ANDREWS
ENGINEERING, INC.

US EPA RECORDS CENTER REGION 5
463209

April 13, 2012

Mr. Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Re: 2018080001 – Winnebago County
Winnebago Landfill
Illinois EPA Permit No.: 1991-138-LF, Modification No. 53
Application for Significant Modification to Permit – Revised AGQS Value

Dear Mr. Nightingale:

On behalf of Winnebago Landfill, submitted herein are an original and three copies of a significant modification application pursuant to Condition VIII.26 of Permit No. 1991-138-LF Modification No. 53. This application includes a revised AGQS value for dissolved chloride at the Southern Unit. Also included is a correction request for Condition VIII.9.A of the permit. Completed Illinois EPA forms (Certificate of Authenticity and LPC-PA1) are provided in Attachment A.

Condition VIII.26 of the above referenced permit currently states:

> *The operator shall perform four consecutive quarters of groundwater monitoring on upgradient wells R11S, G11D, G13S, G13D and G22D in order to establish a revised interwell AGQS value for dissolved chloride. This monitoring shall be conducted from the 1st Quarter 2011 through 4th Quarter 2011. The operator shall submit all groundwater data presented in tabular form, statistical calculation method and interwell AGQS calculations to the Illinois EPA in the form of a significant modification permit application by April 15th, 2012.*

As required by Condition VIII.26, a revised interwell AGQS value (990 mg/L) for dissolved chloride has been calculated utilizing four consecutive quarters of data (first quarter 2011 through fourth quarter 2011) from upgradient wells R11S, G11D, G13S, G13D, G22D, and R22S. It should be noted that reference to upgradient well R22S was inadvertently omitted from Condition VIII.26. However, data from R22S was utilized in calculating the revised interwell AGQS value for dissolved chloride. The data were tested for normality using the Shapiro-Wilk normality test. The data were found not to follow a normal distribution, therefore a nonparameteric statistical method (highest value) was used. The statistical calculations are provided in Attachment B, a copy of the laboratory data is provided in Attachment C, and the statistical method used to derive the revised intrawell value is provided in Attachment D.

Permit Correction

Permit Modification No. 50 (Log No. 2010-038) approved the use of wells G53S and G53M (formerly temporary wells T2U-A and T2L-A, respectively) as compliance boundary wells for the

Groundwater Management Zone (GMZ). However, reference to wells G53S and G53M has not been added to Condition VIII.9.A of the permit. It is requested that reference to GMZ compliance boundary wells G53S and G53M be added to Permit Condition VIII.9.A upon the approval of this application.

Please contact Tom Hilbert at (815) 963-7516 if you have any questions or require additional information.

Sincerely,

Teresa N. Sharp

Teresa N. Sharp
Environmental Scientist

TNS:tns:sjb

Attachments

cc: Tom Hilbert – William Charles Waste Companies
Bernie Shorle – US EPA Region 5

Attachment A

Application Forms

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

Certification of Authenticity of Official Forms

This form must accompany any application submitted to the Illinois EPA Bureau of Land, Division of Land Pollution Control, Permit Section on forms other than the official copy printed and provided by the Illinois EPA. The only allowed changes to the form are in spacing, fonts, and the addition of the information provided. Any additions must be underlined. The forms would not be considered identical if there is any change to, addition or deletion of words on the form or to the language of the form.

The same individuals that sign the application form it accompanies must sign the following certification.

I hereby certify under penalty of law that I have personally examined, and am familiar with the application form or forms and all included supplemental information submitted to the Illinois EPA herewith, and that the official Illinois Environmental Protection Agency application form or forms used herein is or are identical in all respects to the official form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended, or otherwise modified in any way. I further certify under penalty of law that any attached or included electronic data version of the application form or forms complies with the official Illinois EPA's Electronic version thereof, and is or are identical in all respects to the official electronically downloadable form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended or otherwise modified in any way.

By: _____ 4-12-2012
Owner Signature (date)

Engineering Mgr
Title

By: _____ 4-12-2012
Operator Signature (date)

Engineering Mgr
Title

_____ 4/13/2012
Engineer Signature (date)
(if necessary)

Subscribed and Sworn to Before Me,
a Notary Public in and for the
above-mentioned County and State.

Nicole M Rote
Notary Public

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

My Commission Expires: 8-12-12

[Notary Seal]

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Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • Box 19276 • Springfield • Illinois • 62794-9276

General Application for Permit
(LPC - PA1)

This form must be used for any application for permit, except for landscape waste composting or hazardous waste management facilities regulated in accordance with RCRA, Subtitle C from the Bureau of Land. One original, and two copies, or three if applicable, of all permit application forms must be submitted. Attach the original and appropriate number of copies of any necessary plans, specifications, reports, etc. to fully support and describe the activities and modifications being proposed. Attach sufficient information to demonstrate the compliance with all regulatory requirements. Incomplete applications will be rejected.

Niote: Permit applications which are hand-deliverd to the Bureau of Land, Permit Section must be delivered to the above address between 8:30 am and 5:00 pm, Monday through Friday (excluding State holidays).

NOTE: Please complete this form online, save a copy locally, print and submit it to the Permit Section #33, at the above address.

I. Site Identification:

Site Name: Winnebago Landfill IEPA ID Number: 2018080001

Street Address: 8403 Lindenwood Road P.O. Box: _____

City: Rockford State: IL Zip Code: 61109 County: Winnebago

Existing DE/OP Permit Numbers (if applicable): 1991-138-LF

2. Owner/Operator Identification:

Owner		Operator	
Name:	Winnebago Landfill Company, LLC	Name:	Winnebago Reclamation Service, Inc.
Street Address:	5450 Wansford Way, Suite 201B	Street Address:	5450 Wansford Way, Suite 201B
PO Box:		PO Box:	
City:	Rockford State: IL	City:	Rockford State: IL
Zip Code:	61109 Phone:	Zip Code:	61109 Phone:
Contact:	Tom Hilbert	Contact:	Tom Hilbert
Email Address:	thilbert@rresvcs.com	Email Address:	thilbert@rresvcs.com

TYPE OF SUBMISSION/REVIEW PERIOD:		TYPE OF FACILITY:		TYPE OF WASTE:	
New Landfill/180 days (35 IAC Part 813)	☐	Landfill	☑	General Municipal Refuse	☑
Landfill Expansion/180 days (35 IAC Part 813)	☐	Land Treatment	☐	Hazardous	☐
Sig. Mod. to Operate/90 days (35 IAC Part 813)	☐	Transfer Station	☐	Special (Non-Hazardous)	☑
Other Sig. Mod./90 days (35 IAC Part 813)	☑	Treatment Facility	☐	Chemical Only (exec. putrescible)	☐
Renewal of Landfill/90 days (35 IAC Part 813)	☐	Storage	☐	Inert Only (exec. chem. & putrescible)	☐
Developmental/90 days (35 IAC Part 807)	☐	Incinerator	☐	Used Oil	☐
Operating/45 days (35 IAC Part 807)	☐	Composting	☐	Potentially Infectious Medical Waste	☐
Supplemental/90 days (35 IAC Part 807)	☐	Recycling/Reclamation	☐	Landscape/Yard Waste	☐
Permit Transfer/90 days (35 IAC Part 807)	☐	Other (Specify)	☐	Other (Specify)	☐
Renewal of Experimental Permit (35 IAC Part 807)	☐				

3. Description of this Permit Request:

Application to revise the AGQS value for Dissolved Chloride (storet number 00550) for the Southern Unit, in accordance with Permit Condition VIII.26 (Modification No. 53). Application also requests correction to Condition VIII.9.A. to include GMZ compliance boundary wells G53M and G53S, as approved by Permit Application Log No. 2010-038 (Modification No. 50).

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

4. Completeness Requirements

The following items must be checked Yes, No or N/A. Each item will be reviewed for completeness by the log clerk. Blank items will result in rejection of the application. Please refer to the instructions for further guidance.

1. Have all required public notice letters been mailed in accordance with the LPC-PA16 instructions? ☑ Yes ☐ No ☐ N/A

   (If so, provide a list of those recipients of the required public notice letters for Illinois EPA retention. Such retention shall not imply any Illinois EPA review and/or confirmation of the list.)

Public Notice Recipients

Name: Dave Syverson Title: Senator - District 34
Street Address: 200 South Wyman Street, Suite 302 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Charles Jefferson Title: Representative - District 67
Street Address: 200 South Wyman Street, Suite 304 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Joseph Bruscato Title: State's Attorney
Street Address: 400 West State Street P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Scott Christiansen Title: County Chairman
Street Address: 404 Elm Street, Room 504 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Village of New Milford Title: Village Clerk
Street Address: 6771 11th Street P.O. Box:
City: Rockford State: IL Zip Code: 61109 Phone:

Name: Village of Davis Junction Title: Village Clerk
Street Address: 106 North Elm Street P.O. Box: 207
City: Davis Junction State: IL Zip Code: 61020 Phone:

Name: Cherry Valley Township Title:
Street Address: 4875 Blackhawk Road P.O. Box:
City: Rockford State: IL Zip Code: 61109 Phone:

2. a. Is the Siting Certification Form (LPC-PA8) completed and enclosed? ☐ Yes ☑ No ☐ N/A

   b. Is siting approval currently under litigation? ☐ Yes ☑ No ☐ N/A

3. a. Is a closure, and if necessary a post-closure plan covering these activities being submitted, or ☐ Yes ☑ No ☐ N/A

   b. has one already been approved? If yes, provide the permit number: 1991-138

4. a. For waste disposal sites, only: Has any employee, owner, operator, officer or director of the owner or operator had a prior conduct certification denied, canceled or revoked? ☐ Yes ☑ No ☐ N/A

   b. Have you included a demonstration of how you comply or intend to comply with 35 Ill. Adm. Code 745? ☐ Yes ☐ No ☑ N/A

5. a. Is land ownership held in beneficial trust? ☐ Yes ☑ No ☐ N/A

   b. If yes, is a beneficial trust certification form (LPC-PA9) completed and enclosed? ☐ Yes ☐ No ☑ N/A

6. a. Does the application contain information or proposals regarding the hydrogeology; groundwater monitoring, modeling or classification; a groundwater impact assessment; or vadose zone monitoring for which you are requesting approval? ☑ Yes ☐ No ☐ N/A

   b. If yes, have you submitted a third copy of the application (4 total) and supporting documents? ☑ Yes ☐ No ☐ N/A

5. Signatures:

Original signatures are required. Signature stamps or applications transmitted electronically or by FAX are not acceptable.

All applications shall be signed by the person designated below as a duly authorized representative of the owner an/or operator.

Corporation - By a principal executive officer of the level of vice-president or above.
Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative of the owner and operator only if:

1. They meet the criteria above or the authorization has been granted in writing by a person described above; and
2. Is submitted with this application (a copy of a previously submitted authorization can be used).

I hereby affirm that all information contained in this application is true and accurate to the best of my knowledge and belief. I do herein swear that I am a duly authorized representative of the owner/operator and I am authorized to sign this permit application form.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Owner Signature: _____ Date: 4-12-2012

Printed Name: Thomas Hilbert Title: Engineering Mgr

Notary: Subscribed and Sworn before me this 12th day of April 2012

My commission expires on: 8-12-12

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

Signature & Stamp/Seal of Notary Public

Operator Signature: _____ Date: 4-12-2012

Printed Name: Thomas Hilbert Title: Engineering Mgr

Notary: Subscribed and Sworn before me this 12th day of April 2012

My commission expires on: 8-12-12

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

Signature & Stamp/Seal of Notary Public

Engineer's Name: JEREMEY C. POETZSCHER Engineer's Ttle: Project Engineering

Company: Andrews Engineering, Inc. Registration Number: 062-061274

Street Address: 3300 Ginger Creek Drive PO Box: _____

City: Springfield State: IL Zip Code: 62711 Phone: 217-787-2334

Email Address: jpoetzscher@andrews-eng.com License Expiration Date: November 30, 2013

JEREMEY C. POETZSCHER
062.061274
LICENSED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Signature: _____ Date: 4/13/2012 Professional Engineer's Seal

Attachment B

Statistical Calculations

Winnebago Landfill
Southern Unit
Interwell AGQS Statistics

Parameter	Units	G11D 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	34	38	4	33

Parameter	Units	R11S 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	32	44	4.6	32

Parameter	Units	G13D 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	350	200	200	220

Parameter	Units	G13S 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	120	150	170	190

Parameter	Units	G22D 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	240	280	300	300

Parameter	Units	R22S 1Q11	2Q11	3Q11	4Q11
Chloride, dissolved	mg/L	860	990	910	870

Normal Distribution*	Nonparametric Upper Prediction Limit**
no	990

Notes:
*Shapiro-Wilk utilized to test for normality
**The maximum value was utilized as the nonparametric upper prediction limit

Attachment C

Hardcopy Laboratory Analytical

First Quarter 2011

PDC Laboratories, Inc.

2231 W. Altorfer Drive - Peoria, IL 61615
(309) 692-9688 - (800) 752-6651 - FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-1** Collect Date **01/17/11 00:00**
Client ID : **SOUTH UNIT** Site : **R05S** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
Sample No: **11012740-2**			Collect Date **01/17/11 10:25**		
Client ID : **SOUTH UNIT**	Site : **R11S**		Locator : **WINNEBAGO LF**		
Parameter	**Qualifier**	**Result**	**Analysis Date**	**Analyst**	**Lab**
EPA 300.0 R2.1					PIA
Chloride, Dissolved		32 mg/l	01/19/11 09:53	lgjfa	
Nitrate as N, Diss.		7.1 mg/l	01/19/11 09:53	lgjfa	
Sulfate, Dissolved		17 mg/l	01/19/11 09:53	lgjfa	
EPA 420.4					PIA
Phenolics	<	0.005 mg/l	01/21/11 09:58	lgtth	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		390 mg/l	01/21/11 08:44	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N, Diss.	<	0.09 mg/l	01/24/11 10:11	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<	0.005 mg/l	01/24/11 12:20	lgtth	
SW-846 6020					PIA
Arsenic, Dissolved	<	1 ug/l	01/27/11 08:18	JMW	
Boron, Dissolved		18 ug/l	01/27/11 08:18	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:18	JMW	
Chromium, Dissolved	<	4 ug/l	01/27/11 12:39	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:18	JMW	
Magnesium, Dissolved		36 mg/l	01/27/11 08:18	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:18	JMW	
Zinc, Dissolved	<	6 ug/l	01/27/11 08:18	JMW	
SW-846 8260B					PIA
cis-1,2-Dichloroethene		1.8 ug/l	01/20/11 10:16	JMB	
					PIA
BTM Well Elv		702.16 ft ref MSL			
Conductivity, Field Measured		624 umhos/cm			
Depth of Water (ft below LS)		22.92 ft			
Depth, From Measuring Point		24.62 ft			
Elevation of Ground Water		715.98 ft ref MSL			
Elevation of Measuring Point (TOC)		740.6 ft ref MSL			
pH, Field Measured		6.88 units			
Temperature, Field Measured		46.2 degrees F			

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-3** Collect Date **01/17/11 10:37**
Client ID : **SOUTH UNIT** Site : **G11D** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		34 mg/l	01/19/11 10:29	lgjfa	
Nitrate as N, Diss.		9.5 mg/l	01/19/11 10:29	lgjfa	
Sulfate, Dissolved		22 mg/l	01/19/11 10:29	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		410 mg/l	01/21/11 08:45	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N, Diss.	Q<	0.09 mg/l	01/24/11 10:12	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<	0.005 mg/l	01/24/11 12:21	lgtth	
SW-846 6020					PIA
Arsenic, Dissolved	<	1 ug/l	01/27/11 08:22	JMW	
Boron, Dissolved		16 ug/l	01/27/11 08:22	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:22	JMW	
Chromium, Dissolved	<	4 ug/l	01/27/11 12:42	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:22	JMW	
Magnesium, Dissolved		40 mg/l	01/27/11 08:22	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:22	JMW	
Zinc, Dissolved	<	6 ug/l	01/27/11 08:22	JMW	
					PIA
BTM Well Elv		686.07 ft ref MSL			
Conductivity, Field Measured		656 umhos/cm			
Depth of Water (ft below LS)		22.89 ft			
Depth, From Measuring Point		24.65 ft			
Elevation of Ground Water		715.91 ft ref MSL			
Elevation of Measuring Point (TOC)		740.56 ft ref MSL			
pH, Field Measured		6.83 units			
Temperature, Field Measured		45.9 degrees F			

PDC Laboratories, Inc.

2231 W. Altorfer Drive - Peoria, IL 61615
(309) 692-9688 - (800) 752-6651 - FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-4** Collect Date **01/17/11 12:48**
Client ID : **SOUTH UNIT** Site : **G13S** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Nitrate as N	H	0.032 mg/l	01/19/11 14:54	lgjfa	
Nitrate as N, Diss.	H	0.032 mg/l	01/19/11 15:47	lgjfa	
H - Method Hold Time Exceeded					
EPA 300.0 R2.1					PIA
Chloride		120 mg/l	02/03/11 18:59	lgjfa	
Chloride, Dissolved		120 mg/l	02/03/11 19:17	lgjfa	
Fluoride	<	0.25 mg/l	01/19/11 14:54	lgjfa	
Sulfate, Dissolved		190 mg/l	02/03/11 19:17	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		1200 mg/l	01/21/11 08:45	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N		11 mg/l	01/24/11 10:18	lgalr	
Nitrogen, Ammonia as N, Diss.		11 mg/l	01/24/11 10:17	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<	0.005 mg/l	01/24/11 12:22	lgtth	
SW-846 3015					PIA
Sample Preparation			01/19/11 07:00	ECK	
SW-846 6020					PIA
Arsenic		12 ug/l	01/24/11 12:58	JMW	
Arsenic, Dissolved		4.6 ug/l	01/27/11 08:26	JMW	
Barium		270 ug/l	01/24/11 12:58	JMW	
Boron		430 ug/l	01/24/11 12:58	JMW	
Boron, Dissolved		440 ug/l	01/27/11 08:26	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:26	JMW	
Chromium, Dissolved		4.2 ug/l	01/27/11 12:45	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:26	JMW	
Magnesium, Dissolved		88 mg/l	01/27/11 08:26	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:26	JMW	
Potassium		20 mg/l	01/25/11 08:26	JMW	
Sodium		78 mg/l	01/25/11 08:26	JMW.	
Zinc, Dissolved		22 ug/l	02/21/11 19:38	JMW	
SW-846 8260B					PIA
Carbon Disulfide	<	1 ug/l	01/20/11 10:46	JMB	
cis-1,2-Dichloroethene	<	1 ug/l	01/20/11 10:46	JMB	
					PIA
BTM Well Elv		710.82 ft ref MSL			
Conductivity, Field Measured		1728 umhos/cm			
Depth of Water (ft below LS)		36.48 ft			
Depth, From Measuring Point		38.67 ft			
Elevation of Ground Water		718.02 ft ref MSL			

PDC Laboratories, Inc.
2231 W. Altorfer Drive - Peoria, IL 61615
(309) 692-9688 - (800) 752-6651 - FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH inelac

Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-5** Collect Date **01/17/11 13:18**
Client ID : **SOUTH UNIT** Site : **G13D** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Nitrate as N	H	0.029 mg/l	01/19/11 16:04	lgjfa	
Nitrate as N, Diss.	H	0.029 mg/l	01/19/11 16:22	lgjfa	
H - Method Hold Time Exceeded					
EPA 300.0 R2.1					PIA
Chloride		350 mg/l	02/03/11 19:34	lgjfa	
Chloride, Dissolved		350 mg/l	02/03/11 19:52	lgjfa	
Fluoride	<	0.25 mg/l	01/19/11 16:04	lgjfa	
Sulfate, Dissolved		190 mg/l	02/03/11 19:52	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		2300 mg/l	01/21/11 08:45	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N		330 mg/l	01/24/11 11:56	lgalr	
Nitrogen, Ammonia as N, Diss.		280 mg/l	01/24/11 11:55	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<	0.005 mg/l	01/24/11 12:27	lgtth	
SW-846 3015					PIA
Sample Preparation			01/19/11 07:00	ECK	
SW-846 6020					PIA
Arsenic		61 ug/l	01/24/11 13:03	JMW	
Arsenic, Dissolved		10 ug/l	01/27/11 08:31	JMW	
Barium		150 ug/l	01/24/11 13:03	JMW	
Boron		6500 ug/l	01/24/11 13:03	JMW	
Boron, Dissolved		5000 ug/l	01/27/11 08:31	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:31	JMW	
Chromium, Dissolved		29 ug/l	01/27/11 12:49	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:31	JMW	
Magnesium, Dissolved		120 mg/l	01/27/11 08:31	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:31	JMW	
Potassium		230 mg/l	01/25/11 08:30	JMW	
Sodium		450 mg/l	01/25/11 10:28	JMW	
Zinc, Dissolved		70 ug/l	01/27/11 08:31	JMW	
SW-846 8260B					PIA
Carbon Disulfide	<	1 ug/l	01/20/11 11:15	JMB	
					PIA
BTM Well Elv		684.73 ft ref MSL			
Conductivity, Field Measured		436 umhos/cm			
Depth of Water (ft below LS)		35.89 ft			
Depth, From Measuring Point		38.98 ft			
Elevation of Ground Water		717.5 ft ref MSL			
Elevation of Measuring Point (TOC)		756.48 ft ref MSL			

PDC Laboratories, Inc.
2231 W. Altorfer Drive - Peoria, IL 61615
(309) 692-9688 - (800) 752-6651 - FAX (309) 692-9689

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Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-5** Collect Date **01/17/11 13:18**
Client ID : **SOUTH UNIT** Site : **G13D** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst
pH, Field Measured		6.74 units		
Temperature, Field Measured		50.5 degrees F		

Sample No: **11012740-6** Collect Date **01/17/11 11:14**
Client ID : **SOUTH UNIT** Site : **R22S** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Nitrate as N, Diss.	H	0.031 mg/l	01/19/11 11:22	lgjfa	
H - Method Hold Time Exceeded					
EPA 300.0 R2.1					PIA
Chloride, Dissolved		860 mg/l	02/03/11 20:10	lgjfa	
Sulfate, Dissolved		29 mg/l	02/01/11 11:42	lgjfa	
EPA 420.4					PIA
Phenolics	<	0.005 mg/l	01/21/11 09:59	lgtth	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		1800 mg/l	01/21/11 08:45	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N, Diss.	<	0.09 mg/l	01/24/11 10:21	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<	0.005 mg/l	01/24/11 12:27	lgtth	
SW-846 6020					PIA
Arsenic, Dissolved	<	1 ug/l	01/27/11 08:35	JMW	
Boron, Dissolved		64 ug/l	01/27/11 08:35	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:35	JMW	
Chromium, Dissolved		25 ug/l	01/27/11 12:52	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:35	JMW	
Magnesium, Dissolved		120 mg/l	01/27/11 08:35	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:35	JMW	
Zinc, Dissolved	<	6 ug/l	01/27/11 08:35	JMW	
					PIA
BTM Well Elv		710.15 ft ref MSL			
Conductivity, Field Measured		3330 umhos/cm			
Depth of Water (ft below LS)		7.01 ft			
Depth, From Measuring Point		9.16 ft			
Elevation of Ground Water		727.99 ft ref MSL			
Elevation of Measuring Point (TOC)		737.15 ft ref MSL			
pH, Field Measured		6.8 units			
Temperature, Field Measured		48.8 degrees F			

PDC Laboratories, Inc.
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Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

Sample No: **11012740-7** Collect Date **01/17/11 10:57**
Client ID : **SOUTH UNIT** Site : **G22D** Locator : **WINNEBAGO LF**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Nitrate as N, Diss.	H	8.2 mg/l	01/19/11 11:04	lgjfa	
H - Method Hold Time Exceeded					
EPA 300.0 R2.1					PIA
Chloride, Dissolved		240 mg/l	02/03/11 20:27	lgjfa	
Sulfate, Dissolved		25 mg/l	01/19/11 11:04	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		670 mg/l	01/21/11 08:46	asb	
SM (18) 4500 NH3 B,H					PIA
Nitrogen, Ammonia as N, Diss.	<	0.09 mg/l	01/24/11 10:21	lgalr	
SM 4500 CN C/SW9012A					PIA
Cyanide, Total	<Q	0.005 mg/l	01/24/11 12:30	lgtth	
SW-846 6020					PIA
Arsenic, Dissolved	<	1 ug/l	01/27/11 08:52	JMW	
Boron, Dissolved		22 ug/l	01/27/11 08:52	JMW	
Cadmium, Dissolved	<	1 ug/l	01/27/11 08:52	JMW	
Chromium, Dissolved		16 ug/l	01/27/11 13:06	JMW	
Lead, Dissolved	<	1 ug/l	01/27/11 08:52	JMW	
Magnesium, Dissolved		49 mg/l	01/27/11 08:52	JMW	
Mercury, Dissolved	<	0.2 ug/l	01/27/11 08:52	JMW	
Zinc, Dissolved	<	6 ug/l	01/27/11 08:52	JMW	
					PIA
BTM Well Elv		679.76 ft ref MSL			
Conductivity, Field Measured		1124 umhos/cm			
Depth of Water (ft below LS)		18.51 ft			
Depth, From Measuring Point		20.05 ft			
Elevation of Ground Water		716.79 ft ref MSL			
Elevation of Measuring Point (TOC)		736.84 ft ref MSL			
pH, Field Measured		6.66 units			
Temperature, Field Measured		49.1 degrees F			

PDC Laboratories, Inc.

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Laboratory Results

William Charles Waste Companies
5450 Wansford Way, Suite 201b

Rockford, IL 61109-1759
Attn : Evan Buskohl

Date Received : 01/18/11 15:10
Report Date 02/28/11
Customer # : 209324
P.O. Number : Pagel S-GW
Facility :

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PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by the Federal or State Government or their agencies is not implied.

PIA	PDC Laboratories - Peoria, IL NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230 State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17553 Drinking Water Certifications: Indiana (C-IL-040); Kansas (E-10338); Missouri (00870); Wisconsin (998294430) Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430) Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin(998294430) UST Certification: Iowa (240)
SPMO	PDC Laboratories - Springfield, MO EPA DMR-QA Program
STL	PDC Laboratories - St. Louis, MO NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253.

Certified by: Gail Schindler
Gail Schindler, Project Manager

Second Quarter 2011

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/05/11 16:50
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040402-01**
Client ID: **R11S**

Collect Date: **04/05/11 08:32**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
General Chemistry - PIA							
Phenol	< 0.0050 mg/L		0.0020	0.0050	04/08/11 13:40	TTH	EPA 420.4 - QC 10-210-00-1A
Cyanide	< 0.0050 mg/L		0.0040	0.0050	04/11/11 10:37	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		1.4	5.0	04/11/11 07:45	JRL2	EPA 1664A
Solids - total dissolved solids (TDS)	380 mg/L			17	04/07/11 12:29	BRS	SM 2540C 18Ed
Semivolatile Organics - PIA							
EDB	< 0.05 ug/L		0.01	0.05	04/11/11 21:37	els	504.1
DBCP	< 0.2 ug/L		0.01	0.2	04/11/11 21:37	els	504.1
Soluble Anions - PIA							
Chloride	44 mg/L		1.5	10	04/06/11 21:41	JFA	EPA 300.0 R2.1
Nitrate-N	6.7 mg/L		0.11	0.20	04/06/11 21:41	JFA	EPA 300.0 R2.1
Sulfate	18 mg/L		2.4	10	04/06/11 21:41	JFA	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	< 1.0 ug/L		0.061	1.0	04/08/11 11:10	JMW	SW 6020
Boron	19 ug/L		1.4	10	04/08/11 11:10	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/08/11 11:10	JMW	SW 6020
Chromium	< 4.0 ug/L		0.21	4.0	04/08/11 11:10	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/08/11 11:10	JMW	SW 6020
Magnesium	38000 ug/L		1.8	100	04/08/11 11:10	JMW	SW 6020
Mercury	< 0.20 ug/L		0.058	0.20	04/08/11 11:10	JMW	SW 6020
Zinc	< 6.0 ug/L		0.19	6.0	04/08/11 11:10	JMW	SW 6020
Soluble Nutrients - PIA							
Ammonia-N	< 0.10 mg/L		0.015	0.10	04/15/11 12:45	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA							
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,1-Dichloropropene	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,2,3-Trichlorobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,1,1-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,2,3-Trichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,1,2,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,1,2-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,3-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
2,2-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
1,1-Dichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B
2-Chlorotoluene	< 1.0 ug/L		1.0	1.0	04/07/11 13:22	JMB	SW 8260B

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/06/11 14:20
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040402-02**
Client ID: **G11D**

Collect Date: **04/05/11 08:45**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
Soluble Anions - PIA							
Chloride	38 mg/L		1.5	10	04/06/11 16:42	JFA	EPA 300.0 R2.1
Nitrate-N	9.3 mg/L		0.11	0.20	04/06/11 16:42	JFA	EPA 300.0 R2.1
Sulfate	23 mg/L		2.4	10	04/06/11 16:42	JFA	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	< 1.0 ug/L		0.061	1.0	04/08/11 11:14	JMW	SW 6020
Boron	18 ug/L		1.4	10	04/08/11 11:14	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/08/11 11:14	JMW	SW 6020
Chromium	< 4.0 ug/L		0.21	4.0	04/08/11 11:14	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/08/11 11:14	JMW	SW 6020
Magnesium	42000 ug/L		1.8	100	04/08/11 11:14	JMW	SW 6020
Mercury	< 0.20 ug/L		0.058	0.20	04/08/11 11:14	JMW	SW 6020
Zinc	< 6.0 ug/L		0.19	6.0	04/08/11 11:14	JMW	SW 6020
Soluble Nutrients - PIA							
Ammonia-N	< 0.10 mg/L		0.015	0.10	04/15/11 12:46	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA							
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1-Dichloropropene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2,3-Trichlorobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1,1-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2,3-Trichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1,2,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1,2-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,3-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
2,2-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1-Dichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
2-Chlorotoluene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,1-Dichloroethene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
4-Chlorotoluene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2,4-Trichlorobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Bromobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2,4-Trimethylbenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Bromochloromethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2-Dibromoethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Dibromomethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2-Dichlorobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
1,2-Dichloroethane	< 5.0 ug/L		1.0	5.0	04/07/11 13:52	JMB	SW 8260B

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/06/11 14:20
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040402-02**
Client ID: **G11D**

Collect Date: **04/05/11 08:45**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
Volatile Organics - PIA							
Dichlorodifluoromethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Ethylbenzene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Methylene chloride	< 2.0 ug/L		1.0	2.0	04/07/11 13:52	JMB	SW 8260B
Styrene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Tetrachloroethene	2.6 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Toluene	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Trichloroethene	1.3 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Trichlorofluoromethane	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Vinyl acetate	< 1.0 ug/L		1.0	1.0	04/07/11 13:52	JMB	SW 8260B
Vinyl chloride	< 2.0 ug/L		1.0	2.0	04/07/11 13:52	JMB	SW 8260B

Sample No: **1040402-03**
Client ID: **R22S**

Collect Date: **04/05/11 09:07**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
General Chemistry - PIA							
Phenol	< 0.0050 mg/L		0.0020	0.0050	04/08/11 13:43	TTH	EPA 420.4 - QC 10-210-00-1A
Cyanide	< 0.0050 mg/L		0.0040	0.0050	04/11/11 10:39	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		1.4	5.0	04/11/11 07:45	JRL2	EPA 1664A
Solids - total dissolved solids (TDS)	2100 mg/L			17	04/07/11 12:29	BRS	SM 2540C 18Ed
Semivolatile Organics - PIA							
EDB	< 0.05 ug/L		0.01	0.05	04/11/11 22:23	els	504.1
DBCP	< 0.2 ug/L		0.01	0.2	04/11/11 22:23	els	504.1
Soluble Anions - PIA							
Chloride	990 mg/L		15	100	04/26/11 16:15	JFA	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		0.01	0.02	04/06/11 17:34	JFA	EPA 300.0 R2.1
Sulfate	32 mg/L		2.4	10	04/22/11 17:27	JFA	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	3.6 ug/L		0.061	1.0	04/08/11 11:19	JMW	SW 6020
Boron	19 ug/L		1.4	10	04/08/11 11:19	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/08/11 11:19	JMW	SW 6020
Chromium	36 ug/L		0.21	4.0	04/08/11 11:19	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/08/11 11:19	JMW	SW 6020
Magnesium	140000 ug/L		1.8	100	04/08/11 11:19	JMW	SW 6020

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/06/11 14:20
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040402-04**
Client ID: **G22D**

Collect Date: **04/05/11 09:23**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
General Chemistry - PIA							
Phenol	< 0.0050 mg/L		0.0020	0.0050	04/08/11 13:54	TTH	EPA 420.4 - QC 10-210-00-1A
Cyanide	< 0.0050 mg/L		0.0040	0.0050	04/11/11 10:40	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		1.4	5.0	04/11/11 07:45	JRL2	EPA 1664A
Solids - total dissolved solids (TDS)	810 mg/L			17	04/07/11 12:29	BRS	SM 2540C 18Ed
Semivolatile Organics - PIA							
EDB	< 0.05 ug/L		0.01	0.05	04/11/11 22:47	els	504.1
DBCP	< 0.2 ug/L		0.01	0.2	04/11/11 22:47	els	504.1
Soluble Anions - PIA							
Chloride	280 mg/L		15	100	04/26/11 16:35	JFA	EPA 300.0 R2.1
Nitrate-N	8.3 mg/L		0.11	0.20	04/06/11 17:51	JFA	EPA 300.0 R2.1
Sulfate	27 mg/L		2.4	10	04/06/11 17:51	JFA	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	1.4 ug/L		0.061	1.0	04/08/11 11:24	JMW	SW 6020
Boron	19 ug/L		1.4	10	04/08/11 11:24	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/08/11 11:24	JMW	SW 6020
Chromium	26 ug/L		0.21	4.0	04/08/11 11:24	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/08/11 11:24	JMW	SW 6020
Magnesium	49000 ug/L		1.8	100	04/08/11 11:24	JMW	SW 6020
Mercury	< 0.20 ug/L		0.058	0.20	04/08/11 11:24	JMW	SW 6020
Zinc	< 6.0 ug/L		0.19	6.0	04/08/11 11:24	JMW	SW 6020
Soluble Nutrients - PIA							
Ammonia-N	< 0.10 mg/L		0.015	0.10	04/15/11 12:47	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA							
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,1-Dichloropropene	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,2,3-Trichlorobenzene	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,1,1-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,2,3-Trichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,1,2,2-Tetrachloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,1,2-Trichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,3-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
2,2-Dichloropropane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
1,1-Dichloroethane	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B
2-Chlorotoluene	< 1.0 ug/L		1.0	1.0	04/07/11 14:52	JMB	SW 8260B

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/07/11 14:05
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040823-01**
Client ID: **G13D**

Collect Date: **04/06/11 14:27**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
Anions - PIA							
Chloride	210 mg/L		38	62	05/02/11 23:40	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		0.065	0.25	04/14/11 01:50	JFA	300.0
Nitrate-N	< 0.02 mg/L	H	0.01	0.02	04/14/11 01:50	JFA	EPA 300.0 R2.1
General Chemistry - PIA							
Phenol	< 0.0050 mg/L		0.0020	0.0050	04/19/11 10:04	lgtth	EPA 420.4 - QC 10-210-00-1A
Cyanide	< 0.0050 mg/L		0.0040	0.0050	04/13/11 12:00	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		1.4	5.0	04/13/11 08:00	JRL2	EPA 1664A
Solids - total dissolved solids (TDS)	1600 mg/L			17	04/12/11 09:35	BRS	SM 2540C 18Ed
Nutrients - PIA							
Ammonia-N	22 mg/L		0.015	0.10	04/19/11 14:07	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Semivolatile Organics - PIA							
EDB	< 0.05 ug/L		0.01	0.05	04/13/11 20:50	els	504.1
DBCP	< 0.2 ug/L		0.01	0.2	04/13/11 20:50	els	504.1
Soluble Anions - PIA							
Chloride	200 mg/L		7.5	50	04/29/11 09:38	JFA	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		0.01	0.02	04/08/11 05:25	JFA	EPA 300.0 R2.1
Sulfate	280 mg/L		60	250	05/02/11 23:58	JFA	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	2.4 ug/L		0.061	1.0	04/14/11 14:55	JMW	SW 6020
Boron	950 ug/L		1.4	10	04/14/11 14:55	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/14/11 14:55	JMW	SW 6020
Chromium	11 ug/L		0.21	4.0	04/14/11 14:55	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/14/11 14:55	JMW	SW 6020
Magnesium	110000 ug/L		1.8	100	04/15/11 11:20	JMW	SW 6020
Mercury	< 0.20 ug/L		0.058	0.20	04/14/11 14:55	JMW	SW 6020
Zinc	7.0 ug/L		0.19	6.0	04/14/11 14:55	JMW	SW 6020
Soluble Nutrients - PIA							
Ammonia-N	23 mg/L		0.015	0.10	04/19/11 15:20	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Total Metals - PIA							
Arsenic	5.3 ug/L		0.061	1.0	04/12/11 11:46	JMW	SW 6020
Barium	160 ug/L		0.038	1.0	04/12/11 11:46	JMW	SW 6020
Boron	1100 ug/L		1.4	10	04/12/11 11:46	JMW	SW 6020
Potassium	79000 ug/L		9.2	100	04/12/11 11:46	JMW	SW 6020

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/07/11 14:05
Report Date: 07/16/11
Customer #: 209324

Sample No: **1040823-02**
Client ID: **G13S**

Collect Date: **04/06/11 14:52**
Matrix: **Ground Water Regular Sample**

Parameters	Result	QUAL	MDL	RDL	Analysis Date	Analyst	Method
Anions - PIA							
Chloride	150 mg/L		7.5	50	04/29/11 21 58	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		0.065	0.25	04/08/11 06.13	JFA	300.0
Nitrate-N	< 0.02 mg/L		0.01	0.02	04/08/11 06:13	JFA	EPA 300.0 R2.1
General Chemistry - PIA							
Phenol	< 0.0050 mg/L		0.0020	0.0050	04/19/11 10:19	lgtth	EPA 420.4 - QC 10-210-00-1A
Cyanide	< 0.0050 mg/L		0.0040	0.0050	04/13/11 12:03	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		1.4	5.0	04/13/11 08:00	JRL2	EPA 1664A
Solids - total dissolved solids (TDS)	1300 mg/L			17	04/12/11 09:35	BRS	SM 2540C 18Ed
Nutrients - PIA							
Ammonia-N	6.1 mg/L		0.015	0.10	04/19/11 14:08	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Semivolatile Organics - PIA							
EDB	< 0.05 ug/L		0.01	0.05	04/13/11 21:13	els	504.1
DBCP	< 0.2 ug/L		0.01	0.2	04/13/11 21:13	els	504.1
Soluble Anions - PIA							
Chloride	150 mg/L		7.5	50	04/29/11 22:18	PLI	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		0.01	0.02	04/08/11 06:29	JFA	EPA 300.0 R2.1
Sulfate	160 mg/L		12	50	04/29/11 22:18	PLI	EPA 300.0 R2.1
Soluble Metals - PIA							
Arsenic	4.1 ug/L		0.061	1.0	04/14/11 15:16	JMW	SW 6020
Boron	470 ug/L		1.4	10	04/14/11 15:16	JMW	SW 6020
Cadmium	< 1.0 ug/L		0.082	1.0	04/14/11 15:16	JMW	SW 6020
Chromium	8.2 ug/L		0.21	4.0	04/14/11 15:16	JMW	SW 6020
Lead	< 1.0 ug/L		0.032	1.0	04/14/11 15:16	JMW	SW 6020
Magnesium	100000 ug/L		1.8	100	04/15/11 11:35	JMW	SW 6020
Mercury	0.24 ug/L		0.058	0.20	04/14/11 15:16	JMW	SW 6020
Zinc	< 6.0 ug/L		0.19	6.0	04/14/11 15:16	JMW	SW 6020
Soluble Nutrients - PIA							
Ammonia-N	7.0 mg/L		0.015	0.10	04/19/11 15:21	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Total Metals - PIA							
Arsenic	3.1 ug/L		0.061	1.0	04/12/11 12:26	JMW	SW 6020
Barium	170 ug/L		0.038	1.0	04/12/11 12:26	JMW	SW 6020
Boron	530 ug/L		1.4	10	04/12/11 12:26	JMW	SW 6020
Potassium	45000 ug/L		9.2	100	04/12/11 12:26	JMW	SW 6020

PDC Laboratories, Inc.

William Charles Waste Companies
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 04/07/11 14:05
Report Date: 07/16/11
Customer #: 209324

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Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Q1 MS Failed %R
P Chemical preservation discrepancy noted at the time of analysis.
H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Gail J. Schindler

Certified by: Gail J. Schindler, Project Manager

Third Quarter 2011

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/13/11 15:03
Report Date: 09/30/11
Customer #: 209324
PO#: SOUTH UNIT

Sample No: **1071468-01**
Sample Description: **R11S**

Collect Date: **07/13/11 08:16**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/22/11 12:49	lgtth	335.4
Solids - total dissolved solids (TDS)	400 mg/L		07/19/11 11:35	TCH	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride, Dissolved	4.6 mg/L		07/14/11 10:25	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.81 mg/L		07/14/11 10:25	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	1.9 mg/L		07/14/11 10:25	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/28/11 15:04	JMW	SW 6020
Boron, Dissolved	14 ug/L		07/28/11 15:04	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/28/11 15:04	JMW	SW 6020
Chromium, Dissolved	< 4.0 ug/L		07/28/11 15:04	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/27/11 15:49	JMW	SW 6020
Magnesium, Dissolved	35000 ug/L		07/28/11 15:04	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/27/11 15:49	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		07/28/11 15:04	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		07/18/11 09:34	lgalr	EPA 350.1 - QC 10-107-06-1-I & J

Sample No: **1071468-02**
Sample Description: **G11D**

Collect Date: **07/13/11 08:26**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/21/11 09:28	lgtth	335.4
Solids - total dissolved solids (TDS)	400 mg/L		07/19/11 11:35	TCH	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride, Dissolved	4.0 mg/L		07/14/11 10:42	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.90 mg/L		07/14/11 10:42	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	2.2 mg/L		07/14/11 10:42	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/28/11 15:09	JMW	SW 6020
Boron, Dissolved	11 ug/L		07/28/11 15:09	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/28/11 15:09	JMW	SW 6020

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/13/11 15:03
Report Date: 09/30/11
Customer #: 209324
PO#: SOUTH UNIT

Sample No: **1071468-02**
Sample Description: **G11D**

Collect Date: **07/13/11 08:26**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Chromium, Dissolved	< 4.0 ug/L		07/28/11 15:09	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/27/11 15:53	JMW	SW 6020
Magnesium, Dissolved	39000 ug/L		07/28/11 15:09	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/27/11 15:53	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		07/28/11 15:09	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		07/18/11 09:34	lgalr	EPA 350.1 - QC 10-107-06-1-I & J

Sample No: **1071468-03**
Sample Description: **R22S**

Collect Date: **07/13/11 08:42**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/21/11 09:29	lgtth	335.4
Solids - total dissolved solids (TDS)	2000 mg/L		07/19/11 11:35	TCH	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride, Dissolved	910 mg/L		07/25/11 12:06	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	< 0.02 mg/L		07/14/11 10:59	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	2.9 mg/L		07/14/11 11:16	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/27/11 15:58	JMW	SW 6020
Boron, Dissolved	13 ug/L		07/28/11 15:13	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/27/11 15:58	JMW	SW 6020
Chromium, Dissolved	29 ug/L		07/28/11 15:13	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/27/11 15:58	JMW	SW 6020
Magnesium, Dissolved	130000 ug/L		07/28/11 15:13	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/27/11 15:58	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		07/27/11 15:58	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		07/18/11 09:35	lgalr	EPA 350.1 - QC 10-107-06-1-I & J

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/13/11 15:03
Report Date: 09/30/11
Customer #: 209324
PO#: SOUTH UNIT

Sample No: **1071468-04**
Sample Description: **G22D**

Collect Date: **07/13/11 08:55**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/21/11 09:30	lgtth	335.4
Solids - total dissolved solids (TDS)	870 mg/L		07/19/11 11:35	TCH	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride, Dissolved	300 mg/L		07/25/11 12.22	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	8.1 mg/L		07/14/11 11:33	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	24 mg/L		07/14/11 11:33	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/28/11 15:18	JMW	SW 6020
Boron, Dissolved	11 ug/L		07/28/11 15:18	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/27/11 16:02	JMW	SW 6020
Chromium, Dissolved	16 ug/L		07/28/11 15:18	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/27/11 16:02	JMW	SW 6020
Magnesium, Dissolved	46000 ug/L		07/28/11 15:18	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/27/11 16:02	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		07/28/11 15:18	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		07/18/11 09:36	lgalr	EPA 350.1 - QC 10-107-06-1-I & J

Sample No: **1071468-05**
Sample Description: **G23D**

Collect Date: **07/13/11 09:49**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/21/11 09.31	lgtth	335.4
Solids - total dissolved solids (TDS)	440 mg/L		07/19/11 11:35	TCH	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride, Dissolved	4.4 mg/L		07/14/11 09:32	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	1.2 mg/L		07/14/11 09:32	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	3.3 mg/L		07/14/11 09:32	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/27/11 16:07	JMW	SW 6020
Boron, Dissolved	12 ug/L		07/28/11 15:22	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/27/11 16:07	JMW	SW 6020

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/13/11 15:03
Report Date: 09/30/11
Customer #: 209324
PO#: SOUTH UNIT

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Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

R MS/MSD Failed %RPD

Gail J. Schindler

Certified by: Gail J. Schindler, Project Manager

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/18/11 12:36
Report Date: 09/30/11
Customer #: 209324
PO#: NORTH UNIT

Sample No: **1071674-16**
Sample Description: **G13S**

Collect Date: **07/14/11 12:00**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Anions - PIA					
Fluoride	< 0.25 mg/L		07/15/11 22:48	JFA	300.0
Nitrate-N	0.41 mg/L		07/15/11 23:05	JFA	EPA 300.0 R2.1
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/22/11 12:53	lgtth	335.4
Solids - total dissolved solids (TDS)	1600 mg/L		07/21/11 10:07	BNS	SM 2540C 18Ed
Nutrients - PIA					
Ammonia-N	6.0 mg/L		07/21/11 10:31	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Soluble Anions - PIA					
Chloride, Dissolved	170 mg/L		07/26/11 06:28	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.04 mg/L		07/15/11 23:22	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	190 mg/L		07/26/11 06:28	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	1.4 ug/L		07/28/11 20:33	JMW	SW 6020
Boron, Dissolved	470 ug/L		07/29/11 11:56	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/28/11 20:33	JMW	SW 6020
Chromium, Dissolved	5.6 ug/L		07/28/11 20:33	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/28/11 20:33	JMW	SW 6020
Magnesium, Dissolved	130000 ug/L		07/29/11 11:56	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/28/11 20:33	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		07/28/11 20:33	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	6.0 mg/L		07/19/11 11:59	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Total Metals - PIA					
Arsenic	1.9 ug/L		07/26/11 17:25	JMW	SW 6020
Barium	290 ug/L		07/26/11 17:25	JMW	SW 6020
Boron	470 ug/L		07/26/11 17:25	JMW	SW 6020
Potassium	19000 ug/L		07/26/11 17:25	JMW	SW 6020
Sodium	60000 ug/L		07/26/11 17:25	JMW	SW 6020

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/18/11 12:36
Report Date: 09/30/11
Customer #: 209324
PO#: NORTH UNIT

Sample No: **1071674-17**
Sample Description: **G13D**

Collect Date: **07/14/11 12:09**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Anions - PIA					
Chloride	190 mg/L		07/26/11 07:19	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		07/15/11 23:56	JFA	300.0
Nitrate-N	0.43 mg/L		07/16/11 00:13	JFA	EPA 300.0 R2.1
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		07/21/11 14:03	lgtth	335.4
Solids - total dissolved solids (TDS)	1800 mg/L		07/21/11 10:07	BNS	SM 2540C 18Ed
Nutrients - PIA					
Ammonia-N	15 mg/L		07/21/11 10:32	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Soluble Anions - PIA					
Chloride, Dissolved	200 mg/L		07/26/11 07:36	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.05 mg/L		07/16/11 01:03	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	300 mg/L		07/26/11 07:36	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		07/28/11 21.00	JMW	SW 6020
Boron, Dissolved	360 ug/L		07/29/11 12:00	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		07/28/11 21.00	JMW	SW 6020
Chromium, Dissolved	6.8 ug/L		07/28/11 21:00	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		07/28/11 21:00	JMW	SW 6020
Magnesium, Dissolved	110000 ug/L		07/29/11 12:00	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		07/28/11 21 00	JMW	SW 6020
Zinc, Dissolved	7.6 ug/L		07/28/11 21:00	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	13 mg/L		07/19/11 12 00	lgalr	EPA 350.1 - QC 10-107-06-1-I & J
Total Metals - PIA					
Arsenic	8.2 ug/L		07/26/11 17:28	JMW	SW 6020
Barium	260 ug/L		07/26/11 17.28	JMW	SW 6020
Boron	400 ug/L		07/26/11 17.28	JMW	SW 6020
Potassium	98000 ug/L		07/26/11 17:28	JMW	SW 6020
Sodium	44000 ug/L		07/26/11 17:28	JMW	SW 6020

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5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 07/18/11 12:36
Report Date: 09/30/11
Customer #: 209324
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NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Gail J. Schindler

Certified by: Gail J. Schindler, Project Manager

Fourth Quarter 2011

PDC Laboratories, Inc.

Rock River Environmental Services
5450 Wansford Way, Suite 201b
Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 11/15/11 15:30
Report Date: 01/13/12
Customer #: 209324
PO#: SOUTH UNIT

Laboratory Results

Sample No: **1111992-01**
Sample Description: **G11D**

Collect Date: **11/14/11 11:19**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Field - PIA					
BTM Well Elv	686.07 Feet		11/14/11 11:19	FIELD	Field
Conductivity, Field Measured	696.0 umhos/cm		11/14/11 11:19	FIELD	Field
Depth of Water (ft below LS)	20.86 Feet		11/14/11 11:19	FIELD	Field
Depth, From Measuring Point	22.62 Feet		11/14/11 11:19	FIELD	Field
Elevation of GW	717.94 Feet		11/14/11 11:19	FIELD	Field
Elevation of Measuring Point (TOC)	740.56 Feet		11/14/11 11:19	FIELD	Field
pH, Field Measured	6.72 pH Units		11/14/11 11:19	FIELD	Field
Temperature, Field Measured	54.3 °F		11/14/11 11:19	FIELD	Field
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		11/18/11 14:25	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		11/18/11 14:44	TAS	EPA 1664A
Phenolics	< 5.0 ug/L		11/16/11 16.28	lgtth	EPA 420.4 - QC 10-210-00-1A
Solids - total dissolved solids (TDS)	390 mg/L		11/18/11 14:47	BNS	SM 2540C 18Ed
Semivolatile Organics - PIA					
DBCP	< 0.20 ug/L		11/16/11 17:04	JMT	504.1
EDB	< 0.050 ug/L		11/16/11 17:04	JMT	504.1
Soluble Anions - PIA					
Chloride, Dissolved	33 mg/L		11/16/11 08:51	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	9.5 mg/L		11/16/11 08:51	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	21 mg/L		11/16/11 08:51	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		12/01/11 13:04	JMW	SW 6020
Boron, Dissolved	22 ug/L		12/02/11 06:20	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		12/01/11 13:04	JMW	SW 6020
Chromium, Dissolved	< 4.0 ug/L		12/01/11 13:04	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		12/01/11 13:04	JMW	SW 6020
Magnesium, Dissolved	38 mg/L		12/01/11 13:04	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		12/01/11 13:04	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		12/01/11 13:04	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	0.21 mg/L		11/22/11 13:07	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA					
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		11/17/11 15:30	JMB	SW 8260B

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Customer #: 209324
PO#: SOUTH UNIT

Laboratory Results

Sample No: **1111992-02**
Sample Description: **R11S**

Collect Date: **11/14/11 11:19**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Field - PIA					
BTM Well Elv	702.16 Feet		11/14/11 11 19	FIELD	Field
Conductivity, Field Measured	643.0 umhos/cm		11/14/11 11:19	FIELD	Field
Depth of Water (ft below LS)	21.14 Feet		11/14/11 11:19	FIELD	Field
Depth, From Measuring Point	22.84 Feet		11/14/11 11:19	FIELD	Field
Elevation of GW	717.76 Feet		11/14/11 11:19	FIELD	Field
Elevation of Measuring Point (TOC)	740.6 Feet		11/14/11 11:19	FIELD	Field
pH, Field Measured	6.73 pH Units		11/14/11 11:19	FIELD	Field
Temperature, Field Measured	55.4 °F		11/14/11 11:19	FIELD	Field
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		11/18/11 14:26	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		11/18/11 14:44	TAS	EPA 1664A
Phenolics	< 5.0 ug/L		11/16/11 16:40	lgtth	EPA 420.4 - QC 10-210-00-1A
Solids - total dissolved solids (TDS)	370 mg/L		11/18/11 14:47	BNS	SM 2540C 18Ed
Semivolatile Organics - PIA					
DBCP	< 0.20 ug/L		11/16/11 17:27	JMT	504.1
EDB	< 0.050 ug/L		11/16/11 17:27	JMT	504.1
Soluble Anions - PIA					
Chloride, Dissolved	32 mg/L		11/16/11 09:41	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	7.5 mg/L		11/16/11 09:41	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	16 mg/L		11/16/11 09:41	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		12/01/11 13:10	JMW	SW 6020
Boron, Dissolved	23 ug/L		12/02/11 06:24	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		12/01/11 13:10	JMW	SW 6020
Chromium, Dissolved	< 4.0 ug/L		12/01/11 13:10	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		12/01/11 13:10	JMW	SW 6020
Magnesium, Dissolved	37 mg/L		12/01/11 13:10	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		12/01/11 13:10	JMW	SW 6020
Zinc, Dissolved	< 6.0 ug/L		12/01/11 13:10	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		11/22/11 13:08	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA					
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		11/17/11 15:57	JMB	SW 8260B

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Laboratory Results

Sample No: **1111992-03**
Sample Description: **G22D**

Collect Date: **11/14/11 11:41**
Matrix: **Ground Water Regular Sample**

Parameters	Result		Qual	Analysis Date	Analyst	Method
Field - PIA						
BTM Well Elv	679.76	Feet		11/14/11 11:41	FIELD	Field
Conductivity, Field Measured	822.0	umhos/cm		11/14/11 11:41	FIELD	Field
Depth of Water (ft below LS)	16.88	Feet		11/14/11 11:41	FIELD	Field
Depth, From Measuring Point	18.42	Feet		11/14/11 11:41	FIELD	Field
Elevation of GW	718.42	Feet		11/14/11 11:41	FIELD	Field
Elevation of Measuring Point (TOC)	736.84	Feet		11/14/11 11:41	FIELD	Field
pH, Field Measured	6.74	pH Units		11/14/11 11:41	FIELD	Field
Temperature, Field Measured	56.8	°F		11/14/11 11:41	FIELD	Field
General Chemistry - PIA						
Cyanide	< 0.0050	mg/L		11/18/11 14:27	lgtth	335.4
Oil & Grease - total	< 5.0	mg/L		11/18/11 14:44	TAS	EPA 1664A
Phenolics	< 5.0	ug/L		11/16/11 16:30	lgtth	EPA 420.4 - QC 10-210-00-1A
Solids - total dissolved solids (TDS)	810	mg/L		11/18/11 14:47	BNS	SM 2540C 18Ed
Semivolatile Organics - PIA						
DBCP	< 0.20	ug/L		11/16/11 17:50	JMT	504.1
EDB	< 0.050	ug/L		11/16/11 17:50	JMT	504.1
Soluble Anions - PIA						
Chloride, Dissolved	300	mg/L		12/02/11 09:45	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	7.8	mg/L		11/16/11 09:58	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	22	mg/L		11/16/11 09:58	JFA	EPA 300.0 R2.1
Soluble Metals - PIA						
Arsenic, Dissolved	< 1.0	ug/L		12/01/11 13:16	JMW	SW 6020
Boron, Dissolved	21	ug/L		12/02/11 06:28	JMW	SW 6020
Cadmium, Dissolved	< 1.0	ug/L		12/01/11 13:16	JMW	SW 6020
Chromium, Dissolved	13	ug/L		12/01/11 13:16	JMW	SW 6020
Lead, Dissolved	< 1.0	ug/L		12/01/11 13:16	JMW	SW 6020
Magnesium, Dissolved	48	mg/L		12/01/11 13:16	JMW	SW 6020
Mercury, Dissolved	< 0.20	ug/L		12/01/11 13:16	JMW	SW 6020
Zinc, Dissolved	< 6.0	ug/L		12/01/11 13:16	JMW	SW 6020
Soluble Nutrients - PIA						
Ammonia, Dissolved	< 0.10	mg/L		11/22/11 13:09	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA						
1,1,1,2-Tetrachloroethane	< 1.0	ug/L		11/17/11 16:25	JMB	SW 8260B

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Laboratory Results

Sample No: **1111992-04**
Sample Description: **R22S**

Collect Date: **11/14/11 11:41**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Field - PIA					
BTM Well Elv	710.15 Feet		11/14/11 11:41	FIELD	Field
Conductivity, Field Measured	1161 umhos/cm		11/14/11 11:41	FIELD	Field
Depth of Water (ft below LS)	3.2 Feet		11/14/11 11:41	FIELD	Field
Depth, From Measuring Point	5.35 Feet		11/14/11 11:41	FIELD	Field
Elevation of GW	731.8 Feet		11/14/11 11:41	FIELD	Field
Elevation of Measuring Point (TOC)	737.15 Feet		11/14/11 11:41	FIELD	Field
pH, Field Measured	6.57 pH Units		11/14/11 11:41	FIELD	Field
Temperature, Field Measured	57.4 °F		11/14/11 11:41	FIELD	Field
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		11/18/11 14:31	lgtth	335.4
Oil & Grease - total	< 5.0 mg/L		11/18/11 14:44	TAS	EPA 1664A
Phenolics	< 5.0 ug/L		11/16/11 16:31	lgtth	EPA 420.4 - QC 10-210-00-1A
Solids - total dissolved solids (TDS)	2000 mg/L		11/18/11 14:47	BNS	SM 2540C 18Ed
Semivolatile Organics - PIA					
DBCP	< 0.20 ug/L		11/16/11 18:12	JMT	504.1
EDB	< 0.050 ug/L		11/16/11 18:12	JMT	504.1
Soluble Anions - PIA					
Chloride, Dissolved	870 mg/L		11/16/11 10:32	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.05 mg/L		11/16/11 10:15	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	30 mg/L		12/02/11 10:01	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	< 1.0 ug/L		12/01/11 13:22	JMW	SW 6020
Boron, Dissolved	25 ug/L		12/02/11 06:31	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		12/01/11 13:22	JMW	SW 6020
Chromium, Dissolved	35 ug/L		12/01/11 13:22	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		12/01/11 13:22	JMW	SW 6020
Magnesium, Dissolved	130 mg/L		12/01/11 13:22	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		12/01/11 13:22	JMW	SW 6020
Zinc, Dissolved	6.1 ug/L		12/01/11 13:22	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	< 0.10 mg/L		11/22/11 13:10	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Volatile Organics - PIA					
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		11/17/11 16:52	JMB	SW 8260B

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Date Received: 11/15/11 15:30
Report Date: 01/13/12
Customer #: 209324
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Laboratory Results

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Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

R MS/MSD Failed %RPD
P Chemical preservation discrepancy noted at the time of analysis.

Gail J. Schindler

Certified by: Gail J. Schindler, Project Manager

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Attn: Evan Buskohl

Date Received: 11/17/11 16:45
Report Date: 01/13/12
Customer #: 209324

Laboratory Results

Sample No: **1111995-16**
Sample Description: **G41S**

Collect Date: **11/15/11 12:16**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Volatile Organics - PIA					
trans-1,2-Dichloroethene	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
trans-1,3-Dichloropropene	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
trans-1,4-Dichloro-2-butene	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
Trichloroethene	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
Trichlorofluoromethane	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
Vinyl acetate	< 1.0 ug/L		11/21/11 10:58	JMB	SW 8260B
Vinyl chloride	< 2.0 ug/L		11/21/11 10:58	JMB	SW 8260B
Xylenes- Total	< 1.0 ug/L		11/21/11 10.58	JMB	SW 8260B

Sample No: **1111995-17**
Sample Description: **G13D**

Collect Date: **11/14/11 14:00**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Anions - PIA					
Chloride	210 mg/L		11/16/11 12:07	JFA	EPA 300.0 R2.1
Fluoride	0.28 mg/L		11/16/11 11:50	JFA	300.0
Nitrate-N	0.09 mg/L		11/16/11 11:50	JFA	EPA 300.0 R2.1
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		11/22/11 10:05	lgjfa	335.4
Oil & Grease - total	< 5.0 mg/L		11/22/11 14:46	TAS	EPA 1664A
Phenolics	< 5.0 ug/L		11/17/11 10:16	lgtth	EPA 420.4 - QC 10-210-00-1A
Solids - total dissolved solids (TDS)	1400 mg/L		11/21/11 08:48	BNS	SM 2540C 18Ed
Nutrients - PIA					
Ammonia-N	19 mg/L		11/28/11 10:56	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Semivolatile Organics - PIA					
DBCP	< 0.20 ug/L		11/17/11 15:39	ELS	504.1
EDB	< 0.050 ug/L		11/17/11 15:39	ELS	504.1
Soluble Anions - PIA					
Chloride, Dissolved	220 mg/L		11/16/11 13:14	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.10 mg/L		11/16/11 12:57	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	230 mg/L		11/16/11 13:14	JFA	EPA 300.0 R2.1

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Date Received: 11/17/11 16:45
Report Date: 01/13/12
Customer #: 209324

Laboratory Results

Sample No: **1111995-18**
Sample Description: **G13S**

Collect Date: **11/14/11 14:14**
Matrix: **Ground Water Regular Sample**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Semivolatile Organics - PIA					
EDB	< 0.050 ug/L		11/17/11 16:02	ELS	504.1
Soluble Anions - PIA					
Chloride, Dissolved	190 mg/L		11/16/11 14:22	JFA	EPA 300.0 R2.1
Nitrate, Dissolved	0.07 mg/L		11/16/11 14:05	JFA	EPA 300.0 R2.1
Sulfate, Dissolved	300 mg/L		12/06/11 13:06	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Arsenic, Dissolved	5.2 ug/L		12/07/11 14:27	JMW	SW 6020
Boron, Dissolved	410 ug/L		12/07/11 14:27	JMW	SW 6020
Cadmium, Dissolved	< 1.0 ug/L		12/07/11 14:27	JMW	SW 6020
Chromium, Dissolved	7.9 ug/L		12/07/11 14:27	JMW	SW 6020
Lead, Dissolved	< 1.0 ug/L		12/07/11 14:27	JMW	SW 6020
Magnesium, Dissolved	140 mg/L		12/07/11 14:27	JMW	SW 6020
Mercury, Dissolved	< 0.20 ug/L		12/07/11 14:27	JMW	SW 6020
Zinc, Dissolved	10 ug/L		12/07/11 14:27	JMW	SW 6020
Soluble Nutrients - PIA					
Ammonia, Dissolved	5.6 mg/L		11/28/11 09:59	ALR	EPA 350.1 - QC 10-107-06-1-I & J
Total Metals - PIA					
Arsenic	9.8 ug/L		12/02/11 08:49	JMW	SW 6020
Barium	240 ug/L		12/02/11 08:49	JMW	SW 6020
Boron	390 ug/L		12/02/11 08:49	JMW	SW 6020
Potassium	18 mg/L		12/02/11 08:49	JMW	SW 6020
Sodium	52 mg/L		12/02/11 08:49	JMW	SW 6020
Volatile Organics - PIA					
1,1,1,2-Tetrachloroethane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1,1-Trichloroethane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1,2,2-Tetrachloroethane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1,2-Trichloroethane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1-Dichloroethane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1-Dichloroethene	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,1-Dichloropropene	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,2,3-Trichlorobenzene	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,2,3-Trichloropropane	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,2,4-Trichlorobenzene	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B
1,2,4-Trimethylbenzene	< 1.0 ug/L		11/21/11 11:54	JMB	SW 8260B

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Rockford, IL 61109
Attn: Evan Buskohl

Date Received: 11/17/11 16:45
Report Date: 01/13/12
Customer #: 209324

Laboratory Results

Notes

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X
W Surrogate recovery failed to meet the required acceptance criteria in intial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed.
R MS/MSD Failed %RPD
P Chemical preservation discrepancy noted at the time of analysis.
H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Gail J. Schindler

Certified by: Gail J. Schindler, Project Manager

Attachment D

Statistical Method

Statistical Analyses Method

References:

1. 35 Illinois Administrative Code 811.320
2. Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance, USEPA, March 2009

Background quality shall be determined using the statistical techniques set forth in 35 IAC 811.320(e) and the facility permit. The data was tested for normality using the Shapiro-Wilk normality test. If the data was found not to follow a normal distribution, a nonparametric statistical method was utilized. The data was then examined for outliers. After the outlier test, the percentages of non-detect values (NDs) were calculated for each parameter to determine the applicable ND treatment method, if any. Upon completion of the treatment of non-detect values, the prediction limit for each parameter was calculated using the mean, standard deviation, and the appropriate t value. The statistical analysis uses a one-tailed test to determine an upper limit of significance. The upper prediction limit is the concentration for the probability that the constituent can be measured without constituting a statistical increase above the background. Any concentration found below this limit is regarded as falling within the normal statistical population.

Statistical Method

The statistical method employs either the 99% or 95% prediction limit in accordance with the facility permit. The prediction limit incorporates the mean, standard deviation, number of samples, and the Student's t value in the calculation to determine general background groundwater quality. An upper prediction limit is calculated for each individual chemical parameter. The well data from the site is evaluated statistically with samples collected during a minimum of four (4) consecutive quarters of background sampling.

Handling of Outliers

Prior to statistical analyses the data set was evaluated for outliers. Outliers are defined as data points that vary significantly from the mean value for that data set. Outliers may represent sampling error, contamination from surface run-off, analytical laboratory error, or anomalous site conditions. Outliers, if not removed from the data set, can erroneously

increase the AGQS and minimize the occurrence of an exceedences related to a release from a waste unit. Once a statistical outlier has been identified, the concentrations are evaluated to determine the cause. If a valid reason has been determined for the outlier, the data point will be removed from the data set. If no specific reason can be documented, the point will considered representative and included in the analysis. Statistical analysis will then be conducted as described below.

Handling of Non-Detects (NDs)

Non-detect values (NDs) were handled according to the percentage of Non-Detects (%ND) present in the background sampling. The %ND was calculated for each parameter from the pooled background data of each well set. The data treatment was done according to the following criteria:

a) For under 0% NDs, no adjustment is made to the values in the data set.

b) For under 15% NDs, the value of one-half (½) the reported Detection Limit (DL) was substituted for the ND value, and the mean and standard deviation were calculated using detected values with the substituted ND values.

c) For 15-50% NDs, Cohen's Adjustment was used to adjust the mean and standard deviation. The adjusted mean and standard deviation was then used to calculate the prediction limit.

d) For over 50% but not 100% NDs, the highest recorded concentration was substituted for the prediction limit.

e) For 100% NDs, the Practical Quantitation Limit (PQL) will be substituted for the ND value. The mean and standard deviation was calculated using the substituted ND values.

Prediction Limit

The statistical procedure was conducted according to the following steps:

1. <u>Calculate arithmetic mean</u>

The arithmetic mean was calculated using the pooled data for each parameter. The arithmetic mean (X_b) was calculated using the following equation:

$$X_b = \frac{X_1 + X_2 + \ldots + X_n}{n}$$

where: X_b = Average background value

X_n = Individual background value for *n* sample

n = Number of background values

2. Calculate standard deviation

The standard deviation was calculated using the pooled data for each parameter. The standard deviation was calculated using the following equation:

$$S_b = \sqrt{\frac{(X_1 - X_b) + (X_2 - X_b) + \ldots + (X_n - X_b)}{n-1}}$$

where: S_b = Population standard deviation
X_n = Individual background value for *n* sample
X_b = Mean (1)
n = Number of background samples

3. Calculate the Upper Prediction Limit

The Upper Prediction Limit was calculated for each parameter using the mean (1), the standard deviation (2), the number of background samples, and the Student's t value. The Student's t value σ, is determined by the facility permit whether it is σ = 0.01 (99% Confidence) or σ = 0.05 (95% Confidence). The Student's t value also varies upon the number of background samples utilized in the calculations. For those parameters with 15% to 50%% NDs, the Cohen Method was utilized to calculate the Prediction Limit. The methodology described in "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance" was used to calculate the Cohen Prediction Limit. The Upper Prediction Limit for the remaining parameters was calculated using the following equation:

$$PL = X_b +_ S_b \bullet t \bullet \sqrt{1 + \frac{1}{n}}$$

where: PL = Upper Prediction Limit (Upper and Lower for pH)
X_b = Mean (1)
S_b = Standard Deviation (2)
t = Student's t value at 0.01 or 0.05 significance
n = Number of background samples