

# Phase II Subsurface Investigation

at the

Cook Property  
980 Willard Dr.  
Parcel VA-120-8  
Ashwaubenon, Brown County, WI

for

Wisconsin Department of Natural Resources  
2984 Shawano Ave.  
Green Bay, WI 54313-6727

May 18, 2015

N2166A15

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## EXECUTIVE SUMMARY

OMNNI Associates has performed a Phase II subsurface investigation on the property at 980 Willard Dr., Ashwaubenon, WI. The project was intended to determine soil PCB concentrations on the subject property, resulting from past disposal of fill materials in the area. Seven shallow hand-auger borings were placed in unpaved, high-use areas on the day-care property. Upper and lower soil samples were tested from each boring.

PCB concentrations were found in the 6 – 18 inch interval in boring HA4, which was located along the west property line. No direct-contact residual contaminant levels (RCLs) of individual arochlors were exceeded, but the total PCBs level exceeded the groundwater pathway RCL. PCBs were not found at that location in the lower 24 – 35 inch interval, or at any of the other sample locations.

## INTRODUCTION/BACKGROUND

The subject property is located at 9800 Willard Dr., Ashwaubenon, in the SE ¼ of the SE ¼ of section 4, T23N, R20E, Brown County, WI. (See Site Location Map, Appendix 1.) The property consists of tax parcel VA-120-8.

The subject property is part of a larger land parcel, which was initially a farm field. In the 1930's, the lands to the west and south were excavated as borrow pits, and then later used by a paper mill as a waste disposal area. (See historical aerial photos, Appendix 1.) Elevated PCB levels have been found in the surface soils on these off-site properties.

The Wisconsin DNR requested OMNNI to install seven borings on the subject property to determine soil PCB concentrations.

The following are the primary contacts for the project:

Client: Wisconsin DNR, 2984 Shawano Ave., Green Bay, WI 54313-6727; (920) 662-5164. Contact: Bob Klauk.

Consultant: OMNNI Associates, One Systems Drive, Appleton, WI 54914; (920) 735-6900. Contact: Don Brittnacher.

Driller: Hand augers were performed by OMNNI Associates.

Laboratory: Pace Analytical Services, 1241 Bellevue Street, Suite 9, Green Bay, WI 54302; (920) 469-2436.

## GEOLOGY AND HYDROGEOLOGY

The geology and hydrogeology of the area were determined by studying existing geologic, topographic, hydrogeologic, and soil maps, and by obtaining information during the present investigation.

Based on maps and information included in "*Water Resources of Wisconsin – Fox-Wolf River Basin*" by P. G. Olcott (1968), the pre-development surface soils in the area are glacial lake deposits, consisting of clay, silt, and sand. The subject property was once farmed. Large borrow pits were located on adjacent properties to the west and south, and were subsequently filled with waste materials. Those activities, including post-closure grading of the areas, may have impacted the surface soils on the west boundary and southwest corner of the subject property.

Dolomite bedrock is expected to be approximately 90 feet below the ground surface at the site.

The topography at the site has been artificially manipulated, and slopes to the east. (See Topographic Map, Appendix 1.) In the area, the topography slopes to the east-southeast towards the Fox River, located 1.4 miles from the subject property.

The depth to groundwater at the site is expected to be 4 – 8 feet below the ground surface. The shallow groundwater flow direction is assumed to be to the east towards the Fox River.

The pre-development soil at the site consisted of Kewaunee silt loam, which is a well-drained soil. (See Soil Map, Appendix 1.) The soil along the southern portion of the site's west boundary and in the southwest corner of the site is mapped as "fill land".

## **FIELD ACTIVITIES**

On April 17, 2015, OMNNI, along with Bob Klauk of the Wisconsin DNR, coordinated the installation of seven hand-auger borings (HA1 – HA7) on the subject property. (See Site Detail Map, Appendix 1.) The borings were placed in unpaved, high-use areas at the day-care facility. Boring HA1 was placed in an unlined sandbox in the northwest corner of the parcel. Boring HA2 was installed in an unlined sandbox near the west property boundary in the southern portion of the play area. Boring HA3 was placed in a grassed area next to a fence in the central part of the site. Boring HA4 was installed in a grassed area immediately adjacent to an elevated, bark-chipped play area near the west property boundary. Boring HA5 was placed in a centrally located grassed area. Boring HA6 was installed in a worn area next to a playground merry-go-round. Boring HA7 was placed in a bald spot in the lawn.

The borings were installed to depths ranging from 19 inches to 35 inches. (See Soil Boring Log Information Forms, Appendix 3.) Groundwater was not encountered.

Soil samples were obtained from upper and lower intervals for field screening with a photoionization detector (PID). Representative portions were also collected for laboratory analysis of PCBs. (See Handbook of Field Procedures, Appendix 4.)

The boreholes were properly abandoned. (See Borehole Abandonment Forms, Appendix 3.)

## **FIELD AND ANALYTICAL RESULTS**

No petroleum odors, staining, or elevated headspace readings were observed in any of the borings.

The soil in boring HA1 consisted of one foot of sandbox sand (fill) over topsoil to 36 inches. (See soil boring log for details, Appendix 3.)

The soil in boring HA2 consisted of 14 inches of sandbox sand (fill) over three inches of topsoil over clay to 26 inches.

The soil in boring HA3 consisted of 10 inches of topsoil over silty sand to refusal at 20 inches.

The soil in boring HA4 consisted of 19 inches of topsoil over silty sand to 35 inches.

The soil in boring HA5 consisted of eight inches of topsoil fill over four inches of red clay fill over three inches of gray silty sand over four inches of brown sand to 19 inches.

The soil in boring HA6 consisted of 10 inches of topsoil over silty clay to 31 inches.

The soil in boring HA7 consisted of seven inches of topsoil over five inches of silty clay over clay to 35 inches.

The variation in observed materials indicates that the original land surface at the site has been reworked during site development or prior activities.

Based on laboratory analytical results, elevated PCB concentrations were found in the 6 – 18 inch interval in boring HA4, located along the west property line. Although no arochlors exceeded any non-industrial direct-contact residual contaminant levels (RCLs), the total PCBs level exceeded the groundwater pathway RCL. (See Table 1 – Summary of Laboratory Analysis, Soil Samples, Appendix 2, and Laboratory Analysis Results and Chain of Custody Documentation, Appendix 5.)

## CONCLUSIONS

The Phase II environmental site investigation was intended to determine soil PCB concentrations on the subject property, resulting from past disposal of fill materials in the area. Seven shallow hand-auger borings were placed in unpaved, high-use areas on the day-care property. Upper and lower soil samples were tested from each boring.

PCB concentrations were found in the 6 – 18 inch interval in boring HA4, which was located along the west property line. No direct-contact residual contaminant levels (RCLs) of individual arochlors were exceeded, but the total PCBs level exceeded the groundwater pathway RCL. PCBs were not found at that location in the lower 24 – 35 inch interval, or at any of the other sample locations.

## STANDARD OF CARE

The conclusions presented in this investigation were arrived at using generally accepted hydrogeologic and engineering practices. The conclusions presented herein represent our professional opinions, based on the data collected at the time of the investigation, at the specific boring and sampling locations discussed in this report. Conditions at other locations on the property may be different than described in this investigation. The scope of this report is limited to the specific project and location described herein.

Prepared By:



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Don Brittnacher, P.G., P.E.  
Hydrogeologist, Engineer

"I, Don Brittnacher, 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."

*Don Brittnacher*

(Professional Geologist)



I, Don Brittnacher, certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with 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."

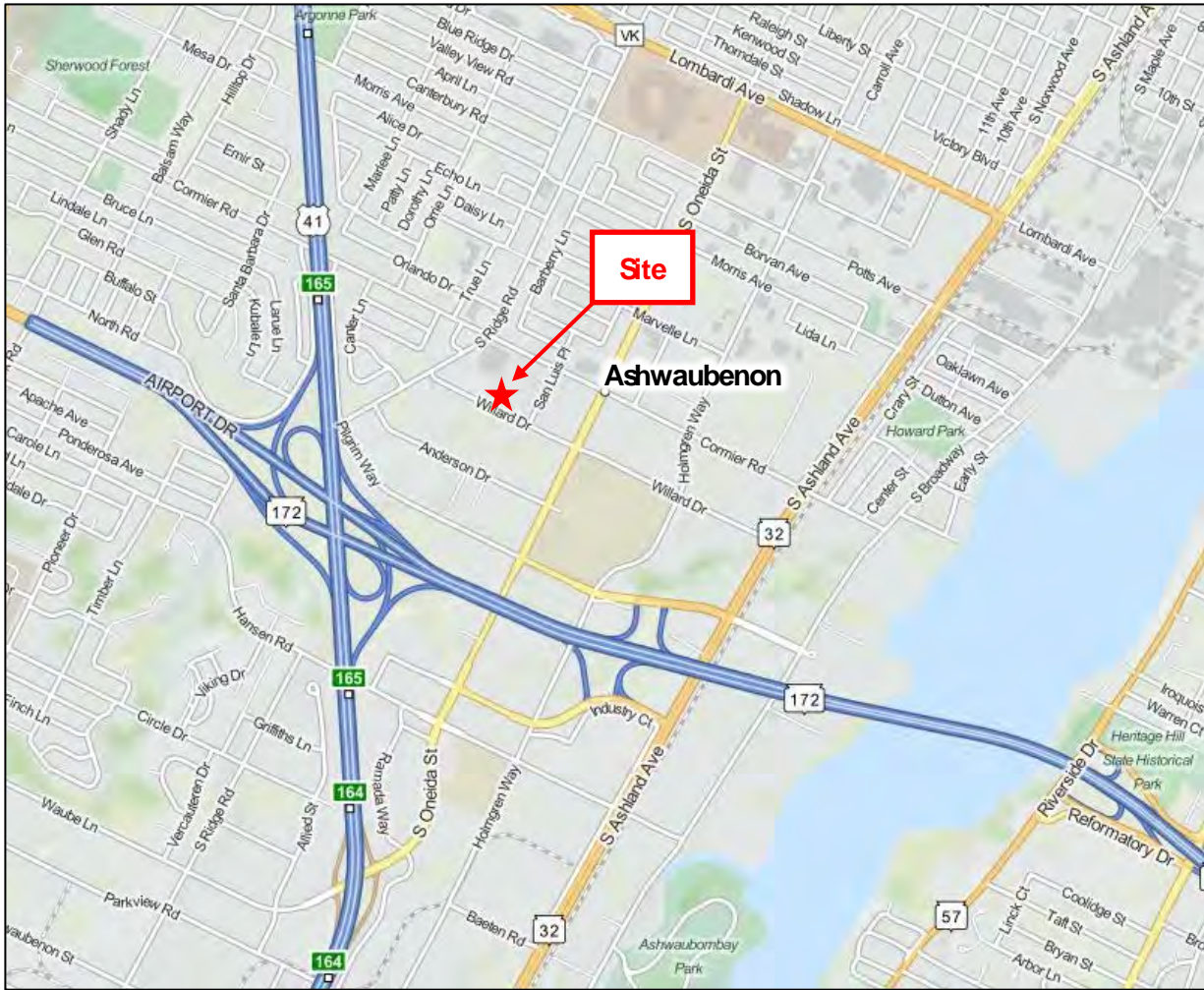
*Don Brittnacher*

(Professional Engineer)



**APPENDIX 1**

**FIGURES AND HISTORICAL AERIAL PHOTOS**



Source: Mapquest, reviewed 5/11/2015.



<h3>Site Location Map</h3>	
<p>Cook Property 980 Willard Dr. Ashwaubenon, WI</p>	
	<p>Project Number: N2166A15</p>
	<p>Date: May 11, 2015</p>
<p>One Systems Drive, Appleton, Wisconsin 54914-1654 Phone: (920) 735-6900 Fax: (920) 830-6100</p>	





⊕ Soil Boring Locations  
 ▲ Hand Auger Locations (4/17/2015)

**OMNI ASSOCIATES**  
 ONE SYSTEMS DRIVE PHONE (920) 735-6900  
 APPLETON, WI 54914 FAX (920) 830-6100



**ASHWAUBENON INVESTIGATION**  
**HAND AUGER LOCATIONS**  
**4/17/2015**  
 980 WILLARD DRIVE  
 VILLAGE OF ASHWAUBENON, BROWN COUNTY, WISCONSIN

Project Manager: BDW  
 Project Engineer: DJB  
 Drawn By: JCW  
 Checked By: DJB  
 Date: 4/20/2015

SCALE:  
 1" = 30'  
 PROJECT NO.  
**N2166A14**  
 FIGURE NO.  
**A-1**

# Topographic Map



Note: Contour interval is two feet.



# Soil Map



KhB = Kewaunee silt loam

Fd = fill land

Aerial View of Site and Surrounding Area – 1938



Aerial View of Site and Surrounding Area – 1952



Aerial View of Site and Surrounding Area – 1960



**APPENDIX 2**

**TABLE**

TABLE 1  
SUMMARY OF LABORATORY ANALYSIS  
SOIL SAMPLES

Boring & Sample	Sample Date	Depth (inches)	PID (iui)	PCBs (ug/kg)							PCBs, Total
				Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	
Non-industrial RCL				3,930	159	159	221	221	221	221	-
Groundwater Pathway RCL				-	-	-	-	-	-	-	9.4
HA1-1	4/17/15	6 - 18	0	<28.8	<28.8	<28.8	<28.8	<28.8	<28.8	<28.8	<28.8
HA1-2		24 - 29	0	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9
HA2-1	4/17/15	6 - 18	0	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9	<27.9
HA2-2		23 - 26	0	<27.3	<27.3	<27.3	<27.3	<27.3	<27.3	<27.3	<27.3
HA3-1	4/17/15	6 - 16	0	<27.2	<27.2	<27.2	<27.2	<27.2	<27.2	<27.2	<27.2
HA3-2		16 - 20	0	<26.4	<26.4	<26.4	<26.4	<26.4	<26.4	<26.4	<26.4
HA4-1	4/17/15	6 - 18	0	<28.6	<28.6	<28.6	<28.6	44.6 "J"	58.8	53.2 "J"	<b>157</b>
HA4-2		24 - 35	0	<27.0	<27.0	<27.0	<27.0	<27.0	<27.0	<27.0	<27.0
HA5-1	4/17/15	0 - 10	0	<28.3	<28.3	<28.3	<28.3	<28.3	<28.3	<28.3	<28.3
HA5-2		14 - 20	0	<26.8	<26.8	<26.8	<26.8	<26.8	<26.8	<26.8	<26.8
HA6-1	4/17/15	0 - 10	0	<28.7	<28.7	<28.7	<28.7	<28.7	<28.7	<28.7	<28.7
HA6-2		24 - 31	0	<30.4	<30.4	<30.4	<30.4	<30.4	<30.4	<30.4	<30.4
HA7-1	4/17/15	0 - 10	0	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3
HA7-2		24 - 35	0	<30.5	<30.5	<30.5	<30.5	<30.5	<30.5	<30.5	<30.5

**Notes:** RCL = Residual contaminant level

**BOLD** entry indicates that concentration detected above non-industrial direct contact RCL

*Italics* entry indicates that concentration detected above groundwater pathway RCL



**APPENDIX 3**

**DNR FORMS**

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelopment  Other

Page 1 of 1

Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>		License/Permit/Monitoring Number		Boring Number <b>HAI</b>	
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittnacher</b> Firm: <b>OMNI Associates</b>		Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>	
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated) or Boring Location <input type="checkbox"/> State Plane <b>N</b> , <b>E</b>			Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID			County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>

Sample Number and Type	Length At. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				0"-12" Sandbox sand											
<b>HAI-1</b> <b>12"-18"</b>			1	12"-36" Topsoil				0		M					
<b>HAI-2</b> <b>24"-29"</b>			2					0		M					
			3	EOD at 36"											

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature **Don Brittnacher** Firm **OMNI Associates**

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelopment  Other

Page 1 of 1

Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>			License/Permit/Monitoring Number		Boring Number <b>HA2</b>
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittmacher</b> Firm: <b>OMNI Associates</b>			Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated) or Boring Location <input type="checkbox"/> State Plane <u>          </u> N, <u>          </u> E			Local Grid Location Lat <u>0</u> ' " Long <u>0</u> ' "		
SE 1/4 of SE 1/4 of Section <b>4</b> , T <b>23</b> N, R <b>20</b> E			Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID	County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>		

Sample Number and Type	Length An. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	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	P 200		
				0"-14" Sand box sand											
HA2-1 14"-18"			1	14"-17" Topsoil 17"-26" Clay											
HA2-2 23"-26"			2	EOB at 26"											
			3												

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

Signature Don Brittmacher Firm OMNI Associates

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Route To:  Watershed/Wastewater  Waste Management   
 Remediation/Revelopment  Other

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Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>		License/Permit/Monitoring Number		Boring Number <b>HA3</b>	
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittnacher</b> Firm: <b>OMNI Associates</b>		Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>	
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/>		State Plane <u>      </u> N, <u>      </u> E		Local Grid Location <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>4</b> , T <b>23</b> N, R <b>20E</b>		Lat <u>0</u> ' "	Long <u>0</u> ' "	Feet <u>      </u> Feet <u>      </u>	
Facility ID	County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>		

Sample Number and Type	Length An. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				0"-10" Topsoil											
<b>HA3-1</b> 6"-16"			1	10"-20" Silty sand				0		M					
<b>HA3-2</b> 16"-20"			2	Refusal at 20"				0		M					
			3												

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

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Remediation/Revelopment  Other

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Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>		License/Permit/Monitoring Number		Boring Number <b>HA4</b>	
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittmacher</b> Firm: <b>OMNI Associates</b>		Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>	
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/> State Plane <u>N</u> , <u>E</u>			Local Grid Location Lat <u>0</u> ' " Long <u>0</u> ' " <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID		County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>	
SE 1/4 of SE 1/4 of Section <b>4</b> , T <b>23</b> N, R <b>20</b> E					

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
<b>HA4-1</b> <b>64"-18"</b>		1		<b>0"-19" Topsoil</b>				0		M				
<b>HA4-2</b> <b>24"-35"</b>		2		<b>19"-35" Silty sand</b>				0		M				
		3		<b>EOB at 35"</b>										

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Route To: Watershed/Wastewater  Waste Management   
Remediation/Development  Other

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Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>		License/Permit/Monitoring Number		Boring Number <b>HA5</b>	
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittnacher</b> Firm: <b>OMNI Associates</b>		Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>	
WI Unique Well No.	DNR Well ID No.	Well Name		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/>		State Plane <u>N</u> , <u>E</u>		Local Grid Location <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>4</b> , T <b>23</b> N, R <b>20</b> E		Lat <u>0</u> ' "	Long <u>0</u> ' "	Feet <input type="checkbox"/> Feet <input type="checkbox"/> W	
Facility ID	County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>		

Sample Number and Type	Length An. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
HA5-1 0"-10"				0"-8" Topsoil (fill)				0		M				
				8"-12" Red clay (f. ll)										
HA5-2 14"-19"			1	12"-15" Gray silty sand				0		M				
				15"-19" Brown sand										
				EOB at 19"										
			2											
			3											

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Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittmacher</b> Firm: <b>OMNI Associates</b>			Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated) or Boring Location <input type="checkbox"/> State Plane <u>      </u> N, <u>      </u> E			Local Grid Location <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>4</b> , T <b>23</b> N, R <b>20</b> E			Lat <u>0</u> ' " Long <u>0</u> ' "		
Facility ID	County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>		

Sample Number and Type	Length At. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	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	P 200	
<b>HAG-1</b> <b>0-10"</b>				<b>0-10" Topsoil</b>				<b>0</b>		<b>M</b>				
			<b>1</b>	<b>10-31" Silty clay</b>										
<b>HAG-2</b> <b>24-31"</b>			<b>2</b>					<b>0</b>		<b>M</b>				
			<b>3</b>	<b>EOB at 31"</b>										

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

Signature **Don Brittmacher** Firm **OMNI Associates**

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Route To: Watershed/Wastewater  Waste Management   
Remediation/Development  Other

Page 1 of 1

Facility/Project Name <b>DNR - Willard Dr. Day care, Ashwaubenon</b>		License/Permit/Monitoring Number		Boring Number <b>HA7</b>	
Boring Drilled By: Name of crew chief (first/last) and Firm First Name: <b>Don</b> Last Name: <b>Brittnacher</b> Firm: <b>OMNI Associates</b>		Date Drilling Started <b>4/17/2015</b>	Date Drilling Completed <b>4/17/2015</b>	Drilling Method <b>hand auger</b>	
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>2</b> inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/> State Plane <u>N</u> , <u>E</u>			Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID			County <b>Brown</b>	County Code <b>5</b>	Civil Town/City/ or Village <b>Ashwaubenon</b>

Sample Number and Type	Length An. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
HA7-1 0"-10"			1	0"- 7" Topsoil				0				M		
				7"- 12" Silty clay										
				12"- 35" Clay										
HA7-2 24"-35"			2					0				M		
			3	EOB at 35"										

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

Signature Don Brittnacher Firm OMNI Associates

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**Verification Only of Fill and Seal**

**Route to DNR Bureau:**

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment

Waste Management       Other: \_\_\_\_\_

1. Well Location Information				2. Facility / Owner Information			
County <b>Brown</b>		WI Unique Well # of Removed Well		Hicap # <b>hand auger HAI</b>		Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions)		Format Code		Method Code		Facility ID (FID or PWS)	
_____ N		<input type="checkbox"/> DD		<input type="checkbox"/> GPS008		License/Permit/Monitoring #	
_____ W		<input type="checkbox"/> DDM		<input type="checkbox"/> SCR002		_____	
_____		<input type="checkbox"/> OTH001		_____		_____	
1/4 1/4 <b>SE</b> 1/4 <b>SE</b>		Section <b>4</b>		Township <b>23 N</b>		Range <input checked="" type="checkbox"/> <b>E</b> <input type="checkbox"/> <b>W</b>	
or Gov't Lot #		_____		_____		Original Well Owner <b>MCook Properties LLC</b>	
Well Street Address <b>980 Willard Dr.</b>				Present Well Owner <b>MCook Properties LLC</b>			
Well City, Village or Town <b>Ashwaubenon</b>				Mailing Address of Present Owner <b>1616 Glen Rd.</b>			
Subdivision Name				Lot #		City of Present Owner <b>Green Bay</b>	
_____				_____		State <b>WI</b>	
_____				_____		ZIP Code <b>54313</b>	

Reason for Removal from Service  
**no longer needed**

WI Unique Well # of Replacement Well \_\_\_\_\_

3. Filled & Sealed Well / Drillhole / Borehole Information		4. Pump, Liner, Screen, Casing & Sealing Material			
<input type="checkbox"/> Monitoring Well		Original Construction Date (mm/dd/yyyy) <b>04/17/2015</b>			
<input type="checkbox"/> Water Well		If a Well Construction Report is available, please attach.			
<input checked="" type="checkbox"/> Borehole / Drillhole		Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Construction Type:		Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug		Liner(s) perforated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
<input checked="" type="checkbox"/> Other (specify): <b>hand auger</b>		Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Formation Type:		Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Total Well Depth From Ground Surface (ft.) <b>3.0</b>		Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Casing Diameter (in.) <b>-</b>		Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
Lower Drillhole Diameter (in.) <b>2</b>		If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Casing Depth (ft.) <b>-</b>		If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown		Required Method of Placing Sealing Material			
If yes, to what depth (feet)?		<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped			
Depth to Water (feet) <b>&gt;3.0</b>		<input type="checkbox"/> Screened & Poured (Bentonite Chips) <input checked="" type="checkbox"/> Other (Explain): <b>gravity</b>			
_____		Sealing Materials			
_____		<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete			
_____		<input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite Chips			
_____		For Monitoring Wells and Monitoring Well Boreholes Only:			
_____		<input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout			
_____		<input checked="" type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry			

5. Material Used to Fill Well / Drillhole			
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>bentonite</b>	<b>Surface</b>	<b>3.0</b>	<b>1/4</b>

**6. Comments**

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By
Street or Route <b>One Systems Dr.</b>		Telephone Number <b>(920)735-6900</b>		Comments	
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Brittnacker</b>	Date Signed <b>5/18/15</b>	

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**Verification Only of Fill and Seal**

**Route to DNR Bureau:**

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment

Waste Management       Other: \_\_\_\_\_

1. Well Location Information				2. Facility / Owner Information			
County <b>Brown</b>		WI Unique Well # of Removed Well		Hicap # <b>hand auger HA2</b>		Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions) N _____ W _____		Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 1/4 <b>SE SE</b> or Gov't Lot #		Section <b>4</b>		Township <b>23 N</b>		Range <input checked="" type="checkbox"/> E <input type="checkbox"/> W	
Well Street Address <b>980 Willard Dr.</b>				Original Well Owner <b>MCook Properties LLC</b>			
Well City, Village or Town <b>Ashwaubenon</b>				Present Well Owner <b>MCook Properties LLC</b>			
Subdivision Name				Mailing Address of Present Owner <b>1616 Glen Rd.</b>			
				City of Present Owner <b>Green Bay</b>		State <b>WI</b>	
						ZIP Code <b>54313</b>	

Reason for Removal from Service <b>no longer needed</b>		WI Unique Well # of Replacement Well	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole		Original Construction Date (mm/dd/yyyy) <b>04/17/2015</b>	
If a Well Construction Report is available, please attach.			
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <b>hand auger</b>			
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock			
Total Well Depth From Ground Surface (ft.) <b>2.2</b>		Casing Diameter (in.) <b>-</b>	
Lower Drillhole Diameter (in.) <b>2</b>		Casing Depth (ft.) <b>-</b>	
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown			
If yes, to what depth (feet)?		Depth to Water (feet) <b>&gt; 2.2</b>	

**4. Pump, Liner, Screen, Casing & Sealing Material**

Pump and piping removed?     Yes     No     N/A

Liner(s) removed?     Yes     No     N/A

Liner(s) perforated?     Yes     No     N/A

Screen removed?     Yes     No     N/A

Casing left in place?     Yes     No     N/A

---

Was casing cut off below surface?     Yes     No     N/A

Did sealing material rise to surface?     Yes     No     N/A

Did material settle after 24 hours?     Yes     No     N/A

If yes, was hole retopped?     Yes     No     N/A

If bentonite chips were used, were they hydrated with water from a known safe source?     Yes     No     N/A

**Required Method of Placing Sealing Material**

Conductor Pipe-Gravity     Conductor Pipe-Pumped

Screened & Poured (Bentonite Chips)     Other (Explain): **gravity**

**Sealing Materials**

Neat Cement Grout     Concrete

Sand-Cement (Concrete) Grout     Bentonite Chips

**For Monitoring Wells and Monitoring Well Boreholes Only:**

Bentonite Chips     Bentonite - Cement Grout

Granular Bentonite     Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole			
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>bentonite</b>	<b>Surface</b>	<b>2.2</b>	<b>1/4</b>

**6. Comments**

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By
Street or Route <b>One Systems Dr.</b>		Telephone Number <b>(920) 735-6900</b>		Comments	
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Brittnacker</b>	Date Signed <b>5/18/15</b>	

# Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

**Notice:** Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

**Route to DNR Bureau:**

- Drinking Water       Watershed/Wastewater       Remediation/Redevelopment  
 Waste Management       Other: \_\_\_\_\_

**1. Well Location Information**      **2. Facility / Owner Information**

County <b>Brown</b>		WI Unique Well # of Removed Well	Hicap # <b>hand auger HA3</b>	Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions) _____ N _____ W		Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001	Facility ID (FID or PWS)	
1/4 1/4 <b>SE</b> 1/4 <b>SE</b> or Gov't Lot #	Section <b>4</b>	Township <b>23 N</b>	Range <b>20</b> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	License/Permit/Monitoring #	
Well Street Address <b>980 Willard Dr.</b>			Original Well Owner <b>MCook Properties LLC</b>		
Well City, Village or Town <b>Ashwaubenon</b>			Present Well Owner <b>MCook Properties LLC</b>		
Subdivision Name			Well ZIP Code <b>54304</b>		Mailing Address of Present Owner <b>1616 Glen Rd.</b>
			City of Present Owner <b>Green Bay</b>		State <b>WI</b> ZIP Code <b>54313</b>

Reason for Removal from Service <b>no longer needed</b>	WI Unique Well # of Replacement Well	<b>4. Pump, Liner, Screen, Casing &amp; Sealing Material</b>			
--	--------------------------------------	--	--	--	--

<b>3. Filled &amp; Sealed Well / Drillhole / Borehole Information</b>		<input type="checkbox"/> Monitoring Well      Original Construction Date (mm/dd/yyyy) <b>04/17/2015</b> <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole      If a Well Construction Report is available, please attach.			
Construction Type:		<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <b>hand auger</b>			
Formation Type:		<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock			
Total Well Depth From Ground Surface (ft.) <b>1.7</b>	Casing Diameter (in.) <b>-</b>	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured (Bentonite Chips) <input checked="" type="checkbox"/> Other (Explain): <b>gravity</b>			
Lower Drillhole Diameter (in.) <b>2</b>	Casing Depth (ft.) <b>-</b>	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite Chips			
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input checked="" type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry				
If yes, to what depth (feet)?	Depth to Water (feet) <b>&gt; 1.7</b>				

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>bentonite</b>	Surface	<b>1.7</b>	<b>1/4</b>	

**6. Comments**

<b>7. Supervision of Work</b>			<b>DNR Use Only</b>	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By
Street or Route <b>One Systems Dr.</b>		Telephone Number <b>(920) 735-6900</b>	Comments	
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Brittnacker</b>	Date Signed <b>5/18/15</b>



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Verification Only of Fill and Seal

**Route to DNR Bureau:**

- Drinking Water       Watershed/Wastewater       Remediation/Redevelopment  
 Waste Management       Other: \_\_\_\_\_

**1. Well Location Information**      **2. Facility / Owner Information**

County <b>Brown</b>		WI Unique Well # of Removed Well		Hicap # <b>hand auger HA4</b>		Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions) N _____ W _____		Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 1/4 <b>SE</b> 1/4 <b>SE</b> or Gov't Lot #		Section <b>4</b>		Township <b>23 N</b>		Range <input checked="" type="checkbox"/> <b>E</b> <input type="checkbox"/> <b>W</b>	
Well Street Address <b>980 Willard Dr.</b>				Original Well Owner <b>MCook Properties LLC</b>			
Well City, Village or Town <b>Ashwaubenon</b>				Present Well Owner <b>MCook Properties LLC</b>			
Well ZIP Code <b>54304</b>				Mailing Address of Present Owner <b>1616 Glen Rd.</b>			
Subdivision Name				City of Present Owner <b>Green Bay</b>		State <b>WI</b>	ZIP Code <b>54313</b>

**3. Filled & Sealed Well / Drillhole / Borehole Information**      **4. Pump, Liner, Screen, Casing & Sealing Material**

Reason for Removal from Service <b>no longer needed</b>		WI Unique Well # of Replacement Well		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Pump and piping removed?			
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole		Original Construction Date (mm/dd/yyyy) <b>04/17/2015</b>		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed?			
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <b>hand auger</b>		If a Well Construction Report is available, please attach.		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) perforated?			
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed?			
Total Well Depth From Ground Surface (ft.) <b>2.9</b>		Casing Diameter (in.) <b>-</b>		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place?			
Lower Drillhole Diameter (in.) <b>2</b>		Casing Depth (ft.) <b>-</b>		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface?			
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown		Depth to Water (feet) <b>&gt; 2.9</b>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did sealing material rise to surface?			
If yes, to what depth (feet)?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours?			
				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If yes, was hole retopped?			
				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source?			
Required Method of Placing Sealing Material				<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured (Bentonite Chips) <input checked="" type="checkbox"/> Other (Explain): <b>gravity</b>			
Sealing Materials				<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite Chips			
For Monitoring Wells and Monitoring Well Boreholes Only:				<input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input checked="" type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry			

5. Material Used to Fill Well / Drillhole		From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>bentonite</b>		Surface	<b>2.9</b>	<b>1/4</b>	

**6. Comments**

<b>7. Supervision of Work</b>			<b>DNR Use Only</b>	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By
Street or Route <b>One Systems Dr.</b>	Telephone Number <b>(920) 735-6900</b>	Comments		
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Brittnacher</b>	Date Signed <b>5/18/15</b>

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**Verification Only of Fill and Seal**

**Route to DNR Bureau:**

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment  
 Waste Management       Other: \_\_\_\_\_

1. Well Location Information				2. Facility / Owner Information			
County <b>Brown</b>		WI Unique Well # of Removed Well		Hicap # <b>hand auger HAS</b>		Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions) _____ N _____ W		Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 1/4 <b>SE</b> 1/4 <b>SE</b> or Gov't Lot #		Section <b>4</b>		Township <b>23 N</b>		Range <input checked="" type="checkbox"/> <b>E</b> <input type="checkbox"/> <b>W</b>	
Well Street Address <b>980 Willard Dr.</b>				Original Well Owner <b>MCook Properties LLC</b>			
Well City, Village or Town <b>Ashwaubenon</b>				Present Well Owner <b>MCook Properties LLC</b>			
Subdivision Name				Well ZIP Code <b>54304</b>		Mailing Address of Present Owner <b>1616 Glen Rd.</b>	
				Lot #		City of Present Owner <b>Green Bay</b>	
						State <b>WI</b>	
						ZIP Code <b>54313</b>	

Reason for Removal from Service <b>no longer needed</b>		WI Unique Well # of Replacement Well	
<b>3. Filled &amp; Sealed Well / Drillhole / Borehole Information</b> <input type="checkbox"/> Monitoring Well      Original Construction Date (mm/dd/yyyy) <input type="checkbox"/> Water Well <b>04/17/2015</b> <input checked="" type="checkbox"/> Borehole / Drillhole      If a Well Construction Report is available, please attach.			
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <b>hand auger</b>			
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock			
Total Well Depth From Ground Surface (ft.) <b>1.6</b>		Casing Diameter (in.) -	
Lower Drillhole Diameter (in.) <b>2</b>		Casing Depth (ft.) -	
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown			
If yes, to what depth (feet)?		Depth to Water (feet) <b>&gt; 1.6</b>	

4. Pump, Liner, Screen, Casing & Sealing Material			
Pump and piping removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Liner(s) perforated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Screen removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Required Method of Placing Sealing Material			
<input type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped		
<input type="checkbox"/> Screened & Poured (Bentonite Chips)	<input checked="" type="checkbox"/> Other (Explain): <b>gravity</b>		
Sealing Materials			
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Concrete		
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite Chips		
For Monitoring Wells and Monitoring Well Boreholes Only:			
<input type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout		
<input checked="" type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry		

5. Material Used to Fill Well / Drillhole			
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>Surface</b>	<b>1.6</b>	<b>1/4</b>	

**6. Comments**

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By
Street or Route <b>One Systems Dr.</b>			Telephone Number <b>(920)735-6900</b>	Comments	
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Brittnacker</b>	Date Signed <b>5/18/15</b>	

**Notice:** Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

**Verification Only of Fill and Seal**

**Route to DNR Bureau:**

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment

Waste Management       Other: \_\_\_\_\_

**1. Well Location Information**      **2. Facility / Owner Information**

County <b>Brown</b>		WI Unique Well # of Removed Well		Hicap # <b>hand auger HAG</b>		Facility Name <b>DNR-Willard Dr. Daycare, Ashwaubenon</b>	
Latitude / Longitude (see instructions) N _____ W _____		Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 1/4 <b>SE</b> 1/4 <b>SE</b>		Section <b>4</b>		Township <b>23 N</b>		Range <input checked="" type="checkbox"/> <b>E</b> <input type="checkbox"/> W	
or Gov't Lot #		Well Street Address <b>980 Willard Dr.</b>		Original Well Owner <b>MCook Properties LLC</b>		Present Well Owner <b>MCook Properties LLC</b>	
Well City, Village or Town <b>Ashwaubenon</b>		Well ZIP Code <b>54304</b>		Mailing Address of Present Owner <b>1616 Glen Rd.</b>		Mailing Address of Present Owner	
Subdivision Name		Lot #		City of Present Owner <b>Green Bay</b>		State <b>WI</b>	
				ZIP Code <b>54313</b>			

**Reason for Removal from Service**  
**no longer needed**

WI Unique Well # of Replacement Well \_\_\_\_\_

**3. Filled & Sealed Well / Drillhole / Borehole Information**

Monitoring Well      Original Construction Date (mm/dd/yyyy)  
**04/17/2015**

Water Well

Borehole / Drillhole      If a Well Construction Report is available, please attach.

**Construction Type:**

Drilled       Driven (Sandpoint)       Dug

Other (specify): **hand auger**

**Formation Type:**

Unconsolidated Formation       Bedrock

Total Well Depth From Ground Surface (ft.) <b>2.6</b>	Casing Diameter (in.) -
Lower Drillhole Diameter (in.) <b>2</b>	Casing Depth (ft.) -
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Depth to Water (feet) <b>&gt; 2.6</b>

**4. Pump, Liner, Screen, Casing & Sealing Material**

Pump and piping removed?     Yes     No     N/A

Liner(s) removed?     Yes     No     N/A

Liner(s) perforated?     Yes     No     N/A

Screen removed?     Yes     No     N/A

Casing left in place?     Yes     No     N/A

Was casing cut off below surface?     Yes     No     N/A

Did sealing material rise to surface?     Yes     No     N/A

Did material settle after 24 hours?     Yes     No     N/A

If yes, was hole retopped?     Yes     No     N/A

If bentonite chips were used, were they hydrated with water from a known safe source?     Yes     No     N/A

**Required Method of Placing Sealing Material**

Conductor Pipe-Gravity     Conductor Pipe-Pumped

Screened & Poured (Bentonite Chips)     Other (Explain): **gravity**

**Sealing Materials**

Neat Cement Grout       Concrete

Sand-Cement (Concrete) Grout       Bentonite Chips

**For Monitoring Wells and Monitoring Well Boreholes Only:**

Bentonite Chips       Bentonite - Cement Grout

Granular Bentonite       Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole			
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<b>bentonite</b>	<b>Surface</b>	<b>2.6</b>	<b>1/4</b>

**6. Comments**

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing <b>OMNUI Associates</b>	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <b>04/17/2015</b>	Date Received	Noted By	
Street or Route <b>One Systems Dr.</b>	Telephone Number <b>(920)735-6900</b>	Comments			
City <b>Appleton</b>	State <b>WI</b>	ZIP Code <b>54914</b>	Signature of Person Doing Work <b>Don Bruttacker</b>	Date Signed <b>5/18/15</b>	



**Notice:** Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

**Route to DNR Bureau:**

- Drinking Water       Watershed/Wastewater       Remediation/Redevelopment  
 Waste Management       Other: \_\_\_\_\_

**1. Well Location Information**

County Brown      WI Unique Well # of Removed Well \_\_\_\_\_      Hicap # hand auger HA7  
 Latitude / Longitude (see instructions) \_\_\_\_\_ N      Format Code  DD      Method Code  GPS008  
 \_\_\_\_\_ W       DDM       SCR002  
 \_\_\_\_\_  OTH001  
 1/4 SE 1/4 SE      Section 4      Township 23 N      Range  E  W  
 or Gov't Lot # \_\_\_\_\_  
 Well Street Address 980 Willard Dr.  
 Well City, Village or Town Ashwaubenon      Well ZIP Code 54304  
 Subdivision Name \_\_\_\_\_      Lot # \_\_\_\_\_

**2. Facility / Owner Information**

Facility Name DNR-Willard Dr. Daycare, Ashwaubenon  
 Facility ID (FID or PWS) \_\_\_\_\_  
 License/Permit/Monitoring # \_\_\_\_\_  
 Original Well Owner MCook Properties LLC  
 Present Well Owner MCook Properties LLC  
 Mailing Address of Present Owner 1616 Glen Rd.  
 City of Present Owner Green Bay      State WI      ZIP Code 54313

Reason for Removal from Service no longer needed      WI Unique Well # of Replacement Well \_\_\_\_\_

**3. Filled & Sealed Well / Drillhole / Borehole Information**

Monitoring Well      Original Construction Date (mm/dd/yyyy) 04/17/2015  
 Water Well  
 Borehole / Drillhole      If a Well Construction Report is available, please attach. \_\_\_\_\_  
 Construction Type:  
 Drilled       Driven (Sandpoint)       Dug  
 Other (specify): hand auger  
 Formation Type:  
 Unconsolidated Formation       Bedrock  
 Total Well Depth From Ground Surface (ft.) 2.9      Casing Diameter (in.) -  
 Lower Drillhole Diameter (in.) 2      Casing Depth (ft.) -  
 Was well annular space grouted?       Yes       No       Unknown  
 If yes, to what depth (feet)? \_\_\_\_\_      Depth to Water (feet) > 2.9

**4. Pump, Liner, Screen, Casing & Sealing Material**

Pump and piping removed?       Yes       No       N/A  
 Liner(s) removed?       Yes       No       N/A  
 Liner(s) perforated?       Yes       No       N/A  
 Screen removed?       Yes       No       N/A  
 Casing left in place?       Yes       No       N/A  
 Was casing cut off below surface?       Yes       No       N/A  
 Did sealing material rise to surface?       Yes       No       N/A  
 Did material settle after 24 hours?       Yes       No       N/A  
 If yes, was hole retopped?       Yes       No       N/A  
 If bentonite chips were used, were they hydrated with water from a known safe source?       Yes       No       N/A  
 Required Method of Placing Sealing Material  
 Conductor Pipe-Gravity       Conductor Pipe-Pumped  
 Screened & Poured (Bentonite Chips)       Other (Explain): gravity  
 Sealing Materials  
 Neat Cement Grout       Concrete  
 Sand-Cement (Concrete) Grout       Bentonite Chips  
 For Monitoring Wells and Monitoring Well Boreholes Only:  
 Bentonite Chips       Bentonite - Cement Grout  
 Granular Bentonite       Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<u>bentonite</u>	<u>Surface</u>	<u>2.9</u>	<u>Y4</u>	

**6. Comments**

**7. Supervision of Work**

Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing <u>OMNUI Associates</u>	License # _____	Date of Filling & Sealing or Verification (mm/dd/yyyy) <u>04/17/2015</u>	Date Received _____	Noted By _____	
Street or Route <u>One Systems Dr.</u>	Telephone Number <u>(920) 735-6900</u>	Comments _____			
City <u>Appleton</u>	State <u>WI</u>	ZIP Code <u>54914</u>	Signature of Person Doing Work <u>Don Brittnacker</u>	Date Signed <u>5/18/15</u>	

**APPENDIX 4**

**HANDBOOK OF FIELD PROCEDURES**



# **HANDBOOK OF FIELD PROCEDURES**

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## PERSONNEL QUALIFICATIONS

Brian D. Wayner:	Completed 40-hour hazardous waste training. Bachelors Degree in Electrical Engineering from University of Wisconsin-Milwaukee. Masters Degree in Environmental Engineering from University of New Haven. PECFA Consultant Registration #47551. Licensed Professional Engineer (no. 35304), State of Wisconsin
Don Brittnacher:	Completed 40-hour hazardous waste training. Bachelors Degree in Geology from University of Notre Dame. Masters Degree in Environmental Health Engineering from University of Notre Dame. Licensed Professional Geologist (no. 462), State of Wisconsin Licensed Professional Engineer (no. 30286), State of Wisconsin PECFA Consultant Registration/Certified Site Assessor-42127.
Jason C. Weis:	Completed 40-hour hazardous waste training. Bachelors Degree in Civil Engineering from University of Wisconsin-Platteville. Masters Degree in Environmental Engineering from University of Wyoming. Licensed Professional Engineer (no. 36681), State of Wisconsin
Deanna L. Drum:	Completed 40-hour hazardous waste training. Associate Degree in Mechanical Design, Fox Valley Technical College.

## SOIL BORING INSTALLATION PROCEDURES

A number of different drilling and Geoprobe® firms are used for environmental investigations. Borings intended to be converted to monitoring wells are advanced using 7 5/8" outside diameter (O.D.) x 4.5" inside diameter (I.D.) hollow stem augers or 6.25" O.D. solid stem augers powered by a truck-mounted drill rig. If bedrock drilling is required, borings are advanced using either air or mud-rotary drilling techniques. Soil borings not intended for monitoring wells are typically advanced using 4" O.D. solid stem augers. The Geoprobe® typically advances a 2" diameter hole. All soil borings that are not converted to permanent or temporary groundwater monitoring wells are properly abandoned per chapter NR 141, Wisconsin Administrative Code.

Samples are typically obtained from each boring at 2.5' intervals by split-spoon sampling according to American Society for Testing and Materials (ASTM) Standard D 1586. A portion of each sample is screened with a photoionization detector (PID). At each sampling interval, a representative portion of the soil is also collected for possible laboratory analysis. Soil samples are chosen from each boring for laboratory analysis based on headspace screening data, and visual and olfactory observations. In general, the sample from each boring that exhibits the highest PID reading is chosen for analysis. See the Soil Sampling Procedures below for further information pertaining to field headspace analysis and sample collection procedures.

## SOIL SAMPLING PROCEDURES

All soil sampling is performed in accordance with the Wisconsin Department of Natural Resources (WDNR) publication PUBL-SW-127, Soil Sampling Requirements for LUST Site Investigations and Excavations and chapter COMM 10, Flammable and Combustible Liquids, Wis. Adm. Code. The soil samples are collected and analyzed in accordance with methods described in Table C-3 in Appendix C of WDNR PUBL-RR-614, Interim Guidance On Natural Attenuation For Petroleum Releases, 1999. Our standard instruments and sample collection procedures are as follows:

1. Soil samples are collected from a split-spoon sampler or a polyethylene tube during environmental drilling.
2. Sample collector wears new latex exam gloves when collecting samples to decrease the risk of personal exposure and cross contamination.
3. A portion of the sample is collected in a sampling syringe and placed in an appropriate container (see Table 1), immediately placed on ice, and later delivered to a WDNR-certified laboratory for analysis. This procedure is discussed in more detail later in this report.

4. The remaining portion of the sample is placed in a clean 4 oz. jar (approx. half-filled), and sealed with aluminum foil and a teflon-lined lid. The headspace sample is then agitated for a minimum of 30 seconds and allowed to equilibrate. Minimum equilibration time will correspond to the following specifications:

**Minimum Sample Headspace Equilibration Time**

Ambient Outside Air Temperature at the Time of Sample Collection:	Minimum Amount of Time Sample Must Equilibrate at 70° F or Greater Temperature:
< 40 °F	40 minutes
41 – 55 °F	20 minutes
56 – 69 °F	10 minutes
> 70 °F	5 minutes

**Instrument Specifications**

When the sample has completed equilibration, it is promptly field analyzed with a portable PID. OMNNI uses either a Photovac Inc. Microtip HL-200 or ML-1000 or a Thermo Environmental Instruments Model 580A organic vapor monitor (OVM), both equipped with an 11.2 ev lamp. A background reading is first taken. The PID probe is then inserted into the jar through a single hole in the aluminum foil. The instrument reading is measured at one-half the distance between the foil seal and the sample surface. The measured reading is then recorded.

Isobutylene at a concentration of 100 ppm is used for field calibration gas. The PID meter is field calibrated at the following times:

- At the beginning of each day
- After any significant change in temperature or humidity
- Every three hours
- After any repairs to the instrument are performed

All samples are returned to the laboratory as soon as possible, usually the day the sample was collected. All samples are returned to the laboratory under chain-of-custody protocol, using form #4400-151. Time of sample collection and sample PID reading are listed. Care is taken to ensure that the chain-of-custody form is properly and fully completed before submitting to the laboratory. The samples are sent to a laboratory certified by the WDNR.

Table 2 on page 9 outlines the required WDNR laboratory analysis for specific contaminants. Soil analyses, other than those in Table 2, will be conducted in accordance with methods approved by the WDNR.

## **MONITORING WELL INSTALLATION AND DEVELOPMENT PROCEDURES**

The permanent monitoring wells are typically constructed of two-inch, schedule 40, flush-thread polyvinyl chloride (PVC) casings and slotted well screens. Temporary wells are constructed of one-inch diameter, schedule 40 PVC casings and slotted screens. Prior to use, well parts are individually wrapped in plastic.

Permanent wells are installed and developed according to chapter NR 141, Wis. Adm. Code. The monitoring wells are installed with five to fifteen-foot screens which are placed in the borings to intersect the water table. Piezometers are installed with five-foot screens sealed beneath the water table. Filter pack and annular space seal material are installed by gravity as the augers are withdrawn from the hole. Wells are cut to the required height using a PVC pipe cutter.

An as-constructed well and boring survey is performed by OMNNI once field work is complete. Elevations are either based on a local datum of 100 feet, or a United States Geological Survey (USGS) elevation, assigned to a mark on a reference point located at the site. Ground elevation is surveyed to the nearest 0.1 foot, and the top of the well casing to the nearest 0.01 foot.

A horizontal grid system is established at the site with the origin of the grid set on the reference point. Wells and borings are located with respect to this grid system.

To properly develop each permanent monitoring well, water is removed until a consistent water quality is obtained. This is done by removing 10 times the water volume in the well and filter pack, removing water until it is free of sediment, or removing the water until the well is purged dry. Water is removed from the wells by bailing the water with as little agitation as possible. If the water level is unaffected by bailing and large amounts of water are to be removed, the well is developed by using the surge and purge method with a centrifugal pump. No water is added to the well during development. Temporary wells may be developed by allowing the peristaltic pump to run until the water is as clear as possible.

The development water is drummed, pending the results of analytical testing. If the well is suspected to be clean and small volumes of water are to be removed, the water may be spread on pavement to volatilize any possible contaminants. If the water is contaminated, it is properly disposed.

# GROUNDWATER SAMPLING PROCEDURES AND VOLATILE ORGANIC COMPOUND (VOC) SAMPLING NOTES

- A. Devices used to measure water elevation, purge wells and retrieve samples:
1. Groundwater levels are measured with a fiberglass reel tape with a weighted stainless steel "sounder" at the end.
  2. In wells that have free product on top of the water surface, depth to water and depth to product are measured with a fiberglass reel tape with an interface probe at the end.
  3. Wells are purged and samples are collected by one of the following methods:
    - a) Wells are purged with a disposable bailer.
    - b) Alternate purging and sampling equipment consisting of a peristaltic groundwater sampling pump.
- B. Procedures for calculating purge volumes, purging wells and sampling:
1. Wells are normally sampled starting from the upgradient area and progressing toward the downgradient area of the site. When the degree of contamination is known, least contaminated wells are sampled first, the more contaminated wells sampled last.
  2. All the wells are opened before the depth to groundwater is determined to allow groundwater to equilibrate.
  3. Wells are purged with a bailer by removing four water volumes within a casing or all the water until the well runs dry. When using a peristaltic pump, water is removed for 10 to 20 minutes.
  4. Once all the wells have been purged, the samples are drawn using equipment mentioned above. (See Table 3 - Water Sample Preparation Guide)
  5. Sample odor, turbidity, temperature, conductivity, dissolved oxygen (DO) and pH are determined on the unfiltered portions of the sample and recorded on the well specific field sheet.
  6. When the sample requires filtering, the sample is filtered with a hand pump or an in-line pump (as soon after collection as possible).
  7. Quality Assurance/Quality Control Samples

- a) Trip and field blanks each consist of three new 40 milliliter (ml) vials filled with deionized water. These are sent to the laboratory for petroleum volatile organic compound (PVOC) or VOC analysis.
  - b) One field blank should be analyzed for every 10 samples collected. At least one trip blank is taken per site visit. Trip blanks are poured, labeled, and sealed, then taken out in the field. Field blanks are poured, labeled, and sealed at the site. Trip blanks are kept with all samples collected until reaching the field. If there is a possibility for field cross-contamination of samples, field blanks may be taken at the sample collector's discretion.
  - c) One temperature blank may be collected per batch of samples.
  - d) One duplicate sample may be collected with every 10 samples.
8. Samples are refrigerated, then transported to a WDNR-certified laboratory for testing as soon as possible.
  9. A chain-of-custody form is filled out, listing all samples collected, requested laboratory analysis, date and time of collection, and the name of the sample collector. This document remains with the samples at all times and bears the names of all persons handling the samples until they are received at the laboratory.
- C. Procedures for cleaning equipment:
1. In the field, sampling equipment is rinsed with a 10% methanol solution and then flushed three times with deionized water between each well sampled.
  2. Equipment that is still contaminated after field cleaning will be rinsed with tap water, washed off with detergent, rinsed with a 10% methanol solution, and flushed three times with deionized water.
- D. Transporting samples to laboratory:
1. Filtered, preserved, labeled, and sealed samples are placed on ice and transported to the laboratory for analysis as soon as possible.
  2. The laboratory will be notified by the sample collector when courier service is required.
- E. The above procedures constitute normal groundwater sampling procedures for permanent groundwater monitoring wells. Modifications to each of the outlined items may be applicable for site specific conditions or special volatile organic sampling considerations. Methods used are consistent with WDNR's Groundwater



## DECONTAMINATION PROCEDURES

Decontamination is the process of removing and/or neutralizing contaminants that may have accumulated on personnel protective equipment (PPE) and equipment. Proper decontamination is a critical element in the control of hazards which helps ensure the health and safety of workers. Proper decontamination also contains the contamination to the site, thus preventing further environmental problems.

### Drilling

The following decontamination procedures should be used when completing borings, installing monitoring wells, and/or installing remediation systems.

- A. Between samples, the split spoon will be cleaned in a multiple rinse, surfactant solution (soap and water or Alconox solution.)
- B. The sample will be collected while wearing new latex exam gloves.
- C. The surface upon which the sample is collected is cleaned between samples.
- D. The latex exam gloves are changed between samples.
- E. Soil which has accumulated around the boring will either be stockpiled or drummed. If the soil is stockpiled, it will be placed on and covered with plastic. The stockpiled or drummed soil will later be disposed in compliance with the WDNR regulations.
- F. Upon completion of the boring, the augers will be decontaminated by drilling contractors before they are used again. The following procedures will be followed when decontaminating drilling equipment:
  1. A decontamination basin lined with plastic is set up near the work area.
  2. All contaminated equipment is placed in the decontamination basin.
  3. A pressurized steam cleaner is used to clean all contaminated equipment.
  4. Following steam cleaning, the auger is removed from the decontamination basin.
  5. Upon completion of the job, the accumulated water in the decontamination basin is pumped out and placed in a drum. Wash water used for cleaning the split spoons is also added to the drum. The drum will be disposed in

compliance with all regulatory agencies. The plastic used in the decontamination basin is disposed in compliance with all regulatory agencies.

**TABLE 1 – SOIL SAMPLE PREPARATION GUIDE\***

<b>TEST</b>	<b>CONTAINER SIZE**</b>	<b>SAMPLE SIZE</b>	<b>PRESERVATIVE</b>	<b>HOLDING TIME</b>
<b>GRO</b> Gasoline Range Organics	2 oz. wide mouth glass jar or 40 ml vial (2 per sample)	25 g – jar 13 g – vial	25 ml Methanol (purge & trap grade) – jar none required – vial	4 days
<b>DRO</b> Diesel Range Organics	2 oz. wide mouth glass jar or 40 ml vial (2 per sample)	25 g – jar 13 g – vial	None	4 days
<b>Total Lead/ or all RCRA Metals</b>	4 oz. wide mouth plastic jar (2 per sample)	4 oz.	None	6 months
<b>VOC / PVOC</b> Volatile Organic Compounds	2 oz. wide mouth glass jar or 40 ml vial (2 per sample)	25 g – jar 13 g – vial	25 ml Methanol (purge & trap grade) – jar none required – vial	4 days preserved , 48 hours non-preserved
<b>PCB</b> Polychlorinated Biphenyls	4 oz. wide mouth glass jar (2 per sample)	4 oz.	None	14 days
<b>PAH</b> Polynuclear Aromatic Hydrocarbons	4 oz. wide mouth glass jar (2 per sample)	4 oz.	None	14 days

\* All samples will be sealed, labeled, and placed on ice immediately after collection.

\*\* To ensure a proper seal between the sample container and the cap, no soil shall remain on the jar or cap threads. When samples are collected with the syringe, a 40 ml vial is used and the sample is preserved by the laboratory.

**TABLE 2 – SOIL SAMPLE ANALYSIS GUIDE FOR PETROLEUM CONTAMINATION**

<b>PETROLEUM SUBSTANCE</b>	<b>CLOSURE ASSESSMENT</b>	<b>SOLID WASTE PRO./LANDFILLS</b>	<b>SITE INVESTIGATIONS</b>
Gasoline Aviation Fuel	GRO	Free Liquids GRO Benzene Haz. Waste Det.	GRO PVOC/VOC Pb
Diesel Jet Fuel No.'s 1, 2, 4 Fuel Oil	DRO	Free Liquids GRO Benzene Haz. Waste Det.	DRO PVOC PAH
Crude Oil Lubricat. Oil No. 6 Fuel Oil	DRO	Free Liquids DRO Haz. Waste Det.	DRO PAH
Unknown Petroleum	GRO and DRO	Free Liquids GRO and DRO Pb, Cd, CN, S Haz Waste Det.	GRO and DRO VOC/PVOC PAH Pb, Cd
Waste Oil	DRO	Free Liquids DRO VOC Pb, Cd, CN, S Haz. Waste Det.	DRO VOC/PVOC PAH PCB Pb, Cd

**TABLE 3 – GROUNDWATER SAMPLE PREPARATION GUIDE\***

<b>TEST</b>	<b>SAMPLE SIZE/ CONTAINER</b>	<b>PRESERVATIVE</b>	<b>HOLDING TIME</b>
<b>VOC / PVOC</b> Volatile Organic Compounds	3 - 40 ml vials filled with no headspace	0.5 ml of 1:1 HCl	14 days
<b>DRO</b> Diesel Range Organics	1 - 1 liter amber glass bottles	5 ml of 1:1 HCl	7 days
<b>GRO</b> Gasoline Range Organics	3 - 40 ml vials filled with no headspace	0.5 ml of 1:1 HCl	14 days
<b>PAH</b> Polynuclear Aromatic Hydrocarbons	1 - 1 liter amber glass bottles	None	7 days
<b>PCB</b> Polychlorinated Biphenyls	1 - 1 liter amber glass bottle	None	7 days
<b>LEAD / RCRA</b> metals **	1 - 250 ml plastic bottle	2 ml of HNO <sub>3</sub> or to a pH of < 2	6 months

\* All samples will be sealed, labeled, and placed on ice immediately after collection.

\*\* When testing for dissolved metals, the sample will be field filtered before preservation.

**APPENDIX 5**

**LABORATORY ANALYSIS RESULTS AND CHAIN OF CUSTODY DOCUMENTATION**

May 01, 2015

Don Brittnacher  
OMNINI Associates  
One Systems Drive  
Appleton, WI 54914

RE: Project: N2166A15 DNR-ASHWAUBENON  
Pace Project No.: 40113357

Dear Don Brittnacher:

Enclosed are the analytical results for sample(s) received by the laboratory on April 17, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Steven Mleczko  
steve.mleczko@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

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## SAMPLE SUMMARY

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40113357001	HA1-1	Solid	04/17/15 08:55	04/17/15 13:45
40113357002	HA1-2	Solid	04/17/15 09:00	04/17/15 13:45
40113357003	HA2-1	Solid	04/17/15 09:35	04/17/15 13:45
40113357004	HA2-2	Solid	04/17/15 09:42	04/17/15 13:45
40113357005	HA3-1	Solid	04/17/15 10:00	04/17/15 13:45
40113357006	HA3-2	Solid	04/17/15 10:04	04/17/15 13:45
40113357007	HA4-1	Solid	04/17/15 10:25	04/17/15 13:45
40113357008	HA4-2	Solid	04/17/15 10:30	04/17/15 13:45
40113357009	HA5-1	Solid	04/17/15 10:48	04/17/15 13:45
40113357010	HA5-2	Solid	04/17/15 10:53	04/17/15 13:45
40113357011	HA6-1	Solid	04/17/15 11:20	04/17/15 13:45
40113357012	HA6-2	Solid	04/17/15 11:24	04/17/15 13:45
40113357013	HA7-1	Solid	04/17/15 11:50	04/17/15 13:45
40113357014	HA7-2	Solid	04/17/15 11:55	04/17/15 13:45

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### SAMPLE ANALYTE COUNT

Project: N2166A15 DNR-ASHWAUBENON  
Pace Project No.: 40113357

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40113357001	HA1-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357002	HA1-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357003	HA2-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357004	HA2-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357005	HA3-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357006	HA3-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357007	HA4-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357008	HA4-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357009	HA5-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357010	HA5-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357011	HA6-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357012	HA6-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357013	HA7-1	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G
40113357014	HA7-2	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	AH	1	PASI-G

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON  
Project No.: 40113357

**Sample: HA1-1**      **Lab ID: 40113357001**      Collected: 04/17/15 08:55      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082 Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	53469-21-9	
PCB-1248 (Aroclor 1248)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	12672-29-6	
PCB-1254 (Aroclor 1254)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	11096-82-5	
PCB, Total	<28.8	ug/kg	57.6	28.8	1	04/20/15 12:03	04/21/15 14:06	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	77	%	46-130		1	04/20/15 12:03	04/21/15 14:06	877-09-8	
Decachlorobiphenyl (S)	76	%	39-130		1	04/20/15 12:03	04/21/15 14:06	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	13.2	%	0.10	0.10	1		04/30/15 13:30		

**Sample: HA1-2**      **Lab ID: 40113357002**      Collected: 04/17/15 09:00      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082 Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	53469-21-9	
PCB-1248 (Aroclor 1248)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	12672-29-6	
PCB-1254 (Aroclor 1254)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	11096-82-5	
PCB, Total	<27.9	ug/kg	55.8	27.9	1	04/20/15 12:03	04/21/15 14:24	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	77	%	46-130		1	04/20/15 12:03	04/21/15 14:24	877-09-8	
Decachlorobiphenyl (S)	78	%	39-130		1	04/20/15 12:03	04/21/15 14:24	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	10.4	%	0.10	0.10	1		04/20/15 13:46		

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### ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON  
 Pace Project No.: 40113357

**Sample: HA2-1**      **Lab ID: 40113357003**      Collected: 04/17/15 09:35      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	53469-21-9	
PCB-1248 (Aroclor 1248)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	12672-29-6	
PCB-1254 (Aroclor 1254)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	11096-82-5	
PCB, Total	<27.9	ug/kg	55.7	27.9	1	04/20/15 12:03	04/21/15 14:41	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	77	%	46-130		1	04/20/15 12:03	04/21/15 14:41	877-09-8	
Decachlorobiphenyl (S)	78	%	39-130		1	04/20/15 12:03	04/21/15 14:41	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	10.3	%	0.10	0.10	1		04/20/15 13:46		

**Sample: HA2-2**      **Lab ID: 40113357004**      Collected: 04/17/15 09:42      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	53469-21-9	
PCB-1248 (Aroclor 1248)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	12672-29-6	
PCB-1254 (Aroclor 1254)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	11096-82-5	
PCB, Total	<27.3	ug/kg	54.6	27.3	1	04/20/15 12:03	04/21/15 14:59	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	76	%	46-130		1	04/20/15 12:03	04/21/15 14:59	877-09-8	
Decachlorobiphenyl (S)	77	%	39-130		1	04/20/15 12:03	04/21/15 14:59	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	8.4	%	0.10	0.10	1		04/20/15 13:46		

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## ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

**Sample: HA3-1**      **Lab ID: 40113357005**      Collected: 04/17/15 10:00      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	53469-21-9	
PCB-1248 (Aroclor 1248)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	12672-29-6	
PCB-1254 (Aroclor 1254)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	11096-82-5	
PCB, Total	<27.2	ug/kg	54.4	27.2	1	04/20/15 12:03	04/21/15 15:52	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	80	%	46-130		1	04/20/15 12:03	04/21/15 15:52	877-09-8	
Decachlorobiphenyl (S)	76	%	39-130		1	04/20/15 12:03	04/21/15 15:52	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	8.1	%	0.10	0.10	1		04/30/15 13:30		

**Sample: HA3-2**      **Lab ID: 40113357006**      Collected: 04/17/15 10:04      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	53469-21-9	
PCB-1248 (Aroclor 1248)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	12672-29-6	
PCB-1254 (Aroclor 1254)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	11096-82-5	
PCB, Total	<26.4	ug/kg	52.8	26.4	1	04/20/15 12:03	04/21/15 16:09	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	79	%	46-130		1	04/20/15 12:03	04/21/15 16:09	877-09-8	
Decachlorobiphenyl (S)	77	%	39-130		1	04/20/15 12:03	04/21/15 16:09	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	5.3	%	0.10	0.10	1		04/30/15 13:30		

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## ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON  
Pace Project No.: 40113357

**Sample: HA4-1**      **Lab ID: 40113357007**      Collected: 04/17/15 10:25      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<28.6	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.6	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.6	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.6	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	53469-21-9	
PCB-1248 (Aroclor 1248)	44.6J	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	12672-29-6	
PCB-1254 (Aroclor 1254)	58.8	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	11097-69-1	
PCB-1260 (Aroclor 1260)	53.2J	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	11096-82-5	
PCB, Total	157	ug/kg	57.2	28.6	1	04/20/15 12:03	04/21/15 16:27	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	78	%	46-130		1	04/20/15 12:03	04/21/15 16:27	877-09-8	
Decachlorobiphenyl (S)	74	%	39-130		1	04/20/15 12:03	04/21/15 16:27	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	12.6	%	0.10	0.10	1		04/20/15 13:46		

**Sample: HA4-2**      **Lab ID: 40113357008**      Collected: 04/17/15 10:30      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	53469-21-9	
PCB-1248 (Aroclor 1248)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	12672-29-6	
PCB-1254 (Aroclor 1254)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	11096-82-5	
PCB, Total	<27.0	ug/kg	54.0	27.0	1	04/20/15 12:03	04/21/15 16:45	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	81	%	46-130		1	04/20/15 12:03	04/21/15 16:45	877-09-8	
Decachlorobiphenyl (S)	83	%	39-130		1	04/20/15 12:03	04/21/15 16:45	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	7.5	%	0.10	0.10	1		04/20/15 13:46		

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## ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON

Lab Project No.: 40113357

**Sample: HA5-1**      **Lab ID: 40113357009**      Collected: 04/17/15 10:48      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	53469-21-9	
PCB-1248 (Aroclor 1248)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	12672-29-6	
PCB-1254 (Aroclor 1254)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	11097-69-1	
PCB-1260 (Aroclor 1260)	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	11096-82-5	
PCB, Total	<28.3	ug/kg	56.7	28.3	1	04/21/15 12:56	04/22/15 11:30	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	74	%	46-130		1	04/21/15 12:56	04/22/15 11:30	877-09-8	
Decachlorobiphenyl (S)	74	%	39-130		1	04/21/15 12:56	04/22/15 11:30	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	11.8	%	0.10	0.10	1		04/20/15 13:46		

**Sample: HA5-2**      **Lab ID: 40113357010**      Collected: 04/17/15 10:53      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	11096-82-5	
PCB, Total	<26.8	ug/kg	53.5	26.8	1	04/21/15 12:56	04/22/15 11:47	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	74	%	46-130		1	04/21/15 12:56	04/22/15 11:47	877-09-8	
Decachlorobiphenyl (S)	77	%	39-130		1	04/21/15 12:56	04/22/15 11:47	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	6.6	%	0.10	0.10	1		04/20/15 13:47		

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## ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON

Lab Project No.: 40113357

**Sample: HA6-1**      **Lab ID: 40113357011**      Collected: 04/17/15 11:20      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	53469-21-9	
PCB-1248 (Aroclor 1248)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	12672-29-6	
PCB-1254 (Aroclor 1254)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	11096-82-5	
PCB, Total	<28.7	ug/kg	57.4	28.7	1	04/21/15 12:56	04/22/15 13:15	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	70	%	46-130		1	04/21/15 12:56	04/22/15 13:15	877-09-8	
Decachlorobiphenyl (S)	61	%	39-130		1	04/21/15 12:56	04/22/15 13:15	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	12.9	%	0.10	0.10	1		04/20/15 12:09		

**Sample: HA6-2**      **Lab ID: 40113357012**      Collected: 04/17/15 11:24      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	53469-21-9	
PCB-1248 (Aroclor 1248)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	12672-29-6	
PCB-1254 (Aroclor 1254)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	11096-82-5	
PCB, Total	<30.4	ug/kg	60.7	30.4	1	04/21/15 12:56	04/22/15 13:33	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	76	%	46-130		1	04/21/15 12:56	04/22/15 13:33	877-09-8	
Decachlorobiphenyl (S)	73	%	39-130		1	04/21/15 12:56	04/22/15 13:33	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	17.7	%	0.10	0.10	1		04/20/15 12:09		

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## ANALYTICAL RESULTS

Project: N2166A15 DNR-ASHWAUBENON  
 Lab Project No.: 40113357

**Sample: HA7-1**      **Lab ID: 40113357013**      Collected: 04/17/15 11:50      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	53469-21-9	
PCB-1248 (Aroclor 1248)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	12672-29-6	
PCB-1254 (Aroclor 1254)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	11096-82-5	
PCB, Total	<31.3	ug/kg	62.5	31.3	1	04/21/15 12:56	04/22/15 13:51	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	68	%	46-130		1	04/21/15 12:56	04/22/15 13:51	877-09-8	
Decachlorobiphenyl (S)	97	%	39-130		1	04/21/15 12:56	04/22/15 13:51	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	20.0	%	0.10	0.10	1		04/20/15 12:09		

**Sample: HA7-2**      **Lab ID: 40113357014**      Collected: 04/17/15 11:55      Received: 04/17/15 13:45      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>									
Analytical Method: EPA 8082    Preparation Method: EPA 3541									
PCB-1016 (Aroclor 1016)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	53469-21-9	
PCB-1248 (Aroclor 1248)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	12672-29-6	
PCB-1254 (Aroclor 1254)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	11096-82-5	
PCB, Total	<30.5	ug/kg	60.9	30.5	1	04/21/15 12:56	04/22/15 14:08	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	80	%	46-130		1	04/21/15 12:56	04/22/15 14:08	877-09-8	
Decachlorobiphenyl (S)	80	%	39-130		1	04/21/15 12:56	04/22/15 14:08	2051-24-3	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	17.9	%	0.10	0.10	1		04/20/15 12:09		

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### QUALITY CONTROL DATA

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

QC Batch: OEXT/26286 Analysis Method: EPA 8082  
 QC Batch Method: EPA 3541 Analysis Description: 8082 GCS PCB  
 Associated Lab Samples: 40113357001, 40113357002, 40113357003, 40113357004, 40113357005, 40113357006, 40113357007, 40113357008

METHOD BLANK: 1144197 Matrix: Solid  
 Associated Lab Samples: 40113357001, 40113357002, 40113357003, 40113357004, 40113357005, 40113357006, 40113357007, 40113357008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	04/21/15 09:03	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	04/21/15 09:03	
Decachlorobiphenyl (S)	%	76	39-130	04/21/15 09:03	
Tetrachloro-m-xylene (S)	%	87	46-130	04/21/15 09:03	

LABORATORY CONTROL SAMPLE: 1144198

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	376	75	63-130	
Decachlorobiphenyl (S)	%			76	39-130	
Tetrachloro-m-xylene (S)	%			88	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1144199 1144200

Parameter	Units	40113379001		1144200		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1221 (Aroclor 1221)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1232 (Aroclor 1232)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1242 (Aroclor 1242)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1248 (Aroclor 1248)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1254 (Aroclor 1254)	ug/kg	<28.6		<28.6	<28.6						20
PCB-1260 (Aroclor 1260)	ug/kg	<28.6	572	572	428	401	75	70	38-130	6	20
Decachlorobiphenyl (S)	%						76	69	39-130		
Tetrachloro-m-xylene (S)	%						83	78	46-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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### QUALITY CONTROL DATA

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

QC Batch: OEXT/26299

Analysis Method: EPA 8082

QC Batch Method: EPA 3541

Analysis Description: 8082 GCS PCB

Associated Lab Samples: 40113357009, 40113357010, 40113357011, 40113357012, 40113357013, 40113357014

METHOD BLANK: 1144729

Matrix: Solid

Associated Lab Samples: 40113357009, 40113357010, 40113357011, 40113357012, 40113357013, 40113357014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	04/22/15 10:01	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	04/22/15 10:01	
Decachlorobiphenyl (S)	%	84	39-130	04/22/15 10:01	
Tetrachloro-m-xylene (S)	%	78	46-130	04/22/15 10:01	

LABORATORY CONTROL SAMPLE: 1144730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	398	80	63-130	
Decachlorobiphenyl (S)	%			84	39-130	
Tetrachloro-m-xylene (S)	%			78	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1144731

1144732

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40113436001 Result	Spike Conc.	Spike Conc.	Result						
PCB-1016 (Aroclor 1016)	ug/kg	<28.0			<28.0	<28.0					20
PCB-1221 (Aroclor 1221)	ug/kg	<28.0			<28.0	<28.0					20
PCB-1232 (Aroclor 1232)	ug/kg	<28.0			<28.0	<28.0					20
PCB-1242 (Aroclor 1242)	ug/kg	83.3			117	128			9		20
PCB-1248 (Aroclor 1248)	ug/kg	<28.0			<28.0	<28.0					20
PCB-1254 (Aroclor 1254)	ug/kg	<28.0			<28.0	<28.0					20
PCB-1260 (Aroclor 1260)	ug/kg	<28.0	561	561	411	392	73	70	38-130	5	20
Decachlorobiphenyl (S)	%						73	70	39-130		
Tetrachloro-m-xylene (S)	%						73	72	46-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

QC Batch: PMST/11108

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40113357001, 40113357005, 40113357006

SAMPLE DUPLICATE: 1150160

Parameter	Units	40113413007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.5	6.5	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: N2166A15 DNR-ASHWAUBENON

Pace Project No.: 40113357

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: N2166A15 DNR-ASHWAUBENON  
Pace Project No.: 40113357

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40113357001	HA1-1	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357002	HA1-2	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357003	HA2-1	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357004	HA2-2	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357005	HA3-1	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357006	HA3-2	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357007	HA4-1	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357008	HA4-2	EPA 3541	OEXT/26286	EPA 8082	GCSV/12805
40113357009	HA5-1	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357010	HA5-2	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357011	HA6-1	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357012	HA6-2	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357013	HA7-1	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357014	HA7-2	EPA 3541	OEXT/26299	EPA 8082	GCSV/12814
40113357001	HA1-1	ASTM D2974-87	PMST/11108		
40113357002	HA1-2	ASTM D2974-87	PMST/11061		
40113357003	HA2-1	ASTM D2974-87	PMST/11061		
40113357004	HA2-2	ASTM D2974-87	PMST/11061		
40113357005	HA3-1	ASTM D2974-87	PMST/11108		
40113357006	HA3-2	ASTM D2974-87	PMST/11108		
40113357007	HA4-1	ASTM D2974-87	PMST/11061		
40113357008	HA4-2	ASTM D2974-87	PMST/11061		
40113357009	HA5-1	ASTM D2974-87	PMST/11061		
40113357010	HA5-2	ASTM D2974-87	PMST/11061		
40113357011	HA6-1	ASTM D2974-87	PMST/11058		
40113357012	HA6-2	ASTM D2974-87	PMST/11058		
40113357013	HA7-1	ASTM D2974-87	PMST/11058		
40113357014	HA7-2	ASTM D2974-87	PMST/11058		

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **OMWNI Associates**  
 Branch/Location: **Appleton**  
 Project Contact: **Don Brittnacher**  
 Phone: **735-6900**  
 Project Number: **N2166A15**  
 Project Name: **DUR-Ashwabenon**  
 Project State: **Wisconsin**  
 Sampled By (Print): **Don Brittnacher**  
 Sampled By (Sign): *Don Brittnacher*  
 PO #: \_\_\_\_\_



# CHAIN OF CUSTODY

Preservation Codes  
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH  
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

Regulatory Program: \_\_\_\_\_  
 Matrix Codes  
 A = Air B = Biot C = Charcoal O = Oil S = Soil SI = Sludge  
 W = Water DW = Drinking Water G = Ground Water SW = Surface Water MW = Waste Water  
 FILTERED? (YES/NO) \_\_\_\_\_  
 PRESERVATION (CODE) \_\_\_\_\_

DATA PACKAGE OPTIONS (billable)	M/S/M/S/D (billable)	CLIENT FIELD ID	DATE	TIME	MATRIX
<input type="checkbox"/> EPA Level III <input type="checkbox"/> EPA Level IV	<input type="checkbox"/> On your sample <input type="checkbox"/> NOT needed on your sample	HA1-1	4/17/16	8:55	
		HA1-2		9:00	
		HA2-1		9:35	
		HA2-2		9:42	
		HA3-1		10:00	
		HA3-2		10:04	
		HA4-1		10:25	
		HA4-2		10:30	
		HA5-1		10:48	
		HA5-2		10:53	
		HA6-1		11:20	
		HA6-2		11:24	
		HA7-1		11:30	
		HA7-2		11:35	

Analyses Requested

V/I/N	Pick Letter	ANALYSES
W	A	PCB
N	A	dry wt.

Relinquished By: *Don Brittnacher* Date/Time: 4/17/15, 13:45  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Quote #: \_\_\_\_\_  
 Mail To Contact: **Don Brittnacher**  
 Mail To Company: **OMWNI Associates**  
 Mail To Address: **One Systems Dr. Appleton, WI 54914**  
 Invoice To Contact: **same**  
 Invoice To Company: \_\_\_\_\_  
 Invoice To Address: \_\_\_\_\_  
 Invoice To Phone: **735-6900**  
 CLIENT COMMENTS: **1-402p Amu + 1-402p Agt**  
 LAB COMMENTS (Lab Use Only): \_\_\_\_\_  
 Profile #: \_\_\_\_\_  
 Receipt Temp = **201 °C**  
 Sample Receipt pH: \_\_\_\_\_  
 Cooler Custody Seal Present / Not Present: **Intact / Not Intact**

Sample Condition Upon Receipt

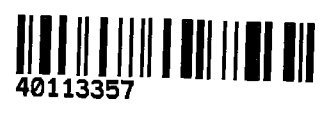
Pace Analytical Services, Inc.  
1241 Bellevue Street, Suite 9  
Green Bay, WI 54302



Project #: **WO# : 40113357**

Client Name: Omani

Courier:  Fed Ex  UPS  Client  Pace Other: \_\_\_\_\_



Tracking #: \_\_\_\_\_  
Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Custody Seal on Samples Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer Used NA Type of Ice: Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1201 /Corr: \_\_\_\_\_ Biological Tissue is Frozen:  yes

Temp Blank Present:  yes  no  no

Person examining contents:  
Date: 4-17-15  
Initials: MV

Temp should be above freezing to 6°C for all sample except Biota.  
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>S</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: \_\_\_\_\_ If checked, see attached form for additional comments

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 4-17-15