March 5, 2015

Illinois EPA
ATTN: Brian Cox
Permit Section, Division of Water Pollution Control
P.O. Box 19276
Springfield, IL 62794-9276

Re: Permit No.: 2010-EP-0625 Modification/Renewal
The Libman Company, Inc.
220 North Sheldon Street
Arcola, IL 61910

Dear Brian Cox:

Please find enclosed the completed IL EPA Water Pollution Control Permit Renewal/Modification for the Libman Company, Inc. located at the address listed above.

The permit modification/renewal application includes the following documents:

- WPC-PS-1
- Schedule J: Treatment/Pretreatment Works
- Schedule N: Waste Characteristics
- Attachment A: Facility Maps & Diagrams
  - Location Map
  - Site Diagram
  - Schematic Wastewater Flow Diagram
- Attachment B: Analytical Results
- Attachment C: Gardbond AP 9840 MSDS

The Libman Company, Inc. is requesting modification of permit 2010-EP-0625 to remove the categorical status and reduction of monitoring requirements as part of the renewal.

In January, 2014 the iron phosphate wash process was eliminated from the facility. On April 10, 2014, Holly Hirchert of the IL EPA conducted a facility inspection to confirm the iron phosphate wash process was replaced by a new chemical process without phosphate (Gardbond AP 9840). As a result of the inspection, Holly recommended The Libman Company, Inc. be reclassified as a non-categorical discharger.

U.S. Compliance Corporation
520 Third Street • Suite 100 • Excelsior, MN 55331 • Phone 952.252.3000 • Fax 952.252.3001
www.uscompliance.com

If you have any questions regarding this report I can be reached at (952) 567-5625 or by email at mpeterson@uscompliance.com please contact me at your convenience.

Sincerely,

Myles Peterson
Environmental Specialist

Encl.

Cc: Mark Wathen – The Libman Company, Inc.

U.S. Compliance Corporation

ATTAIN & SUSTAIN
ENVIRONMENTAL | HEALTH | SAFETY
COMPLIANCE

Wastewater Discharge Permit Modification/Renewal

For

The Libman Company
220 North Sheldon Street
Arcola, IL 61910

Permit No.: 2010-EP-0625

March 5, 2015

520 Third Street, Suite 100
Excelsior, MN 55331
(952) 252-3000
www.uscompliance.com

TABLE OF CONTENTS

- WPC-PS-1
- Schedule J: Treatment/Pretreatment Works
- Schedule N: Waste Characteristics
- Attachment A: Facility Maps & Diagrams
    - Location Map
    - Site Diagram
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- Attachment B: Analytical Results
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Illinois Environmental Protection Agency
Permit Section, Division of Water Pollution Control
P.O. Box 19276
Springfield, Illinois 62794-9276

For IEPA Use:

Application for Permit or Construction Approval
WPC-PS-1

1. Owner Name: The Libman Company

   Name of Project: The Libman Company: Permit Modification/Renewal

   Township: City of Arcola County: Douglas

2. Brief Description of Project:

   Modification/renewal of the current permit, 2010-EP-0625, to remove the categorical metal finishing status and eliminate or reduce sampling requirements. The phosphate wash process was removed from The Libman Company in January of 2014 and replaced by a new chemical process that does not utilize phosphate.

3. Documents Being Submitted: If the Project involves any of the items listed below, submit the corresponding schedule, and check the appropriate boxes.

	Schedule		Schedule
Private Sewer Connection/Extension	A/B ☐	Spray Irrigation	H ☐
Sewer Extension Construct Only	C ☐	Septic Tanks	I ☐
Sewage Treatment Works	D ☐	Industrial Treatment/Pretreatment	J ☑
Excess Flow Treatment	E ☐	Waste Characteristics	N ☑
Lift Station/Force Main	F ☐	Erosion Control	P ☐
Fast Track Service Connection	FTP ☐	Trust Disclosure	T ☐
Sludge Disposal	G ☐		

   Plans: Title _____

   _____ No. of Pages: _____

   Specifications: Title _____

   _____ No. of Books/Pages: _____

   Other Documents: _____
   (Please Specify)

3.1 Illinois Historic Preservation Agency approval letter: Yes ☐ No ☑

4. Land Trust: Is the project identified in item number 1 herein, for which a permit is requested, to be constructed on land which is the subject of a trust? Yes ☐ No ☑

   If yes, Schedule T (Trust Disclosure) must be completed and item number 7.1.1 must be signed by a beneficiary, trustee or trust officer.

5. This is an Application for (Check Appropriate Line):

   ☐ A. Joint Construction and Operating Permit
   ☐ B. Authorization to Construct (See Instructions) NPDES Permit No. IL00_____
   ☐ C. Construct Only Permit (Does Not Include Operations)
   ☑ D. Operate Only Permit (Does Not Include Construction)

6. Certifications and Approval:

6.1 Certificate by Design Engineer (When required: refer to instructions)
I hereby certify that I am familiar with the information contained in this application, including the attached schedules indicated above, and that to the best of my knowledge and belief such information is true, complete and accurate. The plans and specifications (specifications other than Standard Specifications or local specifications on file with this Agency) as described above were prepared by me or under my direction.

(Seal)

Engineer Name: N/A

Registration Number: _____ - _____
(3 digits) (6 digits)

Firm: _____

Address: _____

_____

City: _____ State: _____ Zip: _____ Phone No: _____

Signature X _____ Date: _____

7. Certifications and Approvals for Permits:

7.1 Certificate by Applicant(s)
I/We hereby certify that I/we have read and thoroughly understand the conditions and requirements of this Application, and am/are authorized to sign this application in accordance with the Rules and Regulations of the Illinois Pollution Control Board. I/We hereby agree to conform with the Standard Conditions and with any other Special Conditions made part of this Permit.

7.1.1 Name of Applicant for Permit to Construct: N/A

_____

Address: _____

City: _____ State: _____ Zip Code: _____

Signature X _____ Date: _____

Printed Name: _____ Phone No: _____

Title: _____

Organization: _____

7.1.2 Name of Applicant for Permit to Own and Operate: The Libman Company

_____

Address: 220 North Sheldon Street

City: Arcola State: IL Zip Code: 61910

Signature X _____ Date: 03/05/2015

Printed Name: Mark Wathen Phone No: (217) 268-2155

Title: Safety Manager

7.2 Attested (Required When Applicant is a Unit of Government)

Signature X _____ Date: _____

Title: _____
(City Clerk, Village Clerk, Sanitary District Clerk, Etc.)

7.3 Applications from non-governmental applicants which are not signed by the owner, must be signed by a principal executive officer of at least the level of vice president, or a duly authorized representative.

7.4 Certificate By Intermediate Sewer Owner

I hereby certify that (Please check one):

☐ 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the environmental Protection Act or Subtitle C, Chapter I, or

☐ 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction of facilities that are the subject of this application.

Name and location of sewer system to which this project will be tributary:

N/A

Sewer System Owner: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Signature X _____ Date: _____

Printed Name: _____ Phone No: _____

Title: _____

7.4.1 Additional Certificate By Intermediate Sewer Owner

I hereby certify that (Please check one):

☐ 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the environmental Protection Act or Subtitle C, Chapter I, or

☐ 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction facilities that are the subject of this application.

☐ 3. Not applicable

Name and location of sewer system to which this project will be tributary:

N/A

Sewer System Owner: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Signature X _____ Date: _____

Printed Name: _____ Phone No: _____

Title: _____

7.5 Certificate By Waste Treatment Works Owner

I hereby certify that (Please check one):

☐ 1. The waste treatment plant to which this project will be tributary has adequate reserve capacity to treat the wastewater that will be added by this project without causing a violation of the Environmental Protection Act or Subtitle C, Chapter I, or

☐ 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction and operation of the facilities that are the subject of this application.

☐ 3. Not applicable

I also certify that, if applicable, the industrial waste discharges described in the application are capable of being treated by the treatment works.

Name of Waste Treatment Works: City of Arcola

Waste Treatment Works Owner: _____

Address: 434 East Springfield Road

City: Arcola State: IL Zip Code: 61910

Signature X Darren R. Poorman Date: 3/05/15

Printed Name: Darren R. Poorman Phone No: 217-268-4695

Title: _____

Please return completed form to the following address:

Illinois Environmental Protection Agency
Permit Section, Division of Water Pollution Control
P.O. Box 19276
Springfield, Illinois 62794-9276

This Agency is authorized to require this information under Illinois Revised Statues, 1979, Chapter 111 ½, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532-0010
WPC 150

FOR IEPA USE:
LOG #
DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION

Springfield, Illinois 62706

SCHEDULE J INDUSTRIAL TREATMENT WORKS CONSTRUCTION OR PRETREATMENT WORKS

1. NAME AND LOCATION:
   1.1 Name of project The Libman Company: Permit Mondification/Renewal
   1.2 Plant Location
   1.2.1 S (Quarter Section) 3 (Section) 14N (Township) 8E (Range) Third P.M.
   1.2.2 Latitude 39 deg. 4 min. 08 sec. "NORTH
   1.2.3 Longitude 88 deg. 17 min. 58 sec. "WEST
   1.2.3 Name of USGS Quadrangle Map (7.5 or 15 minute) _____
2. NARRATIVE DESCRIPTION AND SCHEMATIC WASTE FLOW DIAGRAM: (see instructions)

Wastewater is generated from a 3-stage parts washing system and steel form line. All process wastewater is collected in a 1200 gallon pit. Wastewater is routed to a 1890 gallon holding tank. When the holding tank is full, water is manually pumped to a 310 pH adjust tank. The water goes through a sediment filtration system, prior to entry into the sanitary sewer. Batch discharges occur approximately every 2-3 days. Categorical wastewater is not generated in this process.

   2.1 PRINCIPAL PRODUCTS:

Household cleaning tools: brooms, mops, sponges, rags, refill related products

   2.2 PRINCIPAL RAW MATERIALS:

Steel, polypropylene, PVC, paints

3. DESCRIPTION OF TREATMENT FACILITIES:
   3.1 Submit a flow diagram through all treatment units showing size, volumes, detention times, organic loadings, surface settling rate, weir overflow rate, and other pertinent design data. Include hydraulic profiles and description of monitoring systems.
   3.2 Waste Treatment Works is: Batch ☒ , Continuous ☐ , No. of Batches/day _____ , No. of Shifts/day 1
   3.3 Submit plans and specifications for proposed construction.
   3.4 Discharge is: Existing ☒ ; Will begin on _____ .
4. DIRECT DISCHARGE IS TO: Receiving Stream ☐ Municipal Sanitary Sewer ☒ Municipal storm or municipal combined sewer ☐
   If receiving stream or storm sewer are indicated complete the following:
   Name of receiving stream _____ ; tributary to _____ ;
   tributary to _____ ; tributary to _____ ;
5. Is the treatment works subject to flooding? Yes ☐ No ☒ If so, what is the maximum flood elevation of record (in reference to the treatment works datum) and what provisions have been made to eliminate the flooding hazard?

6. APPROXIMATE TIME SCHEDULE: Estimated construction schedule:
   Start of Construction _____ ; Date of Completion _____
   Operation Schedule _____ ; Date Operation Begins _____
   100% design load to be reached by year _____ .
7. DESIGN LOADINGS
   7.1 Design population equivalent (one population equivalent is 100 gallons of wastewater per day, containing 0.17 pounds of BOD_5 and 0.20 pounds of suspended solids;
   BOD _____ ; Suspended Solids _____ ; Flow _____ .
   7.2 Design Average Flow Rate _____ MGD.

7.3 Design Maximum Flow Rate _____ MGD.

7.4 Design Minimum Flow Rate _____ MGD.

7.5 Minimum 7-day, 10-year low flow _____ cfs _____ MGD.

Minimum 7-day, 10-year flow obtained from _____

7.6 Dilution Ratio_____:_____.

8. FLOW TO TREATMENT WORKS (if existing):

8.1 Flow (last 12 months)

8.1.1 Average Flow 0.000641 MGD

8.1.2 Maximum Flow 0.00835 MGD

8.2 Equipment used in determining above flows

9. Has a preliminary engineering report for this project been submitted to this Agency for Approval?

Yes ☐ No ☒ . If so, when was it submitted and approved. Date Submitted _____

Certification # _____

Dated _____

10. List Permits previously issued for the facility:

1994-EE-0735, 2010-EP-0625

11. Describe provisions for operation during contingencies such as power failures, flooding, peak loads, equipment failure, maintenance shut downs and other emergencies.

Treatment system will not operate during any of conditions listed above. The facility will shut down if any of the above conditions exist.

12. Complete and submit Schedule G if sludge disposal will be required by this facility.

13. WASTE CHARACTERISTICS: Schedule N must be submitted.

14. TREATMENT WORKS OPERATOR CERTIFICATION: List names and certification numbers of certified operators:

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied.

For IEPA Use:

LOG #

DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62794-9276

SCHEDULE N WASTE CHARACTERISTICS

1. Name of Project The Libman Company: Permit Modification/Renewal

2. FLOW DATA

	EXISTING	PROPOSED-DESIGN
2.1 Average Flow (gpd)	6,414	
2.2 Maximum Daily Flow (gpd)	8,535	

2.3 TEMPERATURE

Time of Year	Avg. Intake Temp. F	Avg. Effluent Temp. F	Max. Intake Temp F.	Max. Effluent Temp F.	Max. Temp. Outside Mixing Zone F
SUMMER		70			
WINTER		70			

2.4 Minimum 7-day, 10-year flow: N/A cfs N/A MGD.

2.5 Dilution Ratio: N/A : N/A

2.6 Stream flow rate at time of sampling N/A cfs N/A MGD.

3. CHEMICAL CONSTITUENT Existing Permitted Conditions ☐ ; Existing conditions ☒ ; Proposed Permitted Conditions ☐

Type of sample: ☒ grab (time of collection _____); ☐ composite (Number of samples per day _____)

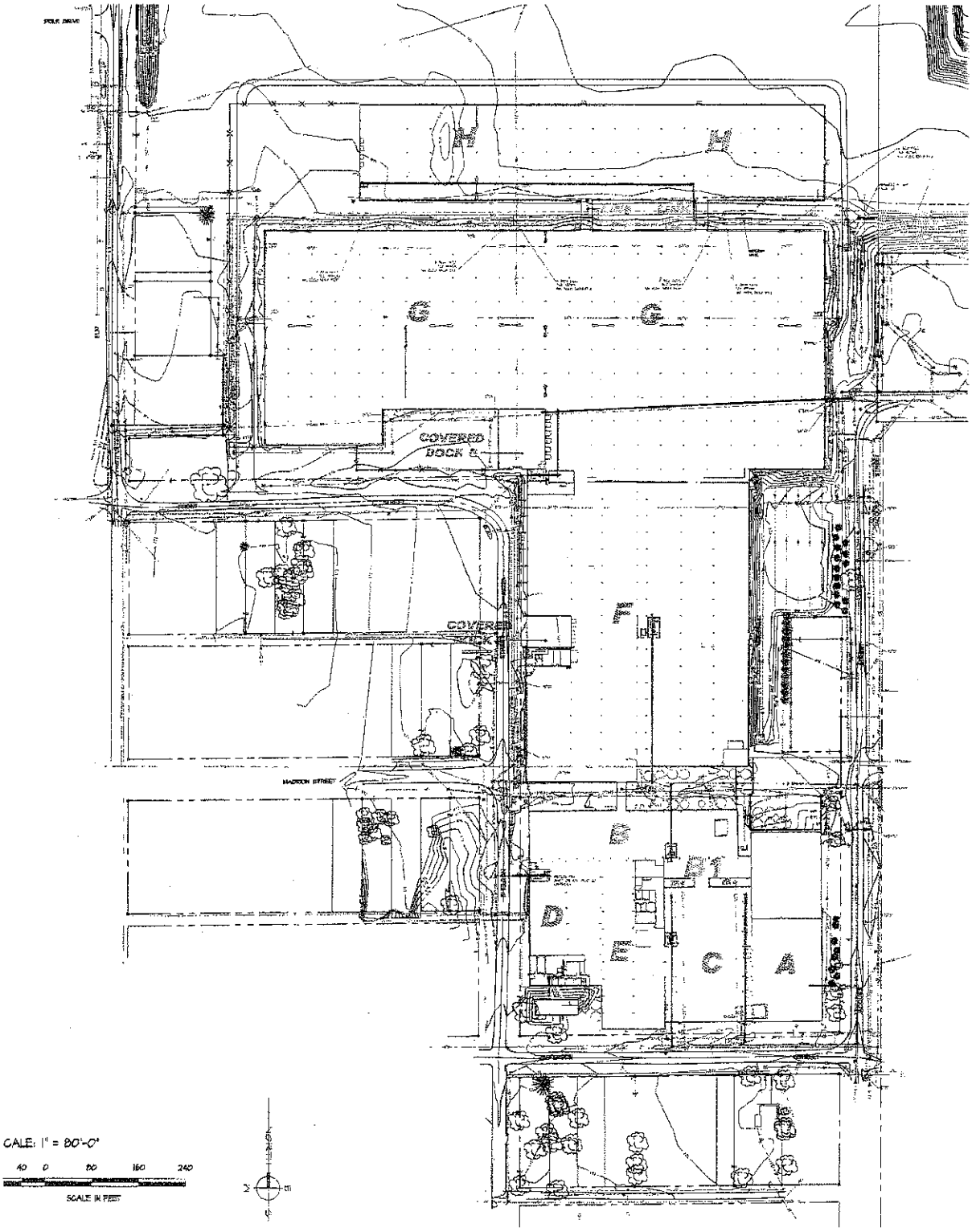
(see instructions for analyses required)

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM (mg/l)	DOWNSTREAM SAMPLES (mg/l)
Ammonia Nitrogen (as N)		NTF		
Arsenic (total)		NTF		
Barium		NTF		
Boron		24.3		
BOD_5		NTF		
Cadmium		<0.003		
Carbon Chloroform Extract		NTF		
Chloride		NTF		
Chromium (total hexavalent)		NTF		
Chromium (total trivalent)		0.015		

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM (mg/l)	DOWNSTREAM SAMPLES (mg/l)
Copper		0.332		
Cyanide (total)		<0.010		
Cyanide (readily released @ 150° F & pH 4.5)		NTF		
Dissolved Oxygen		NTF		
Fecal Coliform		NTF		
Fluoride		NTF		
Hardness (as Ca CO_3)		NTF		
Iron (total)		NTF		
Lead		0.0157		
Manganese		NTF		
MBAS		NTF		
Mercury		NTF		
Nickel		0.0645		
Nitrates (as N)		NTF		
Oil & Grease (hexane solubles or equivalent)		NTF		
Organic Nitrogen (as N)		NTF		
pH		5.5		
Phenols		NTF		
Phosphorous (as P)		NTF		
Radioactivity		NTF		
Selenium		NTF		
Silver		<0.010		
Sulfate		NTF		
Suspended Solids		NTF		
Total Dissolved Solids		NTF		
Zinc		1.84		
Others				
Total Toxic Organics		0.138		
Acetone		0.128		
Trichloroethene		0.010		

Attachment A: Facility Maps & Diagrams

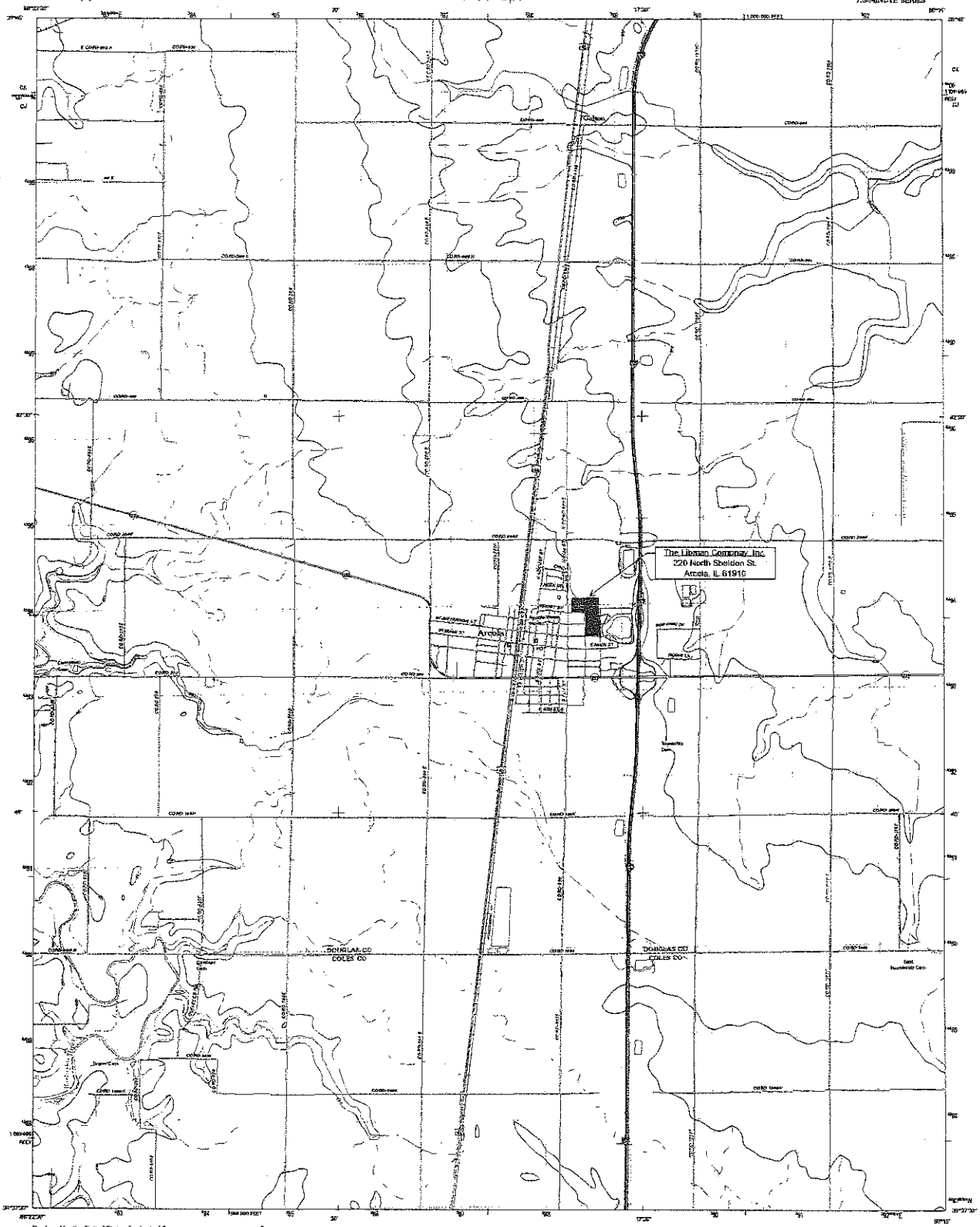
PLUMBING LAYOUT



U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

ARCOLA QUADRANGLE
ILLINOIS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 km grid: Universal Transverse Mercator, Zone 16S
10,000-foot ticks: Illinois Coordinate System of 1983 (east zone)

Roads 2011
Hydrography 2011
Contours 2011
Boundaries 2011
Publication 2012

MN MAGNETIC NORTH
TRUE NORTH
GRID NORTH

UTM GRID AND 2012 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

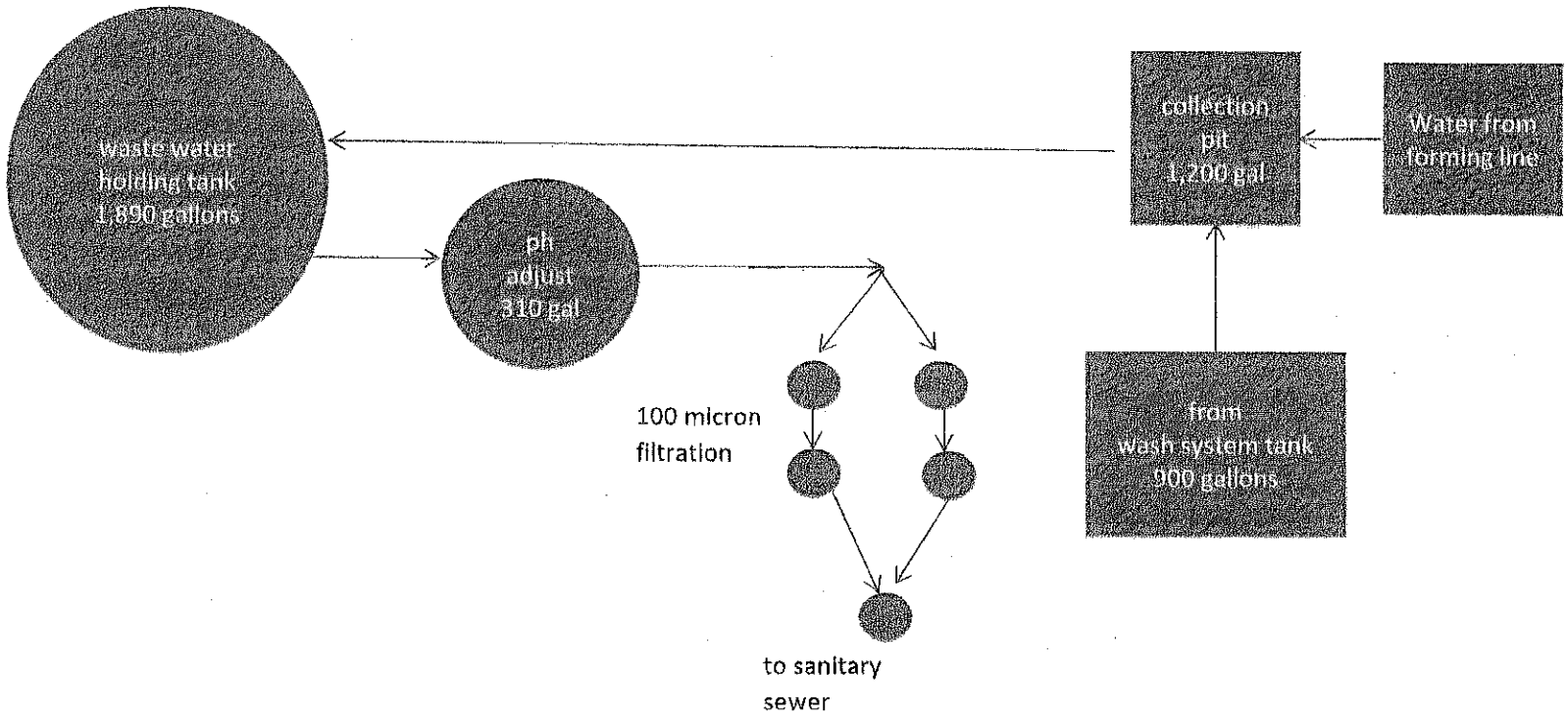
This map was produced to conform with the National Geospatial Program US Topo Product Standards, 2011.
A topographic map conforming with this standard is clearly marked G.A.T.

ROAD CLASSIFICATION

Interstate Route
US Route
State Route
Local Road
4WD
Interstate Route
US Route
State Route

ARCOLA, IL
2012

Wastewater Treatment Schematic Flow Diagram



Attachment B: Analytical Results

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

February 11, 2015

Mr. Myles Peterson
US COMPLIANCE
520 Third Street, Suite 100
Excelsior, MN 55331

RE: Project: Libman 1/15
Pace Project No.: 10295575

Dear Mr. Peterson:
Enclosed are the analytical results for sample(s) received by the laboratory on January 28, 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,

Diane J. Anderson

Diane J. Anderson
diane.anderson@pacelabs.com
Project Manager

Enclosures

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without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Libman 1/15
Pace Project No.: 10295575

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Libman 1/15
Pace Project No.: 10295575

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10295575001	**#1-#9**	Water	01/27/15 09:20	01/28/15 09:20

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: Libman 1/15
Pace Project No.: 10295575

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10295575001	#1-#9	EPA 8081B	XV1	24
		EPA 8082A	KL1	11
		EPA 200.7	IP	8
		EPA 625	ACH1	74
		EPA 624	SH2	73
		SM 4500-H+B	HNKH	1
		SM 4500-CN-E	PH1	1

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Libman 1/15
Pace Project No.: 10295575

Sample: #1-#9 Lab ID: **10295575001** Collected: 01/27/15 09:20 Received: 01/28/15 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081B GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3510							
Aldrin	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	309-00-2	
alpha-BHC	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	319-84-6	
beta-BHC	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	319-85-7	
delta-BHC	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	58-89-9	
Chlordane (Technical)	ND	ug/L	50.0	1	02/02/15 13:25	02/04/15 23:39	57-74-9	
alpha-Chlordane	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	5103-71-9	
gamma-Chlordane	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	5103-74-2	
4,4'-DDD	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	72-54-8	
4,4'-DDE	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	72-55-9	
4,4'-DDT	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	50-29-3	
Dieldrin	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	60-57-1	
Endosulfan I	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	959-98-8	
Endosulfan II	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	33213-65-9	
Endosulfan sulfate	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	1031-07-8	
Endrin	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	72-20-8	
Endrin aldehyde	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	7421-93-4	
Endrin ketone	ND	ug/L	10.0	1	02/02/15 13:25	02/04/15 23:39	53494-70-5	
Heptachlor	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	76-44-8	
Heptachlor epoxide	ND	ug/L	5.0	1	02/02/15 13:25	02/04/15 23:39	1024-57-3	
Methoxychlor	ND	ug/L	50.0	1	02/02/15 13:25	02/04/15 23:39	72-43-5	
Toxaphene	ND	ug/L	150	1	02/02/15 13:25	02/04/15 23:39	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	26	%.	59-125	1	02/02/15 13:25	02/04/15 23:39	877-09-8	S5
Decachlorobiphenyl (S)	6	%.	30-137	1	02/02/15 13:25	02/04/15 23:39	2051-24-3	S5
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	11096-82-5	
PCB-1262 (Aroclor 1262)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	37324-23-5	
PCB-1268 (Aroclor 1268)	ND	ug/L	1.0	1	02/09/15 16:47	02/10/15 15:54	11100-14-4	
Surrogates								
Tetrachloro-m-xylene (S)	36	%.	30-126	1	02/09/15 16:47	02/10/15 15:54	877-09-8	
Decachlorobiphenyl (S)	13	%.	30-145	1	02/09/15 16:47	02/10/15 15:54	2051-24-3	S5
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	**24300**	ug/L	750	5	02/03/15 11:02	02/04/15 10:46	7440-42-8	
Cadmium	ND	ug/L	3.0	1	02/03/15 11:02	02/04/15 10:29	7440-43-9	
Chromium	**15.0**	ug/L	10.0	1	02/03/15 11:02	02/04/15 10:29	7440-47-3	
Copper	**332**	ug/L	10.0	1	02/03/15 11:02	02/04/15 10:29	7440-50-8	
Lead	**15.7**	ug/L	10.0	1	02/03/15 11:02	02/04/15 10:29	7439-92-1	
Nickel	**64.5**	ug/L	20.0	1	02/03/15 11:02	02/04/15 10:29	7440-02-0	

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ANALYTICAL RESULTS

Project: Libman 1/15
Pace Project No.: 10295575

Sample: #1-#9 Lab ID: **10295575001** Collected: 01/27/15 09:20 Received: 01/28/15 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Silver	ND	ug/L	10.0	1	02/03/15 11:02	02/04/15 10:29	7440-22-4	
Zinc	**1840**	ug/L	20.0	1	02/03/15 11:02	02/04/15 10:29	7440-66-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Acenaphthene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	83-32-9	
Acenaphthylene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	208-96-8	
Anthracene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	120-12-7	
Benzo(a)anthracene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	56-55-3	
Benzo(a)pyrene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	207-08-9	
Benzoic acid	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	65-85-0	
Benzyl alcohol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	101-55-3	
Butylbenzylphthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	85-68-7	
Carbazole	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	59-50-7	
4-Chloroaniline	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	108-60-1	
2-Chloronaphthalene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	91-58-7	
2-Chlorophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	7005-72-3	
Chrysene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	53-70-3	
Dibenzofuran	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	132-64-9	
1,2-Dichlorobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	91-94-1	
2,4-Dichlorophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	120-83-2	
Diethylphthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	84-66-2	
2,4-Dimethylphenol	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	105-67-9	
Dimethylphthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	131-11-3	
Di-n-butylphthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	534-52-1	
2,4-Dinitrophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	606-20-2	
Di-n-octylphthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	117-84-0	
1,2-Diphenylhydrazine	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	122-66-7	
bis(2-Ethylhexyl)phthalate	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	117-81-7	
Fluoranthene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	206-44-0	
Fluorene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	87-68-3	

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ANALYTICAL RESULTS

Project: Libman 1/15
Pace Project No.: 10295575

Sample: #1-#9 Lab ID: **10295575001** Collected: 01/27/15 09:20 Received: 01/28/15 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Hexachlorobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	77-47-4	
Hexachloroethane	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	193-39-5	
Isophorone	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	78-59-1	
2-Methylnaphthalene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	213	1	02/03/15 14:04	02/10/15 01:48		
Naphthalene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	91-20-3	
2-Nitroaniline	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	88-74-4	
3-Nitroaniline	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	99-09-2	
4-Nitroaniline	ND	ug/L	532	1	02/03/15 14:04	02/10/15 01:48	100-01-6	
Nitrobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	98-95-3	
2-Nitrophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	88-75-5	
4-Nitrophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	86-30-6	
Pentachlorophenol	ND	ug/L	213	1	02/03/15 14:04	02/10/15 01:48	87-86-5	
Phenanthrene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	85-01-8	
Phenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	108-95-2	
Pyrene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	120-82-1	
2,4,5-Trichlorophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	106	1	02/03/15 14:04	02/10/15 01:48	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	68	%.	53-125	1	02/03/15 14:04	02/10/15 01:48	4165-60-0	P3
2-Fluorobiphenyl (S)	73	%.	58-125	1	02/03/15 14:04	02/10/15 01:48	321-60-8	
p-Terphenyl-d14 (S)	82	%.	59-125	1	02/03/15 14:04	02/10/15 01:48	1718-51-0	
Phenol-d6 (S)	75	%.	50-125	1	02/03/15 14:04	02/10/15 01:48	13127-88-3	
2-Fluorophenol (S)	68	%.	42-125	1	02/03/15 14:04	02/10/15 01:48	367-12-4	
2,4,6-Tribromophenol (S)	76	%.	56-125	1	02/03/15 14:04	02/10/15 01:48	118-79-6	
624 MSV	Analytical Method: EPA 624							
Acetone	**128**	ug/L	100	5		02/05/15 19:48	67-64-1	
Allyl chloride	ND	ug/L	20.0	5		02/05/15 19:48	107-05-1	
Benzene	ND	ug/L	5.0	5		02/05/15 19:48	71-43-2	
Bromobenzene	ND	ug/L	5.0	5		02/05/15 19:48	108-86-1	
Bromochloromethane	ND	ug/L	5.0	5		02/05/15 19:48	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	5		02/05/15 19:48	75-27-4	
Bromoform	ND	ug/L	20.0	5		02/05/15 19:48	75-25-2	
Bromomethane	ND	ug/L	20.0	5		02/05/15 19:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	5		02/05/15 19:48	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	98-06-6	
Carbon tetrachloride	ND	ug/L	20.0	5		02/05/15 19:48	56-23-5	

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ANALYTICAL RESULTS

Project: Libman 1/15
Pace Project No.: 10295575

Sample: #1-#9 **Lab ID: 10295575001** Collected: 01/27/15 09:20 Received: 01/28/15 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 MSV	Analytical Method: EPA 624							
Chlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	108-90-7	
Chloroethane	ND	ug/L	5.0	5		02/05/15 19:48	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	50.0	5		02/05/15 19:48	110-75-8	
Chloroform	ND	ug/L	5.0	5		02/05/15 19:48	67-66-3	
Chloromethane	ND	ug/L	20.0	5		02/05/15 19:48	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	5		02/05/15 19:48	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	5		02/05/15 19:48	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	5		02/05/15 19:48	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	5		02/05/15 19:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		02/05/15 19:48	106-93-4	
Dibromomethane	ND	ug/L	20.0	5		02/05/15 19:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	95-50-1	L2
1,3-Dichlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	5		02/05/15 19:48	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	5		02/05/15 19:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	5		02/05/15 19:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	5		02/05/15 19:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		02/05/15 19:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		02/05/15 19:48	156-60-5	
Dichlorofluoromethane	ND	ug/L	5.0	5		02/05/15 19:48	75-43-4	
1,2-Dichloropropane	ND	ug/L	20.0	5		02/05/15 19:48	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	5		02/05/15 19:48	142-28-9	
2,2-Dichloropropane	ND	ug/L	20.0	5		02/05/15 19:48	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	5		02/05/15 19:48	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	20.0	5		02/05/15 19:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	20.0	5		02/05/15 19:48	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	20.0	5		02/05/15 19:48	60-29-7	
Ethylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	5		02/05/15 19:48	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		02/05/15 19:48	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	5		02/05/15 19:48	99-87-6	
Methylene Chloride	ND	ug/L	20.0	5		02/05/15 19:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	5		02/05/15 19:48	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	5		02/05/15 19:48	1634-04-4	
Naphthalene	ND	ug/L	20.0	5		02/05/15 19:48	91-20-3	
n-Propylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	103-65-1	
Styrene	ND	ug/L	5.0	5		02/05/15 19:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5		02/05/15 19:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		02/05/15 19:48	79-34-5	L2
Tetrachloroethene	ND	ug/L	5.0	5		02/05/15 19:48	127-18-4	
Tetrahydrofuran	ND	ug/L	50.0	5		02/05/15 19:48	109-99-9	
Toluene	ND	ug/L	5.0	5		02/05/15 19:48	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	5		02/05/15 19:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	5		02/05/15 19:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	5		02/05/15 19:48	79-00-5	

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ANALYTICAL RESULTS

Project: Libman 1/15
Pace Project No.: 10295575

Sample: #1-#9 Lab ID: **10295575001** Collected: 01/27/15 09:20 Received: 01/28/15 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 MSV	Analytical Method: EPA 624							
Trichloroethene	**10**	ug/L	2.0	5		02/05/15 19:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	5		02/05/15 19:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	20.0	5		02/05/15 19:48	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	5		02/05/15 19:48	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	5		02/05/15 19:48	108-67-8	
Vinyl chloride	ND	ug/L	2.0	5		02/05/15 19:48	75-01-4	
Xylene (Total)	ND	ug/L	15.0	5		02/05/15 19:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	5		02/05/15 19:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	5		02/05/15 19:48	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	119	%.	75-125	5		02/05/15 19:48	17060-07-0	F1
Toluene-d8 (S)	99	%.	75-125	5		02/05/15 19:48	2037-26-5	
4-Bromofluorobenzene (S)	109	%.	75-125	5		02/05/15 19:48	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		02/09/15 10:14		H6
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E							
Cyanide	ND	ug/L	10.0	1	02/03/15 12:32	02/03/15 15:35	57-12-5	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: MPRP/52147
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 10295575001

METHOD BLANK: 1892107
Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	150	02/04/15 10:21	
Cadmium	ug/L	ND	3.0	02/04/15 10:21	
Chromium	ug/L	ND	10.0	02/04/15 10:21	
Copper	ug/L	ND	10.0	02/04/15 10:21	
Lead	ug/L	ND	10.0	02/04/15 10:21	
Nickel	ug/L	ND	20.0	02/04/15 10:21	
Silver	ug/L	ND	10.0	02/04/15 10:21	
Zinc	ug/L	ND	20.0	02/04/15 10:21	

LABORATORY CONTROL SAMPLE: 1892108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	927	93	85-115	
Cadmium	ug/L	1000	891	89	85-115	
Chromium	ug/L	1000	955	95	85-115	
Copper	ug/L	1000	958	96	85-115	
Lead	ug/L	1000	943	94	85-115	
Nickel	ug/L	1000	944	94	85-115	
Silver	ug/L	500	482	96	85-115	
Zinc	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892109 1892110

Parameter	Units	10295575001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	24300	1000	1000	25300	25800	107	155	70-130	2	20	M1
Cadmium	ug/L	ND	1000	1000	870	954	87	95	70-130	9	20	
Chromium	ug/L	15.0	1000	1000	940	1030	93	102	70-130	10	20	
Copper	ug/L	332	1000	1000	1280	1400	95	107	70-130	8	20	
Lead	ug/L	15.7	1000	1000	910	1010	89	99	70-130	10	20	
Nickel	ug/L	64.5	1000	1000	970	1070	91	100	70-130	10	20	
Silver	ug/L	ND	500	500	471	514	93	101	70-130	9	20	
Zinc	ug/L	1840	1000	1000	2770	3070	92	123	70-130	10	20	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: MSV/30356 | Analysis Method: EPA 624
QC Batch Method: EPA 624 | Analysis Description: 624 MSV
Associated Lab Samples: 10295575001

METHOD BLANK: 1893499 | Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1,1-Trichloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1-Dichloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,1-Dichloroethene	ug/L	ND	1.0	02/05/15 13:07	
1,1-Dichloropropene	ug/L	ND	1.0	02/05/15 13:07	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
1,2,3-Trichloropropane	ug/L	ND	4.0	02/05/15 13:07	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	02/05/15 13:07	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	02/05/15 13:07	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	02/05/15 13:07	
1,2-Dichlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
1,2-Dichloroethane	ug/L	ND	1.0	02/05/15 13:07	
1,2-Dichloropropane	ug/L	ND	4.0	02/05/15 13:07	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	02/05/15 13:07	
1,3-Dichlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
1,3-Dichloropropane	ug/L	ND	1.0	02/05/15 13:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
2,2-Dichloropropane	ug/L	ND	4.0	02/05/15 13:07	
2-Butanone (MEK)	ug/L	ND	5.0	02/05/15 13:07	
2-Chloroethylvinyl ether	ug/L	ND	10.0	02/05/15 13:07	
2-Chlorotoluene	ug/L	ND	1.0	02/05/15 13:07	
4-Chlorotoluene	ug/L	ND	1.0	02/05/15 13:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	02/05/15 13:07	
Acetone	ug/L	ND	20.0	02/05/15 13:07	
Allyl chloride	ug/L	ND	4.0	02/05/15 13:07	
Benzene	ug/L	ND	1.0	02/05/15 13:07	
Bromobenzene	ug/L	ND	1.0	02/05/15 13:07	
Bromochloromethane	ug/L	ND	1.0	02/05/15 13:07	
Bromodichloromethane	ug/L	ND	1.0	02/05/15 13:07	
Bromoform	ug/L	ND	4.0	02/05/15 13:07	
Bromomethane	ug/L	ND	4.0	02/05/15 13:07	
Carbon tetrachloride	ug/L	ND	4.0	02/05/15 13:07	
Chlorobenzene	ug/L	ND	1.0	02/05/15 13:07	
Chloroethane	ug/L	ND	1.0	02/05/15 13:07	
Chloroform	ug/L	ND	1.0	02/05/15 13:07	
Chloromethane	ug/L	ND	4.0	02/05/15 13:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/05/15 13:07	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

METHOD BLANK: 1893499 Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	ND	4.0	02/05/15 13:07	
Dibromochloromethane	ug/L	ND	1.0	02/05/15 13:07	
Dibromomethane	ug/L	ND	4.0	02/05/15 13:07	
Dichlorodifluoromethane	ug/L	ND	1.0	02/05/15 13:07	
Dichlorofluoromethane	ug/L	ND	1.0	02/05/15 13:07	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	02/05/15 13:07	
Ethylbenzene	ug/L	ND	1.0	02/05/15 13:07	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	02/05/15 13:07	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	02/05/15 13:07	
m&p-Xylene	ug/L	ND	2.0	02/05/15 13:07	
Methyl-tert-butyl ether	ug/L	ND	1.0	02/05/15 13:07	
Methylene Chloride	ug/L	ND	4.0	02/05/15 13:07	
n-Butylbenzene	ug/L	ND	1.0	02/05/15 13:07	
n-Propylbenzene	ug/L	ND	1.0	02/05/15 13:07	
Naphthalene	ug/L	ND	4.0	02/05/15 13:07	
o-Xylene	ug/L	ND	1.0	02/05/15 13:07	
p-Isopropyltoluene	ug/L	ND	1.0	02/05/15 13:07	
sec-Butylbenzene	ug/L	ND	1.0	02/05/15 13:07	
Styrene	ug/L	ND	1.0	02/05/15 13:07	
tert-Butylbenzene	ug/L	ND	1.0	02/05/15 13:07	
Tetrachloroethene	ug/L	ND	1.0	02/05/15 13:07	
Tetrahydrofuran	ug/L	ND	10.0	02/05/15 13:07	
Toluene	ug/L	ND	1.0	02/05/15 13:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/05/15 13:07	
trans-1,3-Dichloropropene	ug/L	ND	4.0	02/05/15 13:07	
Trichloroethene	ug/L	ND	0.40	02/05/15 13:07	
Trichlorofluoromethane	ug/L	ND	1.0	02/05/15 13:07	
Vinyl chloride	ug/L	ND	0.40	02/05/15 13:07	
Xylene (Total)	ug/L	ND	3.0	02/05/15 13:07	
1,2-Dichloroethane-d4 (S)	%.	116	75-125	02/05/15 13:07	
4-Bromofluorobenzene (S)	%.	95	75-125	02/05/15 13:07	
Toluene-d8 (S)	%.	97	75-125	02/05/15 13:07	

LABORATORY CONTROL SAMPLE & LCSD: 1893500 1894248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	19.5	100	98	74-128	2	20	
1,1,1-Trichloroethane	ug/L	20	20.5	20.6	102	103	75-125	0	20	
1,1,2,2-Tetrachloroethane	ug/L	20	14.8	14.3	74	72	75-125	4	20	L0
1,1,2-Trichloroethane	ug/L	20	16.9	16.0	84	80	75-125	5	20	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.3	17.2	87	86	69-132	1	20	
1,1-Dichloroethane	ug/L	20	16.5	16.1	83	80	71-126	3	20	
1,1-Dichloroethene	ug/L	20	16.4	15.3	82	77	72-125	7	20	
1,1-Dichloropropene	ug/L	20	17.6	17.0	88	85	72-127	3	20	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

LABORATORY CONTROL SAMPLE & LCSD: 1893500 1894248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,3-Trichlorobenzene	ug/L	20	18.3	17.1	91	86	69-137	7	20	
1,2,3-Trichloropropane	ug/L	20	17.9	17.3	89	87	73-126	3	20	
1,2,4-Trichlorobenzene	ug/L	20	18.7	17.4	94	87	68-137	8	20	
1,2,4-Trimethylbenzene	ug/L	20	19.6	16.9	98	84	75-131	15	20	
1,2-Dibromo-3-chloropropane	ug/L	50	53.2	42.2	106	84	68-134	23	20	R1
1,2-Dibromoethane (EDB)	ug/L	20	17.6	18.1	88	91	75-125	3	20	
1,2-Dichlorobenzene	ug/L	20	17.1	14.7	86	73	75-125	16	20	L0
1,2-Dichloroethane	ug/L	20	21.9	21.0	110	105	75-125	4	20	
1,2-Dichloropropane	ug/L	20	18.4	17.3	92	87	74-125	6	20	
1,3,5-Trimethylbenzene	ug/L	20	19.2	17.3	96	86	75-125	10	20	
1,3-Dichlorobenzene	ug/L	20	17.6	16.1	88	81	74-125	9	20	
1,3-Dichloropropane	ug/L	20	17.5	17.3	88	87	75-125	1	20	
1,4-Dichlorobenzene	ug/L	20	16.6	15.6	83	78	75-125	6	20	
2,2-Dichloropropane	ug/L	20	22.1	21.5	110	107	60-129	3	20	
2-Butanone (MEK)	ug/L	100	88.2	77.7	88	78	57-136	13	20	
2-Chloroethylvinyl ether	ug/L	50	51.1	43.2	102	86	36-147	17	20	
2-Chlorotoluene	ug/L	20	18.4	16.9	92	84	75-125	9	20	
4-Chlorotoluene	ug/L	20	18.2	16.5	91	82	75-125	10	20	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	91.5	104	92	64-134	13	20	
Acetone	ug/L	100	75.3	87.4	75	87	68-137	15	20	
Allyl chloride	ug/L	20	17.2	18.0	86	90	62-126	5	20	
Benzene	ug/L	20	17.1	16.8	86	84	72-125	2	20	
Bromobenzene	ug/L	20	17.3	16.5	86	82	71-129	5	20	
Bromochloromethane	ug/L	20	15.6	15.2	78	76	75-125	2	20	
Bromodichloromethane	ug/L	20	23.8	22.3	119	112	74-125	6	20	
Bromoform	ug/L	20	21.3	20.1	106	101	67-130	6	20	
Bromomethane	ug/L	20	13.9	14.1	70	71	30-150	1	20	
Carbon tetrachloride	ug/L	20	20.2	20.5	101	102	74-126	1	20	
Chlorobenzene	ug/L	20	18.0	17.4	90	87	75-125	3	20	
Chloroethane	ug/L	20	16.9	15.2	84	76	61-142	10	20	
Chloroform	ug/L	20	19.0	17.8	95	89	75-125	6	20	
Chloromethane	ug/L	20	15.1	17.3	76	87	44-146	14	20	
cis-1,2-Dichloroethene	ug/L	20	15.3	16.8	77	84	75-125	9	20	
cis-1,3-Dichloropropene	ug/L	20	19.6	18.5	98	92	75-125	6	20	
Dibromochloromethane	ug/L	20	20.4	19.6	102	98	75-130	4	20	
Dibromomethane	ug/L	20	18.3	17.7	91	89	74-125	3	20	
Dichlorodifluoromethane	ug/L	20	19.1	18.6	96	93	43-147	3	20	
Dichlorofluoromethane	ug/L	20	21.2	20.4	106	102	61-135	4	20	
Diethyl ether (Ethyl ether)	ug/L	20	15.5	15.7	77	78	65-136	1	20	
Ethylbenzene	ug/L	20	19.3	17.4	96	87	75-125	10	20	
Hexachloro-1,3-butadiene	ug/L	20	22.0	21.4	110	107	63-143	3	20	
Isopropylbenzene (Cumene)	ug/L	20	19.6	18.5	98	93	75-127	6	20	
m&p-Xylene	ug/L	40	39.7	36.6	99	92	75-125	8	20	
Methyl-tert-butyl ether	ug/L	20	19.6	18.4	98	92	74-125	6	20	
Methylene Chloride	ug/L	20	15.9	15.8	79	79	74-125	0	20	
n-Butylbenzene	ug/L	20	17.9	16.3	89	82	68-138	9	20	
n-Propylbenzene	ug/L	20	18.4	16.8	92	84	74-129	9	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

LABORATORY CONTROL SAMPLE & LCSD: 1893500 1894248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	20	17.8	14.3	89	71	62-137	22	20	R1
o-Xylene	ug/L	20	18.7	17.0	94	85	75-125	10	20	
p-Isopropyltoluene	ug/L	20	17.7	16.0	88	80	75-127	10	20	
sec-Butylbenzene	ug/L	20	19.2	18.2	96	91	75-134	5	20	
Styrene	ug/L	20	20.6	20.0	103	100	75-126	3	20	
tert-Butylbenzene	ug/L	20	18.7	17.1	93	85	75-130	9	20	
Tetrachloroethene	ug/L	20	19.8	18.3	99	91	71-128	8	20	
Tetrahydrofuran	ug/L	200	166	161	83	81	66-141	3	20	
Toluene	ug/L	20	18.0	16.2	90	81	75-125	10	20	
trans-1,2-Dichloroethene	ug/L	20	16.0	18.0	80	90	71-129	12	20	
trans-1,3-Dichloropropene	ug/L	20	20.6	18.7	103	93	75-125	10	20	
Trichloroethene	ug/L	20	18.7	18.2	94	91	75-125	3	20	
Trichlorofluoromethane	ug/L	20	24.9	22.7	125	113	64-140	10	20	
Vinyl chloride	ug/L	20	16.3	16.4	82	82	64-132	0	20	
Xylene (Total)	ug/L	60	58.5	53.7	97	89	75-133	9	20	
1,2-Dichloroethane-d4 (S)	%.				111	117	75-125			
4-Bromofluorobenzene (S)	%.				96	99	75-125			
Toluene-d8 (S)	%.				93	96	75-125			

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: OEXT/28102 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 10295575001

METHOD BLANK: 1893362 | Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	10.0	02/10/15 00:21	
1,2-Dichlorobenzene	ug/L	ND	10.0	02/10/15 00:21	
1,2-Diphenylhydrazine	ug/L	ND	10.0	02/10/15 00:21	
1,3-Dichlorobenzene	ug/L	ND	10.0	02/10/15 00:21	
1,4-Dichlorobenzene	ug/L	ND	10.0	02/10/15 00:21	
2,4,5-Trichlorophenol	ug/L	ND	10.0	02/10/15 00:21	
2,4,6-Trichlorophenol	ug/L	ND	10.0	02/10/15 00:21	
2,4-Dichlorophenol	ug/L	ND	10.0	02/10/15 00:21	
2,4-Dimethylphenol	ug/L	ND	50.0	02/10/15 00:21	
2,4-Dinitrophenol	ug/L	ND	10.0	02/10/15 00:21	
2,4-Dinitrotoluene	ug/L	ND	10.0	02/10/15 00:21	
2,6-Dinitrotoluene	ug/L	ND	10.0	02/10/15 00:21	
2-Chloronaphthalene	ug/L	ND	10.0	02/10/15 00:21	
2-Chlorophenol	ug/L	ND	10.0	02/10/15 00:21	
2-Methylnaphthalene	ug/L	ND	10.0	02/10/15 00:21	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	02/10/15 00:21	
2-Nitroaniline	ug/L	ND	50.0	02/10/15 00:21	
2-Nitrophenol	ug/L	ND	10.0	02/10/15 00:21	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	02/10/15 00:21	
3,3'-Dichlorobenzidine	ug/L	ND	50.0	02/10/15 00:21	
3-Nitroaniline	ug/L	ND	50.0	02/10/15 00:21	
4,6-Dinitro-2-methylphenol	ug/L	ND	10.0	02/10/15 00:21	
4-Bromophenylphenyl ether	ug/L	ND	10.0	02/10/15 00:21	
4-Chloro-3-methylphenol	ug/L	ND	10.0	02/10/15 00:21	
4-Chloroaniline	ug/L	ND	50.0	02/10/15 00:21	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	02/10/15 00:21	
4-Nitroaniline	ug/L	ND	50.0	02/10/15 00:21	
4-Nitrophenol	ug/L	ND	10.0	02/10/15 00:21	
Acenaphthene	ug/L	ND	10.0	02/10/15 00:21	
Acenaphthylene	ug/L	ND	10.0	02/10/15 00:21	
Anthracene	ug/L	ND	10.0	02/10/15 00:21	
Benzo(a)anthracene	ug/L	ND	10.0	02/10/15 00:21	
Benzo(a)pyrene	ug/L	ND	10.0	02/10/15 00:21	
Benzo(b)fluoranthene	ug/L	ND	10.0	02/10/15 00:21	
Benzo(g,h,i)perylene	ug/L	ND	10.0	02/10/15 00:21	
Benzo(k)fluoranthene	ug/L	ND	10.0	02/10/15 00:21	
Benzoic acid	ug/L	ND	50.0	02/10/15 00:21	
Benzyl alcohol	ug/L	ND	10.0	02/10/15 00:21	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	02/10/15 00:21	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	02/10/15 00:21	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	02/10/15 00:21	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

METHOD BLANK: 1893362 Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
bis(2-Ethylhexyl)phthalate	ug/L	ND	10.0	02/10/15 00:21	
Butylbenzylphthalate	ug/L	ND	10.0	02/10/15 00:21	
Carbazole	ug/L	ND	10.0	02/10/15 00:21	
Chrysene	ug/L	ND	10.0	02/10/15 00:21	
Di-n-butylphthalate	ug/L	ND	10.0	02/10/15 00:21	
Di-n-octylphthalate	ug/L	ND	10.0	02/10/15 00:21	
Dibenz(a,h)anthracene	ug/L	ND	10.0	02/10/15 00:21	
Dibenzofuran	ug/L	ND	10.0	02/10/15 00:21	
Diethylphthalate	ug/L	ND	10.0	02/10/15 00:21	
Dimethylphthalate	ug/L	ND	10.0	02/10/15 00:21	
Fluoranthene	ug/L	ND	10.0	02/10/15 00:21	
Fluorene	ug/L	ND	10.0	02/10/15 00:21	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	02/10/15 00:21	
Hexachlorobenzene	ug/L	ND	10.0	02/10/15 00:21	
Hexachlorocyclopentadiene	ug/L	ND	50.0	02/10/15 00:21	
Hexachloroethane	ug/L	ND	10.0	02/10/15 00:21	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	02/10/15 00:21	
Isophorone	ug/L	ND	10.0	02/10/15 00:21	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	02/10/15 00:21	
N-Nitrosodimethylamine	ug/L	ND	10.0	02/10/15 00:21	
N-Nitrosodiphenylamine	ug/L	ND	10.0	02/10/15 00:21	
Naphthalene	ug/L	ND	10.0	02/10/15 00:21	
Nitrobenzene	ug/L	ND	10.0	02/10/15 00:21	
Pentachlorophenol	ug/L	ND	20.0	02/10/15 00:21	
Phenanthrene	ug/L	ND	10.0	02/10/15 00:21	
Phenol	ug/L	ND	10.0	02/10/15 00:21	
Pyrene	ug/L	ND	10.0	02/10/15 00:21	
2,4,6-Tribromophenol (S)	%.	83	56-125	02/10/15 00:21	
2-Fluorobiphenyl (S)	%.	81	58-125	02/10/15 00:21	
2-Fluorophenol (S)	%.	79	42-125	02/10/15 00:21	
Nitrobenzene-d5 (S)	%.	81	53-125	02/10/15 00:21	
p-Terphenyl-d14 (S)	%.	94	59-125	02/10/15 00:21	
Phenol-d6 (S)	%.	83	50-125	02/10/15 00:21	

LABORATORY CONTROL SAMPLE & LCSD: 1893363 1893364

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.9	42.3	86	85	56-125	1	20	
1,2-Dichlorobenzene	ug/L	50	40.7	40.0	81	80	49-125	2	20	
1,2-Diphenylhydrazine	ug/L	50	46.7	46.6	93	93	64-125	0	20	
1,3-Dichlorobenzene	ug/L	50	40.4	39.3	81	79	45-125	3	20	
1,4-Dichlorobenzene	ug/L	50	40.6	39.6	81	79	56-125	3	20	
2,4,5-Trichlorophenol	ug/L	50	47.5	47.0	95	94	70-125	1	20	
2,4,6-Trichlorophenol	ug/L	50	46.2	46.0	92	92	67-125	0	20	

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

LABORATORY CONTROL SAMPLE & LCSD: 1893363 1893364

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-Dichlorophenol	ug/L	50	44.1	43.8	88	88	64-125	1	20	
2,4-Dimethylphenol	ug/L	50	38J	38.7J	76	77	30-125		20	
2,4-Dinitrophenol	ug/L	50	38.2	42.7	76	85	30-128	11	20	
2,4-Dinitrotoluene	ug/L	50	47.9	47.8	96	96	69-125	0	20	
2,6-Dinitrotoluene	ug/L	50	48.3	48.3	97	97	66-125	0	20	
2-Chloronaphthalene	ug/L	50	45.4	44.5	91	89	68-125	2	20	
2-Chlorophenol	ug/L	50	42.6	43.1	85	86	56-125	1	20	
2-Methylnaphthalene	ug/L	50	44.3	43.7	89	87	64-125	1	20	
2-Methylphenol(o-Cresol)	ug/L	50	42.4	43.4	85	87	56-125	2	20	
2-Nitroaniline	ug/L	50	46.7J	47.4J	93	95	61-125		20	
2-Nitrophenol	ug/L	50	43.7	43.9	87	88	56-125	0	20	
3&4-Methylphenol(m&p Cresol)	ug/L	50	43.6	43.8	87	88	59-125	1	20	
3,3'-Dichlorobenzidine	ug/L	50	46.5J	45J	93	90	48-125		20	
3-Nitroaniline	ug/L	50	48.5J	44.4J	97	89	40-125		20	
4,6-Dinitro-2-methylphenol	ug/L	50	44.8	46.4	90	93	30-137	3	20	
4-Bromophenylphenyl ether	ug/L	50	48.1	48.1	96	96	68-125	0	20	
4-Chloro-3-methylphenol	ug/L	50	45.5	46.3	91	93	67-125	2	20	
4-Chloroaniline	ug/L	50	41.5J	39.6J	83	79	30-127		20	
4-Chlorophenylphenyl ether	ug/L	50	47.1	46.7	94	93	68-125	1	20	
4-Nitroaniline	ug/L	50	46.1J	46.2J	92	92	54-125		20	
4-Nitrophenol	ug/L	50	45.2	45.7	90	91	56-125	1	20	
Acenaphthene	ug/L	50	46.2	45.9	92	92	66-125	1	20	
Acenaphthylene	ug/L	50	46.3	46.1	93	92	66-125	0	20	
Anthracene	ug/L	50	47.6	47.4	95	95	68-125	0	20	
Benzo(a)anthracene	ug/L	50	47.9	48.2	96	96	70-125	1	20	
Benzo(a)pyrene	ug/L	50	48.1	48.3	96	97	67-125	0	20	
Benzo(b)fluoranthene	ug/L	50	48.8	49.1	98	98	69-125	1	20	
Benzo(g,h,i)perylene	ug/L	50	48.8	48.7	98	97	68-125	0	20	
Benzo(k)fluoranthene	ug/L	50	47.5	47.9	95	96	70-125	1	20	
Benzoic acid	ug/L	50	ND	28.3J	37	57	30-125		20	
Benzyl alcohol	ug/L	50	43.3	43.3	87	87	62-125	0	20	
bis(2-Chloroethoxy)methane	ug/L	50	43.5	43.5	87	87	56-125	0	20	
bis(2-Chloroethyl) ether	ug/L	50	41.0	41.3	82	83	47-125	1	20	
bis(2-Chloroisopropyl) ether	ug/L	50	40.4	40.3	81	81	53-125	0	20	
bis(2-Ethylhexyl)phthalate	ug/L	50	49.3	49.4	99	99	66-125	0	20	
Butylbenzylphthalate	ug/L	50	48.6	48.6	97	97	69-125	0	20	
Carbazole	ug/L	50	48.2	48.1	96	96	68-125	0	20	
Chrysene	ug/L	50	48.5	48.3	97	97	71-125	0	20	
Di-n-butylphthalate	ug/L	50	49.2	48.6	98	97	68-125	1	20	
Di-n-octylphthalate	ug/L	50	49.5	49.3	99	99	68-125	0	20	
Dibenz(a,h)anthracene	ug/L	50	48.8	48.5	98	97	67-125	1	20	
Dibenzofuran	ug/L	50	46.5	46.3	93	93	68-125	1	20	
Diethylphthalate	ug/L	50	47.7	47.6	95	95	68-125	0	20	
Dimethylphthalate	ug/L	50	47.6	47.6	95	95	68-125	0	20	
Fluoranthene	ug/L	50	48.5	48.4	97	97	69-125	0	20	
Fluorene	ug/L	50	47.1	47.1	94	94	68-125	0	20	
Hexachloro-1,3-butadiene	ug/L	50	42.9	42.1	86	84	53-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

LABORATORY CONTROL SAMPLE & LCSD: 1893363 1893364

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/L	50	47.6	47.5	95	95	66-125	0	20	
Hexachlorocyclopentadiene	ug/L	50	31.1J	33.7J	62	67	30-125		20	
Hexachloroethane	ug/L	50	39.4	39.0	79	78	33-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	50	49.2	48.9	98	98	67-125	1	20	
Isophorone	ug/L	50	44.8	44.3	90	89	64-125	1	20	
N-Nitroso-di-n-propylamine	ug/L	50	43.5	43.3	87	87	58-125	0	20	
N-Nitrosodimethylamine	ug/L	50	41.8	42.2	84	84	40-125	1	20	
N-Nitrosodiphenylamine	ug/L	50	47.1	47.1	94	94	55-125	0	20	
Naphthalene	ug/L	50	43.4	43.0	87	86	59-125	1	20	
Nitrobenzene	ug/L	50	43.3	43.8	87	88	58-125	1	20	
Pentachlorophenol	ug/L	50	47.5	48.3	95	97	59-125	2	20	
Phenanthrene	ug/L	50	48.1	47.7	96	95	68-125	1	20	
Phenol	ug/L	50	43.0	43.4	86	87	60-125	1	20	
Pyrene	ug/L	50	48.1	48.3	96	97	70-125	0	20	
2,4,6-Tribromophenol (S)	%.				99	98	56-125			
2-Fluorobiphenyl (S)	%.				88	86	58-125			
2-Fluorophenol (S)	%.				83	82	42-125			
Nitrobenzene-d5 (S)	%.				85	85	53-125			
p-Terphenyl-d14 (S)	%.				96	96	59-125			
Phenol-d6 (S)	%.				86	86	50-125			

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: OEXT/28089 | Analysis Method: EPA 8081B
QC Batch Method: EPA 3510 | Analysis Description: 8081B GCS Pesticides
Associated Lab Samples: 10295575001

METHOD BLANK: 1892577 | Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4,4'-DDD	ug/L	ND	1.0	02/04/15 19:59	
4,4'-DDE	ug/L	ND	1.0	02/04/15 19:59	
4,4'-DDT	ug/L	ND	1.0	02/04/15 19:59	
Aldrin	ug/L	ND	0.50	02/04/15 19:59	
alpha-BHC	ug/L	ND	0.50	02/04/15 19:59	
alpha-Chlordane	ug/L	ND	0.50	02/04/15 19:59	
beta-BHC	ug/L	ND	0.50	02/04/15 19:59	
Chlordane (Technical)	ug/L	ND	5.0	02/04/15 19:59	
delta-BHC	ug/L	ND	0.50	02/04/15 19:59	
Dieldrin	ug/L	ND	1.0	02/04/15 19:59	
Endosulfan I	ug/L	ND	0.50	02/04/15 19:59	
Endosulfan II	ug/L	ND	1.0	02/04/15 19:59	
Endosulfan sulfate	ug/L	ND	1.0	02/04/15 19:59	
Endrin	ug/L	ND	1.0	02/04/15 19:59	
Endrin aldehyde	ug/L	ND	1.0	02/04/15 19:59	
Endrin ketone	ug/L	ND	1.0	02/04/15 19:59	
gamma-BHC (Lindane)	ug/L	ND	0.50	02/04/15 19:59	
gamma-Chlordane	ug/L	ND	0.50	02/04/15 19:59	
Heptachlor	ug/L	ND	0.50	02/04/15 19:59	
Heptachlor epoxide	ug/L	ND	0.50	02/04/15 19:59	
Methoxychlor	ug/L	ND	5.0	02/04/15 19:59	
Toxaphene	ug/L	ND	15.0	02/04/15 19:59	
Decachlorobiphenyl (S)	%.	86	30-137	02/04/15 19:59	
Tetrachloro-m-xylene (S)	%.	80	59-125	02/04/15 19:59	

LABORATORY CONTROL SAMPLE & LCSD: 1892578 1892579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
4,4'-DDD	ug/L	1	1.0	1.1	101	105	65-125	4	20	
4,4'-DDE	ug/L	1	.98J	.99J	98	99	68-125		20	
4,4'-DDT	ug/L	1	.96J	.99J	96	99	64-125		20	
Aldrin	ug/L	.5	.43J	.47J	85	94	62-125		20	
alpha-BHC	ug/L	.5	.45J	.45J	90	90	65-125		20	
alpha-Chlordane	ug/L	.5	.47J	.49J	94	98	67-125		20	
beta-BHC	ug/L	.5	.48J	.47J	96	95	66-125		20	
delta-BHC	ug/L	.5	.41J	.41J	82	82	63-125		20	
Dieldrin	ug/L	1	1.0	1.0	100	103	70-130	3	20	
Endosulfan I	ug/L	.5	.46J	0.50	93	100	63-125		20	
Endosulfan II	ug/L	1	1.0	1.0	103	104	67-125	1	20	
Endosulfan sulfate	ug/L	1	1.1	1.1	110	110	60-127	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

LABORATORY CONTROL SAMPLE & LCSD: 1892578 1892579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Endrin	ug/L	1	1.0	1.0	102	104	67-125	2	20	
Endrin aldehyde	ug/L	1	ND	.99J	100	99	68-125		20	
Endrin ketone	ug/L	1	1.0	1.0	103	103	66-125	1	20	
gamma-BHC (Lindane)	ug/L	.5	.47J	.47J	95	94	64-125		20	
gamma-Chlordane	ug/L	.5	.46J	.49J	93	97	66-125		20	
Heptachlor	ug/L	.5	.43J	.47J	86	94	63-125		20	
Heptachlor epoxide	ug/L	.5	.48J	.49J	96	99	64-125		20	
Methoxychlor	ug/L	5	5.0	5.2	100	103	71-125	3	20	
Decachlorobiphenyl (S)	%.				72	92	30-137			
Tetrachloro-m-xylene (S)	%.				81	84	59-125			

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: WET/40372 | Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B | Analysis Description: 4500H+B pH
Associated Lab Samples: 10295575001

LABORATORY CONTROL SAMPLE: 1896391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1896392

Parameter	Units	10294185001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.7	1	3	H6

SAMPLE DUPLICATE: 1896393

Parameter	Units	10296126001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.3	6.2	2	3	H6

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QUALITY CONTROL DATA

Project: Libman 1/15
Pace Project No.: 10295575

QC Batch: WETA/21836
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10295575001

METHOD BLANK: 1893055
Matrix: Water
Associated Lab Samples: 10295575001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	02/03/15 15:19	

LABORATORY CONTROL SAMPLE: 1893056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	250	261	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1893057 1893058

Parameter	Units	10295603001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	<10.0	250	250	266	195	103	75	80-120	31	30	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1893059 1893060

Parameter	Units	10295408009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	<5.0	250	250	240	262	96	105	80-120	9	30	

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QUALIFIERS

Project: Libman 1/15
Pace Project No.: 10295575

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/30356

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSSV/11834

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/15045

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

F1	The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
R1	RPD value was outside control limits.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Libman 1/15
Pace Project No.: 10295575

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10295575001	#1-#9	EPA 3510	OEXT/28089	EPA 8081B	GCSV/15006
10295575001	#1-#9	EPA 3510	OEXT/28161	EPA 8082A	GCSV/15045
10295575001	#1-#9	EPA 200.7	MPRP/52147	EPA 200.7	ICP/22610
10295575001	#1-#9	EPA 625	OEXT/28102	EPA 625	MSSV/11834
10295575001	#1-#9	EPA 624	MSV/30356		
10295575001	#1-#9	SM 4500-H+B	WET/40372		
10295575001	#1-#9	SM 4500-CN-E	WETA/21836	SM 4500-CN-E	WETA/21843

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10295575
~~10295315~~ JLP 1·30·15

Page: of

1741914

Section A Required Client Information:
Company: Libman
Address: 220 N Sheldon
Arcola IL 61910
Email To: mwatherd@libman.com
Phone: 217-268- Fax: 2167
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: Libman 1/15
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 20254, ln 15

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER
Site Location STATE:

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (use valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	pH	200.7 Metals	Total CN	624	625	Pesticides	PCB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	#1 889905	WT	G	1-27-15	9:00	1-27-15	9:20	70	1	✓																	001
2	#2 309951	WT	G	"	"	"	"	70	1			1															
3	#3 148913	WT	G	"	"	"	"	70	1					1													
4	#4 334164	WT	G	"	"	"	"	70	1				1														
5	#5 334159	WT	G	"	"	"	"	70	1				1														
6	#6 334215	WT	G	"	"	"	"	70	1				1														
7	#7 211959	WT	G	"	"	"	"	70	1	1																	
8	#8 211942	WT	G	"	"	"	"	70	1	1																	
9	#9 200155	WT	G	"	"	"	"	70	1	1																	
10	~~#10 211938~~	WT	G	"	"	"	"	70	1	1																	↓
11	JLP 1·30·15																										
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				[signature]	1/28/15	8:9:22	2.5	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kevin Good
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1-27-15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MN-L-213-rev.09	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: The Limmer

Project #: WO# : 10295575

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermom. Used: ☒ B8BA9130516413 ☐ B8BA912167504 ☐ B8BA9132521491 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.7 Cooler Temp Corrected (°C): 2.5 Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C Correction Factor: -0.2 Date and Initials of Person Examining Contents: 1/29/15 TS.

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☐ Yes	☒ No	☐ N/A	2. No analysis
Chain of Custody Relinquished?	☐ Yes	☒ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12. Analysis on samples
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☒ NaOH ☒ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒ Yes	☐ No		Initial when completed: TS Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☒ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution: Unable to get a hold of U.S. Compliance (EPA) used analysis on samples to schedule tests. Will confirm on Friday when contact is back in office

Project Manager Review: Date: 1/29/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Pace Analytical™

www.pacelabs.com

Report Prepared for:

Miles Peterson
United States Compliance
4350 Baker Road
Minnetonka MN 55343

REPORT OF LABORATORY ANALYSIS FOR TCDD

Report Information:

Pace Project #: 10295573
Sample Receipt Date: 01/28/2015
Client Project #: Libman 1/15
Client Sub PO #: N/A
State Cert #: 200012

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 2,3,7,8-TCDD Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

February 10, 2015

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Report Prepared Date:

February 10, 2015

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analysis performed on one sample submitted by a representative of US Compliance. The sample was analyzed for the presence or absence of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) using USEPA Method 1613B. The reporting limits were set to correspond to the lowest calibration point and a nominal 1-Liter sample amount.

The isotopically-labeled TCDD internal standard in the sample extract was recovered at 59%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native TCDD was based on isotope dilution, the data were automatically corrected for recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show that 2,3,7,8-TCDD was not detected, indicating that the sample processing steps were free of background levels of this congener.

Laboratory spike samples were also prepared using clean water that had been fortified with native standard material. The results show that the spiked native TCDD was recovered at 84-85% with a relative percent difference of 1.2%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Mississippi	MN00064
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN_00064_200
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New York (NEL	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Oklahoma	D9922
Georgia (DNR)	959	Oregon (ELAP)	MN200001-005
Guam	959	Oregon (OREL	MN300001-001
Hawaii	SLD	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192-08
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	00251
Louisiana	03086	Washington	C755
Maine	2007029	West Virginia	9952C
Maryland	322	Wisconsin	999407970
Michigan	9909	Wyoming	8TMS-Q
Minnesota	027-053-137		

REPORT OF LABORATORY ANALYSIS

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Appendix A

Sample Management

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10295573
~~10275315~~ JLP 1-30-15

Page: of
1741914

Section A Required Client Information:
Company: Libman
Address: 220 N Sheldon
Arcola IL 61910
Email To: mwatson@libman.com
Phone: 217-268- Fax: 2167
Requested Due Date/TAT:

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: Libman 1/15
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 19329

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER
Site Location: STATE:

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Analysis Test: 8260 Diesel #; 1,4-D

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	#1 887905	WT	G	1/27/15	9:00	1/27/15	9:30	70	1	✓										001
2	#2 309951	WT	G	"	"	"	"	70	1			1								
3	#3 148913	WT	G	"	"	"	"	70	1					1						
4	#4 334164	WT	G	"	"	"	"	70	1				1							
5	#5 334159	WT	G	"	"	"	"	70	1				1							
6	#6 334215	WT	G	"	"	"	"	70	1				1							
7	#7 211959	WT	G	"	"	"	"	70	1	1										
8	#8 211942	WT	G	"	"	"	"	70	1	1										
9	#9 208185	WT	G	"	"	"	"	70	1	1										
10	#10 211958	WT	G	"	"	"	"	70	1	1										
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				[signature]	1/28/15	8:9:00	2.5	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kenja Good
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1-27-15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MN-L-213-rev.09	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: The Limmer

Project #: WO# : 10295573

10295573

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermom. Used: ☒ B8BA9130516413 ☐ B8BA912167504 ☐ B8BA9132523491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.7 **Cooler Temp Corrected (°C):** 2.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** -0.2 **Date and Initials of Person Examining Contents:** 1/29/15 TJ.

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☐ Yes	☒ No	☐ N/A	2. No analysis
Chain of Custody Relinquished?	☐ Yes	☒ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12. Analysis on samples
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☒ NaOH ☒ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒ Yes	☐ No		Initial when completed: T.J. Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☒ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: Unable to get a hold of U.S. compliance (EPA) used analysis on samples to schedule tests. Will confirm on Friday when contact is back in office

Miles Peterson : Report 1613 TCDD to US Comp. @ 02/04/15

Project Manager Review: _____ **Date:** 1/29/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

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Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Sample Analysis Results

Client - United States Compliance

Client's Sample ID	10		
Lab Sample ID	10295573001		
Filename	F150205A_11		
Injected By	SMT		
Total Amount Extracted	956 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	01/27/2015 09:20
ICAL ID	F141223	Received	01/28/2015 09:20
CCal Filename(s)	F150204B_19	Extracted	02/02/2015 16:00
Method Blank ID	BLANK-43860	Analyzed	02/05/2015 20:34

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	—	10	2,3,7,8-TCDD-13C	2.00	59
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	62

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

R = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Blank Analysis Results

Lab Sample ID	BLANK-43860	Matrix	Water
Filename	U150205A_03	Dilution	NA
Total Amount Extracted	1000 mL	Extracted	02/02/2015 16:00
ICAL ID	U150122	Analyzed	02/05/2015 09:38
CCal Filename(s)	U150205A_01	Injected By	SMT

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	---	10	2,3,7,8-TCDD-13C	2.00	98
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	85

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-43861		
Filename	U150205A_09	Matrix	Water
Total Amount Extracted	1010 mL	Dilution	NA
ICAL ID	U150122	Extracted	02/02/2015 16:00
CCal Filename	U150205A_01	Analyzed	02/05/2015 13:45
Method Blank ID	BLANK-43860	Injected By	SMT

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDD	10	8.4	7.3	14.6	84
2,3,7,8-TCDD-37Cl4	10	9.4	3.7	15.8	94
2,3,7,8-TCDD-13C	100	110	25.0	141.0	110

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCSD-43862		
Filename	U150205A_10	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL ID	U150122	Extracted	02/02/2015 16:00
CCal Filename	U150205A_01	Analyzed	02/05/2015 14:26
Method Blank ID	BLANK-43860	Injected By	SMT

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDD	10	8.5	7.3	14.6	85
2,3,7,8-TCDD-37Cl4	10	9.0	3.7	15.8	90
2,3,7,8-TCDD-13C	100	100	25.0	141.0	102

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B

Spike Recovery Relative Percent Difference (RPD) Results

Client	United States Compliance		
Spike 1 ID	LCS-43861	Spike 2 ID	LCSD-43862
Spike 1 Filename	U150205A_09	Spike 2 Filename	U150205A_10

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDD	84	85	1.2

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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Attachment C: Gardbond AP 9840 MSDS

Gardobond® AP 9840

Version *1.2*
Revision Date 02/25/2013

Print Date 11/16/2013

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Gardobond® AP 9840
MSDS Number	:	REL_11525
Company	:	Chemetall US, Inc. 675 Central Avenue New Providence, NJ 07974
Telephone	:	+18005264473
Telefax	:	+19084644658
Emergency telephone no	:	CHEMTREC - 800-424-9300

SECTION 2. HAZARDOUS COMPONENTS INFORMATION

Component	CAS-No.	Weight percent
Trade Secret Registry	5123P	1.00 - 5.00

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid
Colour	:	light yellow
Odour	:	mild
Hazard Summary	:	Causes irritation of eyes and skin.Also harmful by inhalation and if swallowed.

Route(s) of Entry :	Inhalation	Skin	Ingestion
	yes	yes	yes

Carcinogenicity:

NTP	No substance in this product is listed by NTP as a carcinogen
IARC	No substance in this product is listed by IARC as a carcinogen
OSHA	No substance in this product is regulated by OSHA as a carcinogen

SECTION 4. FIRST AID MEASURES

Inhalation	:	Remove person to fresh air. If signs/symptoms continue, get medical attention.
Skin contact	:	Wash off immediately with plenty of water for at least 15 minutes.Get medical attention if irritation develops and

		persistsFirst treatment with calcium gluconate paste.Remove contaminated clothing and shoes.
Eye contact	:	Rinse immediately with plenty of water for at least 15 minutes.Keep eye wide open while rinsing.Seek medical advice.
Ingestion	:	Rinse mouth.Drink plenty of water.Obtain medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point	:	> 93.4 °C (> 200.1 °F)
Lower explosion limit	:	Note: no data available
Upper explosion limit	:	Note: no data available
Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Use water spray to cool unopened containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Ensure adequate ventilation.
Methods for cleaning up	:	Ventilate area. Neutralize with lime milk or soda and flush with plenty of water. Clean up with inert absorbant material. Keep in suitable, closed containers for disposal. Flush with plenty of water.
Additional advice	:	Never return spills in original containers for re-use.

SECTION 7. HANDLING AND STORAGE

Handling

Handling	:	Use only with adequate ventilation.

Storage

Requirements for storage areas and containers	:	Keep containers tightly closed in a cool, well-ventilated place. KEEP FROM FREEZING

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	ACGIH TLV (TWA)	OSHA PEL (TWA)
Trade Secret Registry	NONE	NONE

Eye protection	:	Safety glasses with side-shields
Hand protection	:	Impervious gloves
Skin and body protection	:	Rubber or plastic apron
Respiratory protection	:	No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Wear suitable protective clothing. Wash hands before breaks and immediately after handling the product. Provide adequate ventilation. Do not inhale fumes. Keep away from food and drink.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

pH	:	3.5 - 4.5
Freezing point	:	-1.11 °C (30.00 °F)
Boiling point/boiling range	:	Note: no data available
Vapour pressure	:	Note: no data available
Bulk density	:	8.60 lb/gal
Water solubility	:	Note: completely soluble
Partition coefficient: n-octanol/water	:	Note: no data available
Relative density	:	1.030

Evaporation rate	:	1 Note: Water = 1

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	freezing Direct sources of heat.
Materials to avoid	:	Bases
Hazardous decomposition products	:	Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity:	:	Mixture; Not Determined.
Acute oral toxicity Hydroxyacetic acid	:	LD50, rat Dose: 1,950 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Advice on Disposal	:	Refer to all federal, provincial, state and local regulation prior to disposition of container and unused contents by reuse, recycle or disposal.

SECTION 14. TRANSPORT INFORMATION

Refer to Bill of Lading.

SECTION 15. REGULATORY INFORMATION

TSCA Status	:	All components of this material comply with US TSCA requirements.
SARA 313 Components	:	NONE

CERCLA Reportable Quantity	:	NONE
California Prop. 65	:	N.D
NFPA	:	2 0 0
HMIS	:	2 0 0 C

SECTION 16. OTHER INFORMATION

Further information

Chemetall US, Inc. warrants that the products described herein will conform with its published specifications. The products supplied by Chemetall and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Chemetall materials for their own particular purpose. Since buyer's conditions of use of products are beyond Chemetall's control, Chemetall does not warrant any recommendations and information for the use of such products. CHEMETALL DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.

Illinois Environmental Protection Agency
DMPC/Permit #15
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

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0004216751 MAR 18 2015
MAILED FROM ZIP CODE 62702

TO: The Libman Co
Mark Warren
220 N. Sheldon St.
Arcola, IL 61910

RE: Libman Co - Metal Finishing
PIT Arcola

Grant/Loan No. _____ Date 3-17-15

We are in receipt of the following documents:

PERMIT APPLICATION DOCUMENTS COPIES

Plans/Specs. _____

Permit App. ✓

Other (Specify) _____

PERMIT FEE
Amount ($) Received

Log No. 2015-59711

Reviewer: Brian Cox 217/782-0010

Estimate review will be completed in 45 days 90 days