28/96
o-Xylene	1800	ug/l	95	SW 8020	08/28/96
p,M-Xylenes	4000	ug/l	180	SW 8020	08/28/96
Toluene	4000	ug/l	67	SW 8020	08/28/96
pH (GC VOCs 8020)	7.0	N/A	N/A	SW 9041	08/27/96

Sample pH greater than 2; SW 8020 aromatic analysis completed on 12th calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Final Report

Date of Report: 08/29/96  
Project Number: 00261274  
Lab ID: 96-0012334  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 07 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

## ORGANIC

### GC VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
1,2,4-Trimethylbenzene	2300	ug/l	95	SW 8020	08/28/96
1,3,5-Trimethylbenzene	560	ug/l	92	SW 8020	08/28/96
Benzene	860	ug/l	40	SW 8020	08/28/96
Ethylbenzene	1000	ug/l	92	SW 8020	08/28/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/28/96
o-Xylene	1800	ug/l	95	SW 8020	08/28/96
p,M-Xylenes	4100	ug/l	180	SW 8020	08/28/96
Toluene	4200	ug/l	67	SW 8020	08/28/96
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/27/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Final Report : 09/05/96

Report: 09/05/96  
Project Number: 00261276  
Lab ID: 96-0012335  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GC VOLATILES</b>					
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/29/96
1,2,4-Trimethylbenzene	1900	ug/l	95	SW 8020	08/30/96
1,3,5-Trimethylbenzene	620	ug/l	92	SW 8020	08/30/96
Benzene	830	ug/l	40	SW 8020	08/30/96
Ethylbenzene	<92 D, #	ug/l	92	SW 8020	08/30/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/30/96
o-Xylene	1700	ug/l	95	SW 8020	08/30/96
P,M-Xylenes	3600	ug/l	180	SW 8020	08/30/96
Toluene	3600	ug/l	68	SW 8020	08/30/96

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



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Final Report : 09/05/96

Report: 09/05/96  
Project Number: 00261276  
Lab ID: 96-0012336  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 10 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

### ORGANIC

#### GC VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
pH (GC VOCs 8020)	<2.0	N/A	N/A	SW 9041	08/29/96
1,2,4-Trimethylbenzene	2100	ug/l	95	SW 8020	08/30/96
1,3,5-Trimethylbenzene	570	ug/l	92	SW 8020	08/30/96
Benzene	790	ug/l	40	SW 8020	08/30/96
Ethylbenzene	960	ug/l	92	SW 8020	08/30/96
Methyl Tertiary Butyl Ether (MTBE)	<78 #	ug/l	78	SW 8020	08/30/96
o-Xylene	1600	ug/l	95	SW 8020	08/30/96
P,M-Xylenes	3800	ug/l	180	SW 8020	08/30/96
Toluene	3900	ug/l	68	SW 8020	08/30/96

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.

All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

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

D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.

\$ = Due to sample quantity. + = Due to extract volume.



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nal Report : 09/10/96

Report: 09/10/96  
Project Number: 00261278  
Lab ID: 96-0012337  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GCMS VOLATILES</b>					
pH (GCMS VOCs 8260)	7.0	N/A	N/A	SW 9041	09/09/96
1,2,4-Trimethylbenzene	2100	ug/l	35	SW 8260	09/09/96
1,3,5-Trimethylbenzene	760	ug/l	32	SW 8260	09/09/96
Benzene	930	ug/l	17	SW 8260	09/09/96
Ethylbenzene	<20 D, #	ug/l	20	SW 8260	09/09/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 D, #	ug/l	7.5	SW 8260	09/09/96
o-Xylene	2000	ug/l	16	SW 8260	09/09/96
p,M-Xylenes	3800	ug/l	72	SW 8260	09/09/96
Toluene	3200	ug/l	48	SW 8260	09/09/96

Sample pH greater than 2; SW 8260 aromatic analysis completed on 26th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



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Final Report : 09/10/96

Report: 09/10/96  
Project Number: 00261278  
Lab ID: 96-0012338  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 14 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

### ORGANIC

#### GCMS VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
pH (GCMS VOCs 8260)	<2.0	N/A	N/A	SW 9041	09/09/96
1,2,4-Trimethylbenzene	2100	ug/l	35	SW 8260	09/09/96
1,3,5-Trimethylbenzene	610	ug/l	32	SW 8260	09/09/96
Benzene	840	ug/l	17	SW 8260	09/09/96
Ethylbenzene	970	ug/l	20	SW 8260	09/09/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 D, #	ug/l	7.5	SW 8260	09/09/96
o-Xylene	1700	ug/l	16	SW 8260	09/09/96
P,M-Xylenes	3700	ug/l	72	SW 8260	09/09/96
Toluene	3600	ug/l	48	SW 8260	09/09/96

SW 8260 analysis completed 11 days past holding time.

Approved By:   
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

#### Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



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Final Report : 09/10/96

Report: 09/10/96  
Project Number: 00261280  
Lab ID: 96-0012339  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GCMS VOLATILES</b>					
pH (GCMS VOCs 8260)	7.0	N/A	N/A	SW 9041	09/09/96
1,2,4-Trimethylbenzene	1800	ug/l	35	SW 8260	09/09/96
1,3,5-Trimethylbenzene	650	ug/l	32	SW 8260	09/09/96
Benzene	740	ug/l	17	SW 8260	09/09/96
Ethylbenzene	<20 D, #	ug/l	20	SW 8260	09/09/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 D, #	ug/l	7.5	SW 8260	09/09/96
o-Xylene	1600	ug/l	16	SW 8260	09/09/96
P,M-Xylenes	3300	ug/l	72	SW 8260	09/09/96
Toluene	2500	ug/l	48	SW 8260	09/09/96

Sample pH greater than 2; SW 8260 aromatic analysis completed on 26th calendar day from collection.

Approved By:   
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.  
N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.





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Final Report : 09/10/96

Report: 09/10/96  
Project Number: 00261280  
Lab ID: 96-0012340  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 20 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

### ORGANIC

#### GCMS VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
pH (GCMS VOCs 8260)	<2.0	N/A	N/A	SW 9041	09/09/96
1,2,4-Trimethylbenzene	2200	ug/l	35	SW 8260	09/09/96
1,3,5-Trimethylbenzene	640	ug/l	32	SW 8260	09/09/96
Benzene	1100	ug/l	17	SW 8260	09/09/96
Ethylbenzene	1200	ug/l	20	SW 8260	09/09/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 D, #	ug/l	7.5	SW 8260	09/09/96
o-Xylene	2000	ug/l	16	SW 8260	09/09/96
P,M-Xylenes	4400	ug/l	72	SW 8260	09/09/96
Toluene	4400	ug/l	48	SW 8260	09/09/96

SW 8260 analysis completed 11 days past holding time.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



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Final Report : 09/20/96

Report: 09/20/96  
Project Number: 00261282  
Lab ID: 96-0012341  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

### ORGANIC

#### GCMS VOLATILES

	Result	Unit	Quant Limit	Procedure	Test Date
pH (GCMS VOCs 8260)	7.0	N/A	N/A	SW 9041	09/18/96
1,2,4-Trimethylbenzene	780	ug/l	35	SW 8260	09/18/96
1,3,5-Trimethylbenzene	630	ug/l	32	SW 8260	09/18/96
Benzene	490	ug/l	17	SW 8260	09/18/96
Ethylbenzene	<20 #	ug/l	20	SW 8260	09/18/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 #	ug/l	7.5	SW 8260	09/18/96
o-Xylene	1600	ug/l	16	SW 8260	09/18/96
P,M-Xylenes	2300	ug/l	72	SW 8260	09/18/96
Toluene	300	ug/l	48	SW 8260	09/18/96

Sample pH greater than 2; SW 8260 aromatic analysis completed on 34th calendar day from collection.

Approved By:

Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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WE ARE AN EQUAL OPPORTUNITY EMPLOYER



Final Report : 09/20/96

Report: 09/20/96  
Project Number: 00261282  
Lab ID: 96-0012342  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 30 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GCMS VOLATILES</b>					
pH (GCMS VOCs 8260)	<2.0	N/A	N/A	SW 9041	09/18/96
1,2,4-Trimethylbenzene	2400	ug/l	35	SW 8260	09/18/96
1,3,5-Trimethylbenzene	690	ug/l	32	SW 8260	09/18/96
Benzene	1000	ug/l	17	SW 8260	09/18/96
Ethylbenzene	1300	ug/l	20	SW 8260	09/18/96
Methyl Tertiary Butyl Ether (MTBE)	<7.5 #	ug/l	7.5	SW 8260	09/18/96
o-Xylene	2000	ug/l	16	SW 8260	09/18/96
p,M-Xylenes	4600	ug/l	72	SW 8260	09/18/96
Toluene	4500	ug/l	48	SW 8260	09/18/96

SW 8260 analysis completed on the 34th calendar day from collection.

Approved By:

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



# LABORATORIES, Inc.

140 E. Ryan Road, Oak Creek, WI 53154-4599  
414-764-7005 • FAX 414-764-0486 • 1-800-422-2195

WE ARE AN EQUAL OPPORTUNITY EMPLOYER



Final Report : 09/26/96

Report: 09/26/96  
Project Number: 00261284  
Lab ID: 96-0012343  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 35 /MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
ORGANIC					
GC VOLATILES					
pH (GC VOCs 8021)	7.0	N/A	N/A	SW 9041	09/23/96
1,2,4-Trimethylbenzene	1200	ug/l	34	SW 8021	09/23/96
1,3,5-Trimethylbenzene	510	ug/l	40	SW 8021	09/23/96
Benzene	670	ug/l	32	SW 8021	09/23/96
Ethylbenzene	<38 #	ug/l	38	SW 8021	09/23/96
Methyl Tertiary Butyl Ether (MTBE)	<30 #	ug/l	30	SW 8021	09/23/96
o-Xylene	1400	ug/l	38	SW 8021	09/23/96
p,M-Xylenes	2200	ug/l	78	SW 8021	09/23/96
Toluene	1900	ug/l	34	SW 8021	09/23/96

sample pH greater than 2; SW 8021 aromatic analysis completed on 39th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.



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**WE ARE AN EQUAL OPPORTUNITY EMPLOYER**



Final Report : 09/26/96

Report: 09/26/96  
Project Number: 00261284  
Lab ID: 96-0012344  
Lab Matrix: gw  
Account Number: 189-29182  
Date Collected: 08/15/96 00:00  
Collected By: Client  
Date Received: 08/19/96 00:00  
C of C Number: 21865  
Temperature: Received on Ice.

Attention: Tim Welch  
Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek WI 53154-0000

Sample Desc: DAY 35 /DUP Preserved/MW-5/Groundwater/Condon-Cedarburg/Project 1966

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
<b>ORGANIC</b>					
<b>GC VOLATILES</b>					
pH (GC VOCs 8021)	<2.0	N/A	N/A	SW 9041	09/23/96
1,2,4-Trimethylbenzene	1900	ug/l	34	SW 8021	09/23/96
1,3,5-Trimethylbenzene	500	ug/l	40	SW 8021	09/23/96
Benzene	730	ug/l	32	SW 8021	09/23/96
Ethylbenzene	850	ug/l	38	SW 8021	09/23/96
Methyl Tertiary Butyl Ether (MTBE)	<30 #	ug/l	30	SW 8021	09/23/96
o-Xylene	1500	ug/l	38	SW 8021	09/23/96
P,M-Xylenes	2400	ug/l	78	SW 8021	09/23/96
Toluene	2800 E	ug/l	34	SW 8021	09/23/96

E = SW 8021 analyte concentration exceeds calibration range by 40%; result should be considered minimum value.

SW 8021 analysis completed on the 39th calendar day from collection.

Approved By:  
  
Signatory

All soil and water samples will be disposed of by MVTL 60 days following date of receipt.  
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected  
D = Detected below the PQL J = Estimated below the PQL

Elevated Detection Limits:

@ = Due to matrix interference. # = Due to sample concentration.  
\$ = Due to sample quantity. + = Due to extract volume.

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

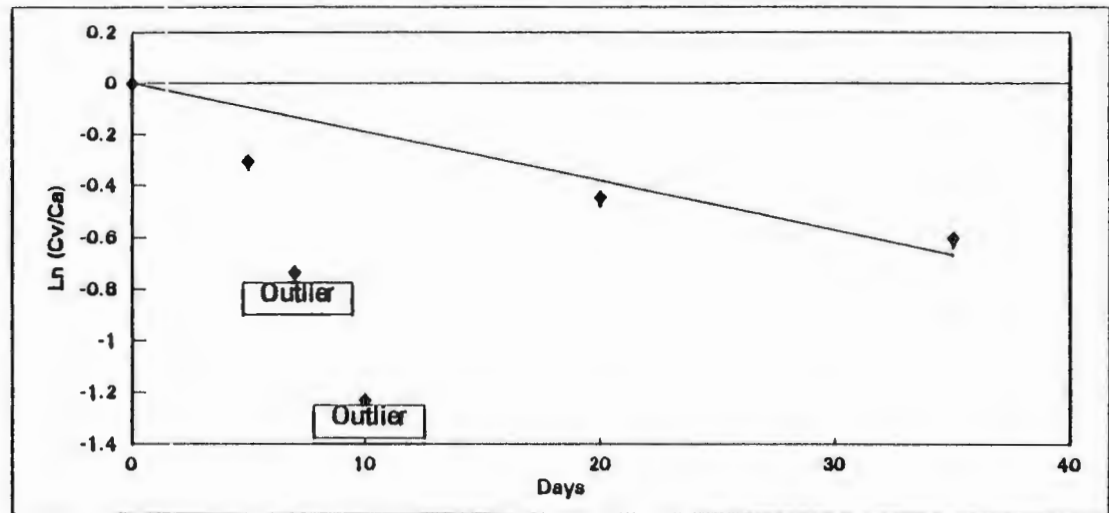
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Benzene  
**Sample Type:** Soil FS-1 (2'-4') (Viable/Abiotic)

First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	2480	2480	1.00000	0	0
5	1550	2100	0.73810	-0.30368241	-0.0951376
20	1700	2650	0.64151	-0.44393139	-0.3805504
35	1180	2150	0.54884	-0.5999534	-0.6659632
7	1200	2500	0.48000	-0.73396918	-0.1331926
10	875	3000	0.29167	-1.23214368	-0.1902752

Regression Output:	
Constant	0
Std Err of Y Est	0.131485592
R Squared	0.73437489
No. of Observations	4
Degrees of Freedom	3
X Coefficient(s)	-0.01903
Std Err of Coef.	0.003237

**Estimated Decay Rate (1/day) = 0.019**  
**Estimated Half-Life (days) = 36**



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Day 20 data is average of Day 14 and Day 20 data, Day 35 data is average of Day 30 and Day 35 data  
 Day 7 and Day 10 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Ethylbenzene  
**Sample Type:** Soil FS-1 (2'-4') (Viable/Abiotic)

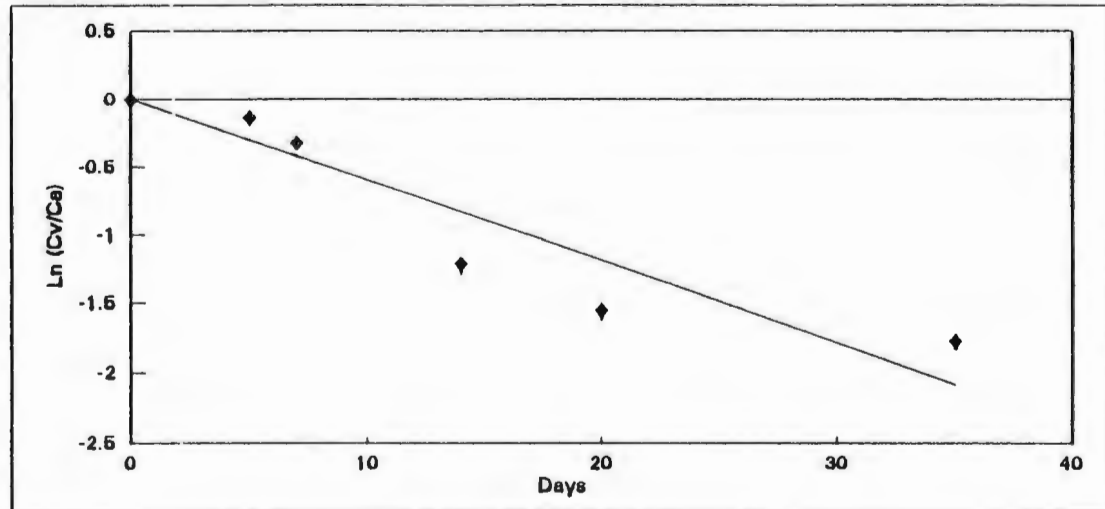
**First-Order Decay Equation:**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	15200	15200	1.00000	0	0
5	14000	16000	0.87500	-0.13353139	-0.296879
7	10950	15000	0.73000	-0.31471074	-0.4156307
14	4775	16000	0.29844	-1.20919475	-0.8312613
20	3200	15000	0.21333	-1.54489939	-1.1875162
35	2650	15500	0.17097	-1.76628038	-2.0781533

Regression Output:	
Constant	0
Std Err of Y Est	0.284495498
R Squared	0.863785326
No. of Observations	6
Degrees of Freedom	5
X Coefficient(s)	-0.05938
Std Err of Coef.	0.006535

**Estimated Decay Rate (1/day) = 0.059**

**Estimated Half-Life (days) = 12**



**NOTE:**

$C_v$  = Concentration of viable sample in ppb

$C_a$  = Concentration of abiotic sample in ppb

Day 14 data is average of Day 10 and Day 14 data, Day 35 data is average of day 30 and 35 data

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Toluene  
**Sample Type:** Soil FS-1 (2'-4') (Viable/Abiotic)

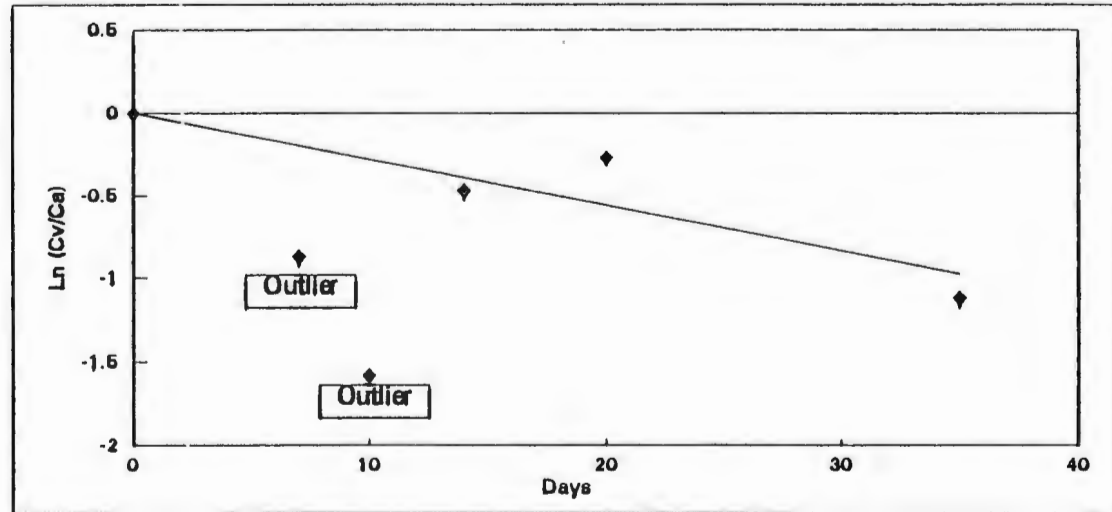
First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	1144	1144	1.00000	0	0
14	2750	4400	0.62500	-0.47000363	-0.3912472
20	4050	5300	0.76415	-0.26898994	-0.5589246
35	3025	9200	0.32880	-1.11229239	-0.978118
7	1132.5	2700	0.41944	-0.86882419	-0.1956236
10	785	3800	0.20658	-1.57707263	-0.2794623

Regression Output:	
Constant	0
Std Err of Y Est	0.189971431
R Squared	0.839279608
No. of Observations	4
Degrees of Freedom	3
X Coefficient(s)	-0.02795
Std Err of Coef.	0.004452

Estimated Decay Rate (1/day) = 0.028

Estimated Half-Life (days) = 25



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Day 7 data is average of Day 5 and Day 7 data, Day 35 data is average of Day 30 and Day 35 data  
 Days 7 and 10 not used in regression fit



## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** O-Xylene  
**Sample Type:** Soil FS-1 (2'-4') (Viable/Abiotic)

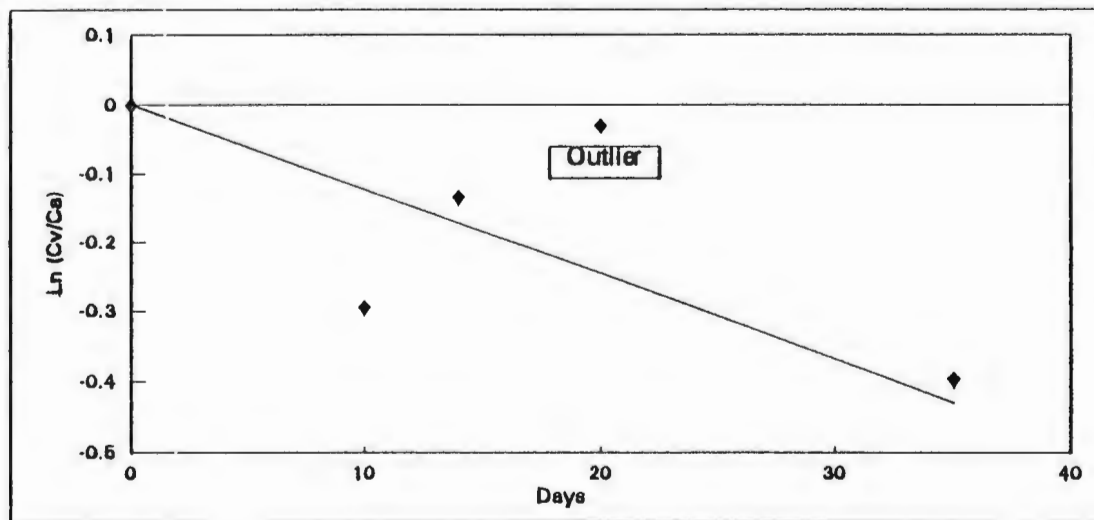
First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	16800	16800	1.00000	0	0
10	13667	18333	0.74545	-0.29376112	-0.1227048
14	14000	16000	0.87500	-0.13353139	-0.1717867
35	13125	19500	0.67308	-0.39589566	-0.4294668
20	16500	17000	0.97059	-0.02985296	-0.2454096

Regression Output:	
Constant	0
Std Err of Y Est	0.103038433
R Squared	0.65171364
No. of Observations	4
Degrees of Freedom	3
X Coefficient(s)	-0.01227
Std Err of Coef.	0.002642

Estimated Decay Rate (1/day) = 0.012

Estimated Half-Life (days) = 56



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Day 10 data is average of Days 5, 7, and 10 data, Day 35 data is average of Day 30 and 35 data  
 Day 20 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** M,P-Xylenes  
**Sample Type:** Soil FS-1 (2'-4') (Viable/Abiotic)

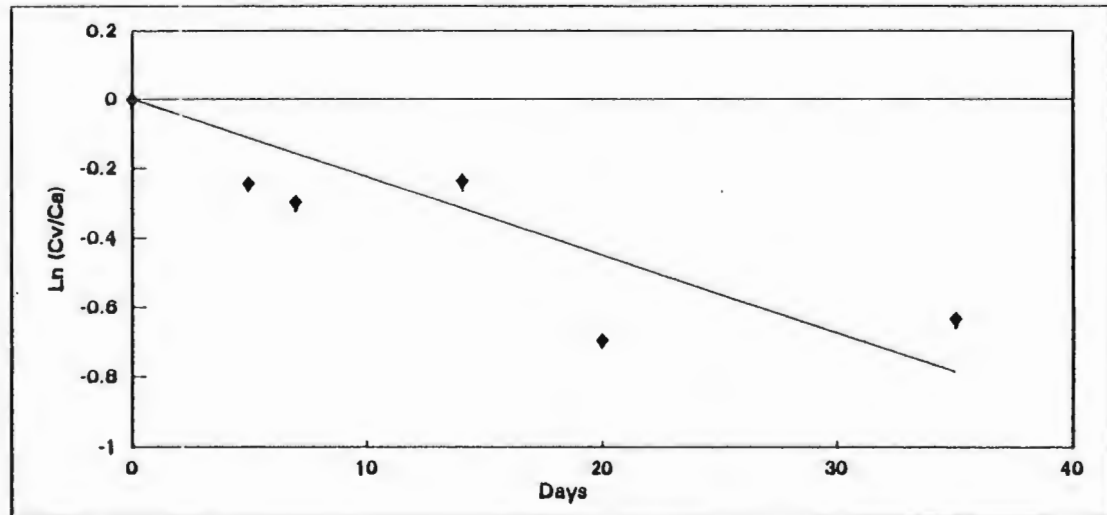
**First-Order Decay Equation:**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	86800	86800	1.00000	0	0
5	67500	86000	0.78488	-0.2422197	-0.1121617
7	70000	94000	0.74468	-0.29479954	-0.1570264
14	63750	80500	0.79193	-0.233288	-0.3140528
20	50000	100000	0.50000	-0.69314718	-0.4486469
35	33500	63000	0.53175	-0.63158929	-0.7851321

Regression Output:	
Constant	0
Std Err of Y Est	0.158603432
R Squared	0.638393794
No. of Observations	6
Degrees of Freedom	5
X Coefficient(s)	-0.02243
Std Err of Coef.	0.003643

**Estimated Decay Rate (1/day) = 0.022**

**Estimated Half-Life (days) = 31**



**NOTE:**

$C_v$  = Concentration of viable sample in ppb

$C_a$  = Concentration of abiotic sample in ppb

Day 14 data is average of Day 10 and Day 14 data, Day 35 data is average of Day 30 and Day 35 data

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Benzene  
**Sample Type:** Soil FS-2 (2'-4') (Viable/Abiotic)

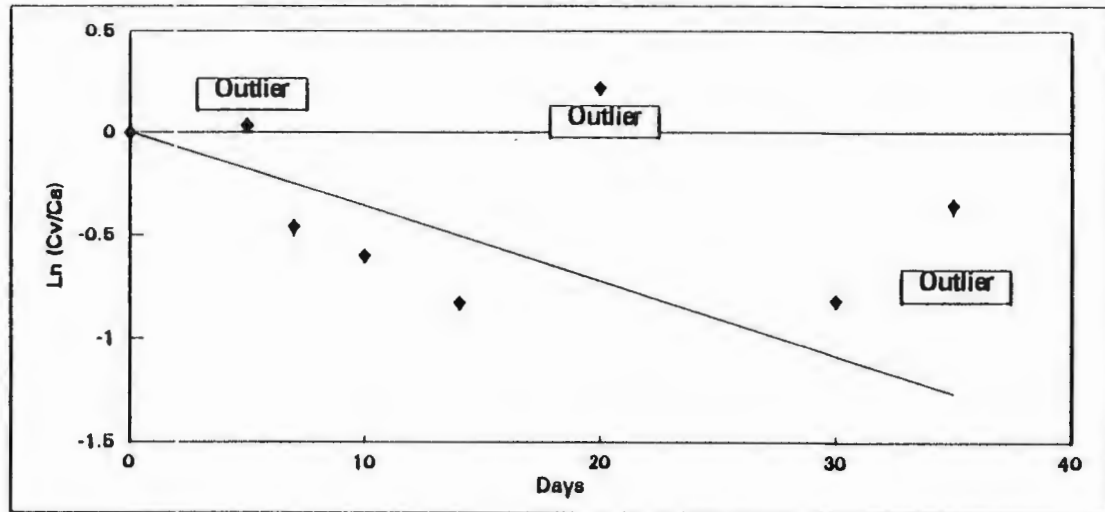
First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	358	358	1.00000	0	0
7	285	450	0.63333	-0.4567584	-0.2530263
10	220	400	0.55000	-0.597837	-0.3614662
14	180	410	0.43902	-0.82320031	-0.5060526
30	129	290	0.444828	-0.81006852	-1.0843985
35	225	320	0.70313	-0.35222059	-1.2651316
5	310	300	1.03333	0.032789823	-0.1807331
20	325	260	1.25	0.223143551	-0.7229323

Regression Output:	
Constant	0
Std Err of Y Est	0.261351067
R Squared	0.399501141
No. of Observations	5
Degrees of Freedom	4
X Coefficient(s)	-0.03615
Std Err of Coef.	0.007407

**Estimated Decay Rate (1/day) = 0.036**

**Estimated Half-Life (days) = 19**



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Days 5, 20, and 35 not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

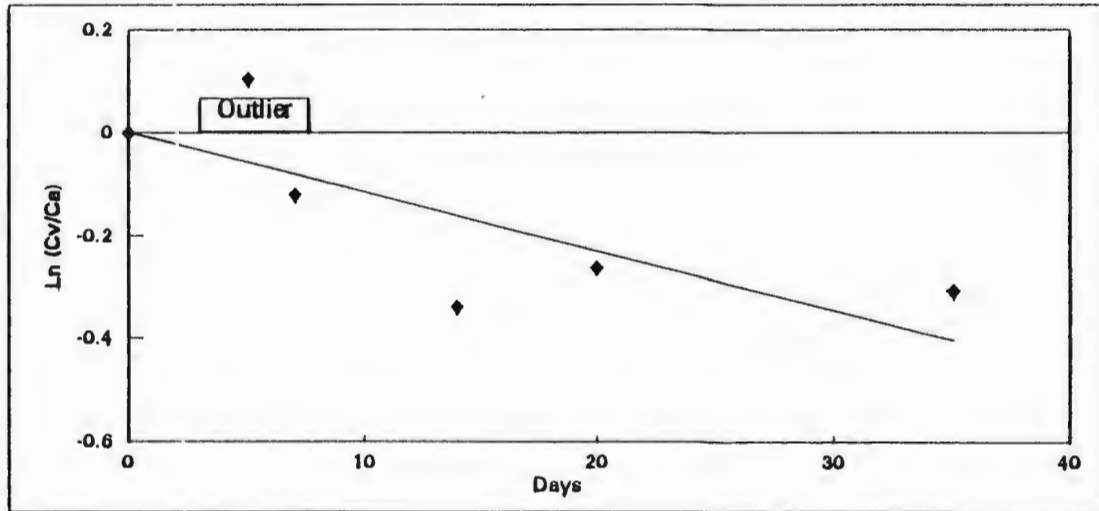
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Ethylbenzene  
**Sample Type:** Soil FS-2 (2'-4') (Viable/Abiotic)

**First-Order Decay Equation :**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	3680	3680	1.00000	0	0
7	2750	3100	0.88710	-0.1198012	-0.0806873
14	2175	3050	0.71311	-0.33811293	-0.1613746
20	2000	2600	0.76923	-0.26236426	-0.2305351
35	1950	2650	0.73585	-0.30673027	-0.4034365
5	3550	3200	1.10938	0.103796794	-0.0576338

Regression Output:	
Constant	0
Std Err of Y Est	0.103840649
R Squared	0.465146747
No. of Observations	5
Degrees of Freedom	4
X Coefficient(s)	-0.01153
Std Err of Coef.	0.002401

Estimated Decay Rate (1/day) = 0.012  
 Estimated Half-Life (days) = 60



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Day 14 data is average of Day 10 and Day 14 data, Day 35 data is average of Day 30 and Day 35 data  
 Day 5 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** O-Xylene  
**Sample Type:** Soil FS-2 (2'-4') (Viable/Abiotic)

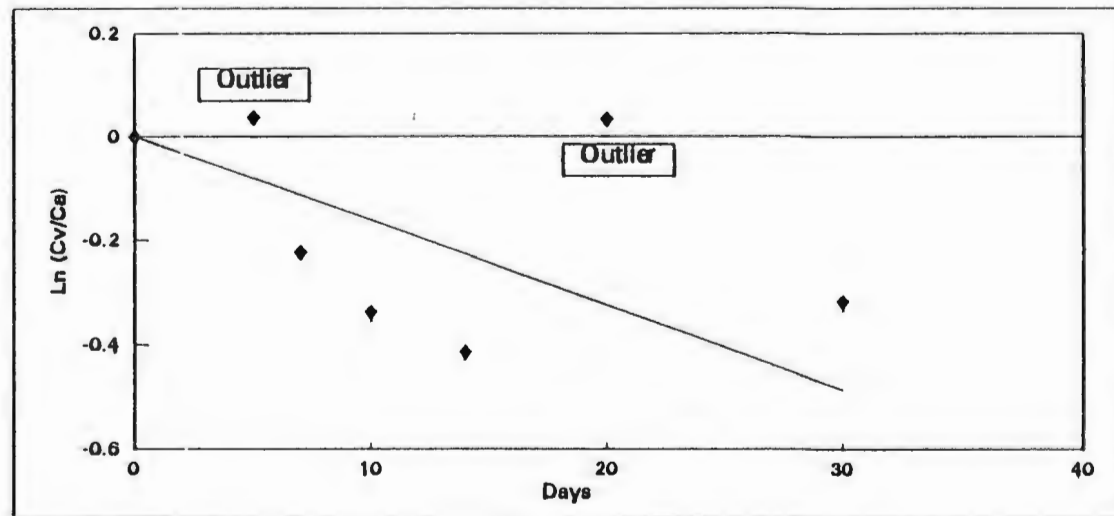
**First-Order Decay Equation:**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	1580	1580	1.00000	0	0
7	1200	1500	0.80000	-0.22314355	-0.1132661
10	1000	1400	0.71429	-0.33647224	-0.1618087
14	1060	1600	0.66250	-0.41173472	-0.2265322
30	1167.5	1600	0.72969	-0.31513892	-0.485426
5	1350	1300	1.03846	0.037740328	-0.0809043
20	1450	1400	1.035714	0.03509132	-0.3236174

Regression Output:	
Constant	0
Std Err of Y Est	0.162694586
R Squared	-0.05002789
No. of Observations	5
Degrees of Freedom	4
X Coefficient(s)	-0.01618
Std Err of Coef.	0.004611

Estimated Decay Rate (1/day) = 0.016

Estimated Half-Life (days) = 43



**NOTE:**

- Cv = Concentration of viable sample in ppb
- Ca = Concentration of abiotic sample in ppb
- Day 30 data is average of Day 30 and Day 35 data
- Days 5 and 20 not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

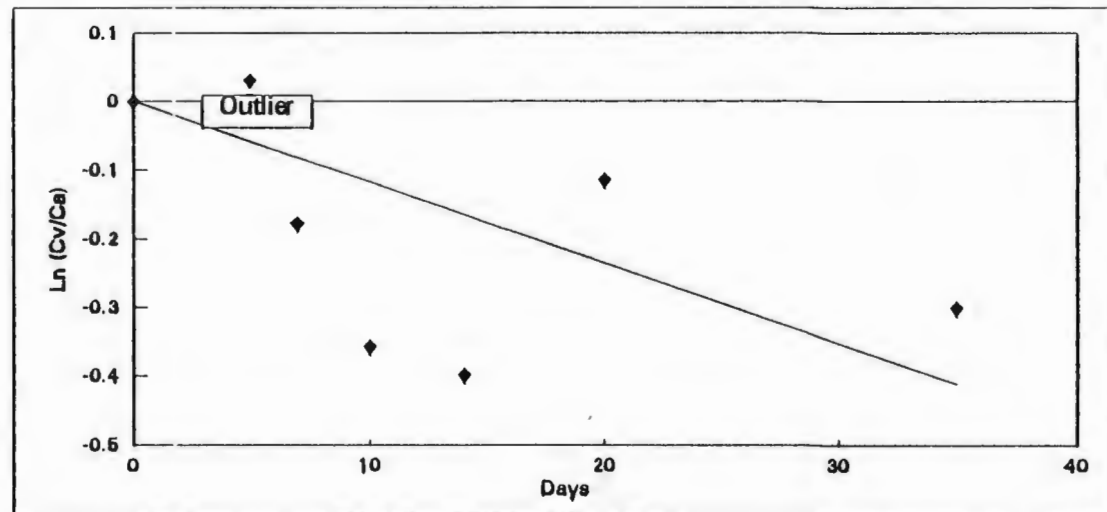
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** M,P-Xylenes  
**Sample Type:** Soil FS-2 (2'-4') (Viable/Abiotic)

First-Order Decay Equation:  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	6160	6160	1.00000	0	0
7	5950	7100	0.83803	-0.17670356	-0.0822176
10	4900	7000	0.70000	-0.35667494	-0.1174537
14	4500	6700	0.671642	-0.39803013	-0.1644352
20	5000	5600	0.89286	-0.11332869	-0.2349074
35	4075	5500	0.74091	-0.29987735	-0.4110879
5	6500	6300	1.03175	0.031252544	-0.0587268

Regression Output:	
Constant	0
Std Err of Y Est	0.171971036
R Squared	-0.24987977
No. of Observations	6
Degrees of Freedom	5
X Coefficient(s)	-0.01175
Std Err of Coef.	0.003875

**Estimated Decay Rate (1/day) = 0.012**  
**Estimated Half-Life (days) = 59**



**NOTE:**

- Cv = Concentration of viable sample in ppb
- Ca = Concentration of abiotic sample in ppb
- Day 35 data is average of Day 30 and Day 35 data
- Day 5 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Benzene  
**Sample Type:** Water (Viable/Abiotic)

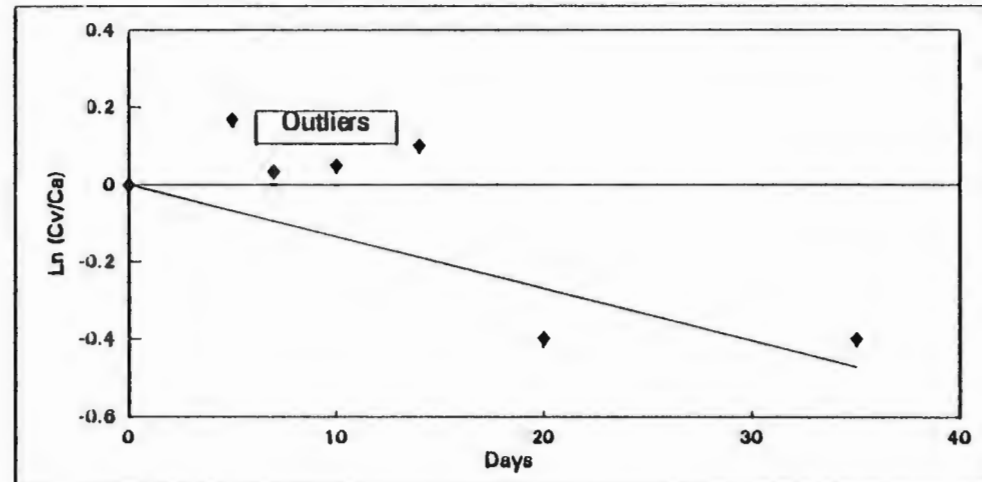
**First-Order Decay Equation :**  $C_t = C_i e^{-kt} \implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration at time  $t$        $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	880	880	1.00000	0	0
20	740	1100	0.67273	-0.39641527	-0.2697582
35	580	865	0.67052	-0.3997014	-0.4720769
5	900	760	1.18421	0.16907633	-0.0674396
7	890	860	1.03488	0.034289073	-0.0944154
10	830	790	1.05063	0.049392755	-0.1348791
14	930	840	1.10714	0.101782694	-0.1888307

Regression Output:	
Constant	0
Std Err of Y Est	0.103151
R Squared	0.798557
No. of Observations	3
Degrees of Freedom	2
X Coefficient(s)	-0.013487911
Std Err of Coef.	0.0025588591

Estimated Decay Rate (1/day) = 0.0135

Estimated Half-Life (days) = 51



**NOTE:**

$C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Days 35 data is average of Day 30 and Day 35 data  
 Days 5, 7, 10, and 14 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** O - Xylene  
**Sample Type:** Water

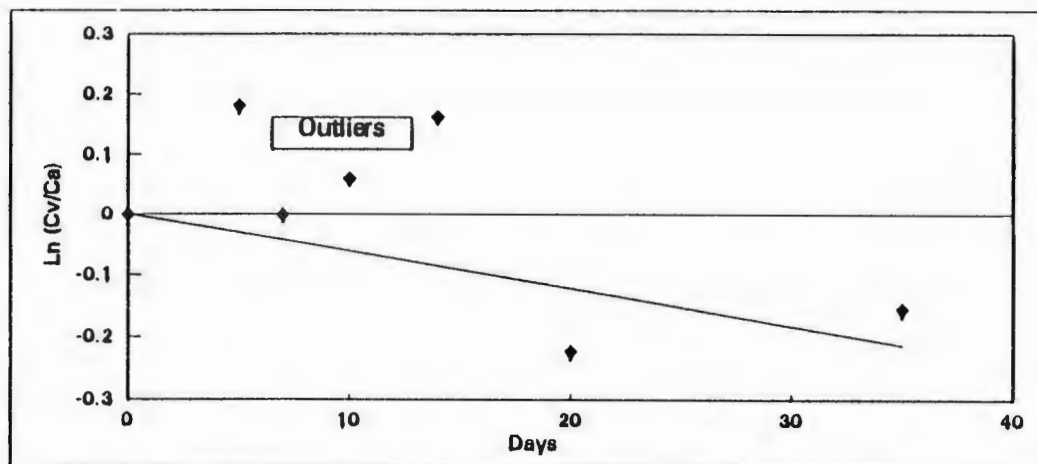
**First-Order Decay Equation :**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	1850	1850	1.00000	0	0
20	1600	2000	0.8	-0.22314355	-0.121331
35	1500	1750	0.857143	-0.15415068	-0.2123293
5	1800	1500	1.2	0.182321557	-0.0303328
7	1800	1800	1	0	-0.0424659
10	1700	1600	1.06250	0.060624622	-0.0606655
14	2000	1700	1.17647	0.162518929	-0.0849317

Regression Output:	
Constant	0
Std Err of Y Est	0.082917
R Squared	0.473264
No. of Observations	3
Degrees of Freedom	2
X Coefficient(s)	-0.006066551
Std Err of Coef.	0.0020569239

**Estimated Decay Rate (1/day) = 0.006**

**Estimated Half-Life (days) = 114**



**NOTE:**

- Cv = Concentration of viable sample in ppb
- Ca = Concentration of abiotic sample in ppb
- Day 35 data is average of Day 30 and Day 35 data
- Days 5, 7, 10, and 14 not used in regression fit



## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

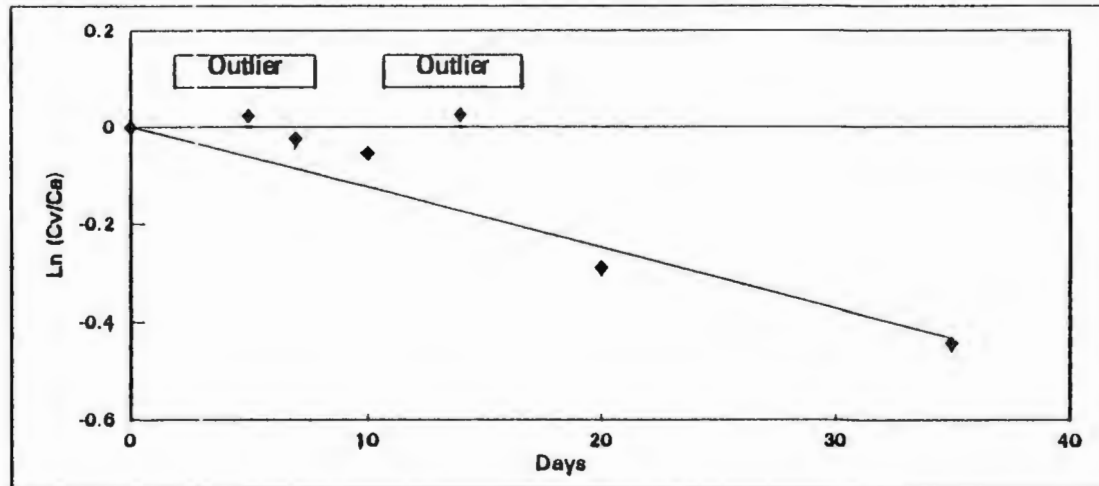
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** p, m - Xylenes  
**Sample Type:** Water (Viable/Abiotic)

First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration at time t                       $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration     $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	4250	4250	1	0	0
7	4000	4100	0.97561	-0.02469	-0.0865384
10	3600	3800	0.94737	-0.05407	-0.1236263
20	3300	4400	0.75000	-0.28768	-0.2472526
35	2250	3500	0.64286	-0.44183	-0.4326921
5	4200	4100	1.02439	0.02410	-0.0618132
14	3800	3700	1.02703	0.02667	-0.1730768

Regression Output:	
Constant	0
Std Err of Y Est	0.050945
R Squared	0.93118
No. of Observations	5
Degrees of Freedom	4
X Coefficient(s)	-0.012362631
Std Err of Coef.	0.0012095462

**Estimated Decay Rate (1/day) = 0.0124**  
**Estimated Half-Life (days) = 56**



**NOTE:**  
 Cv = Concentration of viable sample in ppb  
 Ca = Concentration of abiotic sample in ppb  
 Day 35 data is average of Day 30 and Day 35 data  
 Days 5 and 14 data not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

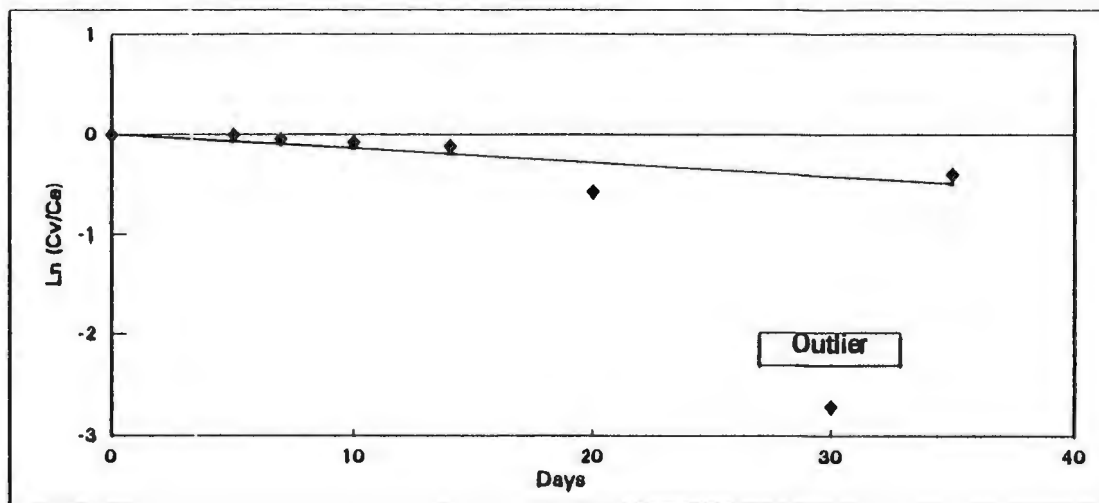
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Toluene  
**Sample Type:** Water (Viable/Abiotic)

First-Order Decay Equation :  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration at time  $t$        $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration                       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	4250	4250	1.00000	0	0
5	4200	4200	1.00000	0	-0.0693458
7	4000	4200	0.95238	-0.04879016	-0.0970842
10	3600	3900	0.92308	-0.08004271	-0.1386917
14	3200	3600	0.88889	-0.11778304	-0.1941684
20	2500	4400	0.56818	-0.56531381	-0.2773834
35	1900	2800	0.678571	-0.38776553	-0.4854209
30	300	4500	0.066667	-2.7080502	-0.416075

Regression Output:	
Constant	0
Std Err of Y Est	0.134695
R Squared	0.6207
No. of Observations	7
Degrees of Freedom	6
X Coefficient(s)	-0.013869168
Std Err of Coef.	0.0030156385

**Estimated Decay Rate (1/day) = 0.0139**  
**Estimated Half-Life (days) = 50**



**NOTE:**  
 $C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb  
 Day 30 not used in regression fit

## BIO-DEGRADATION RATE ESTIMATION ASSUMING FIRST-ORDER DECAY

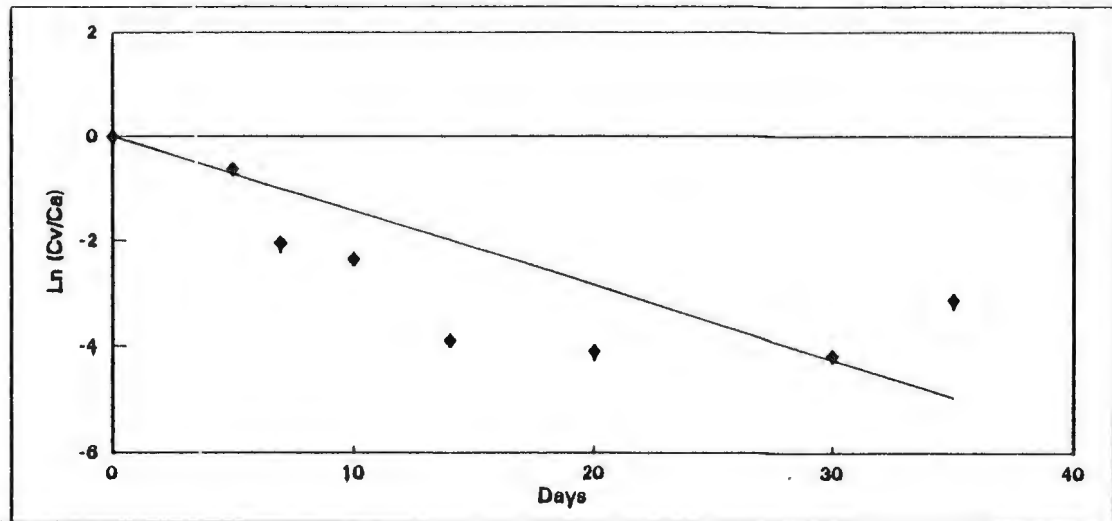
**Project #:** 1966  
**Site:** Condon - Cedarburg  
**Constituent:** Ethylbenzene  
**Sample Type:** Water (Viable/Abiotic)

**First-Order Decay Equation :**  $C_t = C_i e^{-kt}$   $\implies -kt = \ln(C_t/C_i)$   
 where,  
 $C_t$  = Target Concentration at time  $t$        $k$  = Decay Rate (1/day)  
 $C_i$  = Initial Concentration                       $t$  = time in days

Time (Day)	Conc (Cv)	Conc (Ca)	Cv/Ca	Ln(Cv/Ca)	fit
0	1010	1010	1.00000	0	0
5	510	940	0.54255	-0.61146915	-0.7098765
7	130	1000	0.13000	-2.04022083	-0.9938271
10	92	960	0.09583	-2.34514471	-1.419753
14	20	970	0.02062	-3.8815638	-1.9876542
20	20	1200	0.01667	-4.09434456	-2.839506
30	20	1300	0.015385	-4.17438727	-4.259259
35	38	850	0.044706	-3.10765019	-4.9691356

Regression Output:	
Constant	0
Std Err of Y Est	1.230262
R Squared	0.400314
No. of Observations	8
Degrees of Freedom	7
X Coefficient(s)	-0.141975301
Std Err of Coef.	0.0228651178

**Estimated Decay Rate (1/day) = 0.1420**  
**Estimated Half-Life (days) = 5**



**NOTE:**  
 $C_v$  = Concentration of viable sample in ppb  
 $C_a$  = Concentration of abiotic sample in ppb

**APPENDIX D**

**SITE SPECIFIC CLEANUP LEVEL ESTIMATION**

## SITE-SPECIFIC SOIL CLEANUP LEVEL ESTIMATION CONDON - CEDARBURG

Unsaturated zone contaminant transport modeling was performed in an effort to determine the site specific soil cleanup concentrations for select hydrocarbon compounds at the Condon - Cedarburg site. Through review of the site's hydrogeologic conditions and extent of impacted soil the Seasonal Soil Compartment Model (SESOIL) was the selected transport model. The typical site conditions, as illustrated in Figure 1 are appropriate for the use of the SESOIL model to evaluate the subsurface movement and transformation of benzene, ethylbenzene, toluene, and xylenes (BTEX) under various hydrogeologic conditions typical of southeastern Wisconsin. The objective of the SESOIL modeling is to estimate residual concentrations of BTEX compounds that can remain in the soil and not be expected to result in groundwater contamination significantly greater than DNR standards.

### MODEL INPUT DATA

The attached Table 1 presents input parameters used in developing the SESOIL model input file. Several of the input parameters were estimated from site-specific data, and several parameters were estimated from literature values applicable to the hydrogeologic conditions encountered beneath the site. In the following sections, sources and rationale for selected input parameters are presented.

#### Chemical Data

The *Groundwater Chemical Desk Reference*, by Montgomery and Welkom, 1990, was used to obtain appropriate chemical characteristics of the BTEX constituents such as solubility, the diffusion coefficient in air, Henry's Law Constant, molecular weight, and adsorption coefficient. When a range of values was provided in the reference, either the average or a conservative value was used for the model input. This resulted in a conservatively high model output. For example, the adsorption coefficient for benzene as provided in the reference ranged from 31 to 100. The average value of 65.5 was used in the model.

### Soil Data

The layer thicknesses used in the model represent typical soil conditions encountered in soil borings completed at the site and were selected through review of the February 7, 1996, *Report of a Subsurface Investigation and Remedial Alternative Analysis at the Former Condon Companies Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin*. Unsaturated impacted soil was encountered at an average minimum depth of two feet and extends to a depth of approximately four feet below the ground surface. Therefore, SESOIL model input layer thickness requirements, Layers L1 and L3 were selected accordingly to represent three feet of unsaturated soil surrounding two feet of impacted soil.

During soil boring and groundwater monitoring well installation activities, moist soft silty clay was encountered at depths ranging from the surface to eight feet bgs throughout the site. During subsequent groundwater sampling events groundwater was measured in site monitoring wells at depths ranging from three to six feet bgs with an average depth of approximately 5 feet. Therefore, layer 3, the unsaturated soil zone between the impacted soil and the groundwater table extends from four to five feet bgs. A groundwater depth of five feet was selected for use in the model because shallow groundwater levels (approximately 3 feet) were measured near the former tank bed within the area of impacted soil which would most likely require remediation. While, soil impacts which are likely to remain in place are located away from the former UST location where groundwater was measured at a greater depth of six feet bgs. The SESOIL model was designed to represent residually impacted soil away from the source area.

Layer 1 (L1) - Unsaturated Soil Zone:	0' to 2'
Thickness of 60.92 centimeters (cm) [two feet]	
Layer 2 (L2) - Impacted Soil Zone:	2' to 4'
Thickness of 60.92 cm (two feet)	
Layer 3 (L3) - Unsaturated Non-impacted Soil Zone:	4' to 5'
Thickness of 30.48 cm (one foot)	
Layer 4 (L4) - Top of Water Table:	5' to 5.5'
Thickness of 15.24 cm (one-half foot)	

**FIGURE 1. SESOIL Compartment**

- Fractional Organic Carbon Content - The fractional organic carbon content selected for use in the model is a conservative value of 1.5 percent based on typical values reflecting the soil depth and types beneath the site. (Ref. *The New SESOIL User's Guide*, Wisconsin Department of Natural Resources, PUBL-SW-200-94). Although, laboratory analytical results of two soil samples collected from depths of 2 to 4 feet bgs and 4 to 6 feet bgs ranged between 4 and 20 percent a conservatively low value was selected to represent the site conditions.
- Hydraulic Conductivity (K) - The value selected for use in the model was based on site hydraulic conductivity testing and typical reference values reflecting the soil types beneath the site. (Ref. *The New SESOIL User's Guide*, Wisconsin Department of Natural Resources, PUBL-SW-200-94).
- Biological Degradation Rate - The biodegradation rates obtained through the completion of a biofeasibility (kinetic rate) study of site soil and groundwater samples in conjunction with aerobic and anaerobic biodegradation rates published in *Handbook of Environmental Degradation*, Howard et. al. A conservative degradation rate was selected from the model.
- Bulk Density - A site specific bulk density, measured through analysis of soils encountered beneath the site was chosen for use in the model.
- pH - A pH, typical of the soils encountered beneath the site was chosen for use in the model.
- Effective Porosity - An effective porosity, typical of the soils encountered beneath the site was chosen for use in the model. (Ref. *The New SESOIL User's Guide*, Wisconsin Department of Natural Resources, PUBL-SW-200-94)
- Disconnectedness Index - A disconnectedness index, typical of the soils encountered beneath the site was chosen for use in the model. (Ref. *The New SESOIL User's Guide*, Wisconsin Department of Natural Resources, PUBL-SW-200-94)
- Moisture Content - The site specific soil moisture content which ranges from 14 to 12% was obtained through laboratory analysis of soil samples collected from depths of two to four and four to six feet bgs at the site, respectively. The model was calibrated to match the field moisture content by changing the bulk density, the hydraulic conductivity and the disconnectedness index.

For the purpose of the model simulation, an area of approximately 6,500 square feet was assumed to be present after remediation of the source area.

## **MODEL RESULTS**

Several calibration runs were performed by varying the soil data (intrinsic permeability, effective porosity, and disconnectedness index) to obtain model generated moisture content of 14%.

After the model was calibrated, final model runs were completed to detect maximum contaminant concentrations at the groundwater table interface. Benzene, toluene and ethylbenzene were predicted to be transported through the unsaturated zone to the water table interface and be detected in the groundwater. Xylene did not reach the groundwater above detectable levels. For the purpose of individual model simulation, input soil concentrations of 140 ppb benzene, 13,000 ppb ethylbenzene, 190 ppb toluene and 58,310 ppb xylenes were used for each of the BTEX compounds.

A laboratory biofeasibility study (kinetic rate study) of site soil and groundwater indicated a relatively aerobic condition in the subsurface environment. However, biodegradation rates used in the calibration and sensitivity analysis were selected based on site specific study and aerobic and anaerobic half-life values available in the literature. The geometric mean half-life for benzene degradation beneath the site was calculated as 49.5 days (a degradation rate of 0.014/day). Based on literature review the aerobic half-life of benzene could be in the order of 400 days and an anaerobic half-life of benzene is approximately 720 days. A conservative anaerobic biodegradation rate of 0.00096/day (half-life of 720 days) was used for model simulation.

Attached Figure 2 presents a plot of the model output for the predicted benzene concentration within the soil moisture at the groundwater table interface over time. Based on the model simulation, approximately four and one-half years would be required for benzene to travel to the water table. The predicted maximum benzene soil moisture concentration at the water table interface would be 16.58 ppb.

### **Sensitivity Analysis**

A sensitivity analysis for benzene was conducted on the Condon - Cedarburg SESOIL Model to determine which input variables were the most uncertain and if applying extreme values to these variables would significantly change the model results. A total of three parameters were identified for sensitivity analysis: organic carbon content, biodegradation rate and intrinsic permeability. Although other parameters used in the model simulation were obtained from published values sensitivity analysis



was not performed for these parameters because these variables have limited impact in changing the model output. For example, changing pH, air diffusion coefficient and climatic data produced minimal changes in the model output as demonstrated by the detailed sensitivity analysis performed by Science & Technology Management, Inc. (Groundwater Contamination Susceptibility Evaluation, SESOIL Modeling, Final Report, May 1993). Therefore, sensitivity analysis was limited to three of the most critical parameters.

Table 1 presents the parameters and their ranges used during the sensitivity analysis. Only one variable was changed for each sensitivity run, first applying the best and then the worst-case value to the model. The corresponding low and high results for peak concentration in soil moisture at the bottom layer ( the water table interface) predicted by the SESOIL model are reported in Table 1.

A tornado diagram based on data in Table 1 is depicted in Figure 3. A tornado diagram is a tool used for evaluating parameter sensitivity. Each bar on the tornado diagram represents the range or swing between the lowest and highest results when the input variable is changed from the best to worst case value. Benzene concentrations in soil moisture predicted by the model were tracked for the sensitivity analysis. The vertical line in the figure represents the results of the Condon - Cedarburg case. It is important to note that a tornado diagram indicates only the relative sensitivity or uncertainty of a variable. A small bar does not mean that the variable lacks importance.

it is clear from the diagram in Figure 3 that organic carbon content has the greatest impact on the model results followed by biodegradation and permeability. Increased organic carbon content decreased the concentration of benzene within the soil moisture at the water table interface and low organic carbon content increased the concentration of benzene at the water table interface. Organic carbon content in the soil matrix is a primary sorbent for nonpolar organic compounds, at least when the organic fraction of the soil is 0.1 percent or higher. The organic carbon content can range from few percent to over 10 percent in surficial soils, there is generally very little organic carbon below the upper soil zones. Considering the measured organic carbon content within the soil encountered at the site and the depth of contamination, a conservatively low value (1.5 percent) was used in the Condon - Cedarburg case for obtaining a conservatively high estimate of benzene concentration in the groundwater.

Biodegradation rate is a measure of the breakdown or loss of chemical due to biological activity. Aerobic biodegradation is an important transformation process for hydrocarbon compounds in relatively shallow soils where oxygen is plentiful. However, in deeper soils and below groundwater, a oxygen-limiting condition, semi-aerobic/anaerobic processes are predominant. All BTEX compounds are highly biodegradable under both aerobic and anaerobic processes, with the exception of benzene. Biodegradation of benzene slows down substantially under anaerobic conditions. Although the biofeasibility study indicated a relatively fast aerobic biodegradation rate for benzene is likely within the subsurface (0.014/day), a conservative (slower) aerobic biodegradation rate (0.00096/day) was assumed for modeling.

A critical review of the input values reveals that soil permeability had moderate impact in model output. Higher permeability values resulted in a relatively higher concentration in the model output because of the contaminants were able to move more quickly toward the bottom layer. Conversely, a very low soil moisture concentration was noted with a lower soil permeability, indicating that the contaminants were able to degrade and volatilize prior to reaching the groundwater table.

#### Site-Specific Cleanup Levels

The SESOIL model predicted the concentration of benzene within the soil moisture at the water table. The benzene concentration in the groundwater was calculated, using model predicted soil moisture concentrations at the water table interface and a dilution attenuation factor (DAF) defined in WDNR Guidance Document *Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance*, Wisconsin Department of Natural Resources, RR-519-97:

$$C_w = C_g / DAF$$

where:

$C_w$  = Predicted groundwater concentration (ppb)

$C_g$  = Model predicted soil moisture concentration at the water table (ppb)

DAF = Dilution Attenuation Factor

The Dilution Attenuation Factor (DAF) was calculated to obtain the predicted groundwater concentration. The DAF was calculated using the following equation:

$$DAF = (d/R*\theta)*(K_{oc}*f_{oc}*\rho_b + n)$$

where,

- d = depth of groundwater mixing zone (cm)
- R = annualized groundwater recharge (cm)
- $\theta$  = average volumetric soil moisture content of the unsaturated zone (cm<sup>3</sup>/cm<sup>3</sup>)
- K<sub>oc</sub> = organic carbon:water partitioning coefficient (L/kg)
- f<sub>oc</sub> = fractional organic carbon content (g/g)
- $\rho_b$  = soil dry bulk density (g/cm<sup>3</sup>)
- n = porosity (cm<sup>3</sup>/cm<sup>3</sup>)

Because SESOIL uses linear equilibrium partitioning, site specific soil cleanup levels for BETX compounds can be estimated from the model predicted values using the following equation:

$$C_s = (PAL/C_w) \times S_i$$

where,

- C<sub>s</sub> = Site-specific soil cleanup level (ppb)
- PAL = Chapter NR 140 Preventive Action Limit (ppb)
- C<sub>w</sub> = Model Predicted Groundwater Concentration (ppb)
- S<sub>i</sub> = Model Input Soil Concentration (ppb)

The site specific soil cleanup value for benzene was calculated using the Chapter NR 140 Groundwater Preventive Action Limit of 0.5 ppb. The SESOIL model predicted a benzene concentration in the groundwater of 0.20 ppb. Based on SESOIL model results, the site-specific soil cleanup value of 347 was calculated using the above equation. The site specific soil cleanup values for toluene, ethylbenzene, and xylene were also estimated based on their representative input concentrations. However, because the model predicted groundwater concentrations below detectable levels, site specific soil cleanup values for these constituents would be equal to or greater than the representative soil input concentrations.

#### References:

1. Howard et. al., Handbook of Environmental Degradation.
2. Lyman, et. al., Handbook of Chemical Property Estimation Methods
3. C. W. Fetter, Contaminant Hydrogeology
4. Wisconsin Department of Natural Resources, The New SESOIL User's Guide, PUBL-SW-200-94
5. Wisconsin Department of Natural Resources, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance, PUBL-RR-519-97.

**TABLES & FIGURES**

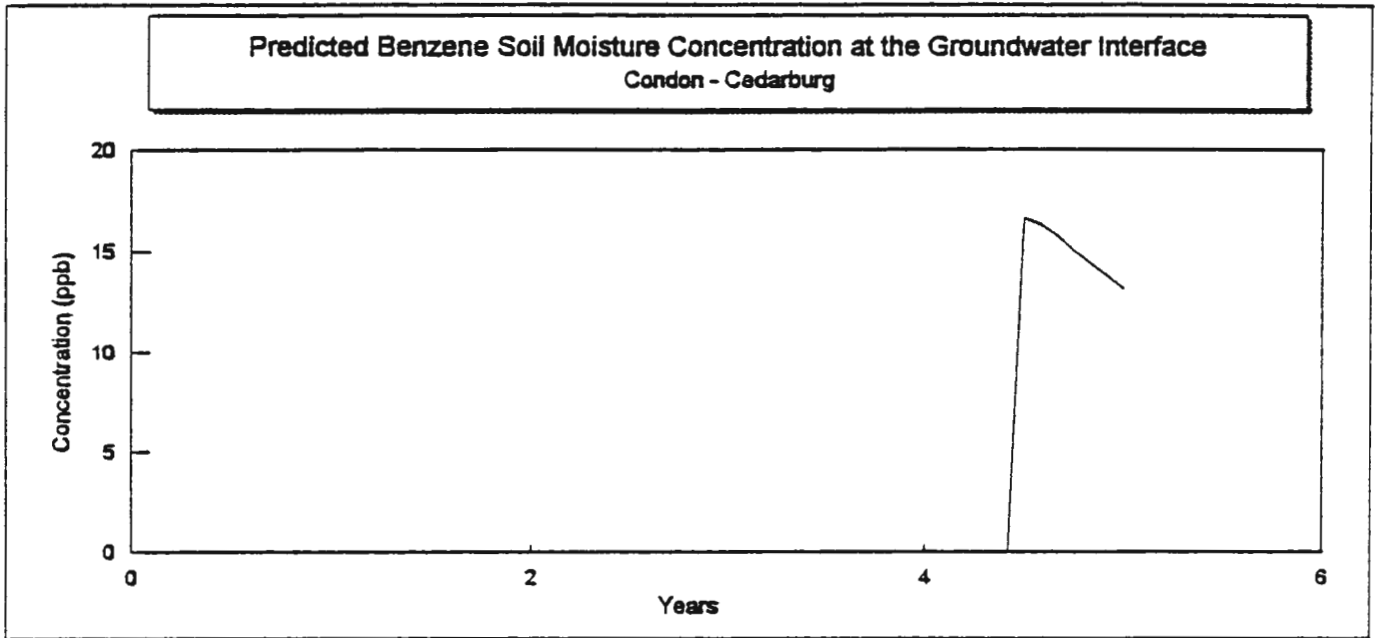
**TABLE 1  
CONDON - CEDARBURG  
SESOIL Modeling**

Run	base	TOC1	TOC2	Perm3	Perm4	Bio1	Bio	Toi	Ethylbez	X
Constituent	Benzene							Toluene	Ethylbenzene	Xylene
<b>Chemical Properties</b>										
Solubility (µg/ml) @ 25 C								534.8	161	162-200
Diffusion Coefficient in Air (sq-cm/s)								0.07828	0.06667	0.07164
Henry's Law Constant @ 25 C								0.00594	0.00844	0.0063
Molecular Weight								92.13	106.18	106.18
KOC								130	170	895
PAL								68.6	140	124
<b>Sensitivity Analysis</b>										
	baseline	TOC	TOC	PERM	PERM	BIO	BIO	Model Input		
TOC % (foc)	1.5	0.5	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5
K (cm2)	1E-08	1E-09	1E-09	1E-10	1E-08	1E-09	1E-09	1E-09	1E-09	1E-09
BIO	0.00096	0.00096	0.00096	0.00096	0.00096	0	0.014	0.00096	0.00096	0.00096
Bulk Density (Pb)	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
pH	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Effective Porosity (n)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Disconnectedness	12	12	12	12	12	12	12	12	12	12
Moisture	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Input Conc. (ppb)	140	140	140	140	140	140	140	180	13000	58310
Years	4.5	1.75	5.83	--	2.83	4.58	--	8.5	10.92	--
Soil Moisture Concentration (ppb)	16.58	109.7	8.187	0	20.15	76.89	0	2.884	0.6001	0
$(d/R \cdot O) \cdot (Koc \cdot foc \cdot Pb+n) = DAF =$	82.26							154.82	199.62	--
Estimated Maximum Groundwater Concentration (ppb) =	0.20							0.019	0.003	--
Calculated Site Specific Soil Cleanup Concentration (ppb) =	347.29							>180	>13,000	>58,310

Depth of Groundwater Mixing Zone = d (cm)      152.4  
 Annualized Groundwater Recharge = R (cm)      25.4

**FIGURE 2**

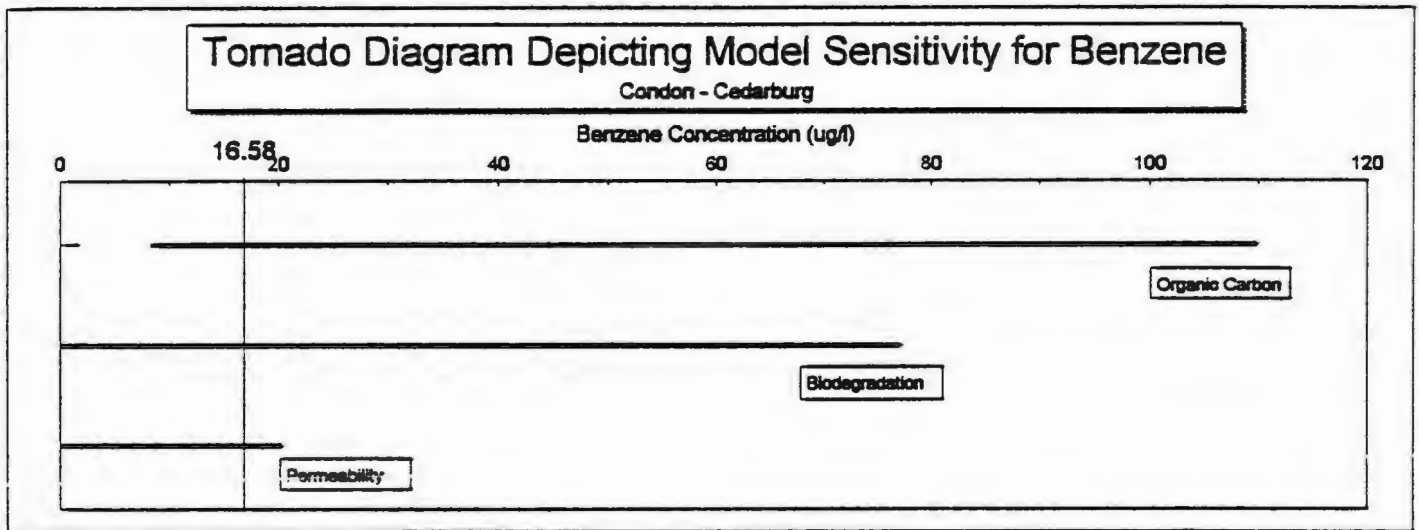
**Predicted Benzene Concentration within the Soil Moisture**



**FIGURE 3**

**Summary of the input parameters and corresponding results for the sensitivity analysis on the Condon - Cedarburg SESOIL Model.**

Parameters	Model Variable			Predicted Benzene Peak Concentration in Soil Moisture	
	Condon - Cedarburg Case	Best Case	Worst Case	Low (ug/L)	High (ug/L)
Organic Carbon Content (%)	1.50	0.50	2.00	8.2	109.7
Biodegradation (per day)	0.00096	0.01400	0.00000	0.0	76.9
Intrinsic Permeability (K, cm <sup>2</sup> )	1.0E-09	1.0E-10	1.0E-08	0.0	20.2



The bars show the range of values for peak concentration in groundwater predicted by SESOIL Model, as each parameter is independently varies between best- and worst-case scenarios.

**MASS BALANCE REPORT FOR:**

**C:\SEVIEW\CONDON\BASE.OUT**

**End of Year : 5**

<b>Process</b>	<b>Pollutant Mass µg</b>	<b>Percent Input</b>	<b>Normalized Mass µg</b>	<b>Normalized Percent</b>
Volatilized	4.099E+06	5.16	4.100E+06	5.16
Diffused Up	6.141E+04	0.07	6.141E+04	0.07
Soil Air	8.235E+04	0.10	8.236E+04	0.10
Sur. Runoff	0.000E-01	0.00	0.000E-01	0.00
In Washld	0.000E-01	0.00	0.000E-01	0.00
Ads On Soil	1.022E+07	12.88	1.022E+07	12.88
Hydrol Soil	0.000E-01	0.00	0.000E-01	0.00
Degrad Soil	5.711E+07	71.96	5.711E+07	71.97
Pure Phase	0.000E-01	0.00	0.000E-01	0.00
Complexed	0.000E-01	0.00	0.000E-01	0.00
Immobile CEC	0.000E-01	0.00	0.000E-01	0.00
Hydrol CEC	0.000E-01	0.00	0.000E-01	0.00
In Soil Moi	8.313E+05	1.04	8.314E+05	1.04
Hydrol Mois	0.000E-01	0.00	0.000E-01	0.00
Degrad Mois	4.755E+06	5.99	4.755E+06	5.99
Other Trans	0.000E-01	0.00	0.000E-01	0.00
Other Sinks	0.000E-01	0.00	0.000E-01	0.00
Gwr. Runoff	2.185E+06	2.75	2.186E+06	2.75
<b>Total Output</b>	<b>7.934E+07</b>	<b>99.98</b>	<b>7.936E+07</b>	<b>100.00</b>
<b>Total Input</b>	<b>7.936E+07</b>		<b>7.936E+07</b>	
<b>Input - Output</b>	<b>1.025E+04</b>			



FID# 846 073300

# K. SINGH & ASSOCIATES, INC.

Engineers and Environmental Management Consultants

1135 Legion Drive, Elm Grove, WI 53122 (414) 821 - 1171 FAX (414) 821 - 1174

**L.U.S.T.**

**RECEIVED**

APR 02 1996

Project # 2024

D.N.R. SED Hqtrs.  
Milwaukee, WI

**RECEIVED**

JUN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

March 25, 1996

Ms. Nancy Gloe  
Wisconsin Department of Natural Resources  
Wastewater Section  
P.O. Box 12436  
2300 North Dr. Martin Luther King Jr. Drive  
Milwaukee, Wisconsin 53212

Subject: **Discharge Monitoring Report for February 1996 for Eddie's Service, Saukville, Wisconsin**

Dear Ms. Gloe:

Enclosed please find the Discharge Monitoring Report for the referenced project for February 1996. During the month of February 1996, groundwater was discharged into the storm sewer under WPDES (Permit # WI 0046566-2). The unit stopped operating after December 18, 1995 due to cold weather conditions.

Please call us if you have any questions regarding this submittal.

Sincerely,

K. SINGH & ASSOCIATES, INC.

Dhruva N. Vangipuram, Ph. D., P.E.  
Senior Project Engineer

Pratap N. Singh, Ph.D., P.E.  
Project Manager

cc: Mr. Edward Friede / Owner  
Mr. John Feeney / WDNR  
PECFA Claim File

Discharge Monitoring Report Form (Contaminated Groundwater)

Permit No. - WI-0046566-2

Permittee Edward  
Eddie's Service  
125 N. Riverside Dr.  
Saukville

Friede

Lab Name: \_\_\_\_\_

DNR File Reference Number: 246041510

Lab Cert#: \_\_\_\_\_

Page 1 of 2

WI 53080

DMR Sent to: Singh & Assoc

Outfall Number	001	001	001	001	001	001
Parameter Name	BTEX	Benzene	Tot Rec Lead	Hardness	TSS	PAHs
Parameter Units	ug/l	ug/l	ug/l	mg/l	mg/l	ug/l
Lab Method Used						
Date(s) Sampled	February 1996 No groundwater was discharged into the Storm Sewer, as the unit was not operational.					
Daily Max Limit	750				40	
Monthly Avg. Limit		50				0.1
Sample Type	grab	grab	grab	grab	grab	grab
Sample Frequency	see permit	see permit	see permit	see permit	see permit	see permit

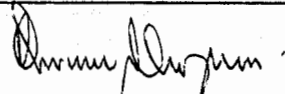

Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day

Send Report To: Wastewater Section  
Department of Natural Resources  
P.O. Box 12346  
Milwaukee, WI 53212

Return Report no later Than: March 31 1996

I certify under penalty of law that I have personally examined and am familiar with the information submitted in 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, accurate and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fines and imprisonment, (40 CFR 122.5). I also certify that the values being submitted are the actual values found in the samples; no values have been modified or changed in any manner. Where ever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Please attach notes and/or address-name corrections on a seperate sheet

Signature of Person Completing Form		
Signature of Principal Exec. Officer or Authorized Agent	Title	
	v.p.	

Outfall Number	001	001	001		
Parameter Name	Oil & Grease	Flow	pH		
Parameter Units	mg/l	gal/day	s.u.		
Lab Method Used					
Date(s) Sampled	February 1996 No groundwater was discharged into the storm sewer as the unit was not operational.				
Daily Max Limit	10				
Monthly Avg. Limit					
Sample Type	grab	estimate	grab		
Sample Frequency	see permit	continuous	see permit		

Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day

Send Report To: Wastewater Section  
 Department of Natural Resources  
 P.O. Box 12346  
 Milwaukee, WI 53212

Return Report no later Than: March 31 1996

Please attach notes and/or address-name corrections on a separate sheet

I certify under penalty of law that I have personally examined and am familiar with the information submitted in 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, accurate and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fines and imprisonment, (40 CFR 122.5). I also certify that the values being submitted are the actual values found in the samples; no values have been modified or changed in any manner. Where ever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature of Person Completing Form <i>[Signature]</i>	
Signature of Principal Exec. Officer or Authorized Agent <i>[Signature]</i>	Title v.p.

February 28, 1996

L.U.S.T.

Project Reference #1966  
WDNR FID #246121150  
ERR-LUST

Ms. Giselle Red  
WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
P.O. Box 12436  
4041 North Richards Street  
Milwaukee, WI 53212

Re: Report of a Subsurface Investigation  
and Remedial Alternative Analysis at the  
Condon Oil Company's Former  
Bulk Facility  
N52 W5358 Portland Road  
Cedarburg, Wisconsin

RECEIVED

MAR 01 1996

D.N.R. SED Hqtrs.  
Milwaukee, WI

RECEIVED

JUN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

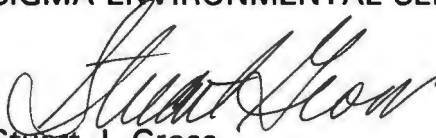
Dear Ms. Red:

Enclosed for your records is a copy of the Sigma report, "Report of a Subsurface Investigation and Remedial Alternative Analysis at the Condon Oil Company's Former Bulk Facility, N52 W5358 Portland Road, Cedarburg, Wisconsin".

If you have any questions or comments regarding this project, please call me at (414) 284-6824.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

  
Stuart J. Gross  
Staff Hydrogeologist

SJG/mee

Enclosure

cc: Mr. Tom Reinsch - Condon Oil Company



February 23, 1996

Mr. Eric Scott  
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS  
201 East Washington Avenue  
P.O. Box 7969  
Madison, WI 53707

RECEIVED

JUN 30 2000

PECFA SITE REVIEW  
MILWAUKEE OFFICE

Sigma Project Reference #1966-02

WDNR FID #246121150

LOST # 4147

RECEIVED

MAR 29 1996

Re: Remedial Action at the Condon Oil Company - Former Bulk Facility  
LUST Site - PECFA Claim #53012-2106-50

DELETED Hqtrs.  
Milwaukee, WI

Dear Mr. Scott:

Petroleum impacts were initially identified in August 1993 during a preliminary site assessment conducted at the Condon Oil Company's former bulk facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin. Based on laboratory results, petroleum impacts beneath the site are the result of a release from a 1,000 gallon diesel fuel underground storage tank (UST) and former aboveground storage tank (AST) systems located on the property.

During November 1994 and December 1995, a total of fourteen soil borings and ten monitoring wells were installed at the site to define the extent and character of soil and groundwater impacts. Based on laboratory results, an estimated 9,875 tons of petroleum impacted soil will require remediation. However, an estimated 675 tons of soil is located off-site beneath the Filter Oil property and will not be remediated.

Based on laboratory data, groundwater underlying the site has been impacted by the petroleum release. Laboratory analysis detected Volatile Organic Compounds (VOCs) at concentrations above various Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standards (ES). Therefore, groundwater remediation will be required.

Enclosed is documentation comparing soil and groundwater remediation alternatives and a recommendation for excavation and active bioremediation (Waste Management - Biosites system) of impacted soil coupled with groundwater recovery, off-site disposal, and quarterly monitoring. The total estimated first year present value cost for the selected remediation is \$384,745 (includes first year operations and maintenance). The estimated present value lifecycle cost for the project is \$423,727. This information is provided so the Department of Industry, Labor and Human Relations (DILHR) can grant approval for the cost to implement our remedial action.



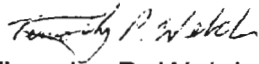
Department of Industry, Labor and Human Relations  
February 23, 1996  
Page 2

If you have any questions or comments, please contact our office at (414) 284-6824.  
Your prompt attention to this matter is greatly appreciated.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

  
Stuart J. Gross  
Staff Hydrogeologist

  
Timothy P. Welch, PG  
Project Hydrogeologist

SJG/mee

Enclosure

cc: Mr. Tom Reinsch - Condon Oil Company  
Ms. Giselle Red - Wisconsin Department of Natural Resources

**CONDON OIL COMPANY - FORMER BULK FACILITY**  
**SOIL AND GROUNDWATER REMEDIATION ALTERNATIVES**

The four strategies evaluated for the remediation of petroleum impacted soil and groundwater at the Condon Oil Company - Former Bulk Facility consist of the following:

- Option 1. Excavation and landfill biotreatment (at Waste Management's "Biosites") of impacted soil greater than 100 ppm; with quarterly groundwater recovery, treatment, and monitoring.
- Option 2. Excavation and landfill bioremediation of impacted soil greater than 2,000 ppm GRO/DRO coupled with landfill disposal of remaining impacted soil; with quarterly groundwater recovery, disposal, and monitoring.
- Option 3. Excavation and thermal treatment of impacted soil; and quarterly groundwater recovery, disposal, and monitoring.
- Option 4. Passive bioremediation (not technically feasible).

The four remediation alternatives were evaluated based upon technical feasibility, remediation efficiency, Wisconsin Department of Natural Resources (WDNR) permitting and monitoring requirements, anticipated project duration, estimated initial capital costs and annual operation and maintenance costs. The estimated lifecycle costs for the remedial options is summarized in Table 1.

<b>TABLE 1</b>				
<b>ESTIMATED PRESENT VALUE LIFECYCLE REMEDIATION COSTS</b>				
<b>CONDON OIL COMPANY - FORMER BULK FACILITY</b>				
	<u>Option 1</u> Bioremediation & Groundwater Recovery, Disposal and Monitoring	<u>Option 2</u> Bioremediation/Landfill Disposal & Groundwater Recovery, Disposal and Monitoring	<u>Option 3</u> Thermal Treatment & Groundwater Recovery, Disposal and Monitoring	<u>Option 4</u> Passive Bioremediation
<b>Soil Remediation</b>				Not Technically Feasible
Consulting Cost	\$ 28,385	\$ 30,765	\$ 28,385	
Subcontractor Cost	\$ 315,240	\$ 315,240	\$ 362,160	
<b>Subtotal</b>	<b>\$ 343,625</b>	<b>\$ 346,005</b>	<b>\$ 390,545</b>	
<b>Groundwater Remediation (1st year)</b>				
Consulting Cost	\$ 16,220	\$ 16,220	\$ 16,220	
Subcontractor Cost	\$ 24,900	\$ 24,900	\$ 24,900	
<b>Subtotal</b>	<b>\$ 41,120</b>	<b>\$ 41,120</b>	<b>\$ 41,120</b>	
<b>First Year Present Value Total</b>	<b>\$ 384,745</b>	<b>\$ 387,125</b>	<b>\$ 431,665</b>	
<b>Total Estimated Present Value Lifecycle Costs</b>	<b>\$ * 423,727</b>	<b>\$ * 426,108</b>	<b>\$ * 470,647</b>	
* Lifecycle costs assume two years of groundwater recovery, disposal and monitoring to remediate groundwater at the site. Present worth analysis includes 5% discount rate.				

## **EVALUATION OF REMEDIAL OPTIONS**

Passive bioremediation was not recommended due to the elevated levels of soil impacts (GRO > 2,000 ppm) and the presence of groundwater with concentrations of VOCs (e.g. Benzene) in excess of NR 140 Enforcement Standards.

Thermal destruction or active bioremediation of the impacted soil, coupled with groundwater treatment, is not recommended due to the higher cost of soil treatment.

Based on technical feasibility and lifecycle costs, Sigma recommends that the site be remediated through excavation and active bioremediation of impacted soil coupled with groundwater recovery, off-site disposal and quarterly monitoring. This alternative is technically feasible and, of the three alternatives considered, is the cost-effective means to remediate petroleum impacts at the site. The required tasks and estimated costs for the recommended alternative are summarized in the following section and attached spreadsheet.

## **EXCAVATION AND LANDFILL BIOTREATMENT OF SOIL; GROUNDWATER RECOVERY, TREATMENT, AND MONITORING**

Waste Management, Inc. provides an alternative solution for remediating petroleum impacted soil off-site. The remediation strategy known as "Biosites" implements an aboveground bio-venting process. Soil of any geologic type (sand, gravel, silt, or clay) is transported to the Waste Management facility and placed in select cells of an aboveground pile (bio-pile) network. The system uses the principles of biodegradation and vapor extraction to remediate the soil to practical levels as defined by the WDNR. The remediation process is enhanced by adding bacteria able to break the chemical bonds of petroleum compounds, inorganic nutrients necessary for bacterial growth, and oxygen to the impacted soil during bio-pile construction and operation activities. The system is designed to allow year-round operation.

Remediated soil will remain at the Waste Management facility for beneficial re-use as fill or cover materials. Waste Management is currently requiring the same analytical requirements for permitting as those for landfill disposal. The level of treatment for each bio-pile cell will be dependent upon contaminant type and concentrations. The scope of work to implement this strategy will include the following:

- Sigma will submit analytical reports to secure a landfill disposal permit from the Orchard Ridge Recycling and Disposal Facility.
- The "Application to Treat or Dispose of Petroleum Contaminated Soil" will be completed and submitted to the WDNR.



- Approximately 9,200 tons of impacted soil (GRO/DRO > 100 ppm) will be overexcavated and transported by a WDNR-certified special waste hauler to Waste Management's Orchard Ridge Recycling and Disposal Facility. The soil will be treated in a "Biosites" system.
- Per requirements outlined in the WDNR's "Guidance for Conducting Environmental Response Actions" (Publ. SW-157-92), confirmatory soil samples will be collected at a minimum of one sample every twenty-five feet (grid interval) from the base and sidewalls of the excavation. The samples from the excavation base and sidewalls will be sampled to confirm that all impacted soil was removed and to document the site for closure. The samples will be analyzed for GRO, DRO, Total Lead, PVOCs, and PAHs. Sigma anticipates a total of forty-two clean confirmation samples will be submitted for laboratory analysis.
- Additionally, impacted soils excavated for landfill disposal must to be field screened with a PID every 15 yds<sup>3</sup> and one sample must be submitted for GRO, DRO, and Benzene analysis every 300 yds<sup>3</sup> to confirm that impacted soil is being disposed. A field log will be prepared to document field screening requirements of every 15 yds<sup>3</sup> of impacted soil which is removed. Sigma anticipates a total to twenty-one landfill disposal samples will be submitted for laboratory analysis.
- A detailed report will be prepared to document remedial field activities and the results of laboratory analysis.
- After all impacted soil is excavated and transported for landfill disposal, the excavation area will be backfilled with clean material. Three 6 inch diameter recovery wells will be installed within the excavation to recover impacted groundwater for disposal at an off-site treatment facility once per quarter.
- A quarterly groundwater monitoring program will be instituted to assess the effectiveness of the remediation for a period of one year. Samples collected from the monitoring wells and recovery sumps will be analyzed for GRO, DRO, PVOCs, and Soluble Lead.
- Quarterly groundwater monitoring reports will be prepared to document groundwater recovery and monitoring. The final quarterly report will include a recommendation for site closure or additional groundwater recovery and monitoring.

### **COST OPINION**

The cost estimate to implement the recommended remedial alternative is based on the information obtained from the subsurface investigation, design assumptions (attached), and our experiences with similar projects. The costs to complete the remediation are dependent upon several on-site conditions which have potential to vary the actual costs. Costs associated with commodity services are opinions. A bid package for commodity services will be prepared and submitted to a minimum of three contractors upon WDNR and DILHR approval of the Remedial Action Plan. The lowest cost qualified bidder will be awarded the contract. Work conducted by Sigma personnel will be performed on a time-and-material basis. Every effort will be exercised to perform this project in a cost effective manner. In the event that on-site or off-site conditions warrant changes to this scope of work, the Condon Oil Company and DILHR representatives will be notified that additional effort and associated costs may be incurred prior to proceeding with any further activities.

**REMEDIATION/COST ASSUMPTIONS  
CONDON OIL COMPANY - FORMER BULK FACILITY  
N52 W5358 PORTLAND ROAD  
CEDARBURG, WISCONSIN**

The following assumptions were used when evaluating remedial alternatives and remediation costs:

- assumes impacted soil greater than 100 ppm GRO/DRO will be excavated and bioremediated. The 100 ppm soil standard is based on the hydraulic conductivity of the site.
- assumes the building and the concrete pad on Condon property will be razed prior to excavation
- assumes the subsurface utilities on Condon property will be shored or removed entirely during the excavation
- assume that no soil will be excavated beneath the Filter Oil building
- assume that 3 recovery wells/sumps will be placed within the excavation to remediate the inaccessible soil beneath the Filter Oil garage
- assume that excavated soil will be transported to Orchard Ridge RDF for landfill or bio option or to Clean Soils in Oak Creek for thermal
- assume that no groundwater will need to be pumped during the excavation activities
- assume that quarterly groundwater recovery, disposal, and monitoring will effectively remediate groundwater over a period of two years
- assume majority of work (i.e. excavation, backfilling, etc.) will be completed in 12 working days
- unit costs for bio/landfill obtained through verbal quote from Waste Management
- unit costs for thermal obtained through quote from Clean Soils Inc. dated December 8, 1995
- unit costs for commodity services obtained from previous projects

**COST ESTIMATE-CONDON COMPANIES BULK FACILITY, OPTION 1  
BIOTREATMENT @ ORCHARD RIDGE**

Task Description	Total Labor Costs	Equipment & Expenses	Sub-Contracting Expenses	Analytical Expenses	Total Cost
<b>TASK 1 - Pro. Serv. for Soil Removal</b>					
Bids & Specifications	\$2,590				\$2,590
Project Management	\$3,510				\$3,510
Utility Preparation Pre Excavation	\$4,200				\$4,200
On-Site Supervision	\$11,040	\$1,675			\$12,715
<b>TOTAL - TASK 1</b>	<b>\$21,340</b>	<b>\$1,675</b>	<b>\$0</b>	<b>\$0</b>	<b>\$23,015</b>
<b>TASK 2 - Soil Excavation and Hauling</b>					
Soil Excavation and Hauling	\$0		\$46,000		\$46,000
Backfill Replacement	\$0		\$59,800		\$59,800
Concrete/Asphalt Removal/Hauling			\$2,500		\$2,500
Disposal of Excavation Water					\$0
Install Three Recovery Wells			\$3,000		\$3,000
<b>TOTAL - TASK 2</b>	<b>\$0</b>	<b>\$0</b>	<b>\$111,300</b>	<b>\$0</b>	<b>\$111,300</b>
<b>TASK 3 - BioTreatment of Impacted Soil</b>					
Soil Treatment			\$186,300		\$186,300
<b>TOTAL - TASK 3</b>	<b>\$0</b>	<b>\$0</b>	<b>\$186,300</b>	<b>\$0</b>	<b>\$186,300</b>
<b>TASK 4 - Soil Analysis</b>					
Confirmatory Samples (Impacted)	\$0			\$3,990	\$3,990
Confirmatory Samples (Clean)	\$0			\$13,650	\$13,650
<b>TOTAL - TASK 4</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,640</b>	<b>\$17,640</b>
<b>TASK 5 - Overexcavation Report</b>					
Overexcavation Report	\$4,870				\$4,870
PECFA Claim	\$500				\$500
<b>TOTAL - TASK 5</b>	<b>\$5,370</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,370</b>
<b>TASK 6-GW Rec. &amp; Mon. (1st year)</b>					
Project Management	\$2,750				\$2,750
GW Pump and Treatment(4Qtrs)	\$1,300	\$200	\$16,000		\$17,500
GW Monitoring (4 qtrs)	\$5,040	\$1,770		\$8,900	\$15,710
GW Quarterly Reports (4 Qtrs)	\$5,160				\$5,160
<b>TOTAL TASK- 6</b>	<b>\$14,250</b>	<b>\$1,970</b>	<b>\$16,000</b>	<b>\$8,900</b>	<b>\$41,120</b>
<b>TASK 6-GW Rec. &amp; Mon. (2nd year)</b>					
Project Management	\$2,750				\$2,750
GW Pump and Treatment(4Qtrs)	\$1,300	\$200	\$16,000		\$17,500
GW Monitoring (4 qtrs)	\$5,040	\$1,770		\$8,900	\$15,710
GW Quarterly Reports (4 Qtrs)	\$5,160				\$5,160
<b>TOTAL TASK- 6</b>	<b>\$14,250</b>	<b>\$1,970</b>	<b>\$16,000</b>	<b>\$8,900</b>	<b>\$41,120</b>
<b>TOTAL CONSULTING COSTS</b>					<b>\$60,825</b>
<b>TOTAL COMMODITY SERVICES COST</b>					<b>\$365,040</b>
<b>TOTAL PROJECT COST</b>					<b>\$425,865</b>
<b>Present Worth Total Cost</b>					<b>\$423,727</b>

**Assumptions:**

- 1)Present Worth Total is based on a 5% discount factor for the 2nd year of groundwater recovery and monitoring. \$41,120 -5.2% = \$38,982 so \$2,138 was subtracted from the total project cost to determine Present Worth Cost.
- 2)The 20,000 gallons of groundwater will be pumped from the 3 recovery wells quarterly.
- 3)That groundwater will be remediated in two years, below NR 140 Enforcement Standards.
- 4)Remediation of impacted soil on Condon Property only.
- 5)Assumes the building and concrete pad on Condon property will be razed.
- 6)Assumes that the utilities will be shored up and excavated around or will be removed entirely during remediation.
- 7)Assumes no water will be encountered during remedial activities.
- 8)Assumes a total of 5,000 gallons of water will be pumped from the recovery wells on a quarterly basis.

# L.U.S.T.

**REPORT OF A SUBSURFACE  
INVESTIGATION AND REMEDIAL ALTERNATIVE  
ANALYSIS AT THE FORMER  
CONDON COMPANIES BULK FACILITY  
N52 W5358 PORTLAND ROAD  
CEDARBURG, WISCONSIN**

**RECEIVED**

MAR 01 1996

D.N.R. SED Hqtrs.  
Milwaukee, WI

PREPARED FOR:  
**MR. TOM REINSCH  
VICE PRESIDENT, OPERATIONS  
CONDON OIL COMPANY  
126 EAST JACKSON  
P.O. BOX 184  
RIPON, WISCONSIN 54971-0184**

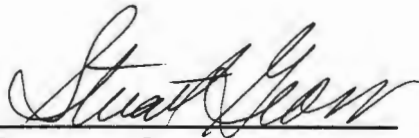
PREPARED BY:  
**SIGMA ENVIRONMENTAL SERVICES, INC.  
102 PROGRESS DRIVE  
SAUKVILLE, WISCONSIN 53080**

**RECEIVED**

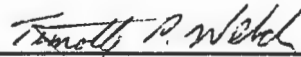
JAN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

PROJECT REFERENCE #1966-S6  
WDNR LUST FID #246121150 ERR-LUST

FEBRUARY 7, 1996



**Stuart J. Gross  
Staff Hydrogeologist**



**Timothy P. Welch, PG  
Project Hydrogeologist**

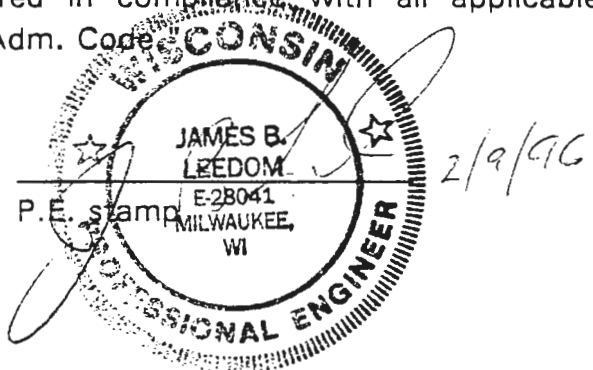


**James B. Leedom, P.E.  
Project Civil Engineer**

**CERTIFICATION(S)**

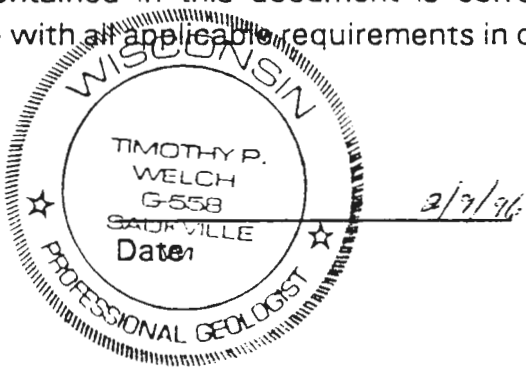
"I, James R. Leedom, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

*J R Leedom E-28041*  
\_\_\_\_\_  
Signature, title and P.E. number  
*Professional Engineer*

  
P.E. stamp  
*2/9/96*

"I, Timothy P. Welch, 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."

*Timothy P. Welch*  
\_\_\_\_\_  
Signature and title  
*PROJECT HYDROGEOLOGIST*

  
*2/7/96*

"I, Stuart Gross, hereby certify that I am a <sup>Hydrogeologist</sup> scientist as that term is defined in s. NR 712.03 (3), 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."

*Stuart Gross*  
\_\_\_\_\_  
Signature and title *Staff Hydrogeologist*

2-9-96  
Date



## EXECUTIVE SUMMARY

Condon Oil Company (Condon) retained Sigma Environmental Services, Inc. (Sigma) of Saukville, Wisconsin to conduct a subsurface investigation at the former Condon Bulk Facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin. The purpose of the investigation was to evaluate the extent and character of petroleum impacts identified during a preliminary environmental assessment conducted by Sigma near the former diesel fuel underground storage tank (UST) and nine former 15,500 gallon steel aboveground storage tanks (ASTs) containing leaded and unleaded gasoline, kerosene, fuel oil, and diesel fuel at the site. The investigation was performed on-site and off-site to the south (Filter Oil, Federal Tool & Engineering, Inc., and Herbert Effenhiem property) in accordance with Wisconsin Administrative Code (WAC) Ch. NR 716, "Site Investigation". The scope of work included 1) drilling exploratory soil borings, 2) installing groundwater monitoring wells, 3) collecting soil and groundwater samples for analysis, 4) evaluating the laboratory results, hydraulic conductivity tests, and remedial alternatives for the site, and 5) preparing this report.

On August 26, 1993, Sigma conducted a preliminary environmental assessment to determine if petroleum impacted soil was present near the UST and former AST systems at the site. Based on the presence of discolored soil and petroleum odors, a release had occurred. Three soil samples were collected during the assessment. Based on independent laboratory analysis, petroleum impacted soil was present above the current NR 720 soil cleanup standards.

On April 11, 1994, one 1,000 gallon diesel fuel UST was removed from the property. Sigma observed the removal activities, tank cleaning procedures, inspected the integrity of the tank systems, and examined the open excavation. Sigma noted discolored soil along the sidewalls of the excavation and detected odors in the backfill and native soil. Based on field observations, a release in the tank pit had occurred. To confirm the release and determine the concentration of impacts, one sample was analyzed for Diesel Range Organics (DRO). The laboratory reported a DRO concentration of 81 parts per million (ppm).

The Wisconsin Department of Natural Resources (WDNR) was notified of the release, and later assigned the site to the **MEDIUM PRIORITY RANK GROUP** with no hazard score. In an April 21, 1994 letter, the WDNR required Condon to 1) conduct an investigation to determine the extent of soil and groundwater contamination, 2) remediate all environmental impacts caused by the release, and 3) sample any private water supply wells which may have been impacted by the release.

From November 1994 until December 1995, Sigma conducted an investigation to characterize the subsurface environment and determine the nature and extent of petroleum impacts beneath the site, and off-site to the south. The investigation included drilling fourteen soil borings on and off-site. The borings were drilled as a means to investigate potential release areas, classify the subsurface soil, and determine potential migration pathways. Ten soil borings were converted into groundwater monitoring wells to determine groundwater flow direction, calculate the hydraulic gradient, and to monitor fluctuations in the shallow water table.

Review of laboratory results indicates that impacted soil is present on and off-site above the NR 720 soil cleanup standards. Soil impacts are commingled and appear to have originated primarily in the vicinity of the former 1,000 gallon diesel fuel UST and the former 15,500 gallon ASTs. The majority of impacted soil is located adjacent to the former tank systems, with lateral dispersion through native soil. The generally impermeable native silty clay and clayey silt beneath the site appears to have prevented the widespread areal migration of impacts. Slight horizontal migration may be attributed to small sand and silt stringers found in various borings and to the underground utilities (sanitary sewer and water) located immediately south of the former UST and AST systems. The vertical extent of impacts ranges from the surface to ten feet below ground surface (bgs). Based on data from the preliminary assessment, UST closure assessment, and investigation, the impacts are most concentrated from two to eight feet bgs across the entire site and off-site to the south. After reviewing the results of the assessments and subsurface investigation, an estimated 9,200 tons of petroleum impacted soil (GRO and/or DRO above 100 ppm) exists beneath the site. An additional 675 tons of impacted soil is located beneath a garage owned by the Filter Oil Company and is therefore inaccessible.

During the investigation, ten groundwater monitoring wells were installed on and off-site to the south on private property. The wells were installed to enable Sigma to assess groundwater quality, flow direction, and gradient. Laboratory analysis results indicate that Volatile Organic Compounds (VOCs) are present at concentrations above the WAC Chapter NR 140 Enforcement Standards (ES) or Preventive Action Limit (PAL) in groundwater samples from on and off-site locations. The impacts are most prevalent at and downgradient from the former tank systems. A shallow water table (approximately three to six feet bgs) may have inhibited the vertical migration of hydrocarbons, and a relatively flat hydraulic gradient (0.08 feet per foot) may limit the lateral dispersion of impacts.



Based on the results of Sigma's subsurface investigation, the extent and character of soil and groundwater impacts are defined on-site and off-site to the southwest. However, the laboratory reported a Benzene concentration slightly above the NR 720 Enforcement Standard in monitoring well MW-1 located upgradient of the source area. The investigation generated data necessary to evaluate several remediation alternatives to restore soil and groundwater quality to WDNR NR 720 and NR 140 standards, respectively. The following alternatives were considered based on their technical feasibility, remediation efficiency and lifecycle cost:

1. Excavation and active Bioremediation (Waste Management "Biosites") of impacted soil; with quarterly groundwater recovery, off-site treatment and monitoring.
2. Excavation and landfill bioremediation of impacted soil greater than 2,000 ppm GRO/DRO coupled with landfill disposal of the remaining impacted soil; and quarterly groundwater recovery, disposal and monitoring.
3. Excavation and thermal destruction of impacted soil; and quarterly groundwater recovery, off-site treatment, and monitoring.

All three remedial approaches are technically feasible; however, landfilling coupled with the bioremediation of impacted soil and thermal treatment costs exceed the cost to bioremediate the soil at a permitted bioremedial facility. In-situ soil remediation alternatives were not evaluated because they were not considered technically feasible in the silty clay lithology.

Based on an evaluation of viable remedial methods, Sigma recommends that petroleum impacted soil at the former Condon Companies Bulk Facility be remediated by excavating the soil for bioremediation at Waste Management's Orchard Ridge Recycling and Disposal Facility. Groundwater will be recovered quarterly and treated off-site. A quarterly groundwater monitoring program will be instituted to assess the effectiveness of the remediation, and to document the site for closure under Chapter 726.

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## **APPENDICES**

### **Appendix**

- A. Laboratory Report and Chain-of-Custody from Preliminary Assessment
- B. Sigma Investigative Methodologies
- C. Soil Boring Logs (WDNR Form 4400-122)
- D. Monitoring Well Construction Forms (WDNR Form 4400-113A)
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- H. Grain Size Distribution and Falling Head Permeability Report
- I. Detailed Field Methods and Data Resolutions
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## 1. INTRODUCTION

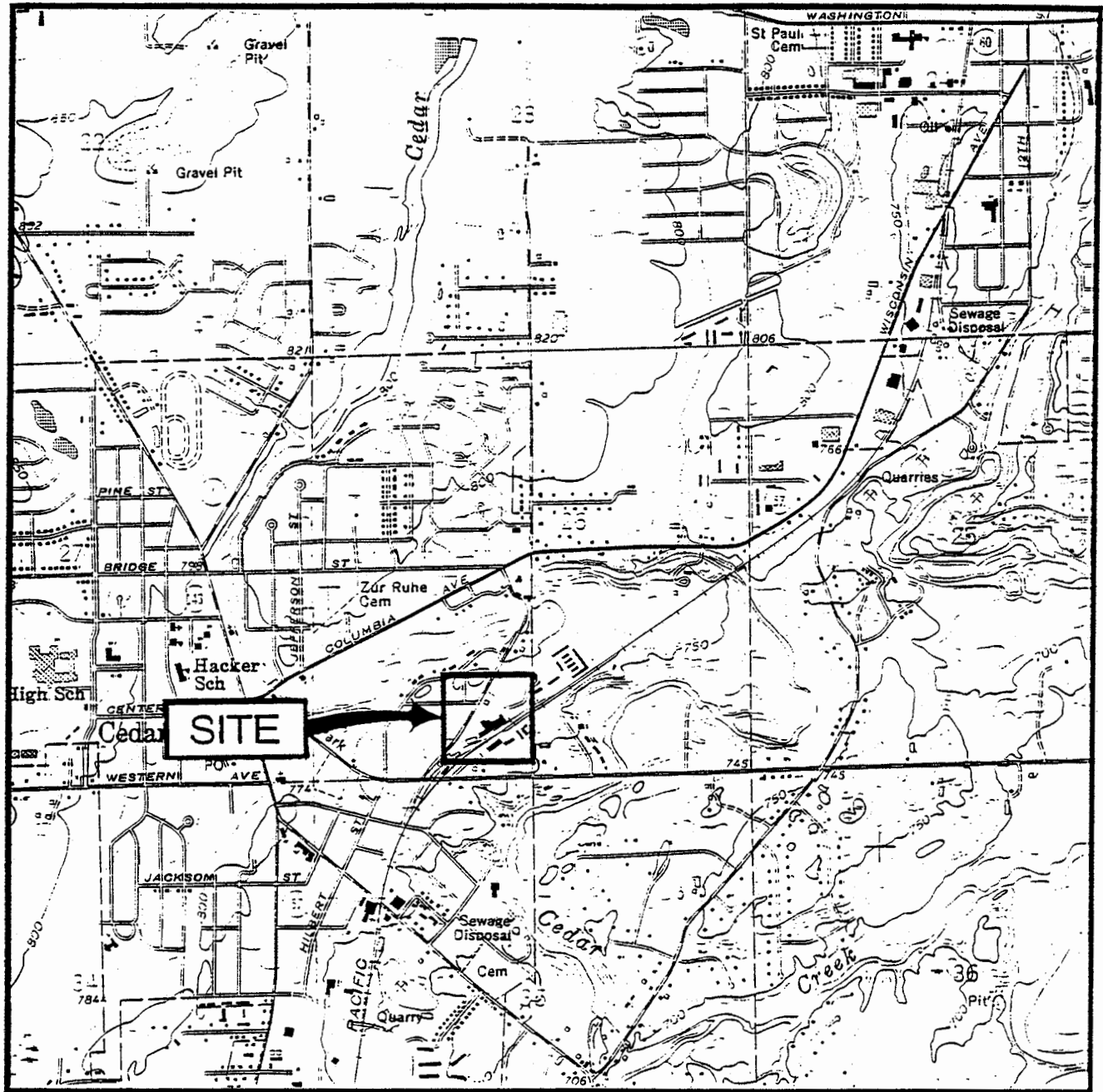
Sigma Environmental Services, Inc. (Sigma) of Saukville, Wisconsin was retained by Condon Oil Company (Condon) to conduct a subsurface investigation and perform a remedial alternative analysis at the former Condon Bulk Facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin. The site is located in the southeast  $\frac{1}{4}$  of the southwest  $\frac{1}{4}$  of Section 26, Township 10 North, Range 21 East, City of Cedarburg, Ozaukee County, Wisconsin (Figure 1). The subsurface investigation was conducted to determine the nature and extent of petroleum impacts identified at the site during a preliminary environmental assessment near the former petroleum aboveground storage tanks (ASTs) and during an underground storage tank (UST) closure assessment conducted by Sigma. Based on field observations and laboratory analysis, a petroleum release had occurred. On April 11, 1994 Condon authorized Sigma to notify the Wisconsin Department of Natural Resources (WDNR) of the release. In an April 21, 1994 letter, the WDNR assigned the site to the **MEDIUM PRIORITY RANK GROUP** for site investigation and remediation. The WDNR did not assign a hazard score for this site.

1.1 **Purpose of Work.** Sigma prepared this report to document the procedures used and findings of the subsurface investigation according to the WDNR guidelines in Wisconsin Administrative Code (WAC) Chapter NR 716 "Site Investigations". The investigation was performed to (1) determine the extent and character of soil and groundwater impacts at the site, (2) examine geologic and hydrogeologic characteristics, (3) investigate areas where potential impacts may have occurred, (4) generate data to evaluate remedial alternatives for the site, and (5) select a technically feasible, cost-effective remedial alternative to restore soil and groundwater quality to acceptable WDNR standards.

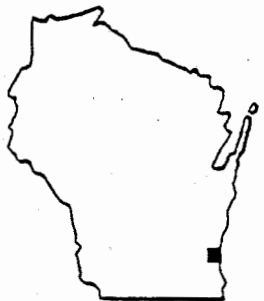
### 1.2 **Background Information**

1.2.1 **Preliminary Site Assessment.** A preliminary assessment was performed by Sigma on August 26, 1993. The work was requested by Condon to determine if a petroleum release had occurred from either the diesel fuel UST or the former petroleum ASTs once present at the site.

Two soil borings (SB1 and SB2) were drilled using a conventional rotary drill rig by Sauter Drilling of Butler, Wisconsin to depths between ten and twelve feet bgs. Soil boring SB1 was located in a former loading and unloading operations area where surface staining was apparent. Soil



SE/4 SW/4 Sec.26 T.10 R.21



WISCONSIN

ADAPTED FROM U.S.G.S. 7.5 MINUTE SERIES. CEDARBURG, WISCONSIN QUADRANGLE DATED 1958 PHOTOREVISED 1971

CONDON COMPANIES BULK FACILITY  
N32 W5358 PORTLAND ROAD, CEDARBURG, WI



DATE: 12-8-95 DR. BY: TMM DR. # 1966-001

SCALE: SEE ABOVE

SITE LOCATION MAP


FIGURE 1

boring SB2 was located inside the tank pad near the southwest corner. Five additional hand auger borings (HB3 through HB7) were drilled at depths between three and seven feet bgs. The borings are located in areas surrounding the former petroleum ASTs and UST (Figure 2). Continuous soil samples were collected and screened with a Photoionization Detector (PID) for the presence of Volatile Organic Compounds (VOCs). A total of three soil samples (from SB2, HB3, and HB6) were submitted to EnChem Laboratories, Inc. of Green Bay, Wisconsin for analysis of Diesel Range Organics (DRO) and/or VOCs. In addition, groundwater samples were collected from within boring SB2 and HB3 and submitted to the laboratory for analysis of VOCs.

Based on laboratory analysis, DRO (3900 parts per million [ppm] and 4500 ppm) was detected above the current Wisconsin Administrative Code (WAC) Ch. NR 720 soil quality standards in soil samples SB2 (2-4') and HB6 (3-5'), respectively. Benzene (120 parts per billion [ppb]), Ethylbenzene (13,000 ppb), Toluene (190 ppb), and Total Xylenes (58,310 ppb) were detected by the laboratory above the WAC Ch. NR 720 standards in soil sample HB6 (3-5'). Benzene (25 ppb), Ethylbenzene (320 ppb), Naphthalene (120 ppb), and Total Xylenes (1930 ppb) were detected above the WDNR Enforcement Standards (ES) and/or Preventive Action Limit (PAL) by the laboratory in groundwater samples collected from SB2. Soil quality laboratory results are presented in Table 1. Groundwater quality laboratory results are presented in Table 2. Copies of the laboratory reports and Chain-of-Custody are included as Appendix A.

**TABLE 1**  
**SOIL QUALITY RESULTS - PRELIMINARY ASSESSMENT**  
**DETECTED VOLATILE ORGANIC COMPOUNDS ONLY**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Depth	SB-2	HB-3	HB-6	NR 720 Soil Standards
	2 - 4'	3 - 5'	3 - 5'	
Diesel Range Organics	3900	NT	4500	100 <sup>1</sup>
Benzene	NT	< 130	120	5.5
sec-Butylbenzene	NT	< 130	950	NES
Ethylbenzene	NT	< 130	13000	2900
Isopropylbenzene	NT	< 130	1200	NES
Naphthalene	NT	< 250	7100	NES
n-Propylbenzene	NT	< 130	3900	NES
Toluene	NT	< 130	190	1500
1,2,4-Trimethylbenzene	NT	220	34000	NES
1,3,5-Trimethylbenzene	NT	< 130	11000	NES
Total Xylenes	NT	380	58310	4100
p-Isopropyl Toluene	NT	< 130	670	NES

**KEY:** Depth is given in feet below ground surface.  
All results are expressed in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), except DRO which is expressed in milligrams per kilogram ( $\text{mg}/\text{kg}$ ).  
**NES** = No established standard  
**NT** = Not tested  
 = Exceeds the NR 720 Soil Cleanup Standards  
**1** = Soil Cleanup Standards is dependent upon the hydraulic conductivity of the native material; in our case 100 ppm assuming  $K > 10^{-8}$  cm/s (Fetter 1988).



**TABLE 2**  
**GROUNDWATER QUALITY RESULTS - PRELIMINARY ASSESSMENT**  
**DETECTED COMPOUNDS ONLY**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

	SB-2	HB-3	
Sampling Date	8/26/93	8/26/93	ES/PAL
Benzene	25	< 1.0	5.0/0.5
Ethylbenzene	320	< 1.0	700/140
Isopropylbenzene	21	< 1.0	NES
Naphthalene	120	< 2.0	40/8
n-Propylbenzene	53	< 1.0	NES
1,2,4-Trimethylbenzene	620	1.1	NES
1,3,5-Trimethylbenzene	210	< 1.0	NES
Total Xylenes	1930	1.3	620/124

KEY: All results in micrograms per liter ( $\mu\text{g/l}$ ).  
 = Exceeds WDNR Enforcement Standards (ES) or Preventive Action Limit (PAL) (NR 140)  
 NES = No established standard

1.2.2 Underground Storage Tanks and Piping Removal. On April 11, 1994, Sigma observed the removal of one 1,000 gallon diesel fuel UST and associated product piping. During removal activities, water was encountered in the excavation at approximately five feet bgs. Based on field observations (soil discoloration, petroleum odors in native soil), a release was evident. One sample from the tank excavation was submitted for analysis to confirm the release and establish general hydrocarbon concentrations in the soil. The laboratory reported a DRO concentration of 81 ppm in the sample from the base of the excavation. On April 11, 1994, Ms. Giselle Red of the WDNR was notified of a petroleum release at the site. On April 21, 1994, the WDNR issued Condon a "Notification of Petroleum Contamination from Underground Storage Tank System" letter and assigned the site a **MEDIUM PRIORITY**

**RANK.** The WDNR requested that a subsurface investigation be performed to define the extent of impacts for the remediation of impacted soil and groundwater. Additional information for the UST closure assessment is provided in Sigma's report entitled, "Site Assessment for Underground Storage Tank Removal" dated November 1, 1994.

**1.3 Scope of Work.** The subsurface investigation was conducted in three phases. Phase I included drilling on-site soil borings and installing monitoring wells; Phase II consisted of drilling off-site soil borings and installing monitoring wells; and Phase III included drilling two off-site hand auger soil borings and installing two monitoring wells. After Phase I and II, Sigma presented to Mr. John Feeney of the WDNR (on October 25, 1995) the investigative data, a work plan for additional off-site investigation and a request for variance from WAC Ch. NR 141.07. Mr. Feeney agreed with the workplan and variance to complete the investigation. Tasks performed during the investigation are listed below.

Phase I included the following tasks:

- On November 22 and 23, 1994, Sigma observed the drilling of eight soil borings (B-1 through B-8) to depths of eighteen feet below ground surface (bgs) using a conventional rotary drill rig and collecting and classified soil samples to determine soil quality conditions on-site.
- Headspace analysis of soil samples using a Photoionization Detector (PID). Laboratory analysis of eight soil samples for Gasoline Range Organics (GRO), Diesel Range Organics (DRO), Volatile Organic Compounds (VOCs), and Total Lead (Pb). Soil samples from borings B-3, B-4, B-7, and B-8 were submitted for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
- Conversion of four soil borings (B-2, B-3, B-5, and B-7) into groundwater monitoring wells MW-1 through MW-4, respectively, to determine groundwater quality, flow direction, and calculate gradient.
- On December 8, 1994, Sigma collected four groundwater samples for chemical analyses of groundwater samples for GRO, DRO, VOCs, PAHs, and Soluble Lead (Pb).

**Phase II included the following tasks:**

- On August 30, 1995, Sigma observed the drilling of four additional soil borings (B-9 through B-12) to depths of 14 feet bgs using a conventional rotary drill rig and collected and classified soil samples to determine soil quality conditions off-site.
- Headspace analyses of soil samples using a PID and laboratory analysis of four soil samples for GRO, VOCs, and Pb.
- Conversion of the four soil borings (B-9 through B-12) into groundwater monitoring wells MW-5 through MW-8.
- On September 7, 1995, Sigma collected four groundwater samples for chemical analyses of GRO, DRO, VOCs and Soluble Lead (Pb). Additionally, Sigma collected groundwater samples from the four monitoring wells existing on-site and submitted them for Petroleum Volatile Organic Compounds (PVOC) analysis.
- Performing an elevation survey of the site to determine monitoring well and static water level elevations.

**Phase III included the following tasks:**

- On November 1, 1995, Sigma observed the drilling of two soil borings (B-13 and B-14) with a hand auger to depths ranging from seven to nine feet bgs and installing groundwater monitoring wells MW-9 and MW-10 to address the off-site extent of soil and groundwater impacts.
- Laboratory analyses of two soil samples for GRO, DRO, and PVOCs.
- On November 16, 1995, Sigma collected groundwater samples from monitoring well MW-9 and MW-10 for GRO and PVOCs. Monitoring well MW-10 was also sampled for DRO.
- Preparing this technical report to discuss investigative activities, methodologies, field observations, laboratory results, and recommendations for site remediation.

**1.4 Project Team.** The following firms and contractors were involved in the project:

**Environmental Consulting Firm:**

Sigma Environmental Services, Inc.  
102 Progress Drive  
Saukville, Wisconsin 53080  
Project Manager: Timothy P. Welch  
Telephone: (414) 284-6824

**Laboratory Services:**

Robert E. Lee & Associates  
2825 South Webster  
P.O. Box 2100  
Green Bay, WI 54306  
Telephone: (414) 336-6338  
WDNR Certification #405043870

En Chem Inc.  
1795 Industrial Drive  
Green Bay, Wisconsin 54302  
Telephone: (414) 469-2436  
WDNR Certification #405132750

**Drilling Services:**

Giles Engineering Associates  
N8 W22350 Johnson Road Suite A1  
Waukesha, Wisconsin 53186  
Telephone: (414) 653-8265

Sauter Drilling, Inc.  
12777 West Silver Spring Drive  
Butler, Wisconsin 53007  
Telephone: (414) 783-5002

**2. SITE DESCRIPTION**

**2.1 Existing Site Conditions.** The site is leased from the Wisconsin Central Railroad Company and is located on approximately one acre of property within a light industrial, commercial and residential area of Cedarburg. The site is occupied by a former sales and maintenance building. The property was used as a

petroleum bulk facility. Nine 15,500 gallon aboveground storage tanks (ASTs) were located in a bermed concrete pad directly east of the sales building. The ASTs contained leaded and unleaded gasoline, fuel oil, diesel fuel and kerosene. Currently, no known USTs or ASTs remain on-site.

The site is bordered by the Wisconsin Central railroad to the north, Filter Oil Company (former Petroleum Bulk Facility) to the west, residential property to the south and Federal Tool (Manufacturing Company) to the east. Based on conversations with the City of Cedarburg's Engineering Department, there is no official survey of this area. Therefore, it is difficult to determine accurate property boundaries. The site is located approximately one half mile east of Cedar Creek. The relative location of structures are presented on Figure 2.

- 2.2 Utility Review.** Information regarding underground utilities was obtained by contacting "Diggers Hotline", the City of Cedarburg Power & Light Company, and site visits by Sigma personnel. Based on this information, the utilities that service the site include overhead electric and telephone lines and subsurface water and sanitary sewer mains. The water main and the sanitary sewer line runs the length of the south side of the Property. The water main is constructed of a six inch cast iron pipe and is buried at a depth of approximately six feet below ground surface (bgs). The sanitary sewer line is constructed of a six inch PVC pipe and is buried at a similar depth. The utilities run in separate trenches along the property but join up to the north of the site (on Federal Tool property). The locations of the utilities are shown on the Soil Boring/Monitoring Well Location Map (Figure 2).

~~Based on conversations with the City of Cedarburg Water & Light Company, the nearest private well is approximately 1,000 feet from the Condon Companies Former Bulk Plant. The well is located at the intersection of Struck Lane and Portland Road. The total well depth is unknown and was not researched.~~

### **3. INVESTIGATIVE PROCEDURES**

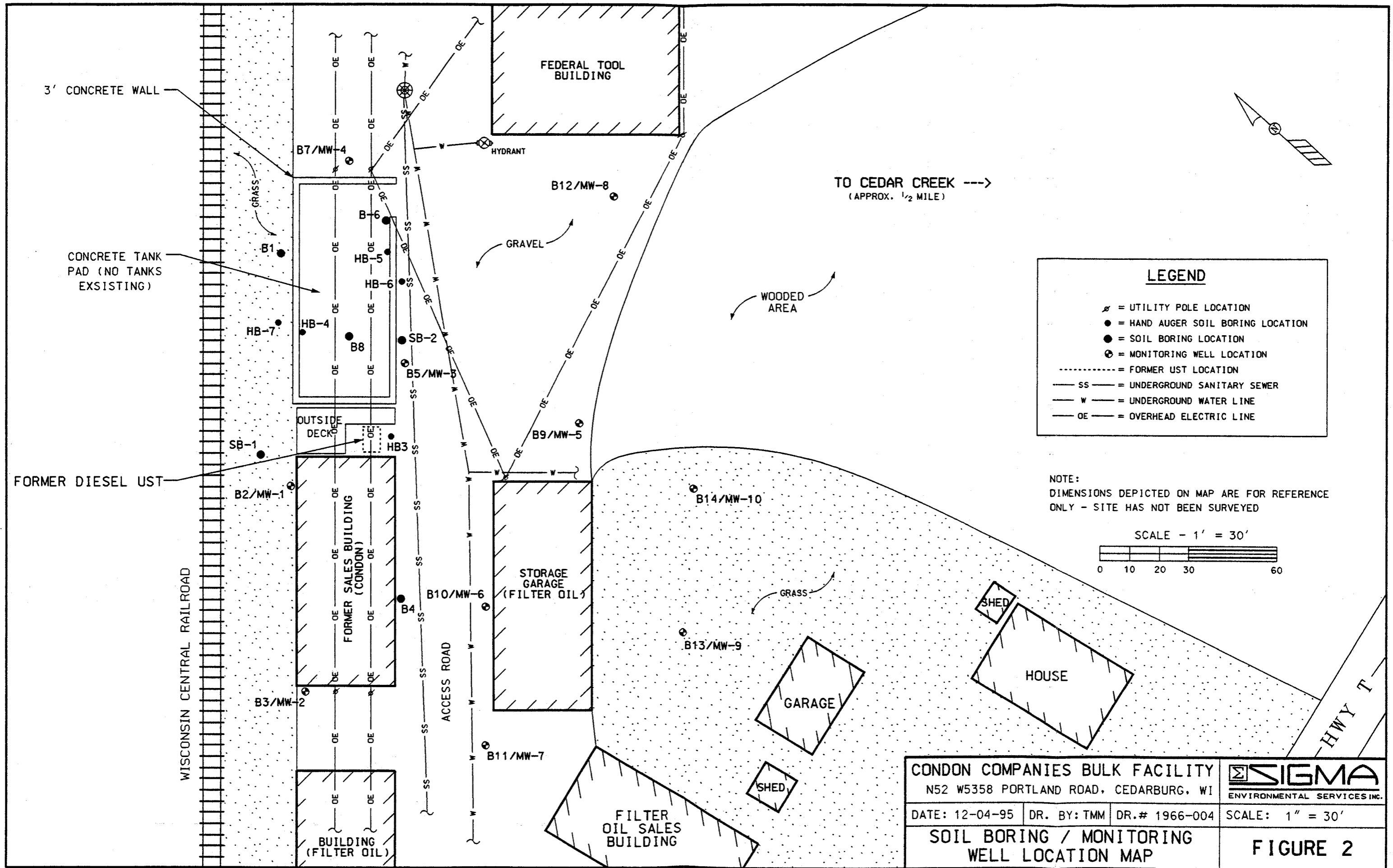
During November 1994, August and November 1995, Sigma conducted subsurface investigative activities on-site and off-site to the south and east of the Condon property. The investigation was conducted to (1) determine the extent and character of petroleum impacts in the study area, and (2) generate

the data necessary to evaluate remedial alternatives for the site. Sigma's standard field methodologies are presented in Appendix B.

**3.1 Soil Sampling.** A total of 14 soil borings were drilled to depths between seven and 18 feet bgs. Borings B1 through B12 were drilled with a conventional drill rig advancing hollow stem augers. Borings B13 and B14 were drilled off-site with a hand auger because of the limited accessibility for a conventional drill rig. Soil boring locations are presented in Figure 2.

Soil samples were collected from B1 through B12 with a two foot split-spoon sampler. Soil borings B-13 and B-14 were advanced with a three inch bucket auger. All soil samples were collected for potential laboratory analysis and field screening. Soil samples were collected and classified on the basis of color, texture, and plasticity in general accordance with the Unified Soil Classification System (USCS). The soil descriptions are presented on the Soil Boring Logs included in Appendix C.

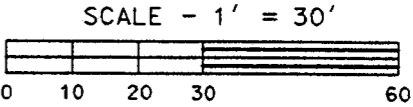
Soil samples from each sample interval were field screened with a PID equipped with a 10.6 eV lamp calibrated for direct response to a 248 ppm isobutylene standard for VOCs. The screening samples were placed in four ounce glass jars, sealed with plastic screw-on caps, allowed to equilibrate to room temperature (70°F) and vigorously agitated to facilitate vapor release. The PID probe was then inserted into the jar to obtain a semi-quantitative concentration of VOCs. Field screening results are summarized in Table 3.



**LEGEND**

- = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- = UNDERGROUND SANITARY SEWER
- = UNDERGROUND WATER LINE
- = OVERHEAD ELECTRIC LINE


NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED



<b>CONDON COMPANIES BULK FACILITY</b>			<b>SIGMA</b> ENVIRONMENTAL SERVICES INC.
N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 12-04-95	DR. BY: TMM	DR.# 1966-004	SCALE: 1" = 30'
<b>SOIL BORING / MONITORING WELL LOCATION MAP</b>			<b>FIGURE 2</b>

**TABLE 3**  
**FIELD SCREENING RESULTS - SUBSURFACE INVESTIGATION SOIL SAMPLES**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Depth (ft. bgs)	November 22 and 23, 1994								August 30, 1995				Depth (ft. bgs)	November 1, 1995	
	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12		B-13	B-14
2-4	0.0	205	0.0	419	580	87.6	0.0	377	0.0	76.5	0.0	0.0	1-3	0.0	0.0
4-6	0.0	120	0.0	1643	481	16.1	59.6	0.0	0.0	458	0.0	0.0	3-5	0.0	0.0
6-8	NSR	38.6	0.0	11.0	0.0	0.0	6.9	0.0	---	562	0.0	0.0	5-7	0.0	0.0
8-10	0.0	2.6	0.0	469	0.0	0.0	0.0	0.0	0.0	23.5	0.0	0.0	7-9	---	0.0
10-12	0.0	0.0	0.0	13.8	0.0	0.0	0.0	0.0	7.6	7.9	0.0	0.0	9-11	---	---
12-14	0.0	0.0	0.0	NSR	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	11-13	---	---
14-16	0.0	0.0	0.0	NSR	0.0	0.0	0.0	0.0	0.0	---	---	---	13-15	---	---
16-18	---	---	---	0.0	---	---	---	---	---	---	---	---	15-17	---	---

**KEY:** All results expressed in instrument units (i.u.) as isobutylene.  
 ft. bgs = feet below ground surface  
 --- = no sample collected  
 = sample submitted for laboratory analysis  
 NSR = no sample recovery



Several duplicate sample portions were collected from each sample interval and containerized for potential laboratory analysis. One sample portion was weighed to approximately 25 grams, placed in a 60 milliliter glass jar, preserved with methanol and sealed with a teflon-lined screw-on lid. Another sample portion was containerized in a similar fashion, excluding methanol preservation. Several additional sample portions were placed in four ounce glass jars so that no headspace remained and sealed with teflon-lined lids. Each sample container was labeled and placed in a cooler with ice for transport to the laboratory.

One soil sample from all soil borings was submitted for laboratory analyses to define the extent of soil impacts at the site and off-site. The soil sample with the highest PID value, or from the soil/water interface in each boring, was submitted for laboratory analysis of GRO, DRO, VOCs or PVOCs, and Total Lead. Additionally, soil samples from borings B-3, B-4, B-7, B-8, B-9, and B-12 were submitted for Polynuclear Aromatic Hydrocarbon (PAH) laboratory analysis.

**3.2 Monitoring Well Installation and Development.** Groundwater quality monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8 were installed during November 1994 and August 1995 to depths of approximately 15 feet bgs in soil borings B-2, B-3, B-5, B-7, B-9, B-10, B-11, and B-12, respectively. Each monitoring well was installed in accordance with WAC Ch. NR 141 (NR 141) "Groundwater Monitoring Well Requirements". Borings B-13 and B-14 were completed on November 1, 1995 as groundwater monitoring wells MW-9 and MW-10, respectively to depths between seven and nine feet bgs. The wells were constructed of one inch diameter PVC with five foot screens. A variance from WAC Ch. NR 141 to install these wells was approved by Mr. John Feeney of the WDNR on November 1, 1995. Monitoring Well Construction forms (WDNR Form 4400-113A) are presented in Appendix D. A Groundwater Monitoring Well Information Form (WDNR Form 4400-89) is presented in Appendix E. Soil borings not converted to monitoring wells were abandoned in accordance with NR 141. Borehole Abandonment Forms (WDNR Form 3300-5B) are included in Appendix F.

On December 1 1994, monitoring wells MW-1, MW-2, MW-3 and MW-4 were developed. Monitoring wells MW-5, MW-6, MW-7, and MW-8 were developed on September 5, 1995. Monitoring wells MW-9 and MW-10 were developed

on November 13, 1995. All the monitoring wells appeared to have a slow recharge rate. This is consistent with the geology at the site, since all monitoring wells were screened in generally impermeable clay and silt. Monitoring Well Development Forms (WDNR Form 4400-113B) are presented in Appendix G.

**3.3 Groundwater Sampling.** Monitoring wells MW-1, MW-2, MW-3 and MW-4 were sampled on December 8, 1994 for GRO, DRO, VOC, PAH, and Pb. On September 7, 1995, the wells were sampled again in addition to monitoring wells MW-5, MW-6, MW-7, and MW-8 for GRO, DRO, PVOC or VOCs, and Soluble Lead. Monitoring wells MW-9 and MW-10 were sampled on November 16, 1995 for GRO, DRO, and PVOCs. Samples were collected by lowering decontaminated teflon bailers into the wells and transferring the water samples into sample containers containing the appropriate preservatives. The sample containers were labeled, placed in a cooler with ice and transported with a Chain-of-Custody document for chemical analyses. The samples from the December 8, 1994 sampling event were sent to EnChem, Inc. of Green Bay, Wisconsin for analyses. All groundwater samples collected after this date were submitted to Robert E. Lee & Associates of Green Bay, Wisconsin.

Trip blanks and field blanks were included in the groundwater sampling program. The blanks were analyzed to determine if contaminants infiltrated the samples during transportation or field procedures. Additionally, duplicate groundwater samples were analyzed to measure laboratory precision.

**3.4 Static Water Level Measurements.** Static water levels were measured to determine groundwater flow direction, calculate the hydraulic gradient, and to monitor fluctuations in the shallow water table. Water levels were measured using an electronic water level indicator.

The monitoring wells were surveyed to the nearest 0.01 feet from ground surface and top of casing elevations utilizing conventional leveling techniques referenced to a United States Geological Service (USGS) benchmark. The USGS benchmark is on the manhole cover in the intersection of Portland Road and Struck Lane. The benchmark elevation is 744.19 feet above mean sea level. Static water level measurements and groundwater elevations are presented in Table 4.

**TABLE 4**  
**STATIC WATER LEVELS AND**  
**RELATIVE GROUNDWATER ELEVATIONS**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Well #	Ground Surface Elevation	Top of Well Casing Elevation	Static Water Level from Top of Well Casing	Groundwater Elevations	Date
MW-1	777.93	781.27	4.66	776.61	09/07/95
			4.03	777.24	12/08/94
MW-2	777.25	780.40	4.74	775.66	09/07/95
			5.03	775.37	12/08/94
MW-3	776.58	776.33	3.84	772.49	09/07/95
			3.01	773.32	12/08/94
MW-4	777.93	780.66	6.28	774.38	09/07/95
			5.34	775.32	12/08/94
MW-5	775.17	774.47	5.78	768.69	09/07/95
MW-6	775.19	774.93	4.32	770.61	09/07/95
MW-7	775.95	775.53	5.28	770.25	09/07/95
MW-8	774.57	774.03	4.91	769.12	09/07/95
MW-9	770.96	770.61	5.10	765.51	11/16/95
MW-10	768.63	768.18	3.12	765.06	11/16/95

\* Site benchmark is a manhole cover in the intersection of Portland Road and Struck Lane (744.19 mean sea level).

**3.5 Hydraulic Conductivity Tests.** On September 13, 1995, Sigma conducted hydraulic conductivity tests (bail out) within monitoring wells MW-1, MW-2, MW-7, and MW-8 to estimate hydraulic conductivity at the Property. The hydraulic conductivity, hydraulic gradient, and soil porosity were used to determine groundwater flow velocity and to estimate contaminant plume migration rates. During the tests, Sigma personnel used Hermit Data Loggers connected to pressure transducers to record water elevation changes after water was removed from the well with a clean teflon bailer. Groundwater recharge levels were compared to time and analyzed using the Bouwer and Rice methods.

Hydraulic conductivity values represent the rate of groundwater movement within the soil adjacent to the well screen, but may not represent overall aquifer conductivity. Additionally, the effect of disturbing native soil conditions during drilling of the borehole prior to monitoring well installation may influence hydraulic conductivity values.

#### **4. WISCONSIN SOIL AND GROUNDWATER QUALITY STANDARDS**

**4.1 Additional Soil Sampling and Site Investigation Requirements.** If soil sample analytical results at tank closure sites are above 10 ppm GRO or DRO, but below 100 ppm (250 ppm for clay soils), the responsible party (RP) can perform additional sampling in accordance with s. NR 708.05 (3)(c). If laboratory results for the additional samples are below the NR 720 soil cleanup standards (see below), the RP may petition the WDNR for no further action under s. NR 708.09.

A responsible party must perform a Chapter NR 716 site investigation if any of the following conditions exist:

- (1) Soil sample results for petroleum tank closures are above the NR 720 standards,
- (2) Soil sample results from an environmental assessment (at non-petroleum tank sites) are above 10 ppm GRO or DRO,
- (3) Evidence exists that groundwater wells are impacted by the release,
- (4) Free product is present, or
- (5) Evidence exists that contaminated soil may be in contact with groundwater.

The site investigation is considered complete when either of the following conditions are met:

- o The extent of contamination is defined to background conditions of the contaminant(s) of concern, and
- o Concentrations for the contaminant(s) of concern are below laboratory method detection limits.

However, the WDNR can perform site specific analysis to evaluate soil cleanup standards relative to the protection of groundwater and/or human health concerns.

**4.2 Soil Quality Standards.** To determine soil quality clean-up standards for groundwater protection, a site may be classified as either a "simple" or "complex" site by the responsible party and consultant. A site may be considered a "simple" site if the following criteria are met:

- An investigation of the site was completed; and the contamination extent is known,
- The thickness of remaining impacted soil is less than six (6) meters and is at least one meter from fractured bedrock, or
- The impacted soil will not adversely affect the environment and no conditions exist that enhance contaminant migration.

In general, case closure can be granted with low permeable soil (saturated hydraulic conductivity [K]  $< 1 \times 10^{-6}$  centimeters per second (cm/sec) if (1) no ES exceedances in groundwater exist, (2) GRO and DRO concentrations are less than 250 ppm, and (3) the Benzene, Toluene, Ethylbenzene, Xylene (BTEX), and 1,2-Dichloroethane (1,2-DCA) concentrations are below Chapter NR 720 standards. For sites with highly permeable soil ([K]  $> 1 \times 10^{-6}$  cm/sec), site closure can be granted if (1) no ES exceedances in groundwater exist, (2) GRO and DRO concentrations are less than 100 ppm, and (3) BTEX and 1,2-DCA concentrations are below the Chapter NR 720 standards.

The NR 720 soil cleanup standards for BTEX and 1,2-DCA are presented as follows:

- Benzene: 5.5 micrograms per kilograms ( $\mu\text{g}/\text{kg}$ )
- Toluene: 1,500  $\mu\text{g}/\text{kg}$
- Ethylbenzene: 2,900  $\mu\text{g}/\text{kg}$
- Xylene: 4,100  $\mu\text{g}/\text{kg}$
- 1,2-DCA: 4.9  $\mu\text{g}/\text{kg}$

If all of the above criteria are not met, the site must be considered a complex site.

Complex sites use site-specific cleanup standards for contaminants present in soil. The proposed cleanup standards are based on groundwater protection using site specific information obtained during the investigation. The site specific information is essential in creating a contaminant transport model which is necessary to determine effective and accurate cleanup standards for site closure.

In this situation, the site would be considered complex because of the NR 720 soil standard exceedances. Based on the results of hydraulic conductivity tests conducted at the site (geometric mean of  $1.4 \times 10^{-4}$ ), the cleanup level for GRO/DRO at this site would be 100 ppm (since  $K > 10^{-6}$  cm/s).

- 4.3 **Groundwater Quality Standards.** The State of Wisconsin has established groundwater quality standards for substances detected in or having a reasonable probability of entering the groundwater resources of the State. These standards are found in Chapter NR 140 of the WAC. The State has established both PAL and ES for specific substances.

The regulations state that when a PAL or ES has been attained or exceeded, the owner of the facility must notify the WDNR, who will then assess the cause and significance of the impacts and determine appropriate response measures. Standards for PAL and ES can be found in the WAC NR 140.

## 5. INVESTIGATIVE RESULTS

### 5.1 **Subsurface Characteristics.**

5.1.1 **Soil.** In general, soil at the site consists of a light brown/tan silty clay to clayey silt with traces of fine to medium sand present in most borings. Small sand and silt seams were noted in various borings across the site. The brown color may suggest an organic nature, and the tan color an oxygen rich environment. Soil color changes to brown/gray to all gray with increasing depth in most borings. This is usually an indication of local water table conditions and suggests an oxygen deficient environment. From ground surface to approximately eight feet bgs, the soil was noted to be moist with soil moisture decreasing below this point. The soil moisture coincides with the shallow water table elevations.

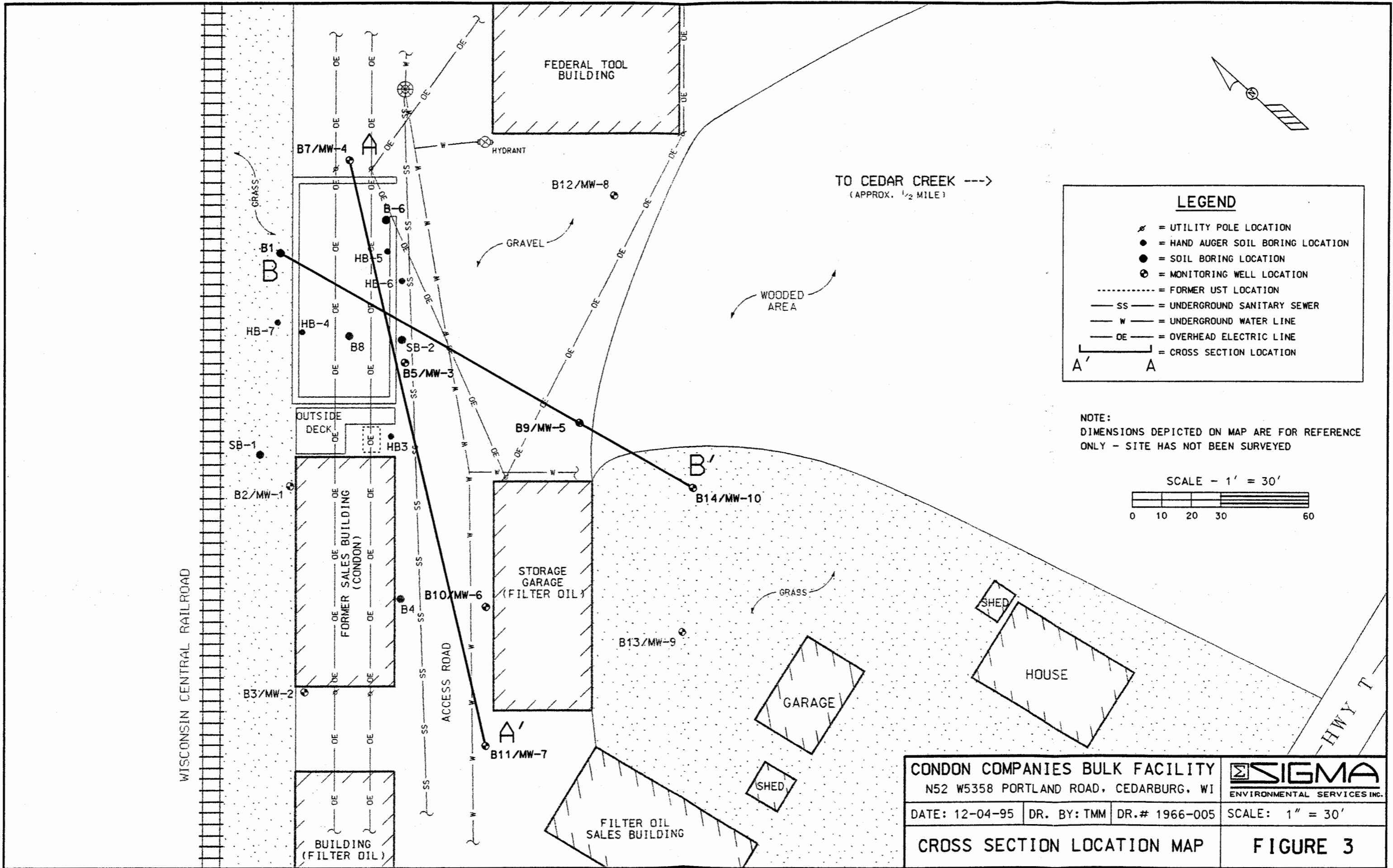
Based on field observations, a soft silty clay to clayey silt is present from the surface to approximately eight feet bgs which becomes stiff to 18 feet bgs, the maximum depth explored. Fine and coarse sand is present in trace amounts throughout the silty clay, clayey silt lithology with sand and silt seams common. Two geologic cross-sections of the site ( A-A' and B-B' ) were constructed from soil boring and monitoring well data to display the relationship between the lithologic units. The cross-section location map is presented as Figure 3. Cross-sections A-A' and B-B' are presented as Figures 4 and 5, respectively.

One composite soil sample collected during the installation of boring B-11 (6-8 feet bgs) was submitted for grain size analysis and falling head permeability test analysis. The grain size analysis is reported on a distribution graph which provides a soil description. Based on the soil description, an approximation of the hydraulic conductivity can be made. The grain size distribution report stated the composite soil sample from the Condon property was a brown lean clay with sand. The hydraulic conductivity of this material would range from  $10^{-5}$  cm/s to  $10^{-9}$  cm/s (Fetter, 1988). According to the results of the falling head permeability test, which measures the rate at which water is passes through an undisturbed slug of soil, the coefficient of permeability (hydraulic conductivity) was quantified to be  $4.6 \times 10^{-8}$  cm/s. A copy of the grain size distribution test report and the falling head permeability test parameters is presented in Appendix H.

- 5.1.2 Groundwater. Based on static water levels, the groundwater table varies from 3.12 to 6.28 feet bgs in the unconsolidated sediment (based on the September 7 and November 16, 1995 groundwater data).

Based on static water level measurements, groundwater was determined to flow in a southerly direction in the shallow aquifer. The hydraulic gradient appears to be relatively flat at the site and was calculated to be approximately 0.08 feet per foot (September 7, 1995). The inferred groundwater flow direction is illustrated in Figure 6.

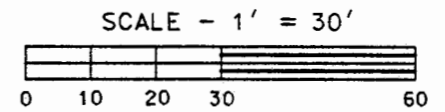
- 5.2 Hydraulic Conductivity. Hydraulic conductivity results, calculated from the four monitoring wells tested, are summarized in Table 4. The values were calculated utilizing the slug test method for determining hydraulic conductivity in



**LEGEND**

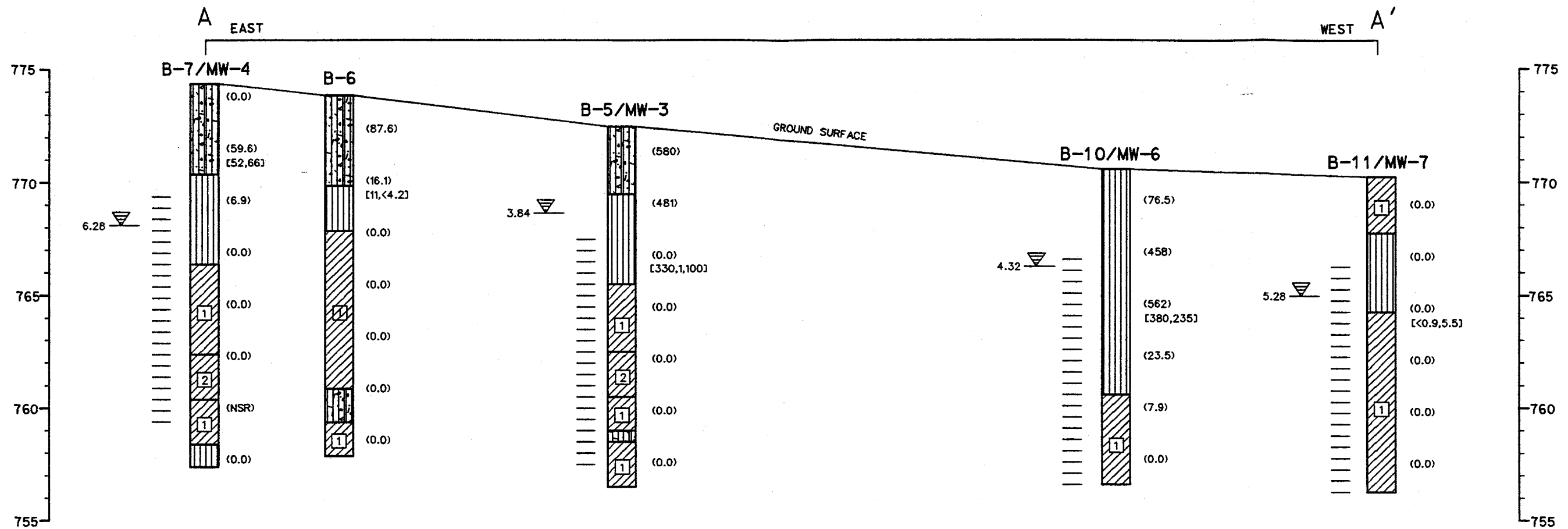
- ⊙ = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE
- A' — A — = CROSS SECTION LOCATION

NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED



CONDON COMPANIES BULK FACILITY			
N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 12-04-95	DR. BY: TMM	DR.# 1966-005	SCALE: 1" = 30'
CROSS SECTION LOCATION MAP			FIGURE 3





ELEVATION RELATIVE TO MEAN SEA LEVEL

ELEVATION RELATIVE TO MEAN SEA LEVEL

**LEGEND**

≡ = WELL SCREEN INTERVAL

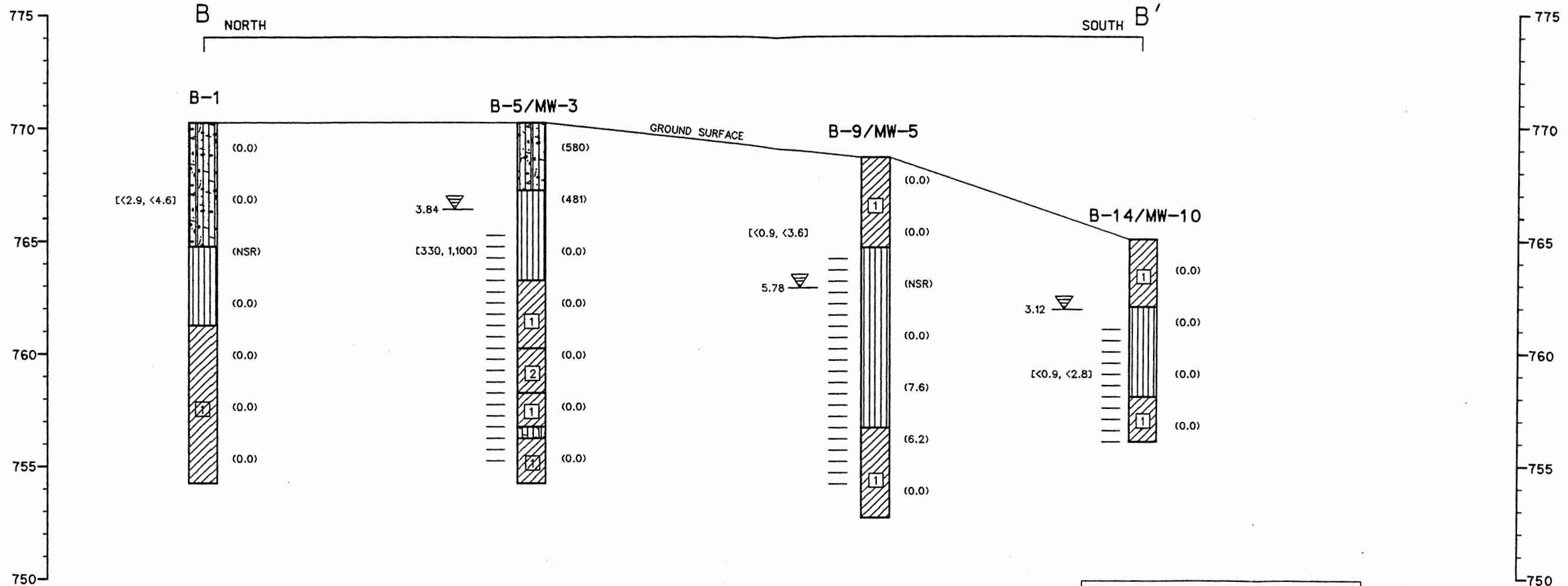
▽ = STATIC GROUNDWATER LEVEL

**USCS SYMBOLS**

CL - SILTY CLAY WITH TRACE SAND  
 CL - SILTY CLAY WITH TRACE SAND- FINE SAND AND SILT SEAMS PRESENT  
 SM - SILTY FINE SAND  
 ML - CLAYEY SILT WITH TRACE SAND

NOTES:  
 HORIZONTAL SCALE 1" = 20'  
 VERTICAL SCALE 1" = 5'  
 ( ) = FIELD PHOTOIONIZATION DETECTOR (PID) READING EXPRESSED IN INSTRUMENT UNITS (AS ISOBUTYLENE) LISTED TO RIGHT OF COLUMNS IN PARENTHESIS.  
 [ ] = LABORATORY GASOLINE RANGE ORGANICS, DIESEL RANGE ORGANICS VALUE IN MILLIGRAMS PER KILOGRAM (mg/kg) LISTED TO THE RIGHT OF COLUMNS IN BRACKETS.  
 THE ELEVATION OF BORING B-6 IS INTERPOLATED.

CONDON COMPANIES BULK FACILITY			
N52 W5358 PORTLAND ROAD, CEDARBURG, WI		ENVIRONMENTAL SERVICES INC.	
DATE: 12-7-95	DR: BY: TMM	DR.# 1966-010	SCALE: SEE NOTES
A - A' GEOLOGIC CROSS SECTION			FIGURE 4



ELEVATION RELATIVE TO MEAN SEA LEVEL

ELEVATION RELATIVE TO MEAN SEA LEVEL

**LEGEND**

≡ = WELL SCREEN INTERVAL

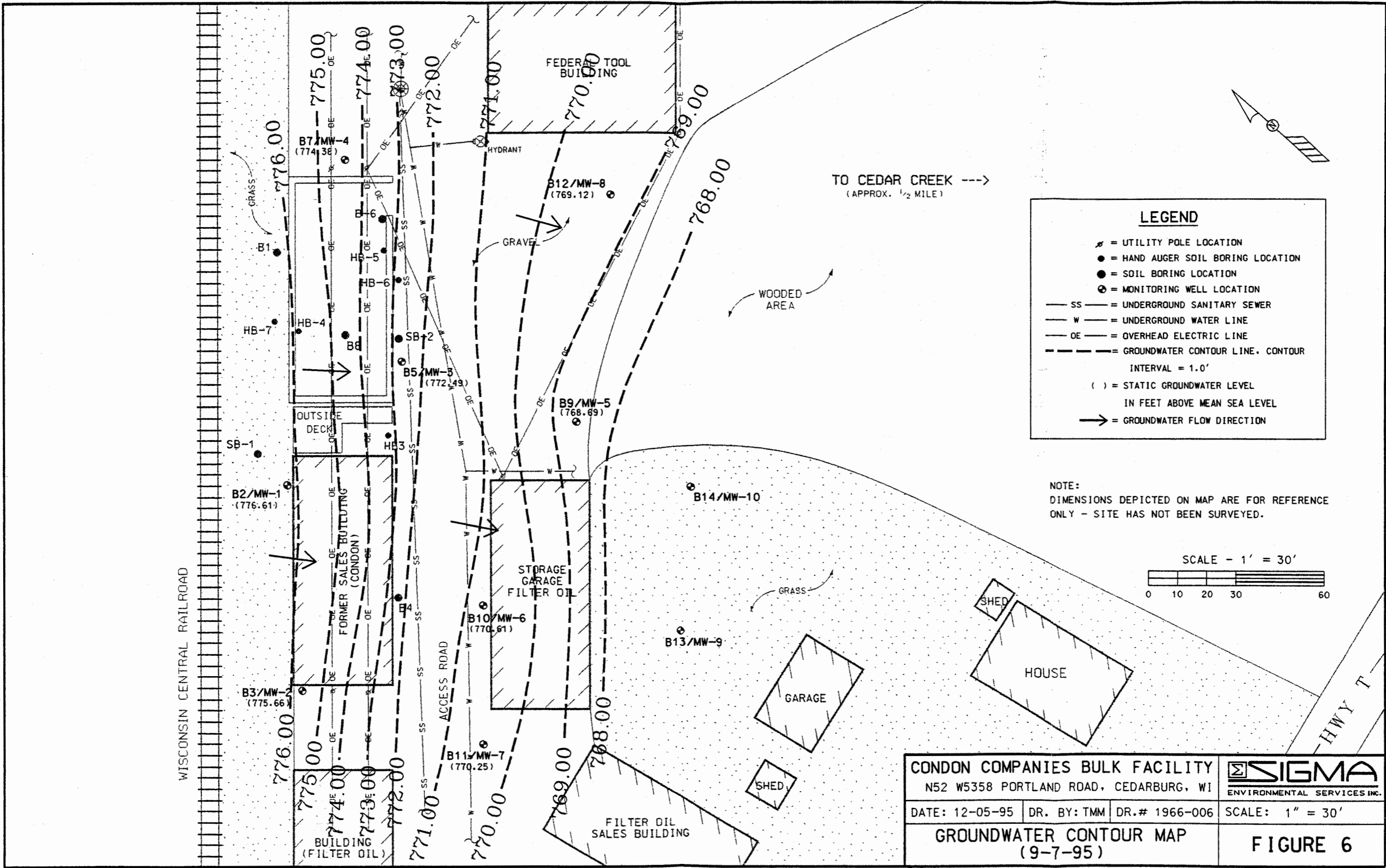
▽ = STATIC GROUNDWATER LEVEL

**USCS SYMBOLS**

- CL - SILTY CLAY WITH TRACE SAND
- CL - SILTY CLAY WITH TRACE SAND - FINE SAND AND SILT SEAMS PRESENT
- SM - SILTY FINE SAND
- ML - CLAYEY SILT WITH TRACE SAND

NOTES:  
 HORIZONTAL SCALE 1" = 20'  
 VERTICAL SCALE 1" = 5'  
 ( ) = FIELD PHOTOIONIZATION DETECTOR (PID) READING EXPRESSED IN INSTRUMENT UNITS (AS ISOBUTYLENE) LISTED TO RIGHT OF COLUMNS IN PARENTHESIS.  
 [ ] = LABORATORY GASOLINE RANGE ORGANICS DIESEL RANGE ORGANICS VALUE IN MILLIGRAMS PER KILOGRAM (mg/kg) LISTED TO THE LEFT OF COLUMNS IN BRACKETS. THE ELEVATION OF BORING B-1 IS INTERPOLATED.

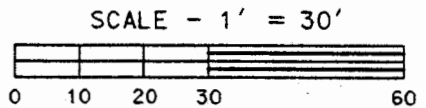
CONDON COMPANIES BULK FACILITY			
N52 W5358 PORTLAND ROAD, CEDARBURG, WI		ENVIRONMENTAL SERVICES INC.	
DATE: 12-7-95	DR. BY: TMM	DR.# 1966-011	SCALE: SEE NOTES
B - B' GEOLOGIC CROSS SECTION			FIGURE 5



**LEGEND**

- ⊗ = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- ⊙ = MONITORING WELL LOCATION
- SS — = UNDERGROUND SANITARY SEWER
- W — = UNDERGROUND WATER LINE
- OE — = OVERHEAD ELECTRIC LINE
- - - - = GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = 1.0'
- ( ) = STATIC GROUNDWATER LEVEL IN FEET ABOVE MEAN SEA LEVEL
- = GROUNDWATER FLOW DIRECTION

NOTE:  
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED.



<b>CONDON COMPANIES BULK FACILITY</b>			<b>SIGMA</b> ENVIRONMENTAL SERVICES INC.
N52 W5358 PORTLAND ROAD, CEDARBURG, WI			
DATE: 12-05-95	DR. BY: TMM	DR.# 1966-006	SCALE: 1" = 30'
<b>GROUNDWATER CONTOUR MAP</b> (9-7-95)			<b>FIGURE 6</b>

unconfined aquifers with partially penetrating wells (Bouwer and Rice, 1976). The range of conductivities from the wells tested is  $1.0 \times 10^{-4}$  centimeters per second (cm/s) to  $9.6 \times 10^{-5}$  cm/s. The calculated values are greater than the characteristic values for silty clay materials (Fetter, 1988) and the values obtained from the grain size and falling head permeability analysis, possibly because of the saturated clayey silt present in the upper portion of the screened interval of the monitoring well. The geometric mean hydraulic conductivity is  $1.4 \times 10^{-4}$  cm/s. Based on these results, the 100 ppm clean-up standard for DRO and GRO applies to this site. Detailed field methods and data resolutions are included in Appendix I.

<b>TABLE 5</b> <b>HYDRAULIC CONDUCTIVITY TEST RESULTS</b> <b>CONDON COMPANIES FORMER BULK FACILITY</b> <b>CEDARBURG, WISCONSIN</b>				
Test Location	Material Adjacent to Well Screen	Typical Conductivity of Material Adjacent to Well Screen* (cm/sec)	Calculated Hydraulic Conductivity	
			cm/s	ft/day
MW-1	Silty Clay/Clayey Silt with trace sand	$10^{-6}$ to $10^{-9}$	$3.4 \times 10^{-4}$	.92
MW-2	Silty Clay/Clayey Silt with trace sand	$10^{-6}$ to $10^{-9}$	$1.2 \times 10^{-4}$	.35
MW-7	Silty Clay/Clayey Silt with trace sand	$10^{-6}$ to $10^{-9}$	$1.0 \times 10^{-4}$	.30
MW-8	Silty Clay/Clayey Silt with trace sand	$10^{-6}$ to $10^{-9}$	$9.6 \times 10^{-5}$	.27
KEY: cm/s = centimeters per second ft/day = feet per day  *Fetter, 1988				

The average linear velocity in the upper flow zone is determined by the formula:

Where:

$$V = \frac{Ki}{n}$$

V = groundwater flow velocity (ft/day)

n = effective porosity (0.3) (Fetter 1998)

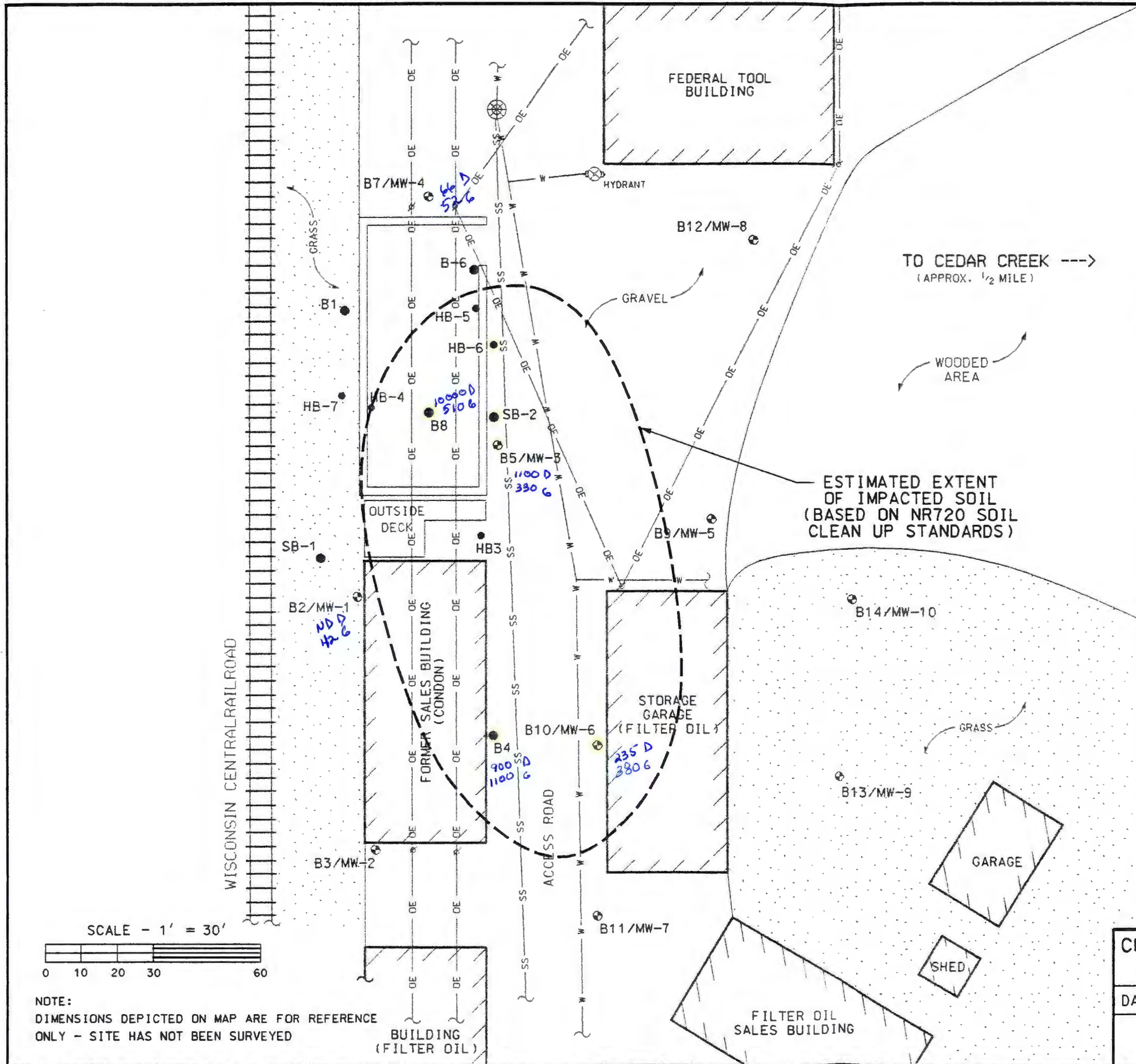
K = hydraulic conductivity (Geometric Mean = .41 ft day)

i = hydraulic gradient (0.08 feet/foot)

The average linear groundwater flow velocity ranges from .07 ft/day to .25 ft/day. The calculated range of velocities may not be indicative of the actual velocities of the contaminant migration since such factors as degradation, dispersion, and adsorption of the contaminants are not accounted for in the formula.

**5.3 Soil Quality and Extent of Impacts.** Based on laboratory analyses, GRO and DRO concentrations in levels which exceed the sites 100 ppm NR 720 soil quality (cleanup) standard were present in soil samples collected from B-4 (GRO = 1100 mg/kg, DRO = 900 mg/kg), B-5 (GRO = 330 mg/kg, DRO = 1100 mg/kg), B-8 (GRO = 510 mg/kg, DRO = 10,000 mg/kg), and B-10 (GRO = 380 mg/kg, DRO = 235 mg/kg). Other soil samples exhibited GRO and/or DRO concentrations above the laboratory analytical method detection limit, however, these concentrations were below the 100 ppm cleanup standard. VOC concentrations above the NR 720 soil cleanup standards are present in boring B-8 (Ethylbenzene = 11,000  $\mu$ g/kg, Toluene = 5500  $\mu$ g/kg, Total Xylenes = 184,000  $\mu$ g/kg) and B-4 (Total Xylenes = 7400  $\mu$ g/kg). Benzene is likely present in these borings above NR 720 standards, however, due to the elevated detection limits, exact concentrations were not quantified. PAHs were detected above the laboratory analytical method detection limit in soil samples collected from B-4, B-7, and B-8. VOC and PAH laboratory results are summarized in Table 6. Laboratory reports are included in Appendix J.

Based on data generated during the assessment and the subsurface investigation, an estimated 9,875 tons of petroleum impacted soil (GRO/DRO > 100 ppm) is present beneath the Condon Companies Bulk Facility (see Figure 7 for extent of impacts). An estimated 675 tons of impacted soil is located off-site to the south beneath a garage on Filter Oil property. The impacted soil is located beneath and adjacent to the former UST and ASTs. Impacts exist from the surface to twelve feet bgs; however, the most concentrated zone of impacts are present from two to eight feet bgs. The occurrence of impacted soil appears to coincide with the locations of the various UST and AST system components. Underground utilities (i.e. sanitary sewer and water main) at the site may have contributed to the lateral migration of petroleum to the south. The generally impermeable nature of the clayey silt and silty clay has prevented the widespread migration of contaminants away from the release source areas.



### LEGEND

- ⊙ = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- SS = UNDERGROUND SANITARY SEWER
- W = UNDERGROUND WATER LINE
- OE = OVERHEAD ELECTRIC LINE

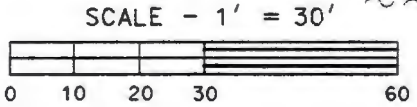
### SOIL QUALITY RESULTS

SAMPLE ID.	DEPTH	B	T	E	X	GRO	DRO
SB-2	2'-4'	NT	NT	NT	NT	NT	3900
HB-3	3'-5'	<130	<130	<130	380	NT	NT
HB-6	3'-5'	120	190	13,000	58,310	NT	4,500
B1	4'-6'	<1.1	2.2	<1.1	2.3	<2.9	<4.6
B2/MW-1	6'-8'	<5.4	<5.4	58	380	41	<4.2
B3/MW-2	4'-6'	<1.1	<1.1	<1.1	<1.1	<2.8	11
B4	4'-6'	<140	260	1,500	7,400	1,100	900
B5/MW-3	6'-8'	<5.3	<5.3	98	518.6	330	1,100
B6	4'-6'	<1.1	1.4	5.4	41	11	<4.2
B7/MW-4	4'-6'	<4.2	<4.2	<4.2	<4.2	52	66
B8	2'-4'	<2,800	5,500	11,000	184,000	510	10,000
B9/MW-5	4'-6'	<1.1	<1.3	<1.3	<4.9	<0.9	<3.6
B10/MW-6	6'-8'	<70	<84	<84	<307	380	235
B11/MW-7	6'-8'	<1.1	<1.4	<1.4	<5.0	<0.9	5.5
B12/MW-8	4'-6'	<1.2	<1.2	<1.5	<5.4	<0.9	<3.2
B13/MW-9	5'-7'	<25	<25	<25	<50	<0.9	<2.8
B14/MW-10	5'-7'	<25	<25	<25	<50	<0.9	<2.8

**KEY**

- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = TOTAL XYLENES
- GRO = GASOLINE RANGE ORGANICS
- DRO = DIESEL RANGE ORGANICS
- NT = NOT TESTED

ALL RESULTS EXPRESSED IN MICROGRAMS PER KILOGRAM (ug/kg) EXCEPT DRO AND GRO WHICH IS EXPRESSED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 ALL SAMPLE DEPTHS GIVEN IN FEET BELOW GROUND SURFACE



NOTE:  
 DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED

CONDON COMPANIES BULK FACILITY  
 N52 W5358 PORTLAND ROAD, CEDARBURG, WI



DATE: 12-20-95 DR. BY: TMM DR.# 1966-007

SCALE: 1" = 30'

SOIL QUALITY/ESTIMATED EXTENT OF IMPACTS MAP

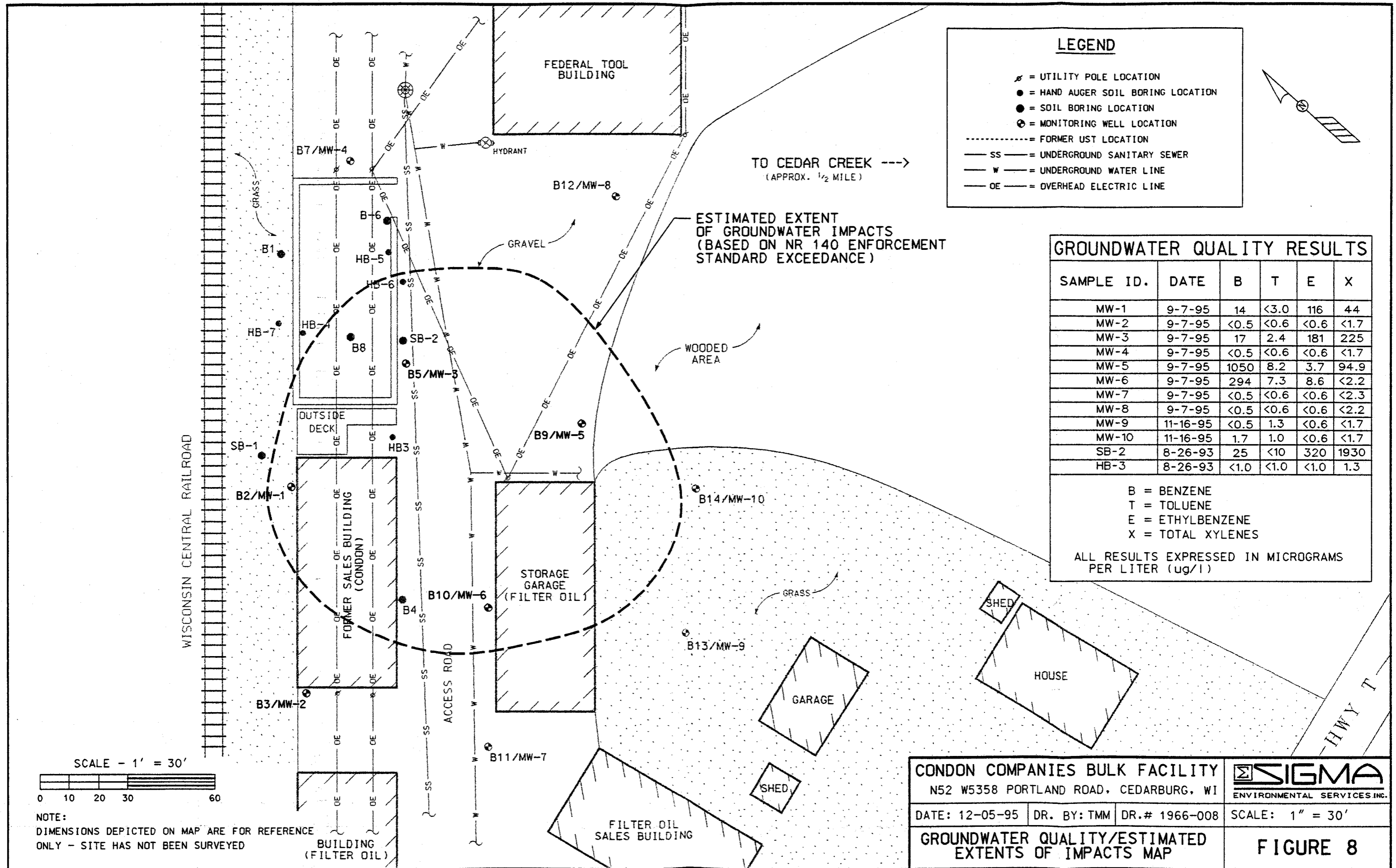
FIGURE 7

**5.4 Groundwater Quality and Extent of Impacts.** Based on laboratory analyses of groundwater samples collected from the monitoring well network, VOCs were detected above the WAC NR 140 ES in MW-1, MW-3, MW-5, and MW-6. Dissolved phase concentrations of Benzene above the ES were present in MW-1 (14  $\mu\text{g/l}$  [9-7-95]), MW-3 (13  $\mu\text{g/l}$  and 17  $\mu\text{g/l}$  [11-8-94 and 9-7-95, respectively]), MW-5 (1050  $\mu\text{g/l}$  [9-7-95]), and MW-6 (294  $\mu\text{g/l}$  [9-7-95]). MW-3 also exhibited a Naphthalene (41  $\mu\text{g/l}$ ) in exceedance of the NR 140 ES. VOC and PAH laboratory analysis results are presented in Table 7. Laboratory reports are included in Appendix K.

Laboratory analysis of groundwater samples confirmed that impacts are present beneath the site (see Figure 8 for extent of impacts). The primary areas of groundwater contamination are located beneath the former UST and AST locations and south and east of the site (off-site - near the Filter Oil Storage garage). In general, the areas of groundwater impacts appear to mimic the areas of soil impacts, with slight off-site contaminant migration (to the south) present which is consistent with groundwater flow. The underground utilities may have acted as a transport mechanism for contaminant migration to the south which could explain the off-site groundwater impacts. The shallow water table limited the vertical movement of hydrocarbons, and the flat hydraulic gradient at the site inhibited any widespread impact transport/migration from the release source areas.

**5.5 Regional Geology.** The regional geologic setting of the site and surrounding area is comprised of unconsolidated Quaternary glacial deposits which overlie bedrock. Bedrock from oldest to youngest consists of Pre-Cambrian crystalline rocks, Cambrian sandstones, Ordovician dolomite, sandstone and shales, Silurian dolomite, and Devonian dolomite. The Quaternary glacial deposits consist of glacial drift. The glacial drift consists of unsorted tills deposited as ground moraines, end moraines, stratified glacial outwash and lake deposits. The till may consist of silt, clay, sand, gravel, cobbles, and boulders. Subsurface geologic materials at the site are primarily a combination of silt and clay.

**5.6 Regional Hydrogeology.** The natural drainage within the region is moderately developed and is toward Cedar Creek (approximately one quarter mile east of the site), which eventually empties into the Milwaukee River and to Lake Michigan.



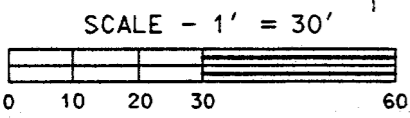
### LEGEND

- = UTILITY POLE LOCATION
- = HAND AUGER SOIL BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION
- = FORMER UST LOCATION
- = UNDERGROUND SANITARY SEWER
- = UNDERGROUND WATER LINE
- = OVERHEAD ELECTRIC LINE

### GROUNDWATER QUALITY RESULTS

SAMPLE ID.	DATE	B	T	E	X
MW-1	9-7-95	14	<3.0	116	44
MW-2	9-7-95	<0.5	<0.6	<0.6	<1.7
MW-3	9-7-95	17	2.4	181	225
MW-4	9-7-95	<0.5	<0.6	<0.6	<1.7
MW-5	9-7-95	1050	8.2	3.7	94.9
MW-6	9-7-95	294	7.3	8.6	<2.2
MW-7	9-7-95	<0.5	<0.6	<0.6	<2.3
MW-8	9-7-95	<0.5	<0.6	<0.6	<2.2
MW-9	11-16-95	<0.5	1.3	<0.6	<1.7
MW-10	11-16-95	1.7	1.0	<0.6	<1.7
SB-2	8-26-93	25	<10	320	1930
HB-3	8-26-93	<1.0	<1.0	<1.0	1.3

B = BENZENE  
 T = TOLUENE  
 E = ETHYLBENZENE  
 X = TOTAL XYLENES  
 ALL RESULTS EXPRESSED IN MICROGRAMS PER LITER (ug/l)



NOTE:  
 DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED

**CONDON COMPANIES BULK FACILITY**  
 N52 W5358 PORTLAND ROAD, CEDARBURG, WI

DATE: 12-05-95    DR. BY: TMM    DR.# 1966-008

**GROUNDWATER QUALITY/ESTIMATED EXTENTS OF IMPACTS MAP**

**SIGMA**  
 ENVIRONMENTAL SERVICES, INC.

SCALE: 1" = 30'

**FIGURE 8**




Groundwater within the Lake Michigan basin is abundant. The major source for groundwater is precipitation. Groundwater in the basin moves within the shallow water table system consisting of the sand and gravel aquifer, and Niagaran aquifer; and the deep artesian water table system.

The shallow aquifer is located in unconsolidated glacial deposits and dolomite. Shallow groundwater in this system is abundant, however, it is not used as a potable water supply in Ozaukee County. Groundwater generally flows to nearby streams, and lakes or other discharge areas; in our case, Cedar Creek. This aquifer was the primary concern during our investigation, since it is highly susceptible to petroleum impacts from surface or near surface releases.

The deeper aquifer consists of Ordovician and Cambrian sandstones and is separated from the shallow aquifers by the relatively impermeable Maquoketa Shale. Water in the deep artesian system flows from the west along long flow paths toward Lake Michigan. The deep artesian system is located beneath the Maquoketa Shale formation and is, therefore, classified as a confined aquifer.

**TABLE 6**  
**SOIL QUALITY RESULTS - VOLATILE ORGANIC COMPOUNDS**  
**DETECTED COMPOUNDS ONLY**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Sample Location	B-1	B-2/MW-1	B-3/MW-2	B-4	B-5/MW-3	B-6	B-7/MW-4	B-8	B-9/MW-5	B-10/MW-6	B-11/MW-7	B-12/MW-8	B-13/MW-9	B-14/MW-10	NR 720 Soil Cleanup Standard
ft. bgs	4-6'	6-8'	4-6'	4-6'	6-8'	4-6'	4-6'	2-4'	4-6'	6-8'	6-8'	4-6'	5-7'	5-7'	
Gasoline Range Organics (GRO)	<2.9	41	<2.8	1100	330	11	52	510	<0.9	380	<0.9	<0.9	<0.9	<0.9	100 <sup>1</sup>
Diesel Range Organics (DRO)	<4.6	<4.2	11	900	1100	<4.2	66	10000	<3.6	235	5.5	<3.2	<2.8	<2.8	100 <sup>1</sup>
Lead	6.5	8.5	5.5	5.6	6.3	6.0	5.1	5.7	8.43	7.60	7.54	6.87	NA	NA	50.0
Benzene	<1.1	<5.4	<1.1	<140	<5.3	<1.1	<4.2	<2800	<1.1	<70	<1.1	<1.2	<25	<25	5.5
n-Butylbenzene	<1.1	<5.4	<1.1	880	120	<4.2	<4.2	15000	<4.2	<265	<4.3	<4.7	NA	NA	NES
sec-Butylbenzene	<1.1	60	<1.1	350	51	11	<4.2	3400	<3.3	425	<3.4	<3.7	NA	NA	NES
Ethylbenzene	<1.1	58	<1.1	1500	98	5.4	<4.2	11000	<1.3	<84	<1.4	<1.5	<25	<25	2900
Isopropylbenzene	<1.1	83	<1.1	370	31	8.2	<4.2	2800	<1.3	<84	<1.4	<1.5	NA	NA	NES
Naphthalene	<1.1	32	<1.1	920	400	6.1	<4.2	31000	<2.2	1140	<2.3	<2.5	NA	NA	NES
n-Propylbenzene	<1.1	160	<1.1	440	120	19	<4.2	8000	<1.8	4490	<1.8	<2.0	NA	NA	NES
Toluene	2.2	<5.4	<1.1	260	<5.3	1.4	<4.2	5500	<1.3	<84	<1.4	<1.5	<25	<25	1500
1,2,4-Trimethylbenzene	<1.1	47	<1.1	5300	1200	91	<4.2	140000	<3.8	686	<3.9	<4.2	386	<25	NES
1,3,5-Trimethylbenzene	<1.1	300	<1.1	2000	440	39	<4.2	50000	<2.0	519	<2.1	<2.2	<25	<25	NES
Total Xylenes	2.3	38	<1.1	7400	518.6	41	<4.2	184000	<4.9	<307	<5.0	<5.4	<50	<50	4100
p-Isopropyl Toluene	<1.1	85	<1.1	1300	<5.3	6.0	<4.2	9900	<2.9	481	<3.0	<3.2	NA	NA	NES

KEY: ft. bgs = feet below ground surface  
NA = Not analyzed  
NES = No established standard  
 = Exceeds the NR 720 Soil Cleanup Standard  
1 = Soil Cleanup Standard is dependent upon the hydraulic conductivity of the native material; in our case 100 ppm assuming  $K > 10^{-8}$  cm/s (Geometric Mean =  $1.4 \times 10^{-4}$  cm/s)  
All results are expressed in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), except GRO, DRO, and Lead which are expressed in milligrams per kilogram ( $\text{mg}/\text{kg}$ ).


**TABLE 7**  
**SOIL QUALITY RESULTS**  
**POLYNUCLEAR AROMATIC HYDROCARBONS**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Sample Location	B-3/MW-2	B-4	B-7/MW-4	B-8	B-9	B-11
ft. bgs	4-6'	4-6'	4-6'	2-4'	4-6'	6-8'
Acenapthene	<19	<56	<19	<1200	<105	<100
Acenapthylene	<37	<110	<38	<2300	<45	<43
Anthracene	<0.7	<8.9	<38	<230	<5.8	<5.5
Benzo(a)anthracene	<0.9	<11	<0.9	<58	<4.5	<4.3
Benzo(a)pyrene	<0.7	<8.9	<0.8	<46	<4.1	<3.9
Benzo(b)flouranthene	<0.7	<8.9	<0.8	<46	<6.3	<6.0
Benzo(g,h,i)perylene	<1.1	<13	<1.1	<69	<10	<9.5
Benzo(k)flouranthene	<0.7	<8.9	<0.8	<46	<4.0	<3.9
Chrysene	<0.9	<11	5.1	<58	<4.0	<3.8
Dibenzo(ah)anthracene	<0.7	<8.9	<0.8	<46	<7.4	<7.0
Flouranthene	<0.7	<8.9	2.6	<230	<13	<12
Flourene	<3.7	16	<3.8	300	<12	<12
Indeno(1,2,3-cd)pyrene	<0.7	<8.9	<0.8	<46	<5.8	<5.5
1-Methylnapthalene	<19	210	<19	2600	<17	<16
2-Methylnapthalene	<19	98	<19	4400	<22	<21
Naphthalene	<19	110	<19	1300	<41	<39
Phenanthrene	<3.7	<45	14	<1200	<6.3	<6.0
Pyrene	<3.7	<45	<3.8	<1200	<8.4	<8.0

KEY: All results are expressed in micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ).  
ft. bgs = below ground surface

**TABLE 8**  
**GROUNDWATER QUALITY RESULTS - VOLATILE ORGANIC COMPOUNDS**  
**DETECTED COMPOUNDS ONLY**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Sample Location	MW-1		MW-2		MW-3		MW-4		MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	ES	PAL
	12-8-94	9-7-95	12-8-94	9-7-95	12-8-94	9-7-95	12-8-94	9-7-95	9-7-95	9-7-95	9-7-95	9-7-95	11-16-95	11-16-95		
Benzene	<1.0	14	<1.0	<0.5	13	17	<1.0	<0.5	1050	294	<0.5	<0.5	<0.5	1.7	5.0	0.5
1,2 Dichloroethane	<1.0	NT	1.2	NT	<2.5	NT	<1.0	NT	1.4	<11	<1.1	<1.1	NT	NT	5.0	0.5
Ethylbenzene	28	116	<1.0	<0.6	83	181	<1.0	<0.6	3.7	8.6	<0.6	<0.6	<0.6	<0.6	700	140
Toluene	1.7	<3.0	<1.0	<0.6	<2.5	2.4	<1.0	<0.6	8.2	7.8	<0.6	<0.6	1.3	1.0	343	68.6
Total Xylenes	24.7	44	<1.0	<1.7	482.9	225	<1.0	<1.7	94.9	<22	<2.3	<2.2	<1.7	<1.7	620	124
Isopropylbenzene	15	NT	<1.0	NT	3.9	NT	<1.0	NT	2.7	<6.0	<0.6	<0.6	NT	NT	NES	NES
N-Propylbenzene	18	NT	<1.0	NT	7.8	NT	<1.0	NT	2.4	<8.0	<0.8	<0.8	NT	NT	NES	NES
1,3,5-Trimethylbenzene	36	36	<1.0	<0.9	64	43	<1.0	<0.9	1.6	<9.0	<0.9	<0.9	<0.9	<0.9	NES	NES
1,2,4-Trimethylbenzene	12	15	<1.0	<1.7	150	103	<1.0	<1.7	16	<17	<1.7	<1.7	<1.7	<1.7	NES	NES
Sec-Butylbenzene	3.2	NT	<1.0	NT	<2.5	NT	<1.0	NT	<1.5	<15	<1.5	<1.5	NT	NT	NES	NES
P-Isopropyltoluene	3.9	NT	<1.0	NT	3.8	NT	<1.0	NT	<1.3	<13	<1.3	<1.3	NT	NT	NES	NES
N-Butylbenzene	5.3	NT	<1.0	NT	3.4	NT	<1.0	NT	<1.9	<19	<1.9	<1.9	NT	NT	NES	NES
Naphthalene	6.0	NT	<1.0	NT	41	NT	<1.0	NT	<1.0	<10	<1.0	<1.0	NT	NT	40	8
Methyl Tert Butyl Ether	1.1	<14	<1.0	<27	<2.5	<2.7	<1.0	<2.7	<2.7	<27	<2.7	<2.7	<2.7	NT	60	12
Gasoline Range Organics	1100	NT	<50	NT	1100	NT	<50	NT	1490	1930	61	<28	167	61	NES	NES
Diesel Range Organics	880	NT	250	NT	4300	NT	190	NT	3490	3060	1100	310	NT	NT	NES	NES
Tert Butylbenzene	1.1	NT	<1.0	NT	<2.5	NT	<1.0	NT	<2.0	<20	<2.0	<2.0	NT	NT	NES	NES

KEY: All results in micrograms per liter (ug/l)  
 = Exceeds WDNR Enforcement Standard or Preventive Action Limit (NR 140)  
 NES = No established standard      NT = Not tested

**TABLE 9**  
**GROUNDWATER QUALITY RESULTS**  
**POLYNUCLEAR AROMATIC RESULTS**  
**CONDON COMPANIES FORMER BULK FACILITY**  
**CEDARBURG, WISCONSIN**

Sample Location	MW-1	MW-2	MW-3	MW-4	ES	PAL
Acenaphthene	< 1.3	< 0.5	< 2.5	< 0.5	NES	NES
Acenaphthylene	< 2.5	< 1.0	< 5.0	< 1.0	NES	NES
Anthracene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
Benzo(a)anthracene	< 0.06	< 0.03	< 0.13	< 0.03	NES	NES
Benzo(a)pyrene	< 0.05	< 0.02	< 0.10	< 0.02	< 0.003	< 0.0003
Benzo(b)flouranthene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
Benzo(g,h,i)perylene	< 0.08	< 0.03	< 0.15	< 0.03	NES	NES
Benzo(k)flouranthene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
Chrysene	< 0.06	< 0.02	< 0.10	< 0.02	NES	NES
Dibenzo(ah)anthralene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
Flouranthene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
Flourene	0.99	< 0.10	< 0.5	< 0.10	NES	NES
Indeno(1,2,3-cd)pyrene	< 0.05	< 0.02	< 0.10	< 0.02	NES	NES
1-Methylnapthalene	1.6	< 0.5	8.6	< 0.5	NES	NES
2-Methylnapthalene	< 1.3	< 0.5	6.4	< 0.5	NES	NES
Naphthalene	2.2	< 0.5	10	< 0.5	40	8
Phenanthrene	< 0.25	< 0.10	< 0.5	< 0.10	NES	NES
Pyrene	< 0.25	< 0.10	< 0.5	< 0.10	NES	NES

KEY: All results are expressed in micrograms per liter ( $\mu\text{g/l}$ ).

All samples collected 12-8-94.

 = Exceeds WDNR Enforcement Standard or Preventive Action Limit (NR 140)

## 6. INVESTIGATIVE FINDINGS AND CONCLUSIONS

6.1 Investigative Findings. The following summary is based on the activities, observations and data generated during the subsurface investigation at the Condon Companies Former Bulk Facility.

- On August 26, 1993, Sigma conducted a preliminary assessment to determine if petroleum impacted soil was present at the site. Based on laboratory analyses of soil samples collected from SB-2, HB-3, and HB-6, a release had occurred.
- On April 11, 1994, Sigma observed the removal of a 1,000 gallon diesel fuel UST. Based on field observations and laboratory analyses, a release was evident. That same day, the WDNR was notified of the petroleum release, and later (in April 21, 1994 letter) assigned the site to the **MEDIUM PRIORITY RANK** group for investigation and remediation.
- From November 1994 until November 1995, Sigma conducted subsurface investigative activities on-site and off-site to determine the extent and character of petroleum impacts beneath the site. The investigation included drilling fourteen soil borings and the conversion of ten soil borings into groundwater monitoring wells.
- Soil and groundwater samples were analyzed to determine the concentration and extent of impacts at the site. Based on laboratory results, the extent of impacted soil and groundwater is defined on-site and off-site to the southwest. However, the laboratory reported Benzene concentrations slightly above the NR 720 Enforcement Standards in monitoring well MW-1 located upgradient from the source area. The primary areas of impacts are located across most of the Condon Companies property and off-site to the south. Impacts appear to have originated from the former UST and ASTs located on the site.
- Soil samples were examined to characterize the geologic environment beneath the study area. The soil at the site consists of a soft silty clay/ clayey silt from the surface to approximately eight feet bgs which becomes stiff to eighteen feet bgs. Fine and coarse sand are present throughout the silty clay, clayey silt lithology.

- Groundwater was encountered in the unconsolidated sediment from 3.12 to 6.20 feet bgs (September 7 and November 13, 1995). Based on static water levels, groundwater flow was determined to be in a southeasterly direction with a hydraulic gradient of approximately 0.08 feet per foot.
- Hydraulic conductivity test results indicate that the geometric mean hydraulic conductivity is  $1.4 \times 10^{-4}$  cm/s. Based on these results, NR 720 Soil Cleanup Standard of 100 ppm GRO/DRO applies to this site.
- Based on the data generated during the investigations, an estimated 9,875 tons of petroleum impacted soil is present beneath the site. Impacts exist from the surface to twelve feet bgs, with the most concentrated impacts present from four to eight feet bgs. The impacted soil is located beneath and adjacent to the former UST and AST locations with some lateral migration to the south.

**6.2 Conclusions.** Condon was required to perform a subsurface investigation at the site due to a release from former underground and aboveground storage tank networks at the property. The multiple phase investigation examined areas where the release occurred, and off-site parcels to ensure that the nature and extent of petroleum impacts were defined. During the investigation, soil and groundwater samples were analyzed, and the results were compared to Chapter NR 720 and Chapter NR 140 standards, respectively. The comparison enabled Sigma to determine when the investigation was complete, and what degree of site remediation would be necessary.

After examining the chemical and physical data generated during the investigation, it appears that most of the property (and off-site to the south) contains soil and groundwater that will require remediation. Impacted soil is located adjacent to the former UST and AST systems, with lateral dispersion through native soil. Slight horizontal migration may be attributed to small sand and silt stringers present in various borings and to the underground utilities located to the south of the former UST and AST systems. The impacts are present from approximately the surface to twelve feet bgs in isolated areas. The impacts are most concentrated at two to eight feet bgs in the soft brown/tan silty clay and clayey silt.

The extent of groundwater impacts appears to roughly coincide with the soil impacts. The highest hydrocarbon concentrations in the groundwater are present at, and downgradient from, the former tank systems. The shallow groundwater system (approximately three to six feet bgs) was adversely affected by the near surface petroleum release, but the relatively flat hydraulic gradient and generally impermeable native soil inhibited the widespread dispersion of hydrocarbons. The highest hydrocarbon concentrations in the soil are located in the probable zone of seasonal groundwater fluctuation.

The subsurface investigation was designed to determine the nature and extent of soil and groundwater impacts, and to characterize the subsurface geologic and hydrogeologic environment. Based on the physical and chemical data from the investigation, the extent of impacts is delineated on-site and the information necessary to evaluate soil and groundwater remediation options was generated.

## **7. REMEDIAL ALTERNATIVE ANALYSIS**

According to Chapter ILHR 47, the Petroleum Environmental Clean-up Fund Act (PECFA) program, a Remedial Action Plan (RAP) must be prepared to evaluate a minimum of three separate remediation strategies that meet WDNR approval, one of which must include passive bioremediation. The Department of Industry, Labor and Human Relations (DILHR) will issue PECFA reimbursement for the cost-effective strategy. In Chapter NR 722, the WDNR establishes minimum standards for evaluating and selecting corrective actions. Section NR 722.07 requires responsible parties to identify potential remedial action options, and evaluate the options based on their technical and economic feasibility to implement. Section NR 722.09 requires responsible parties to select a remedial option or combination of options that will restore the environment to the extent practicable, reduce the harmful effects of the contamination on the air, land, and water, and will comply with all applicable state and federal public health and environmental laws and standards.

The remediation strategies evaluated to clean-up petroleum impacted soil and groundwater at the Condon Companies Former Bulk Facility include the following:



- Excavation and landfill biotreatment (at Waste Management's "Biosites") of all impacted soil; with quarterly groundwater recovery, treatment, and monitoring.
- Excavation and landfill bioremediation of impacted soil greater than 2,000 ppm GRO/DRO coupled with landfill disposal of remaining impacted soil; with quarterly groundwater recovery, disposal and monitoring.
- Excavation and thermal treatment of impacted soil; and quarterly groundwater recovery, disposal, and monitoring.
- Passive bioremediation (not technically feasible).

The remediation strategies assume that the former sales building on the Condon property and the concrete tank pad will be demolished before excavation activities begin. Additionally, the underground utilities located beneath the site would be excavated, cut, and capped off during remedial activities or shored and excavated around to facilitate impacted soil removal. Residually impacted soil beneath the Filter Oil Garage (approximately 675 tons) will be left in place. To address this, Sigma will install three groundwater recovery wells (one to the west and two to the north of the garage) prior to backfilling the excavation. The recovery wells will be pumped quarterly, to create a "flushing" action which will enhance the biodegradation rate of the residual impacts beneath the garage.

These four remediation alternatives were evaluated based upon technical feasibility, remediation efficiency, WDNR permitting and monitoring requirements, anticipated project duration, estimated initial capital costs, and annual operation and maintenance costs. In-situ soil remedial technologies such as soil vapor extraction were not considered technically feasible due to the silty clay soil at the site. Therefore, in-situ technologies were not evaluated as a feasible remedial alternative.

**OPTION 1: EXCAVATION AND LANDFILL BIOTREATMENT OF SOIL; GROUNDWATER RECOVERY, TREATMENT, AND MONITORING**

Waste Management, Inc. provides an alternative solution for remediating petroleum impacted soil off-site. The remediation strategy known as "Biosites" implements an aboveground bio-venting process. Soil of any geologic type

(sand, gravel, silt, or clay) is transported to the Waste Management facility and placed in select cells of an aboveground pile (bio-pile) network. The system uses the principles of biodegradation and vapor extraction to remediate the soil to practical levels as defined by the WDNR. The remediation process is enhanced by adding bacteria able to break the chemical bonds of petroleum compounds, inorganic nutrients necessary for bacterial growth, and oxygen to the impacted soil during bio-pile construction and operation activities. The system is designed to allow year-round operation.

Remediated soil will remain at the Waste Management facility for beneficial re-use on or within the landfill as fill and cover materials. Waste Management is currently requiring the same analytical requirements for permitting as those for landfill disposal. The level of treatment for each bio-pile cell will be dependent upon contaminant type and concentrations. The scope of work to implement this strategy will include the following:

- The "Application to Treat or Dispose of Petroleum Contaminated Soil" will be completed and submitted to the WDNR.
- The impacted soil will be overexcavated (9,200 tons) and transported by a WDNR-certified special waste hauler to Waste Managements Orchard Ridge Recycling and Disposal Facility. The soil will be treated in a "Biosites" system.
- Per requirements outlined in the WDNR's "Guidance for Conducting Environmental Response Actions" (Publ. SW-157-92), confirmatory soil samples will be collected at a minimum of one sample every twenty-five feet (grid interval) from the base and sidewalls of the excavation. The samples from the excavation base and sidewalls will be sampled to confirm that all impacted soil was removed and to document the site for closure. The samples will be analyzed for GRO, DRO, Total Lead, PVOCs, and PAHs. Sigma anticipates a total of forty-two clean confirmation samples will be submitted for laboratory analysis.
- Additionally, impacted soils excavated for landfill disposal must to be field screened with a PID every 15 yds<sup>3</sup> and one sample must be submitted for GRO, DRO, and Benzene analysis every 300 yds<sup>3</sup> to confirm that impacted soil is being disposed. A field log will be prepared to document field screening requirements of every 15 yds<sup>3</sup> of impacted

- soil which is removed. Sigma anticipates a total to twenty-one landfill disposal samples will be submitted for laboratory analysis.
- A detailed report will be prepared to document remedial field activities and the results of laboratory analysis.
  - After all impacted soil is excavated and transported for landfill disposal, the excavation area will be backfilled with clean material. Three 6 inch diameter recovery wells will be installed within the excavation to recover impacted groundwater for disposal at an off-site treatment facility once per quarter. A quarterly groundwater monitoring program will be instituted to assess the effectiveness of the remediation for a period of one year. Samples collected from the monitoring wells will be analyzed for GRO, DRO, PVOCs, and Soluble Lead.
  - Quarterly groundwater monitoring reports will be prepared to document groundwater recovery and monitoring. The final quarterly report will include a recommendation for site closure or additional groundwater recovery and monitoring.

## **OPTION 2: EXCAVATION AND LANDFILL/BIOREMEDIATION OF SOIL; GROUNDWATER MONITORING**

Landfill/bioremediation incorporates the same principles as Option 1, but only applies to impacted soils of greater than 2,000 parts per million (ppm) for the bioremediation portion of this option. Impacted soil of greater than 2,000 ppm is estimated at 1,775 tons. Any soil impacts that result in concentrations of less than 2,000 ppm will simply be transported to Waste Management's Orchard Ridge Recycling and Disposal Facility for landfill disposal.

A responsible party can elect to landfill up to 250 cubic yards of untreated contaminated soil from a single site or facility. Any landfill may receive the soil provided the facility is permitted to accept the material by the WDNR. A responsible party desiring to landfill more than 250 cubic yards of contaminated soil must prepare a detailed evaluation of the technical and economic feasibility implementing a range of suitable remedial options. In our case, we would elect to landfill more than 250 cubic yards, therefore, increasing the cost of this option.

In WDNR Chapter NR 722, Section NR 722.09(4)(b), site specific determination of contamination can present a liability concern for the Responsible Party (RP). This section deals with residual contamination levels based on protection of the groundwater. As a result, untreated soil could eventually pose a threat to the groundwater supply. Therefore, excavation and landfill bioremediation is not recommended because of this element of future liability to the RP.

Groundwater sampling and monitoring would be the same as Option 1.

**OPTION 3: EXCAVATION AND THERMAL DESTRUCTION OF IMPACTED SOIL; GROUNDWATER RECOVERY, TREATMENT, AND MONITORING.**

Thermal destruction/desorption of impacted soil is a relatively time-effective remedial option. Thermal treatment units are designed to remediate soil impacted with petroleum hydrocarbons, including gasoline and diesel fuel, by rapidly volatilizing these products from the soil and then thermally destructing them in the discharge air stream.

The thermal treatment unit consists of a rotary drum desorber with feed, discharge and combustion control systems, a baghouse for dust collection, a modular thermal oxidizer for destruction of VOCs, associated fuel and air delivery systems, as well as monitoring and safety controls.

The thermal treatment process operates by loading contaminated soil into a feed hopper, which discharges the soil onto a variable speed feed belt. The soil is conveyed by the feed belt through a screen and onto a belt weigh scale. The soil then flows into a rotary drum desorber, where volatile compounds and moisture are evaporated by heat supplied from a direct-firing burner. Treated soil is then cooled.

Soil samples are collected and submitted for laboratory analysis to confirm that hydrocarbon concentrations have been reduced to levels below WDNR soil quality standards.

The following activities are associated with utilization and implementation of a thermal desorption remediation strategy.

- The "Application to Treat or Dispose of Petroleum Contaminated Soil" must be completed and submitted to the WDNR for approval.

- Impacted soils must be overexcavated and submitted for laboratory analysis as detailed in Option 1 to confirm that impacted soil was removed and to provide documentation for site closure.
- Excavated soil must be transported to Clean' Soils, Inc. in Oak Creek, Wisconsin to be cleaned via the thermal desorption treatment process.
- After all impacted soil is excavated and treated, the excavation area must be backfilled with clean gravel. The backfill must be placed and compacted.
- Treated soil must be analyzed to verify that hydrocarbon concentrations were reduced to levels below the WDNR soil cleanup standards.
- Treated soil must be properly disposed of upon receipt of laboratory verifications of WDNR acceptable hydrocarbon concentrations.
- Groundwater recovery, disposal and monitoring will be performed as described in Option 1.

#### **OPTION 4: PASSIVE BIOREMEDIATION**

Based on the WDNR guidance document, "Natural Biodegradation as a Remedial Option - Interim Guidance", passive bioremediation was not evaluated for this site due to 1) elevated GRO/DRO concentrations in the soil ( $\geq 2000$  ppm), and 2) exceedances of established NR 140 ES for specific compounds in the groundwater (e.g. Benzene). Natural biodegradation is a long term option and may take years or decades to effectively clean up a site. The application as a remediation alternative requires the site be evaluated to ensure conditions are appropriate (microbial enumeration and respirometry evaluation), and that a monitoring plan be developed.

#### **COST OPINION**

Cost opinions for all strategies are presented in Table 10. The cost opinions are based on the information obtained from the subsurface investigation, design assumptions, and our experiences with similar projects. The costs to complete the activities associated with soil excavation transportation and soil sampling are dependent upon several on-site conditions which have potential to vary the actual costs. Costs associated with commodity services are opinions. A bid package for commodity services associated with soil excavation, transportation,

and backfilling will be prepared and submitted to a minimum of three contractors. The lowest cost qualified bidder will be awarded the contract. In the event that on-site or off-site conditions warrant changes to this scope of work, Condon and DILHR representatives will be notified that additional effort and associated costs may be incurred prior to proceeding with any further activities.

**TABLE 10  
COST OPINION OF REMEDIATION STRATEGIES  
CONDON COMPANIES FORMER BULK FACILITY  
CEDARBURG, WISCONSIN**

Option	Task	Cost	Comments
Excavation and Bioremediation Treatment, Groundwater Recovery and Off-Site Treatment with Quarterly Monitoring	Bid Specifications	\$ 2,590	<ul style="list-style-type: none"> <li>◦ Estimated costs assume 9,200 tons of petroleum impacted soil</li> <li>◦ Transport soil to Orchard Ridge Recycling and Disposal facility in Menomonee Falls, Wisconsin</li> <li>◦ Estimated costs predicated on similar projects</li> <li>◦ Assumes approximately 5,000 gallons of groundwater removed quarterly and treated off-site</li> <li>◦ Assumes building and concrete pad on Condon property will be demolished</li> <li>◦ Assumes utilities will be shored and excavated around or removed completely</li> </ul>
	Professional Services	\$ 20,425	
	Excavation, Hauling and Backfill	\$ 297,600	
	Soil Analysis	\$ 17,640	
	Report Preparation	\$ 5,370	
	Quarterly Groundwater Sample Analysis, Reports and O&M	\$ 41,120	
<b>TOTAL</b>		<b>\$ 384,745</b>	
Excavation and Bioremediation/Landfill Disposal, Groundwater Recovery, and Off-Site Treatment with Quarterly Monitoring	Bid Specifications	\$ 4,645	<ul style="list-style-type: none"> <li>◦ Estimated costs assume 9,200 tons of petroleum impacted soil</li> <li>◦ Transport soil to Orchard Ridge Recycling and Disposal facility in Menomonee Falls, Wisconsin</li> <li>◦ Estimated costs predicated on similar projects</li> <li>◦ Assumes approximately 5,000 gallons of groundwater removed quarterly and treated off-site</li> <li>◦ Assumes building and concrete pad on Condon property will be demolished</li> <li>◦ Assumes utilities will be shored and excavated around or removed completely</li> <li>◦ Assumes impacted soil greater than 2,000 ppm (1,775 tons) will be bioremediated - remaining soil will be disposed of by landfilling</li> </ul>
	Professional Services	\$ 20,750	
	Excavation, Hauling and Backfill	\$ 297,600	
	Soil Analysis	\$ 17,640	
	Report Preparation	\$ 5,370	
	Quarterly Groundwater Sample Analysis, Reports and O&M	\$ 41,120	
<b>TOTAL</b>		<b>\$ 387,125</b>	
Excavation and Thermal Treatment of Soil, Groundwater Recovery and Off-Site Treatment with Quarterly Monitoring	Bid Specifications	\$ 2,590	<ul style="list-style-type: none"> <li>◦ Estimated costs assume 9,200 tons of petroleum impacted soil</li> <li>◦ Soil treatment costs include post-treatment analytical costs</li> <li>◦ Assumes building and concrete pad on Condon property will be demolished</li> <li>◦ Assumes approximately 5,000 gallons of groundwater removed quarterly and treated off-site</li> <li>◦ Estimated costs based on Clean Soils, Inc. bid dated 12/8/95</li> </ul>
	Professional Services	\$ 20,425	
	Excavation, Hauling and Treatment	\$ 344,520	
	Soil Analysis	\$ 17,640	
	Report Preparation	\$ 5,370	
	Quarterly Groundwater Sample Analysis, Report and O&M	\$ 41,120	
<b>TOTAL</b>		<b>\$ 431,665</b>	
Passive Bioremediation			Not Technically Feasible

## **8. RECOMMENDATIONS**

Based on technical feasibility and lifecycle costs, Sigma recommends that petroleum impacted soil at the Condon Companies Former Bulk Facility be remediated by excavation and bioremediation at Waste Management's Orchard Ridge Recycling and Disposal Facility. Groundwater should be recovered and treated off-site. A quarterly groundwater monitoring program should be instituted to assess the effectiveness of the remediation, and document the site for closure under Chapter NR 726. This alternative is technically feasible and is the cost-effective method to minimize the effects of the release on public health and the environment and restore soil and groundwater quality to acceptable WDNR standards.

## **9. LIMITATIONS OF INVESTIGATION**

This report was prepared under constraints of cost, time, and scope, and reflects a limited assessment and evaluation rather than a full, total, complete, or extensive assessment and evaluation.

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 work 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.

The interpretations and conclusions contained in this report are based upon the result of independent laboratory tests and analysis intended to detect the presence and/or concentrations of certain chemical constituents in samples taken from the subject property. Sigma Environmental Service, Inc. has no control over such testing and analysis and therefore, disclaims any responsibility for any errors and omissions arising therefrom.



A subsurface exploration was performed and presented in this report. However, subsurface exploration cannot reveal totally what is below the surface. Depending upon the sampling method and frequency, every soil condition may not be observed, and some materials or layers which are present in the subsurface may not be noted.

This report is issued with the understanding that it is the responsibility of the owner(s) to ensure that the information and recommendations contained herein are brought to the attention of the appropriate regulatory agency(ies).

\*\*\*\*\*

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**APPENDIX A**

**LABORATORY REPORT AND CHAIN-OF-CUSTODY FROM  
PRELIMINARY ASSESSMENT**



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>Gene Klees</i>	Title/Work Station/Company <i>STAFF Scientist</i>	Telephone Number (include area code) <i>(414) 768-7144</i>
Property Owner <i>Michael, Best &amp; Friedrich</i>	Property Address <i>Condon Cedarburg</i>	Telephone Number (include area code)

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

Relinquished By (Signature) <i>[Signature]</i>	Date/Time <i>8/27/93 10am</i>	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time <i>8/28/93 12:35 AM</i>	Received for EN CHEM by (Signature) <i>[Signature]</i>

Temperature of temperature blank *(on ice)*

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 Code(s)	Lab ID Number	no/Type of Containers	Sample Condition				
			Type	Device						Cracked /broken	Improperly sealed	Good Condition	Other Comments	
B-6	8/26/93		Soil	Hard Age	Unp	B-6/s-4 3-5'	DRO VOCs 8240	105751	2-60ml B-4oz				✓	
B-2	8/26/93		Soil	SS	Unp	B-2/s-4 2-4'	DRO	105752	1-4oz 2-60ml				✓	
B-3	8/26/93		Soil	Hard Age	Unp	B-3 / 3-5'	VOCs 8260	105753	2-4oz				✓	
B-2	8/26/93		G.W.	Builder	HCL	B-2 / Groundwater		105754	5-40ml V.P.S.				✓	
B-3	8/26/93		G.W.	Builder	HCL	B-3 / Groundwater		105755	4-40ml V.P.S.				✓	
Temp/ Trip Blank						Temperature of Trip Blank		105756						

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FOOTNOTES:  
 1. Specify groundwater, surface water, soil, leachate, sludge, etc.  
 2. Sample description must clearly correlate the sample ID to the sampling location.

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ANALYSIS CODES			
1. GRO	5. DRO	9. Free Liquids	13. TRPH
2. PVOC	6. PAH	10. pH	14. Protocol D4-GRO
3. LEAD	7. Flashpoint	11. TCLP-Benzene	15. Protocol D4-DRO
4. 8021	8. Percent Solids	12. TCLP-Lead	

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

DEPARTMENT USE ONLY

Disposition of unused portion of sample, Laboratory should:

\_\_\_ Dispose      \_\_\_ Retain for \_\_\_ days

\_\_\_ Return      \_\_\_ Other

Split samples:      Offered?      \_\_\_ yes      \_\_\_ no      (Check one)

   Accepted?      \_\_\_ yes      \_\_\_ no      (Check one)

Accepted By: *MMA 4308133*

1795 Industrial Drive	Lab Certification No. 405132750
Green Bay, WI 54302	Location : CONDON CEDARBURG PRO# 1966
414-469-2436	En Chem Proj# : 9308133
800-7-ENCHEM	Date Collected: 08/26/1993
FAX: 414-469-8827	Date Received : 08/28/1993
	Date Reported : 09/02/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC

Thank you for using En Chem! Samples were analyzed according to strict EPA or Wisconsin DNR methodology. Any comments or problems associated with the receipt of or analysis of the samples are reported below:

Chlorinated compounds do not appear to be present in samples from this set at unquantified levels below our detection limit.

Chromatograms from these samples appear to contain some gasoline range compounds. Benzene was found in one soil and one water and there appear to be low level gasoline range peaks in these as well as other samples. A GC/MS library search of compound peaks not on the 8260 list would determine if they are gasoline related. Diesel range fuel contamination is the predominant contamination in these samples, however.

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800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
En Chem Proj# : 9308133  
Date Collected: 08/26/1993  
Date Received : 08/28/1993  
Date Reported : 09/02/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC

Thank you for using En Chem! Samples were analyzed according to strict EPA or Wisconsin DNR methodology. Comments or problems associated with the samples are reported below:

Sample nos. 105751, 105752: A very few peaks eluted before DRO window.

Sample no. 105751, 105753, 105754: Late eluting fuel hump in the VOC analysis indicating substantial diesel range contamination. This high level of contamination required that the samples be run at dilution to prevent chromatographic problems. Therefore, detection limits are elevated.

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 800-7-ENCHM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON CEDARBURG PRO# 1966  
 Your Sample ID: 8-6  
 Sample Desc. : 8-6/S-4 3-5'  
 Sample Matrix : SOIL Date Collected: 08/26/1993  
 En Chem Proj# : 9308133 Date Received : 08/28/1993  
 En Chem Lab # : 105751 Date Reported : 09/02/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 9555 SOUTH HOWELL AVENUE  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
DRO-S	Diesel Range Organics(DRO)-Soil	4500	mg/kg	150		09/01/1993	WDNR MOD DRO	09/01/1993	NJS
8021-S	Benzene	120	ug/kg	120	SW846 5030		SW846 8260	08/30/1993	HW
	Bromobenzene	ND	ug/kg	120					
	Bromodichloromethane	ND	ug/kg	120					
	n-Butylbenzene	ND	ug/kg	120					
	sec-Butylbenzene	950	ug/kg	120					
	tert-Butylbenzene	ND	ug/kg	120					
	Carbon tetrachloride	ND	ug/kg	120					
	Chlorobenzene	ND	ug/kg	120					
	Chlorodibromomethane	ND	ug/kg	120					
	Chloroethane	ND	ug/kg	120					
	Chloroform	ND	ug/kg	120					
	Chloromethane	ND	ug/kg	230					
	2-Chlorotoluene	ND	ug/kg	120					
	4-Chlorotoluene	ND	ug/kg	120					
	1,2-Dibromo-3-chloropropane	ND	ug/kg	230					
	1,2-Dibromoethane	ND	ug/kg	120					
	1,2-Dichlorobenzene	ND	ug/kg	120					
	1,3-Dichlorobenzene	ND	ug/kg	120					
	1,4-Dichlorobenzene	ND	ug/kg	120					
	Dichlorodifluoromethane	ND	ug/kg	470					
	1,1-Dichloroethane	ND	ug/kg	120					
	1,2-Dichloroethane	ND	ug/kg	120					
	1,1-Dichloroethene	ND	ug/kg	120					
	cis-1,2-Dichloroethene	ND	ug/kg	120					
	trans-1,2-Dichloroethene	ND	ug/kg	120					
	1,2-Dichloropropane	ND	ug/kg	120					
	1,3-Dichloropropane	ND	ug/kg	120					
	2,2-Dichloropropane	ND	ug/kg	120					

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800-7-ENCHM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-6  
Sample Desc. : B-6/S-4 3-5'  
Sample Matrix : SOIL Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105751 Date Reported : 09/02/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
3021-S	Di-isopropyl ether	ND	ug/kg	120	SW846 5030		SW846 8260	08/30/1993	HW
	Ethyl Benzene	13000	ug/kg	580					
	Hexachlorobutadiene	ND	ug/kg	120					
	Isopropylbenzene	1200	ug/kg	120					
	p-Isopropyltoluene	670	ug/kg	120					
	Methylene chloride	ND	ug/kg	470					
	Methyl-tert-butyl-ether	ND	ug/kg	120					
	Naphthalene	7100	ug/kg	230					
	n-Propylbenzene	3900	ug/kg	120					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	120					
	Tetrachloroethene	ND	ug/kg	120					
	Toluene	190	ug/kg	120					
	1,2,3-Trichlorobenzene	ND	ug/kg	120					
	1,2,4-Trichlorobenzene	ND	ug/kg	120					
	1,1,1-Trichloroethane	ND	ug/kg	120					
	1,1,2-Trichloroethane	ND	ug/kg	120					
	Trichloroethene	ND	ug/kg	120					
	Trichlorofluoromethane	ND	ug/kg	120					
	1,2,4-Trimethylbenzene	34000	ug/kg	580					
	1,3,5-Trimethylbenzene	11000	ug/kg	120					
	Vinyl chloride	ND	ug/kg	120					
	Xylenes, m + p	58000	ug/kg	580					
	Xylene, o	310	ug/kg	120					

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"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*David Tunniff*



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Green Bay, WI 54302  
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800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-2  
Sample Desc. : B-2/S-2 2-4'  
Sample Matrix : SOIL Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105752 Date Reported : 09/02/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

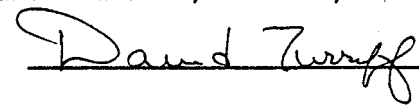
Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
PRO-S	Diesel Range Organics(DRO)-Soil	3900	mg/kg	160		09/01/1993	WDNR MOD DRO	09/01/1993	NJS

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"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

  
\_\_\_\_\_



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Green Bay, WI 54302  
414-469-2436  
800-7-ENCHM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-3  
Sample Desc. : B-3/S-3 3-5'  
Sample Matrix : SOIL Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105753 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8021-S	Benzene	ND	ug/kg	130	SW846 5030		SW846 8260	08/30/1993	HW
	Bromobenzene	ND	ug/kg	130					
	Bromodichloromethane	ND	ug/kg	130					
	n-Butylbenzene	ND	ug/kg	130					
	sec-Butylbenzene	ND	ug/kg	130					
	tert-Butylbenzene	ND	ug/kg	130					
	Carbon tetrachloride	ND	ug/kg	130					
	Chlorobenzene	ND	ug/kg	130					
	Chlorodibromomethane	ND	ug/kg	130					
	Chloroethane	ND	ug/kg	130					
	Chloroform	ND	ug/kg	130					
	Chloromethane	ND	ug/kg	250					
	2-Chlorotoluene	ND	ug/kg	130					
	4-Chlorotoluene	ND	ug/kg	130					
	1,2-Dibromo-3-chloropropane	ND	ug/kg	250					
	1,2-Dibromoethane	ND	ug/kg	130					
	1,2-Dichlorobenzene	ND	ug/kg	130					
	1,3-Dichlorobenzene	ND	ug/kg	130					
	1,4-Dichlorobenzene	ND	ug/kg	130					
	Dichlorodifluoromethane	ND	ug/kg	500					
	1,1-Dichloroethane	ND	ug/kg	130					
	1,2-Dichloroethane	ND	ug/kg	130					
	1,1-Dichloroethene	ND	ug/kg	130					
	cis-1,2-Dichloroethene	ND	ug/kg	130					
	trans-1,2-Dichloroethene	ND	ug/kg	130					
	1,2-Dichloropropane	ND	ug/kg	130					
	1,3-Dichloropropane	ND	ug/kg	130					
	2,2-Dichloropropane	ND	ug/kg	130					
	Di-isopropyl ether	ND	ug/kg	130					
	Ethyl Benzene	ND	ug/kg	130					

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800-7-ENCHM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDOM CEDARBURG PRO# 1966  
Your Sample ID: B-3  
Sample Desc. : B-3/S-3 3-5'  
Sample Matrix : SOIL Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105753 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8021-S	Hexachlorobutadiene	ND	ug/kg	130	SW846 5030		SW846 8260	08/30/1993	HW
	Isopropylbenzene	ND	ug/kg	130					
	p-Isopropyltoluene	ND	ug/kg	130					
	Methylene chloride	ND	ug/kg	500					
	Methyl-tert-butyl-ether	ND	ug/kg	130					
	Naphthalene	ND	ug/kg	250					
	n-Propylbenzene	ND	ug/kg	130					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	130					
	Tetrachloroethene	ND	ug/kg	130					
	Toluene	ND	ug/kg	130					
	1,2,3-Trichlorobenzene	ND	ug/kg	130					
	1,2,4-Trichlorobenzene	ND	ug/kg	130					
	1,1,1-Trichloroethane	ND	ug/kg	130					
	1,1,2-Trichloroethane	ND	ug/kg	130					
	Trichloroethene	ND	ug/kg	130					
	Trichlorofluoromethane	ND	ug/kg	130					
	1,2,4-Trimethylbenzene	220	ug/kg	130					
	1,3,5-Trimethylbenzene	ND	ug/kg	130					
	Vinyl chloride	ND	ug/kg	130					
	Xylenes, m + p	380	ug/kg	130					
	Xylene, o	ND	ug/kg	130					

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These results have been reviewed and their authenticity verified by:

*David Zurek*



1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-2  
Sample Desc. : B-2/GROUNDWATER  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105754 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
3021	Benzene	25	ug/l	10	SW846 5030		SW846 8260	09/01/1993	HW
	Bromobenzene	ND	ug/l	10					
	Bromodichloromethane	ND	ug/l	10					
	n-Butylbenzene	ND	ug/l	10					
	sec-Butylbenzene	ND	ug/l	10					
	tert-Butylbenzene	ND	ug/l	10					
	Carbon tetrachloride	ND	ug/l	10					
	Chlorobenzene	ND	ug/l	10					
	Chlorodibromomethane	ND	ug/l	10					
	Chloroethane	ND	ug/l	10					
	Chloroform	ND	ug/l	10					
	Chloromethane	ND	ug/l	10					
	2-Chlorotoluene	ND	ug/l	10					
	4-Chlorotoluene	ND	ug/l	10					
	1,2-Dibromo-3-chloropropane	ND	ug/l	20					
	1,2-Dibromoethane	ND	ug/l	10					
	1,2-Dichlorobenzene	ND	ug/l	10					
	1,3-Dichlorobenzene	ND	ug/l	10					
	1,4-Dichlorobenzene	ND	ug/l	10					
	Dichlorodifluoromethane	ND	ug/l	40					
	1,1-Dichloroethane	ND	ug/l	10					
	1,2-Dichloroethane	ND	ug/l	10					
	1,1-Dichloroethene	ND	ug/l	10					
	cis-1,2-Dichloroethene	ND	ug/l	10					
	trans-1,2-Dichloroethene	ND	ug/l	10					
	1,2-Dichloropropane	ND	ug/l	10					
	1,3-Dichloropropane	ND	ug/l	10					
	2,2-Dichloropropane	ND	ug/l	10					
	Di-isopropyl ether	ND	ug/l	10					
	Ethyl Benzene	320	ug/l	10					

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414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-2  
Sample Desc. : B-2/GROUNDWATER  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105754 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8021	Hexachlorobutadiene	ND	ug/l	10	SW846 5030		SW846 8260	09/01/1993	HW
	Isopropylbenzene	21	ug/l	10					
	p-Isopropyltoluene	ND	ug/l	10					
	Methylene chloride	ND	ug/l	40					
	Methyl-tert-butyl-ether	ND	ug/l	10					
	Naphthalene	120	ug/l	20					
	n-Propylbenzene	53	ug/l	10					
	1,1,2,2-Tetrachloroethane	ND	ug/l	10					
	Tetrachloroethene	ND	ug/l	10					
	Toluene	ND	ug/l	10					
	1,2,3-Trichlorobenzene	ND	ug/l	10					
	1,2,4-Trichlorobenzene	ND	ug/l	10					
	1,1,1-Trichloroethane	ND	ug/l	10					
	1,1,2-Trichloroethane	ND	ug/l	10					
	Trichloroethene	ND	ug/l	10					
	Trichlorofluoromethane	ND	ug/l	10					
	1,2,4-Trimethylbenzene	620	ug/l	10					
	1,3,5-Trimethylbenzene	210	ug/l	10					
	Vinyl chloride	ND	ug/l	10					
	Xylenes, m + p	1600	ug/l	10					
	Xylene, o	330	ug/l	10					

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These results have been reviewed and their authenticity verified by:

*David Truff*

1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-3  
Sample Desc. : B-3/GROUNDWATER  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105755 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8021	Benzene	ND	ug/l	1.0	SW846 5030		SW846 8260	09/01/1993	HW
	Bromobenzene	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	1.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	2.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	4.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					
	1,3-Dichloropropane	ND	ug/l	1.0					
	2,2-Dichloropropane	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	1.0					
	Ethyl Benzene	ND	ug/l	1.0					

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1795 Industrial Drive  
Green Bay, WI 54302  
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800-7-ENCHM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: B-3  
Sample Desc. : B-3/GROUNDWATER  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105755 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
021	Hexachlorobutadiene	ND	ug/l	1.0	SW846 5030		SW846 8260	09/01/1993	HW
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	ND	ug/l	4.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	2.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	1.1	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	1.3	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

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These results have been reviewed and their authenticity verified by:

*David [Signature]*

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FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: TEMP/TRIP BLANK  
Sample Desc. : TEMPERATURE & TRIP BLANK  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105756 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8021	Benzene	ND	ug/l	1.0	SW846 5030		SW846 8260	08/31/1993	HW
	Bromobenzene	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	1.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	2.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	4.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					
	1,3-Dichloropropane	ND	ug/l	1.0					
	2,2-Dichloropropane	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	1.0					
	Ethyl Benzene	ND	ug/l	1.0					

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FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON CEDARBURG PRO# 1966  
Your Sample ID: TEMP/TRIP BLANK  
Sample Desc. : TEMPERATURE & TRIP BLANK  
Sample Matrix : WATER Date Collected: 08/26/1993  
En Chem Proj# : 9308133 Date Received : 08/28/1993  
En Chem Lab # : 105756 Date Reported : 09/01/1993

Report to: SIGMA ENVIRONMENTAL SERVICES, INC.  
9555 SOUTH HOWELL AVENUE  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8021	Hexachlorobutadiene	ND	ug/l	1.0	SW846 5030		SW846 8260	08/31/1993	HW
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	ND	ug/l	4.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	2.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	ND	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	ND	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

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These results have been reviewed and their authenticity verified by:

*David [Signature]*



**APPENDIX B**

**SIGMA INVESTIGATIVE METHODOLOGIES**

## SOIL SAMPLING METHODOLOGIES (SIGMA)

Standard split-spoon sampling techniques (ASTM Standard D-1586-87) were utilized during the installation of B-1 through B-12. A two inch outside diameter split-spoon sampler was driven a distance of 24 inches below the lead auger by means of a 140 pound hammer free falling 30 inches. The standard penetration resistance (nominal value) was obtained by counting the number of hammer blows over the final 12 inches of sampler advancement. This value provides a quantitative, in-place relative density of cohesionless soils. The value is quantitative only, since many factors can significantly affect the standard penetration value. Direct correlation of the results obtained by the field personnel using different drill rigs, drilling procedures and hammer-rod-spoon assemblies should not be made. Borings B-13 and B-14 were advanced using a three inch diameter bucket auger.

Soil samples were examined and classified on the basis of their color, texture and plasticity in accordance with the Unified Soil Classification System (USCS).

Representative soil samples were collected from each sampling interval. One portion of the sample was weighted to approximately 25 grams, placed in a 60 milliliter glass jar preserved with methanol and sealed with a teflon-lined screw-on lid for Gasoline Range Organic analysis. A second portion was containerized in a similar fashion excluding methanol preservation for Diesel Range Organic analysis. Additional portions were immediately containerized in a 4 ounce glass jar and sealed with a screw-on cap for Petroleum Volatile Organic Compounds, Volatile Organic Compounds (VOCs), Petroleum Aromatic Hydrocarbons, and Total Lead analysis. The samples were then labeled and placed in a cooler with ice. Another portion was filled approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  full to allow for headspace screening of the sample. This sample was allowed to equilibrate to room temperature and screened for VOCs by means of headspace analysis utilizing a Microtip Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID was calibrated for direct response to a 248 parts per million isobutylene standard before each use.

Sigma standard protocol for decontamination was used on all drilling equipment. This included steam cleaning all downhole equipment between borings with special emphasis on split-spoon samplers. Between each boring, the split-spoon samplers were also sprayed with hexane and triple rinsed with deionized water. Between each sampling interval, the split-spoon samplers were washed in a hot Alconox soap solution and rinsed with clean tap water.

Soil borings not converted into monitoring wells were grouted (sealed) with bentonite chips. Borehole Abandonment Forms (WDNR Forms 3300-5B) are included.

All auger spoil was containerized in DOT approved 55-gallon drums, sealed, labeled and stored on-site for disposal.

## **MONITORING WELL INSTALLATION METHODOLOGIES**

Monitoring wells MW-1 through MW-8 were constructed of two inch diameter Schedule 40 PVC casing coupled to a 10 foot section of 0.010 inch factory slotted PVC well screen. Casing and screen were packaged in hermetically sealed plastic to ensure well integrity. The wells were installed with the screened interval intersecting the water table to determine groundwater quality and provide groundwater flow direction information.

The wells were completed in accordance with Wisconsin Administrative Code Chapter NR 141 (NR 141) "Groundwater Monitoring Well Requirements". The wells were constructed within the 4¼ inch I.D. hollow stem augers. The position of the filter pack, filter pack seal, annular space seal, and surface seal were confirmed by measuring with a weighted measuring tape. Monitoring Well Construction Diagrams (WDNR Form 4400-113A) were completed for each well.

Following the complete removal of the auger, a watertight locking flush-mount protective cover was cemented over the PVC well. In addition, an expandable watertight locking cap was placed inside the well casing and sealed with a brass padlock. Flush-mount protective covers were used in variation to NR 141 due to the high traffic concentration in the area which would damage aboveground protective covers and wells.

Temporary monitoring wells MW-9 and MW-10 were constructed of one inch inside diameter Schedule 40 PVC casing coupled to a section of 0.010 inch factory slotted PVC screen. These wells are not constructed in accordance with Wisconsin Administrative Code Chapter NR 141 "Groundwater Monitoring Well Requirements". A variance for well installation was approved by the WDNR on November 1, 1995.

## GROUNDWATER SAMPLING METHODOLOGIES

Each monitoring well was developed to remove fine sediment in the well and filter pack. Proper development minimized plugging of the well screen and ensured that groundwater entering the well was representative of on-site groundwater quality. The wells were developed in accordance with NR 141. Monitoring Well Development Forms (WDNR 4400-113B) and Sigma field sampling forms were completed for each well.

After well development, decontaminated teflon bailers were used to purge three well volumes from each monitoring well. Development and purge water was containerized in Department of Transportation approved 55 gallon drums pending disposal arrangements and left on-site.

After purging the wells, groundwater samples were collected using a teflon bailer. The groundwater samples were transferred from the bailer equipped with a bottom-emptying device into 40 milliliter glass vials. The samples were preserved with hydrochloric acid. The vials were placed in a cooler with ice, accompanied with a Chain-of-Custody document and transported to the laboratory for chemical analysis.

Water samples collected for soluble metals analysis were filtered in the field using a portable water filtration system equipped with 0.45 Micro filter media. Samples were pumped through the filtration system into plastic containers and preserved with Nitric acid.

All equipment used during development, purging and sampling of the wells was decontaminated using the following procedure: double Alconox soap wash, triple tap water rinse, hexane rinse, triple deionized water rinse. Additionally, new bailer rope was used for each monitoring well.

Trip and field blanks were included in the groundwater sampling program. The blanks were analyzed to determine if any contaminants infiltrated the samples during transportation or field procedures. Additionally, one set of duplicate groundwater samples were analyzed to measure laboratory precision. The laboratory was not informed of the location/source of the duplicate samples.

Water used for pouring trip blanks and field blanks was obtained from the laboratory on the day of sampling. Trip blanks were poured from laboratory deionized water into 40 milliliter vials and kept with the sample containers in coolers during transportation. Field blank water was laboratory grade deionized water containerized in glass jars. The water was then poured through a decontaminated bailer into 40 milliliter vials at the last well of the day.

**APPENDIX C**

**SOIL BORING LOGS  
(WDNR FORM 4400-122)**

SAUTER DRILLING INC.

Facility/Project Name <b>London Cedarburg</b>		License/Permit/Monitoring Number _____		Boring Number <b>B-1</b>	
Boring Drilled By (Firm name and name of crew chief) <b>SAUTER Drilling</b>		Date Drilling Started <b>08/26/93</b> MM DD YY		Date Drilling Completed <b>08/26/93</b> MM DD YY	
DNR Facility Well No. / WI Unique Well No. _____		Common Well Name _____		Final Static Water Level _____ Feet MSL	
Boring Location State Plane _____ N, _____ E S/C/N		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		Borehole Diameter <b>4.25</b> inches	
SE 1/4 of SE 1/4 of Section <b>26</b> , T <b>10</b> N, R <b>21</b> <b>EW</b>		DNR County Code _____		Civil Town/City/ or Village <b>CEARBURG</b>	
County <b>OSHAKEE</b>		_____			

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PI/IFID	Soil Properties					ROD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				<b>Grass</b>											
				<b>BLACK FILL Sandy</b>											
①	24	6		<b>Firm BROWN/Gray Mottled Silty Clay</b>	CL			N/D		M					No odor
②	24	8		<b>Firm BROWN/Gray Mottled Silty Clay Tr. F.M. Gravel</b>	CL			N/D		M					No odor
③	24	8	5	<b>Firm BROWN Mottled Silty Clay Tr. F. sand &amp; Gravel</b>	CL			N/D		M					No odor
④	24	9		<b>Firm BROWN Mottled Silty Clay Tr. F. sand &amp; Gravel</b>	CL			N/D		M					No odor
⑤	24	33	10	<b>Stiff BROWN Silty Clay Tr. F-Sand &amp; Gravel</b>	CL			N/D		M					No odor
⑥	24	29		<b>Stiff Gray Silty Clay. Tr. F-Gravel &amp; Sand</b>	CL			N/D		M					No odor
				<b>EOB 12.0</b>											

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MICHAEL, BEST & FRIEDRICH

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: *Steve Kluep*      Firm: **SIGMA**

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.



SAUTER DRILLING INC.

Facility/Project Name <b>CONDO - CEDARBURG</b>		License/Permit/Monitoring Number _____		Boring Number <b>B-2</b>	
Boring Drilled By (Firm name and name of crew chief) <b>SAUTER Drilling</b>		Date Drilling Started <b>08/26/93</b> MM DD YY		Date Drilling Completed <b>08/26/93</b> MM DD YY	
DNR Facility Well No. _____		WI Unique Well No. _____		Common Well Name _____	
Final Static Water Level _____ Feet MSL		Surface Elevation _____ Feet MSL		Borehole Diameter <b>4.25</b> inches	
Boring Location State Plane _____ N, _____ E S/C/N		Lat _____		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
SE 1/4 of SE 1/4 of Section <b>26</b> , T <b>10</b> N, R <b>Z1</b> @W		Long _____		Feet _____ Feet _____	
County <b>OZAUKEE</b>		DNR County Code _____		Civil Town/City/ or Village <b>CEDARBURG</b>	

Sample Number and Type	Length Alt. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PI/AFID	Soil Properties					ROD/ Comments				
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200					
				<b>GRAVEL</b>														
				<b>TOPSOIL</b>														
①	10"	20		<b>Brown to Gray F-m Gravelly Sand (Fill)</b>														<b>Some Diesel like</b>
②	14"	19		<b>Dark Gray/Blackish clayey Sand (Fill?)</b>														<b>Strong prob. odor</b>
③	24"	24	5	<b>Greenish Gray F-m Sandy SILT Greenish Brown/Gray Mottled clayey SILT</b>														<b>   </b>
④	24"	29		<b>Stiff BROWN Silty CLay Tr. F Gravel &amp; Sil.</b>	CL													<b>St. Prob. odor</b>
⑤	10'	50/4	10	<b>V. Stiff BROWN Silty Clay Tr. F. Gravel</b>	CL													<b>St. Prob. odor</b>
				<b>EOB 10.0'</b>														

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AND WORK PRODUCT PRIVILEGE  
MICHAEL, BEST & FRIEDRICH

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature *[Signature]* Firm **Sigmt.**

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.





**SAUTER DRILLING INC.**

Facility/Project Name <b>Condon - Cedarburg</b>		License/Permit/Monitoring Number _____		Boring Number <b>HO-3</b>	
Boring Drilled By (Firm name and name of crew chief) <b>SIGMA Environmental</b>		Date Drilling Started <b>08/26/93</b> MM DD YY		Date Drilling Completed <b>08/26/93</b> MM DD YY	
DNR Facility Well No. _____		WI Unique Well No. _____		Common Well Name _____	
Final Static Water Level _____ Feet MSL		Surface Elevation _____ Feet MSL		Borehole Diameter <b>3 1/4" inches</b>	
Boring Location State Plane _____ N, _____ E S/C/N		Lat _____		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
_____ 1/4 of _____ 1/4 of Section <b>26</b> , T <b>10</b> N, R <b>21</b> E/W		Long _____		Feet _____ Feet _____	
County <b>ORAUCEE</b>		DNR County Code _____		Civil Town/City/ or Village <b>CEARBURG</b>	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				ROD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index		
			1	BRN FILL F-m SANDY GRAVEL										
			2	BRN F-co SAND TR. GRAVEL										
①	6" HA	HA	3	GREENISH GRAY/BROWN FINE SANDY SILT										Some Prod. odor
②	1' HA	HA	4	GRAY/BROWN MOTTLED SLTY CLAY TR. FINE GRAVEL	CL									
③	1' HA	HA	5											
④	6" HA	HA	6											Strong Prod odor
			7											
			8	EOB, 7.5'										
			10											
			15											

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WATER 5.5-6.6'

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Firm: SIGMA

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SAUTER DRILLING INC.

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Facility/Project Name: Condon → Cedarburg      License/Permit/Monitoring Number: \_\_\_\_\_      Boring Number: 1B-4

Boring Drilled By (Firm name and name of crew Chief): Sigma Env. Dave J Gorka      Date Drilling Started: 08/26/93      Date Drilling Completed: 08/26/93      Drilling Method: 3 1/4" Hand Auger

DNR Facility Well No.: \_\_\_\_\_      WI Unique Well No.: \_\_\_\_\_      Common Well Name: \_\_\_\_\_      Final Static Water Level: \_\_\_\_\_ Feet MSL      Surface Elevation: \_\_\_\_\_ Feet MSL      Borehole Diameter: 3 1/4 inches

Boring Location: State Plane \_\_\_\_\_ N, \_\_\_\_\_ E S/C/N      Lat: \_\_\_\_\_      Local Grid Location (if applicable): \_\_\_\_\_  
SE 1/4 of SE 1/4 of Section 26, T 10 N, R 21 W      Long: \_\_\_\_\_      Feet  N       E  
 S       W

County: OZAUK      DNR County Code: \_\_\_\_\_      Civil Town/City/ or Village: CEARBURG

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	RFID	Soil Properties					RQD/ Comments		
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200			
			1	TOPSOIL												
			2	dark organic roots												
①	12"	Hand Auger	3	BLACK FILL / Sande F. Gravel							M					Sand prod. 000
②	12"		4	Brown/Gray Mottled F-m sands w/ silts							M/N					" "
③	12"		5	Brown silt Tr. F-sand							M					" "
			10													
			15													

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AND WORK PRODUCT PRIVILEGE  
MICHAEL, BEST & FRIEDRICH

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature]      Firm: Sigma

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Facility/Project Name: Common Activities License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: HB-5

Boring Drilled By (Firm name and name of crew chief): Sigma Environmental Date Drilling Started: 08/26/93 Date Drilling Completed: 08/26/93 Drilling Method: Hand Auger  
M M D D Y Y M M D D Y Y

DNR Facility Well No./WELicense Well No.: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Feet MSL  
 Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 3 1/4 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat \_\_\_\_\_ Local Grid Location (if applicable):  
SE 1/4 of SE 1/4 of Section 26, T 10 N. R 21 EW Long \_\_\_\_\_ Feet  N  E  
 S  W

County: Ozaukee DNR County Code: \_\_\_\_\_ Civil Town/City or Village: Cedarburg

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PIB/FID	Soil Properties					RQD/ Comments	
Number	Length Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P-200		
				<u>Gravel</u>											
				<u>Trace organics</u>											
				<u>Dry Gray Sands &amp; Gravel</u>											
				<u>Fill</u>											
①	12"	Hand Auger	1												
②	12"	Hand Auger	2	<u>Green/Black F-m Sandy Silt Tr. Fine Gravel</u>											
			3	<u>E08, 3.0'</u> <u>Auger Refusal</u>											

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] / [Signature] Site Firm Sigma

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Facility/Project Name: CONDON CEDARBURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: HB-6

Boring Drilled By (Firm name and name of crew chief): SIGMA ENVIRONMENTAL Date Drilling Started: 08/26/93 Date Drilling Completed: 08/26/93 Drilling Method: Hand Auger

DNR Facility Well No: \_\_\_\_\_ Well Unique Well No: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 3 1/4 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N \_\_\_\_\_ Lat \_\_\_\_\_ Local Grid Location (if applicable): \_\_\_\_\_  
SE 1/4 of SE 1/4 of Section 26, T 10 N. R 21 W Long \_\_\_\_\_ Feet  N  E  S \_\_\_\_\_ Feet  W

Country: Ozaukee DNR Country Code: \_\_\_\_\_ Civil Town/City or Village: Cedarburg

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PIPFID	Soil Properties				RQD/ Comments
Number	Length Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	

				Gravel									
①	24"	Hand Auger	1	Black Organic Silty Clay	CL								Strong Prod. opa
②	12"		3	Soft greenish gray F-m Silty Sand									Strong Prod opa
③	6"		4	CONFIDENTIAL ATTORNEY-CLIENT PRIVILEGE AND WORK PRODUCT PRIVILEGE MICHAEL, BEST & FRIEDRICH									
④	6"		5	Gravel (bill material) Rock									Strong Prod opa
	6"			gray Silty Clay / Tr F-m Gravel Clayey Silt	CL								
⑤	12"		6	Brown Silty Clay / Clay Silt	CL								

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

Signature: [Signature] Firm: Sigma

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Route To:

- Solid Waste
- Emergency Response
- Wastewater
- Haz. Waste
- Underground Tanks
- Water Resources
- Other

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Facility/Project Name: Conson - Cedarburg License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: HB-7

Boring Drilled By (Firm name and name of crew chief): Sigma Environmental Date Drilling Started: 08/26/93 Date Drilling Completed: 08/26/93 Drilling Method: Hand Auger

DNR Facility Well No: \_\_\_\_\_ Well Unique Well No: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Surface Elevation: \_\_\_\_\_ Borehole Diameter: 3 1/4 inches

Boring Location State Plane: \_\_\_\_\_ N. \_\_\_\_\_ E/S/C/N \_\_\_\_\_ Lat: \_\_\_\_\_ Local Grid Location (if applicable): \_\_\_\_\_  
Se 1/4 of Se 1/4 of Section 26, T 16 N, R 21 SW Long: \_\_\_\_\_ Feet  N  E  S  W

County: Crawford DNR County Code: \_\_\_\_\_ Civil Town/City or Village: Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description and Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PI/PID	Soil Properties					ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	

1	12"	Hand Auger	1	TOPSOIL Black Organic											Si. Prod. odor
2	12"		2	Brown Mottled F-m <del>Silt</del> Sand TR Silt						M					No odor
3	12"		3							M					
4	12"		4							M					
5	12"		5	Fine Gray/Brown Mottled Silty Clay Tr. Fine Sand	CL					M					
6	12"		6	Brown Clayey Silt						M					
7			7	EOB 7.0' Auger Refused											

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**AND WORK PRODUCT PRIVILEGE**  
MICHAEL, BEST & FRIEDRICH

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Firm: Sigma

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Route To:

- Solid Waste
- Emergency Response
- Wastewater
- Haz. Waste
- Underground Tanks
- Water Resources
- Other

Facility/Project Name CONDON CEDARBURG License/Permit/Monitoring Number \_\_\_\_\_ Boring Number B1

Boring Drilled By (firm name and name of crew chief) Giles Engineering Ass. Date Drilling Started 11/22/94 Date Drilling Completed 11/22/94 Drilling Method 2 1/4 HSA

DNR Facility Well No. / WI Unique Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Feet MSL Surface Elevation \_\_\_\_\_ Feet MSL Borehole Diameter 1 1/4 inches

Boring Location State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S4C/N Lat \_\_\_\_\_ Local Grid Location (If applicable) \_\_\_\_\_ Feet  N  E  S  W

County OSHAUKEE DNR County Code \_\_\_\_\_ Civil Town/City/ or Village CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	
1	24"	9 11 13 20	2-4	TAN FINE SAND w/ Silt				0.0		SAT				None
2	24"	5 7 9 11	4-6	SAME AS ABOVE TO 5.5' THEN TURNING TO A MOIST TAN CHAGGY SILT. w/ TRACE GRAVEL				0.0		SAT/m				None
			6-8	NO SAMPLE RECOVERY -				-		-				-
4	24"	10 14 17 22	8-10	TAN CHAGGY SILT TO 9' TURNING TO TAN/GRAY SILTY CLAY w/ TRACE COARSE SAND.				0.0		D/m				None
5	24"	11 14 19 23	10-12	LT. BROWN/GRAY SILTY CLAY w/ TRACE COARSE SAND				0.0						None
6	24"	11 14 19 23	12-14	SAME AS ABOVE				0.0		D/m				None

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature [Signature] Firm Sigma Environmental

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Facility/Project Name CONDON CEDARBURG License/Permit/Monitoring Number \_\_\_\_\_ Boring Number B2/MW1

Boring Drilled By (Firm name and name of crew chief) Giles Engineering Ass. Date Drilling Started 1/12/94 Date Drilling Completed 1/12/94 Drilling Method 4 1/4 HSA

DNR Facility Well No. \_\_\_\_\_ DNR Unique Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Feet MSL Surface Elevation \_\_\_\_\_ Feet MSL Borehole Diameter 8.25 inches

Boring Location State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat \_\_\_\_\_ Local Grid Location (If applicable) \_\_\_\_\_ Feet \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ Feet \_\_\_\_\_ W

Country WISCONSIN DNR County Code \_\_\_\_\_ Civil Town/City/ or Village CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit		P 200
1	24"	23 3 4	2-3	2-4] SOFT TAN/GRAY CHAGGY SILT w/ TRACE COARSE SAND				205		M				Slight GMS odor
2	24"	23 3 4	4-5	4-6] SAME AS ABOVE				120		M				"
3	24"	4 8 16 20	6-7	6-8] SAME AS ABOVE TO 7' TURNING TO A DRIER TAN GRAY SILTY CLAY				38.6		M/D				Slight to None
4	24"	4 16 27 32	8-9	8-10] STIFF DRY TAN CHAGGY SILT TO SILTY CLAY.				2.6						
5	7"	32 50 for 3'	10-11	10-12] SAME AS ABOVE TURNING TO A TAN MED. DRY SAND				0.0		D				None
6	16"	21 30 21 23	12-13	12-14] STIFF DRY BROWN/GRAY CHAGGY SILT TO SILTY CLAY w/ TRACE COARSE SAND				0.0		D				None

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

Signature [Signature] Firm SIAMA ENVIRONMENTAL

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Facility/Project Name CONDON CEDARBURG License/Permit/Monitoring Number \_\_\_\_\_ Boring Number B3/MW2

Boring Drilled By (Firm name and name of crew chief) Giles Engineering Ass. Date Drilling Started 11/22/94 Date Drilling Completed 11/22/94 Drilling Method B3/m 4 1/2

DNR Facility Well No. \_\_\_\_\_ WI Borehole Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Feet MSL Surface Elevation \_\_\_\_\_ Feet MSL Borehole Diameter 8.25 inches

Boring Location State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N \_\_\_\_\_ Lat. \_\_\_\_\_ Local Grid Location (If applicable) \_\_\_\_\_ Feet \_\_\_\_\_ Feet \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W

County DEKAUWER DNR County Code \_\_\_\_\_ Civil Town/City/ or Village CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	24"	3 6 9 12	2 3	<u>2-4</u> Gray Moist Silt w/ fine SAND AND SAND Seams				0.0		SAT			None
2	24"	3 7 11 26	4 5	<u>4-6</u> STIFF TAN/Brown Silty Clay w/trace Silt Seams				0.0		D/m			None
3	24"	9 20 30 28	6 7	<u>6-8</u> SAME AS ABOVE - NO Silt seams - mottled				0.0		D/m			None
4	24"	20 30 24 38	8 9	<u>8-10</u> SAME AS ABOVE				0.0		D/m			None
5	24"	15 16 21 24	10 11	<u>10-12</u> SAME AS ABOVE				0.0		D/m			None
6	24"	4 18 24	12	<u>12-14</u> Gray Stiff Silty Clay				0.0		D/m			Above

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature Stuart Stan Firm SIGMA Environmental

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- Solid Waste
- Emergency Response
- Wastewater
- Haz. Waste
- Underground Tanks
- Water Resources
- Other

Facility/Project Name: CONDON CEDARBURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B-4

Boring Drilled By (Firm name and name of crew chief): Giles Engineering Ass. Date Drilling Started: 11/22/94 Date Drilling Completed: 11/22/94 Drilling Method: 2 1/4 HSA

DNR Facility Well No: \_\_\_\_\_ Unique Well No: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Surface Elevation: \_\_\_\_\_ Borehole Diameter: 6 1/4 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N \_\_\_\_\_ Lat. \_\_\_\_\_ Local Grid Location (if applicable): \_\_\_\_\_  
SE 1/4 of SE 1/4 of Section 26, T 10N, R 21E Long \_\_\_\_\_ Feet \_\_\_\_\_ N \_\_\_\_\_ E  
\_\_\_\_\_ S \_\_\_\_\_ W

Country: DEKAUKEE DNR County Code: \_\_\_\_\_ Civil Town/City/ or Village: CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	24"	7 8 12 11	2-3	2-4) Grey Sand w/ Silt to 3' turning to a Gray Clayey Silt w/ trace fine sand				419		M			Strong GAS ORZ
2	24"	7 8 10 12	4-5	4-6) SAME AS ABOVE				1648		M			
3	24"	7 8 14 20	6-7	6-8) SAME AS ABOVE to 6' 5' turning to a brown Silty Clay w/ trace coarse sand				110		M/D			Strong ORZ turning to None
4	4"	17 22 24 25	8-9	8-10) Grey Clayey Silt				469		M			Strong GAS ORZ
5	24"		10-11	10-12) Green/Brown Mottled Stiff Silty Clay				13.8		D/M			None
6	-		12	12-14) No Sample Recovery. Pushed By Rock				-		-			

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature: Stuart Hase Firm: Stuart Environmental

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Facility/Project Name: CONDON CEDARBURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B5/MW3  
 Boring Drilled By (Firm name and name of crew chief): Giles Engineering Ass. Date Drilling Started: 11/22/94 Date Drilling Completed: 11/22/94 Drilling Method: 4 1/4 HSA  
 DNR Facility Well No./Wetlands Well No.: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 8 1/4 inches  
 Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat. \_\_\_\_\_ Local Grid Location (If applicable): \_\_\_\_\_  
SE 1/4 of SE 1/4 of Section 26, T 10N, R 21 E Long \_\_\_\_\_ Feet \_\_\_\_\_ N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W  
 Country: WISCONSIN DNR County Code: \_\_\_\_\_ Civil Town/City/ or Village: CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth In-Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				ROD/Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit		
				Gravel										
1	24"	3 3 4 6	2 3 4 6	2-4] SOFT FINE SAND TO 3' TURNING TO BROWN/GRAY CLAYEY SILT w/ TRACE FINE SAND				580		m				Strong GAS ODOR
2	24"	2 3 6 9	4 5 6 9	4-6] SAME AS ABOVE w/ FINE SAND SEAMS				481		m				n
3	24"	10 17 24 20	6 7 8 10	6-8] SAME AS ABOVE TO 7' TURNING TO BROWN STIFF SILTY CLAY				0.0		m/d				Stands to None
4	24"	20 24 30 36	8 9 10 12	8-10] SAME AS ABOVE - but VERY STIFF				0.0		p/m				None
5	24"	10 16 19 25	10 11 12 13	10-12] SAME AS ABOVE w/ SILT SEAMS				0.0		d/m				None
6	24"	15 18 21 24	12 13 14 15	12-14] SAME AS ABOVE w/ 1/2 6" FINE SAND SEAM @ 13.5'				0.0		m				None

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: Alain Star Firm: SIAMA Environmental

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.



Facility/Project Name CONDOM CEDARBURG License/Permit/Monitoring Number \_\_\_\_\_ Boring Number B-10

Boring Drilled By (Firm name and name of crew chief) Giles Engineering Ass. Date Drilling Started 11/23/94 Date Drilling Completed 11/23/94 Drilling Method 2 1/4 ASA

DNR Facility Well No. \_\_\_\_\_ Unique Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Feet MSL Surface Elevation \_\_\_\_\_ Feet MSL Borehole Diameter 6 1/4 inches

Boring Location State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat \_\_\_\_\_ Local Grid Location (If applicable) \_\_\_\_\_ Feet  N  E  S  W

Country WISCONSIN DNR County Code \_\_\_\_\_ Civil Town/City/ or Village CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PIFID	Soil Properties				RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	20"	4, 6, 8, 10	2-3	2-4) TAN/DRAINER FINE SAND w/ TRACE SILT				876	m				Slight GAS odor
2	24"	3, 4, 6, 8	4-5	4-6) TAN/GIPAY & LAYEY SILT - SOFT				16.1	m				"
3	24"	4, 8, 12, 13	6-7	6-8) STIFF TAN SILTY CLAY w/ TRACE COARSE SAND & GRAVEL				0.0	D/m				None
4	24"	11, 14, 16, 15	8-9	8-10) SAME AS ABOVE				0.0	D/m				None
5	24"	10, 14, 16, 20	10-11	10-12) SAME AS ABOVE				0.0	D/m				None
6	16"	38, 50, 48	12-13	12-14) SAME AS ABOVE TO 13' Transition TO SOFT SILTY FINE SAND w/ ROCKS				0.0	D/m				None

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature Stuart Jones Firm Sigma Environmental

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Facility/Project Name: CADRON CEDARBURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B7/MW4

Boring Drilled By (Firm name and name of crew chief): GILES ENGINEERING ASS. Date Drilling Started: 11/23/94 Date Drilling Completed: 11/23/94 Drilling Method: 4 1/4 HSA

DNR Facility Well No. / Unique Well No.: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 8.25 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat. \_\_\_\_\_ Local Grid Location (If applicable):  N  E  
SE 1/4 of SE 1/4 of Section 26, T 10N, R 21E Long \_\_\_\_\_ Feet  S \_\_\_\_\_ Feet  W

Country: OZAUKEE DNR County Code: \_\_\_\_\_ Civil Town/City/ or Village: CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in-Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				GRASS/BRUSH											
1	15"	3 4 7 10	2 3	2-4 TAN MOIST FINE SAND w/TRACE SILT				0.0		m					None
2	14"	3 4 7 7	4 5	4-6 MOIST SOFT GRAY CLAY SILT w/TRACE FINE SAND				59.6		m					Slight GAS ODR
3	4"	4 12 27 30	6 7	6-8 SAME AS ABOVE - ONLY A SMALL AMOUNT OF SAMPLE - PUSHED ROCK				6.9		m					None
4	24"	15 20 30 27	8 9	8-10 STIFF TAN CLAYEY SILT to SILTY CLAY				0.0		d/m					None
5	24"	10 14 17 20	10 11	10-12 SAME AS ABOVE w/TRACE COARSE SAND + GRAVEL				0.0		d/m					None
6	24"	1 14 16	12 13	12-14 GRAY STIFF SILTY CLAY w/SEAMS of SOFT CLAYEY SILT CONTAINING TRACE FINE SAND				0.0		d/m/d					None

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Firm: SILVER ENVIRONMENTAL

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.



Facility/Project Name CONDON CEDARBURG License/Permit/Monitoring Number \_\_\_\_\_ Boring Number B-8

Boring Drilled By (Firm name and name of crew chief) Giles Engineering Ass. Date Drilling Started 1/1/23/94 Date Drilling Completed 1/1/23/94 Drilling Method 2 1/4 HS/4

DNR Facility Well No. \_\_\_\_\_ WI DNR Facility Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Feet MSL Surface Elevation \_\_\_\_\_ Feet MSL Borehole Diameter 8.25 inches

Boring Location State Plane \_\_\_\_\_ N. \_\_\_\_\_ E S/C/N Lat \_\_\_\_\_ Local Grid Location (If applicable) \_\_\_\_\_  
SE 1/4 of SE 1/4 of Section 26, T 10N, R 21 E/W Long \_\_\_\_\_ Feet \_\_\_\_\_ S \_\_\_\_\_ Feet \_\_\_\_\_ E \_\_\_\_\_ Feet \_\_\_\_\_ W

Country WISCONSIN DNR County Code \_\_\_\_\_ Civil Town/City/Village CEDARBURG

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				RQD/Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit		
				<u>CONCRETE CORED</u>										
<u>1</u>	<u>24"</u>	<u>12</u> <u>14</u> <u>14</u> <u>16</u>	<u>2</u> <u>3</u>	<u>2-4</u> STAINED SILTY FINE SAND				<u>377</u>	<u>W</u>					<u>STAIN G. DIESEL/LEAK OIL</u>
<u>2</u>	<u>24"</u>		<u>4</u> <u>5</u>	<u>4-6</u> STIFF TAN/GRAY CLAYEY SILT TO SILTY CLAY w/ FINE COARSE SAND				<u>0.0</u>	<u>P/m</u>					<u>None</u>
<u>3</u>	<u>12"</u>	<u>16</u> <u>19</u> <u>24</u> <u>25</u>	<u>6</u> <u>7</u>	<u>6-8</u> SAME AS ABOVE				<u>0.0</u>	<u>P</u>					<u>None</u>
<u>4</u>	<u>12"</u>	<u>12</u> <u>23</u> <u>30</u> <u>39</u>	<u>8</u> <u>9</u>	<u>8-10</u> SAME AS ABOVE				<u>0.0</u>	<u>D</u>					<u>None</u>
<u>5</u>	<u>16"</u>	<u>20</u> <u>30</u> <u>36</u> <u>40</u>	<u>10</u> <u>11</u>	<u>10-12</u> SAME AS ABOVE				<u>0.0</u>	<u>D</u>					<u>None</u>
<u>6</u>	<u>4"</u>	<u>9</u> <u>14</u> <u>21</u> <u>25</u>	<u>12</u> <u>13</u>	<u>12-14</u> GRAY SOFT CLAYEY SILT - PUSHED A ROCK				<u>6.0</u>	<u>P/m</u>					<u>None</u>

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature Mark Stos Firm SIAMA ENV.

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Route To:

- Solid Waste  
 Emergency Response  
 Wastewater  
 Haz. Waste  
 Underground Tanks  
 Water Resources  
 Other

Page \_\_\_\_\_ of \_\_\_\_\_

Facility/Project Name: Condor Oil - Cedarburg License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B9

Boring Drilled By (Firm name and name of crew chief): Giles Engineering Associates Date Drilling Started: 08/30/95 Date Drilling Completed: 08/30/95 Drilling Method: 4 1/4 HSA

DNR District: \_\_\_\_\_ Well No: \_\_\_\_\_ Common Well Name: MW-5 Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 8.25 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E/S/W/N \_\_\_\_\_ Lat \_\_\_\_\_ Local Grid Location (if applicable): \_\_\_\_\_  
1/4 of \_\_\_\_\_ 1/4 of Section \_\_\_\_\_ T \_\_\_\_\_ N. R. \_\_\_\_\_ E/W \_\_\_\_\_ Long \_\_\_\_\_ Feet \_\_\_\_\_ Feet \_\_\_\_\_ Feet \_\_\_\_\_

Country: ORAVILLE DNR County Code: \_\_\_\_\_ City/Town/Village: CEARBURG

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PIPS ID	Soil Properties					ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	

1	14"	5 5 4 6	2-3	<u>2-4</u> Brittle Dry Silty Clay w/ trace fine med SAND [7.5% 42: D]				0.0	Brittle	D						
2	19"	4 4 4 4	4-5	<u>4-6</u> SOFT LOOSE Clayey Silt w/ trace fine sand [10% 74: D] turning more moist towards bottom				0.0	loose	D						
3	0	12 4 5 5	6-7	<u>6-8</u> No Sample Recovery - pushed A ROCK				-	-	-						
4	1"	4 6 7 9	8-9	<u>8-10</u> Moist Gray Clayey Silt [10% 61: m]				0.0	SOFT	m						
5	15"	53 46 19 12	10-11	<u>10-12</u> Stiff Lt. Brown Clayey Silt/ Silty Clay [10% 52: D/m] Limestone Chips @ Tip of Spoon				7.6	Stiff	D/m						
	22"	15 20 20 21	12-13	<u>12-14</u> Stiff Lt. Brown Silty Clay w/ trace fine SAND AND fine gravel [10% 6/3: D/m]				6.2	Stiff	D/m						

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature: [Signature] Firm: Sigma Environmental

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Facility/Project Name: Condon Oil - CEDARBOURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B-10

Boring Drilled By (Firm name and name of crew chief): GILLES ENGINEERING ASSOCIATES Date Drilling Started: 08/30/95 Date Drilling Completed: 08/30/95 Drilling Method: 4 1/4 HSA

DNR Facility ID: \_\_\_\_\_ Common Well Name: MW-10 Final Static Water Level: \_\_\_\_\_ Feet MSL Surface Elevation: \_\_\_\_\_ Feet MSL Borehole Diameter: 8.25 inches

Boring Location: State: WI County: OSHAUKEE Local Grid Location (if applicable): \_\_\_\_\_

1/4 of \_\_\_\_\_ 1/4 of Section \_\_\_\_\_ T \_\_\_\_\_ N. R. \_\_\_\_\_ E/W Long \_\_\_\_\_

DNR County Code: \_\_\_\_\_ City/Town/Village: CEDARBOURG

Sample Number	Sample Length Recovered (in)	Flow Counts	Depth in Feet	Soil/Rock Description and Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PIID ID	Soil Properties				RPT/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	16"	3 4	2 3	2-4 Moist soft clayey silt w/ trace fine/med sand and fine gravel [104K 5/2: M]	76.5	SOFT	M						Slight odor
				4-6 Same as above exactly									
2	15"	3 4	4 5	6-8 Same as above turning stiff towards bottom	56.2	SOFT	M						Slight
				8-10 Same as above in top 4" of spoon then turning color [104K 5/1: D/M] @ bottom w/ less to no odor									
3	23"	7 9 12 12	6 7	10-12 Stiff Lt. Brown Silty Clay w/ trace fine - coarse sand [104K 5/3: D/M]	7.9	STIFF	D/M						None
				12-14 Stiff Gray Silty Clay w/ trace fine sand and gravel [104K 6/1: D/M]									
4	17"	10 15 15	10 11										None
5	22"	7 10 15 17	12 13										None

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

Signature: Steve Leon Firm: Sigma Environmental

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Project Name: CONDOR OIL - CEDARBURG License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B-11-MW7

Boring Drilled by (Firm name and name of crew chief): GILLES ENGINEERING ASSOCIATES Date Drilling Started: 08/30/95 Date Drilling Completed: 08/30/95 Drilling Method: 4 1/4 HSA

DNR Permit Number: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Surface Elevation: \_\_\_\_\_ Borehole Diameter: 8.25 inches

Boring Location: State Plane \_\_\_\_\_ N. \_\_\_\_\_ E. \_\_\_\_\_ S. \_\_\_\_\_ W. \_\_\_\_\_ Local Grid Location (if applicable): \_\_\_\_\_

1/4 of \_\_\_\_\_ 1/4 of Section \_\_\_\_\_ T. \_\_\_\_\_ N. \_\_\_\_\_ R. \_\_\_\_\_ E. \_\_\_\_\_ W. \_\_\_\_\_

Country: OSHAHKEE DNR County Code: \_\_\_\_\_ City/Town/Village: CEDARBURG

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Wall Diagram	PIOP ID	Soil Properties				ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
1	12"	3 4 4 3	2-4	Stiff Brown Silty Clay in top 8" [10 yr 4/3: D/M] turning to a moist clayey silt w/ trace red-oxide sand [10 yr 6/4: M]	0.0	Stiff Soft	m					None	
2	9"	3 3 7 9	4-6	Same As Above Rock in shot of spoon	0.0	Soft	m					None	
3	16"	7 7 7 9	6-8	Stiff Lt. Brown Silty Clay w/ trace coarse sand [10 yr 6/4: D/M]	0.0	Stiff	pl					None	
4	16"	7 8 11 12	8-10	Same As Above Exactly	0.0	Stiff	pl					None	
5	22"	9 9 9 9	10-12	Same As Above Exactly	0.0	Stiff	pl					None	
6	24"	10 10 13 10	12-14	Same As Above Exactly	6.0	Stiff	pl					None	

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

Signature: [Signature] Firm: Sigma

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Company/Project Name: Condon Oil - Cedarburg License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B12 MWB

Boring Drilled by (Firm name and name of crew chief): Giles Engineering Associates Date Drilling Started: 08/30/95 Date Drilling Completed: 08/30/95 Drilling Method: 4 1/4 HSA

DNR Facility/Well/Non-Voluntary Well/Well ID: \_\_\_\_\_ Common Well Name: \_\_\_\_\_ Final Static Water Level: \_\_\_\_\_ Surface Elevation: \_\_\_\_\_ Borehole Diameter: 8.25 inches

Boring Location: State: \_\_\_\_\_ N. \_\_\_\_\_ E. \_\_\_\_\_ S. \_\_\_\_\_ W. \_\_\_\_\_ Loc. Grid Location (if applicable): \_\_\_\_\_

1/4 of \_\_\_\_\_ 1/4 of Section \_\_\_\_\_ T. \_\_\_\_\_ N. \_\_\_\_\_ R. \_\_\_\_\_ SW \_\_\_\_\_ Long \_\_\_\_\_ Feet \_\_\_\_\_ CS \_\_\_\_\_ Feet \_\_\_\_\_ W

Country: Ozaukee DNR County Code: \_\_\_\_\_ City/Town/Village or Village: Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PI (PI/10)	Soil Properties					RQR/Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
1	22"	2 4	2-4	GRAVEL TOP 9" is a Brown Silty Clay - Brindle [10YR 3/2: D/M] forming to a thin silty sand - fine [10YR 5/1: D/M] loose				0.0	Stiff	Plm					
2	24"	2 3 4	4-6	SOFT Moist Clayey Silt w/ trace fine med coarse sand [10YR 6/4: M]				0.0	SOFT	M					
3	24"	2 7 8 11	6-8	SAME AS ABOVE BUT STIFF				0.0	Stiff	D/M					
4	23"	2 3 10 10	8-10	SAME AS ABOVE - TOP 4" STIFF FORMING SOFT FOR NEXT 4" then back to stiff				0.0	Stiff SOFT	D/M M					
5	24"	5 7 10 10	10-12	SAME AS ABOVE - all Stiff				0.0	Stiff	D/M					
6	24"	5 7 10 10	12-14	Stiff Gray Clayey Silt w/ trace fine - coarse sand and trace gravel [10YR 5/2: D/M]				0.0	Stiff	Plm					

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

Signature: Stuart Mow Firm: Sigma

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Sample

Number

Length Recovered (in)

Blow Counts

Depth In Feet

Soil/Rock Description  
And Geologic Origin For  
Each Major Unit

E. O. B. Q. 14'

USCS

Graphic Log

Well Diagram

PID/FID

Standard Penetration

Moisture Content

Liquid Limit

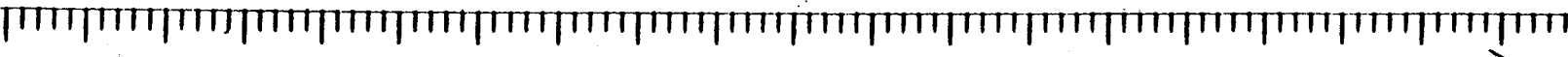
Plastic Limit

P 200

ROD/  
Comments

Soil Properties

Page \_\_\_ of \_\_\_





Project Name: London Company Location/Parcel/Monitoring Number: \_\_\_\_\_ Boring Number: B13/MW-9

Boring Drilled by (Firm name and address or city and state): Sigma Environmental Date Drilling Started: 11/01/95 Date Drilling Completed: 11/01/95 Drilling Method: Hand Auger

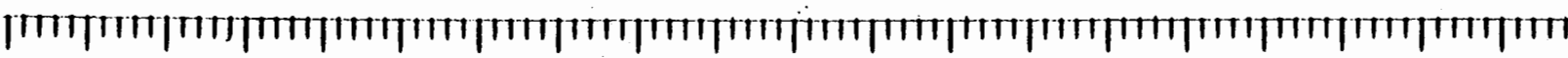
Common Well Name: \_\_\_\_\_ State Water Level: \_\_\_\_\_ Surface Elevation: \_\_\_\_\_ Borehole Diameter: 3.0

Boring Location: \_\_\_\_\_ Section: SE 1/4 of SE 1/4 of Section 26, T 10 N, R 21 E Lock Gate Location (if applicable): \_\_\_\_\_  
 County: Ozaukee DNR County Code: \_\_\_\_\_ City or Village: Cedarburg

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				ROD/Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
			1	Grass Silty Clay Loam, organic roots Dark Brown - 10YR 4/2	CL						DM		NONE
1			2	Sandy silt, fine low clay content, light pale brown 10YR 6/4, Moist, soft	SM			0.0			M		NONE
2			3	Silty Clay; Clayey silt with trace fine-med. sand, with trace coarse sand. Brown 10YR 5/3 moist, soft - water observed -	CL			0.0			M		NONE
			4		ML								
3			5	Same as above Wet!	CL			0.0			W		NONE
			6		ML								
			7	- Refusal @ 7.0' Rock -									
			8	End of Boring @ 7.0'									

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Firm: Sigma Environmental

This form is authorized by Chapters 144.44 and 162. Wis. Stat. Completion of this report is mandatory. Penalties: Forfeiture not less than \$10 nor more than \$5,000 for each violation. Fines not less than \$10 or more than \$100 or imprisonment 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. Stat.

	Number
	Length Recovered (In)
	Blow Counts
	Depth In Feet
	Soil/Rock Description And Geologic Origin For Each Major Unit
	USCS
	Graphic Log
	Well Diagram
	PID/FID
	Standard Penetration
	Moisture Content
	Liquid Limit
	Plastic Limit
	P 200
	RQD/ Comments

Sample

Soil Properties

Client/Project Name: Condon Company License/Permit/Monitoring Number: \_\_\_\_\_ Boring Number: B14 / MW-10

Boring Drilled by (Firm name and address or crew chief): Sigma Environmental Date Drilling Started: 11/01/95 Date Drilling Completed: 11/01/95 Drilling Method: Hand Auger

DNR Boring Well No. \_\_\_\_\_ Common Well Name \_\_\_\_\_ Final Static Water Level \_\_\_\_\_ Surface Elevation \_\_\_\_\_ Borehole Diameter: 3.0

Boring Location: \_\_\_\_\_ Scale Plane: SE 1/4 of SE 1/4 of Section 26, T 10 N, R 21 W Loc. Cont. Location (if applicable): \_\_\_\_\_

County: Ozaukee DNR County Code: \_\_\_\_\_ City/Town/Village: Cedarburg

Samples				Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PI/D/FID	Soil Properties				RCOV Comments
Number	Length Recovered (in)	Flow Counts	Depth In Feet						Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	
				Grass Silty clay loam - topsoil Dark Brown, 10YR 4/2						D/M			NONE
1				Silty clay w/ trace coarse sand, Light Brown, 10YR 6/4 Soft	CL			0.0		M			NONE
2				Sandy silt w/ trace fine to med. sand, Light Brown, 10YR 6/2, Moist Soft	SM			0.0		M			NONE
3				Same as above	SM			0.0		M/W			NONE
4				Silty clay w/ trace fine to med. sand Light Brown, 10YR 6/2, Moist to very wet, Soft	CL			0.0		W			NONE
				End of Boring @ 9'									

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature: [Signature] Firm: Sigma Environmental

This form is authorized by Chapters 144, 145 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeiture 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 D**

**MONITORING WELL CONSTRUCTION FORMS  
(WDNR FORM 4400-113A)**



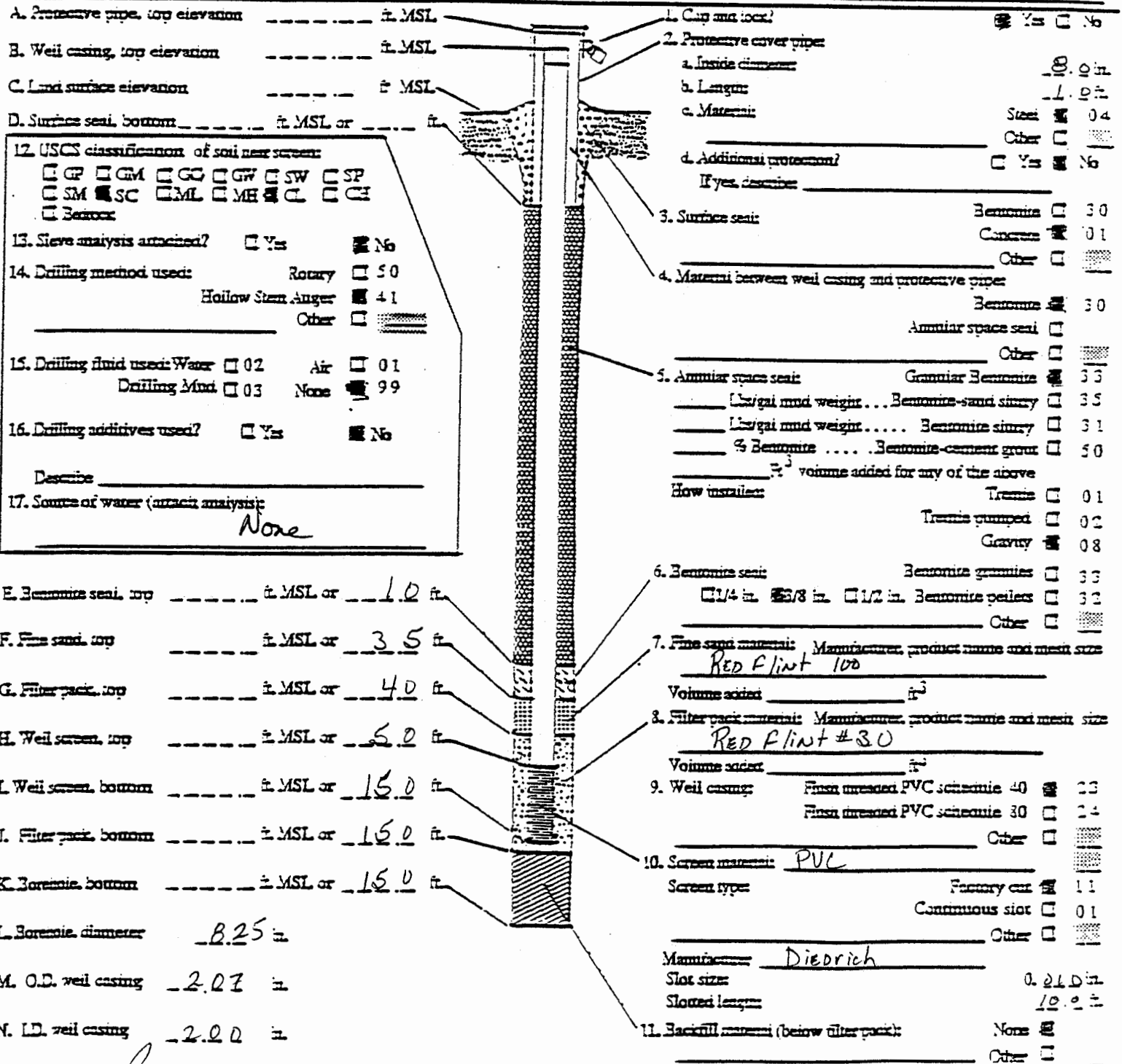
Family/Project Name <u>Cotton Cedarburg</u>	Grid Location N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/>	Well Name <u>B31 MW2</u>
Family License, Permit or Monitoring Number	N <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/>	Well Unique Well Number DNR Well Number
Type of Well Water Table Observation Well <input checked="" type="checkbox"/> Piezometer <input type="checkbox"/>	Section Location <u>SE 1/4 of SE 1/4 of Section 26</u>	Date Well Installed <u>11/22/94</u>
Distance Well is from Water Source Boundary <u>30</u> ft	T <u>10</u> N. R. <u>21</u> E <input type="checkbox"/> W <input type="checkbox"/>	Well Installed by: (Person's Name and Firm) <u>GILES ENGINEERING ASS.</u>
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of Well Relative to Water Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Downgradient <input checked="" type="checkbox"/> Not Known	

A. Protective pipe, top elevation	ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation	ft. MSL	2. Protective cover pipe a. Inside diameter <u>5.0</u> in. b. Length <u>5.0</u> ft. c. Material <u>Aluminum</u> Steel <input type="checkbox"/> Other <input checked="" type="checkbox"/>
C. Land surface elevation	ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe _____
D. Surface seal, bottom	ft. MSL or _____ ft.	3. Surface seal Benomite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Other		4. Material between well casing and protective pipe Benomite <input checked="" type="checkbox"/> 30 Annular space seal <input type="checkbox"/>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		5. Annular space seal Granular Benomite <input checked="" type="checkbox"/> 33 Liquid mud weight... Benomite-sand slurry <input type="checkbox"/> 35 Liquid mud weight... Benomite slurry <input type="checkbox"/> 31 % Benomite... Benomite-cement grout <input type="checkbox"/> 50 Volume added for any of the above _____
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>		How installed: Trench <input type="checkbox"/> 01 Trench pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99		6. Benomite seal Benomite granules <input type="checkbox"/> 33 <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 2/8 in. <input type="checkbox"/> 1/2 in. Benomite pebbles <input type="checkbox"/> 32 Other <input type="checkbox"/>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7. Fine sand material: Manufacturer, product name and mesh size <u>#100 Red Flint</u> Volume added _____ ft <sup>3</sup>
17. Source of water (attach analysis) <u>None</u>		8. Filter pack material: Manufacturer, product name and mesh size <u>#30 Red Flint</u> Volume added _____ ft <sup>3</sup>
E. Benomite seal, top	ft. MSL or <u>1.0</u> ft.	9. Well casing First threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 First threaded PVC schedule 30 <input type="checkbox"/> 24 Other <input type="checkbox"/>
F. Fine sand, top	ft. MSL or <u>3.5</u> ft.	10. Screen material: <u>PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
G. Filter pack, top	ft. MSL or <u>4.0</u> ft.	Manufacturer <u>Dieplich</u> Slot size <u>0.010</u> in. Slot length <u>10.0</u> ft.
H. Well screen, top	ft. MSL or <u>5.0</u> ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> Other <input type="checkbox"/>
I. Well screen, bottom	ft. MSL or <u>15.0</u> ft.	
J. Filter pack, bottom	ft. MSL or <u>15.0</u> ft.	
K. Benomite, bottom	ft. MSL or <u>15.0</u> ft.	
L. Benomite diameter	<u>2.5</u> in.	
M. O.D. well casing	<u>2.07</u> in.	
N. I.D. well casing	<u>2.00</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature: [Signature] GILES ENVIRONMENTAL

Please complete and return both sides of this form as required by chs. 111.03 and 104.01, Wis. Stats., and chs. 111.04, 111.05, 111.06, 111.07, 111.08, 111.09, 111.10, 111.11, 111.12, 111.13, 111.14, 111.15, 111.16, 111.17, 111.18, 111.19, 111.20, 111.21, 111.22, 111.23, 111.24, 111.25, 111.26, 111.27, 111.28, 111.29, 111.30, 111.31, 111.32, 111.33, 111.34, 111.35, 111.36, 111.37, 111.38, 111.39, 111.40, 111.41, 111.42, 111.43, 111.44, 111.45, 111.46, 111.47, 111.48, 111.49, 111.50, 111.51, 111.52, 111.53, 111.54, 111.55, 111.56, 111.57, 111.58, 111.59, 111.60, 111.61, 111.62, 111.63, 111.64, 111.65, 111.66, 111.67, 111.68, 111.69, 111.70, 111.71, 111.72, 111.73, 111.74, 111.75, 111.76, 111.77, 111.78, 111.79, 111.80, 111.81, 111.82, 111.83, 111.84, 111.85, 111.86, 111.87, 111.88, 111.89, 111.90, 111.91, 111.92, 111.93, 111.94, 111.95, 111.96, 111.97, 111.98, 111.99, 111.100.

Family/Project Name: Condon Cedarwell      Gnd Location: \_\_\_\_\_      Well Name: B5/MW3  
 Family License, Permit or Monitoring Number: \_\_\_\_\_      Well Unique Well Number: \_\_\_\_\_      DNRS Well Number: \_\_\_\_\_  
 Type of well: Water Table Observation Well  II      Section Location: SE 1/4 of SE 1/4 of Section 26      Date Well Installed: 11/22/94  
 Placement: \_\_\_\_\_      Distance well is from waste source boundary: 30 ft      Location of Well Relative to Waste Source: T 10 N. R 21 E W  
 Is Well a Point of Enforcement Dis. Application?  Yes  No      Location of Well Relative to Waste Source:  Upgradient  Sidegradient  Downgradient  Not Known  
 Well Installed by: GILES ENGINEERING ASS.



I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: Stuart Shaw      Sigma Env

Please complete and return both sides of this form as required by chs. 111.01 and 111.02, Wis. Stats., and ch. NR 111.01, Wis. Adm. Code. In accordance with ch. 111.01, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with ch. 111.02, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.



Factory/Project Name: Condon Cedarburg Grid Location: \_\_\_\_\_ Well Name: B7/MW 4  
 Factory License, Permit or Monitoring Number: \_\_\_\_\_ Date Well Installed: 11/23/94  
 Type of Well: Water Table Observation Well  II Section Location: SE 1/4 of SE 1/4 of Section 26  
 Distance well is from waste/source boundary: 30 ft Location of Well Relative to Waste/Source: T 10 N. R. 21  
 Is Well a Point of Enforcement Site Application?  Yes  No Location of Well Relative to Waste/Source:  Upgradient  Downgradient  Not Known  
 Well Installed by: GILES ENGINEERING ASS.

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  
 B. Well casing, top elevation \_\_\_\_\_ ft. MSL  
 C. Land surface elevation \_\_\_\_\_ ft. MSL  
 D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ 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 Muds  03 None  99  
 16. Drilling additives used?  Yes  No  
 Describe: \_\_\_\_\_  
 17. Source of water (attach analysis): None

E. Bentonite seal, top \_\_\_\_\_ ft. MSL or 1.0 ft.  
 F. Fine sand, top \_\_\_\_\_ ft. MSL or 3.5 ft.  
 G. Filter pack, top \_\_\_\_\_ ft. MSL or 4.2 ft.  
 H. Well screen, top \_\_\_\_\_ ft. MSL or 5.0 ft.  
 I. Well screen, bottom \_\_\_\_\_ ft. MSL or 15.6 ft.  
 J. Filter pack, bottom \_\_\_\_\_ ft. MSL or 17.0 ft.  
 K. Bentonite, bottom \_\_\_\_\_ ft. MSL or 17.0 ft.  
 L. Bentonite diameter 0.25 in.  
 M. O.D. well casing 2.07 in.  
 N. I.D. well casing 2.00 in.

1. Cap and lock?  Yes  No  
 2. Protective cover pipe:  
 a. Inside diameter: 5.6 in.  
 b. Length: 5.6 ft.  
 c. Material: Aluminum 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: Granular Bentonite  33  
Urbal mud weight ... Bentonite-sand slurry  35  
Urbal mud weight ... Bentonite slurry  31  
3 Bentonite ... Bentonite-cement grout  50  
 How installed: 3 volume added for any of the above  
 Trench  01  
 Trench grouted  02  
 Gravity  08  
 6. Bentonite seal: Bentonite granules  33  
 1/4 in.  3/8 in.  1/2 in. Bentonite pebbles  32  
 Other   
 7. Fine sand material: Manufacturer, product name and mesh size  
#100 Red Flint  
 Volume added \_\_\_\_\_ ft<sup>3</sup>  
 8. Filter pack material: Manufacturer, product name and mesh size  
#30 Red Flint  
 Volume added \_\_\_\_\_ ft<sup>3</sup>  
 9. Well casing: Flux threaded PVC schedule 40  23  
Flux threaded PVC schedule 80  24  
 Other   
 10. Screen material: PVC  
 Screen type: Factory cut  11  
Continuous slot  01  
 Other   
 Manufacturer: Diedrich  
 Slot size: 0.010 in.  
 Slotted length: 10.0 ft.  
 11. Backfill material (below filter pack): None   
 Other

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Sigma Environmental

Please complete and return your share of this form as required by Wis. Stats. §§ 113.01 and 113.02, and 113.03, and Ch. SRS, and Ch. SRS, and Ch. SRS, in accordance with the 1994 Wis. Stats. Failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with the 1994 Wis. Stats. Failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.

Factory/Project Name: Condon Rd - Cedarburg      Grid Location: \_\_\_\_\_  
 Factory License, Permit or Monitoring Number: \_\_\_\_\_      Well Name: B9 MW5  
 Type of Well: Water Table Observation Well  11      Section Location: \_\_\_\_\_  
 Piezometer  12      1/4 of \_\_\_\_\_ 1/4 of Section \_\_\_\_\_  
 Distance well is from waste/source boundary: \_\_\_\_\_ ft.      T \_\_\_\_\_ N, R \_\_\_\_\_ E, W \_\_\_\_\_  
 Is Well A Point of Enforcement Sta. Application?  Yes  No      Location of Well Relative to Waste/Source:  
 Upgradient  Sidgradient  Downgradient  Not Known  
 Date Well Installed: 08/30/95  
 Well Installed By: (Person's Name and Firm) Giles Engineering Associates  
BJ AND DAVID

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  Yes  No  
 B. Well casing, top elevation \_\_\_\_\_ ft. MSL  
 C. Land surface elevation \_\_\_\_\_ ft. MSL  
 D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ 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 1.0 ft.  
 F. Fine sand, top \_\_\_\_\_ ft. MSL or 2.5 ft.  
 G. Filter pack, top \_\_\_\_\_ ft. MSL or 3.0 ft.  
 H. Well screen, top \_\_\_\_\_ ft. MSL or 4.5 ft.  
 I. Well screen, bottom \_\_\_\_\_ ft. MSL or 14.5 ft.  
 J. Filter pack, bottom \_\_\_\_\_ ft. MSL or 14.5 ft.  
 K. Screen, bottom \_\_\_\_\_ ft. MSL or 14.5 ft.  
 L. Screen, diameter 8.25 in.  
 M. O.D. well casing 2.97 in.  
 N. I.D. well casing 2.00 in.

1. Cap and lock?  Yes  No  
 2. Protective cover pipe:  
 a. Inside diameter 8.0 in.  
 b. Length: 1.0 ft.  
 c. Material: Steel  04  
 Other  \_\_\_\_\_  
 d. Additional protection?  Yes  No  
 If yes, describe \_\_\_\_\_  
 3. Surface seal: Bentonite  30  
 Concrete  01  
 Other  \_\_\_\_\_  
 4. Material between well casing and protective pipe:  
 Bentonite  30  
 Annular space seal  \_\_\_\_\_  
 Other  \_\_\_\_\_  
 5. Annular space seal: Granular Bentonite  33  
 Lightweight mud weight... Bentonite-sand slurry  35  
 Lightweight mud weight... Bentonite slurry  31  
 Bentonite... Bentonite-cement grout  50  
 Ft<sup>3</sup> volume added for any of the above \_\_\_\_\_  
 How installed: Tremie  01  
 Tremie pumped  02  
 Gravity  08  
 6. Bentonite seal: Bentonite granules  33  
 1/4 in.  3/8 in.  1/2 in. Bentonite pebbles  32  
 Other  \_\_\_\_\_  
 7. Fine sand material: Manufacturer, product name and mesh size  
#45 Red Flat  
 Volume added \_\_\_\_\_ ft<sup>3</sup>  
 8. Filter pack material: Manufacturer, product name and mesh size  
#30 Red Flat  
 Volume added \_\_\_\_\_ ft<sup>3</sup>  
 9. Well casing: Finish threaded PVC schedule 40  23  
 Finish threaded PVC schedule 80  24  
 Other  \_\_\_\_\_  
 10. Screen material: PVC  
 Screen type: Factory cut  11  
 Continuous slot  01  
 Other  \_\_\_\_\_  
 Manufacturer: DIEDRICH  
 Slot size: 0.010 in.  
 Slotted length: 10.0 ft.  
 11. Backfill material (below filter pack): None  \_\_\_\_\_  
 Other  \_\_\_\_\_

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: [Signature] Sienna Env.

Please complete and return both sides of this form as required by chs. 113.01 and 113.02, Wis. Stats., and ch. NR 111, Wis. Adm. Code. In accordance with ch. 113.01, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with ch. 113.02, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.

Agency/Project Name <u>Condor Oil - Cedarburg</u>	Grid Location E <input type="checkbox"/> N <input type="checkbox"/> S <input type="checkbox"/>	Well Name <u>B-10/MW6</u>
Agency License, Permit or Monitoring Number	E <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/>	Well Unique Well Number JNK Well Number
Type of Well Water Table Observation Well <input checked="" type="checkbox"/> Piezometer <input type="checkbox"/>	Section Location 1/4 of _____ 1/4 of Section _____	Date Well Installed <u>08/30/95</u>
Distance well is from waste/source boundary	T _____ N _____ R _____ E <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/>	Well installed by: (Person's Name and Firm) <u>Giles Engineering Associates</u>
Is Well A Point of Enforcement Dis. Application? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Location of Well Relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation _____ ± MSL	1. Cap and lock! <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation _____ ± MSL	2. Protective cover pipe a. Inside diameter _____ in.
C. Land surface elevation _____ ± MSL	b. Length _____ ft.
D. Surface seal, bottom _____ ± MSL or _____	c. Material _____
12. USCS classification of soil near screen <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input checked="" type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe _____
13. Sieve analysis attained? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Surface seal Benotite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	4. Material between well casing and protective pipe Benotite <input type="checkbox"/> 30 Annular space seal <input checked="" type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	5. Annular space seal Granular Benotite <input checked="" type="checkbox"/> 33 Large mud weight ... Benotite-sand slurry <input type="checkbox"/> 35 Large mud weight ... Benotite slurry <input type="checkbox"/> 31 3 Benotite ... Benotite-cement grout <input type="checkbox"/> 50 3 volume added for any of the above
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	How installed Tamping <input type="checkbox"/> 01 Tamping grouted <input type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
Describe _____	6. Benotite seal Benotite granules <input type="checkbox"/> 33 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Benotite pebbles <input checked="" type="checkbox"/> 32 Other <input type="checkbox"/>
17. Source of water (attach analysis): _____	7. Fine sand material: Manufacturer, product name and mesh size <u>#45 Red Flint</u> Volume added _____ ft <sup>3</sup>
E. Benotite seal, top _____ ± MSL or _____ 16 ft	8. Filter pack material: Manufacturer, product name and mesh size <u>#30 Red Flint</u> Volume added _____ ft <sup>3</sup>
F. Fine sand, top _____ ± MSL or _____ 25 ft	9. Well casing Rigid threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Rigid threaded PVC schedule 30 <input type="checkbox"/> 24 Other <input type="checkbox"/>
G. Filter pack, top _____ ± MSL or _____ 35 ft	10. Screen material: <u>PVC</u> Screen type Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
H. Well screen, top _____ ± MSL or _____ 45 ft	Manufacturer: <u>Durovich</u> Slot size: _____ 0.010 in. Slotted length: _____ 10.0 ft
I. Well screen, bottom _____ ± MSL or _____ 14.5 ft	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> Other <input type="checkbox"/>
J. Filter pack, bottom _____ ± MSL or _____ 14.5 ft	
K. Benotite, bottom _____ ± MSL or _____ 14.5 ft	
L. Benotite, diameter <u>0.25</u> in.	
M. O.D. well casing <u>2.03</u> in.	
N. I.D. well casing <u>1.86</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature: Stuart Stein Sianna Emu

Please complete and return both sides of this form as required by Wis. Stats. §§ 111.01 and 111.02. Wis. Admin. Code, Ch. DNR 111.01, in accordance with ch. 111.01, Wis. Stats. Failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with ch. 111.02, Wis. Stats. Failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.

Agency/Project Name: Condor Oil - Cedarburg      Grid Location: \_\_\_\_\_  
 Well Name: B11/MW7  
 Agency License, Permit or Monitoring Number: \_\_\_\_\_  
 Well Unique Well Number: \_\_\_\_\_      DNCR Well Number: \_\_\_\_\_

Type of Well:  Water Table Observation Well  
 Recorder:       Section Location: \_\_\_\_\_  
 Date Well Installed: 08/30/95  
 Distance well is from waste source boundary: \_\_\_\_\_  
 T \_\_\_\_\_ N \_\_\_\_\_ R \_\_\_\_\_      Well installed by: Giles Engineering Associates  
 Location of Well Relative to Waste Source:  
 Upgradient       Downgradient  
 Downgradient       Not Known

A. Protective pipe, top elevation: \_\_\_\_\_ ft. MSL  
 B. Well casing, top elevation: \_\_\_\_\_ ft. MSL  
 C. Land surface elevation: \_\_\_\_\_ ft. MSL  
 D. Surface seal, bottom: \_\_\_\_\_ ft. MSL or \_\_\_\_\_ 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

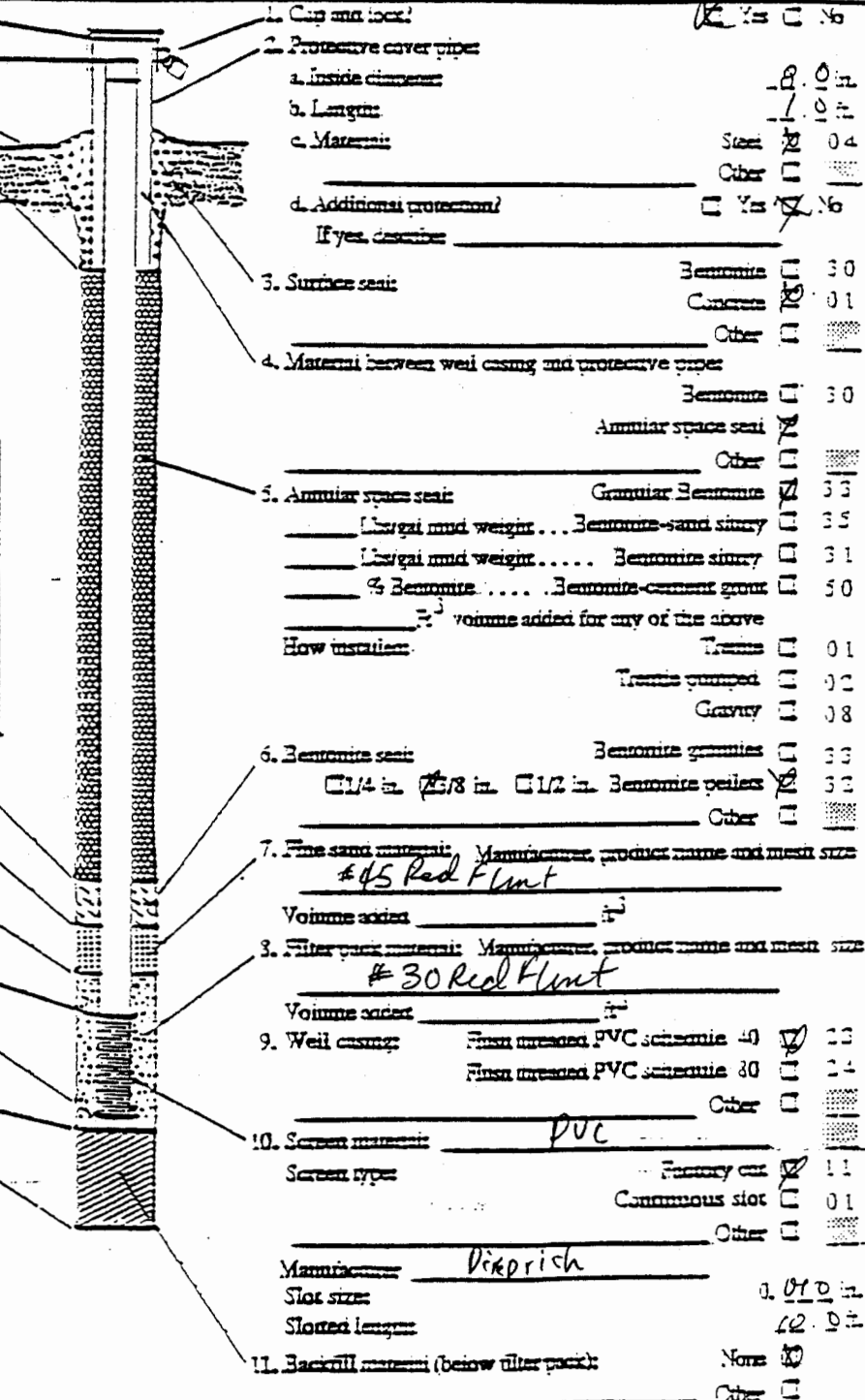
14. Drilling method used:  
 Rotary     50  
 Hollow Stem Auger     41  
 Other     \_\_\_\_\_

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 1.0 ft.  
 F. Fine sand, top: \_\_\_\_\_ ft. MSL or 3.0 ft.  
 G. Filter pack, top: \_\_\_\_\_ ft. MSL or 2.5 ft.  
 H. Well screen, top: \_\_\_\_\_ ft. MSL or 4.5 ft.  
 I. Well screen, bottom: \_\_\_\_\_ ft. MSL or 14.5 ft.  
 J. Filter pack, bottom: \_\_\_\_\_ ft. MSL or 14.5 ft.  
 K. Bentonite, bottom: \_\_\_\_\_ ft. MSL or 14.5 ft.  
 L. Bentonite diameter: 2.25 in.  
 M. O.D. well casing: 2.07 in.  
 N. I.D. well casing: 2.00 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: Stuart Horn      Title: Siema Env.

Please complete and return both sides of this form as required by chs. 111.01 and 111.02, Wis. Stats. and chs. 111.01, 111.02, Wis. Admin. Code. In accordance with ch. 111.01, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with ch. 111.02, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.

Factory/Project Name: Condon Rd - Cedarburg Grid Location: \_\_\_\_\_ Well Name: B12/MWB  
 Factory License, Permit or Monitoring Number: \_\_\_\_\_ Well ID Number: \_\_\_\_\_ DNCR Well Number: \_\_\_\_\_  
 Type of Well: Water Table Observation Well  Well  Piezometer  Section Location: \_\_\_\_\_ Date Well Installed: 08/30/95  
 Distance Well is from Wastewater Boundary: \_\_\_\_\_ U/4 of \_\_\_\_\_ U/4 of Section \_\_\_\_\_ Well Installed By: (Person's Name and Firm) Giles Engineering Associates  
 Is Well a Point of Enforcement for Application?  Yes  No Location of Well Relative to Wastewater:  Upgradient  Sidewater  Downgradient  Not Known B5

A. Protective pipe, top elevation \_\_\_\_\_ ft MSL  Yes  No  
 B. Well casing, top elevation \_\_\_\_\_ ft MSL  
 C. Land surface elevation \_\_\_\_\_ ft MSL  
 D. Surface seal, bottom \_\_\_\_\_ ft MSL or \_\_\_\_\_ ft

1. Cap and lock:  Yes  No  
 2. Protective cover pipe:  
 a. Inside diameter: \_\_\_\_\_ in. 8.6 in.  
 b. Length: \_\_\_\_\_ ft. 1.0 ft.  
 c. Material: \_\_\_\_\_ Steel  04  
 \_\_\_\_\_ Other   
 d. Additional protection?  Yes  No  
 If yes, describe \_\_\_\_\_  
 3. Surface seal: \_\_\_\_\_ Benomite  30  
 \_\_\_\_\_ Concrete  01  
 \_\_\_\_\_ Other   
 4. Material between well casing and protective pipe:  
 \_\_\_\_\_ Benomite  30  
 \_\_\_\_\_ Annular space seal   
 \_\_\_\_\_ Other   
 5. Annular space seal: \_\_\_\_\_ Granular Benomite  33  
 \_\_\_\_\_ Lightweight weight \_\_\_\_\_ Benomite-sand slurry  35  
 \_\_\_\_\_ Lightweight mud weight \_\_\_\_\_ Benomite slurry  31  
 \_\_\_\_\_ % Benomite \_\_\_\_\_ Benomite-concrete grout  50  
 \_\_\_\_\_ volume added for any of the above \_\_\_\_\_  
 How installed: \_\_\_\_\_  01  
 \_\_\_\_\_ Tremie pumped  02  
 \_\_\_\_\_ Gravity  08  
 6. Benomite seal: \_\_\_\_\_ Benomite granules  33  
 \_\_\_\_\_  1/4 in.  3/8 in.  1/2 in. Benomite pebbles  32  
 \_\_\_\_\_ Other   
 7. Fine sand annular: Manufacturer, product name and mesh size: #45 Red Flint  
 Volume added: \_\_\_\_\_ ft<sup>3</sup>  
 8. Filter pack annular: Manufacturer, product name and mesh size: #30 Red Flint  
 Volume added: \_\_\_\_\_ ft<sup>3</sup>  
 9. Well casing: \_\_\_\_\_ First threaded PVC schedule 40  23  
 \_\_\_\_\_ First threaded PVC schedule 30  24  
 \_\_\_\_\_ Other   
 10. Screen material: PVC  
 Screen type: \_\_\_\_\_ Factory cut  11  
 \_\_\_\_\_ Continuous slot  01  
 \_\_\_\_\_ Other   
 Manufacturer: Dickovich  
 Slot size: \_\_\_\_\_ in. 0.010 in.  
 Slotted length: \_\_\_\_\_ ft. 10.5 ft.  
 11. Backfill annular (below filter pack): \_\_\_\_\_ None   
 \_\_\_\_\_ Other

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. Benomite seal, top \_\_\_\_\_ ft MSL or 10 ft  
 F. Fine sand, top \_\_\_\_\_ ft MSL or 30 ft  
 G. Filter pack, top \_\_\_\_\_ ft MSL or 35 ft  
 H. Well screen, top \_\_\_\_\_ ft MSL or 45 ft  
 I. Well screen, bottom \_\_\_\_\_ ft MSL or 45 ft  
 J. Filter pack, bottom \_\_\_\_\_ ft MSL or 145 ft  
 K. Benomite, bottom \_\_\_\_\_ ft MSL or 145 ft  
 L. Benomite diameter 8.25 in.  
 M. O.D. well casing 2.07 in.  
 N. I.D. well casing 2.00 in.

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

Please complete and return both sides of this form as required by chs. 113.01 and 109.01, Wis. Stats., and chs. 113.01, 113.02, 113.03, 113.04, 113.05, 113.06, 113.07, 113.08, 113.09, 113.10, 113.11, 113.12, 113.13, 113.14, 113.15, 113.16, 113.17, 113.18, 113.19, 113.20, 113.21, 113.22, 113.23, 113.24, 113.25, 113.26, 113.27, 113.28, 113.29, 113.30, 113.31, 113.32, 113.33, 113.34, 113.35, 113.36, 113.37, 113.38, 113.39, 113.40, 113.41, 113.42, 113.43, 113.44, 113.45, 113.46, 113.47, 113.48, 113.49, 113.50, 113.51, 113.52, 113.53, 113.54, 113.55, 113.56, 113.57, 113.58, 113.59, 113.60, 113.61, 113.62, 113.63, 113.64, 113.65, 113.66, 113.67, 113.68, 113.69, 113.70, 113.71, 113.72, 113.73, 113.74, 113.75, 113.76, 113.77, 113.78, 113.79, 113.80, 113.81, 113.82, 113.83, 113.84, 113.85, 113.86, 113.87, 113.88, 113.89, 113.90, 113.91, 113.92, 113.93, 113.94, 113.95, 113.96, 113.97, 113.98, 113.99, 113.100.

Project Name: Conoon - Cedarburg      Grid Location: \_\_\_\_\_      Well Name: B-13/MW-9

Primary License, Permit or Monitoring Number: \_\_\_\_\_      Well Uniquely Well Number: \_\_\_\_\_      Other Well Number: \_\_\_\_\_

Type of Well:  Water Table Observation Well      Section Location: SE 1/4 of SW 1/4 of Section 26      Date Well Installed: 11/07/95

Distance Well is from Watersource Boundary: 80      Location of Well Relative to Watersource: 7 10 N.R. 21 R.E.W.      Well Installed by: HARRY KUREK - SIGMA ENVIRONMENTAL

Is Well a Point of Measurement for Application?  Yes       No       Upgradient       Downgradient       Not Known

A. Protective pipe, top elevation	-----	± MSL	-----	1. Cap and lock	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation	-----	± MSL	-----	2. Protective cover pipe	
C. Land surface elevation	-----	± MSL	-----	a. Inside diameter	<u>8.0</u> in.
D. Surface seal, bottom	-----	± MSL or	-----	b. Length	<u>1.0</u> in.
12. USCS classification of soil near screen <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> ME <input type="checkbox"/> CL <input type="checkbox"/> CE <input type="checkbox"/> Soils not				c. Material	<u>50</u> <input type="checkbox"/> 04
				d. Additional protection?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				3. Surface seal	<u>30</u> <input type="checkbox"/> 01
14. Drilling method used:				4. Material between well casing and protective pipe	<u>30</u> <input type="checkbox"/> 01
Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>Hand Auger</u> Other <input checked="" type="checkbox"/>				5. Annular space seal	<u>30</u> <input type="checkbox"/> 01
15. Drilling fluid used:				6. Annular space seal	<u>30</u> <input type="checkbox"/> 01
Water <input type="checkbox"/> 02    Air <input type="checkbox"/> 01 Drilling Muds <input type="checkbox"/> 03    None <input checked="" type="checkbox"/> 99				7. Filter pack material: Manufacture, product name and mesh size	<u>30</u> <input type="checkbox"/> 01
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				8. Filter pack material: Manufacture, product name and mesh size	<u>30</u> <input type="checkbox"/> 01
Describe _____				9. Well casing	<u>30</u> <input type="checkbox"/> 01
17. Source of water (surface analysis): _____				10. Screen material	<u>30</u> <input type="checkbox"/> 01
E. Screen seal, top	-----	± MSL	± <u>0.5</u> ±	11. Backfill material (below filter pack)	<u>30</u> <input type="checkbox"/> 01
F. Fine sand, top	-----	± MSL	± <u>1.5</u> ±		
G. Filter pack, top	-----	± MSL	± <u>2.0</u> ±		
H. Well screen, top	-----	± MSL	± <u>2.5</u> ±		
I. Well screen, bottom	-----	± MSL	± <u>7.0</u> ±		
J. Filter pack, bottom	-----	± MSL	± <u>7.0</u> ±		
K. Screen, bottom	-----	± MSL	± <u>7.0</u> ±		
L. Screen diameter	<u>3.0</u> ±				
M. O.D. well casing	<u>1.00</u> ±				
N. I.D. well casing	<u>1.00</u> ±				

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

Signature: Stuart Shaw      Sigma Env.

Wise choice and return both sides of this form as required by the State of Wisconsin. The fee for this form is \$10.00. If you have more than \$10.00 for each day of violation, the amount of the fee will be \$10.00 for each day of violation. The amount of the fee will be \$10.00 for each day of violation.

Family/Project Name: Condon - Cedarburg      Grid Location: \_\_\_\_\_  
 Family License, Permit or Monitoring Number: \_\_\_\_\_  
 Well Name: B-14/MW-10  
 Well Unique Well Number: \_\_\_\_\_      UNR Well Number: \_\_\_\_\_  
 Type of Well:  Water Table Observation Well  Piezometer  
 Section Location: SE 1/4 of SW 1/4 of Section 26  
 Date Well Installed: 11/01/95  
 Distance well is from waste/sourc boundary: 80  
 Well installed by: (Person's Name and Firm) GARY KUIER - SIGMA ENV.  
 Is well a point of enforcement via application?  Yes  No  
 Location of Well Relative to Waste/Sourc:  Upgradient  Sidegradient  Downgradient  Not Known

A. Protective pipe, top elevation \_\_\_\_\_ ± MSL  
 B. Well casing, top elevation \_\_\_\_\_ ± MSL  
 C. Land surface elevation \_\_\_\_\_ ± MSL  
 D. Surface seal, bottom \_\_\_\_\_ ± MSL or \_\_\_\_\_

1. Cap and lock?  Yes  No  
 2. Protective cover pipe:  
 a. Inside diameter: 6.0 in.  
 b. Length: 2.0 ft.  
 c. Material: Steel  04  Other \_\_\_\_\_  
 d. Additional protection?  Yes  No  
 If yes, describe \_\_\_\_\_  
 3. Surface seal: Benomite  30  01  
 4. Material between well casing and protective pipe: Benomite  30  
 Annular space seal:  Other \_\_\_\_\_  
 5. Annular space seal: Granular Benomite  33  
 \_\_\_\_\_ lb/gral mnd weight . . . . . Benomite-sand slurry  35  
 \_\_\_\_\_ lb/gral mnd weight . . . . . Benomite slurry  31  
 \_\_\_\_\_ % Benomite . . . . . Benomite-cement grout  50  
 \_\_\_\_\_ % volume added for any of the above  
 How installed:  Trowel  01  
 Trowel grouted  02  
 Gravity  08  
 6. Benomite seal: Benomite granules  33  
 1/4 in.  3/8 in.  1/2 in. Benomite pellets  32  
 Other \_\_\_\_\_  
 7. Fine sand material: Mannington product name and mesh size  
# 40-60 Red Flint  
 Volume added: \_\_\_\_\_ ft<sup>3</sup>  
 8. Filter pack material: Mannington product name and mesh size  
# 30 Red Flint  
 Volume added: \_\_\_\_\_ ft<sup>3</sup>  
 9. Well casing: First threaded PVC schedule 40  20  
First threaded PVC schedule 30  24  
 Other \_\_\_\_\_  
 10. Screen material: PVC  
 Screen type:  Factory cut  11  
 Continuous slot  01  
 Other \_\_\_\_\_  
 Manufacturer: \_\_\_\_\_  
 Slot size: 0.010 in.  
 Slotted length: 6.6 ft.  
 11. Backfill material (below filter pack): None   
 Other \_\_\_\_\_

12. USCS classification of soil near screen:  
 GP  GM  GC  GW  SW  SP  
 SM  SC  ML  ME  C  CE  
 Boromite

13. Sieve analysis attached?  Yes  No

14. Drilling method used: Rotary  50  
 Hollow Stem Auger  41  
Hand Auger  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. Benomite seal, top \_\_\_\_\_ ± MSL or 0.5 ft.  
 F. Fine sand, top \_\_\_\_\_ ± MSL or 2.0 ft.  
 G. Filter pack, top \_\_\_\_\_ ± MSL or 3.0 ft.  
 H. Well screen, top \_\_\_\_\_ ± MSL or 4.0 ft.  
 I. Well screen, bottom \_\_\_\_\_ ± MSL or 9.0 ft.  
 J. Filter pack, bottom \_\_\_\_\_ ± MSL or 9.0 ft.  
 K. Benomite, bottom \_\_\_\_\_ ± MSL or 9.0 ft.  
 L. Benomite, diameter 8.25 in.  
 M. O.D. well casing 1.08 in.  
 N. I.D. well casing 1.00 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: Stuart Lyon      Sigma Environ.

Please complete and return four copies of this form as required by Wis. Stats. §§ 111.01 and 111.02. Wis. Stats. §§ 111.01, 111.02, and 111.03. In accordance with ch. 111, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with § 111.02, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation.

**APPENDIX E**

**MONITORING WELL INFORMATION FORM  
(WDNR Form 4400-89)**





INSTRUCTIONS FOR GROUNDWATER MONITORING  
WELL INFORMATION - FORM 4400-89

This form, when completed provides a record of information for each well that is part of a facility's groundwater monitoring program. It provides the facility or consultant with a means of presenting in a consistent format the well data which the department requires during a site review process. It should be updated as new wells are added to the monitoring program.

Each element of the form is described below. Complete the form with the necessary information, using the description of the elements as a guide.

Facility ID Number: The license number or identification number of the facility, assigned by the Department.

Date: The date on which the form is filled out.

Completed By: The name and firm of person completing the form.

Facility Name: The name of the site or landfill.

Well Name: The name given to the well by the facility or consultant; e.g. MW-2, OW-5.

DNR Number: The number assigned to the well by the Department, for use by the Department.

Well Location: The location of the well, measured in feet, in relation to a grid system origin established for the site or state plane coordinate system. (A local grid system is preferred.)

Date Established: The installation date of the well.

Well Casing Diam.: The inside diameter of the pipe used in the well construction, in inches.

Well Casing Type: The type of pipe used: plastic (P), steel (S), or other (O).

Elevations:

Top of Well Casing: The measurement, in feet, of the top of the well casing (not top of protective casing), in feet.

Ground Surface: The measurement, in feet, of the ground surface adjacent to the well.

Reference: Are elevations in reference to Mean Sea Level (MSL) or to a particular site datum established by consultant or facility? Check one or the other.

Screen Length: The length of the screen measured in feet.

Well Depth: The depth of the well from the top of well casing, measured in feet.

Type of Well:

PIEZ: piezometer (sealed below water table)  
OW: water table observation well  
PVT private well  
LYS: lysimeter  
OTHER: not any of the above. e.g. head well.

Abandoned: Check this box if the well has been abandoned.  
Enf. Stds. Apply: Check this box if enforcement standards apply (well is outside DMZ or property line).

Gradient: The location of the well in the groundwater flow system relative to the disposal site, spill, etc. Use one of the four letters designated below:

U = up gradient                      D = down gradient  
S = side gradient                    N = not known

---

Location Coordinates Are:

Local grid system, established by consultant and submitted to the Department; or State Plane Coordinate System, an established location system for Wisconsin.

Comments:

Add any comments to help clarify items listed above; e.g. MW-17 was abandoned on 1/24/90 and replaced by MW-17R; LHW-1 and LHW-2 are leachate head wells.

**APPENDIX F**

**BOREHOLE ABANDONMENT FORMS  
(WDNR FORM 3300-5B)**

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>B1</u>	County <u>OZAUKEE</u>	Original Well Owner (If Known)	
SE 1/4 of SE 1/4 of Sec. <u>26</u> ; T. <u>10</u> N.; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W (If applicable)		Present Well Owner <u>COMMON OIL COMPANIES</u>	
Gov't Lot	Grid Number	Street or Route <u>126 EAST JACKSON</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>P.O. Box 184 Ripon WI 54971</u>	
Civil Town Name <u>CEARBURG</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No.	
Street Address of Well <u>N32 W5358 PERTHARD ROAD</u>		Reason For Abandonment <u>EXPLORATORY BORING</u>	
City, Village <u>CEARBURG</u>		Date of Abandonment <u>11-22-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>11-22-94</u>		(4) Depth to Water (Feet) <u>8-10'</u>	
<input type="checkbox"/> Monitoring Well	Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pump & Piping Removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Water Well		Liner(s) Removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Drillhole		Screen Removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable
<input checked="" type="checkbox"/> Borehole		Casing Left in Place?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify)		If No, Explain	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Was Casing Cut Off Below Surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Total Well Depth (ft.) <u>16</u> Casing Diameter (ins.)		Did Sealing Material Rise to Surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No
(From ground surface)		Did Material Settle After 24 Hours?	<input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u>
Casing Depth (ft.)		If Yes, Was Hole Retopped?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was Well Annular Space Grouted? If Yes, To What Depth? _____ Feet	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	(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)	
		(6) Sealing Materials	
		For monitoring wells and monitoring well boreholes only	
		<input type="checkbox"/> Neat Cement Grout	
		<input type="checkbox"/> Sand-Cement (Concrete) Grout	
		<input type="checkbox"/> Concrete	<input type="checkbox"/> Bentonite Pellets
		<input type="checkbox"/> Clay-Sand Slurry	<input type="checkbox"/> Granular Bentonite
		<input type="checkbox"/> Bentonite-Sand Slurry	
		<input type="checkbox"/> Chipped Bentonite	

(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>16'</u>	<u>3.68 cu yds</u>	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work  
GILLES ENGINEERING ASS. SIGMA ENV.

Signature of Person Doing Work <u>Alvin Stoen</u>	Date Signed <u>11-23-94</u>
Street or Route <u>102 Progress Dr.</u>	Telephone Number <u>(414) 284-6824</u>
City, State, Zip Code <u>Spauville WI 53080</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>
Well/Drillhole/Borehole Location <u>B4</u>	County <u>OZAUKEE</u>	Original Well Owner (If Known)
SE 1/4 of SE 1/4 of Sec. <u>26</u> ; T. <u>10</u> N; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W (If applicable)		Present Well Owner <u>COMMON OIL COMPANIES</u>
Gov't Lot _____	Grid Number _____	Street or Route <u>126 EAST JACKSON</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>P.O. Box 184 Ripon WI 54971</u>
Civil Town Name <u>CEDARBURG</u>		Factory Well No. and/or Name (If Applicable) WI Unique Well No. _____
Street Address of Well <u>N32 W5358 PERTHARD ROAD</u>		Reason For Abandonment <u>EXPLORATORY BORING</u>
City, Village <u>CEDARBURG</u>		Date of Abandonment <u>11-22-94</u>

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>11-22-94</u>	<b>(4) Depth to Water (Feet)</b> <u>8-10'</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 Liner(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 type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	<b>(5) Required Method of Placing Sealing Material</b>
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____
Total Well Depth (ft.) _____ Casing Diameter (ins.) _____ (From ground surface)  Casing Depth (ft.) _____	<b>(6) Sealing Materials</b>
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Near 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 type="checkbox"/> Chipped Bentonite <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite

(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>18</u>	<u>4.14 A</u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
Giles Engineering Ass / Sigma Env.  
 Signature of Person Doing Work: [Signature] Date Signed: 11-23-94  
 Street or Route: 102 Progress Dr. Telephone Number: 414 284-6824  
 City, State, Zip Code: Saukville WI 53080

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected: _____	District/County: _____
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>B-6</u>	County <u>OZAUKEE</u>	Original Well Owner (if Known)	
SE 1/4 of SE 1/4 of Sec. <u>26</u> ; T. <u>10</u> N.; R. <u>21</u> E. W.		Present Well Owner <u>COMMON OIL COMPANIES</u>	
(If applicable) Gov't Lot _____ Grid Number _____		Street or Route <u>126 EAST JACKSON</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>P.O. Box 184 Ripon WI 54971</u>	
Civil Town Name <u>CEARBURG</u>		Factory Well No. and/or Name (if Applicable) WI Unique Well No.	
Street Address of Well <u>N 32 W 5358 PERTHARD ROAD</u>		Reason for Abandonment <u>EXPLORATORY BORING</u>	
City, Village <u>CEARBURG</u>		Date of Abandonment <u>11-23-94</u>	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet)</b> <u>8-10'</u>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) <u>11-23-94</u>		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 _____	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole  Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock  Total Well Depth (ft.) _____ Casing Diameter (ins.) _____ (From ground surface)  Casing Depth (ft.) _____  Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		<b>(5) Required Method of Placing Sealing Material</b> <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		<b>(6) Sealing Materials</b> For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Near Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input checked="" type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Chipped Bentonite	

(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>16</u>	<u>3.68 ft<sup>3</sup></u>	

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

**(9) Name of Person or Firm Doing Sealing Work**  
GENS ENG. / SIGMA ENV.  
 Signature of Person Doing Work: [Signature] Date Signed: 11-23-94  
 Street or Route: 102 Progen Dr. Telephone Number: (714) 284-6824  
 City, State, Zip/Code: Saukville WI 53080

**(10) FOR DNR OR COUNTY USE ONLY**

Date Received/Inspected: _____	District/County: _____
Reviewer/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.

<b>(1) GENERAL INFORMATION</b>		<b>(2) FACILITY NAME</b>	
Well/Drillhole/Borehole Location <u>B-8</u>	County <u>OSHAUKEE</u>	Original Well Owner (if Known)	
SE 1/4 of SE 1/4 of Sec. <u>26</u> ; T. <u>10</u> N; R. <u>21</u> E (If applicable)		Present Well Owner <u>COMMON OIL COMPANIES</u>	
Gov't Lot	Grid Number	Street or Route <u>126 EAST JACKSON</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>P.O. Box 184 Ripon WI 54971</u>	
Civil Town Name <u>CEARBURG</u>		Facility Well No. and/or Name (If Applicable)   WI Unique Well No.	
Street Address of Well <u>N 32 W 5358 PERTHARD ROAD</u>		Reason For Abandonment <u>EXPLORATORY BORING</u>	
City, Village <u>CEARBURG</u>		Date of Abandonment	

<b>WELL/DRILLHOLE/BOREHOLE INFORMATION</b>		<b>(4) Depth to Water (Feet)</b> <u>8-10'</u>	
<b>(3) Original Well/Drillhole/Borehole Construction Completed On</b> (Date) _____		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(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 _____	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole	Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	<b>(5) Required Method of Placing Sealing Material</b> <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
Total Well Depth (ft.) <u>16</u> Casing Diameter (ins.) _____ (From ground surface)	Casing Depth (ft.) _____	<b>(6) Sealing Materials</b> For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Near Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input checked="" type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Chipped Bentonite	
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		N/A	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>CONCRETE</u>	<u>Surface</u>	<u>1</u>	<u>.2343</u>	
<u>BENTONITE</u>	<u>1</u>	<u>16</u>	<u>3.4593</u>	

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

(9) Name of Person or Firm Doing Sealing Work  
Giles Env / Siamma Env.

Signature of Person Doing Work <u>Alvin Don</u>	Date Signed <u>11-23-94</u>
Street or Route <u>102 Progen Dr.</u>	Telephone Number <u>(414) 284-6814</u>
City, State, Zip Code <u>Sparkville WI 63080</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

**APPENDIX G**

**MONITORING WELL DEVELOPMENT FORMS  
(WDNR 440-113B)**



Facility/Project Name <u>Candor - Cedarburg</u>	Well Name <u>MW-1</u>
License, Permit or Monitoring Number -----	Wis. Unique Well Number -----
DNR Well Number -----	

1. Can this well be purged dry?       Yes     No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with bailer and pumped	<input type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input checked="" type="checkbox"/>	1 0
pumped only	<input checked="" type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
Other _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3. Time spent developing well      0090 min.

4. Depth of well (from top of well casing)      016.2 ft.

5. Inside diameter of well      02.07 in.

6. Volume of water in filter pack and well casing      018.6 gal.

7. Volume of water removed from well      030.0 gal.

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

9. Source of water added      N/A

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	<u>004.03</u> ft.	<u>DRY</u> ft.
Date	<u>1210194</u> m m d d y y	<u>1210194</u> m m d d y y
Time	<u>9:30</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<u>11:00</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	<u>06.0</u> inches	<u>00.0</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>medium Brown color</u>	Clear <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>Same</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	----- mg/l	----- mg/l
15. COD	----- mg/l	----- mg/l

Additional comments on development:

- well went DRY After purging 20 gal

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>Scott Reineck</u>	Signature: <u>[Signature]</u>
Firm: <u>SIGMA Environmental</u>	Firm: <u>SIGMA</u>

NOTE: Shaded areas are for DNR use only. See instructions for more information.

Facility/Project Name <u>Condon-Cadairburg</u>		Well Name <u>MW-2</u>	
License, Permit or Monitoring Number -----		Wis. Unique Well Number	DNR Well Number

<p>1. Can this well be purged dry?      <input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p> <p>2. Well development method</p> <p>    surged with bailer and bailed      <input type="checkbox"/> 4 1</p> <p>    surged with bailer and pumped      <input type="checkbox"/> 6 1</p> <p>    surged with block and bailed        <input type="checkbox"/> 4 2</p> <p>    surged with block and pumped       <input type="checkbox"/> 6 2</p> <p>    surged with block, bailed and pumped <input type="checkbox"/> 7 0</p> <p>    compressed air                        <input type="checkbox"/> 2 0</p> <p>    bailed only                            <input checked="" type="checkbox"/> 1 0</p> <p>    pumped only                           <input checked="" type="checkbox"/> 5 1</p> <p>    pumped slowly                        <input type="checkbox"/> 5 0</p> <p>    Other _____ <input type="checkbox"/> <span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span></p> <p>3. Time spent developing well          <u>0120</u> min.</p> <p>4. Depth of well (from top of well casing) <u>012.3</u> ft.</p> <p>5. Inside diameter of well                <u>02.07</u> in.</p> <p>6. Volume of water in filter pack and well casing      <u>018.7</u> gal.</p> <p>7. Volume of water removed from well      <u>050.0</u> gal.</p> <p>8. Volume of water added (if any)        <u>-----</u> gal.</p> <p>9. Source of water added                 <u>N/A</u></p> <p>10. Analysis performed on water added?    <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No (If yes, attach results)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;"></th> <th style="width:35%;">Before Development</th> <th style="width:35%;">After Development</th> </tr> </thead> <tbody> <tr> <td>11. Depth to Water (from top of well casing)</td> <td><u>005.03</u> ft.</td> <td><u>DRY</u> ft.</td> </tr> <tr> <td>Date</td> <td><u>12/01/94</u> m m d d y y</td> <td><u>12/01/94</u> m m d d y y</td> </tr> <tr> <td>Time</td> <td><u>9:45</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> <td><u>11:45</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> </tr> <tr> <td>12. Sediment in well bottom</td> <td><u>00.0</u> inches</td> <td><u>00.0</u> inches</td> </tr> <tr> <td>13. Water clarity</td> <td>Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>medium</u> <u>Blown color</u> <u>Slight odor</u></td> <td>Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)</td> </tr> <tr> <td colspan="3">Fill in if drilling fluids were used and well is at solid waste facility:</td> </tr> <tr> <td>14. Total suspended solids</td> <td>----- mg/l</td> <td>----- mg/l</td> </tr> <tr> <td>15. COD</td> <td>----- mg/l</td> <td>----- mg/l</td> </tr> </tbody> </table>		Before Development	After Development	11. Depth to Water (from top of well casing)	<u>005.03</u> ft.	<u>DRY</u> ft.	Date	<u>12/01/94</u> m m d d y y	<u>12/01/94</u> m m d d y y	Time	<u>9:45</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<u>11:45</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	12. Sediment in well bottom	<u>00.0</u> inches	<u>00.0</u> inches	13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>medium</u> <u>Blown color</u> <u>Slight odor</u>	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)	Fill in if drilling fluids were used and well is at solid waste facility:			14. Total suspended solids	----- mg/l	----- mg/l	15. COD	----- mg/l	----- mg/l
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14. Total suspended solids	----- mg/l	----- mg/l																										
15. COD	----- mg/l	----- mg/l																										

Additional comments on development:

<p>Well developed by: Person's Name and Firm</p> <p>Name: <u>Scott Reinick</u></p> <p>Firm: <u>SIGMA Environmental</u></p>	<p>I hereby certify that the above information is true and correct to the best of my knowledge.</p> <p>Signature: <u>[Signature]</u></p> <p>Firm: <u>SIGMA</u></p>
--	--

NOTE: Shaded areas are for DNR use only. See instructions for more information.

Facility/Project Name <u>Condon - Ceba/kuig</u>	Well Name <u>MW-3</u>				
License, Permit or Monitoring Number -----	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 5px;">Wis. Unique Well Number</td> <td style="width:50%; padding: 5px;">DNR Well Number</td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> </table>	Wis. Unique Well Number	DNR Well Number		
Wis. Unique Well Number	DNR Well Number				

1. Can this well be purged dry?       Yes     No
2. Well development method
- surged with bailer and bailed       4 1
  - surged with bailer and pumped       6 1
  - surged with block and bailed       4 2
  - surged with block and pumped       6 2
  - surged with block, bailed and pumped       7 0
  - compressed air       2 0
  - bailed only       1 0
  - pumped only       5 1
  - pumped slowly       5 0
  - Other \_\_\_\_\_
3. Time spent developing well      0090 min.
4. Depth of well (from top of well casing)      014.8 ft.
5. Inside diameter of well      02.07 in.
6. Volume of water in filter pack and well casing      018.0 gal.
7. Volume of water removed from well      020.0 gal.
8. Volume of water added (if any)      ----- gal.
9. Source of water added      N/A
10. Analysis performed on water added?       Yes     No  
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	<u>003.01</u> ft.	<u>DRY</u> ft.
Date	<u>1210194</u> m m d d y y	<u>1210194</u> m m d d y y
Time	<u>10:00</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<u>11:30</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	<u>01.0</u> inches	<u>00.0</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) _____	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe) _____
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	----- mg/l	----- mg/l
15. COD	----- mg/l	----- mg/l

Additional comments on development:

- well went DRY After purging 10 gal

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>Scott Remeck</u>	Signature: <u>[Signature]</u>
Firm: <u>SICMA Environmental</u>	Firm: <u>SICMA</u>

NOTE: Shaded areas are for DNR use only. See instructions for more information.

Facility/Project Name <i>Cendon - Cedarburg</i>	Well Name <i>mw-4</i>				
License, Permit or Monitoring Number -----	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;">Wis. Unique Well Number</td> <td style="width:50%; padding: 2px;">DNR Well Number</td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> </table>	Wis. Unique Well Number	DNR Well Number		
Wis. Unique Well Number	DNR Well Number				

1. Can this well be purged dry? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>SR.</sup>  2. Well development method surged with bailer and bailed <input type="checkbox"/> 4 1 surged with bailer and pumped <input type="checkbox"/> 6 1 surged with block and bailed <input type="checkbox"/> 4 2 surged with block and pumped <input type="checkbox"/> 6 2 surged with block, bailed and pumped <input type="checkbox"/> 7 0 compressed air <input type="checkbox"/> 2 0 bailed only <input type="checkbox"/> 1 0 pumped only <input type="checkbox"/> 5 1 pumped slowly <input type="checkbox"/> 5 0 Other _____ <input type="checkbox"/> <span style="background-color: #cccccc; border: 1px solid black; padding: 2px;"> </span>  3. Time spent developing well <i>0120</i> min. 4. Depth of well (from top of well casing) <i>0184</i> ft. 5. Inside diameter of well <i>02.07</i> in. 6. Volume of water in filter pack and well casing <i>019.9</i> gal. 7. Volume of water removed from well <i>035.0</i> gal. 8. Volume of water added (if any) <u>          </u> gal. 9. Source of water added <u><i>N/A</i></u>  10. Analysis performed on water added? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, attach results)	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;"></th> <th style="width:35%;">Before Development</th> <th style="width:35%;">After Development</th> </tr> </thead> <tbody> <tr> <td>11. Depth to Water (from top of well casing)</td> <td style="text-align: center;"><i>005.34</i> ft.</td> <td style="text-align: center;"><i>DRY</i> ft.</td> </tr> <tr> <td>Date</td> <td style="text-align: center;"><i>12101194</i> <small>m m d d y y</small></td> <td style="text-align: center;"><i>12101194</i> <small>m m d d y y</small></td> </tr> <tr> <td>Time</td> <td style="text-align: center;"><i>10:15</i> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> <td style="text-align: center;"><i>12:15</i> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.</td> </tr> <tr> <td>12. Sediment in well bottom</td> <td style="text-align: center;"><i>06.0</i> inches</td> <td style="text-align: center;"><i>00.0</i> inches</td> </tr> <tr> <td>13. Water clarity</td> <td>                     Clear <input type="checkbox"/> 10                      Turbid <input checked="" type="checkbox"/> 15                      (Describe)  <i>medium</i>  <i>Brown color</i> </td> <td>                     Clear <input checked="" type="checkbox"/> 20                      Turbid <input type="checkbox"/> 25                      (Describe)                 </td> </tr> <tr> <td colspan="3" style="text-align: center;">Fill in if drilling fluids were used and well is at solid waste facility:</td> </tr> <tr> <td>14. Total suspended solids</td> <td style="text-align: center;">----- mg/l</td> <td style="text-align: center;">----- mg/l</td> </tr> <tr> <td>15. COD</td> <td style="text-align: center;">----- mg/l</td> <td style="text-align: center;">----- mg/l</td> </tr> </tbody> </table>		Before Development	After Development	11. Depth to Water (from top of well casing)	<i>005.34</i> ft.	<i>DRY</i> ft.	Date	<i>12101194</i> <small>m m d d y y</small>	<i>12101194</i> <small>m m d d y y</small>	Time	<i>10:15</i> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<i>12:15</i> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	12. Sediment in well bottom	<i>06.0</i> inches	<i>00.0</i> inches	13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <i>medium</i> <i>Brown color</i>	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)	Fill in if drilling fluids were used and well is at solid waste facility:			14. Total suspended solids	----- mg/l	----- mg/l	15. COD	----- mg/l	----- mg/l
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15. COD	----- mg/l	----- mg/l																										

Additional comments on development:

*- well went DRY After Purging 20 gal*

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><i>Scott Reineck</i></u>	Signature: <u><i>[Signature]</i></u>
Firm: <u><i>SIGMA Environmental</i></u>	Firm: <u><i>SIGMA</i></u>

NOTE: Shaded areas are for DNR use only. See instructions for more information.

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

Facility/Project Name <u>CONDON-Cedarburg 1966</u>	County Name	Well Name <u>MW-5</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No

2. Well development method

- surged with bailer and bailed  41
- surged with bailer and pumped  61
- surged with block and bailed  42
- surged with block and pumped  62
- surged with block, bailed and pumped  70
- compressed air  20
- bailed only  10
- pumped only  51
- pumped slowly  50
- Other

3. Time spent developing well 0050 min.

4. Depth of well (from top of well casing) 014.1 ft.

5. Inside diameter of well 02.07 in.

6. Volume of water in filter pack and well casing 012.9 gal.

7. Volume of water removed from well 010.5 gal.

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

9. Source of water added /

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>005.61</u> ft.	<u>dry</u> ft.
Date	b. <u>09105195</u> mm d d y y	<u>09105195</u> mm d d y y
Time	c. <u>12:35</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>01:25</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>000</u> inches	<u>000</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>light brown</u>	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe) <u>X</u>

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

14. Total suspended solids \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

15. COD \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

16. Additional comments on development:

5.5-dry  
2.5-dry  
2.5-dry

Well developed by: Person's Name and Firm

Name: Jessica L. Schumacher

Firm: Sigma Environmental Services, Inc.

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

Signature: Jessica L. Schumacher

Print Initials: JLS

Sigma Environmental Services, Inc.

Firm: 220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144

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

Facility/Project Name <u>Condon-Cedarburg 1966</u>	County Name	Well Name <u>HW-6</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No
2. Well development method
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - Other
3. Time spent developing well 0.055 min.
4. Depth of well (from top of well casing) 0.14.1 ft.
5. Inside diameter of well 0.2.07 in.
6. Volume of water in filter pack and well casing 0.15.2 gal.
7. Volume of water removed from well 0.13.5 gal.
8. Volume of water added (if any) --- gal.
9. Source of water added ---
10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>004.08</u> ft.	<u>dry</u> ft.
Date	b. <u>09/05/95</u> m m d d y y	<u>09/05/95</u> m m d d y y
Time	c. <u>12:25</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>01:20</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>0.05</u> inches	<u>0.00</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>light brown</u>	Clear <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>---</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Additional comments on development:

10 gal-dry  
2 gal-dry  
1.5 gal-dry

Well developed by: Person's Name and Firm

Name: Scott Reneck

Firm: Sigma Environmental Services, Inc.

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

Signature: [Signature]

Print Initials: S R R

Sigma Environmental Services, Inc.  
Firm: 220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144

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

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

Facility/Project Name <u>Condon Cedarburg 1966</u>	County Name	Well Name <u>MW-7</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No

2. Well development method
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - Other

3. Time spent developing well 0060 min.

4. Depth of well (from top of well casing) 014.1 ft.

5. Inside diameter of well 02.07 in.

6. Volume of water in filter pack and well casing 013.7 gal.

7. Volume of water removed from well 0130 gal.

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

9. Source of water added /

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>005.15</u> ft.	<u>dry</u> ft.
Date	b. <u>0910595</u> m m d d y y	<u>0910595</u> m m d d y y
Time	c. <u>12:15</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>01:15</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>00.5</u> inches	<u>000</u> inches
13. Water clarity	Clear <input type="checkbox"/> 0 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>light brown</u>	Clear <input type="checkbox"/> 0 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>/</u>

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

14. Total suspended solids \_\_\_\_\_ mg/l

15. COD \_\_\_\_\_ mg/l

16. Additional comments on development:

9 gal - dry  
2 gal - dry  
2 gal - dry

Well developed by: Person's Name and Firm

Name: Scott Rebeck

Firm: Sigma Environmental Services, Inc.

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

Signature: [Signature]

Print Initials: S R R

Sigma Environmental Services, Inc.  
Firm: 220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144

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

Facility/Project Name <u>Condow - Cedarburg</u>	County Name	Well Name <u>MW-8</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No

2. Well development method

- surged with bailer and bailed  41
- surged with bailer and pumped  61
- surged with block and bailed  42
- surged with block and pumped  62
- surged with block, bailed and pumped  70
- compressed air  20
- bailed only  10
- pumped only  51
- pumped slowly  50
- Other

3. Time spent developing well 0050 min.

4. Depth of well (from top of well casing) 014.2 ft

5. Inside diameter of well 02.07 in.

6. Volume of water in filter pack and well casing 014.3 gal.

7. Volume of water removed from well 014.0 gal.

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

9. Source of water added \_\_\_\_\_

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>004.81</u> ft	<u>dry</u> ft
Date	b. <u>0910595</u> mm d d y y	<u>0910595</u> mm d d y y
Time	c. <u>12:35</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>01:25</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>000</u> inches	<u>000</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>brown</u>	Clear <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>X</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Additional comments on development:

9 gal - dry  
3 gal - dry  
2 gal - dry

Well developed by: Person's Name and Firm

Name: Scott Reineck

Firm: Sigma Environmental Services, Inc.

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

Signature: \_\_\_\_\_

Print Initials: S R R

Sigma Environmental Services, Inc.

Firm: 220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144



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

Facility/Project Name <u>Condow Oil #1966</u>	County Name	Well Name <u>MW-9</u>
Facility License, Permit or Monitoring Number	County Code	Wisconsin Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No

2. Well development method

- surged with bailer and bailed  41
- surged with bailer and pumped  61
- surged with block and bailed  42
- surged with block and pumped  62
- surged with block, bailed and pumped  70
- compressed air  20
- bailed only  10
- pumped only  51
- pumped slowly  50
- Other

3. Time spent developing well 0040 min

4. Depth of well (from top of well casing) 005.5 ft

5. Inside diameter of well 01.00 in.

6. Volume of water in filter pack and well casing 000.7 gal

7. Volume of water removed from well 500.0 gal ~~ml~~

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

9. Source of water added ---

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>005.03</u> ft	<u>dry</u> ft
Date	b. <u>11/13/95</u> m m d d y y	<u>11/13/95</u> m m d d y y
Time	c. <u>02:10</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>02:50</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>0.0</u> inches	<u>0.0</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe)	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Scott Reineck

Firm: Sigma Environmental Services, Inc.

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

Signature: \_\_\_\_\_

Print Initials: S R R

Sigma Environmental Services, Inc.

Firm: 220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144

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

Facility/Project Name <u>Condow Oil #1966</u>	County Name	Well Name <u>MW-10</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well Number

1. Can this well be purged dry?  Yes  No

2. Well development method

surged with bailer and bailed	<input 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 checked="" type="checkbox"/> 51
pumped slowly	<input type="checkbox"/> 50
Other _____	<input type="checkbox"/>

3. Time spent developing well 007.5 min.

4. Depth of well (from top of well casing) 008.6 ft.

5. Inside diameter of well 01.00 in.

6. Volume of water in filter pack and well casing 008.5 gal.

7. Volume of water removed from well 003.0 gal.

8. Volume of water added (if any) —/— gal.

9. Source of water added —/—

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <u>003.03</u> ft.	<u>dry</u> ft.
Date	b. <u>11/13/95</u> mm d d yy	<u>11/13/95</u> mm d d yy
Time	c. <u>02:20</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>2:55</u> <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	<u>00.0</u> inches	<u>00.0</u> inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) _____	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 25 (Describe) _____
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Additional comments on development:

---

Well developed by: Person's Name and Firm  Name: <u>Jessica L. Schumacher.</u>  Firm: <u>Sigma Environmental Services, Inc.</u>	I hereby certify that the above information is true and correct to the best of my knowledge.  Signature: <u>Jessica L. Schumacher</u> Print Initials: <u>JLS</u> Firm: <u>Sigma Environmental Services, Inc.</u> Firm: <u>220 E. Ryan Rd. Oak Creek WI 53154 (414) 768-7144</u>
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NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

**APPENDIX H**

**GRAIN SIZE DISTRIBUTION AND  
FALLING HEAD PERMEABILITY REPORT**

# CQM, INC.

## SIEVE ANALYSIS OF COARSE TO FINE AGGREGATES (ASTM D422)

### GENERAL DATA:

Client:	Robert E. Lee & Associates
Project:	A Sigma Project
Location Sampled:	Boring 11
Sample No:	95-017331
Depth of Sample:	6.0' - 8.0'
Date Received:	9/5/95
Sample Designated For:	Soil Classification
Source of Sample:	Soil Boring on Site
Munsell Color Code:	10 YR. 5/3

### LABORATORY DATA:

Date Tested:	September 9-11, 1995
Test Performed By:	KAF
24 Hrs. Turn Around:	NO
Washed Gradation:	YES

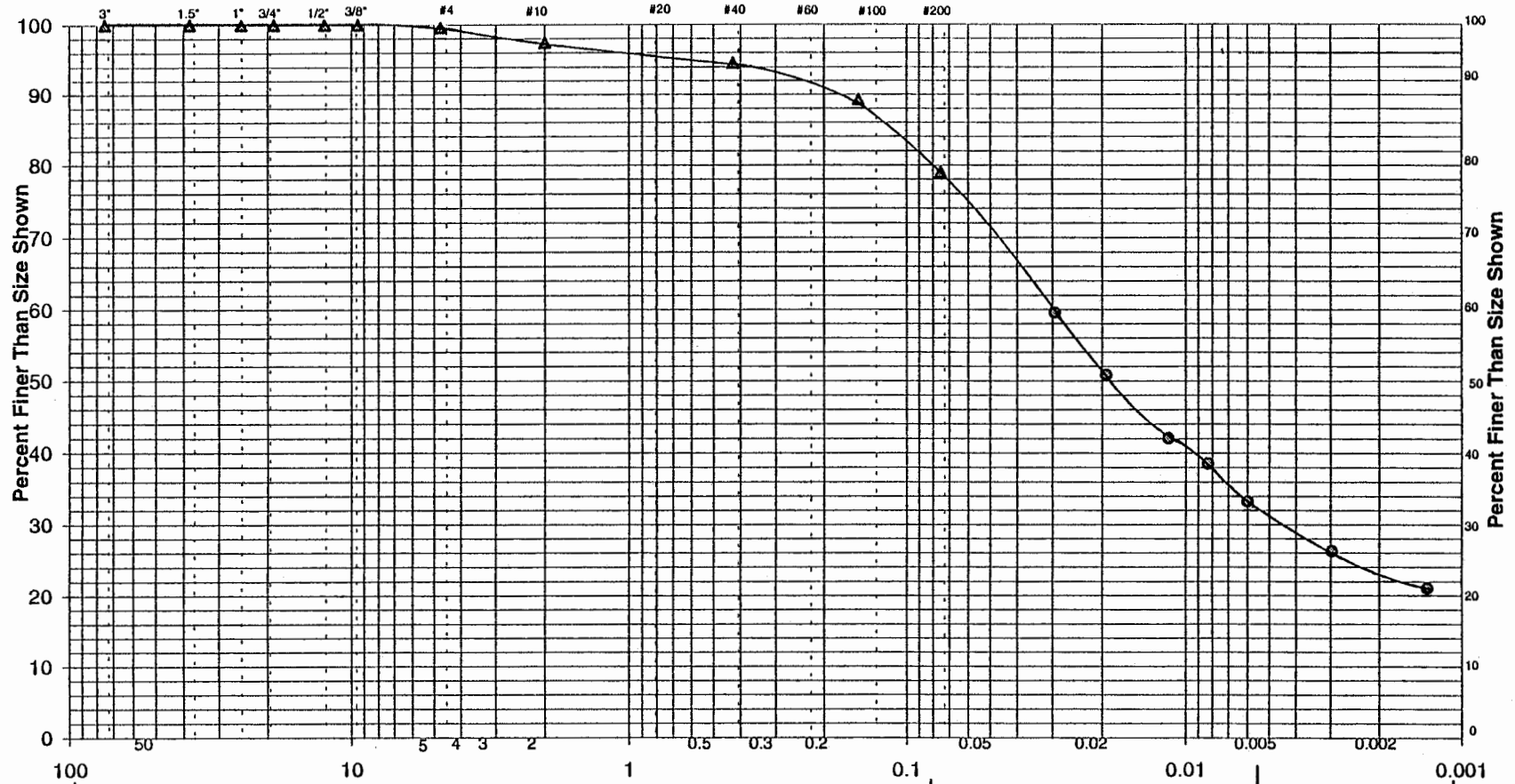
Sieve Size	Weight Retained	% Retained	% Passing	Project Specification % Passing by Weight	Source of Specification
3"					
1 1/2"					
1"					
3/4"					
1/2"					
3/8"	0.0	0.0	100.0		
#4	0.4	0.4	99.6		
#10	2.0	2.1	97.5		
#40	2.7	2.9	94.6		
#100	5.0	5.3	89.3		
#200	9.7	10.3	79.0		

REVIEWED BY:	<i>R. Rouse</i>
DATE REVIEWED:	9/11/95

Remarks:

# GRAIN SIZE DISTRIBUTION CURVE

U.S. Standard Sieve Sizes



Gravel		Sand					
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
	0.4%	2.1%	2.9%	15.6%	47.5%	31.5%	

Soil Classification: LEAN CLAY W/ SAND, brown (CL)

Location Sampled: Boring 11

Elev. or Depth: 6.0' - 8.0'

Date Sampled: 8/30/95

Sample Number: 95-017331

Sampled Moisture Content (%): 13.5

Report No.: 17331

Sample Source: Soil Boring on Site

**CQM, INC.**

Atterberg Limits: LL=      PL=      PI=

Client: Robert E. Lee & Associates

Munsell Color Code: 10 YR. 5/3

Project: A Sigma Project

Page: 2

Date Received: 9/5/95

Prepared by: Robert R. Rouse

Date: 9/11/95

Coefficients: Cc=      Cu=

Checked by: *J. Zahradnik*

Date: 9/11/95

# CQM, INC.

2778 Manitowoc Road - Suite A

Green Bay, WI 54311

(414) 465-3911

Client: Robert E. Lee & Associates

Project: A Sigma Project

Prepared by: Robert R. Rouse

Date: 9/11/95

Checked by:

*J. Johnson*

Date: 9/11/95

## REPORT OF:

## FALLING HEAD PERMEABILITY TEST

ASTM: D5084

### GENERAL DATA:

Sample Location: Boring No. 11  
Sample Number: 95-017331  
Date Sampled: 8/30/95  
Date Received: 9/5/95

### LABORATORY DATA:

Method of Test: Flex Wall - Remolded  
Length of Sample (inches): 1.922  
Diameter of Sample (inches): 2.864  
Dates Tested: Sept. 6-11, 1995  
Moisture Content (%): 13.8  
Dry Density (pcf): 125.6  
% Compaction:  
Soil Classification: LEAN CLAY W/ SAND,  
brown (CL)

### PROJECT SPECIFICATIONS

Max. Head Differential (ft.): 6.0  
Confining Pressure (Effective psi): 2.0  
Trial No.: 4-7  
Water Temperature: 23°C  
Coefficient of Permeability (cm/sec):  $4.6 \times 10^{-8}$

### REMARKS:

**APPENDIX I**

**DETAILED FIELD METHODS AND DATA RESOLUTIONS**

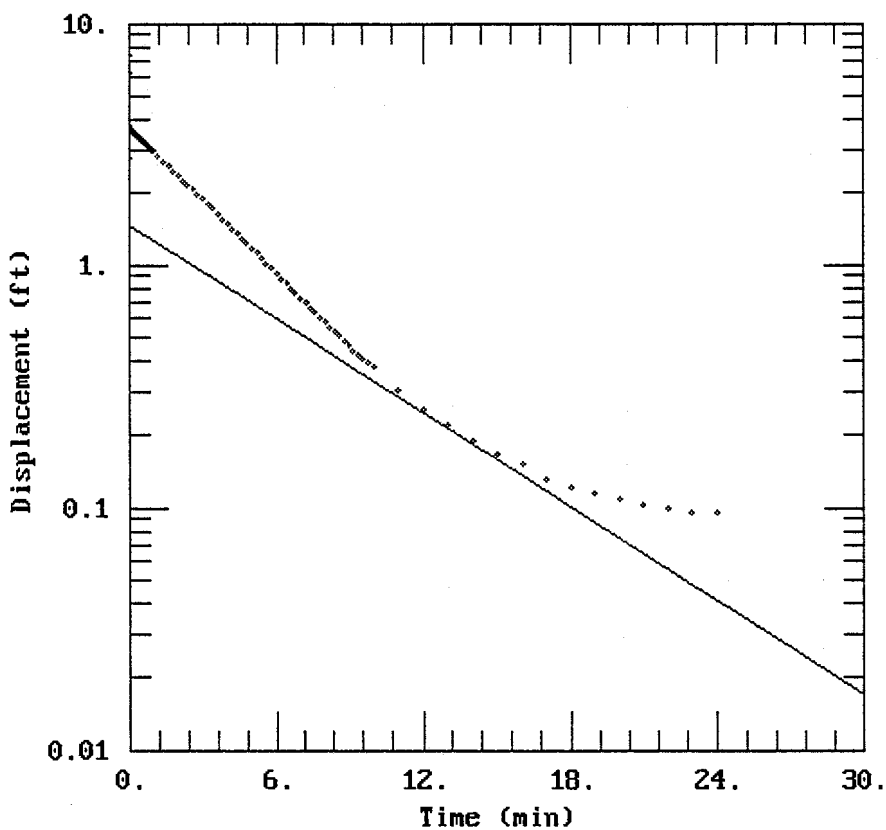
MW-1

COMPANY: Condon Oil Companies

LOCATION: Cedarburg, Wisconsin

PROJECT: 1966

### Cedarburg Bulk Plant



DATA SET:  
1966MW1.DAT  
02/05/96

AQUIFER MODEL:  
Unconfined  
SOLUTION METHOD:  
Bower-Rice

TEST DATA:  
 $H_0 = 2.778$  ft  
 $r_c = 0.075$  ft  
 $r_w = 0.34$  ft  
 $L = 10.$  ft  
 $b = 17.27$  ft  
 $H = 12.27$  ft

PARAMETER ESTIMATES:  
 $K = 0.0006748$  ft/min  
 $y_0 = 1.46$  ft

AQTESOLU



1000

9 14 8 34

1831 5

1

0

5.51

0.04

10.08

-0.05

50

0 9 13 11 45 57

1

0	14.705	9.195
0.0033	13.386	7.876
0.0066	12.877	7.367
0.01	11.729	6.219
0.0133	9.293	3.783
0.0166	9.548	4.038
0.02	9.321	3.811
0.0233	9.194	3.684
0.0266	9.213	3.703
0.03	9.213	3.703
0.0333	9.207	3.697
0.0366	9.207	3.697
0.04	9.203	3.693
0.0433	9.2	3.69
0.0466	9.197	3.687
0.05	9.191	3.681
0.0533	9.187	3.677
0.0566	9.184	3.674
0.06	9.181	3.671
0.0633	9.178	3.668
0.0666	9.171	3.661
0.07	9.168	3.658
0.0733	9.165	3.655
0.0766	9.162	3.652
0.08	9.159	3.649
0.0833	9.155	3.645
0.0866	9.149	3.639
0.09	9.149	3.639

0.0933	9.146	3.636
0.0966	9.139	3.629
0.1	9.136	3.626
0.1033	9.136	3.626
0.1066	9.13	3.62
0.11	9.13	3.62
0.1133	9.127	3.617
0.1166	9.124	3.614
0.12	9.12	3.61
0.1233	9.117	3.607
0.1266	9.114	3.604
0.13	9.111	3.601
0.1333	9.108	3.598
0.1366	9.104	3.594
0.14	9.101	3.591
0.1433	9.098	3.588
0.1466	9.095	3.585
0.15	9.092	3.582
0.1533	9.088	3.578
0.1566	9.085	3.575
0.16	9.082	3.572
0.1633	9.079	3.569
0.1666	9.079	3.569
0.17	9.076	3.566
0.1733	9.072	3.562
0.1766	9.069	3.559
0.18	9.066	3.556
0.1833	9.063	3.553
0.1866	9.06	3.55
0.19	9.057	3.547
0.1933	9.057	3.547
0.1966	9.053	3.543
0.2	9.05	3.54
0.2033	9.047	3.537
0.2066	9.044	3.534
0.21	9.041	3.531
0.2133	9.041	3.531
0.2166	9.037	3.527
0.22	9.034	3.524
0.2233	9.031	3.521
0.2266	9.028	3.518
0.23	9.025	3.515
0.2333	9.021	3.511
0.2366	9.021	3.511
0.24	9.018	3.508
0.2433	9.015	3.505
0.2466	9.012	3.502
0.25	9.009	3.499
0.2533	9.009	3.499
0.2566	9.005	3.495
0.26	9.002	3.492

0.2633	8.999	3.489
0.2666	8.996	3.486
0.27	8.996	3.486
0.2733	8.993	3.483
0.2766	8.99	3.48
0.28	8.986	3.476
0.2833	8.983	3.473
0.2866	8.98	3.47
0.29	8.98	3.47
0.2933	8.977	3.467
0.2966	8.974	3.464
0.3	8.974	3.464
0.3033	8.97	3.46
0.3066	8.967	3.457
0.31	8.964	3.454
0.3133	8.961	3.451
0.3166	8.961	3.451
0.32	8.958	3.448
0.3233	8.954	3.444
0.3266	8.951	3.441
0.33	8.948	3.438
0.3333	8.948	3.438
0.35	8.932	3.422
0.3666	8.923	3.413
0.3833	8.907	3.397
0.4	8.894	3.384
0.4166	8.881	3.371
0.4333	8.868	3.358
0.45	8.855	3.345
0.4666	8.846	3.336
0.4833	8.833	3.323
0.5	8.82	3.31
0.5166	8.808	3.298
0.5333	8.795	3.285
0.55	8.782	3.272
0.5666	8.773	3.263
0.5833	8.76	3.25
0.6	8.747	3.237
0.6166	8.737	3.227
0.6333	8.725	3.215
0.65	8.712	3.202
0.6666	8.699	3.189
0.6833	8.69	3.18
0.7	8.677	3.167
0.7166	8.664	3.154
0.7333	8.654	3.144
0.75	8.642	3.132
0.7666	8.629	3.119
0.7833	8.619	3.109
0.8	8.61	3.1
0.8166	8.597	3.087

0.8333	8.587	3.077
0.85	8.578	3.068
0.8666	8.565	3.055
0.8833	8.556	3.046
0.9	8.543	3.033
0.9166	8.533	3.023
0.9333	8.52	3.01
0.95	8.511	3.001
0.9666	8.501	2.991
0.9833	8.489	2.979
1	8.479	2.969
1.2	8.323	2.813
1.4	8.201	2.691
1.6	8.083	2.573
1.8	7.971	2.461
2	7.863	2.353
2.2	7.758	2.248
2.4	7.662	2.152
2.6	7.563	2.053
2.8	7.474	1.964
3	7.384	1.874
3.2	7.301	1.791
3.4	7.218	1.708
3.6	7.138	1.628
3.8	7.062	1.552
4	6.991	1.481
4.2	6.924	1.414
4.4	6.861	1.351
4.6	6.797	1.287
4.8	6.736	1.226
5	6.682	1.172
5.2	6.627	1.117
5.4	6.573	1.063
5.6	6.525	1.015
5.8	6.477	0.967
6	6.433	0.923
6.2	6.388	0.878
6.4	6.35	0.84
6.6	6.308	0.798
6.8	6.273	0.763
7	6.238	0.728
7.2	6.206	0.696
7.4	6.171	0.661
7.6	6.145	0.635
7.8	6.113	0.603
8	6.088	0.578
8.2	6.062	0.552
8.4	6.04	0.53
8.6	6.017	0.507
8.8	5.995	0.485
9	5.973	0.463

9.2	5.954	0.444
9.4	5.938	0.428
9.6	5.918	0.408
9.8	5.902	0.392
10	5.887	0.377
11	5.816	0.306
12	5.762	0.252
13	5.727	0.217
14	5.698	0.188
15	5.676	0.166
16	5.66	0.15
17	5.641	0.131
18	5.631	0.121
19	5.625	0.115
20	5.618	0.108
21	5.612	0.102
22	5.609	0.099
23	5.605	0.095
24	5.605	0.095
25	5.602	0.092
26	5.599	0.089
27	5.599	0.089
28	5.599	0.089
29	5.58	0.07
30	5.58	0.07
31	5.58	0.07
32	5.577	0.067
33	5.577	0.067
34	5.577	0.067
35	5.573	0.063
36	5.573	0.063
37	5.577	0.067
38	5.573	0.063
39	5.573	0.063
40	5.573	0.063
41	5.573	0.063
42	5.573	0.063
43	5.57	0.06
44	5.573	0.063
45	5.57	0.06
46	5.57	0.06
47	5.573	0.063
48	5.573	0.063
49	5.573	0.063
50	5.57	0.06
51	5.573	0.063
52	5.57	0.06
53	5.57	0.06
54	5.57	0.06
55	5.57	0.06
56	5.57	0.06

57	5.57	0.06
58	5.57	0.06
59	5.57	0.06
60	5.57	0.06
61	5.57	0.06
62	5.57	0.06
63	5.573	0.063
64	5.57	0.06
65	5.57	0.06
66	5.573	0.063
67	5.57	0.06
68	5.57	0.06
69	5.57	0.06
70	5.57	0.06
71	5.573	0.063
72	5.57	0.06
73	5.57	0.06
74	5.57	0.06
75	5.57	0.06
76	5.57	0.06
77	5.57	0.06
78	5.57	0.06
79	5.57	0.06
80	5.57	0.06
81	5.567	0.057
82	5.573	0.063

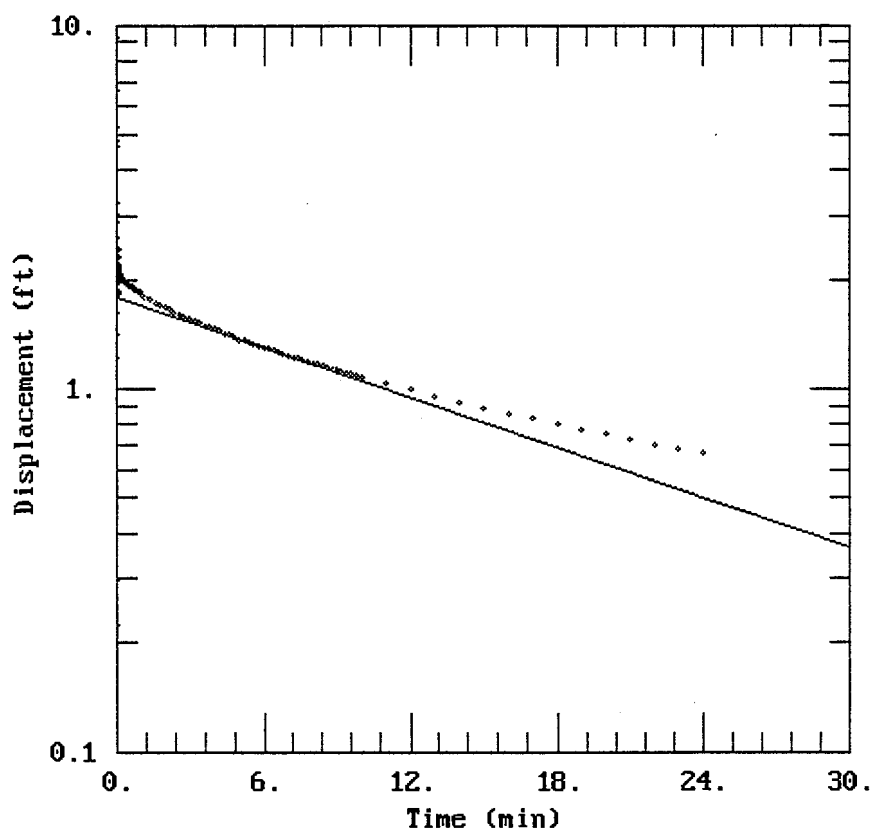
MW-2

COMPANY: Condon Oil Company

LOCATION: Cedarburg, Wisconsin

PROJECT: 1966

### Cedarburg Bulk Plant



DATA SET:  
1966MW2.DAT  
02/05/96

AQUIFER MODEL:  
Unconfined  
SOLUTION METHOD:  
Bouwer-Rice

TEST DATA:  
 $H_0 = 2.432$  ft  
 $r_c = 0.075$  ft  
 $r_w = 0.34$  ft  
 $L = 10.$  ft  
 $b = 18.1$  ft  
 $H = 13.1$  ft

PARAMETER ESTIMATES:  
 $K = 0.0002436$  ft/min  
 $y_0 = 1.78$  ft

AQTESOLV

1000

9 14 8 24

1829 6

1

0

5.65

0.03

10.15

0

50

0 9 13 12 59 26

1

0	13.454	7.804
0.0033	14.844	9.194
0.0066	12.306	6.656
0.01	12.585	6.935
0.0133	14.668	9.018
0.0166	5.874	0.224
0.02	3.048	-2.602
0.0233	10.921	5.271
0.0266	10.447	4.797
0.03	4.869	-0.781
0.0333	7.062	1.412
0.0366	10.286	4.636
0.04	7.723	2.073
0.0433	5.948	0.298
0.0466	8.541	2.891
0.05	8.894	3.244
0.0533	6.86	1.21
0.0566	7.271	1.621
0.06	8.66	3.01
0.0633	7.884	2.234
0.0666	7.052	1.402
0.07	7.951	2.301
0.0733	8.253	2.603
0.0766	7.463	1.813
0.08	7.495	1.845
0.0833	8.082	2.432
0.0866	7.851	2.201
0.09	7.476	1.826



0.0933	7.784	2.134
0.0966	7.954	2.304
0.1	7.656	2.006
0.1033	7.614	1.964
0.1066	7.858	2.208
0.11	7.794	2.144
0.1133	7.627	1.977
0.1166	7.726	2.076
0.12	7.816	2.166
0.1233	7.704	2.054
0.1266	7.672	2.022
0.13	7.762	2.112
0.1333	7.752	2.102
0.1366	7.681	2.031
0.14	7.71	2.06
0.1433	7.749	2.099
0.1466	7.71	2.06
0.15	7.688	2.038
0.1533	7.723	2.073
0.1566	7.723	2.073
0.16	7.694	2.044
0.1633	7.697	2.047
0.1666	7.717	2.067
0.17	7.701	2.051
0.1733	7.691	2.041
0.1766	7.701	2.051
0.18	7.704	2.054
0.1833	7.691	2.041
0.1866	7.688	2.038
0.19	7.694	2.044
0.1933	7.691	2.041
0.1966	7.685	2.035
0.2	7.691	2.041
0.2033	7.688	2.038
0.2066	7.685	2.035
0.21	7.685	2.035
0.2133	7.685	2.035
0.2166	7.685	2.035
0.22	7.681	2.031
0.2233	7.678	2.028
0.2266	7.678	2.028
0.23	7.678	2.028
0.2333	7.675	2.025
0.2366	7.675	2.025
0.24	7.675	2.025
0.2433	7.672	2.022
0.2466	7.672	2.022
0.25	7.672	2.022
0.2533	7.672	2.022
0.2566	7.669	2.019
0.26	7.669	2.019

0.2633	7.665	2.015
0.2666	7.665	2.015
0.27	7.665	2.015
0.2733	7.662	2.012
0.2766	7.662	2.012
0.28	7.662	2.012
0.2833	7.659	2.009
0.2866	7.659	2.009
0.29	7.659	2.009
0.2933	7.656	2.006
0.2966	7.656	2.006
0.3	7.652	2.002
0.3033	7.652	2.002
0.3066	7.652	2.002
0.31	7.652	2.002
0.3133	7.649	1.999
0.3166	7.649	1.999
0.32	7.649	1.999
0.3233	7.646	1.996
0.3266	7.646	1.996
0.33	7.643	1.993
0.3333	7.643	1.993
0.35	7.64	1.99
0.3666	7.633	1.983
0.3833	7.627	1.977
0.4	7.624	1.974
0.4166	7.617	1.967
0.4333	7.614	1.964
0.45	7.608	1.958
0.4666	7.601	1.951
0.4833	7.598	1.948
0.5	7.595	1.945
0.5166	7.588	1.938
0.5333	7.585	1.935
0.55	7.579	1.929
0.5666	7.575	1.925
0.5833	7.572	1.922
0.6	7.566	1.916
0.6166	7.563	1.913
0.6333	7.563	1.913
0.65	7.556	1.906
0.6666	7.553	1.903
0.6833	7.547	1.897
0.7	7.543	1.893
0.7166	7.543	1.893
0.7333	7.543	1.893
0.75	7.537	1.887
0.7666	7.534	1.884
0.7833	7.531	1.881
0.8	7.524	1.874
0.8166	7.521	1.871

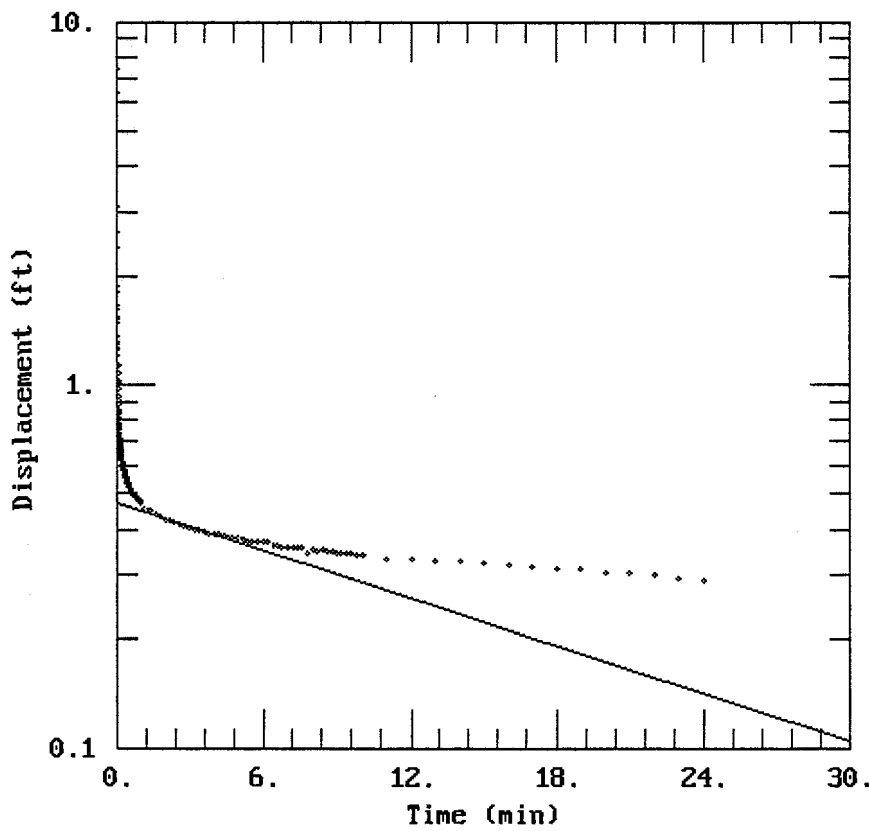
0.8333	7.521	1.871
0.85	7.514	1.864
0.8666	7.511	1.861
0.8833	7.508	1.858
0.9	7.505	1.855
0.9166	7.502	1.852
0.9333	7.498	1.848
0.95	7.498	1.848
0.9666	7.489	1.839
0.9833	7.486	1.836
1	7.486	1.836
1.2	7.441	1.791
1.4	7.405	1.755
1.6	7.373	1.723
1.8	7.351	1.701
2	7.319	1.669
2.2	7.296	1.646
2.4	7.271	1.621
2.6	7.248	1.598
2.8	7.226	1.576
3	7.2	1.55
3.2	7.181	1.531
3.4	7.161	1.511
3.6	7.139	1.489
3.8	7.123	1.473
4	7.107	1.457
4.2	7.088	1.438
4.4	7.068	1.418
4.6	7.052	1.402
4.8	7.036	1.386
5	7.017	1.367
5.2	7.004	1.354
5.4	6.995	1.345
5.6	6.978	1.328
5.8	6.966	1.316
6	6.95	1.3
6.2	6.937	1.287
6.4	6.921	1.271
6.6	6.911	1.261
6.8	6.898	1.248
7	6.885	1.235
7.2	6.873	1.223
7.4	6.863	1.213
7.6	6.85	1.2
7.8	6.837	1.187
8	6.828	1.178
8.2	6.818	1.168
8.4	6.805	1.155
8.6	6.796	1.146
8.8	6.786	1.136
9	6.776	1.126

9.2	6.77	1.12
9.4	6.757	1.107
9.6	6.747	1.097
9.8	6.738	1.088
10	6.728	1.078
11	6.683	1.033
12	6.645	0.995
13	6.606	0.956
14	6.571	0.921
15	6.539	0.889
16	6.507	0.857
17	6.478	0.828
18	6.452	0.802
19	6.423	0.773
20	6.401	0.751
21	6.375	0.725
22	6.353	0.703
23	6.333	0.683
24	6.314	0.664
25	6.298	0.648
26	6.276	0.626
27	6.26	0.61
28	6.24	0.59
29	6.227	0.577
30	6.215	0.565
31	6.202	0.552
32	6.186	0.536
33	6.166	0.516
34	6.157	0.507
35	6.147	0.497
36	6.134	0.484
37	6.118	0.468
38	6.112	0.462
39	6.099	0.449
40	6.089	0.439
41	6.08	0.43
42	6.07	0.42
43	6.06	0.41
44	6.054	0.404
45	6.048	0.398
46	6.032	0.382
47	6.028	0.378
48	6.019	0.369
49	6.012	0.362
50	6.003	0.353
51	5.996	0.346
52	5.993	0.343
53	5.983	0.333
54	5.974	0.324
55	5.971	0.321
56	5.964	0.314

57	5.958	0.308
58	5.955	0.305
59	5.948	0.298
60	5.942	0.292
61	5.935	0.285
62	5.932	0.282
63	5.929	0.279
64	5.922	0.272
65	5.916	0.266
66	5.913	0.263
67	5.91	0.26
68	5.903	0.253
69	5.9	0.25
70	5.897	0.247
71	5.89	0.24
72	5.89	0.24
73	5.887	0.237
74	5.881	0.231
75	5.874	0.224
76	5.868	0.218

# Cedarburg Bulk Plant

## MW-7



DATA SET:  
1966MW6.DAT  
02/05/96

AQUIFER MODEL:  
Unconfined  
SOLUTION METHOD:  
Bower-Rice

TEST DATA:  
H0 = 2.396 ft  
r<sub>c</sub> = 0.075 ft  
r<sub>w</sub> = 0.34 ft  
L = 10. ft  
b = 13.4 ft  
H = 8.4 ft

PARAMETER ESTIMATES:  
K = 0.0002098 ft/min  
y0 = 0.47 ft

AQTESOLV

1000

9 14 8 19

1829 7

1

0

5.51

0.05

10.03

-0.01

50

0 9 13 14 21 38

1

0	12.69	7.18
0.0033	7.517	2.007
0.0066	3.78	1.73
0.01	8.876	3.366
0.0133	9.208	3.698
0.0166	6.052	0.542
0.02	6.315	0.805
0.0233	8.214	2.704
0.0266	7.599	2.089
0.03	6.28	0.77
0.0333	6.835	1.325
0.0366	7.526	2.016
0.04	7	1.49
0.0433	6.464	0.954
0.0466	6.8	1.29
0.05	7.06	1.55
0.0533	6.734	1.224
0.0566	6.477	0.967
0.06	6.642	1.132
0.0633	6.746	1.236
0.0666	6.562	1.052
0.07	6.413	0.903
0.0733	6.477	0.967
0.0766	6.528	1.018
0.08	6.429	0.919
0.0833	6.331	0.821
0.0866	6.344	0.834
0.09	6.372	0.862

0.0933	6.318	0.808
0.0966	6.255	0.745
0.1	6.248	0.738
0.1033	6.261	0.751
0.1066	6.239	0.729
0.11	6.195	0.685
0.1133	6.182	0.672
0.1166	6.188	0.678
0.12	6.179	0.669
0.1233	6.153	0.643
0.1266	6.141	0.631
0.13	6.141	0.631
0.1333	6.137	0.627
0.1366	6.125	0.615
0.14	6.112	0.602
0.1433	6.109	0.599
0.1466	6.109	0.599
0.15	6.099	0.589
0.1533	6.09	0.58
0.1566	6.087	0.577
0.16	6.084	0.574
0.1633	6.08	0.57
0.1666	6.074	0.564
0.17	6.071	0.561
0.1733	6.068	0.558
0.1766	6.065	0.555
0.18	6.061	0.551
0.1833	6.058	0.548
0.1866	6.055	0.545
0.19	6.052	0.542
0.1933	6.049	0.539
0.1966	6.049	0.539
0.2	6.046	0.536
0.2033	6.042	0.532
0.2066	6.039	0.529
0.21	6.039	0.529
0.2133	6.036	0.526
0.2166	6.033	0.523
0.22	6.033	0.523
0.2233	6.03	0.52
0.2266	6.03	0.52
0.23	6.026	0.516
0.2333	6.026	0.516
0.2366	6.023	0.513
0.24	6.023	0.513
0.2433	6.023	0.513
0.2466	6.02	0.51
0.25	6.02	0.51
0.2533	6.017	0.507
0.2566	6.017	0.507
0.26	6.017	0.507

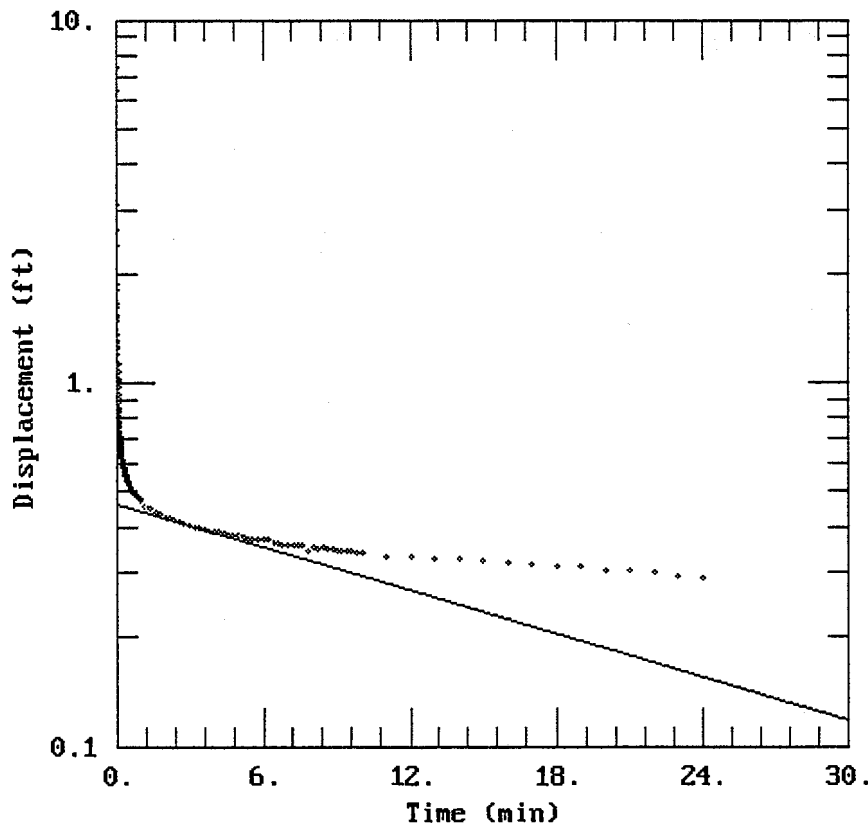


0.2633	6.014	0.504
0.2666	6.014	0.504
0.27	6.014	0.504
0.2733	6.011	0.501
0.2766	6.011	0.501
0.28	6.011	0.501
0.2833	6.007	0.497
0.2866	6.007	0.497
0.29	6.007	0.497
0.2933	6.007	0.497
0.2966	6.004	0.494
0.3	6.004	0.494
0.3033	6.004	0.494
0.3066	6.004	0.494
0.31	6.001	0.491
0.3133	6.001	0.491
0.3166	6.001	0.491
0.32	6.001	0.491
0.3233	6.001	0.491
0.3266	5.998	0.488
0.33	5.998	0.488
0.3333	5.998	0.488
0.35	5.995	0.485
0.3666	5.992	0.482
0.3833	5.988	0.478
0.4	5.985	0.475
0.4166	5.982	0.472
0.4333	5.979	0.469
0.45	5.976	0.466
0.4666	5.976	0.466
0.4833	5.973	0.463
0.5	5.969	0.459
0.5166	5.969	0.459
0.5333	5.966	0.456
0.55	5.963	0.453
0.5666	5.963	0.453
0.5833	5.96	0.45
0.6	5.96	0.45
0.6166	5.957	0.447
0.6333	5.957	0.447
0.65	5.954	0.444
0.6666	5.954	0.444
0.6833	5.954	0.444
0.7	5.95	0.44
0.7166	5.95	0.44
0.7333	5.95	0.44
0.75	5.947	0.437
0.7666	5.947	0.437
0.7833	5.947	0.437
0.8	5.944	0.434
0.8166	5.944	0.434

0.8333	5.944	0.434
0.85	5.944	0.434
0.8666	5.944	0.434
0.8833	5.944	0.434
0.9	5.941	0.431
0.9166	5.941	0.431
0.9333	5.938	0.428
0.95	5.938	0.428
0.9666	5.938	0.428
0.9833	5.935	0.425
1	5.935	0.425
1.2	5.922	0.412
1.4	5.915	0.405
1.6	5.906	0.396
1.8	5.906	0.396
2	5.903	0.393
2.2	5.903	0.393
2.4	5.893	0.383
2.6	5.887	0.377
2.8	5.89	0.38
3	5.887	0.377
3.2	5.884	0.374
3.4	5.884	0.374
3.6	5.881	0.371
3.8	5.877	0.367
4	5.877	0.367
4.2	5.877	0.367
4.4	5.874	0.364
4.6	5.871	0.361
4.8	5.874	0.364
5	5.874	0.364
5.2	5.871	0.361
5.4	5.865	0.355
5.6	5.865	0.355
5.8	5.858	0.348
6	5.858	0.348
6.2	5.862	0.352
6.4	5.862	0.352
6.6	5.852	0.342
6.8	5.855	0.345
7	5.852	0.342
7.2	5.855	0.345
7.4	5.858	0.348
7.6	5.855	0.345
7.8	5.855	0.345
8	5.852	0.342
8.2	5.852	0.342
8.4	5.852	0.342
8.6	5.852	0.342
8.8	5.849	0.339
9	5.852	0.342

9.2	5.852	0.342
9.4	5.852	0.342
9.6	5.849	0.339
9.8	5.846	0.336
10	5.846	0.336
11	5.843	0.333
12	5.843	0.333
13	5.836	0.326
14	5.839	0.329
15	5.83	0.32
16	5.83	0.32
17	5.83	0.32
18	5.827	0.317
19	5.82	0.31
20	5.814	0.304
21	5.817	0.307
22	5.814	0.304
23	5.811	0.301
24	5.814	0.304
25	5.811	0.301
26	5.811	0.301
27	5.798	0.288
28	5.804	0.294
29	5.804	0.294
30	5.801	0.291
31	5.798	0.288
32	5.795	0.285
33	5.795	0.285
34	5.792	0.282
35	5.785	0.275
36	5.785	0.275
37	5.785	0.275
38	5.779	0.269
39	5.779	0.269
40	5.776	0.266
41	5.779	0.269
42	5.779	0.269
43	5.782	0.272
44	5.776	0.266
45	5.776	0.266
46	5.77	0.26
47	5.763	0.253
48	5.76	0.25
49	5.766	0.256
50	5.763	0.253
51	5.763	0.253
52	5.766	0.256
53	5.757	0.247
54	5.76	0.25
55	5.76	0.25
56	5.757	0.247

# Cedarburg Bulk Plant MW-8



DATA SET:  
1966MW8.DAT  
02/05/96

AQUIFER MODEL:  
Unconfined  
SOLUTION METHOD:  
Bouwer-Rice

TEST DATA:  
H0 = 2.396 ft  
r<sub>c</sub> = 0.075 ft  
r<sub>w</sub> = 0.34 ft  
L = 10. ft  
b = 13.4 ft  
H = 8.4 ft

PARAMETER ESTIMATES:  
K = 0.0001894 ft/min  
y0 = 0.46 ft

1000

9 14 8 38

1831 6

1

0

5.7

0.03

10.12

0.11

50

0 9 13 13 40 18

1

0 14.137 8.437

0.0033 13.13 7.43

0.0066 12.07 6.37

0.01 5.171 -0.529

0.0133 6.356 0.656

0.0166 8.809 3.109

0.02 8.339 2.639

0.0233 6.644 0.944

0.0266 7.312 1.612

0.03 8.096 2.396

0.0333 7.511 1.811

0.0366 6.97 1.27

0.04 7.351 1.651

0.0433 7.565 1.865

0.0466 7.223 1.523

0.05 7.015 1.315

0.0533 7.175 1.475

0.0566 7.235 1.535

0.06 7.053 1.353

0.0633 6.941 1.241

0.0666 6.992 1.292

0.07 7.008 1.308

0.0733 6.909 1.209

0.0766 6.832 1.132

0.08 6.835 1.135

0.0833 6.835 1.135

0.0866 6.781 1.081

0.09 6.724 1.024

0.0933	6.711	1.011
0.0966	6.704	1.004
0.1	6.672	0.972
0.1033	6.634	0.934
0.1066	6.612	0.912
0.11	6.605	0.905
0.1133	6.586	0.886
0.1166	6.557	0.857
0.12	6.538	0.838
0.1233	6.528	0.828
0.1266	6.516	0.816
0.13	6.5	0.8
0.1333	6.484	0.784
0.1366	6.471	0.771
0.14	6.461	0.761
0.1433	6.452	0.752
0.1466	6.439	0.739
0.15	6.429	0.729
0.1533	6.423	0.723
0.1566	6.413	0.713
0.16	6.407	0.707
0.1633	6.4	0.7
0.1666	6.394	0.694
0.17	6.388	0.688
0.1733	6.381	0.681
0.1766	6.378	0.678
0.18	6.372	0.672
0.1833	6.368	0.668
0.1866	6.362	0.662
0.19	6.359	0.659
0.1933	6.356	0.656
0.1966	6.352	0.652
0.2	6.349	0.649
0.2033	6.346	0.646
0.2066	6.343	0.643
0.21	6.34	0.64
0.2133	6.336	0.636
0.2166	6.333	0.633
0.22	6.33	0.63
0.2233	6.33	0.63
0.2266	6.327	0.627
0.23	6.324	0.624
0.2333	6.32	0.62
0.2366	6.32	0.62
0.24	6.317	0.617
0.2433	6.314	0.614
0.2466	6.314	0.614
0.25	6.311	0.611
0.2533	6.311	0.611
0.2566	6.308	0.608
0.26	6.308	0.608

0.2633	6.304	0.604
0.2666	6.304	0.604
0.27	6.301	0.601
0.2733	6.301	0.601
0.2766	6.298	0.598
0.28	6.295	0.595
0.2833	6.295	0.595
0.2866	6.295	0.595
0.29	6.292	0.592
0.2933	6.288	0.588
0.2966	6.288	0.588
0.3	6.288	0.588
0.3033	6.285	0.585
0.3066	6.285	0.585
0.31	6.282	0.582
0.3133	6.282	0.582
0.3166	6.282	0.582
0.32	6.279	0.579
0.3233	6.279	0.579
0.3266	6.279	0.579
0.33	6.276	0.576
0.3333	6.276	0.576
0.35	6.269	0.569
0.3666	6.263	0.563
0.3833	6.256	0.556
0.4	6.253	0.553
0.4166	6.247	0.547
0.4333	6.244	0.544
0.45	6.244	0.544
0.4666	6.237	0.537
0.4833	6.234	0.534
0.5	6.231	0.531
0.5166	6.228	0.528
0.5333	6.224	0.524
0.55	6.221	0.521
0.5666	6.218	0.518
0.5833	6.215	0.515
0.6	6.212	0.512
0.6166	6.208	0.508
0.6333	6.208	0.508
0.65	6.205	0.505
0.6666	6.202	0.502
0.6833	6.202	0.502
0.7	6.199	0.499
0.7166	6.199	0.499
0.7333	6.196	0.496
0.75	6.196	0.496
0.7666	6.192	0.492
0.7833	6.192	0.492
0.8	6.189	0.489
0.8166	6.189	0.489

0.8333	6.186	0.486
0.85	6.186	0.486
0.8666	6.183	0.483
0.8833	6.183	0.483
0.9	6.18	0.48
0.9166	6.18	0.48
0.9333	6.18	0.48
0.95	6.176	0.476
0.9666	6.176	0.476
0.9833	6.173	0.473
1	6.173	0.473
1.2	6.157	0.457
1.4	6.148	0.448
1.6	6.138	0.438
1.8	6.132	0.432
2	6.125	0.425
2.2	6.122	0.422
2.4	6.116	0.416
2.6	6.112	0.412
2.8	6.106	0.406
3	6.103	0.403
3.2	6.1	0.4
3.4	6.096	0.396
3.6	6.093	0.393
3.8	6.09	0.39
4	6.087	0.387
4.2	6.087	0.387
4.4	6.084	0.384
4.6	6.08	0.38
4.8	6.08	0.38
5	6.077	0.377
5.2	6.074	0.374
5.4	6.071	0.371
5.6	6.071	0.371
5.8	6.071	0.371
6	6.068	0.368
6.2	6.068	0.368
6.4	6.061	0.361
6.6	6.061	0.361
6.8	6.058	0.358
7	6.058	0.358
7.2	6.058	0.358
7.4	6.055	0.355
7.6	6.055	0.355
7.8	6.045	0.345
8	6.052	0.352
8.2	6.048	0.348
8.4	6.052	0.352
8.6	6.048	0.348
8.8	6.048	0.348
9	6.045	0.345



9.2	6.042	0.342
9.4	6.042	0.342
9.6	6.042	0.342
9.8	6.039	0.339
10	6.039	0.339
11	6.032	0.332
12	6.032	0.332
13	6.026	0.326
14	6.026	0.326
15	6.023	0.323
16	6.02	0.32
17	6.016	0.316
18	6.01	0.31
19	6.01	0.31
20	6.004	0.304
21	6.004	0.304
22	6	0.3
23	5.994	0.294
24	5.991	0.291
25	5.994	0.294
26	5.997	0.297
27	5.988	0.288
28	5.984	0.284
29	5.981	0.281
30	5.981	0.281
31	5.981	0.281
32	5.978	0.278
33	5.975	0.275
34	5.975	0.275
35	5.968	0.268
36	5.972	0.272
37	5.968	0.268
38	5.965	0.265
39	5.965	0.265
40	5.959	0.259
41	5.959	0.259
42	5.956	0.256
43	5.959	0.259
44	5.959	0.259
45	5.952	0.252
46	5.956	0.256
47	5.956	0.256
48	5.956	0.256
49	5.949	0.249
50	5.943	0.243
51	5.946	0.246
52	5.943	0.243
53	5.943	0.243
54	5.943	0.243
55	5.943	0.243
56	5.943	0.243

57	5.94	0.24
58	5.94	0.24
59	5.94	0.24
60	5.933	0.233
61	5.933	0.233
62	5.936	0.236
63	5.936	0.236
64	5.93	0.23
65	5.93	0.23
66	5.924	0.224
67	5.927	0.227
68	5.927	0.227
69	5.92	0.22
70	5.924	0.224
71	5.927	0.227
72	5.924	0.224
73	5.927	0.227
74	5.924	0.224
75	5.924	0.224
76	5.924	0.224
77	5.92	0.22
78	5.92	0.22
79	5.92	0.22
80	5.914	0.214
81	5.92	0.22
82	5.917	0.217
83	5.917	0.217
84	5.914	0.214
85	5.911	0.211
86	5.908	0.208
87	5.917	0.217
88	5.911	0.211
89	5.914	0.214
90	5.911	0.211
91	5.914	0.214
92	5.911	0.211
93	5.911	0.211
94	5.901	0.201
95	5.901	0.201
96	5.904	0.204
97	5.904	0.204
98	5.904	0.204
99	5.901	0.201
100	5.901	0.201
101	5.908	0.208
102	5.901	0.201
103	5.901	0.201
104	5.901	0.201
105	5.898	0.198
106	5.898	0.198
107	5.898	0.198

108	5.898	0.198
109	5.898	0.198
110	5.898	0.198
111	5.898	0.198
112	5.901	0.201
113	5.895	0.195
114	5.895	0.195
115	5.895	0.195
116	5.895	0.195
117	5.895	0.195
118	5.895	0.195
119	5.895	0.195
120	5.895	0.195
121	5.892	0.192
122	5.888	0.188
123	5.888	0.188
124	5.892	0.192
125	5.892	0.192
126	5.888	0.188
127	5.888	0.188
128	5.892	0.192
129	5.885	0.185
130	5.888	0.188
131	5.888	0.188
132	5.888	0.188
133	5.888	0.188
134	5.888	0.188
135	5.879	0.179
136	5.888	0.188
137	5.885	0.185
138	5.885	0.185
139	5.885	0.185
140	5.885	0.185
141	5.882	0.182
142	5.885	0.185
143	5.882	0.182
144	5.879	0.179
145	5.882	0.182
146	5.882	0.182
147	5.885	0.185
148	5.882	0.182

**APPENDIX J**

**LABORATORY REPORTS - SOIL SAMPLES**



182

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>Stuart Gross</i>	Title/Work Station/Company <i>Hydrogeologist / Sigma Env.</i>	Telephone Number (include area code) <i>414-768-7141</i>
Property Owner <i>Condon Oil - Cedarburg</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Stuart Gross</i>	Date/Time <i>11-23-94 3:20</i>	Received By (Signature) <i>W. J. Burt</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for EN CHEM by (Signature)

LABORATORY USE ONLY

Temperature of temperature blank *ROT*

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.

Sample Condition				
no/Type of Containers	Cracked/broken	Inprop. Sealed	Good Cond.	Other Comments

Field ID Number	Date Collected	Time Collected	Sample Type	Device	Preserv. Type	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	no/Type of Containers	Cracked/broken	Inprop. Sealed	Good Cond.	Other Comments
B1	11-22-94	9:30 AM	Soil	S.S.	MEDIA/MIX	D.O	B1 4-6'	1,3,4,5						
B4		11:10 AM				1648	B4 4-6'	1,3,4,5,6						
METHANOL/B1						-	Blank	1						
B5/MW3		12:15 pm				0.0	B5/mw 3 6-8'	1,3,4,5						
B3/MW2		3:10 pm				0.0	B3/mw 2 4-6	1,3,4,5,6						
B2/MW1	11/23/94	8:00 AM				38.6	B2/mw 1 6-8'	1,3,4,5						
B7/MW4	11/23/94	10:32 AM				59.6	B7/mw 4 4-6'	1,3,4,5,6						

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

QTA# \_\_\_\_\_ En Chem Project# \_\_\_\_\_

ANALYSIS CODES

1. GRO	5. DRO	9. Free Liquids	13. BETX
2. PVOC	6. PAH	10. pH	14. Protocol D1-GRO
3. Lead	7. Flashpoint	11. TCLP-Benzene	15. Protocol D1-DRO
4. 8021	8. Percent Solids	12. TCLP-Lead	16. 8260

BILLING ADDRESS: *Send To Condon Oil - Cedarburg Bulk Plant  
c/o Sigma Env. for approval*

Job Name/Number: *Condon Cedarburg - 1966*

Job Description: \_\_\_\_\_



2 of 2

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>Stuart Gross</i>	Title/Work Station/Company <i>Hydrogeologist / SIGMA ENV</i>	Telephone Number (include area code) <i>414-284-6824</i>
Property Owner <i>CONDON OIL-CEDARBURG</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Stuart Gross</i>	Date/Time <i>11-23-94 3:30pm</i>	Received By (Signature) <i>William Butler</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for EN CHEM by (Signature)

LABORATORY USE ONLY

Temperature of temperature blank *ROF*

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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Sample Condition					
			Type	Device					Lab ID Number	no/Type of Containers	Cracked /broken	Improp. Sealed	Good Cond.	Other Comments
<i>B6</i>	<i>11-23-94</i>	<i>12:10pm</i>	<i>Soil</i>	<i>S.S.</i>	<i>MEOH/Water</i>	<i>16.1</i>	<i>B6 4-6'</i>	<i>1,3,4,5</i>						
<i>B8</i>	<i>11-23-94</i>	<i>12:55</i>	<i>Soil</i>	<i>S.S.</i>	<i>MEOH/Water</i>	<i>377</i>	<i>B8 2-4'</i>	<i>1,3,4,5,6</i>						

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

- ANALYSIS CODES
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

QTA# \_\_\_\_\_ En Chem Project# \_\_\_\_\_

BILLING ADDRESS: *SEND TO CONDON OIL CEDARBURG*  
*At Sigma ENV. TO APPROVE*

Job Name/Number: \_\_\_\_\_  
Job Description: \_\_\_\_\_



1/2

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>Stuart Gross</i>	Title/Work Station/Company <i>Hydrogeologist / SIGMA ENV.</i>	Telephone Number (include area code) <i>414-768-7144</i>
Property Owner <i>Condon Oil - Cedarburg</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Stuart Gross</i>	Date/Time <i>11-23-94 3:20</i>	Received By (Signature) <i>W. Plunkert</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature) <i>W. Plunkert</i>	Date/Time <i>11/23/94 4:50 pm</i>	Received for EN CHEM, by (Signature) <i>Julie Jones</i>

LABORATORY USE ONLY  
Temperature of temperature blank *ROJ*  
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 Type	Device	Preserv. Type	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition				
										no/Type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments
B1	11-22-94	9:30 AM	Soil	S.S.	MEDIA/NOX	0.0	B1 4-6'	1,3,4,5	129052	2-402 0-202				
B4		11:00 AM				1648	B4 4-6'	1,3,4,5,6	129053	1-302 0-402 0-202				
METHANOL/B1							Blank	1	129054	2-402 0-202	1-202			
B5/MW3		12:15 pm				0.0	B5/MW3 6-8'	1,3,4,5	129055	2-402 0-202	0-402 0-202			
B3/MW2		3:10 pm				0.0	B3/MW-2 4-6	1,3,4,5,6	129056	1-802 0-402 0-202				
B2/MW1	11/23/94	8:00 AM				38.6	B2/MW1 6-8'	1,3,4,5	129057	2-402 0-202				
B7/MW4	11/23/94	10:32 AM				57.6	B7/MW4 4-6'	1,3,4,5,6	129058	1-802 0-402 0-202				

FOOTNOTES 1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

- ANALYSIS CODES
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

QTA# \_\_\_\_\_ En Chem Project# 9411392

BILLING ADDRESS: SEND TO CONDON OIL - CEDARBURG BULK PLANT  
90 SIGMA ENV. FOR APPROVAL

Job Name/Number: Condon CEDARBURG - 1966

Job Description: \_\_\_\_\_



State of Wisconsin  
Department of Natural Resources

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Based on Form 4400-151 Rev. 4-93

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis.Adm.Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>Stuart Gross</i>	Title/Work Station/Company <i>Hydrogeologist / SIGMA ENV</i>	Telephone Number (include area code) <i>414-284-6824</i>
Property Owner <i>CONDON OIL - CEDARBURG</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Stuart Gross</i>	Date/Time <i>11-23-94 3:30 PM</i>	Received By (Signature) <i>Wynne Butler</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature) <i>Wynne Butler</i>	Date/Time <i>11/23/94 4:54 PM</i>	Received for EN CHEM by (Signature) <i>Julie Jone</i>

LABORATORY USE ONLY

Temperature of temperature blank *RT*

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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition					
			Type 1	Device						no/Type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments	
B6	11-23-94	12:10 PM	Soil	SS.	<i>None</i>	16.1	B6 4-6'	1,3,4,5	129059	2-402 2-202				A	
B8	11-23-94	12:55	Soil	S.S.	<i>None</i>	377	B8 2-4'	1,3,4,5,6	129060	1-302 2-402 2-202				L	

FOOTNOTES 1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

- ANALYSIS CODES
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

QTA# \_\_\_\_\_ En Chem Project# *9411392*

BILLING ADDRESS: *SEND TO CONDON OIL - CEDARBURG  
c/o SIGMA ENV. TO APPROVE*

Job Name/Number: \_\_\_\_\_  
Job Description: \_\_\_\_\_





...chemistry for the environment

1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
En Chem Proj# : 9411392  
Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC

Thank you for using En Chem! Samples were analyzed according to strict EPA or Wisconsin DNR methodology. Any comments or problems associated with the receipt of or analysis are reported below:

Methylene Chloride is present in lab or trip blank. All sample concentrations of Methylene Chloride should be viewed as suspect.

Sample no. 129053: Elevated detection limits reported for VOC analysis due to the presence of heavy fuel. Front peaks outside of DRO window, indicating lighter fuels are present. Majority of the peaks were within the DRO window. Chromatogram has a typical gasoline pattern. Some peaks were outside of GRO window. Baseline shift in fluorescence detector caused elevated detection limits for later eluting PAH compounds.

Sample no. 129055: Complex chromatogram on VOC analysis with many late eluting peaks. This is indicative of DRO fuel contamination, heavy oils, or of weathered gasoline. Front peaks outside of DRO window, indicating lighter fuels are present. Majority of the peaks were within the DRO window. Chromatogram has a typical gasoline pattern. Some peaks were outside of GRO window. Diesel also appears to be present.

Sample no. 129056: Fuel hump late in and beyond DRO window, with some baseline rise.

Sample no. 129057: Front peaks outside of DRO window, indicating lighter fuels are present. Complex chromatogram for VOC analysis indicating the presence of fuel.

Sample no. 129058: Elevated detection limits reported for VOC analysis due to the presence of heavy fuel. GRO chromatogram had late eluting peaks outside of GRO window. This is indicative of DRO or heavier fuels or extremely weathered gas. Fuel hump with complex peak structure was present in the middle of the PAH window.





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Sample no. 129059: Complex chromatogram for VOC analysis indicating the presence of fuel. Chromatogram has a typical gasoline pattern. Some peaks were outside of GRO window.

Sample no. 129060: Elevated detection limits reported for VOC analysis due to the presence of heavy fuel. Chromatogram has peaks present that were not on the 8260 list. GRO chromatogram had late eluting peaks outside of GRO window. This is indicative of DRO or heavier fuels or extremely weathered gas. Baseline shift in fluorescence detector caused elevated detection limits for later eluting PAH compounds. Front peaks outside of DRO window, indicating lighter fuels are present. Majority of the peaks were within the DRO window.





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B1  
 Sample Desc. : B1 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129052  
 Date Collected: 11/22/1994  
 Date Received : 11/23/1994  
 Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	87	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	6.5	mg/kg	3.7	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
GRO-S	Gasoline Range Organics(GRO)-Soil	ND	mg/kg	2.9		12/01/1994	WDNR MOD GRO	12/02/1994	PMS
	Blank spike	106	% recov						
	Blank spike duplicate	97	% recov						
	Soil spike	86	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	ND	mg/kg	4.6		11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Blank spike	93	% recov						
	Blank spike duplicate	99	% recov						
	Soil spike	88	% recov						
B260+-S	Benzene	ND	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Bromobenzene	ND	ug/kg	1.1					
	Bromochloromethane	ND	ug/kg	1.1					
	Bromodichloromethane	ND	ug/kg	1.1					
	Bromoform	ND	ug/kg	1.1					
	Bromomethane	ND	ug/kg	1.1					
	n-Butylbenzene	ND	ug/kg	1.1					
	sec-Butylbenzene	ND	ug/kg	1.1					
	tert-Butylbenzene	ND	ug/kg	1.1					
	Carbon tetrachloride	ND	ug/kg	1.1					
	Chlorobenzene	ND	ug/kg	1.1					
	Chlorodibromomethane	ND	ug/kg	1.1					
	Chloroethane	ND	ug/kg	2.3					
	Chloroform	ND	ug/kg	1.1					
	Chloromethane	ND	ug/kg	1.1					
	2-Chlorotoluene	ND	ug/kg	1.1					





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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B1  
 Sample Desc. : B1 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129052  
 Date Collected: 11/22/1994  
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Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
3260+-S	4-Chlorotoluene	ND	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	1,2-Dibromo-3-chloropropane	ND	ug/kg	4.5					
	1,2-Dibromoethane	ND	ug/kg	1.1					
	Dibromomethane	ND	ug/kg	1.1					
	1,2-Dichlorobenzene	ND	ug/kg	1.1					
	1,3-Dichlorobenzene	ND	ug/kg	1.1					
	1,4-Dichlorobenzene	ND	ug/kg	1.1					
	Dichlorodifluoromethane	ND	ug/kg	1.1					
	1,1-Dichloroethane	ND	ug/kg	1.1					
	1,2-Dichloroethane	ND	ug/kg	1.1					
	1,1-Dichloroethene	ND	ug/kg	1.1					
	cis-1,2-Dichloroethene	ND	ug/kg	1.1					
	trans-1,2-Dichloroethene	ND	ug/kg	1.1					
	1,2-Dichloropropane	ND	ug/kg	1.1					
	1,3-Dichloropropane	ND	ug/kg	1.1					
	2,2-Dichloropropane	ND	ug/kg	2.3					
	1,1-Dichloropropene	ND	ug/kg	1.1					
	Di-isopropyl ether	ND	ug/kg	2.3					
	Ethyl Benzene	ND	ug/kg	1.1					
	Hexachlorobutadiene	ND	ug/kg	1.1					
	Isopropylbenzene	ND	ug/kg	1.1					
	p-Isopropyltoluene	ND	ug/kg	1.1					
	Methylene chloride	6.2	ug/kg	1.1					
	Methyl-tert-butyl-ether	ND	ug/kg	1.1					
	Naphthalene	ND	ug/kg	1.1					
	n-Propylbenzene	ND	ug/kg	1.1					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	1.1					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	1.1					
	Styrene	ND	ug/kg	1.1					
	Tetrachloroethene	ND	ug/kg	1.1					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B1  
Sample Desc. : B1 4-6'  
Sample Matrix : SOIL  
En Chem Proj# : 9411392  
En Chem Lab # : 129052  
Date Collected: 11/22/1994  
Date Received : 11/23/1994  
Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S	Toluene	2.2	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	1,2,3-Trichlorobenzene	ND	ug/kg	1.1					
	1,2,4-Trichlorobenzene	ND	ug/kg	1.1					
	1,1,1-Trichloroethane	ND	ug/kg	1.1					
	1,1,2-Trichloroethane	ND	ug/kg	1.1					
	Trichloroethene	ND	ug/kg	1.1					
	Trichlorofluoromethane	ND	ug/kg	1.1					
	1,2,3-Trichloropropane	ND	ug/kg	1.1					
	1,2,4-Trimethylbenzene	ND	ug/kg	1.1					
	1,3,5-Trimethylbenzene	ND	ug/kg	1.1					
	Vinyl chloride	ND	ug/kg	1.1					
	Xylenes, m + p	2.3	ug/kg	1.1					
	Xylene, o	ND	ug/kg	1.1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Robert Melly*





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B4  
 Sample Desc. : B4 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129053  
 Date Collected: 11/22/1994  
 Date Received : 11/23/1994  
 Date Reported : 12/07/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	90	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	5.6	mg/kg	3.6	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
PAH-S	Acenaphthene	ND	ug/kg	56	SW846 3510	12/05/1994	SW846 8310	12/06/1994	NJS
	Acenaphthylene	ND	ug/kg	110					
	Anthracene	ND	ug/kg	8.9					
	Benzo (a) anthracene	ND	ug/kg	11					
	Benzo (a) pyrene	ND	ug/kg	8.9					
	Benzo (b) fluoranthene	ND	ug/kg	8.9					
	Benzo (ghi) perylene	ND	ug/kg	13					
	Benzo (k) fluoranthene	ND	ug/kg	8.9					
	Chrysene	ND	ug/kg	11					
	Dibenzo (a,h) anthracene	ND	ug/kg	8.9					
	Fluoranthene	ND	ug/kg	8.9					
	Fluorene	16	ug/kg	11					
	Indeno (1,2,3-cd) pyrene	ND	ug/kg	8.9					
	1-Methylnaphthalene	210	ug/kg	56					
	2-Methylnaphthalene	98	ug/kg	56					
	Naphthalene	110	ug/kg	56					
	Phenanthrene	ND	ug/kg	45					
	Pyrene	ND	ug/kg	45					
GRO-S	Gasoline Range Organics(GRO)-Soil	1100	mg/kg	28		12/01/1994	WDNR MOD GRO	12/02/1994	PMS
	Blank spike	106	% recov						
	Blank spike duplicate	97	% recov						
	Soil spike	86	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	900	mg/kg	37		11/23/1994	WDNR MOD DRO	12/05/1994	NJS
	Blank spike	93	% recov						





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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B4  
 Sample Desc. : B4 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129053  
 Date Collected: 11/22/1994  
 Date Received : 11/23/1994  
 Date Reported : 12/07/1994

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 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
DRO-S	Blank spike duplicate	99 %	recov			11/23/1994	WDNR MOD DRO	12/05/1994	NJS
	Soil spike	88 %	recov						
B260+-S	Benzene	ND	ug/kg	140	SW846 5030	12/02/1994	SW846 8260	12/02/1994	HW
	Bromobenzene	ND	ug/kg	140					
	Bromochloromethane	ND	ug/kg	140					
	Bromodichloromethane	ND	ug/kg	140					
	Bromoform	ND	ug/kg	140					
	Bromomethane	ND	ug/kg	140					
	n-Butylbenzene	880	ug/kg	140					
	sec-Butylbenzene	350	ug/kg	140					
	tert-Butylbenzene	ND	ug/kg	140					
	Carbon tetrachloride	ND	ug/kg	140					
	Chlorobenzene	ND	ug/kg	140					
	Chlorodibromomethane	ND	ug/kg	140					
	Chloroethane	ND	ug/kg	280					
	Chloroform	ND	ug/kg	140					
	Chloromethane	ND	ug/kg	140					
	2-Chlorotoluene	ND	ug/kg	140					
	4-Chlorotoluene	ND	ug/kg	140					
	1,2-Dibromo-3-chloropropane	ND	ug/kg	560					
	1,2-Dibromoethane	ND	ug/kg	140					
	Dibromomethane	ND	ug/kg	140					
	1,2-Dichlorobenzene	ND	ug/kg	140					
	1,3-Dichlorobenzene	ND	ug/kg	140					
	1,4-Dichlorobenzene	ND	ug/kg	140					
	Dichlorodifluoromethane	ND	ug/kg	140					
	1,1-Dichloroethane	ND	ug/kg	140					
	1,2-Dichloroethane	ND	ug/kg	140					
	1,1-Dichloroethene	ND	ug/kg	140					





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: 84  
 Sample Desc. : 84 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129053

Date Collected: 11/22/1994  
 Date Received : 11/23/1994  
 Date Reported : 12/07/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
8260+-S	cis-1,2-Dichloroethene	ND	ug/kg	140	SW846 5030	12/02/1994	SW846 8260	12/02/1994	HW
	trans-1,2-Dichloroethene	ND	ug/kg	140					
	1,2-Dichloropropane	ND	ug/kg	140					
	1,3-Dichloropropane	ND	ug/kg	140					
	2,2-Dichloropropane	ND	ug/kg	280					
	1,1-Dichloropropene	ND	ug/kg	140					
	Di-isopropyl ether	ND	ug/kg	280					
	Ethyl Benzene	1500	ug/kg	140					
	Hexachlorobutadiene	ND	ug/kg	140					
	Isopropylbenzene	370	ug/kg	140					
	p-Isopropyltoluene	1300	ug/kg	140					
	Methylene chloride	ND	ug/kg	140					
	Methyl-tert-butyl-ether	ND	ug/kg	140					
	Naphthalene	920	ug/kg	140					
	n-Propylbenzene	440	ug/kg	140					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	140					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	140					
	Styrene	ND	ug/kg	140					
	Tetrachloroethene	ND	ug/kg	140					
	Toluene	260	ug/kg	140					
	1,2,3-Trichlorobenzene	ND	ug/kg	140					
	1,2,4-Trichlorobenzene	ND	ug/kg	140					
	1,1,1-Trichloroethane	ND	ug/kg	140					
	1,1,2-Trichloroethane	ND	ug/kg	140					
	Trichloroethene	ND	ug/kg	140					
	Trichlorofluoromethane	ND	ug/kg	140					
	1,2,3-Trichloropropane	ND	ug/kg	140					
	1,2,4-Trimethylbenzene	5300	ug/kg	140					
	1,3,5-Trimethylbenzene	2000	ug/kg	140					
	Vinyl chloride	ND	ug/kg	140					







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Your Sample ID: B4  
Sample Desc. : B4 4-6'  
Sample Matrix : SOIL  
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En Chem Lab # : 129053

Date Collected: 11/22/1994  
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220 EAST RYAN ROAD  
OAK CREEK, WI 53154

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+-S	Xylenes, m + p	6300	ug/kg	140	SW846 5030	12/02/1994	SW846 8260	12/02/1994	HW
	Xylene, o	1100	ug/kg	140					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Neil C. Melberg*





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1795 Industrial Drive  
Green Bay, WI 54302  
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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: METHANOL BL  
Sample Desc. : BLANK  
Sample Matrix : METHANOL Date Collected: 11/22/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129054 Date Reported : 12/05/1994

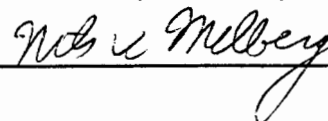
Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
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OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
GRO	Gasoline Range Organics(GRO)-Water	ND	ug/l	2500		12/01/1994	WDNR MOD GRO	12/02/1994	PMS
	Blank spike	106	% recov						
	Blank spike duplicate	97	% recov						

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These results have been reviewed and their authenticity verified by:

  
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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B5/MW3  
 Sample Desc. : B5/MW3 6-8'  
 Sample Matrix : SOIL Date Collected: 11/22/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129055 Date Reported : 12/06/1994

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 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	88	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	6.3	mg/kg	3.6	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
GRO-S	Gasoline Range Organics(GRO)-Soil	330	mg/kg	14		12/01/1994	WDNR MOD GRO	12/02/1994	PMS
	Blank spike	106	% recov						
	Blank spike duplicate	97	% recov						
	Soil spike	86	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	1100	mg/kg	41		11/23/1994	WDNR MOD DRO	12/05/1994	NJS
	Blank spike	93	% recov						
	Blank spike duplicate	99	% recov						
	Soil spike	88	% recov						
B260+-S	Benzene	ND	ug/kg	5.3	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Bromobenzene	ND	ug/kg	5.3					
	Bromochloromethane	ND	ug/kg	5.3					
	Bromodichloromethane	ND	ug/kg	5.3					
	Bromoform	ND	ug/kg	5.3					
	Bromomethane	ND	ug/kg	5.3					
	n-Butylbenzene	120	ug/kg	5.3					
	sec-Butylbenzene	51	ug/kg	5.3					
	tert-Butylbenzene	ND	ug/kg	5.3					
	Carbon tetrachloride	ND	ug/kg	5.3					
	Chlorobenzene	ND	ug/kg	5.3					
	Chlorodibromomethane	ND	ug/kg	5.3					
	Chloroethane	ND	ug/kg	11					
	Chloroform	ND	ug/kg	5.3					
	Chloromethane	ND	ug/kg	5.3					
	2-Chlorotoluene	ND	ug/kg	5.3					





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: 85/MW3  
 Sample Desc. : 85/MW3 6-8'  
 Sample Matrix : SOIL Date Collected: 11/22/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129055 Date Reported : 12/06/1994

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 OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+-S	4-Chlorotoluene	ND	ug/kg	5.3	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	1,2-Dibromo-3-chloropropane	ND	ug/kg	21					
	1,2-Dibromoethane	ND	ug/kg	5.3					
	Dibromomethane	ND	ug/kg	5.3					
	1,2-Dichlorobenzene	ND	ug/kg	5.3					
	1,3-Dichlorobenzene	ND	ug/kg	5.3					
	1,4-Dichlorobenzene	ND	ug/kg	5.3					
	Dichlorodifluoromethane	ND	ug/kg	5.3					
	1,1-Dichloroethane	ND	ug/kg	5.3					
	1,2-Dichloroethane	ND	ug/kg	5.3					
	1,1-Dichloroethene	ND	ug/kg	5.3					
	cis-1,2-Dichloroethene	ND	ug/kg	5.3					
	trans-1,2-Dichloroethene	ND	ug/kg	5.3					
	1,2-Dichloropropane	ND	ug/kg	5.3					
	1,3-Dichloropropane	ND	ug/kg	5.3					
	2,2-Dichloropropane	ND	ug/kg	11					
	1,1-Dichloropropene	ND	ug/kg	5.3					
	Di-isopropyl ether	ND	ug/kg	11					
	Ethyl Benzene	98	ug/kg	5.3					
	Hexachlorobutadiene	ND	ug/kg	5.3					
	Isopropylbenzene	31	ug/kg	5.3					
	p-Isopropyltoluene	ND	ug/kg	5.3					
	Methylene chloride	ND	ug/kg	5.3					
	Methyl-tert-butyl-ether	ND	ug/kg	5.3					
	Naphthalene	400	ug/kg	5.3					
	n-Propylbenzene	120	ug/kg	5.3					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	5.3					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	5.3					
	Styrene	ND	ug/kg	5.3					
	Tetrachloroethene	ND	ug/kg	5.3					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B5/MW3  
Sample Desc. : B5/MW3 6-8'  
Sample Matrix : SOIL Date Collected: 11/22/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129055 Date Reported : 12/06/1994


Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
B260+-S	Toluene	ND	ug/kg	5.3	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	1,2,3-Trichlorobenzene	ND	ug/kg	5.3					
	1,2,4-Trichlorobenzene	ND	ug/kg	5.3					
	1,1,1-Trichloroethane	ND	ug/kg	5.3					
	1,1,2-Trichloroethane	ND	ug/kg	5.3					
	Trichloroethene	ND	ug/kg	5.3					
	Trichlorofluoromethane	ND	ug/kg	5.3					
	1,2,3-Trichloropropane	ND	ug/kg	5.3					
	1,2,4-Trimethylbenzene	1200	ug/kg	5.3					
	1,3,5-Trimethylbenzene	440	ug/kg	5.3					
	Vinyl chloride	ND	ug/kg	5.3					
	Xylenes, m + p	510	ug/kg	5.3					
	Xylene, o	8.6	ug/kg	5.3					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B3/MW2  
 Sample Desc. : B3/MW-2 4-6  
 Sample Matrix : SOIL Date Collected: 11/22/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129056 Date Reported : 12/06/1994

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Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
TOTSOLID	Total Solids	90	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	5.5	mg/kg	3.6	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
PAH-S	Acenaphthene	ND	ug/kg	19	SW846 3510	12/05/1994	SW846 8310	12/05/1994	NJS
	Acenaphthylene	ND	ug/kg	37					
	Anthracene	ND	ug/kg	0.7					
	Benzo (a) anthracene	ND	ug/kg	0.9					
	Benzo (a) pyrene	ND	ug/kg	0.7					
	Benzo (b) fluoranthene	ND	ug/kg	0.7					
	Benzo (ghi) perylene	ND	ug/kg	1.1					
	Benzo (k) fluoranthene	ND	ug/kg	0.7					
	Chrysene	ND	ug/kg	0.9					
	Dibenzo (a,h) anthracene	ND	ug/kg	0.7					
	Fluoranthene	ND	ug/kg	0.7					
	Fluorene	ND	ug/kg	3.7					
	Indeno (1,2,3-cd) pyrene	ND	ug/kg	0.7					
	1-Methylnaphthalene	ND	ug/kg	19					
	2-Methylnaphthalene	ND	ug/kg	19					
	Naphthalene	ND	ug/kg	19					
	Phenanthrene	ND	ug/kg	3.7					
	Pyrene	ND	ug/kg	3.7					
GRO-S	Gasoline Range Organics(GRO)-Soil	ND	mg/kg	2.8		12/01/1994	WDNR MOD GRO	12/01/1994	PMS
	Blank spike	101	% recov						
	Blank spike duplicate	102	% recov						
	Soil spike	102	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	11	mg/kg	4.4		11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Blank spike	93	% recov						





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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B3/MW2  
 Sample Desc. : B3/MW-2 4-6  
 Sample Matrix : SOIL Date Collected: 11/22/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129056 Date Reported : 12/06/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
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Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
DRO-S	Blank spike duplicate	99 %	recov			11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Soil spike	88 %	recov						
8260+-S	Benzene	ND	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Bromobenzene	ND	ug/kg	1.1					
	Bromochloromethane	ND	ug/kg	1.1					
	Bromodichloromethane	ND	ug/kg	1.1					
	Bromoform	ND	ug/kg	1.1					
	Bromomethane	ND	ug/kg	1.1					
	n-Butylbenzene	ND	ug/kg	1.1					
	sec-Butylbenzene	ND	ug/kg	1.1					
	tert-Butylbenzene	ND	ug/kg	1.1					
	Carbon tetrachloride	ND	ug/kg	1.1					
	Chlorobenzene	ND	ug/kg	1.1					
	Chlorodibromomethane	ND	ug/kg	1.1					
	Chloroethane	ND	ug/kg	2.2					
	Chloroform	ND	ug/kg	1.1					
	Chloromethane	ND	ug/kg	1.1					
	2-Chlorotoluene	ND	ug/kg	1.1					
	4-Chlorotoluene	ND	ug/kg	1.1					
	1,2-Dibromo-3-chloropropane	ND	ug/kg	4.5					
	1,2-Dibromoethane	ND	ug/kg	1.1					
	Dibromomethane	ND	ug/kg	1.1					
	1,2-Dichlorobenzene	ND	ug/kg	1.1					
	1,3-Dichlorobenzene	ND	ug/kg	1.1					
	1,4-Dichlorobenzene	ND	ug/kg	1.1					
	Dichlorodifluoromethane	ND	ug/kg	1.1					
	1,1-Dichloroethane	ND	ug/kg	1.1					
	1,2-Dichloroethane	ND	ug/kg	1.1					
	1,1-Dichloroethene	ND	ug/kg	1.1					





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 Your Sample ID: B3/MW2  
 Sample Desc. : B3/MW-2 4-6  
 Sample Matrix : SOIL Date Collected: 11/22/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129056 Date Reported : 12/06/1994

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Bill to: CONDON OIL-CEDARBURG BULK PLANT

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
8260+-S	cis-1,2-Dichloroethene	ND	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	trans-1,2-Dichloroethene	ND	ug/kg	1.1					
	1,2-Dichloropropane	ND	ug/kg	1.1					
	1,3-Dichloropropane	ND	ug/kg	1.1					
	2,2-Dichloropropane	ND	ug/kg	2.2					
	1,1-Dichloropropene	ND	ug/kg	1.1					
	Di-isopropyl ether	ND	ug/kg	2.2					
	Ethyl Benzene	ND	ug/kg	1.1					
	Hexachlorobutadiene	ND	ug/kg	1.1					
	Isopropylbenzene	ND	ug/kg	1.1					
	p-Isopropyltoluene	ND	ug/kg	1.1					
	Methylene chloride	5.0	ug/kg	1.1					
	Methyl-tert-butyl-ether	ND	ug/kg	1.1					
	Naphthalene	ND	ug/kg	1.1					
	n-Propylbenzene	ND	ug/kg	1.1					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	1.1					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	1.1					
	Styrene	ND	ug/kg	1.1					
	Tetrachloroethene	ND	ug/kg	1.1					
	Toluene	ND	ug/kg	1.1					
	1,2,3-Trichlorobenzene	ND	ug/kg	1.1					
	1,2,4-Trichlorobenzene	ND	ug/kg	1.1					
	1,1,1-Trichloroethane	ND	ug/kg	1.1					
	1,1,2-Trichloroethane	ND	ug/kg	1.1					
	Trichloroethene	ND	ug/kg	1.1					
	Trichlorofluoromethane	ND	ug/kg	1.1					
	1,2,3-Trichloropropane	ND	ug/kg	1.1					
	1,2,4-Trimethylbenzene	ND	ug/kg	1.1					
	1,3,5-Trimethylbenzene	ND	ug/kg	1.1					
	Vinyl chloride	ND	ug/kg	1.1					







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Your Sample ID: B3/MW2  
Sample Desc. : B3/MW-2 4-6  
Sample Matrix : SOIL Date Collected: 11/22/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129056 Date Reported : 12/06/1994

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
B260+-S	Xylenes, m + p	ND	ug/kg	1.1	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Xylene, o	ND	ug/kg	1.1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B2/MW1  
 Sample Desc. : B2/MW1 6-8'  
 Sample Matrix : SOIL Date Collected: 11/23/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129057 Date Reported : 12/06/1994

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	86	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	8.5	mg/kg	3.8	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
GRO-S	Gasoline Range Organics(GRO)-Soil	41	mg/kg	2.9		12/01/1994	WDNR MOD GRO	12/05/1994	PMS
	Blank spike	95	% recov						
	Blank spike duplicate	96	% recov						
	Soil spike	106	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	ND	mg/kg	4.2		11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Blank spike	93	% recov						
	Blank spike duplicate	99	% recov						
	Soil spike	88	% recov						
8260+-S	Benzene	ND	ug/kg	5.4	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	Bromobenzene	ND	ug/kg	5.4					
	Bromochloromethane	ND	ug/kg	5.4					
	Bromodichloromethane	ND	ug/kg	5.4					
	Bromoform	ND	ug/kg	5.4					
	Bromomethane	ND	ug/kg	5.4					
	n-Butylbenzene	ND	ug/kg	5.4					
	sec-Butylbenzene	60	ug/kg	5.4					
	tert-Butylbenzene	ND	ug/kg	5.4					
	Carbon tetrachloride	ND	ug/kg	5.4					
	Chlorobenzene	ND	ug/kg	5.4					
	Chlorodibromomethane	ND	ug/kg	5.4					
	Chloroethane	ND	ug/kg	11					
	Chloroform	ND	ug/kg	5.4					
	Chloromethane	ND	ug/kg	5.4					
	2-Chlorotoluene	ND	ug/kg	5.4					





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 Your Sample ID: B2/MW1  
 Sample Desc. : B2/MW1 6-8'  
 Sample Matrix : SOIL Date Collected: 11/23/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129057 Date Reported : 12/06/1994

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
-8260+-S	4-Chlorotoluene	ND	ug/kg	5.4	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	1,2-Dibromo-3-chloropropane	ND	ug/kg	22					
	1,2-Dibromoethane	ND	ug/kg	5.4					
	Dibromomethane	ND	ug/kg	5.4					
	1,2-Dichlorobenzene	ND	ug/kg	5.4					
	1,3-Dichlorobenzene	ND	ug/kg	5.4					
	1,4-Dichlorobenzene	ND	ug/kg	5.4					
	Dichlorodifluoromethane	ND	ug/kg	5.4					
	1,1-Dichloroethane	ND	ug/kg	5.4					
	1,2-Dichloroethane	ND	ug/kg	5.4					
	1,1-Dichloroethene	ND	ug/kg	5.4					
	cis-1,2-Dichloroethene	ND	ug/kg	5.4					
	trans-1,2-Dichloroethene	ND	ug/kg	5.4					
	1,2-Dichloropropane	ND	ug/kg	5.4					
	1,3-Dichloropropane	ND	ug/kg	5.4					
	2,2-Dichloropropane	ND	ug/kg	11					
	1,1-Dichloropropene	ND	ug/kg	5.4					
	Di-isopropyl ether	ND	ug/kg	11					
	Ethyl Benzene	58	ug/kg	5.4					
	Hexachlorobutadiene	ND	ug/kg	5.4					
	Isopropylbenzene	83	ug/kg	5.4					
	p-Isopropyltoluene	85	ug/kg	5.4					
	Methylene chloride	ND	ug/kg	5.4					
	Methyl-tert-butyl-ether	ND	ug/kg	5.4					
	Naphthalene	32	ug/kg	5.4					
	n-Propylbenzene	160	ug/kg	5.4					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	5.4					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	5.4					
	Styrene	ND	ug/kg	5.4					
	Tetrachloroethene	ND	ug/kg	5.4					





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Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B2/MW1  
Sample Desc. : B2/MW1 6-8'  
Sample Matrix : SOIL Date Collected: 11/23/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129057 Date Reported : 12/06/1994

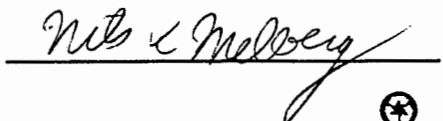
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Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
B260+-S	Toluene	ND	ug/kg	5.4	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	1,2,3-Trichlorobenzene	ND	ug/kg	5.4					
	1,2,4-Trichlorobenzene	ND	ug/kg	5.4					
	1,1,1-Trichloroethane	ND	ug/kg	5.4					
	1,1,2-Trichloroethane	ND	ug/kg	5.4					
	Trichloroethene	ND	ug/kg	5.4					
	Trichlorofluoromethane	ND	ug/kg	5.4					
	1,2,3-Trichloropropane	ND	ug/kg	5.4					
	1,2,4-Trimethylbenzene	47	ug/kg	5.4					
	1,3,5-Trimethylbenzene	300	ug/kg	5.4					
	Vinyl chloride	ND	ug/kg	5.4					
	Xylenes, m + p	38	ug/kg	5.4					
	Xylene, o	ND	ug/kg	5.4					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

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 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B7/MW4  
 Sample Desc. : B7/MW4 4-6'  
 Sample Matrix : SOIL Date Collected: 11/23/1994  
 En Chem Proj# : 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129058 Date Reported : 12/06/1994

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
☐OTSOLID	Total Solids	88	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	5.1	mg/kg	3.6	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
☐AH-S	Acenaphthene	ND	ug/kg	19	SW846 3510	12/05/1994	SW846 8310	12/05/1994	NJS
	Acenaphthylene	ND	ug/kg	38					
	Anthracene	2.1	ug/kg	0.8					
	Benzo (a) anthracene	ND	ug/kg	0.9					
	Benzo (a) pyrene	ND	ug/kg	0.8					
	Benzo (b) fluoranthene	ND	ug/kg	0.8					
	Benzo (ghi) perylene	ND	ug/kg	1.1					
	Benzo (k) fluoranthene	ND	ug/kg	0.8					
	Chrysene	5.1	ug/kg	0.9					
	Dibenzo (a,h) anthracene	ND	ug/kg	0.8					
	Fluoranthene	2.6	ug/kg	0.8					
	Fluorene	ND	ug/kg	3.8					
	Indeno (1,2,3-cd) pyrene	ND	ug/kg	0.8					
	1-Methylnaphthalene	ND	ug/kg	19					
	2-Methylnaphthalene	ND	ug/kg	19					
	Naphthalene	ND	ug/kg	19					
	Phenanthrene	14	ug/kg	3.8					
	Pyrene	ND	ug/kg	3.8					
GRO-S	Gasoline Range Organics(GRO)-Soil	52	mg/kg	2.8		12/01/1994	WDNR MOD GRO	12/03/1994	PMS
	Blank spike	95	% recov						
	Blank spike duplicate	96	% recov						
	Soil spike	106	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	66	mg/kg	3.9		11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Blank spike	93	% recov						





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 Your Sample ID: B7/MW4  
 Sample Desc. : B7/MW4 4-6'  
 Sample Matrix : SOIL Date Collected: 11/23/1994  
 En Chem Proj#: 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129058 Date Reported : 12/06/1994

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Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
DRO-S	Blank spike duplicate	99 % recov				11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Soil spike	88 % recov							
8260+-S	Benzene	ND	ug/kg	4.2	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Bromobenzene	ND	ug/kg	4.2					
	Bromochloromethane	ND	ug/kg	4.2					
	Bromodichloromethane	ND	ug/kg	4.2					
	Bromoform	ND	ug/kg	4.2					
	Bromomethane	ND	ug/kg	4.2					
	n-Butylbenzene	ND	ug/kg	4.2					
	sec-Butylbenzene	ND	ug/kg	4.2					
	tert-Butylbenzene	ND	ug/kg	4.2					
	Carbon tetrachloride	ND	ug/kg	4.2					
	Chlorobenzene	ND	ug/kg	4.2					
	Chlorodibromomethane	ND	ug/kg	4.2					
	Chloroethane	ND	ug/kg	8.5					
	Chloroform	ND	ug/kg	4.2					
	Chloromethane	ND	ug/kg	4.2					
	2-Chlorotoluene	ND	ug/kg	4.2					
	4-Chlorotoluene	ND	ug/kg	4.2					
	1,2-Dibromo-3-chloropropane	ND	ug/kg	17					
	1,2-Dibromoethane	ND	ug/kg	4.2					
	Dibromomethane	ND	ug/kg	4.2					
	1,2-Dichlorobenzene	ND	ug/kg	4.2					
	1,3-Dichlorobenzene	ND	ug/kg	4.2					
	1,4-Dichlorobenzene	ND	ug/kg	4.2					
	Dichlorodifluoromethane	ND	ug/kg	4.2					
	1,1-Dichloroethane	ND	ug/kg	4.2					
	1,2-Dichloroethane	ND	ug/kg	4.2					
	1,1-Dichloroethene	ND	ug/kg	4.2					





...chemistry for the environment

1795 Industrial Drive  
 Green Bay, WI 54302  
 414-469-2436  
 800-7-ENCHEM  
 FAX:414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B7/MW4  
 Sample Desc. : B7/MW4 4-6'  
 Sample Matrix : SOIL Date Collected: 11/23/1994  
 En Chem Proj#: 9411392 Date Received : 11/23/1994  
 En Chem Lab # : 129058 Date Reported : 12/06/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+-S	cis-1,2-Dichloroethene	ND	ug/kg	4.2	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	trans-1,2-Dichloroethene	ND	ug/kg	4.2					
	1,2-Dichloropropane	ND	ug/kg	4.2					
	1,3-Dichloropropane	ND	ug/kg	4.2					
	2,2-Dichloropropane	ND	ug/kg	8.5					
	1,1-Dichloropropene	ND	ug/kg	4.2					
	Di-isopropyl ether	ND	ug/kg	8.5					
	Ethyl Benzene	ND	ug/kg	4.2					
	Hexachlorobutadiene	ND	ug/kg	4.2					
	Isopropylbenzene	ND	ug/kg	4.2					
	p-Isopropyltoluene	ND	ug/kg	4.2					
	Methylene chloride	17	ug/kg	4.2					
	Methyl-tert-butyl-ether	ND	ug/kg	4.2					
	Naphthalene	ND	ug/kg	4.2					
	n-Propylbenzene	ND	ug/kg	4.2					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	4.2					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	4.2					
	Styrene	ND	ug/kg	4.2					
	Tetrachloroethene	ND	ug/kg	4.2					
	Toluene	ND	ug/kg	4.2					
	1,2,3-Trichlorobenzene	ND	ug/kg	4.2					
	1,2,4-Trichlorobenzene	ND	ug/kg	4.2					
	1,1,1-Trichloroethane	ND	ug/kg	4.2					
	1,1,2-Trichloroethane	ND	ug/kg	4.2					
	Trichloroethene	ND	ug/kg	4.2					
	Trichlorofluoromethane	ND	ug/kg	4.2					
	1,2,3-Trichloropropane	ND	ug/kg	4.2					
	1,2,4-Trimethylbenzene	ND	ug/kg	4.2					
	1,3,5-Trimethylbenzene	ND	ug/kg	4.2					
	Vinyl chloride	ND	ug/kg	4.2					





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FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDOM OIL-CEDARBURG-1966  
Your Sample ID: B7/MW4  
Sample Desc. : B7/MW4 4-6'  
Sample Matrix : SOIL Date Collected: 11/23/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129058 Date Reported : 12/06/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
B260+-S	Xylenes, m + p	ND	ug/kg	4.2	SW846 5030	11/30/1994	SW846 8260	12/01/1994	JJB
	Xylene, o	ND	ug/kg	4.2					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:







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 Green Bay, WI 54302  
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 800-7-ENCHEM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG-1966  
 Your Sample ID: B6  
 Sample Desc. : B6 4-6'  
 Sample Matrix : SOIL  
 En Chem Proj# : 9411392  
 En Chem Lab # : 129059  
 Date Collected: 11/23/1994  
 Date Received : 11/23/1994  
 Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
TOTSOLID	Total Solids	87	Percent				EPA 160.3	11/28/1994	NJS
PB-S	Lead, soil	6.0	mg/kg	3.7	SW846 3050	12/02/1994	SW846 7421	12/05/1994	MSB
GRO-S	Gasoline Range Organics(GRO)-Soil	11	mg/kg	2.9		12/01/1994	WDNR MOD GRO	12/03/1994	PMS
	Blank spike	95	% recov						
	Blank spike duplicate	96	% recov						
	Soil spike	106	% recov						
DRO-S	Diesel Range Organics(DRO)-Soil	ND	mg/kg	4.2		11/23/1994	WDNR MOD DRO	12/04/1994	NJS
	Blank spike	93	% recov						
	Blank spike duplicate	99	% recov						
	Soil spike	88	% recov						
8260+-S	Benzene	ND	ug/kg	1.1	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	Bromobenzene	ND	ug/kg	1.1					
	Bromochloromethane	ND	ug/kg	1.1					
	Bromodichloromethane	ND	ug/kg	1.1					
	Bromoform	ND	ug/kg	1.1					
	Bromomethane	ND	ug/kg	1.1					
	n-Butylbenzene	ND	ug/kg	1.1					
	sec-Butylbenzene	11	ug/kg	1.1					
	tert-Butylbenzene	ND	ug/kg	1.1					
	Carbon tetrachloride	ND	ug/kg	1.1					
	Chlorobenzene	ND	ug/kg	1.1					
	Chlorodibromomethane	ND	ug/kg	1.1					
	Chloroethane	ND	ug/kg	2.2					
	Chloroform	ND	ug/kg	1.1					
	Chloromethane	ND	ug/kg	1.1					
	2-Chlorotoluene	ND	ug/kg	1.1					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B6  
Sample Desc. : B6 4-6'  
Sample Matrix : SOIL  
En Chem Proj# : 9411392  
En Chem Lab # : 129059  
Date Collected: 11/23/1994  
Date Received : 11/23/1994  
Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
260+-s	4-Chlorotoluene	ND	ug/kg	1.1	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	1,2-Dibromo-3-chloropropane	ND	ug/kg	4.5					
	1,2-Dibromoethane	ND	ug/kg	1.1					
	Dibromomethane	ND	ug/kg	1.1					
	1,2-Dichlorobenzene	ND	ug/kg	1.1					
	1,3-Dichlorobenzene	ND	ug/kg	1.1					
	1,4-Dichlorobenzene	ND	ug/kg	1.1					
	Dichlorodifluoromethane	ND	ug/kg	1.1					
	1,1-Dichloroethane	ND	ug/kg	1.1					
	1,2-Dichloroethane	ND	ug/kg	1.1					
	1,1-Dichloroethene	ND	ug/kg	1.1					
	cis-1,2-Dichloroethene	ND	ug/kg	1.1					
	trans-1,2-Dichloroethene	ND	ug/kg	1.1					
	1,2-Dichloropropane	ND	ug/kg	1.1					
	1,3-Dichloropropane	ND	ug/kg	1.1					
	2,2-Dichloropropane	ND	ug/kg	2.2					
	1,1-Dichloropropene	ND	ug/kg	1.1					
	Di-isopropyl ether	ND	ug/kg	2.2					
	Ethyl Benzene	5.4	ug/kg	1.1					
	Hexachlorobutadiene	ND	ug/kg	1.1					
	Isopropylbenzene	8.2	ug/kg	1.1					
	p-Isopropyltoluene	6.0	ug/kg	1.1					
	Methylene chloride	6.2	ug/kg	1.1					
	Methyl-tert-butyl-ether	ND	ug/kg	1.1					
	Naphthalene	6.1	ug/kg	1.1					
	n-Propylbenzene	19	ug/kg	1.1					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	1.1					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	1.1					
	Styrene	ND	ug/kg	1.1					
	Tetrachloroethene	ND	ug/kg	1.1					





...chemistry for the environment

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Green Bay, WI 54302  
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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B6  
Sample Desc. : B6 4-6'  
Sample Matrix : SOIL Date Collected: 11/23/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129059 Date Reported : 12/05/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
B260+-S	Toluene	1.4	ug/kg	1.1	SW846 5030	12/01/1994	SW846 8260	12/02/1994	JJB
	1,2,3-Trichlorobenzene	ND	ug/kg	1.1					
	1,2,4-Trichlorobenzene	ND	ug/kg	1.1					
	1,1,1-Trichloroethane	ND	ug/kg	1.1					
	1,1,2-Trichloroethane	ND	ug/kg	1.1					
	Trichloroethene	ND	ug/kg	1.1					
	Trichlorofluoromethane	ND	ug/kg	1.1					
	1,2,3-Trichloropropane	ND	ug/kg	1.1					
	1,2,4-Trimethylbenzene	91	ug/kg	1.1					
	1,3,5-Trimethylbenzene	39	ug/kg	1.1					
	Vinyl chloride	ND	ug/kg	1.1					
	Xylenes, m + p	29	ug/kg	1.1					
	Xylene, o	12	ug/kg	1.1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:





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FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B8  
Sample Desc. : B8 2-4'  
Sample Matrix : SOIL Date Collected: 11/23/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129060 Date Reported : 12/07/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+-S	cis-1,2-Dichloroethene	ND	ug/kg	2800	SW846 5030	12/02/1994	SW846 8260	12/02/1994	HW
	trans-1,2-Dichloroethene	ND	ug/kg	2800					
	1,2-Dichloropropane	ND	ug/kg	2800					
	1,3-Dichloropropane	ND	ug/kg	2800					
	2,2-Dichloropropane	ND	ug/kg	5700					
	1,1-Dichloropropene	ND	ug/kg	2800					
	Di-isopropyl ether	ND	ug/kg	5700					
	Ethyl Benzene	11000	ug/kg	2800					
	Hexachlorobutadiene	ND	ug/kg	2800					
	Isopropylbenzene	ND	ug/kg	2800					
	p-Isopropyltoluene	9900	ug/kg	2800					
	Methylene chloride	5500	ug/kg	2800					
	Methyl-tert-butyl-ether	ND	ug/kg	2800					
	Naphthalene	31000	ug/kg	2800					
	n-Propylbenzene	8000	ug/kg	2800					
	1,1,1,2-Tetrachloroethane	ND	ug/kg	2800					
	1,1,2,2-Tetrachloroethane	ND	ug/kg	2800					
	Styrene	ND	ug/kg	2800					
	Tetrachloroethene	ND	ug/kg	2800					
	Toluene	5500	ug/kg	2800					
	1,2,3-Trichlorobenzene	ND	ug/kg	2800					
	1,2,4-Trichlorobenzene	ND	ug/kg	2800					
	1,1,1-Trichloroethane	ND	ug/kg	2800					
	1,1,2-Trichloroethane	ND	ug/kg	2800					
	Trichloroethene	ND	ug/kg	2800					
	Trichlorofluoromethane	ND	ug/kg	2800					
	1,2,3-Trichloropropane	ND	ug/kg	2800					
	1,2,4-Trimethylbenzene	140000	ug/kg	2800					
	1,3,5-Trimethylbenzene	50000	ug/kg	2800					
	Vinyl chloride	ND	ug/kg	2800					





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FAX:414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG-1966  
Your Sample ID: B8  
Sample Desc. : B8 2-4'  
Sample Matrix : SOIL Date Collected: 11/23/1994  
En Chem Proj# : 9411392 Date Received : 11/23/1994  
En Chem Lab # : 129060 Date Reported : 12/07/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
Σ260+-S	Xylenes, m + p	130000	ug/kg	2800	SW846 5030	12/02/1994	SW846 8260	12/02/1994	HW
	Xylene, o	54000	ug/kg	2800					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Robert Mabey*





**Robert E. Lee & Associates, Inc.**

Engineering, Surveying, Laboratory Services

*Providing scientifically defensible analytical data  
while setting a new standard for customer service.*

Wisconsin Certification No: 405043870

2825 S. Webster Ave.  
P.O. Box 2100  
Green Bay, WI 54306-2100  
414/336-6338  
FAX 414/336-9141

REPORT DATE=====> 09/18/1995

CHAIN OF CUSTODY #==> 31366

CUSTOMER=====> 002461

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

(414) 284-6824

CONTACT=====> Gene Klees

PROJECT NO.=====> 1966

PROJECT NAME=====> CONDON CEDARBURG

RECEIVED=====> 09/01/1995

SAMPLED=====> 08/30/1995

COMMENTS:

ATTEST: Andrew Womack

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON CEDARBURG - N32 W5358 Portland Road  
CHAIN NUMBER: 31366 Cedarburg, Wisconsin

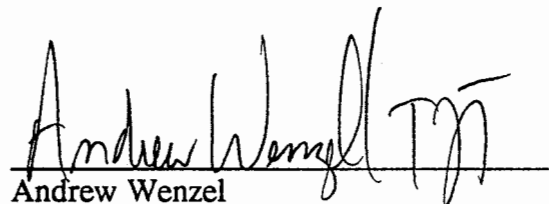
## NARRATIVE

This narrative is relevant to samples B9 4-6, B10 6-8, B11 6-8, B12 4-6 and D3 DISPOSAL.

The samples were analyzed for diesel range organics following the Wisconsin Modified DRO Method.

The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate diesel component spikes was within method limits.
3. The recovery for each replicate diesel component spike was within method limits.
4. The soil spike recovery was within method limits.
5. The initial and final check standards verified the calibration curve for DRO.
6. Samples B10 6-8 and D3 DISPOSAL had peaks and a rise in baseline before the DRO window.
7. Samples B10 6-8, B11 6-8 and D3 DISPOSAL had a rise in baseline after the DRO window.



Andrew Wenzel  
Laboratory Coordinator

af1

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON CEDARBURG - N32 W5358 Portland Road  
CHAIN NUMBER: 31366 Cedarburg, Wisconsin

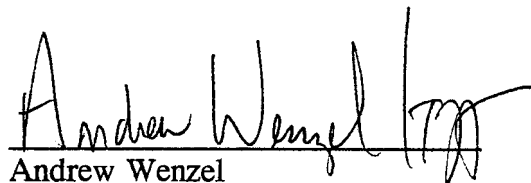
## NARRATIVE

This narrative is relevant to samples B9 4-6, TRIP BLANK, B10 6-8, B11 6-8, B12 4-6 and D3 DISPOSAL.

The samples were analyzed for gasoline range organics following the Wisconsin Modified GRO Method.

The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate gasoline component spikes was within method limits.
3. The recovery for each replicate gasoline component spike was within method limits.
4. The surrogate recovery was within laboratory limits for all samples.
5. The initial and final check standards verified the calibration curve for GRO.
6. The soil spike recovery was within method limits.
7. Samples B10 6-8 and D3 DISPOSAL had peaks before and after the GRO window with a rise in baseline after the GRO window.



Andrew Wenzel  
Laboratory Coordinator  
rlb



ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gene Klees  
Phone: (414) 284-6824  
Fax: (414) 284-6859

Customer Number: 002461

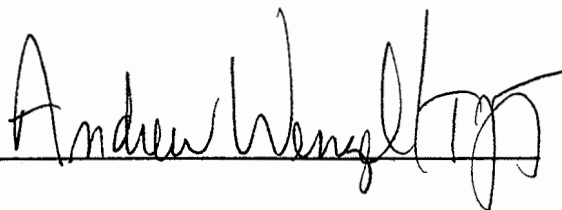
Lab Number: 95REL017325  
Sample ID : B9 4-6  
Matrix : SOIL

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-6010	TOTAL LEAD ICP	8.43	MG/KG	2.3	09/11/1995	DLB
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/08/1995	LH
WI. MOD. DRO	DIESEL RANGE ORGANICS	<3.6	MG/KG	3.6	09/08/1995	AFL
WI. MOD. GRO	GAS RANGE ORGANICS	<0.9	MG/KG	0.9	09/08/1995	RLB1
SM-2540G	TOTAL SOLIDS	87.1	%	0.01	09/05/1995	DJN
SW846-8310	PAH ANALYSIS	SEE ATTACHED			09/12/1995	TMS
SW846-3050-1	METAL PREPARATION	COMPLETE			09/05/1995	DLB

ATTEST:



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Condon Co.-Sigma Environmental Services  
102 Progress Drive  
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Fax: (414) 284-6859

Customer Number: 002461

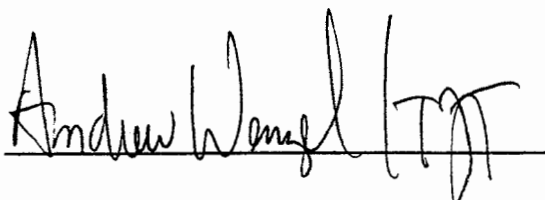
Lab Number: 95REL017326  
Sample ID : TRIP BLANK  
Matrix : SOIL

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
WI. MOD. GRO	GAS RANGE ORGANICS	<0.9	MG/KG	0.9	09/08/1995	RLB1

ATTEST:



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Phone: (414)284-6824  
Fax: (414)284-6859

Customer Number: 002461

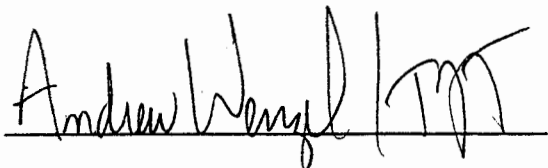
Lab Number: 95REL017327  
Sample ID : B10 6-8  
Matrix : SOIL

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-6010	TOTAL LEAD ICP	7.60	MG/KG	2.23	09/11/1995	DLB
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/08/1995	LH
WI. MOD. DRO	DIESEL RANGE ORGANICS	261	MG/KG	10	09/13/1995	AFL
WI. MOD. GRO	GAS RANGE ORGANICS	380	MG/KG	0.9	09/08/1995	RLB1
SM-2540G	TOTAL SOLIDS	89.5	%	0.01	09/05/1995	DJN
SW846-3050-I	METAL PREPARATION				09/05/1995	DLB

ATTEST:



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Wisconsin Certification NO: 405043870

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Saukville WI 53080

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Phone: (414)284-6824  
Fax: (414)284-6859

Customer Number: 002461

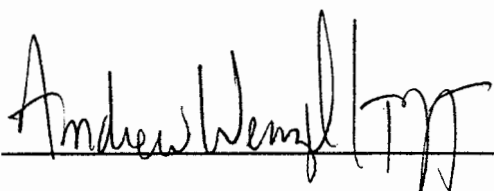
Lab Number: 95REL017328  
Sample ID : B11 6-8  
Matrix : SOIL

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-6010	TOTAL LEAD ICP	7.54	MG/KG	2.29	09/11/1995	DLB
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/08/1995	LH
WI. MOD. DRO	DIESEL RANGE ORGANICS	10	MG/KG	3.5	09/14/1995	AFL
WI. MOD. GRO	GAS RANGE ORGANICS	<0.9	MG/KG	0.9	09/08/1995	RLB1
SM-2540G	TOTAL SOLIDS	87.4	%	0.01	09/05/1995	DJN
SW846-8310	PAH ANALYSIS	SEE ATTACHED			09/12/1995	TMS
SW846-3050-I	METAL PREPARATION				09/05/1995	DLB

ATTEST:

  
\_\_\_\_\_

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Wisconsin Certification NO: 405043870

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Fax: (414) 284-6859

Customer Number: 002461

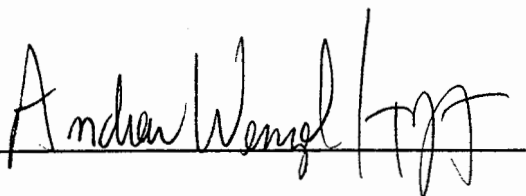
Lab Number: 95REL017329  
Sample ID : B12 4-6  
Matrix : SOIL

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-6010	TOTAL LEAD ICP	6.87	MG/KG	2.25	09/11/1995	DLB
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/08/1995	LH
WI. MOD. DRO	DIESEL RANGE ORGANICS	<3.2	MG/KG	3.2	09/08/1995	AFL
WI. MOD. GRO	GAS RANGE ORGANICS	<0.9	MG/KG	0.9	09/08/1995	RLB1
SM-2540G	TOTAL SOLIDS	88.7	%	0.01	09/05/1995	DJN
SW846-3050-I	METAL PREPARATION				09/05/1995	DLB

ATTEST:



ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gene Klees  
Phone: (414) 284-6824  
Fax: (414) 284-6859

Customer Number: 002461

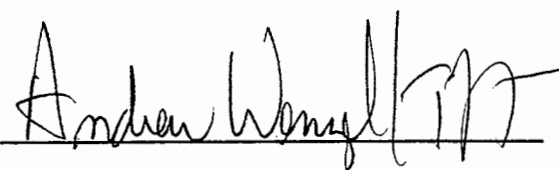
Lab Number: 95REL017330  
Sample ID : D3 DISPOSAL  
Matrix : SOIL -N32W5358 Portland Road  
Cedarburg, Wisconsin

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
WI. MOD. DRO	DIESEL RANGE ORGANICS	171	MG/KG	9.2	09/11/1995	AFL
WI. MOD. GRO	GAS RANGE ORGANICS	96	MG/KG	0.9	09/08/1995	RLB1
SM-2540G	TOTAL SOLIDS	89.7	%	0.01	09/05/1995	DJN
SW846-9045	LAB PH	7.52	S.U.	0.01	09/07/1995	DJN
SW846-1010	FLASHPOINT	>210	FAHRENHEIT		09/08/1995	SRB
SW846-9095	FREE LIQUIDS	NO			09/01/1995	DJN

ATTEST:

  
\_\_\_\_\_

ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gene Klees  
Phone: (414) 284-6824  
Fax: (414) 284-6859

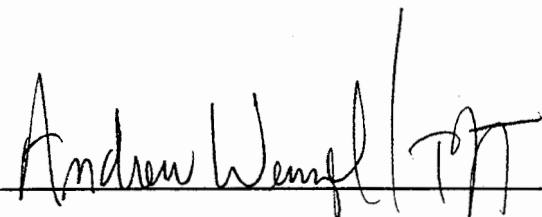
Customer Number: 002461

Lab Number: 95REL017332  
Sample ID : D3 DISPOSAL  
Matrix : TCLP - N32 W5358 Portland Road  
Cedarburg, Wisconsin

Chain Number: 31366  
Report Date : 09/18/1995  
Sample Date : 08/30/1995

METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
CFR-261	TCLP METAL EXTRACTION		DATE		09/06/1995	DJD
CFR-261	TCLP SEMIVOLATILE EXTRACTION		DATE		09/06/1995	DJD
CFR-261	TCLP VOLATILE ZERO HEAD SPACE EXTRACTION		DATE		09/11/1995	DJD
SW846-6010	TCLP LEAD ICP	<40	UG/L	40	09/08/1995	DLB
SW846-8260	TCLP VOLATILE ORGANIC ANALYSIS BY GC/MS	SEE ATTACHED			09/12/1995	JF
SW846-8270	SEMIVOLATILE TCLP ANALYSIS BY GC/MS	SEE ATTACHED			09/13/1995	JHI
SW846-3010	METAL PREPARATION				09/07/1995	DLB

ATTEST:



# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON CEDARBURG  
CHAIN NUMBER: 31366

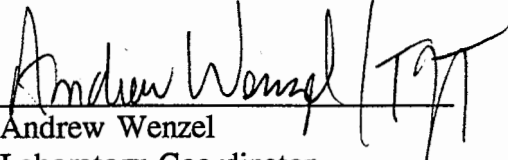
## NARRATIVE

This narrative is relevant to samples B9 4-6, B10 6-8, B11 6-8 and B12 4-6.

The samples were analyzed for volatile organic compounds following SW-846 Method 8021.

Sample B12 4-6 was used for the matrix spikes. The following is a summary of the quality control results:

1. The method blank contained 1.7 ug/L of methylene chloride. The data was accepted because methylene chloride is a common laboratory solvent and its presence may be due to airborne laboratory contamination.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the twenty-eight compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the twenty-eight compounds spiked.
4. The surrogate recovery for all samples was within laboratory limits for each of the three surrogates spiked.
5. The initial check standard verified the calibration curve for each of the reported compounds except for chloromethane, vinyl chloride, chloroethane and trichlorofluoromethane which were above laboratory limits. The data was accepted because the compounds were not detected in the samples even though the results may have been biased high.
6. The results for sample B10 6-8 was confirmed by SW-846 Method 8260.
7. The presence of methylene chloride in sample B10 6-8 is most likely due to airborne laboratory contamination.

  
Andrew Wenzel  
Laboratory Coordinator

lh



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON CEDARBURG

DATE SAMPLED: 08/30/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/08/95

REL JOB NUMBER: 95REL017325

ANALYZED BY & GC NO.: LH / GC#4

SAMPLE: B9 4-6

ANALYTE	MDL ug/kg	RESULT ug/kg
BENZENE	1.1	ND
BROMOBENZENE	2.4	ND
BROMODICHLOROMETHANE	1.8	ND
n-BUTYLBENZENE	4.2	ND
sec-BUTYLBENZENE	3.3	ND
tert-BUTYLBENZENE	4.4	ND
CARBON TETRACHLORIDE	4.4	ND
CHLOROBENZENE	2.4	ND
CHLOROETHANE	2.7	ND
CHLOROFORM	1.8	ND
CHLOROMETHANE	2.4	ND
2-CHLOROTOLUENE	1.8	ND
4-CHLOROTOLUENE	1.6	ND
DIBROMOCHLOROMETHANE	1.8	ND
1,2-DIBROMO-3-CHLOROPROPANE	7.5	ND
1,2-DIBROMOETHANE (EDB)	2.4	ND
1,2-DICHLOROBENZENE	2.0	ND
1,3-DICHLOROBENZENE	2.4	ND
1,4-DICHLOROBENZENE	1.6	ND
DICHLORODIFLUOROMETHANE	2.9	ND
1,1-DICHLOROETHANE	3.5	ND
1,2-DICHLOROETHANE	2.4	ND
1,1-DICHLOROETHENE	3.3	ND
cis-1,2-DICHLOROETHENE	4.7	ND
trans-1,2-DICHLOROETHENE	2.4	ND
1,2-DICHLOROPROPANE	1.6	ND

ANALYTE	MDL ug/kg	RESULT ug/kg
1,3-DICHLOROPROPANE	1.6	ND
2,2-DICHLOROPROPANE	3.3	ND
Di-ISOPROPYL ETHER	2.2	ND
ETHYLBENZENE	1.3	ND
HEXACHLOROBUTADIENE	2.2	ND
ISOPROPYLBENZENE	1.3	ND
p-ISOPROPYLTOLUENE	2.9	ND
METHYLENE CHLORIDE	3.3	36
METHYL-TERT-BUTYL-ETHER	6.0	ND
NAPHTHALENE	2.2	ND
n-PROPYLBENZENE	1.8	ND
1,1,2,2-TETRACHLOROETHANE	4.0	ND
TETRACHLOROETHENE	2.0	ND
TOLUENE	1.3	ND
1,2,3-TRICHLOROBENZENE	2.4	ND
1,2,4-TRICHLOROBENZENE	2.7	ND
1,1,1-TRICHLOROETHANE	6.2	ND
1,1,2-TRICHLOROETHANE	3.5	ND
TRICHLOROETHENE	1.6	ND
TRICHLOROFUOROMETHANE	2.7	ND
1,2,4-TRIMETHYLBENZENE	3.8	ND
1,3,5-TRIMETHYLBENZENE	2.0	ND
VINYL CHLORIDE	2.9	ND
m,p-XYLENE	3.8	ND
o-XYLENE	1.1	ND

MDL and Results based on dry weight

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 113
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 95
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 105

ND = COMPOUND NOT DETECTED

MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY

N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wenzel*

**ROBERT E LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
 BY PURGE AND TRAP CAPILLARY COLUMN  
 GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
 AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
 SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC. PROJECT: CONDON CEDARBURG  
 DATE SAMPLED: 08/30/95 PROJECT NUMBER: 1966  
 DATE ANALYZED: 09/08/95 REL JOB NUMBER: 95REL017327  
 ANALYZED BY & GC NO.: LH / GC#4 SAMPLE: B10 6-8

ANALYTE	MDL ug/kg	RESULT ug/kg
BENZENE	70	ND
BROMOBENZENE	154	ND
BROMODICHLOROMETHANE	112	ND
n-BUTYLBENZENE	265	ND
sec-BUTYLBENZENE	209	425
tert-BUTYLBENZENE	279	ND
CARBON TETRACHLORIDE	279	ND
CHLOROBENZENE	154	ND
CHLOROETHANE	168	ND
CHLOROFORM	112	ND
CHLOROMETHANE	154	ND
2-CHLOROTOLUENE	112	ND
4-CHLOROTOLUENE	98	ND
DIBROMOCHLOROMETHANE	112	ND
1,2-DIBROMO-3-CHLOROPROPANE	475	ND
1,2-DIBROMOETHANE (EDB)	154	ND
1,2-DICHLOROBENZENE	126	ND
1,3-DICHLOROBENZENE	154	ND
1,4-DICHLOROBENZENE	98	ND
DICHLORODIFLUOROMETHANE	182	ND
1,1-DICHLOROETHANE	223	ND
1,2-DICHLOROETHANE	154	ND
1,1-DICHLOROETHENE	209	ND
cis-1,2-DICHLOROETHENE	293	ND
trans-1,2-DICHLOROETHENE	154	ND
1,2-DICHLOROPROPANE	98	ND

ANALYTE	MDL ug/kg	RESULT ug/kg
1,3-DICHLOROPROPANE	98	ND
2,2-DICHLOROPROPANE	209	ND
Di-ISOPROPYL ETHER	140	ND
ETHYLBENZENE	84	ND
HEXACHLOROBUTADIENE	140	ND
ISOPROPYLBENZENE	84	ND
p-ISOPROPYLTOLUENE	182	461
METHYLENE CHLORIDE	209	308
METHYL-TERT-BUTYL-ETHER	377	ND
NAPHTHALENE	140	1140
n-PROPYLBENZENE	112	4490
1,1,2,2-TETRACHLOROETHANE	251	ND
TETRACHLOROETHENE	126	ND
TOLUENE	84	ND
1,2,3-TRICHLOROBENZENE	154	ND
1,2,4-TRICHLOROBENZENE	168	ND
1,1,1-TRICHLOROETHANE	391	ND
1,1,2-TRICHLOROETHANE	223	ND
TRICHLOROETHENE	98	ND
TRICHLOROFLUOROMETHANE	168	ND
1,2,4-TRIMETHYLBENZENE	237	686
1,3,5-TRIMETHYLBENZENE	126	519
VINYL CHLORIDE	182	ND
m,p-XYLENE	237	ND
o-XYLENE	70	ND

MDL and Results based on dry weight

• 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 108  
 • 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 93  
 • FLUOROBENZENE SURROGATE RECOVERY (%)..... 91

ND = COMPOUND NOT DETECTED  
 MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
 N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wangel*  
 (Signature)

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON CEDARBURG

DATE SAMPLED: 08/30/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/08/95

REL JOB NUMBER: 95REL017328

ANALYZED BY & GC NO.: LH / GC#4

SAMPLE: B11 6-8

ANALYTE	MDL ug/kg	RESULT ug/kg
BENZENE	1.1	ND
BROMOBENZENE	2.5	ND
BROMODICHLOROMETHANE	1.8	ND
n-BUTYLBENZENE	4.3	ND
sec-BUTYLBENZENE	3.4	ND
tert-BUTYLBENZENE	4.6	ND
CARBON TETRACHLORIDE	4.6	ND
CHLOROBENZENE	2.5	ND
CHLOROETHANE	2.7	ND
CHLOROFORM	1.8	ND
CHLOROMETHANE	2.5	ND
2-CHLOROTOLUENE	1.8	ND
4-CHLOROTOLUENE	1.6	ND
DIBROMOCHLOROMETHANE	1.8	ND
1,2-DIBROMO-3-CHLOROPROPANE	7.8	ND
1,2-DIBROMOETHANE (EDB)	2.5	ND
1,2-DICHLOROBENZENE	2.1	ND
1,3-DICHLOROBENZENE	2.5	ND
1,4-DICHLOROBENZENE	1.6	ND
DICHLORODIFLUOROMETHANE	3.0	ND
1,1-DICHLOROETHANE	3.7	ND
1,2-DICHLOROETHANE	2.5	ND
1,1-DICHLOROETHENE	3.4	ND
cis-1,2-DICHLOROETHENE	4.8	ND
trans-1,2-DICHLOROETHENE	2.5	ND
1,2-DICHLOROPROPANE	1.6	ND

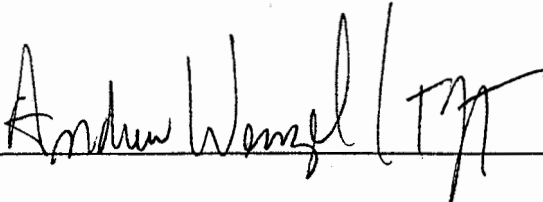
ANALYTE	MDL ug/kg	RESULT ug/kg
1,3-DICHLOROPROPANE	1.6	ND
2,2-DICHLOROPROPANE	3.4	ND
Di-ISOPROPYL ETHER	2.3	ND
ETHYLBENZENE	1.4	ND
HEXACHLOROBUTADIENE	2.3	ND
ISOPROPYLBENZENE	1.4	ND
p-ISOPROPYLTOLUENE	3.0	ND
METHYLENE CHLORIDE	3.4	23
METHYL-TERT-BUTYL-ETHER	6.2	ND
NAPHTHALENE	2.3	ND
n-PROPYLBENZENE	1.8	ND
1,1,2,2-TETRACHLOROETHANE	4.1	ND
TETRACHLOROETHENE	2.1	ND
TOLUENE	1.4	ND
1,2,3-TRICHLOROBENZENE	2.5	ND
1,2,4-TRICHLOROBENZENE	2.7	ND
1,1,1-TRICHLOROETHANE	6.4	ND
1,1,2-TRICHLOROETHANE	3.7	ND
TRICHLOROETHENE	1.6	ND
TRICHLOROFUOROMETHANE	2.7	ND
1,2,4-TRIMETHYLBENZENE	3.9	ND
1,3,5-TRIMETHYLBENZENE	2.1	ND
VINYL CHLORIDE	3.0	ND
m,p-XYLENE	3.9	ND
o-XYLENE	1.1	ND

MDL and Results based on dry weight

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 112
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 100
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 107

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST 

**ROBERT E LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
 BY PURGE AND TRAP CAPILLARY COLUMN  
 GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
 AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
 SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC. PROJECT: CONDON CEDARBURG  
 DATE SAMPLED: 08/30/95 PROJECT NUMBER: 1966  
 DATE ANALYZED: 09/08/95 REL JOB NUMBER: 95REL017329  
 ANALYZED BY & GC NO.: LH / GC#4 SAMPLE: B12 4-6

ANALYTE	MDL ug/kg	RESULT ug/kg
BENZENE	1.2	ND
BROMOBENZENE	2.7	ND
BROMODICHLOROMETHANE	2.0	ND
n-BUTYLBENZENE	4.7	ND
sec-BUTYLBENZENE	3.7	ND
tert-BUTYLBENZENE	5.0	ND
CARBON TETRACHLORIDE	5.0	ND
CHLOROBENZENE	2.7	ND
CHLOROETHANE	3.0	ND
CHLOROFORM	2.0	ND
CHLOROMETHANE	2.7	ND
2-CHLOROTOLUENE	2.0	ND
4-CHLOROTOLUENE	1.7	ND
DIBROMOCHLOROMETHANE	2.0	ND
1,2-DIBROMO-3-CHLOROPROPANE	8.5	ND
1,2-DIBROMOETHANE (EDB)	2.7	ND
1,2-DICHLOROBENZENE	2.2	ND
1,3-DICHLOROBENZENE	2.7	ND
1,4-DICHLOROBENZENE	1.7	ND
DICHLORODIFLUOROMETHANE	3.2	ND
1,1-DICHLOROETHANE	4.0	ND
1,2-DICHLOROETHANE	2.7	ND
1,1-DICHLOROETHENE	3.7	ND
cis-1,2-DICHLOROETHENE	5.2	ND
trans-1,2-DICHLOROETHENE	2.7	ND
1,2-DICHLOROPROPANE	1.7	ND

ANALYTE	MDL ug/kg	RESULT ug/kg
1,3-DICHLOROPROPANE	1.7	ND
2,2-DICHLOROPROPANE	3.7	ND
Di-ISOPROPYL ETHER	2.5	ND
ETHYLBENZENE	1.5	ND
HEXACHLOROBUTADIENE	2.5	ND
ISOPROPYLBENZENE	1.5	ND
p-ISOPROPYLTOLUENE	3.2	ND
METHYLENE CHLORIDE	3.7	27
METHYL-TERT-BUTYL-ETHER	6.7	ND
NAPHTHALENE	2.5	ND
n-PROPYLBENZENE	2.0	ND
1,1,2,2-TETRACHLOROETHANE	4.5	ND
TETRACHLOROETHENE	2.2	ND
TOLUENE	1.5	ND
1,2,3-TRICHLOROBENZENE	2.7	ND
1,2,4-TRICHLOROBENZENE	3.0	ND
1,1,1-TRICHLOROETHANE	7.0	ND
1,1,2-TRICHLOROETHANE	4.0	ND
TRICHLOROETHENE	1.7	ND
TRICHLOROFLUOROMETHANE	3.0	ND
1,2,4-TRIMETHYLBENZENE	4.2	ND
1,3,5-TRIMETHYLBENZENE	2.2	ND
VINYL CHLORIDE	3.2	ND
m,p-XYLENE	4.2	ND
o-XYLENE	1.2	ND

MDL and Results based on dry weight

• 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 131  
 • 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 105  
 • FLUOROBENZENE SURROGATE RECOVERY (%)..... 122

ND = COMPOUND NOT DETECTED  
 MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
 N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wenzel*  
 \_\_\_\_\_

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON CEDARBURG  
CHAIN NUMBER: 31366

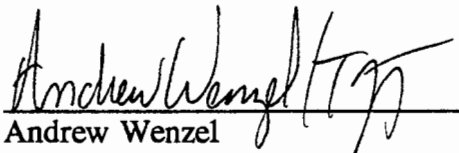
## NARRATIVE

This narrative is relevant to samples B9 4-6 and B11 6-8.

The samples were analyzed for polynuclear aromatic hydrocarbons following SW-846 Method 8310.

The sample used for the matrix spikes was not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the reported compounds.
3. The matrix spike recovery was within laboratory limits for each of the reported compounds.
4. The matrix spike duplicate recovery was within laboratory limits for each of the reported compounds.
5. The surrogate recovery was within laboratory limits for both samples.
6. The initial and final check standards verified the calibration curve for each of the reported compounds.



Andrew Wenzel  
Laboratory Coordinator  
tms

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8310. POLYNUCLEAR AROMATIC HYDROCARBONS.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
 DATE SAMPLED: 08/30/95  
 DATE EXTRACTED: 09/06/95  
 DATE ANALYZED: 09/12/95  
 ANALYZED BY: TJT

PROJECT: CONDON CEDARBURG  
 PROJECT NUMBER: 1966  
 REL JOB NUMBER: 95REL017325  
 SAMPLE: B9 4-6

ANALYTE	MDL ug/kg	RESULT ug/kg
ACENAPHTHENE	105	ND
ACENAPHTHYLENE	45	ND
ANTHRACENE	5.8	ND
BENZO(A)ANTHRACENE	4.5	ND
BENZO(A)PYRENE	4.1	ND
BENZO(B)FLUORANTHENE	6.3	ND
BENZO(G,H,I)PERYLENE	10	ND
BENZO(K)FLUORANTHENE	4.0	ND
CHRYSENE	4.0	ND
DIBENZO(AH)ANTHRACENE	7.4	ND
FLUORANTHENE	13	ND
FLUORENE	12	ND
INDENO(1,2,3-CD)PYRENE	5.8	ND
1-METHYLNAPHTHALENE	17	ND
2-METHYLNAPHTHALENE	22	ND
NAPHTHALENE	41	ND
PHENANTHRENE	6.3	ND
PYRENE	8.4	ND

MDL and Results based on dry weight.

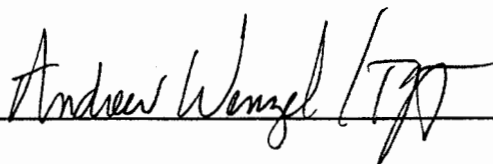
ND = COMPOUND NOT DETECTED

N/A = COMPOUND NOT ANALYZED

MDL = METHOD DETECTION LIMIT

D = COMPOUND DETECTED BUT BELOW MDL

ATTEST



**ROBERT E LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8310. POLYNUCLEAR AROMATIC HYDROCARBONS.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC. PROJECT: CONDON CEDARBURG  
 DATE SAMPLED: 08/30/95 PROJECT NUMBER: 1966  
 DATE EXTRACTED: 09/06/95 REL JOB NUMBER: 95REL017328  
 DATE ANALYZED: 09/12/95 SAMPLE: B11 6-8  
 ANALYZED BY: TJT

ANALYTE	MDL ug/kg	RESULT ug/kg
ACENAPHTHENE	100	ND
ACENAPHTHYLENE	43	ND
ANTHRACENE	5.5	ND
BENZO(A)ANTHRACENE	4.3	ND
BENZO(A)PYRENE	3.9	ND
BENZO(B)FLUORANTHENE	6.0	ND
BENZO(G,H,I)PERYLENE	9.5	ND
BENZO(K)FLUORANTHENE	3.9	ND
CHRYSENE	3.8	ND
DIBENZO(AH)ANTHRACENE	7.0	ND
FLUORANTHENE	12	ND
FLUORENE	12	ND
INDENO(1,2,3-CD)PYRENE	5.5	ND
1-METHYLNAPHTHALENE	18	ND
2-METHYLNAPHTHALENE	21	ND
NAPHTHALENE	39	ND
PHENANTHRENE	6.0	ND
PYRENE	8.0	ND

MDL and Results based on dry weight.

ND = COMPOUND NOT DETECTED  
 MDL = METHOD DETECTION LIMIT  
 D = COMPOUND DETECTED BUT BELOW MDL

N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wenzel/TJT*



# Robert E. Lee & Associates, Inc.

Engineering, Surveying, Laboratory Services  
2825 S. Webster Ave. • Box 2100 • Green Bay, WI 54306-2100  
Office 414.336.6338 • FAX 414.336.9141

## CHAIN OF CUSTODY RECORD

COC # 31366

WISCONSIN DNR CERTIFICATION #405043870

Client: <u>CONDON OIL - CEDARBURG</u>		Project Name: <u>CONDON CEDARBURG</u>		Project Number: <u>1966</u>		Report To: <u>GENE KLEES</u>			
Project Address: <u>N32 W5358 PORTLAND RD. CEDARBURG WI</u>		Telephone: _____		Fax: _____		Company: <u>Sigma Environmental</u>			
PO #: _____		Quote #: _____		Address: <u>102 Progress Dr</u>		Address: <u>SMOKVILLE WI</u>			
Environmental Program: <input checked="" type="checkbox"/> LUST <input type="checkbox"/> SDWA <input type="checkbox"/> WPDES <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____		Requested Turnaround Time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Check Delivery Method: In Person   Mail Common Courier   Courier Service Other _____		Telephone: <u>414-284-682K</u>			
Date Needed: _____ Rushes accepted only w/prior notification		Sampler: _____		Date Needed: _____		Fax: <u>414-284-6859</u>			
Sample ID		Date		Time		REL Sample No.		Remarks:	
B9 4-6		8-30-95		A P		95-017325			
Trip Blank				A P		17326			
B10 6-8				A P		17327			
B11 6-8				A P		17328			
B12 4-6				A P		17329			
D3 Disposal				A P		17330			
Soil Conductivity #				A P		17331			
D3 Disposal				A P		17332 (TCLP)			

Relinquished By	Date	Time	Received By	Date	Time
<u>Ray Loral</u>	<u>9-1-95</u>	<u>948</u> A/P	<u>Ray Loral</u>	<u>9-1-95</u>	<u>0948</u> A/P
<u>Ray Loral</u>	<u>9-1-95</u>	<u>1125</u> A/P			
<u>Don White</u>	<u>9-1-95</u>	<u>1125A</u> A/P			

Received by Lab: \_\_\_\_\_

**Laboratory Receiving Notes**

Temperature of Contents: on ice °C

Custody Seal Intact: ✓

Sample Condition: ✓

Sample pH: \_\_\_\_\_

TO ENSURE PROPER HANDLING OF SAMPLES PLEASE COMPLETE SHADED AREAS

**Preservation Key**

N = Nitric Acid      O = Sodium Hydroxide  
H = Hydrochloric Acid      U = Unpreserved  
M = Methanol      S = Sulfuric Acid





# Robert E. Lee & Associates, Inc.

Engineering, Surveying, Laboratory Services

*Providing scientifically defensible analytical data  
while setting a new standard for customer service.*

Wisconsin Certification No: 405043870

2825 S. Webster Ave.  
P.O. Box 2100  
Green Bay, WI 54306-2100  
414/336-6338  
FAX 414/336-9141

REPORT DATE=====> 11/13/1995

CHAIN OF CUSTODY #==> 15304

CUSTOMER=====> 002461

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

(414) 284-6824

CONTACT=====> Gary Kurer

PROJECT NO.=====> 1966

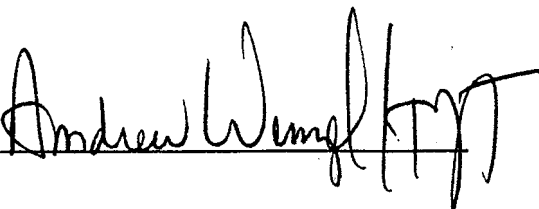
PROJECT NAME=====> CONDON

RECEIVED=====> 11/03/1995

SAMPLED=====> 11/01/1995

COMMENTS:

ATTEST:



ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gary Kurer  
Phone: (414) 284-6824  
Fax: (414) 284-6859

Customer Number: 002461

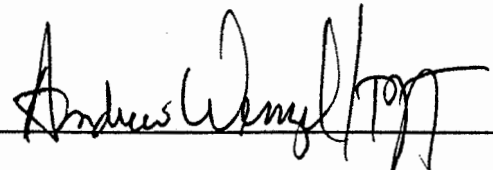
Lab Number: 95REL021936  
Sample ID : 1966-B14-3  
Matrix : SOIL

Chain Number: 15304  
Report Date : 11/13/1995  
Sample Date : 11/01/1995

---

METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SM-2540G	TOTAL SOLIDS	87.0	%	0.01	11/03/1995	DJN
WI. MOD. GRO	GAS RANGE ORGANICS	<0.9	MG/KG	0.9	11/07/1995	RLB1
WI. MOD. DRO	DIESEL RANGE ORGANICS	<2.8	MG/KG	2.8	11/07/1995	AFL
SW846-8020	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			11/07/1995	RLB1

ATTEST:

  
Andrew Wenzel

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON  
CHAIN NUMBER: 15304

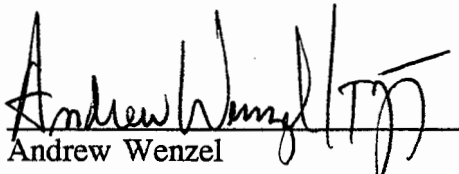
## NARRATIVE

This narrative is relevant to samples 1966-B13-3 and 1966-B14-3.

The samples were analyzed for petroleum volatile organic compounds following SW-846 Method 8020.

The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the soil spike recovery and the soil spike duplicate recovery was within laboratory limits for each of the compounds.
3. The soil spike and soil spike duplicate recoveries were within laboratory limits for each of the compounds.
4. The surrogate recovery was within laboratory limits for all samples.
5. The initial check standard verified the calibration curve for each of the reported compounds.

  
Andrew Wenzel  
Laboratory Coordinator  
rlb

**ROBERT E. LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN GAS  
CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON

PROJECT NUMBER: 1966

SAMPLE: 1966-B13-3

REL SAMPLE NUMBER: 95REL021935

DATE SAMPLED: 11/01/1995

DATE ANALYZED: 11/07/1995

ANALYZED BY &amp; GC NO.: RLB / GC#3

DILUTION: NONE

ANALYTE	RESULT ug/kg	MDL ug/kg	PQL ug/kg
BENZENE	<25	9.0	32
ETHYLBENZENE	<25	4.5	16
METHYL-TERT-BUTYL-ETHER	<25	22	77
TOLUENE	<25	4.2	15
1,2,4-TRIMETHYLBENZENE	386	9.9	35
1,3,5-TRIMETHYLBENZENE	<25	10	37
m,p-XYLENE	<25	19	68
o-XYLENE	<25	9.0	30

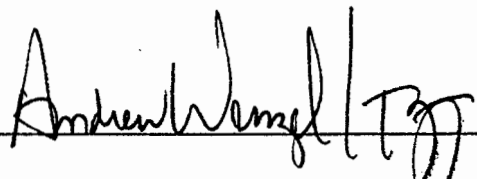
Results are based on dry weight

• FLUOROBENZENE SURROGATE RECOVERY (%).....

94

MDL = METHOD DETECTION LIMIT  
PQL = PRACTICAL QUANTITATION LIMIT• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE

**ROBERT E. LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
 BY PURGE AND TRAP CAPILLARY COLUMN GAS  
 CHROMATOGRAPHY WITH PHOTOIONIZATION  
 DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
 PROJECT: CONDON  
 PROJECT NUMBER: 1966  
 SAMPLE: 1966-B14-3  
 REL SAMPLE NUMBER: 95REL021936

DATE SAMPLED: 11/01/1995  
 DATE ANALYZED: 11/07/1995  
 ANALYZED BY & GC NO.: RLB / GC#3  
 DILUTION: NONE

ANALYTE	RESULT ug/kg	MDL ug/kg	PQL ug/kg
BENZENE	<25	9.0	32
ETHYLBENZENE	<25	4.5	16
METHYL-TERT-BUTYL-ETHER	<25	22	77
TOLUENE	<25	4.2	15
1,2,4-TRIMETHYLBENZENE	<25	9.9	35
1,3,5-TRIMETHYLBENZENE	<25	10	37
m,p-XYLENE	<25	19	68
o-XYLENE	<25	9.0	30

Results are based on dry weight

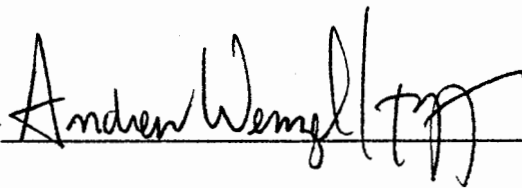
• FLUOROBENZENE SURROGATE RECOVERY (%).....

93

MDL = METHOD DETECTION LIMIT  
 PQL = PRACTICAL QUANTITATION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
 N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE



**APPENDIX K**

**LABORATORY REPORTS - GROUNDWATER SAMPLES**

3-11-94



State of Wisconsin  
Department of Natural Resources

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Based on Form 4400-151 Rev. 4-93

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis.Adm.Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>MW/BL</i>	Title/Work Station/Company <i>2151116</i>	Telephone Number (include area code) <i>718-7141</i>
Property Owner <i>London Oil #1966</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Marlene Weiss</i>	Date/Time <i>12-8-94</i>	Received By (Signature) <i>Bence Kemper</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for EN CHEM by (Signature)

LABORATORY USE ONLY  
Temperature of temperature blank *Room*  
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 Type	Device	Preserv. Type	Field Screening	Location/Description (see footnote 2)	Analysis Type	Sample Condition					
									Lab ID Number	no/type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments
<i>MW-3</i>	<i>12-8-94</i>		<i>GL</i>		<i>UHP</i>			<i>6</i>						
<i>MW-4</i>	<i>1</i>		<i>1</i>		<i>HCl</i>			<i>4, 1</i>						
<i>1</i>	<i>1</i>		<i>1</i>		<i>HNO3</i>		<i>filtered</i>	<i>3</i>						
<i>1</i>	<i>1</i>		<i>1</i>		<i>HCl</i>			<i>5</i>						
<i>1</i>	<i>1</i>		<i>1</i>		<i>UHP</i>			<i>6</i>						

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

- ANALYSIS CODES
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

BILLING ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT USE ONLY

Split samples: Offered?  yes  no (Check one)  
Accepted?  yes  no (Check one)

Accepted By: \_\_\_\_\_





State of Wisconsin  
Department of Natural Resources

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Based on Form 4400-151 Rev. 4-93

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis.Adm.Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>MW/BSL</i>	Title/Work Station/Company <i>Sigma</i>	Telephone Number (include area code) <i>7168-7144</i>
Property Owner <i>Condor Oil - Cedarburg #1966</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Monica Lucco</i>	Date/Time <i>12-8-94</i>	Received By (Signature) <i>Deane Kemper</i>	Date/Time <i>12/9/94</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Relinquished By (Signature)	Date/Time	Received for EN CHEM. by (Signature)	Date/Time

LABORATORY USE ONLY  
Temperature of temperature blank *Blank*  
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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition				
			Type 1	Device						no/Type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments
<i>MW-2</i>	<i>12-8-94</i>		<i>GW</i>			<i>HCl</i>		<i>4, 1</i>						
<i>L</i>	<i>L</i>		<i>L</i>			<i>HNO<sub>3</sub></i>	<i>Filtered</i>	<i>3</i>						
						<i>HCl</i>		<i>5</i>						
						<i>UMP</i>		<i>6</i>						
<i>MW-3</i>	<i>L</i>		<i>L</i>			<i>HCl</i>		<i>4, 1</i>						
<i>L</i>	<i>L</i>		<i>L</i>			<i>HNO<sub>3</sub></i>	<i>Filtered</i>	<i>3</i>						
						<i>HCl</i>		<i>5</i>						

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

ANALYSIS CODES			
1. GRO	5. DRO	9. Free Liquids	13. BETX
2. PVOC	6. PAH	10. pH	14. Protocol D1-GRO
3. Lead	7. Flashpoint	11. TCLP-Benzene	15. Protocol D1-DRO
4. 8021	8. Percent Solids	12. TCLP-Lead	16. 8260

BILLING ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT USE ONLY

Split samples: Offered?  yes  no (Check one)  
Accepted?  yes  no (Check one)

Accepted By: \_\_\_\_\_



Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis.Adm.Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <u>MW/BL</u>	Title/Work Station/Company <u>Signa Environmental</u>	Telephone Number (include area code) <u>768-7141</u>
Property Owner <u>Condor Oil - Cedarburg #966</u>	Property Address <u>N 22 W 5358 Kulland Rd</u>	Telephone Number (include area code)

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

Relinquished By (Signature) <u>Monica W...</u>	Date/Time <u>12-8-94</u>	Received By (Signature) <u>Reenie Kemper</u>	Date/Time <u>12/9/94</u>
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Relinquished By (Signature)	Date/Time	Received for EN CHEM by (Signature)	

**LABORATORY USE ONLY**

Temperature of temperature blank 80.2  
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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Sample Condition						
			Type	Device					Lab ID Number	no/Type of Containers	Cracked /broken	Improp. Sealed	Good Cond.	Other Comments	
Top blank	12-8-94		GW		HCL			4							
Equip. blank			GW		HCL			4							
Duplicate			GW		HCL			4							
MW-1			GW		HCL			4,1							
I					HNO <sub>3</sub>		filtered	3							
					HCL			5							
					UMP			6							

**FOOTNOTES**  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.

- ANALYSIS CODES**
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

**BILLING ADDRESS:**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DEPARTMENT USE ONLY**

Split samples:      Offered?     yes     no    (Check one)  
                                 Accepted?     yes     no    (Check one)

Accepted By: \_\_\_\_\_



Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <u>mw/BL</u>	Title/Work Station/Company <u>Sigma Environmental</u>	Telephone Number (include area code) <u>768-7144</u>
Property Owner <u>Condon Oil - Cedarburg #1966</u>	Property Address <u>N32 W5358 Portland Rd</u>	Telephone Number (include area code)

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

Relinquished By (Signature) <u>Monica Weiss</u>	Date/Time <u>12-8-94</u>	Received By (Signature) <u>Kenice Kemper</u>	Date/Time <u>12/9/94</u>
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Relinquished By (Signature) <u>Kenice Kemper</u>	Date/Time <u>12/9/94</u>	Received for EN CHEM by (Signature) <u>Gloria Dystant</u>	Date/Time <u>4:10 PM</u>

LABORATORY USE ONLY  
Temperature of temperature blank 80.2  
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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition					
			Type	Device						no/Type of Containers	Cracked /broken	Improp. Sealed	Good Cond.	Other Comments	
Trip blank	12-8-94		GW		HCL			4	130367	2-46ml				X	
Equip. blank			GW		HCL			4	130368						
Duplicate			GW		HCL			4	130369						
mw-1			GW		HCL			4,1	130370	9-40ml					
I					HNO <sub>3</sub>		filtered	3		1.250ml					
					HCL			5		1-1L					
					UNP			6		1-1L					

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.  
9412164

- ANALYSIS CODES
- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

BILLING ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT USE ONLY

Split samples:      Offered?     yes     no    (Check one)  
                                 Accepted?     yes     no    (Check one)

Accepted By: \_\_\_\_\_



State of Wisconsin  
Department of Natural Resources

CHAIN OF CUSTODY RECORD  
LUST PROGRAM  
Based on Form 4400-151 Rev. 4-93

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>MW/BL</i>	Title/Work Station/Company <i>Sigma</i>	Telephone Number (include area code) <i>768-7144</i>
Property Owner <i>Condon Oil-Cedarburg #1966</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Monica Wew</i>	Date/Time <i>12-8-94</i>	Received By (Signature) <i>Bernie Kemper</i>	<i>12/9/94</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)	
Relinquished By (Signature) <i>Bernie Kemper</i>	Date/Time <i>12/9/94</i>	Received for EN CHEM by (Signature) <i>Storia Noplaten</i>	<i>4:10 PM</i>

LABORATORY USE ONLY  
Temperature of temperature blank *not*  
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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition					
			Type	Device						no/Type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments	
<i>MW-2</i>	<i>12-8-94</i>		<i>GW</i>			<i>HCl</i>		<i>4, 1</i>	<i>130371</i>	<i>1-400</i>				<i>Y</i>	
<i>L</i>	<i>L</i>		<i>L</i>			<i>HNO<sub>3</sub></i>	<i>Filtered</i>	<i>3</i>		<i>1-250 ml</i>					
						<i>HCl</i>		<i>5</i>		<i>1-1L</i>					
						<i>UNP</i>		<i>6</i>		<i>↓</i>					
<i>MW-3</i>						<i>HCl</i>		<i>4, 1</i>	<i>130372</i>	<i>4-400</i>					
<i>L</i>	<i>L</i>		<i>L</i>			<i>HNO<sub>3</sub></i>	<i>Filtered</i>	<i>3</i>		<i>1-250 ml</i>					
						<i>HCl</i>		<i>5</i>		<i>1-1L</i>					

FOOTNOTES  
1. specify groundwater, surface water, soil, leachate, sludge, etc.  
2. sample description must clearly correlate the sample ID to the sampling location.  
*94.2164*

ANALYSIS CODES			
1. GRO	5. DRO	9. Free Liquids	13. BETX
2. PVOC	6. PAH	10. pH	14. Protocol D1-GRO
3. Lead	7. Flashpoint	11. TCLP-Benzene	15. Protocol D1-DRO
4. 8021	8. Percent Solids	12. TCLP-Lead	16. 8260

BILLING ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT USE ONLY

Split samples: Offered?  yes  no (Check one)  
Accepted?  yes  no (Check one)

Accepted By: \_\_\_\_\_



Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 15B and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <i>MW/BL</i>	Title/Work Station/Company <i>Sigma</i>	Telephone Number (include area code) <i>768-7144</i>
Property Owner <i>Condon Oil #1966</i>	Property Address	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Monica Weis</i>	Date/Time <i>12-8-94</i>	Received By (Signature) <i>Bence Kempes</i>	Date/Time <i>12/9/94</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time
Relinquished By (Signature) <i>Bence Kempes</i>	Date/Time <i>12/9/94</i>	Received for EN CHEM by (Signature) <i>Gloria Drotator</i>	Date/Time <i>4:10 PM</i>

LABORATORY USE ONLY  
Temperature of temperature blank *RO 2*  
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	Field Screening	Location/Description (see footnote 2)	Analysis Type	Lab ID Number	Sample Condition					
			Type 1	Device						no/Type of Containers	Cracked/broken	Improp. Sealed	Good Cond.	Other Comments	
<i>MW-3</i>	<i>12-8-94</i>		<i>GW</i>		<i>UNP</i>			<i>6</i>	<i>130372</i>	<i>1-1L</i>				<input checked="" type="checkbox"/>	
<i>MW-4</i>	<i>1</i>		<i>1</i>		<i>HCl</i>			<i>4, 1</i>	<i>130373</i>	<i>4-40ml</i>					
<i>1</i>	<i>1</i>		<i>1</i>		<i>HNO3</i>		<i>Filtered</i>	<i>3</i>	<i>1</i>	<i>1-250ml</i>					
<i>1</i>	<i>1</i>		<i>1</i>		<i>HCl</i>			<i>5</i>	<i>1</i>	<i>1-1L</i>					
<i>1</i>	<i>1</i>		<i>1</i>		<i>UNP</i>			<i>6</i>	<i>1</i>	<i>1-1L</i>					

FOOTNOTES

- specify groundwater, surface water, soil, leachate, sludge, etc.
- sample description must clearly correlate the sample ID to the sampling location.

*9412164*

ANALYSIS CODES

- |         |                   |                  |                     |
|---------|-------------------|------------------|---------------------|
| 1. GRO  | 5. DRO            | 9. Free Liquids  | 13. BETX            |
| 2. PVOC | 6. PAH            | 10. pH           | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint     | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead    | 16. 8260            |

BILLING ADDRESS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT USE ONLY

Split samples:      Offered?     yes     no    (Check one)  
                                 Accepted?     yes     no    (Check one)

Accepted By: \_\_\_\_\_



...chemistry for the environment

1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
En Chem Proj# : 9412164  
Date Reported : 12/16/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC

Thank you for using En Chem! Samples were analyzed according to strict EPA or Wisconsin DNR methodology. Any comments or problems associated with the receipt of or analysis are reported below:

Methylene Chloride is present in lab blank. All sample concentrations of Methylene Chloride should be viewed as suspect.

Sample no. 130369: Complex chromatogram for VOC analysis indicating the presence of fuel.

Sample no. 130370: Baseline shift in florescence detector caused elevated detection limits for later eluting PAH compounds. Front peaks outside of DRO window, indicating lighter fuels are present.

Chromatogram has a typical gasoline pattern. Some peaks were outside of GRO window.

Complex chromatogram for VOC analysis indicating the presence of fuel.

Sample no. 130372: Baseline shift in florescence detector caused elevated detection limits for later eluting PAH compounds.

Front peaks outside of DRO window, indicating lighter fuels are present. Majority of the peaks were within the DRO window.

Chromatogram has a typical gasoline pattern. Some peaks were outside of GRO window.

Complex chromatogram for VOC analysis indicating the presence of fuel.





...chemistry for the environment

1795 Industrial Drive  
 Green Bay, WI 54302  
 414-469-2436  
 800-7-ENCHEM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: TRIP BLANK  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130367 Date Reported : 12/16/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
260+	Benzene	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	Bromobenzene	ND	ug/l	1.0					
	Bromochloromethane	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	Bromoform	ND	ug/l	1.0					
	Bromomethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	2.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	4.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	Dibromomethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	1.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					





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1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: TRIP BLANK  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130367 Date Reported : 12/16/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
8260+	1,3-Dichloropropane	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	2,2-Dichloropropane	ND	ug/l	2.0					
	1,1-Dichloropropene	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	2.0					
	Ethyl Benzene	ND	ug/l	1.0					
	Hexachlorobutadiene	ND	ug/l	1.0					
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	3.8	ug/l	1.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	1.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Styrene	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,3-Trichloropropane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	ND	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	ND	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:







...chemistry for the environment

1795 Industrial Drive  
 Green Bay, WI 54302  
 414-469-2436  
 800-7-ENCHEM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: EQUIP.BLANK  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130368 Date Reported : 12/16/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	Benzene	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	Bromobenzene	ND	ug/l	1.0					
	Bromochloromethane	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	Bromoform	ND	ug/l	1.0					
	Bromomethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	2.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	4.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	Dibromomethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	1.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					





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1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: EQUIP.BLANK  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130368 Date Reported : 12/16/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
8260+	1,3-Dichloropropane	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	2,2-Dichloropropane	ND	ug/l	2.0					
	1,1-Dichloropropene	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	2.0					
	Ethyl Benzene	ND	ug/l	1.0					
	Hexachlorobutadiene	ND	ug/l	1.0					
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	4.1	ug/l	1.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	1.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Styrene	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,3-Trichloropropane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	ND	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	ND	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Notar Melberg*





...chemistry for the environment

1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: DUPLICATE  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130369 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	Benzene	13	ug/l	2.5	SW846 5030	12/16/1994	SW846 8260	12/16/1994	RJN
	Bromobenzene	ND	ug/l	2.5					
	Bromochloromethane	ND	ug/l	2.5					
	Bromodichloromethane	ND	ug/l	2.5					
	Bromoform	ND	ug/l	2.5					
	Bromomethane	ND	ug/l	2.5					
	n-Butylbenzene	3.5	ug/l	2.5					
	sec-Butylbenzene	ND	ug/l	2.5					
	tert-Butylbenzene	ND	ug/l	2.5					
	Carbon tetrachloride	ND	ug/l	2.5					
	Chlorobenzene	ND	ug/l	2.5					
	Chlorodibromomethane	ND	ug/l	2.5					
	Chloroethane	ND	ug/l	5.0					
	Chloroform	ND	ug/l	2.5					
	Chloromethane	ND	ug/l	2.5					
	2-Chlorotoluene	ND	ug/l	2.5					
	4-Chlorotoluene	ND	ug/l	2.5					
	1,2-Dibromo-3-chloropropane	ND	ug/l	10					
	1,2-Dibromoethane	ND	ug/l	2.5					
	Dibromomethane	ND	ug/l	2.5					
	1,2-Dichlorobenzene	ND	ug/l	2.5					
	1,3-Dichlorobenzene	ND	ug/l	2.5					
	1,4-Dichlorobenzene	ND	ug/l	2.5					
	Dichlorodifluoromethane	ND	ug/l	2.5					
	1,1-Dichloroethane	ND	ug/l	2.5					
	1,2-Dichloroethane	ND	ug/l	2.5					
	1,1-Dichloroethene	ND	ug/l	2.5					
	cis-1,2-Dichloroethene	ND	ug/l	2.5					
	trans-1,2-Dichloroethene	ND	ug/l	2.5					
	1,2-Dichloropropane	ND	ug/l	2.5					





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1795 Industrial Drive  
Green Bay, WI 54302  
414-469-2436  
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FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: DUPLICATE  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130369 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	1,3-Dichloropropane	ND	ug/l	2.5	SW846 5030	12/16/1994	SW846 8260	12/16/1994	RJN
	2,2-Dichloropropane	ND	ug/l	5.0					
	1,1-Dichloropropene	ND	ug/l	2.5					
	Di-isopropyl ether	ND	ug/l	5.0					
	Ethyl Benzene	81	ug/l	2.5					
	Hexachlorobutadiene	ND	ug/l	2.5					
	Isopropylbenzene	3.7	ug/l	2.5					
	p-Isopropyltoluene	3.6	ug/l	2.5					
	Methylene chloride	7.2	ug/l	2.5					
	Methyl-tert-butyl-ether	ND	ug/l	2.5					
	Naphthalene	40	ug/l	2.5					
	n-Propylbenzene	7.5	ug/l	2.5					
	1,1,1,2-Tetrachloroethane	ND	ug/l	2.5					
	1,1,2,2-Tetrachloroethane	ND	ug/l	2.5					
	Styrene	ND	ug/l	2.5					
	Tetrachloroethene	ND	ug/l	2.5					
	Toluene	ND	ug/l	2.5					
	1,2,3-Trichlorobenzene	ND	ug/l	2.5					
	1,2,4-Trichlorobenzene	ND	ug/l	2.5					
	1,1,1-Trichloroethane	ND	ug/l	2.5					
	1,1,2-Trichloroethane	ND	ug/l	2.5					
	Trichloroethene	ND	ug/l	2.5					
	Trichlorofluoromethane	ND	ug/l	2.5					
	1,2,3-Trichloropropane	ND	ug/l	2.5					
	1,2,4-Trimethylbenzene	140	ug/l	2.5					
	1,3,5-Trimethylbenzene	62	ug/l	2.5					
	Vinyl chloride	ND	ug/l	2.5					
	Xylenes, m + p	470	ug/l	2.5					
	Xylene, o	2.7	ug/l	2.5					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Robert Melberg*





...chemistry for the environment

1795 Industrial Drive  
 Green Bay, WI 54302  
 414-469-2436  
 800-7-ENCHEM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-1  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130370 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
AH	Acenaphthene	ND	ug/l	1.3	SW846 3510	12/13/1994	SW846 8310	12/14/1994	NJS
	Acenaphthylene	ND	ug/l	2.5					
	Anthracene	ND	ug/l	0.05					
	Benzo (a) anthracene	ND	ug/l	0.06					
	Benzo (a) pyrene	ND	ug/l	0.05					
	Benzo (b) fluoranthene	ND	ug/l	0.05					
	Benzo (ghi) perylene	ND	ug/l	0.08					
	Benzo (k) fluoranthene	ND	ug/l	0.05					
	Chrysene	ND	ug/l	0.06					
	Dibenzo (a,h) anthracene	ND	ug/l	0.05					
	Fluoranthene	ND	ug/l	0.05					
	Fluorene	0.99	ug/l	0.25					
	Indeno (1,2,3-cd) pyrene	ND	ug/l	0.05					
	1-Methylnaphthalene	1.6	ug/l	1.3					
	2-Methylnaphthalene	ND	ug/l	1.3					
	Naphthalene	2.2	ug/l	1.3					
	Phenanthrene	ND	ug/l	0.25					
Pyrene	ND	ug/l	0.25						
LEAD-GRAPH	Lead, Graphite Analysis	ND	ug/l	2.0	SW 846 3020		SW846 7421	12/14/1994	MSB
GRO	Gasoline Range Organics(GRO)-Water	1100	ug/l	50		12/14/1994	WDNR MOD GRO	12/14/1994	PMS
	Blank spike	90	% recov						
	Blank spike duplicate	92	% recov						
DRO	Diesel Range Organics(DRO)-Water	880	ug/l	100		12/14/1994	WDNR MOD DRO	12/19/1994	PHS
	Blank spike	102	% recov						
	Blank spike duplicate	112	% recov						





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-1  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130370 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	Benzene	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	Bromobenzene	ND	ug/l	1.0					
	Bromochloromethane	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	Bromoform	ND	ug/l	1.0					
	Bromomethane	ND	ug/l	1.0					
	n-Butylbenzene	5.3	ug/l	1.0					
	sec-Butylbenzene	3.2	ug/l	1.0					
	tert-Butylbenzene	1.1	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	2.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	4.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	Dibromomethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	1.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: MW-1  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj#: 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130370 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
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Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
260+	1,3-Dichloropropane	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	2,2-Dichloropropane	ND	ug/l	2.0					
	1,1-Dichloropropene	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	2.0					
	Ethyl Benzene	28	ug/l	1.0					
	Hexachlorobutadiene	ND	ug/l	1.0					
	Isopropylbenzene	15	ug/l	1.0					
	p-Isopropyltoluene	3.9	ug/l	1.0					
	Methylene chloride	ND	ug/l	1.0					
	Methyl-tert-butyl-ether	1.1	ug/l	1.0					
	Naphthalene	6.0	ug/l	1.0					
	n-Propylbenzene	18	ug/l	1.0					
	1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Styrene	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	1.7	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,3-Trichloropropane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	12	ug/l	1.0					
	1,3,5-Trimethylbenzene	36	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	23	ug/l	1.0					
	Xylene, o	1.7	ug/l	1.0					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-2  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130371 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
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Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
PAH	Acenaphthene	ND	ug/l	0.5	SW846 3510	12/13/1994	SW846 8310	12/13/1994	NJS
	Acenaphthylene	ND	ug/l	1.0					
	Anthracene	ND	ug/l	0.02					
	Benzo (a) anthracene	ND	ug/l	0.03					
	Benzo (a) pyrene	ND	ug/l	0.02					
	Benzo (b) fluoranthene	ND	ug/l	0.02					
	Benzo (ghi) perylene	ND	ug/l	0.03					
	Benzo (k) fluoranthene	ND	ug/l	0.02					
	Chrysene	ND	ug/l	0.03					
	Dibenzo (a,h) anthracene	ND	ug/l	0.02					
	Fluoranthene	ND	ug/l	0.02					
	Fluorene	ND	ug/l	0.10					
	Indeno (1,2,3-cd) pyrene	ND	ug/l	0.02					
	1-Methylnaphthalene	ND	ug/l	0.5					
	2-Methylnaphthalene	ND	ug/l	0.5					
	Naphthalene	ND	ug/l	0.5					
	Phenanthrene	ND	ug/l	0.10					
Pyrene	ND	ug/l	0.10						
LEAD-GRAPH	Lead, Graphite Analysis	ND	ug/l	2.0	SW 846 3020		SW846 7421	12/14/1994	MSB
GRO	Gasoline Range Organics(GRO)-Water	ND	ug/l	50		12/14/1994	WDNR MOD GRO	12/14/1994	PMS
	Blank spike		90 % recov						
	Blank spike duplicate		92 % recov						
DRO	Diesel Range Organics(DRO)-Water	250	ug/l	100		12/14/1994	WDNR MOD DRO	12/17/1994	MAR
	Blank spike		102 % recov						
	Blank spike duplicate		112 % recov						







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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-2  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130371 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
260+	Benzene	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	Bromobenzene	ND	ug/l	1.0					
	Bromochloromethane	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	Bromoform	ND	ug/l	1.0					
	Bromomethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	2.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	4.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	Dibromomethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	1.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	1.2	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: MW-2  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130371 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
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Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
B260+	1,3-Dichloropropane	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	2,2-Dichloropropane	ND	ug/l	2.0					
	1,1-Dichloropropene	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	2.0					
	Ethyl Benzene	ND	ug/l	1.0					
	Hexachlorobutadiene	ND	ug/l	1.0					
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	ND	ug/l	1.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	1.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Styrene	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,3-Trichloropropane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	ND	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	ND	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Nick Melberg*





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-3  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130372 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
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Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
PAH	Acenaphthene	ND	ug/l	2.5	SW846 3510	12/13/1994	SW846 8310	12/14/1994	NJS
	Acenaphthylene	ND	ug/l	5.0					
	Anthracene	ND	ug/l	0.10					
	Benzo (a) anthracene	ND	ug/l	0.13					
	Benzo (a) pyrene	ND	ug/l	0.10					
	Benzo (b) fluoranthene	ND	ug/l	0.10					
	Benzo (ghi) perylene	ND	ug/l	0.15					
	Benzo (k) fluoranthene	ND	ug/l	0.10					
	Chrysene	ND	ug/l	0.13					
	Dibenzo (a,h) anthracene	ND	ug/l	0.10					
	Fluoranthene	ND	ug/l	0.10					
	Fluorene	ND	ug/l	0.50					
	Indeno (1,2,3-cd) pyrene	ND	ug/l	0.10					
	1-Methylnaphthalene	8.6	ug/l	2.5					
	2-Methylnaphthalene	6.4	ug/l	2.5					
	Naphthalene	10	ug/l	2.5					
	Phenanthrene	ND	ug/l	0.50					
Pyrene	ND	ug/l	0.50						
LEAD-GRAPH	Lead, Graphite Analysis	ND	ug/l	2.0	SW 846 3020		SW846 7421	12/14/1994	MSB
GRO	Gasoline Range Organics(GRO)-Water	1100	ug/l	50		12/14/1994	WDNR MOD GRO	12/14/1994	PMS
	Blank spike	90	% recov						
	Blank spike duplicate	92	% recov						
DRO	Diesel Range Organics(DRO)-Water	4300	ug/l	100		12/14/1994	WDNR MOD DRO	12/19/1994	PHS
	Blank spike	102	% recov						
	Blank spike duplicate	112	% recov						





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Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-3  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130372 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	Benzene	13	ug/l	2.5	SW846 5030	12/16/1994	SW846 8260	12/16/1994	RJN
	Bromobenzene	ND	ug/l	2.5					
	Bromochloromethane	ND	ug/l	2.5					
	Bromodichloromethane	ND	ug/l	2.5					
	Bromoform	ND	ug/l	2.5					
	Bromomethane	ND	ug/l	2.5					
	n-Butylbenzene	3.4	ug/l	2.5					
	sec-Butylbenzene	ND	ug/l	2.5					
	tert-Butylbenzene	ND	ug/l	2.5					
	Carbon tetrachloride	ND	ug/l	2.5					
	Chlorobenzene	ND	ug/l	2.5					
	Chlorodibromomethane	ND	ug/l	2.5					
	Chloroethane	ND	ug/l	5.0					
	Chloroform	ND	ug/l	2.5					
	Chloromethane	ND	ug/l	2.5					
	2-Chlorotoluene	ND	ug/l	2.5					
	4-Chlorotoluene	ND	ug/l	2.5					
	1,2-Dibromo-3-chloropropane	ND	ug/l	10					
	1,2-Dibromoethane	ND	ug/l	2.5					
	Dibromomethane	ND	ug/l	2.5					
	1,2-Dichlorobenzene	ND	ug/l	2.5					
	1,3-Dichlorobenzene	ND	ug/l	2.5					
	1,4-Dichlorobenzene	ND	ug/l	2.5					
	Dichlorodifluoromethane	ND	ug/l	2.5					
	1,1-Dichloroethane	ND	ug/l	2.5					
	1,2-Dichloroethane	ND	ug/l	2.5					
	1,1-Dichloroethene	ND	ug/l	2.5					
	cis-1,2-Dichloroethene	ND	ug/l	2.5					
	trans-1,2-Dichloroethene	ND	ug/l	2.5					
	1,2-Dichloropropane	ND	ug/l	2.5					





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: MW-3  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130372 Date Reported : 12/20/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
-8260+	1,3-Dichloropropane	ND	ug/l	2.5	SW846 5030	12/16/1994	SW846 8260	12/16/1994	RJM
	2,2-Dichloropropane	ND	ug/l	5.0					
	1,1-Dichloropropene	ND	ug/l	2.5					
	Di-isopropyl ether	ND	ug/l	5.0					
	Ethyl Benzene	83	ug/l	2.5					
	Hexachlorobutadiene	ND	ug/l	2.5					
	Isopropylbenzene	3.9	ug/l	2.5					
	p-Isopropyltoluene	3.8	ug/l	2.5					
	Methylene chloride	7.0	ug/l	2.5					
	Methyl-tert-butyl-ether	ND	ug/l	2.5					
	Naphthalene	41	ug/l	2.5					
	n-Propylbenzene	7.8	ug/l	2.5					
	1,1,1,2-Tetrachloroethane	ND	ug/l	2.5					
	1,1,2,2-Tetrachloroethane	ND	ug/l	2.5					
	Styrene	ND	ug/l	2.5					
	Tetrachloroethene	ND	ug/l	2.5					
	Toluene	ND	ug/l	2.5					
	1,2,3-Trichlorobenzene	ND	ug/l	2.5					
	1,2,4-Trichlorobenzene	ND	ug/l	2.5					
	1,1,1-Trichloroethane	ND	ug/l	2.5					
	1,1,2-Trichloroethane	ND	ug/l	2.5					
	Trichloroethene	ND	ug/l	2.5					
	Trichlorofluoromethane	ND	ug/l	2.5					
	1,2,3-Trichloropropane	ND	ug/l	2.5					
	1,2,4-Trimethylbenzene	150	ug/l	2.5					
	1,3,5-Trimethylbenzene	64	ug/l	2.5					
	Vinyl chloride	ND	ug/l	2.5					
	Xylenes, m + p	480	ug/l	2.5					
	Xylene, o	2.9	ug/l	2.5					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:





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Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: MW-4  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130373 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analized By
PAH	Acenaphthene	ND	ug/l	0.5	SW846 3510	12/13/1994	SW846 8310	12/13/1994	NJS
	Acenaphthylene	ND	ug/l	1.0					
	Anthracene	ND	ug/l	0.02					
	Benzo (a) anthracene	ND	ug/l	0.03					
	Benzo (a) pyrene	ND	ug/l	0.02					
	Benzo (b) fluoranthene	ND	ug/l	0.02					
	Benzo (ghi) perylene	ND	ug/l	0.03					
	Benzo (k) fluoranthene	ND	ug/l	0.02					
	Chrysene	ND	ug/l	0.03					
	Dibenzo (a,h) anthracene	ND	ug/l	0.02					
	Fluoranthene	ND	ug/l	0.02					
	Fluorene	ND	ug/l	0.10					
	Indeno (1,2,3-cd) pyrene	ND	ug/l	0.02					
	1-Methylnaphthalene	ND	ug/l	0.5					
	2-Methylnaphthalene	ND	ug/l	0.5					
	Naphthalene	ND	ug/l	0.5					
	Phenanthrene	ND	ug/l	0.10					
Pyrene	ND	ug/l	0.10						
LEAD-GRAPH	Lead, Graphite Analysis	ND	ug/l	2.0	SW 846 3020		SW846 7421	12/14/1994	MSB
GRO	Gasoline Range Organics(GRO)-Water	ND	ug/l	50		12/14/1994	WDNR MOD GRO	12/14/1994	PMS
	Blank spike		90 % recov						
	Blank spike duplicate		92 % recov						
DRO	Diesel Range Organics(DRO)-Water	190	ug/l	100		12/14/1994	WDNR MOD DRO	12/17/1994	MAR
	Blank spike		102 % recov						
	Blank spike duplicate		112 % recov						





...chemistry for the environment

1795 Industrial Drive  
 Green Bay, WI 54302  
 414-469-2436  
 800-7-ENCHEM  
 FAX: 414-469-8827

Lab Certification No. 405132750  
 Location : CONDON OIL-CEDARBURG #1966  
 Your Sample ID: MW-4  
 Sample Desc. :  
 Sample Matrix : WATER Date Collected: 12/08/1994  
 En Chem Proj# : 9412164 Date Received : 12/09/1994  
 En Chem Lab # : 130373 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
 220 EAST RYAN ROAD  
 OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
3260+	Benzene	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	Bromobenzene	ND	ug/l	1.0					
	Bromochloromethane	ND	ug/l	1.0					
	Bromodichloromethane	ND	ug/l	1.0					
	Bromoform	ND	ug/l	1.0					
	Bromomethane	ND	ug/l	1.0					
	n-Butylbenzene	ND	ug/l	1.0					
	sec-Butylbenzene	ND	ug/l	1.0					
	tert-Butylbenzene	ND	ug/l	1.0					
	Carbon tetrachloride	ND	ug/l	1.0					
	Chlorobenzene	ND	ug/l	1.0					
	Chlorodibromomethane	ND	ug/l	1.0					
	Chloroethane	ND	ug/l	2.0					
	Chloroform	ND	ug/l	1.0					
	Chloromethane	ND	ug/l	1.0					
	2-Chlorotoluene	ND	ug/l	1.0					
	4-Chlorotoluene	ND	ug/l	1.0					
	1,2-Dibromo-3-chloropropane	ND	ug/l	4.0					
	1,2-Dibromoethane	ND	ug/l	1.0					
	Dibromomethane	ND	ug/l	1.0					
	1,2-Dichlorobenzene	ND	ug/l	1.0					
	1,3-Dichlorobenzene	ND	ug/l	1.0					
	1,4-Dichlorobenzene	ND	ug/l	1.0					
	Dichlorodifluoromethane	ND	ug/l	1.0					
	1,1-Dichloroethane	ND	ug/l	1.0					
	1,2-Dichloroethane	ND	ug/l	1.0					
	1,1-Dichloroethene	ND	ug/l	1.0					
	cis-1,2-Dichloroethene	ND	ug/l	1.0					
	trans-1,2-Dichloroethene	ND	ug/l	1.0					
	1,2-Dichloropropane	ND	ug/l	1.0					





...chemistry for the environment

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414-469-2436  
800-7-ENCHEM  
FAX: 414-469-8827

Lab Certification No. 405132750  
Location : CONDON OIL-CEDARBURG #1966  
Your Sample ID: MW-4  
Sample Desc. :  
Sample Matrix : WATER Date Collected: 12/08/1994  
En Chem Proj# : 9412164 Date Received : 12/09/1994  
En Chem Lab # : 130373 Date Reported : 12/19/1994

Report to: SIGMA ENVIRONMENTAL SERVICES, INC  
220 EAST RYAN ROAD  
OAK CREEK, WI 53154

Bill to: SIGMA ENVIRONMENTAL SERVICES, INC

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analysis Analyzed By
8260+	1,3-Dichloropropane	ND	ug/l	1.0	SW846 5030	12/15/1994	SW846 8260	12/15/1994	RJN
	2,2-Dichloropropane	ND	ug/l	2.0					
	1,1-Dichloropropene	ND	ug/l	1.0					
	Di-isopropyl ether	ND	ug/l	2.0					
	Ethyl Benzene	ND	ug/l	1.0					
	Hexachlorobutadiene	ND	ug/l	1.0					
	Isopropylbenzene	ND	ug/l	1.0					
	p-Isopropyltoluene	ND	ug/l	1.0					
	Methylene chloride	ND	ug/l	1.0					
	Methyl-tert-butyl-ether	ND	ug/l	1.0					
	Naphthalene	ND	ug/l	1.0					
	n-Propylbenzene	ND	ug/l	1.0					
	1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
	1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
	Styrene	ND	ug/l	1.0					
	Tetrachloroethene	ND	ug/l	1.0					
	Toluene	ND	ug/l	1.0					
	1,2,3-Trichlorobenzene	ND	ug/l	1.0					
	1,2,4-Trichlorobenzene	ND	ug/l	1.0					
	1,1,1-Trichloroethane	ND	ug/l	1.0					
	1,1,2-Trichloroethane	ND	ug/l	1.0					
	Trichloroethene	ND	ug/l	1.0					
	Trichlorofluoromethane	ND	ug/l	1.0					
	1,2,3-Trichloropropane	ND	ug/l	1.0					
	1,2,4-Trimethylbenzene	ND	ug/l	1.0					
	1,3,5-Trimethylbenzene	ND	ug/l	1.0					
	Vinyl chloride	ND	ug/l	1.0					
	Xylenes, m + p	ND	ug/l	1.0					
	Xylene, o	ND	ug/l	1.0					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

*Rita Melby*







# Robert E. Lee & Associates, Inc.

Engineering, Surveying, Laboratory Services

*Providing scientifically defensible analytical data  
while setting a new standard for customer service.*

Wisconsin Certification No: 405043870

2825 S. Webster Ave.  
P.O. Box 2100  
Green Bay, WI 54306-2100  
414/336-6338  
FAX 414/336-9141

REPORT DATE=====> 09/20/1995

CHAIN OF CUSTODY #==> 29487

CUSTOMER=====> 9002002

Condon Co.-Sigma Environmental Services  
220 E. Ryan Road  
Oak Creek WI 53154

414-284-6824

CONTACT=====> Gene Klees

PROJECT NO.=====> 1966

PROJECT NAME=====> CONDON OIL

RECEIVED=====> 09/08/1995

SAMPLED=====> 09/07/1995

COMMENTS:

ATTEST:

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

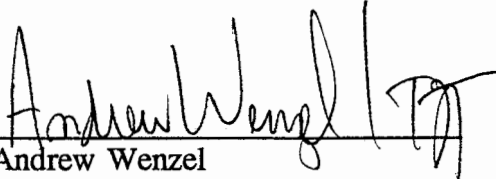
## NARRATIVE

This narrative is relevant to samples MW-5, MW-6, MW-7 and MW-8.

The samples were analyzed for gasoline range organics following the Wisconsin Modified GRO Method.

The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate gasoline component spikes was within method limits.
3. The recovery for each replicate gasoline component spike was within method limits.
4. The surrogate recovery was within laboratory limits for all samples.
5. The initial and final check standards verified the calibration curve for GRO.
6. Samples MW-5 and MW-6 had peaks before the GRO window.

  
Andrew Wenzel  
Laboratory Coordinator  
rlb

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

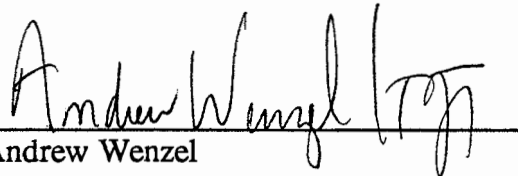
## NARRATIVE

This narrative is relevant to samples MW-5, MW-6, MW-7 and MW-8.

The samples were analyzed for diesel range organics following the Wisconsin Modified DRO Method.

The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate diesel component spikes was within method limits.
3. The recovery for each replicate diesel component spike was within method limits.
4. The initial and final check standards verified the calibration curve for DRO.
5. Samples MW-5 and MW-6 had peaks and a rise in baseline before the DRO window.
6. All samples had peaks and a rise in baseline after the DRO window.

  
Andrew Wenzel  
Laboratory Coordinator  
af1

ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
220 E. Ryan Road  
Oak Creek WI 53154

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

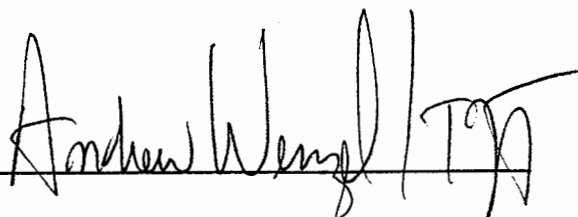
Lab Number: 95REL017761  
Sample ID : MW-5  
Matrix : GW

Chain Number: 29487  
Report Date : 09/20/1995  
Sample Date : 09/07/1995

---

METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/13/1995	LH
WI. MOD. GRO	GAS RANGE ORGANICS	1490	UG/L	28	09/11/1995	RLB2
WI. MOD. DRO	DIESEL RANGE ORGANICS	3490	UG/L	105	09/15/1995	AFL
SW846-7421	DISSOLVED LEAD GFAA	<1	UG/L	1	09/11/1995	JAJ

ATTEST:



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Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
220 E. Ryan Road  
Oak Creek WI 53154

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

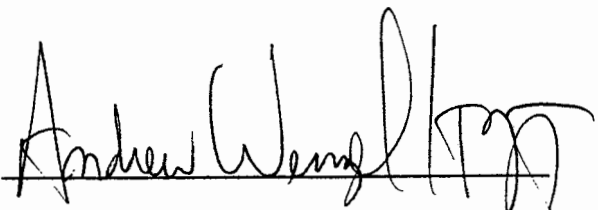
Lab Number: 95REL017762  
Sample ID : MW-6  
Matrix : GW

Chain Number: 29487  
Report Date : 09/20/1995  
Sample Date : 09/07/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/13/1995	LH
WI. MOD. GRO	GAS RANGE ORGANICS	1930	UG/L	28	09/11/1995	RLB2
WI. MOD. DRO	DIESEL RANGE ORGANICS	3060	UG/L	110	09/15/1995	AFL
SW846-7421	DISSOLVED LEAD GFAA	<1	UG/L	1	09/11/1995	JAJ

ATTEST:



ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
220 E. Ryan Road  
Oak Creek WI 53154

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

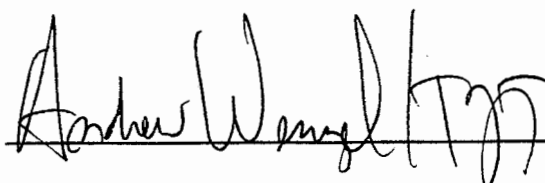
Lab Number: 95REL017765  
Sample ID : MW-7  
Matrix : GW

Chain Number: 29487  
Report Date : 09/20/1995  
Sample Date : 09/07/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/13/1995	LH
WI. MOD. GRO	GAS RANGE ORGANICS	61	UG/L	28	09/11/1995	RLB2
WI. MOD. DRO	DIESEL RANGE ORGANICS	1100	UG/L	55	09/15/1995	AFL
SW846-7421	DISSOLVED LEAD GFAA	<1	UG/L	1	09/11/1995	JAJ

ATTEST:



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Wisconsin Certification NO: 405043870

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Condon Co.-Sigma Environmental Services  
220 E. Ryan Road  
Oak Creek WI 53154

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

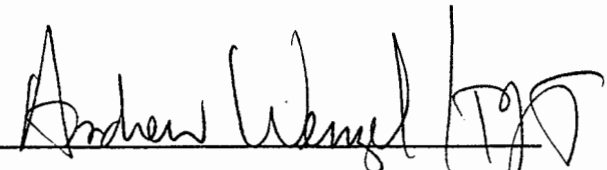
Lab Number: 95REL017766  
Sample ID : MW-8  
Matrix : GW

Chain Number: 29487  
Report Date : 09/20/1995  
Sample Date : 09/07/1995

---

METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
SW846-8021	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			09/14/1995	LH
WI. MOD. GRO	GAS RANGE ORGANICS	<28	UG/L	28	09/11/1995	RLB2
WI. MOD. DRO	DIESEL RANGE ORGANICS	310	UG/L	54	09/15/1995	AFL
SW846-7421	DISSOLVED LEAD GFAA	<1	UG/L	1	09/11/1995	JAJ

ATTEST:

  
Andrew Wenzel

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

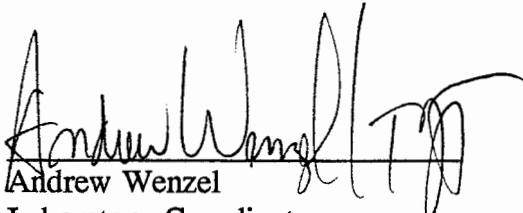
## NARRATIVE

This narrative is relevant to sample MW-1.

The sample was analyzed for petroleum volatile organic compounds following SW-846 Method 8020.

The sample used for the matrix spikes was not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the four compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the four compounds spiked.
4. The surrogate recovery was within laboratory limits.
5. The initial check standard verified the calibration curve for each of the reported compounds.

  
Andrew Wenzel  
Laboratory Coordinator  
cl



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/12/95

REL JOB NUMBER: 95REL017757

ANALYZED BY & GC NO.: CL / GC #2

SAMPLE: MW-1

DILUTION: 1 TO 5

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	2.5	14
TOLUENE	3.0	ND
ETHYLBENZENE	30	116*
TOTAL XYLENE	8.5	44
METHYL - TERT - BUTYL - ETHER	14	ND
1,2,4 - TRIMETHYLBENZENE	8.5	15
1,3,5 - TRIMETHYLBENZENE	4.5	36

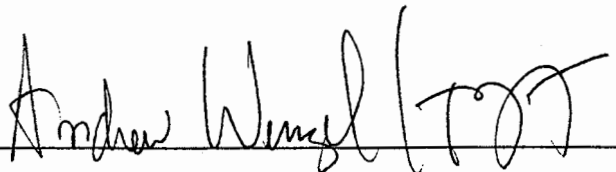
• FLUOROBENZENE SURROGATE RECOVERY (%).....

123

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED  
\* = ANALYZED 09/11/95  
DILUTION FACTOR FOR 09/11/95: 1 TO 50

ATTEST



# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

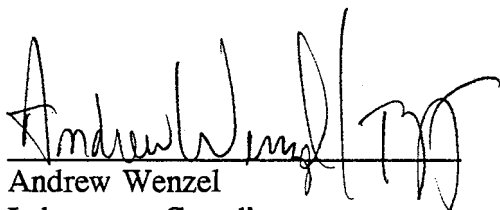
## NARRATIVE

This narrative is relevant to samples MW-2, MW-3, MW-4, TRIP BLANK and EQUIPMENT BLANK.

The samples were analyzed for petroleum volatile organic compounds following SW-846 Method 8020.

Sample MW-2 was used for the matrix spikes. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the four compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the four compounds spiked.
4. The surrogate recovery was within laboratory limits for all samples.
5. The initial check standard verified the calibration curve for each of the reported compounds.



Andrew Wenzel  
Laboratory Coordinator

cl

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

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GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/12/95

REL JOB NUMBER: 95REL017758

ANALYZED BY & GC NO.: CL / GC #2

SAMPLE: MW-2

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	ND
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4 - TRIMETHYLBENZENE	1.7	ND
1,3,5 - TRIMETHYLBENZENE	0.9	ND

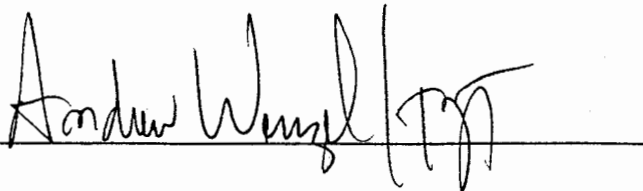
• FLUOROBENZENE SURROGATE RECOVERY (%).....

117

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/11/95

REL JOB NUMBER: 95REL017759

ANALYZED BY & GC NO.: CL / GC #2

SAMPLE: MW-3

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	17
TOLUENE	0.6	2.4
ETHYLBENZENE	3.0	181*
TOTAL XYLENE	8.5	228*
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4 - TRIMETHYLBENZENE	1.7	101
1,3,5 - TRIMETHYLBENZENE	0.9	43

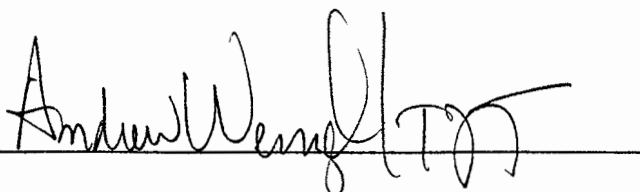
• FLUOROBENZENE SURROGATE RECOVERY (%).....

108

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED  
\* = ANALYZED 09/14/95  
DILUTION FACTOR FOR 09/14/95: 1 TO 5

ATTEST



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
DATE SAMPLED: 09/07/95  
DATE ANALYZED: 09/11/95  
ANALYZED BY & GC NO.: CL / GC #2

PROJECT: CONDON OIL  
PROJECT NUMBER: 1966  
REL JOB NUMBER: 95REL017760  
SAMPLE: MW-4  
DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	ND
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL-TERT-BUTYL-ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

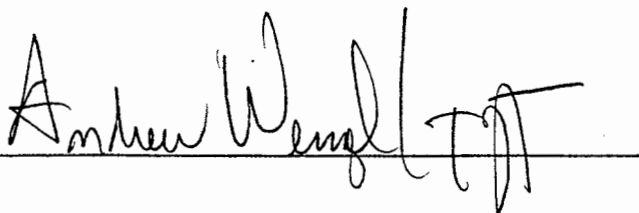
• FLUOROBENZENE SURROGATE RECOVERY (%).....

114

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



**ROBERT E LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
 BY PURGE AND TRAP CAPILLARY COLUMN  
 GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
 DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC. PROJECT: CONDON OIL  
 DATE SAMPLED: 09/07/95 PROJECT NUMBER: 1966  
 DATE ANALYZED: 09/11/95 REL JOB NUMBER: 95REL017763  
 ANALYZED BY & GC NO.: CL / GC #2 SAMPLE: TRIP BLANK  
 DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	ND
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL-TERT-BUTYL-ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

• FLUOROBENZENE SURROGATE RECOVERY (%).....

118

ND = COMPOUND NOT DETECTED  
 MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
 N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wenzel* (signature)

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/12/95

REL JOB NUMBER: 95REL017764

ANALYZED BY & GC NO.: CL / GC #2

SAMPLE: EQUIPMENT BLANK

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	ND
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

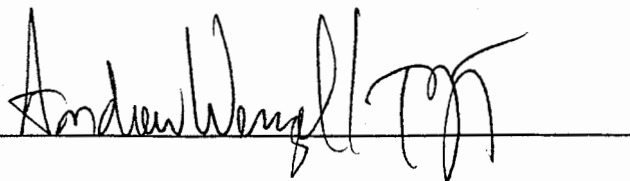
• FLUOROBENZENE SURROGATE RECOVERY (%).....

111

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

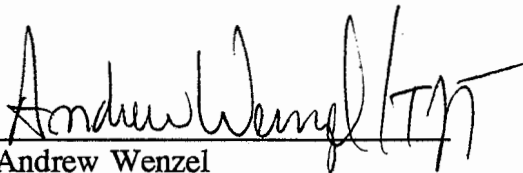
## NARRATIVE

This narrative is relevant to sample DUPLICATE.

The sample was analyzed for petroleum volatile organic compounds following SW-846 Method 8020.

The sample used for the matrix spikes was not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the four compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the four compounds spiked.
4. The surrogate recovery was within laboratory limits.
5. The initial check standard verified the calibration curve for each of the reported compounds.



Andrew Wenzel  
Laboratory Coordinator

cl



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/14/95

REL JOB NUMBER: 95REL017767

ANALYZED BY & GC NO.: TO / GC#13

SAMPLE: DUPLICATE

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	14
TOLUENE	0.6	7.0
ETHYLBENZENE	0.6	53
TOTAL XYLENE	1.7	46
METHYL-TERT-BUTYL-ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	16
1,3,5-TRIMETHYLBENZENE	0.9	34

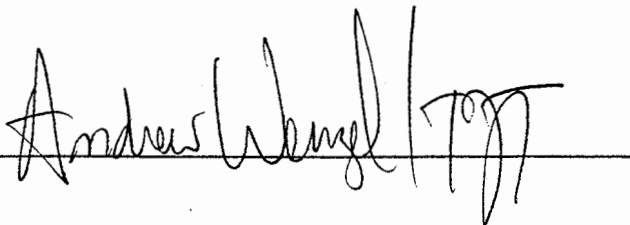
• FLUOROBENZENE SURROGATE RECOVERY (%).....

97

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



Andrew Wengel 10/97

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

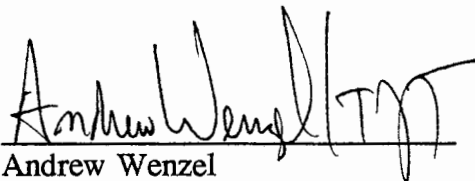
## NARRATIVE

This narrative is relevant to samples MW-5, MW-6 and MW-7.

The samples were analyzed for volatile organic compounds following SW-846 Method 8021.

The sample used for the matrix spikes was not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the twenty-eight compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the twenty-eight compounds spiked.
4. The surrogate recovery for all samples was within laboratory limits for each of the three surrogates spiked.
5. The initial check standard verified the calibration curve for each of the reported compounds except for dichlorodifluoromethane, chloromethane, vinyl chloride, chloroethane and trichlorofluoromethane which were above laboratory limits. The data was accepted because the compounds were not detected in the samples even though the results may have been biased high.
6. The results for sample MW-6 were confirmed by SW-846 Method 8260.



Andrew Wenzel  
Laboratory Coordinator

lh

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/13/95

REL JOB NUMBER: 95REL017761

ANALYZED BY & GC NO.: LH / GC#4

SAMPLE: MW-5

DILUTION: NONE

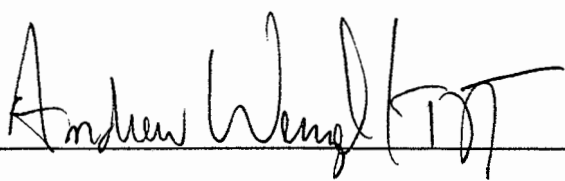
ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	13	1050 *
BROMOBENZENE	1.1	ND
BROMODICHLOROMETHANE	0.8	ND
n-BUTYLBENZENE	1.9	ND
sec-BUTYLBENZENE	1.5	ND
tert-BUTYLBENZENE	2.0	ND
CARBON TETRACHLORIDE	2.0	ND
CHLOROBENZENE	1.1	ND
CHLOROETHANE	1.2	ND
CHLOROFORM	0.8	ND
CHLOROMETHANE	1.1	ND
2-CHLOROTOLUENE	0.8	ND
4-CHLOROTOLUENE	0.7	ND
DIBROMOCHLOROMETHANE	0.8	ND
1,2-DIBROMO-3-CHLOROPROPANE	3.4	ND
1,2-DIBROMOETHANE (EDB)	1.1	ND
1,2-DICHLOROBENZENE	0.9	ND
1,3-DICHLOROBENZENE	1.1	ND
1,4-DICHLOROBENZENE	0.7	ND
DICHLORODIFLUOROMETHANE	1.3	ND
1,1-DICHLOROETHANE	1.6	ND
1,2-DICHLOROETHANE	1.1	1.4
1,1-DICHLOROETHENE	1.5	ND
cis-1,2-DICHLOROETHENE	2.1	ND
trans-1,2-DICHLOROETHENE	1.1	ND
1,2-DICHLOROPROPANE	0.7	ND

ANALYTE	MDL ug/L	RESULT ug/L
1,3-DICHLOROPROPANE	0.7	ND
2,2-DICHLOROPROPANE	1.5	ND
DI-ISOPROPYL ETHER	1.0	ND
ETHYLBENZENE	0.6	3.7
HEXACHLOROBUTADIENE	1.0	ND
ISOPROPYLBENZENE	0.6	2.7
p-ISOPROPYLTOLUENE	1.3	ND
METHYLENE CHLORIDE	1.5	ND
METHYL-TERT-BUTYL-ETHER	2.7	ND
NAPHTHALENE	1.0	ND
n-PROPYLBENZENE	0.8	2.4
1,1,2,2-TETRACHLOROETHANE	1.8	ND
TETRACHLOROETHENE	0.9	ND
TOLUENE	0.6	8.2
1,2,3-TRICHLOROBENZENE	1.1	ND
1,2,4-TRICHLOROBENZENE	1.2	ND
1,1,1-TRICHLOROETHANE	2.8	ND
1,1,2-TRICHLOROETHANE	1.6	ND
TRICHLOROETHENE	0.7	ND
TRICHLOROFLUOROMETHANE	1.2	ND
1,2,4-TRIMETHYLBENZENE	1.7	16
1,3,5-TRIMETHYLBENZENE	0.9	1.5
VINYL CHLORIDE	1.3	ND
m,p-XYLENE	1.7	92
o-XYLENE	0.5	2.9

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 110
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 102
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 110

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED  
\* = ANALYZED 09/14/95  
DILUTION FACTOR FOR 09/14/95: 1 TO 25

ATTEST 

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/13/95

REL JOB NUMBER: 95REL017762

ANALYZED BY & GC NO.: LH / GC#4

SAMPLE: MW-6

DILUTION: 1 TO 10

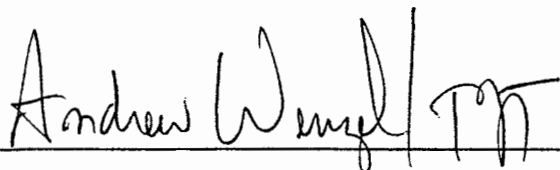
ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	5.0	294
BROMOBENZENE	11	ND
BROMODICHLOROMETHANE	8.0	ND
n-BUTYLBENZENE	19	ND
sec-BUTYLBENZENE	15	ND
tert-BUTYLBENZENE	20	ND
CARBON TETRACHLORIDE	20	ND
CHLOROBENZENE	11	ND
CHLOROETHANE	12	ND
CHLOROFORM	8.0	ND
CHLOROMETHANE	11	ND
2-CHLOROTOLUENE	8.0	ND
4-CHLOROTOLUENE	7.0	ND
DIBROMOCHLOROMETHANE	8.0	ND
1,2-DIBROMO-3-CHLOROPROPANE	34	ND
1,2-DIBROMOETHANE (EDB)	11	ND
1,2-DICHLOROETHANE	9.0	ND
1,3-DICHLOROETHANE	11	ND
1,4-DICHLOROETHANE	7.0	ND
DICHLORODIFLUOROMETHANE	13	ND
1,1-DICHLOROETHANE	16	ND
1,2-DICHLOROETHANE	11	ND
1,1-DICHLOROETHENE	15	ND
cis-1,2-DICHLOROETHENE	21	ND
trans-1,2-DICHLOROETHENE	11	ND
1,2-DICHLOROPROPANE	7.0	ND

ANALYTE	MDL ug/L	RESULT ug/L
1,3-DICHLOROPROPANE	7.0	ND
2,2-DICHLOROPROPANE	15	ND
Di-ISOPROPYL ETHER	10	ND
ETHYLBENZENE	6.0	8.6
HEXACHLOROBUTADIENE	10	ND
ISOPROPYLBENZENE	6.0	ND
p-ISOPROPYLTOLUENE	13	ND
METHYLENE CHLORIDE	15	ND
METHYL-TERT-BUTYL-ETHER	27	ND
NAPHTHALENE	10	ND
n-PROPYLBENZENE	8.0	ND
1,1,2,2-TETRACHLOROETHANE	18	ND
TETRACHLOROETHENE	9.0	ND
TOLUENE	6.0	7.8
1,2,3-TRICHLOROETHANE	11	ND
1,2,4-TRICHLOROETHANE	12	ND
1,1,1-TRICHLOROETHANE	28	ND
1,1,2-TRICHLOROETHANE	16	ND
TRICHLOROETHENE	7.0	ND
TRICHLOROFLUOROMETHANE	12	ND
1,2,4-TRIMETHYLBENZENE	17	ND
1,3,5-TRIMETHYLBENZENE	9.0	ND
VINYL CHLORIDE	13	ND
m,p-XYLENE	17	ND
o-XYLENE	5.0	ND

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 103
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 103
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 105

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST 

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.

PROJECT: CONDON OIL

DATE SAMPLED: 09/07/95

PROJECT NUMBER: 1966

DATE ANALYZED: 09/13/95

REL JOB NUMBER: 95REL017765

ANALYZED BY & GC NO.: LH / GC#4

SAMPLE: MW-7

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
BROMOBENZENE	1.1	ND
BROMODICHLOROMETHANE	0.8	ND
n-BUTYLBENZENE	1.9	ND
sec-BUTYLBENZENE	1.5	ND
tert-BUTYLBENZENE	2.0	ND
CARBON TETRACHLORIDE	2.0	ND
CHLOROBENZENE	1.1	ND
CHLOROETHANE	1.2	ND
CHLOROFORM	0.8	ND
CHLOROMETHANE	1.1	ND
2-CHLOROTOLUENE	0.8	ND
4-CHLOROTOLUENE	0.7	ND
DIBROMOCHLOROMETHANE	0.8	ND
1,2-DIBROMO-3-CHLOROPROPANE	3.4	ND
1,2-DIBROMOETHANE (EDB)	1.1	ND
1,2-DICHLOROBENZENE	0.9	ND
1,3-DICHLOROBENZENE	1.1	ND
1,4-DICHLOROBENZENE	0.7	ND
DICHLORODIFLUOROMETHANE	1.3	ND
1,1-DICHLOROETHANE	1.6	ND
1,2-DICHLOROETHANE	1.1	ND
1,1-DICHLOROETHENE	1.5	ND
cis-1,2-DICHLOROETHENE	2.1	ND
trans-1,2-DICHLOROETHENE	1.1	ND
1,2-DICHLOROPROPANE	0.7	ND

ANALYTE	MDL ug/L	RESULT ug/L
1,3-DICHLOROPROPANE	0.7	ND
2,2-DICHLOROPROPANE	1.5	ND
Di-ISOPROPYL ETHER	1.0	ND
ETHYLBENZENE	0.6	ND
HEXACHLOROBUTADIENE	1.0	ND
ISOPROPYLBENZENE	0.6	ND
p-ISOPROPYLTOLUENE	1.3	ND
METHYLENE CHLORIDE	1.5	ND
METHYL-TERT-BUTYL-ETHER	2.7	ND
NAPHTHALENE	1.0	ND
n-PROPYLBENZENE	0.8	ND
1,1,2,2-TETRACHLOROETHANE	1.8	ND
TETRACHLOROETHENE	0.9	ND
TOLUENE	0.6	ND
1,2,3-TRICHLOROBENZENE	1.1	ND
1,2,4-TRICHLOROBENZENE	1.2	ND
1,1,1-TRICHLOROETHANE	2.8	ND
1,1,2-TRICHLOROETHANE	1.6	ND
TRICHLOROETHENE	0.7	ND
TRICHLOROFLUOROMETHANE	1.2	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND
VINYL CHLORIDE	1.3	ND
m,p-XYLENE	1.7	ND
o-XYLENE	0.5	ND

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 98
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 101
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 99

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST

*Andrew Wenzel* (Signature)

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 29487

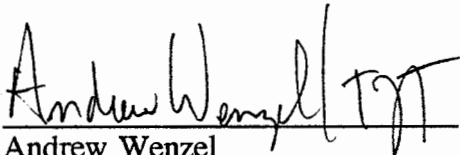
## NARRATIVE

This narrative is relevant to sample MW-8.

The sample was analyzed for volatile organic compounds following SW-846 Method 8021.

The sample used for the matrix spikes is not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and the matrix spike duplicate recovery was within laboratory limits for each of the twenty-eight compounds spiked.
3. The matrix spike and matrix spike duplicate recoveries were within laboratory limits for each of the twenty-eight compounds spiked.
4. The surrogate recovery was within laboratory limits for each of the three surrogates spiked.
5. The initial check standard verified the calibration curve for each of the reported compounds except for dichlorodifluoromethane, chloromethane, chloroethane and trichlorofluoromethane which were above laboratory limits. The data was accepted because the compounds were not detected in the sample even though the results may have been biased high.



Andrew Wenzel  
Laboratory Coordinator  
lh

**ROBERT E LEE & ASSOCIATES, INC.**  
 LABORATORY SERVICES  
 2825 S. WEBSTER AVE. P.O. BOX 2100  
 GREEN BAY, WIS 54306  
 TELEPHONE NUMBER: (414) 336 - 6338  
 WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8021. VOLATILE ORGANIC COMPOUNDS  
 BY PURGE AND TRAP CAPILLARY COLUMN  
 GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
 AND ELECTROLYTIC CONDUCTIVITY DETECTORS IN  
 SERIES.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
 DATE SAMPLED: 09/07/95  
 DATE ANALYZED: 09/14/95  
 ANALYZED BY & GC NO.: LH / GC#4

PROJECT: CONDON OIL  
 PROJECT NUMBER: 1966  
 REL JOB NUMBER: 95REL017766  
 SAMPLE: MW-8  
 DILUTION: NONE

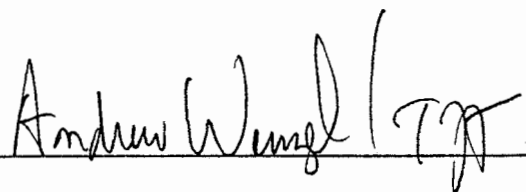
ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
BROMOBENZENE	1.1	ND
BROMODICHLOROMETHANE	0.8	ND
n-BUTYLBENZENE	1.9	ND
sec-BUTYLBENZENE	1.5	ND
tert-BUTYLBENZENE	2.0	ND
CARBON TETRACHLORIDE	2.0	ND
CHLOROBENZENE	1.1	ND
CHLOROETHANE	1.2	ND
CHLOROFORM	0.8	ND
CHLOROMETHANE	1.1	ND
2-CHLOROTOLUENE	0.8	ND
4-CHLOROTOLUENE	0.7	ND
DIBROMOCHLOROMETHANE	0.8	ND
1,2-DIBROMO-3-CHLOROPROPANE	3.4	ND
1,2-DIBROMOETHANE (EDB)	1.1	ND
1,2-DICHLOROETHANE	0.9	ND
1,3-DICHLOROETHANE	1.1	ND
1,4-DICHLOROETHANE	0.7	ND
DICHLORODIFLUOROMETHANE	1.3	ND
1,1-DICHLOROETHANE	1.6	ND
1,2-DICHLOROETHANE	1.1	ND
1,1-DICHLOROETHENE	1.5	ND
cis-1,2-DICHLOROETHENE	2.1	ND
trans-1,2-DICHLOROETHENE	1.1	ND
1,2-DICHLOROPROPANE	0.7	ND

ANALYTE	MDL ug/L	RESULT ug/L
1,3-DICHLOROPROPANE	0.7	ND
2,2-DICHLOROPROPANE	1.5	ND
Di-ISOPROPYL ETHER	1.0	ND
ETHYLBENZENE	0.6	ND
HEXACHLOROBUTADIENE	1.0	ND
ISOPROPYLBENZENE	0.6	ND
p-ISOPROPYLTOLUENE	1.3	ND
METHYLENE CHLORIDE	1.5	1.6
METHYL-TERT-BUTYL-ETHER	2.7	ND
NAPHTHALENE	1.0	ND
n-PROPYLBENZENE	0.8	ND
1,1,2,2-TETRACHLOROETHANE	1.8	ND
TETRACHLOROETHENE	0.9	ND
TOLUENE	0.6	ND
1,2,3-TRICHLOROETHANE	1.1	ND
1,2,4-TRICHLOROETHANE	1.2	ND
1,1,1-TRICHLOROETHANE	2.8	ND
1,1,2-TRICHLOROETHANE	1.6	ND
TRICHLOROETHENE	0.7	ND
TRICHLOROFLUOROMETHANE	1.2	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND
VINYL CHLORIDE	1.3	ND
m,p-XYLENE	1.7	ND
o-XYLENE	0.5	ND

- 2-CHLOROBUTANE SURROGATE RECOVERY (%)..... 105
- 1,4-DICHLOROBUTANE SURROGATE RECOVERY (%)..... 98
- FLUOROBENZENE SURROGATE RECOVERY (%)..... 103

ND = COMPOUND NOT DETECTED  
 MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
 N/A = COMPOUND NOT ANALYZED

ATTEST 







# Robert E. Lee & Associates, Inc.

Engineering, Surveying, Laboratory Services  
2825 S. Webster Ave. • Box 2100 • Green Bay, WI 54306-2100  
Office 414.336.6338 • FAX 414.336.9141

## CHAIN OF CUSTODY RECORD

MO  
COC # 29487

WISCONSIN DNR CERTIFICATION #405043870

Client: <b>Sigma Environmental</b>		Report To: <b>Gene Klees</b>	
Project Name: <b>CONDON OIL</b>		Company: <b>Sigma</b>	
Project Number: <b>1966</b>		Address: <b>220 E. RYAN Rd.</b>	
Project Address: <b>N32 W5358 Portland Rd, Cedarburg</b>		<b>OAK Creek, WI</b>	
Telephone:	Fax:	Telephone: <b>(414) 284-6824</b>	
PO #:	Quote #:	Fax:	
Environmental Program: <input type="checkbox"/> LUST <input type="checkbox"/> SDWA <input type="checkbox"/> WPDES <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER			
Requested Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Check Delivery Method <input type="checkbox"/> In Person <input type="checkbox"/> Mail <input type="checkbox"/> Common Courier <input type="checkbox"/> Courier Service <input type="checkbox"/> Other	
Date Needed: _____ Rushes accepted only w/prior notification		Date Needed: _____	
Sampler: _____			

Analyses Requested:  
(Note special detection limits or methods)

PVOC's	GRG, VOC'S	DRD	soluble Pb
--------	------------	-----	------------

Sample ID	Date	Time	Comp	Grab	Filtered Y/N	Sample Description	No. of Containers	Preservation Type (see key below)	REL Sample No.	Remarks:
MW-1	9-7-95		A	X		MW-1	3	H	95-017751	
MW-2			P	X		MW-2	3	H	17758	
MW-3			A	X		MW-3	3	H	17759	
MW-4			P	X		MW-4	3	H	17760	
MW-5			A	X		MW-5	4	H	17761	
L			P	X		L	1	H		
			A	X	Y	L	2	N		
MW-6			P	X		MW-6	4	H	17762	
L			A	X		L	1	H		
			P	X	Y	L	1	N		
Trip Blanks			A	X		Trip Blank	2	H	17763	
Equipment Blank			P	X		Equipment Blank	3	H	17764	

Relinquished By	Date	Time	Received By	Date	Time
1) <i>Gregory D. Schumacher</i>	9-7-95	A/P	<i>Ray Noel</i>	9-8-95	0950 A/P
2) <i>Ray Noel</i>	9-8-95	1135 A/P			A/P
3) <i>Tom White</i>	9-8-95	1138A			A/P
Received by Lab					

**Laboratory Receiving Notes**

Temperature of Contents: *on ice* °C

Custody Seal Intact: *✓*

Sample Condition: \_\_\_\_\_

Sample pH: \_\_\_\_\_

TO ENSURE PROPER HANDLING OF SAMPLES PLEASE COMPLETE SHADED AREAS

Preservation Key

N = Nitric Acid      O = Sodium Hydroxide  
H = Hydrochloric Acid      U = Unpreserved  
M = Methanol      S = Sulfuric Acid



# Robert E. Lee & Associates, Inc.

Engineering, Surveying, Laboratory Services

*Providing scientifically defensible analytical data  
while setting a new standard for customer service.*

Wisconsin Certification No: 405043870

2825 S. Webster Ave.  
P.O. Box 2100  
Green Bay, WI 54306-2100  
414/336-6338  
FAX 414/336-9141

REPORT DATE===== > 11/29/1995

CHAIN OF CUSTODY #==> 32405

CUSTOMER===== > 9002002

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

414-284-6824

CONTACT===== > Gene Klees

PROJECT NO.===== > 1966

PROJECT NAME===== > CONDON OIL

RECEIVED===== > 11/17/1995

SAMPLED===== > 11/16/1995

COMMENTS:

ATTEST: Andrew Wengel [Signature]

# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 32405

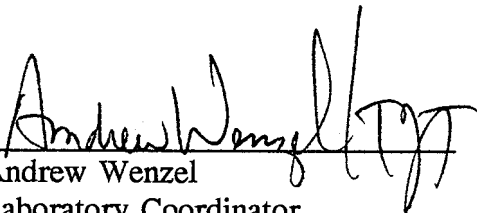
## NARRATIVE

This narrative is relevant to samples MW-9 and MW-10.

The samples were analyzed for gasoline range organics following the Wisconsin Modified GRO Method.

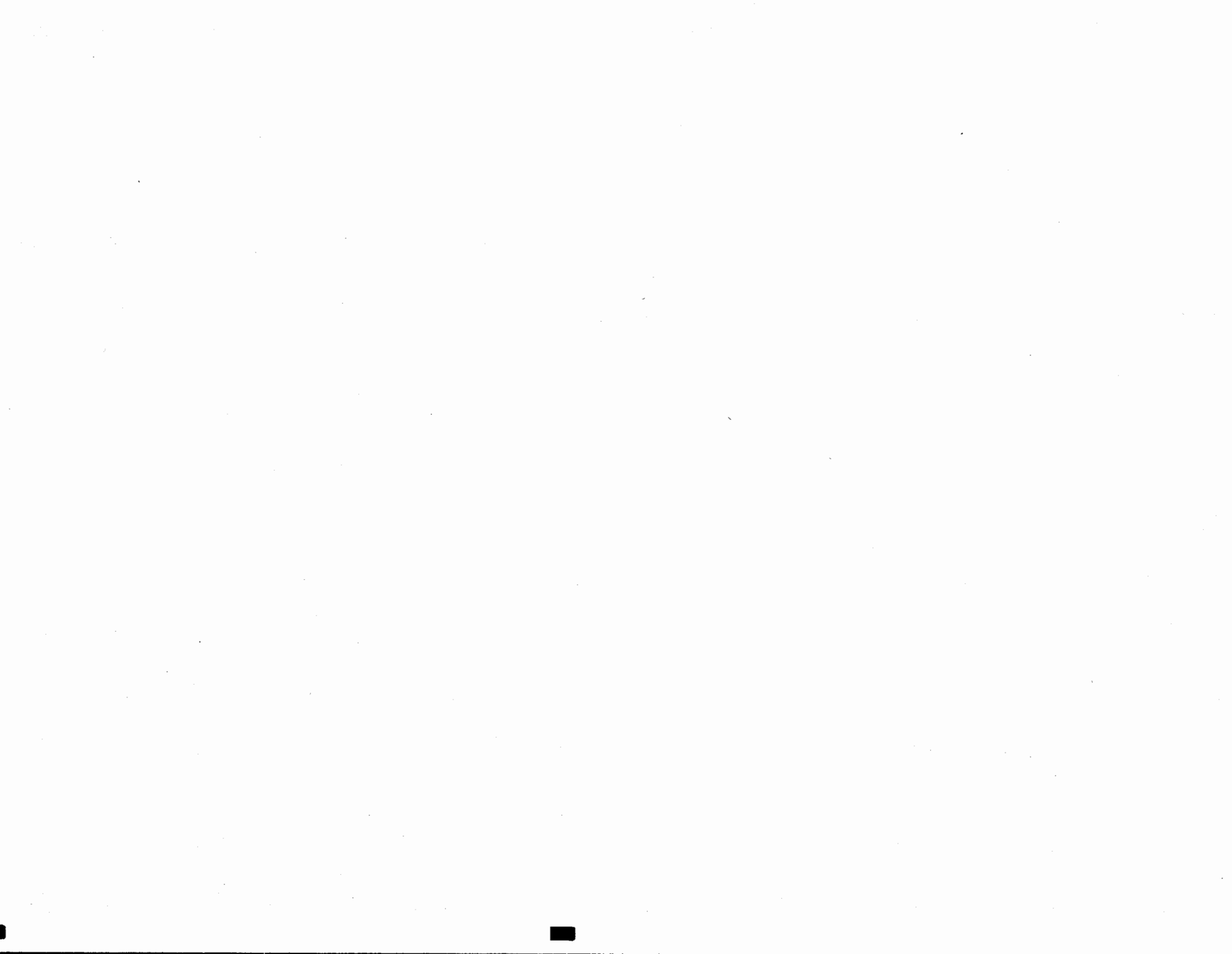
The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate gasoline component spikes was within method limits.
3. The recovery for each replicate gasoline component spike was within method limits.
4. The surrogate recovery was within laboratory limits for all samples.
5. The initial and final check standards verified the calibration curve for GRO.



Andrew Wenzel  
Laboratory Coordinator

rlb



# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 32405

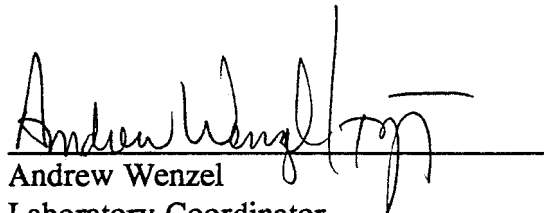
## NARRATIVE

This narrative is relevant to sample MW-10.

The sample was analyzed for diesel range organics following the Wisconsin Modified DRO Method.

The following is a summary of the quality control results:

1. The reported range of compounds were not detected in the method blank.
2. The precision between the recoveries of the replicate diesel component spikes was within method limits.
3. The recovery for each replicate diesel component spike was within method limits.
4. The initial and final check standards verified the calibration curve for DRO.
5. Sample MW-10 had a rise in baseline before the DRO window.
6. Sample MW-10 had a rise in baseline after the DRO window.

  
Andrew Wenzel  
Laboratory Coordinator  
afl

ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

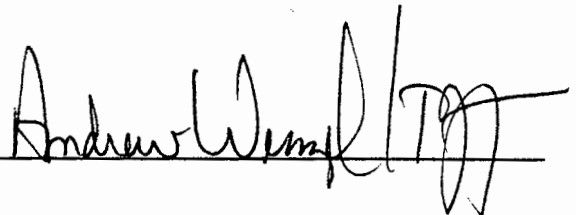
Lab Number: 95REL023049  
Sample ID : MW-9  
Matrix : GW

Chain Number: 32405  
Report Date : 11/29/1995  
Sample Date : 11/16/1995

---

METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
WI. MOD. GRO	GAS RANGE ORGANICS	167	UG/L	28	11/22/1995	RLB1
SW846-8020	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			11/20/1995	CML
	COURIER SERVICE	11/17/1995			11/17/1995	TAN1

ATTEST:



ROBERT E. LEE & ASSOCIATES, INC.  
Wisconsin Certification NO: 405043870

- CERTIFICATE OF ANALYSIS -

Condon Co.-Sigma Environmental Services  
102 Progress Drive  
Saukville WI 53080

Attn: Gene Klees  
Phone: 414-284-6824  
Fax:

Customer Number: 9002002

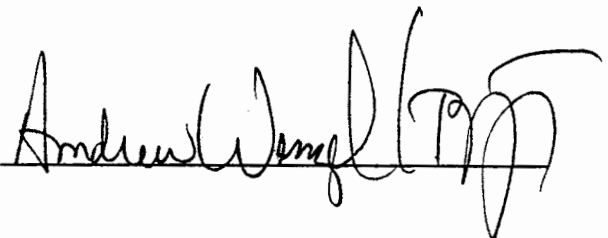
Lab Number: 95REL023050  
Sample ID : MW-10  
Matrix : GW

Chain Number: 32405  
Report Date : 11/29/1995  
Sample Date : 11/16/1995

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METHOD	PARAMETER NAME	RESULT	UNITS	MDL	DATE	BY
WI. MOD. GRO	GAS RANGE ORGANICS	61	UG/L	28	11/22/1995	RLB1
SW846-8020	VOLATILE ORGANIC ANALYSIS	SEE ATTACHED			11/20/1995	CML
WI. MOD. DRO	DIESEL RANGE ORGANICS	554	UG/L	52	11/22/1995	AFL

ATTEST:



# ROBERT E. LEE & ASSOCIATES, INC.

CLIENT: SIGMA ENVIRONMENTAL SERVICES, INC.  
PROJECT: 1966/CONDON OIL  
CHAIN NUMBER: 32405

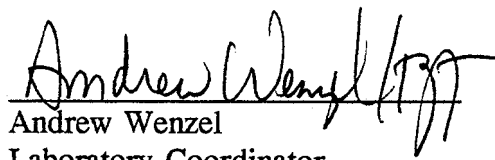
## NARRATIVE

This narrative is relevant to samples MW-9, MW-10, DUPLICATE, TRIP BLANK, and EQUIPMENT BLANK.

The samples were analyzed for petroleum volatile organic compounds following SW-846 Method 8020.

The sample used for the matrix spikes was not included on this narrative. The following is a summary of the quality control results:

1. The reported compounds were not detected in the method blank.
2. The precision between the matrix spike recovery and matrix spike duplicate recovery was within laboratory limits for each of the four compounds spiked.
3. The matrix spike recovery was within laboratory limits for each of the four compounds spiked except for 1,2,4-trimethylbenzene which was below laboratory limits. It is believed that the low recovery was due to a matrix effect since the compound recovery was low in both matrix spikes. The data was accepted because the method spike recovery was within laboratory limits for this compound.
4. The matrix spike duplicate recovery was within laboratory limits for each of the four compounds spiked.
5. The surrogate recovery was within laboratory limits for all samples.
6. The initial check standard verified the calibration curve for each of the reported compounds.
7. The results for samples MW-9, MW-10, and EQUIPMENT BLANK were confirmed by SW-846 Method 8260.

  
Andrew Wenzel

Laboratory Coordinator

to



**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: Sigma Environmental Services, Inc.

DATE SAMPLED: 11/16/95

DATE ANALYZED: 11/20/95

ANALYZED BY & GC NO.: CL / GC#5

PROJECT: Condon Oil

PROJECT NUMBER: 1966

REL JOB NUMBER: 95REL023049

SAMPLE: MW-9

DILUTION: NONE

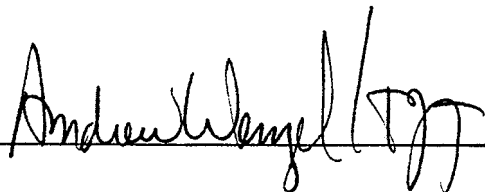
ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	1.3
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL-TERT-BUTYL-ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

• FLUOROBENZENE SURROGATE RECOVERY (%)..... 100

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: Sigma Environmental Services, Inc.

DATE SAMPLED: 11/16/95

DATE ANALYZED: 11/20/95

ANALYZED BY & GC NO.: CL / GC#5

PROJECT: Condon Oil

PROJECT NUMBER: 1966

REL JOB NUMBER: 95REL023050

SAMPLE: MW-10

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	1.7
TOLUENE	0.6	1.0
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

• FLUOROBENZENE SURROGATE RECOVERY (%).....

98

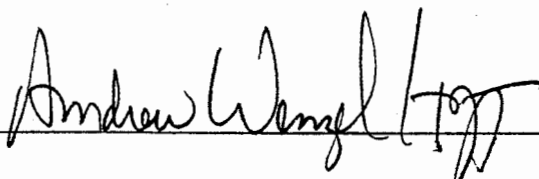
ND = COMPOUND NOT DETECTED

MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY

N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: Sigma Environmental Services, Inc.

DATE SAMPLED: 11/16/95

DATE ANALYZED: 11/20/95

ANALYZED BY & GC NO.: CL / GC#5

PROJECT: Condon Oil

PROJECT NUMBER: 1966

REL JOB NUMBER: 95REL023051

SAMPLE: Duplicate

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	1.7
TOLUENE	0.6	0.8
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4 - TRIMETHYLBENZENE	1.7	ND
1,3,5 - TRIMETHYLBENZENE	0.9	ND

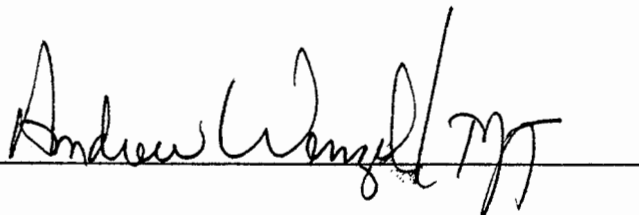
• FLUOROBENZENE SURROGATE RECOVERY (%).....

93

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: Sigma Environmental Services, Inc.

DATE SAMPLED: 11/16/95

DATE ANALYZED: 11/20/95

ANALYZED BY & GC NO.: CL / GC#5

PROJECT: Condon Oil

PROJECT NUMBER: 1966

REL JOB NUMBER: 95REL023052

SAMPLE: Trip Blank

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	ND
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4-TRIMETHYLBENZENE	1.7	ND
1,3,5-TRIMETHYLBENZENE	0.9	ND

• FLUOROBENZENE SURROGATE RECOVERY (%).....

99

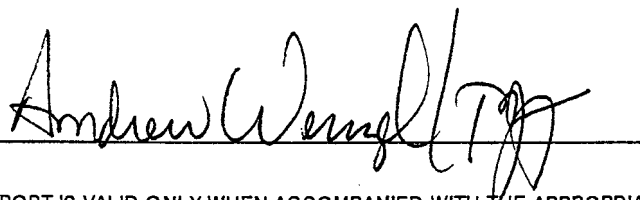
ND = COMPOUND NOT DETECTED

MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY

N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE

**ROBERT E LEE & ASSOCIATES, INC.**

LABORATORY SERVICES

2825 S. WEBSTER AVE. P.O. BOX 2100

GREEN BAY, WIS 54306

TELEPHONE NUMBER: (414) 336 - 6338

WISCONSIN CERTIFICATION NUMBER: 405043870

METHOD 8020. VOLATILE ORGANIC COMPOUNDS  
BY PURGE AND TRAP CAPILLARY COLUMN  
GAS CHROMATOGRAPHY WITH PHOTOIONIZATION  
DETECTOR.

CLIENT: Sigma Environmental Services, Inc.

DATE SAMPLED: 11/16/95

DATE ANALYZED: 11/20/95

ANALYZED BY & GC NO.: CL / GC#5

PROJECT: Condon Oil

PROJECT NUMBER: 1966

REL JOB NUMBER: 95REL023053

SAMPLE: Equipment Blank

DILUTION: NONE

ANALYTE	MDL ug/L	RESULT ug/L
BENZENE	0.5	ND
TOLUENE	0.6	8.1
ETHYLBENZENE	0.6	ND
TOTAL XYLENE	1.7	ND
METHYL - TERT - BUTYL - ETHER	2.7	ND
1,2,4- TRIMETHYLBENZENE	1.7	ND
1,3,5- TRIMETHYLBENZENE	0.9	ND

• FLUOROBENZENE SURROGATE RECOVERY (%).....

99

ND = COMPOUND NOT DETECTED  
MDL = METHOD DETECTION LIMIT

• SURROGATE STANDARD PERCENT RECOVERY  
N/A = COMPOUND NOT ANALYZED

ATTEST



THIS REPORT IS VALID ONLY WHEN ACCOMPANIED WITH THE APPROPRIATE NARRATIVE



October 26, 1995

Project Reference #1966

Mr. John Feeney  
WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
4041 North Richards Street  
Milwaukee, WI 53212

Re: Condon Companies Bulk Facility  
N32 W5358 Portland Road  
Cedarburg, Wisconsin  
WDNR FID #246121150  
ERR-LUST

RECEIVED  
JUN 30 2003  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

Dear Mr. Feeney:

Per our conversation of October 25, 1995, on behalf of Condon Companies, Sigma requested a variance in the Wisconsin Administrative Code Chapter NR 141.07 "Well Casing" to install two (2) one inch diameter temporary PVC monitoring wells at the site located at N32 W5358 Portland Road, Cedarburg, Wisconsin. The proposed monitoring wells are required to define extent of soil and groundwater impacts and are located in an area inaccessible to a drill rig.

Please sign the enclosed form to document your approval of the variance request and fax to our office at (414) 284-6859. Thank you.

If you have any questions, please call me at (414) 284-6824.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.



Gary D. Kurer  
Staff Scientist


GDK/mee

Enclosure



**VARIANCE APPROVAL - WAC CH. NR 141.07**

I, John Feeney (WDNR), approve a variance from WAC Ch. NR 141.07 to install two (2) one inch diameter temporary PVC monitoring wells at the Condon Companies site located at N32 W5358 Portland Road, Cedarburg, Wisconsin. The proposed monitoring wells are required to define extent of soil and groundwater impacts and are located in an area unaccessible to a drill rig.

  
\_\_\_\_\_  
Mr. John Feeney, LUST Hydrogeologist  
Wisconsin Department of Natural Resources  
Richard Street Annex  
4041 North Richards Street  
Milwaukee, WI 53212

DATE: 11/1/95



246121150 ERR-LUST



220 East Ryan Road  
Oak Creek, WI 53154-4533  
414-768-7144  
FAX: 414-768-7158

November 1, 1994

Project Reference #1966  
FID #246121150  
ERR-LUST

Mr. Tom Reinsch  
CONDON COMPANIES  
126 East Jackson  
P.O. Box 184  
Ripon, WI 54971-0184

RECEIVED  
JUN 30 2011  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

RE: **Site Assessment for Underground Storage Tank Removal**  
Condon Companies Bulk Facility  
N32 W5358 Portland Road  
Cedarburg, Wisconsin

Dear Mr. Reinsch:

The purpose of this letter is to provide documentation of the underground storage tank (UST) removal and closure assessment completed at the Condon Companies Bulk Facility, located at N52 W5358 Portland Road, Cedarburg, Wisconsin. The site is located in the Southeast ¼ of the Southwest ¼ of Section 26, Township 10 North, Range 21 East (see Figure 1).

On April 11, 1994, Sigma Environmental Services, Inc. (Sigma) observed the removal of one (1) 1,000 gallon steel diesel fuel UST from the aforementioned property (see Figure 2 for tank location). A copy of the Tank Inventory Form (SBD-7437) is presented as Attachment 1. After removing the UST system, Sigma performed site assessment soil sampling as required by the Department of Industry, Labor and Human Relations (DILHR) and the Wisconsin Department of Natural Resources (WDNR). The firms and representatives associated with the UST closure assessment are presented below:

**PROJECT TEAM**

Consulting Firm:

Sigma Environmental Services, Inc.  
220 East Ryan Road  
Oak Creek, Wisconsin 53154  
Telephone: (414) 768-7144  
Certified Site Assessor: Gene Klees (SA #03108)



CONDON COMPANIES

Page 2

Laboratory Services:

CBC Environmental Laboratories, Inc.  
140 East Ryan Road  
Oak Creek, Wisconsin 53154  
Telephone: (414) 764-7005  
WDNR Certification: #241283020

UST Removal Disposal, and Cleaning Contractor:

North Shore Environmental Construction  
N117 W18493 Fulton Drive  
Germantown, WI 53022  
Telephone: (414) 255-4468  
Certified UST Remover: Steven M. Strande (RC #01853)

UST Dismantling and Recycling Contractor:

Detinning Corp. of America  
11000 West Brown Deer Road  
Milwaukee, WI 53224  
Telephone: (414) 357-8770

UST Metal Recycling Facility:

Detinning Corp. of America  
11000 West Brown Deer Road  
Milwaukee, WI 53224  
Telephone: (414) 357-8770

UST Sludge Transporter:

National Tank Services of Wisconsin, Inc.  
1813 South 73rd Street  
West Allis, WI 53214  
Telephone: (414) 257-0030

UST Sludge Recycling Center:

Hydrite Chemical Company  
114 North Main Street  
P.O. Box 247  
Cottage Grove, WI 53527-0247  
Telephone: (608) 839-4571

## CONDON COMPANIES

Page 3

UST Removal. Prior to removal, the UST was purged of explosive vapors by North Shore Environmental Construction, Inc. (North Shore) to less than ten (10) percent of the lower explosion limit (LEL). The UST was then excavated and removed intact from the excavation by North Shore personnel. Based on a visual inspection of the UST, corrosion and holes were observed.

UST Cleaning and Disposal. After the UST was removed, North Shore cleaned the UST. Tank bottom sludges generated during the cleaning process were placed in one (1) 30 gallon drum and staged on-site pending disposal arrangements. The sludges were transported by National Tank Services, Inc. to Hydrite Chemical Company for disposal. A copy of the Waste Disposal Manifest will be forwarded upon receipt from National Tank Service, Inc.

The UST was loaded onto a flat bed trailer and transported to Detinning Corporation located in Milwaukee, Wisconsin where it was cut up for scrap and recycled by Detinning Corporation. A copy of the scrap receipt is presented as Attachment 2.

Field Observations. Sigma noted petroleum odors and discoloration in the fine to medium brown sand and gravel backfill during an inspection of the UST excavation. Groundwater was observed in the excavation at approximately four to five feet below ground surface (bgs).

No subsurface utilities or other manmade features which could provide a pathway for petroleum impact migration were identified in the excavation.

Geology and Hydrogeology. As observed during excavation activities, the backfill consisted of brown sandy gravel, grading to native gray/brown mottled silty clay at 5 to 6 feet below ground surface (bgs). Groundwater was encountered in the UST excavation at approximately 4 to 5 feet bgs.

Soil Sampling and Field Screening. Following the removal of the UST and backfill material, soil samples were collected with stainless steel trowels directly from the backhoe bucket. The backhoe bucket was used to collect native soil from the excavation base and sidewalls (see Figure 2). Each soil sample was split and immediately placed in four (4) separate containers. The first two (2) sample portions were weighed to approximately 25 grams, containerized in a pre-labeled 60 ml glass vial, and sealed with a teflon-lined screw-on cap for potential Diesel Range Organics (DRO) analysis. The third sample split was containerized in a pre-labeled, clean, four ounce glass jar and sealed with a screw-on cap for potential Percent Moisture analysis. The first three sample splits were immediately placed in a cooler with ice for transport to the laboratory.

The fourth sample portion was placed in a glass jar for field screening. The jar was filled approximately 1/2 to 3/4 full, was allowed to equilibrate to approximately 70°F, and was then agitated to break up large clumps to facilitate vapor release. The sample was then screened for Volatile Organic Compounds (VOCs) by means of headspace analysis, using a Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID was calibrated in the field for direct response to a 100 parts per million (ppm) isobutylene standard. The soil sample headspace results are summarized in Table 1.

<b>TABLE 1 FIELD SCREENING AND SOIL QUALITY RESULTS CONDON COMPANIES CEDARBURG BULK FACILITY (April 11, 1994)</b>								
ID#	Sample Location	Sample Depth (feet bgs)	Soil Type	Dry Weight	Date Collected	Sample Odor?	Field Reading (i.u.)	DRO Result (mg/kg)
1	East Base	6	SM	15	4/11/94	Yes	453	81
2	West Base	6	SM	NT	4/11/94	Yes	28.4	NT
3	Dispenser	2	SM	NT	4/11/94	Yes	1247	NT
<b>KEY:</b> feet bgs = feet below ground surface i.u. = instrument units as isobutylene mg/kg = milligrams per kilogram DRO = Diesel Range Organics NT = Not Tested [Pattern] = concentration above the WDNR 10 ppm action limit SM = silt with sand SW = medium sand Dry weight is expressed in percent								

Laboratory Analysis. Based on petroleum odors, discolored soil and PID results, a petroleum release was evident. To confirm the degree of impact, one (1) soil sample (east base) was submitted for WDNR Modified Method DRO analysis. The DRO concentration reported by the laboratory was 81 mg/kg (see Table 1). The Chain-of-Custody and laboratory reports are presented as Attachment 3.

Wisconsin Soil Quality Standards. The WDNR currently uses an action level of 10 ppm for petroleum hydrocarbons in soil. However, the WDNR applies the action level on a site specific basis and reviews each case individually to determine if additional investigation or remediation is necessary at petroleum release sites. The WDNR is currently developing guidance on soil clean-up goals for petroleum contaminated soil.

Release Reporting. As required under the State of Wisconsin Statute S.144.76, commonly referred to as the "Spill Law", the WDNR was notified of the release. A representative of Condon Companies authorized Sigma to notify the WDNR on April 18, 1994. A copy of the responsible party letter from the WDNR designating the site as a MEDIUM PRIORITY for investigation is presented as Attachment 5.

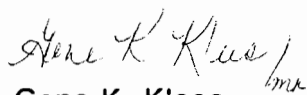
Conclusions. Based on the results of Sigma's closure assessment at the Condon Companies Cedarburg Bulk facility, the following conclusions can be made:

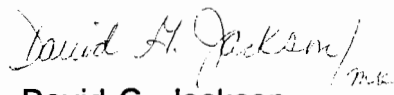
- Based on laboratory analysis, Diesel Range Organics (DRO) was detected (81 mg/kg) in a soil sample from the East Base of the UST excavation.
- Soil in the excavation consisted of brown sandy gravel fill from the surface grading to gray/brown mottled silty clay 5 to 6 feet bgs.
- Groundwater was encountered at 4 to 5 feet bgs in the UST excavation.

Please contact us at (414) 768-7144 if you have any questions regarding the UST closure assessment detailed in this report.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

  
Gene K. Klees  
Project Scientist

  
David G. Jackson  
Senior Project Manager

GKK:bjg

Attachments

**ATTACHMENT 1**  
**TANK INVENTORY FORM**

**UNDERGROUND  
PETROLEUM PRODUCT  
TANK INVENTORY**

Send Completed Form To:  
Safety & Buildings Division  
P.O. Box 7969  
Madison, WI 53707  
Telephone (608) 267-5280

**For Office Use Only:**  
Tank ID # 45133-0109

This form is to be completed pursuant to Section 101.142, Wis. Stats., to register all underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner.

This registration applies to a tank that is (check one):			Fire Department Providing Fire Coverage Where Tank Located:	
1. <input type="checkbox"/> In Use or New	4. <input checked="" type="checkbox"/> Closed - Tank Removed	8. <input type="checkbox"/> Changed Ownership (Indicate new owner below)	Cedarburg	
2. <input type="checkbox"/> Abandoned With Product	6. <input type="checkbox"/> Closed - Filled With Inert Material			
3. <input type="checkbox"/> Abandoned No Product (empty) or With Water	7. <input type="checkbox"/> Out of Service			

**A. IDENTIFICATION: (Please Print)**

1. Tank Site Name <u>Former Bulk Plant</u>		Site Address <u>N52 W5350 Portland Road</u>		Site Telephone No. <u>( )</u>	
<input checked="" type="checkbox"/> City <u>Cedarburg</u>	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:	State <u>WI</u>	Zip Code <u>53012</u>	County <u>Ozaukee</u>
2. Owner Name (mail sent here unless indicated otherwise in #3 below) <u>Condon Companies</u>			Owner Mailing Address (mail sent here unless indicated otherwise in #3) <u>126 East Jackson, PO Box 184</u>		
<input type="checkbox"/> City <u>Ripon</u>	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:	State <u>WI</u>	Zip Code <u>54971-0184</u>	County <u>Fond du Lac</u>
3. Alternate Mailing Name If Different Than #2			Alternate Mailing Street Address If Different From #2		
<input type="checkbox"/> City	<input type="checkbox"/> Village	<input type="checkbox"/> Town of:	State	Zip Code	County
4. Tank Age (date installed, if known: or years old)		5. Tank Capacity (gallons) <u>1000</u>		6. Tank Manufacturer's Name (if known)	

**B. TYPE OF USER (check one):**

1. <input type="checkbox"/> Gas Station	2. <input checked="" type="checkbox"/> Bulk Storage <u>Former</u>	3. <input type="checkbox"/> Utility	4. <input type="checkbox"/> Mercantile
5. <input type="checkbox"/> Industrial	6. <input type="checkbox"/> Government	7. <input type="checkbox"/> School	8. <input type="checkbox"/> Residential
9. <input type="checkbox"/> Agricultural	10. <input type="checkbox"/> Other (specify): _____		

**C. TANK CONSTRUCTION:**

1. <input checked="" type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected and Coated Steel (A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)
3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass
6. <input type="checkbox"/> Relined	7. <input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite
	5. <input type="checkbox"/> Other (specify): _____
	9. <input type="checkbox"/> Unknown

Approval: 1.  Nat'l Std. 2.  UL 3.  Other: \_\_\_\_\_

Is Tank Double Walled?  Yes  No

Overfill Protection Provided?  Yes  No If yes, identify type: \_\_\_\_\_

Spill Containment?  Yes  No

Tank leak detection method: 1.  Automatic tank gauging 2.  Vapor monitoring 3.  Groundwater monitoring 4.  Inventory control and tightness testing 5.  Interstitial monitoring 6.  Not required at present 7.  Manual Tank Gauging (only for tanks of 1,000 gallons or less)

**D. PIPING CONSTRUCTION**

1. <input checked="" type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected and Coated or Wrapped Steel (A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)	3. <input type="checkbox"/> Coated Steel
4. <input type="checkbox"/> Fiberglass	5. <input type="checkbox"/> Other (specify): _____	9. <input type="checkbox"/> Unknown

Piping System Type: 1.  Pressurized piping with: A.  auto shutoff; B.  alarm; or C.  flow restrictor 2.  Suction piping with check valve at tank 3.  Suction piping with check valve at pump and inspectable

Piping leak detection method: used if pressurized or check valve at tank: 1.  Vapor monitoring 2.  Interstitial monitoring 3.  Groundwater monitoring 4.  Tightness testing 5.  Line Leak Detector 6.  Not Required

Approval: 1.  Nat'l Std. 2.  UL 3.  Other: \_\_\_\_\_

Double Walled:  Yes  No

**E. TANK CONTENTS**

1. <input checked="" type="checkbox"/> Diesel	2. <input type="checkbox"/> Leaded	3. <input type="checkbox"/> Unleaded	4. <input type="checkbox"/> Fuel Oil
5. <input type="checkbox"/> Gasohol	6. <input type="checkbox"/> Other	7. <input type="checkbox"/> Empty	8. <input type="checkbox"/> Sand/Gravel/Slurry
9. <input type="checkbox"/> Unknown	10. <input type="checkbox"/> Premix	11. <input type="checkbox"/> Waste Oil	12. <input type="checkbox"/> Propane
13. <input type="checkbox"/> Chemical * _____	14. <input type="checkbox"/> Kerosene	15. <input type="checkbox"/> Aviation	

\* If # 13 is checked, indicate the chemical name(s) or number(s) of the chemical or waste.

If Tank Closed, Give Date (mo/day/yr): <u>4-11-94</u>	Has a site assessment been completed? (see reverse side for details) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

If installation of a new tank is being reported, indicate who performed the installation inspection:

1. <input type="checkbox"/> Fire Department	2. <input type="checkbox"/> DILHR	3. <input type="checkbox"/> Other (identify) _____
---	-----------------------------------	--

Name of Owner or Operator (please print): <u>Condon Company</u>	Indicate Whether: <input type="checkbox"/> Owner or <input type="checkbox"/> Operator
Signature of Owner or Operator: <u>Thomas R. Reunick VP Operations</u>	Date Signed: <u>4-13-94</u>

**ATTACHMENT 2**  
**UST SCRAP RECEIPT**



**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. **U S O G E X E M P L 0 6 0 2 0**

Generation in the shaded area is not required by Federal law

3. Generator's Name and Mailing Address  
**Condon Oil - Ceadrburg Plant**  
**301 Pacific Street Ripon, WI 54971-**  
 4. Generator's Phone ( ) 414 748-3116

5. Transporter 1 Company Name  
**National Tank Service**  
 6. US EPA ID Number  
**W I D 0 7 3 8 3 8 8**

7. Transporter 2 Company Name  
 8. US EPA ID Number

9. Designated Facility Name and Site Address  
**Hydrite Chemical C.G. East**  
**114 N. Main Street**  
**Cottage Grove, WI 53527-**  
 10. US EPA ID Number  
**W I D 0 0 0 8 0 8 8 2**

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit Wt/Vol
	No.	Type		
Waste Combustible Liquid N.O.S., COMBUSTIBLE LIQUID, UN1993, PG III, (D018), (ERG#27)	01	DM	75	
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information	
114099-M-63940	
Emergency Phone - 414-257-0030	

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

17. Transporter 1 Acknowledgement of Receipt of Materials  
 Printed/Typed Name: **BRINN JAMES (AGENT)** Signature: *Brinn James* Month Day Year: **08/30/84**

18. Transporter 2 Acknowledgement of Receipt of Materials  
 Printed/Typed Name: **KEVIN BUZAK LABORER** Signature: *Kevin Buzak* Month Day Year: **10/30/84**

19. Discrepancy Indication Space  
 Printed/Typed Name: **Ray Hirsch** Signature: *Ray Hirsch* Month Day Year: **9-2-94**

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.  
 Printed/Typed Name: Signature: Month Day Year:

GENERATOR TRANSPORTER FACILITY

**ATTACHMENT 3**  
**LABORATORY REPORTS**

**THIS SHIPPING ORDER** must be legibly filled in, in Ink, in Indelible Pencil, or In Carbon, and retained by the Agent.

Shipper's No. \_\_\_\_\_

CARRIER: North Shore Environmental Construction, Inc.

SCAC

Carrier's No. \_\_\_\_\_

Date 4/11/94

**TO:** Detinning Corp. of America  
 Consignee 11000 W. Brown Deer Rd.  
 Street Milwaukee, WI  
 Destination Zip 53224

**FROM:** Former Bulk Plant  
 Shipper N52 W5358 Portland Rd.  
 Street Cedarburg, WI  
 Origin Zip 53012

Route: \_\_\_\_\_ Vehicle Number \_\_\_\_\_ U.S. DOT Hazmat Reg. No. \_\_\_\_\_

No. Shipping Units	HM	Kind of Packages, Description of Articles (IF HAZARDOUS MATERIALS - PROPER SHIPPING NAME)	HAZARD CLASS	I.D. Number	Packing Group	WEIGHT (subject to correction)	RATE	LABELS REQUIRED (or exemption)
		Clean, cut & scrap 1-1000 gal.						
		diesel fuel Underground Storage						
		Tank	N/A					

Remit C.O.D. to:

Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

C.O.D. Amt: \$ N/A

C. O. D. FEE:

Prepaid  N/A  
 Collect  \$ \_\_\_\_\_

FREIGHT CHARGES

PREPAID  COLLECT

NOTE - Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ \_\_\_\_\_ Per \_\_\_\_\_

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.  
 The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.  
 (Signature of Consignor)

Where the applicable tariff provisions specify a limitation of the carrier's liability (NMFC item 172), if there is no release or value declaration by the shipper, and the shipper does not declare a value or release the carrier's liability, that liability shall be limited to the extent provided by NMFC item 172. California intrastate shipments must comply with NMFC item 172.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.  
 Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

PLACARDS REQUIRED

N/A

PLACARDS SUPPLIED

YES  NO - FURNISHED BY CARRIER  
 DRIVERS SIGNATURE: \_\_\_\_\_

SHIPPER: \_\_\_\_\_

CARRIER: North Shore Environmental Construction, Inc.

PER: \_\_\_\_\_

PER: Keith Hitzke, President

DATE: \_\_\_\_\_

DATE: 4/11/94

EMERGENCY RESPONSE

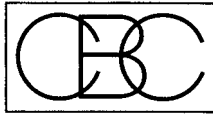
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

TELEPHONE NUMBER: \_\_\_\_\_

CONTAINS HAZARDOUS MATERIALS

CONTAINS HAZARDOUS MATERIALS

**ATTACHMENT 4**  
**RELEASE NOTIFICATION LETTER**



**ENVIRONMENTAL  
LABORATORIES INC.**

05/05/94

LABORATORY REPORT

PAGE 1

C739 9402377 W15

SIGMA ENVIRONMENTAL SERVICES, INC.  
9555 S. HOWELL AVE.  
OAK CREEK ,WI 53154  
ATTN: GENE KLEES

CHAIN OF CUSTODY

SAMPLE 94101-C11519 TANK BASE RIGHT/6'/PID=453 PPM/SOIL/1966/CONDOR  
OIL/W52 W5358 PORTLAND ROAD/CEDARBURG, WI  
DATE COLLECTED 04/11/94 DATE RECEIVED 04/11/94  
PRESERVED: YES TEMPERATURE: ON ICE  
CONT. INTEGRITY: MEETS STANDARD SAMPLE INTEG: MEETS STANDARD

<u>TEST NAME</u>	<u>RESULT</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>METHOD</u>	<u>LIMIT</u>
% MOISTURE	15	%	04/12/94	SW846	5030

<u>TEST NAME</u>	<u>WET RESULT</u>	<u>DRY RESULT</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>METHOD</u>
DRO EXTRACTION - SOIL	COMPLETE			04/13/94	WDNR MOD DRO
DIESEL RANGE ORGANICS	69	81	MG/KG	04/15/94	WDNR MOD. DRO
BLANK CONCENTRATION	<4.0	<4.7	MG/KG	04/15/94	WDNR MOD. DRO
DIESEL	69	81	MG/KG	04/15/94	WDNR MOD. DRO

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 = DETECT BELOW THE QUANTITATION LIMIT. (LUST) J = ESTIMATED VALUE BELOW THE QUANTITATION LIMIT. (LUST)  
@ = ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE. # = ELEVATED DETECTION LIMIT DUE TO SAMPLE CONCENTRATION.  
\$ = ELEVATED DETECTION LIMIT DUE TO SAMPLE QUANTITY. + = ELEVATED DETECTION LIMIT DUE TO EXTRACT VOLUME.

AIHA ACCREDITED

APPROVAL 



**ENVIRONMENTAL  
LABORATORIES INC.**

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

P.K. # 1766

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>Gene Kleus</i>	Title/Work Station/Company <i>SS / SIGMA</i>	Telephone Number (include area code) <i>414-268-7144</i>
Property Owner <i>Common Oil</i>	Property Address <i>W52 W. 5250 Potomac Rd. Cedarburg</i>	Telephone Number (include area code)

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

Relinquished By (Signature) <i>Gene Kleus</i>	Date/Time <i>4/11/94 9AM</i>	Received By (Signature) <i>Jeff Siskoff</i>
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)

Temperature of temperature blank: *wi* ROI

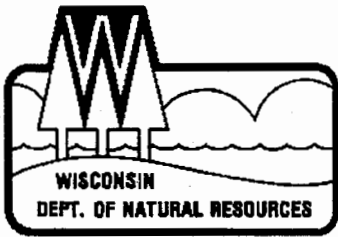
If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

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>Tank Base Right</i>	<i>4/11/94</i>	<i>9AM</i>	<i>Soil</i>	<i>Push Aol</i>	<i>UMP</i>	<i>TANK BASE (6.0' P.D. = 40.2 ppm)</i>	<i>DRD</i>		<i>3</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.

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 <input type="checkbox"/> Retain for ___ days	Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No (Check one)
<input type="checkbox"/> Return <input type="checkbox"/> Other	Accepted By: _____ Signature

**ATTACHMENT 5**  
**RELEASE NOTIFICATION LETTER**



George E. Meyer  
Secretary

**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

**Southeast District**  
Post Office Box 12436  
4041 N. Richards Street  
Milwaukee, Wisconsin 53212  
TELEPHONE: 414-961-2727  
TELEFAX #: 414-961-2770

April 21, 1994

RECEIVED

File Ref: FID #246121150  
ERR-LUST

JUN 30 2000

PECFA SITE REVIEW  
MILWAUKEE OFFICE

Mr. Tom Reinsch  
126 East Jackson  
P. O. Box 184  
Ripon, WI 54971-0184

Dear Mr. Reinsch:

RE: Condon Oil Bulk Facility - N52 W5358 Portland Road, Cedarburg, WI

**Please refer to the above file reference information (i.e., FID #, ERR-LUST) when submitting all correspondence to the Department.**

Wisconsin Department of Natural Resources (WDNR) has been notified that petroleum contamination was discovered April 18, 1994 at the above referenced location. Based on the site specific information provided, this case has been assigned to the Medium Priority Rank group. The purpose of this letter is to inform you of your legal responsibilities to address this situation.

Releases from underground storage tanks regulated under Subtitle I of the Resource Conservation and Recovery Act require compliance with the provisions of 40 CFR Parts 280 and 281. The Environmental Protection Agency (EPA) has the authority to take enforcement action at any time, but will generally not take action against parties cooperating with the state. The WDNR proceeds in LUST cases under the authority of s. 144.76, Wisconsin Statutes, commonly referred to as Wisconsin's Hazardous Substance Spill Law. The definition of "hazardous substance" as found in s. 144.01(4m), Wisconsin Statutes, includes petroleum products.

Wisconsin Statute 144.76(2a) states: "A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall notify the Department immediately of any discharge not exempted under sub.(9)."

Wisconsin Statute 144.76(3) states: "A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of this state."

Because you possess or control a hazardous substance which has been released to the environment, the Department identifies you as the party responsible for taking the actions necessary to restore the environment. You are required to:

1. Immediately notify the WDNR Spills Hotline at (414) 263-8491 should emergency conditions involving explosive vapors and/or well contamination develop.



2. Conduct an investigation to determine the extent of soil and groundwater contamination.
3. Remediate all of the environmental impacts caused by this situation.
4. Sample private water supply wells which may have been impacted by the release.

The Department suggests that you have a qualified environmental engineer or hydrogeologist direct the remedial investigation, assess the environmental impact, and coordinate the implementation of a cleanup program. Within 15 days of receiving this letter, you should provide the WDNR with the date the remedial investigation will begin.

The Department requires that the location of the tank and/or release be submitted with the work plan. Requirements for location are Latitude, Longitude, 1/4, 1/4, Township, and Range (east or west).

Final documentation of the investigation and cleanup should be prepared according to the guidance enclosed and sent to this office on completion of compliance with all applicable federal, state and local laws and regulations. Remedial actions must adequately cleanup contaminated soil and/or groundwater to current WDNR guidelines and/or standards. All product, soil, wastewater, and sludge must be disposed of in compliance with all applicable federal, state and local laws and regulations. Because the Department is experiencing a backlog of leaking underground storage tank cases of emergency status and your case is not currently ranked as an emergency, your submittals will be reviewed as time permits. Investigation and cleanup should not, however, be delayed pending WDNR review of your case.

The WDNR requests that concise LUST project updates be submitted every six months for all medium priority sites; biannual updates will enable WDNR project managers to monitor the status of remedial investigations and/or corrective actions on projects which are not under direct WDNR oversight.

You are encouraged to contact the Department of Industry, Labor, and Human Relations (DILHR), the state agency that administers the Petroleum Environmental Cleanup Fund (PECFA). This fund may reimburse you for eligible costs associated with the remedial investigation and cleanup. DILHR should be contacted at (608) 266-2424 to obtain current information regarding the PECFA program.

Please be aware that your ability to utilize PECFA funds will be dependent on your cooperation in adequately addressing this problem.

Sincerely,



Giselle Red  
Program Assistant, LUST Section

Enclosures

c: Mr. Gene Klees, Sigma Environmental Services, 9555 S. Howell Avenue, Oak Creek, WI

~~SED-Case-File~~

April 14, 1994

Project Reference #1966

Ms. Giselle Red  
State of Wisconsin  
Department of Natural Resources  
4041 North Richards Street  
Box 12436  
Milwaukee, WI 53212

RECEIVED  
JUN 30 2000  
PECFA SITE REVIEW  
MILWAUKEE OFFICE

APR 18 1994

RE: UST Release Notification  
Condon Oil Bulk Facility  
N52 W5358 Portland Road  
Cedarburg, Wisconsin 53012

Dear Ms. Red:

On behalf of Condon Companies, Sigma Environmental Services, Inc. has prepared this letter to formally notify the Wisconsin Department of Natural Resources of a petroleum release from a leaking underground storage tank (UST) at the Condon Oil Bulk facility located at N52 W5358 Portland Road, Cedarburg, Wisconsin.

On April 11, 1994, Sigma Environmental Services, Inc. observed the removal of one (1) 1,000 gallon diesel fuel UST to determine if petroleum hydrocarbons were released to the soil and/or groundwater at the above-mentioned Condon site.

Physical observations (holes in tank, stained soils with petroleum odors) and field screening results (PID readings of 453 ppm) indicated that native soils near the shallow groundwater table may be impacted with petroleum hydrocarbons. One (1) soil sample was submitted for laboratory analysis of Diesel Range Organics (DRO) to confirm if a release occurred. The laboratory work is currently in progress.

Please send the RP and any future correspondence to the contacts listed below.

Property Owner

Condon Companies  
126 East Jackson  
P.O. Box 184  
Ripon, Wisconsin 54971-0184  
ATTN: Tom Reinsch  
Phone: (414) 748-3186

Wisconsin Department of Natural Resources  
April 14, 1994  
Page 2


Consulting Firm

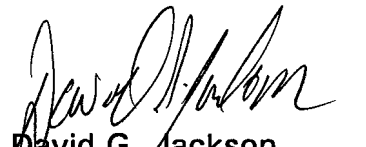
Sigma Environmental Services, Inc.  
9555 South Howell Avenue, Suite 100  
Oak Creek, Wisconsin 53154  
Project Manager: Gene Klees  
Phone: (414) 768-7144

If you have any questions regarding this letter, please contact our office at (414) 768-7144

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

  
Gene K. Klees  
Project Scientist

  
David G. Jackson  
Senior Project Manager

GKK:bjg

cc: Mr. Tom Reinsch - Condon Companies

COMBO CASE - ERP PROJECT LEAD

John Feeney  
APR 20 AM 10:49  
Received by gr

RECEIVED

JUN 30 2000

PECCA SITE REGISTERED 4/20/99 gr  
MILWAUKEE OFFICE

UID Number: #4147 FID Number: 246121150 PMN Number:

County: Ozaukee  
Site Name: Condon Oil Bulk Facility  
Address: 152 W 5358 Portland Road  
Ledarburg, WI 53012  
Municipality: (46)  
Legal Descript.: 1/4 1/4 sec T N R (E/W)  
Lat.: Long.:

Initial Contact Date: 4, 18, 94  
Date RPLetter Sent: 4, 21, 94  
Date Closure Approved: 6, 8, 01  
Person/Firm Reporting: Gene Klees  
Environmental Services, Inc.  
Phone Number: (414) 968-9144

Priority Screening	Scoring Criteria	Funding Source	Effective Date	LUST Trust Eligible
<input checked="" type="checkbox"/> 1 = High	1. _____	<input type="checkbox"/> 1 = RP	___/___/___	<input type="checkbox"/> 1 = Federal
<input checked="" type="checkbox"/> 2 = Medium	2. _____	<input type="checkbox"/> 2 = LTF	___/___/___	<input type="checkbox"/> 2 = Non-Federal
<input type="checkbox"/> 3 = Low	3. _____	<input type="checkbox"/> 3 = EF	___/___/___	
<input type="checkbox"/> 4 = Unknown	4. _____	<input type="checkbox"/> 4 = Other	___/___/___	
	5. _____			

Score: 22 Init.: PAH Date: 3, 3, 96

Case Status

	Start Date	End Date
<input type="checkbox"/> (F) Free Product Removal	___/___/___	___/___/___
<input type="checkbox"/> (E) RP Emergency Response	___/___/___	___/___/___
<input type="checkbox"/> (R) LTF Emergency Response	___/___/___	___/___/___
<input type="checkbox"/> (L) Long Term Monitoring	___/___/___	___/___/___

Responsible Party  
Company Name: Condon Companies  
Contact Person: Tom Reinsch  
Address: 126 East Jackson P.O. Box  
184 Ripon, WI 54971-0184  
Phone Number: (414) 748-3186  
CC's:

Impacts  
Enter "P" for potential and "K" for known  
 (1) Fire/Explosion Threat  
 (2) Contaminated Private Well(s) # of Wells  
 (3) Contaminated Public Well  
 (4) Groundwater Contamination  
 (5) Soil Contamination  
 (6) Other: \_\_\_\_\_  
 (7) Surface Water Impacts  
 (9) Floating Product

Consultant  
Company Name: Sigma Environmental Services  
Contact Name: Gene Klees  
Address: 9555 S Howell Ave.  
Oak Creek, WI 53154  
Telephone: (414) 968-9144

Substances	# Tank(s)	Size
<input type="checkbox"/> (1) Leaded Gas	___	___
<input checked="" type="checkbox"/> (2) Unleaded Gas	___	___
<input type="checkbox"/> (3) Diesel	___	1000 gal
<input type="checkbox"/> (4) Fuel Oil	___	___
<input type="checkbox"/> (5) Unkwn Hydrocrbn	___	___
<input type="checkbox"/> (8) Other	___	___
<input type="checkbox"/> (12) Waste Oil	___	___





PRIORITY SCREENING WORKSHEET

**HIGH FACTORS:** (DEFINITION: Any case which presents an actual threat to human health, or has a high potential of causing a threat to human health and property; and/or any case which has caused or has a high potential of causing substantial impacts to the soil, waters and air of the State of Wisconsin.)

**EMERGENCY FACTORS:**

**HIGH FACTORS:**

- Contaminated private or public well >NR 140 enf. std.
- Explosive or toxic vapors in structures
- Threat of fire

- Floating product (including sheen)
- GW contamination (>140 enf. std.)
- Impacted surface water - - wetland, trout stream, etc. impacted
- Saturated soil contamination posing a risk to groundwater

**MEDIUM FACTORS:** (DEFINITION: Any case which does not appear to be an immediate threat to human health or vital natural resources but which shows levels of contamination that may cause substantial environmental impacts if left unaddressed.)

- Moderate soil contamination with potential for impacting groundwater.
- Impacted surface water - - no critical habitat threats.
- Groundwater contamination >NR 140 PAL.

**LOW FACTORS:** (DEFINITION: Any case where contamination has been documented, but which presents limited potential for immediate threat to human health and vital natural resources.)

- Soil contamination which appears to have a limited potential for impacting groundwater.
- Initial Remedial action has substantially reduced environmental threat.

**UNKNOWN FACTORS:** (DEFINITION: Any case where some indication of contamination is present, but due to incomplete or inaccurate information the level of threat to human health or the environment can not be assessed at this time.)

- Inadequate information to assign a high, medium, or low ranking.

NUMERICAL LUST SCORING WORKSHEET

1. **GROUNDWATER & SOILS:**

POINTS:

- 20 Municipal well impacted
- 18 >6 private wells impacted
- 16 4 - 6 private wells impacted
- 14 2 - 3 private wells impacted
- 12 1 private well impacted

Points:

- 10 Major soil and/or gw >ES within 1200' of a public well
- 8 Major soil and/or gw >ES within 1200' of one or more private wells
- 6 Groundwater contamination >ES
- 4 Groundwater contamination <ES
- 2 Soil contamination

For purposes of this scoring, private well includes any non-municipal water supply system (e.g. non-community and other than municipal)

2. **EXPLOSIVE OR TOXIC VAPORS:**

POINTS:

- 20
- 16
- 12

POTENTIAL

- 10
- 8
- 6

- Explosive levels in a residence or building
- Explosive levels in a sewer or other confined space
- Toxic levels in a residence or building

NOTE: Explosive levels determined to be >20% LEL as per an explosivity meter, toxicity levels are based on OSHA permissible exposure limits (PEL's)

3. **SURFACE WATER IMPACTS:**

POINTS:

- 14
- 10
- 6

POTENTIAL

- 7
- 5
- 3

- Visible sheen or product on sensitive surface water environment (e.g. wetland, trout stream)
- Visible sheen or product on non-sensitive surface water area.
- Exceedance of NR 102, 103 or 104 surface water quality standards.

Request assistance from District Water Resources staff in evaluating surface water impacts.

4. **HYDROGEOLOGIC SETTING:**

Points:

- 12 Permeable stratigraphy (gravel, sand, fractured bedrock or utilities capable of intercepting and directing flow) and groundwater within 25 feet of the ground surface.
- 10 Permeable stratigraphy and groundwater greater than 25 feet below ground surface.
- 8 Moderately permeable stratigraphy (silty sands, silty gravel, clayey sands) and groundwater within 25 feet of ground surface.
- 6 Moderately permeable stratigraphy and groundwater greater than 25 feet below ground surface.
- 4 Low permeability stratigraphy (silt, clayey silt, sand clays) and groundwater within 25 feet of ground surface.
- 2 Low permeability stratigraphy and groundwater greater than 25 feet below ground surface.

5. **TYPE OF PRODUCT:**

POINTS:

- 12
- 10
- 6

DISSOLVED PRODUCT

- 8
- 6
- 2

- Gasoline, mixture of gasoline and other products, other light petroleum products.
- Diesel, fuel oil.
- Bunker oil, other heavy oils or crude fractions.

I.D. # 02-46-098521

*June 3-25-96*

District: SED County: OZAUKEE  
Site Name: CONDON OIL BULK FACILITY  
Address: N52 W5358 PORTLAND RD.  
Legal Municipality: CEDARBUAG

Case No.: \_\_\_\_\_ PMN: \_\_\_\_\_  
FID: 246 121 150 ERA/ERP/LUST  
Proj. Mgr: P. MYLOTTA  
Support Person: \_\_\_\_\_  
Legal Desc: SE 1/4 SW 1/4 Sec 26, T 10, R 21 EW  
Lat: N \_\_\_\_\_ Long: W \_\_\_\_\_

Date of Discovery: 4/18/94

Date of RP Contact: 4/21/94

PRIORITY SCREENING:  
 1 = High  
 3 = Low  
 4 = Unknown

FUNDING SOURCE:  
 1 = RP  
 2 = LTF  
 3 = EF  
 4 = SF  
 5 = None  
 6 = Other (Describe in Comments)  
 7 = EPA Emergency Resp.

RECEIVED

JUN 30 2000

PECFA SITE REVIEW  
MILWAUKEE OFFICE

ENFORCEMENT AUTHORITY:  
 1 = Spill Law s. 144.76, Wis. Stats.  
 2 = Envir Repair Law s. 144.442, Wis. Stats.  
 3 = Hazardous Waste Rules NR 600 Series  
 4 = Solid Waste Rules NR 500 Series  
 5 = CERCLA  
 6 = Abandoned Container s. 144.77, Wis. Stat.  
 7 = Other (Describe in Comments)

PRE-SCORE NOT SCORED

PROGRAMS INVOLVED: (L - LEAD S - SUPPORT)

Aban Containers  NR 500 Solid Waste  Water Supply  
 LUST  Spills  Water Resources Mgt  
 NR 600 Hazardous Waste  Superfund  Env. Repair

RESPONSIBLE PARTY:

Business Name: CONDON OIL COMPANY  
Owner/Mgr.: [Signature]  
Address: 126 E. JACKSON / P.O. Box 184  
BIPON, WI 54971-0184  
Phone: 414 / 748-3186  
Contact Person: TOM REINSCH

Business Name: \_\_\_\_\_  
Owner/Mgr.: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ / \_\_\_\_\_  
Contact Person: \_\_\_\_\_

KNOWN IMPACTS (X)

POTENTIAL IMPACTS (X)

No Threat \_\_\_\_\_  
Fire/Explosion threat (1) \_\_\_\_\_  
Contaminated Private Well (2) \_\_\_\_\_  
Contaminated Public Well (3) \_\_\_\_\_  
Groundwater Contamination (4) X \_\_\_\_\_  
Soil Contamination (5) X \_\_\_\_\_  
Direct Contact (10) \_\_\_\_\_  
Contaminated Surface Water (7) \_\_\_\_\_  
Contaminated Air (8) \_\_\_\_\_  
Other (6) \_\_\_\_\_

CONSULTANT INFORMATION:

Company: SIGMA ENVIRONMENTAL SERVICES  
Contact Person: GENE KLEES  
Address: 9555 S. HOWELL AVE  
OAK CREEK, WI 53154  
Phone: 414 / 768 7144

Company: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ / \_\_\_\_\_

(List additional on separate sheet & attach.)



**I. GROUNDWATER ROUTE WORKSHEET**

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. Section
(1) Observed Release	0 45	1		45	sub. (1)
If observed release is given a score of 45, proceed to line (4). If observed release is given a score of 0, proceed to line (2).					
(2) Route Characteristics					sub. (2)
Depth to Groundwater	0 1 2 3	2		6	
Infiltration Potential	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
<b>Total Route Characteristics Score</b>				15	
(3) Containment	0 1 2 3	1		3	sub. (3)
(4) Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Leachate Strength	0 2 4 6 8 10	1		10	
Waste Quantity/Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
<b>Total Waste Characteristics Score</b>				26	
(5) Potential Impacts					sub. (5)
Groundwater Use	0 1 2 3	3		9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 38 40	1		40	
<b>Total Potential Impacts</b>				49	
(6) If line (1) is 45, multiply (1) X (4) X (5) If line (1) is 0, multiply (2) X (3) X (4) X (5)				57,330	
(7) Divide line (6) by 57,330 and multiply by 100				<b>S<sub>gw</sub> =</b>	

**II. SURFACE WATER ROUTE WORKSHEET**

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. Section
(1) Observed Release	0 45	1		45	sub. (1)
If observed release is given a score of 45, proceed to line (4). If observed release is given a score of 0, proceed to line (2).					
(2) Route Characteristics					sub. (2)
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
Run-off Potential	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
<b>Total Route Characteristics Score</b>				15	
(3) Containment	0 1 2 3	1		3	sub. (3)
(4) Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Leachate Strength	0 2 4 6 8 10	1		10	
Hazardous Waste Quantity/Total Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
<b>Total Waste Characteristics Score</b>				26	
(5) Potential Impacts					sub. (5)
Surface Water Use	0 1 2 3	3		9	
Distance to a Sensitive Environment	0 1 2 3	2		6	
Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1		40	
<b>Total Potential Impacts</b>				55	
(6) If line (1) is 45, multiply (1) X (4) X (5) If line (1) is 0, multiply (2) X (3) X (4) X (5)				64,350	
(7) Divide line (6) by 64,350 and multiply by 100				<b>S<sub>sw</sub> =</b>	

**III. AIR ROUTE WORKSHEET**

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. Section
(1) Observed Release	0 45	1		45	sub. (1)
Date and Location: Sampling Procedures: If line (1) is 0, then S <sub>a</sub> =0, Enter on line (5). If line (1) is 45, then proceed to line (2).					
(2) Waste Characteristics					sub. (2)
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity/Total Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
<b>Total Route Characteristics Score</b>				20	
(3) Potential Impacts					sub. (3)
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
<b>Total Potential Impact Score</b>				39	
(4) Multiply (1) X (2) X (3)				35,100	
(5) Divide line (4) by 35,100 and multiply by 100				<b>S<sub>a</sub> =</b>	

$$S_M = \frac{1}{1.73} (S_{gw}^2 + S_{sw}^2 + S_a^2)^{0.5}$$

where: S<sub>gw</sub> = groundwater route score  
S<sub>sw</sub> = surface water route score  
S<sub>a</sub> = air route score

**SCORE** \_\_\_\_\_

