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Pall Life Sciences
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CASE NARRATIVE
Monthly Data Pall Life Sciences
Project: 1,4-Dioxane Remediation
Date: March 2020

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition, all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Gelman Sciences, Inc. d/b/a Pall Life Sciences (PLS) attests to the validity of the laboratory data generated by PLS's Ann Arbor, Michigan Environmental Laboratory facilities reported herein. All analyses performed by PLS's Environmental Laboratory facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. PLS's Environmental group has reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

Many of the March samples were analyzed at by Ann Arbor Technical Services (ATS), the balance were analyzed at Pall Corporation's Environmental Laboratory. The sample split was due to unexpected medical issue in the Pall Laboratory. All test results in this report meet all NELAP requirements for parameters for which accreditation are required or available. Any exceptions to NELAP requirements are noted in this report. All exceptions are noted per laboratory standard operating procedure based on EPA Method 1624c. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results. The odd even rule is used for rounding. Holding times were met for all samples analyzed. Proper preservation was observed on all samples unless otherwise detailed in the individual sections below.

RECEIPT/ STORAGE

The samples were received on the days noted in the report for the Month; the samples arrived in good condition, properly preserved and on ice when necessary. Samples that require 1,4-dioxane analysis are collected in hydrochloric acid-preserved vials to a pH of ≤2, with the exception of the Pall ozone treatment samples. These samples have compounds that, when mixed with the hydrochloric acid (HCl), cause interferences in the analysis of 1,4-dioxane. Every attempt is made to analyze these samples within 24 hours of receipt.

Samples that require Bromate analysis are collected and preserved in the laboratory with ethylene di-amine and refrigerated.

Samples that are delivered to the laboratory the same day as they are collected are likely not to have reached a fully chilled temperature. This is acceptable if there is evidence that chilling has begun. All samples are iced or refrigerated at 4°C (±2°C) from the time of collection until sample preparation or analysis.

1,4-Dioxane (GC-MS)

All ground water and treated water samples were analyzed for 1,4-Dioxane (GC-MS) in accordance with EPA 1624C, which has been modified to enhance detection limits. Samples that were diluted to bring them within the calibrated range of the instrument are noted with a "D" under the Qualifier Code section of the data report. Reporting limits were adjusted based on each dilution.

Reporting limit for undiluted samples is 1.0ppb (part per billion, micrograms per liter, µg/L). All quality control parameters were within the acceptance limits. All data is reported with two significant figures.

Bromate (Ion Chromatography)

All surface water and treated samples were analyzed for Bromate (Ion Chromatography) in accordance with EPA 300.1. Surrogates are added to all samples. All quality control parameters were within the acceptance limits with the balance of sample analyzed.

The reporting limit for treated samples is 5.0ppb and for surface samples is 2.0ppb. All data is reported with 2 significant figures.

Qualifiers

1,4-Dioxane Qualifier Codes:

Qualifier Code	*Description*
nd:	The compound was analyzed for, but was not detected at or above the detection limit indicated.
D:	Analyte value quantified from a dilution, reporting limit is raised to reflect dilution.
E:	The compound result is greater than the upper quantitation limit in the associated calibration curve, reported as estimate.
B:	The sample vials contained air bubbles larger than 5mm, which may affect compound results.
J:	The compound was positively identified; the associated numerical value is the approximate concentration.
M:	Matrix effects, sample required dilution.
R:	The reported value is unusable and rejected due to variance from quality control criteria.
V:	The reported value is considered estimated due to variance from quality control criteria.
H:	Sample was analyzed past 14 day hold time, but within 45 days.
O:	Samples analyzed in outside laboratory.
S:	Samples split with DEQ.

Bromate Qualifier Codes:

Qualifier Code	*Description*
nd:	The compound was analyzed for, but was not detected at or above the detection limit indicated.
E:	The compound result is greater than the upper quantitation limit in the associated calibration curve.
J:	The compound was positively identified; the associated numerical value is the approximate concentration.
R:	The reported value is unusable and rejected due to variance from quality control criteria.
V:	The reported value is considered estimated due to variance from quality control criteria.
H:	Sample was analyzed past 28 day hold time

Analyst: *Susan E.O. Peters* Susan EO Peters Date: 04-06-20

Report Checked by: *Laurel Beyer* Laurel Beyer Date: 4/6/20

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Sample Analysis Report

March, 2020

Analyst Initials: SEP
Date: 4-6-20

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
Residential Wells								
Not Determined								
697 South Wagner Rd-03-24-20-11:00-1	nd	1.0						O
Extraction Wells								
C3								
DOLPH-03-03-20-09:25-1	120	1.0						
TW-20-03-03-20-09:30-1	840	10.0						D
D2								
LB-4-03-03-20-09:10-1	480	10.0						D
TW-21-03-03-20-09:15-1	290	10.0						D
E								
TW-18-03-03-20-09:20-1	240	10.0						D
TW-19-03-03-20-09:00-1	590	10.0						D
TW-23-03-03-20-08:55-1	360	10.0						D
Marshy								
PW-1-03-03-20-09:23-1	710	10.0						D
SW								
TW-22-03-03-20-09:35-1	450	10.0						D
TW-28-03-03-20-09:40-1	740	25.0						D
Monitoring Wells								

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
C3								
MW-125-03-09-20-13:03-1	220	10.0						O, D
MW-127s-03-09-20-09:11-1	nd	1.0						O
MW-128s-03-09-20-10:58-1	nd	1.0						O
MW-18d-03-03-20-10:43-1	40	1.0						
MW-28-03-05-20-11:20-1	nd	1.0						
MW-34s-03-02-20-10:05-1	nd	1.0						
MW-35-03-02-20-11:03-1	2.8	1.0						
MW-37-03-09-20-12:00-1	300	10.0						O, D
MW-38s-03-02-20-10:10-1	nd	1.0						V
MW-38s-03-26-20-11:00-1	nd	1.0						V
D0								
A2 Cleaning Supply-03-05-20-12:20-1	65	1.0						
MW-53d-03-06-20-10:10-1	nd	1.0						O
MW-53i-03-06-20-11:17-1	30	1.0						O
MW-53s-03-06-20-09:54-1	nd	1.0						O
MW-93-03-13-20-12:42-1	nd	1.0						O
D2								
373 Pinewood Shallow-03-24-20-10:15-1	210	10.0						D
465 Dupont-03-04-20-09:48-1	840	10.0						D
MW-11d-03-02-20-12:54-1	300	10.0						D
MW-133i-03-13-20-11:14-1	2	1.0						O
MW-133s-03-13-20-11:58-1	2	1.0						O
MW-17-03-06-20-12:05-1	280	10.0						O, D
MW-38d-03-02-20-10:14-1	41	1.0						
MW-4d-03-02-20-14:09-1	320	10.0						D

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
MW-56s-03-05-20-10:38-1	68	1.0						
E								
MW-103s-03-10-20-09:50-1	75	1.0						O
MW-112i-03-10-20-09:15-1	9	1.0						O
MW-112s-03-10-20-08:50-1	nd	1.0						O
MW-115-03-04-20-12:49-1	500	10.0						D
MW-116-03-04-20-11:23-1	460	10.0						D
MW-127d-03-09-20-09:37-1	nd	1.0						O
MW-128d-03-09-20-11:06-1	nd	1.0						O
MW-133d-03-13-20-10:05-1	4	1.0						O
MW-30d-03-03-20-12:35-1	170	10.0						D
MW-56d-03-05-20-09:24-1	nd	1.0						
MW-64-03-04-20-14:20-1	43	1.0						
MW-66-03-02-20-11:35-1	1.9	1.0						
MW-72d-03-03-20-13:53-1	200	10.0						D
MW-76i-03-10-20-11:07-1	100	2.0						O
MW-76s-03-10-20-12:17-1	280	10.0						O, D
MW-84s-03-24-20-09:25-1	150	1.0						
SW								
MW-10d-03-03-20-14:12-1	390	10.0						D
Surface Water								
Not Applicable								
HC/HR-03-02-20-07:45-1			nd	2.0				
HC/HR-03-03-20-07:45-1			nd	2.0				
HC/HR-03-04-20-07:45-1			nd	2.0				
HC/HR-03-05-20-07:45-1			nd	2.0				

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
HC/HR-03-06-20-07:35-1			nd	2.0				
HC/HR-03-09-20-07:45-1			nd	2.0				O
HC/HR-03-10-20-07:55-1			nd	2.0				O
HC/HR-03-11-20-07:50-1			nd	2.0				O
HC/HR-03-12-20-07:35-1			nd	2.0				O
HC/HR-03-13-20-07:50-1			nd	2.0				O
HC/HR-03-16-20-07:40-1			nd	2.0				O
HC/HR-03-17-20-07:50-1			nd	2.0				
HC/HR-03-18-20-07:40-1			nd	2.0				
HC/HR-03-19-20-07:50-1			nd	2.0				
HC/HR-03-20-20-07:50-1			nd	2.0				O
HC/HR-03-23-20-07:30-1			nd	2.0				
HC/HR-03-25-20-10:30-1			nd	2.0				
HC/HR-03-26-20-07:45-1			nd	2.0				
HC/HR-03-27-20-07:55-1			nd	2.0				
HC/HR-03-30-20-08:00-1			nd	2.0				
HC/HR-03-31-20-07:55-1			nd	2.0				
Treatment System								
OUTFALL-03-01-20-2			5.7	5.0				
OUTFALL-03-01-20-1	6.0	1.0						
OUTFALL-03-02-20-2			7.3	5.0				
OUTFALL-03-02-20-1	6.1	1.0						
OUTFALL-03-03-20-2			6.4	5.0				
OUTFALL-03-03-20-1	5.6	1.0						
OUTFALL-03-04-20-2			7.7	5.0				
OUTFALL-03-04-20-1	5.9	1.0						
OUTFALL-03-05-20-1	5.8	1.0						

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
OUTFALL-03-05-20-2			5.6	5.0				
OUTFALL-03-08-20-1	4	1.0						O
OUTFALL-03-08-20-2			nd	2.0				
OUTFALL-03-09-20-1	6	1.0						O
OUTFALL-03-09-20-2			7.7	5.0				
OUTFALL-03-10-20-1	6	1.0						O
OUTFALL-03-10-20-2			8.8	5.0				
OUTFALL-03-11-20-1	6	1.0						O
OUTFALL-03-11-20-2			8.7	5.0				
OUTFALL-03-12-20-1	6	1.0						O
OUTFALL-03-12-20-2			8.2	5.0				
OUTFALL-03-15-20-1	6	1.0						O
OUTFALL-03-15-20-2			8.8	5.0				
OUTFALL-03-16-20-1	5.1	1.0						
OUTFALL-03-16-20-2			8.8	5.0				
OUTFALL-03-17-20-1	4.9	1.0						
OUTFALL-03-17-20-2			8.6	5.0				
OUTFALL-03-18-20-1	4.6	1.0						
OUTFALL-03-18-20-2			8.7	5.0				
OUTFALL-03-19-20-1	5.2	1.0						
OUTFALL-03-19-20-2			8.0	5.0				
OUTFALL-03-22-20-1	4.9	1.0						
OUTFALL-03-22-20-2			7.7	5.0				
OUTFALL-03-24-20-1	5.0	1.0						
OUTFALL-03-24-20-2			9.0	5.0				
OUTFALL-03-25-20-1	4.2	1.0						
OUTFALL-03-25-20-2			8.6	5.0				

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
OUTFALL-03-26-20-1	4.2	1.0						
OUTFALL-03-26-20-2			8.5	5.0				
OUTFALL-03-29-20-1	4.7	1.0						
OUTFALL-03-29-20-2			8.6	5.0				
OUTFALL-03-30-20-1	4.5	1.0						
OUTFALL-03-30-20-2			8.1	5.0				
OUTFALL-03-31-20-1	4.5	1.0						
OUTFALL-03-31-20-2			7.8	5.0				
Red Pond-03-02-20-08:00-1	380	10.0						D
Red Pond-03-09-20-08:35-1	340	10.0						O, D
Red Pond-03-16-20-08:00-1	490	10.0						O, D
Red Pond-03-23-20-07:50-1	390	10.0						D
Red Pond-03-30-20-08:30-1	370	10.0						D

1,4-Dioxane Qualifier Codes:

Qualifier Code	*Description*
nd:	The compound was analyzed for, but was not detected at or above the detection limit indicated.
D:	Analyte value quantified from a dilution, reporting limit is raised to reflect dilution.
E:	The compound result is greater than the upper quantitation limit in the associated calibration curve, reported as estimate.
B:	The sample vials contained air bubbles larger than 5mm, which may affect compound results.
J:	The compound was positively identified; the associated numerical value is the approximate concentration.
M:	Matrix effects, sample required dilution.
R:	The reported value is unusable and rejected due to variance from quality control criteria.
V:	The reported value is considered estimated due to variance from quality control criteria.
H:	Sample was analyzed past 14 day hold time, but within 45 days.
O:	Samples analyzed in outside laboratory.
S:	Samples split with DEQ.

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Wisconsin Laboratory ID: 998321720

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_March

Project Description: This data report contains the results of 36 water samples, received by ATS between 3/9/20 and 3/20/20, to be analyzed for 1,4-Dioxane and Bromate.

We certify that the sample analyses for this report have been conducted in accordance with guidelines provided in the referenced standard test method, and are consistent with detailed procedures described in a written Standard Operating Procedure specific to the ATS Laboratories, as required by USEPA. Laboratory data sheets, SOPs, and QA/QC information are available for inspection and audit at the laboratory upon request. Unless specifically noted on the data report, all applicable sample preservation and holding time requirements have been met.

Recipient: Ms. Sue Peters **Email:** Sue_Peters@Pall.com
FAX Number:

No. of Pages (Including cover pg.): 67

From: Sarah Stubblefield, Senior Chemist / Lab Manager **Email:** Sarah.Stubblefield@AnnArborTechnicalServices.com
FAX Number: 734-995-3731

Additional Message:

Date: 3/24/20 **Signed:**

IF YOU DO NOT RECEIVE ALL PAGES OF THIS TRANSMITTAL, PLEASE CALL 734-995-0995.

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LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 3/24/20
SRF / SDG Numbers: 0309201,0309202,0310201,0310202,0311201,0311202,0312201, 0313201,0316201,0316202, 0320201, 0320202

Case Narrative Summary

This case narrative applies to the following 36 samples that were received at Ann Arbor Technical Services, Inc. (ATS) between 3/9/20 and 3/20/20, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 3/9/20				
Outfall 001	3/8/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/9/20	Urgent	Bromate	Surface Water
MW-53s	3/6/20	Standard	1,4-Dioxane	Ground Water
MW-53d	3/6/20	Standard	1,4-Dioxane	Ground Water
MW-53I	3/6/20	Standard	1,4-Dioxane	Ground Water
MW-17	3/6/20	Standard	1,4-Dioxane	Ground Water
Received 3/10/20				
Outfall	3/9/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/10/20	Urgent	Bromate	Surface Water
RP	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-127s	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-127d	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-128s	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-128d	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-37	3/9/20	Standard	1,4-Dioxane	Ground Water
MW-125	3/9/20	Standard	1,4-Dioxane	Ground Water
Received 3/11/20				
Outfall	3/10/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/11/20	Urgent	Bromate	Surface Water
MW-112s	3/10/20	Standard	1,4-Dioxane	Ground Water
MW-112I	3/10/20	Standard	1,4-Dioxane	Ground Water
MW-103s	3/10/20	Standard	1,4-Dioxane	Ground Water
MW-76I	3/10/20	Standard	1,4-Dioxane	Ground Water
MW-76s	3/10/20	Standard	1,4-Dioxane	Ground Water

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 3/12/20				
Outfall	3/11/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/12/20	Urgent	Bromate	Surface Water
Received 3/13/20				
Outfall	3/12/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/13/20	Urgent	Bromate	Surface Water
Received 3/16/20				
Outfall 001	3/15/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/16/20	Urgent	Bromate	Surface Water
RP	3/16/20	Standard	1,4-Dioxane	Ground Water
MW-133D	3/13/20	Standard	1,4-Dioxane	Ground Water
MW-133I	3/13/20	Standard	1,4-Dioxane	Ground Water
MW-133S	3/13/20	Standard	1,4-Dioxane	Ground Water
MW-93	3/13/20	Standard	1,4-Dioxane	Ground Water
Received 3/20/20				
Outfall 001	3/19/20	Urgent	1,4-Dioxane	Treated Water
HC/HR	3/20/20	Urgent	Bromate	Surface Water
Test	3/20/20	Standard	Bromate	Water

Upon receipt, samples were scheduled for the following analyses:

Analysis	Number of Samples
1,4-Dioxane by US EPA 1624	28 + 7 Matrix Spike / 7 Matrix Spike Duplicate
Bromate by ATS 300.1 MOD	8 + 7 Matrix Spike / 7 Matrix Spike Duplicate

Sample Receipt, Chain of Custody Records, and Holding Times

Samples were delivered directly to ATS by Pall Corporation staff. Samples were received with proper chain of custody records included. Sample condition and anomalies, if any, are presented in the "Chain of Custody and Sample Receipt Documentation" section of this report.

Data Review and Approval

All data contained in this report have been generated in accordance with guidelines provided in the referenced standard test method, and are consistent with detailed procedures described in a written standard operating procedures (SOPs) specific to the ATS Laboratory, as required by US EPA. All data are peer and management reviewed to ensure compliance with the above referenced SOP's and project specifications. In addition all data conform to the laboratory's Quality Assurance / Quality Control Manuals.

A single QA/QC batch is defined as no more than 20 samples excluding method blanks (MB, LRB), fortified blanks (BS, LFB, LCS), matrix spikes (MS, SPK), and duplicates whether spiked or native (MSD, SPK DUP, DUP, LR).

Data Deliverables

This data package constitutes a Level II package; other data report packages (Level I, Level IV DVP, EPA R5 EDD) are available upon request. There were no hardcopy data summary sheets generated for this project.

Sample Analysis

1,4-Dioxane Analysis (GC/MS): Samples were analyzed in accordance with US EPA method 1624 (Volatile Organic Compounds by Isotope Dilution Gas Chromatography – Mass Spectrometry). An initial calibration with at least five levels was used to quantitate 1,4-Dioxane. Samples were reported to project specific reporting limits.

Bromate Analysis (IC): Samples were analyzed in accordance with ATS modified method 300.1 (Determination of Inorganic Anions in Drinking Waters by Ion Chromatography). An initial calibration with at least five levels was used to quantitate Bromate. Samples were reported to project specific reporting limits.

Anomalies Noted:

- **None**

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the running of a mid-level initial calibration verification (CV) standard at a frequency of every 24 hours (1,4-Dioxane) or 10 samples (bromate). All verification standards met the acceptance criteria with the following exceptions:

- **None**

Instrument Blanks

Instrument blanks were analyzed at a frequency of every 24 hours (1,4-Dioxane) or 10 samples (bromate). All blanks met the acceptance criteria with the following exceptions:

- **None**

QA/QC Batch Summary

Laboratory Reagent Blanks

A laboratory reagent blank (LRB) was analyzed with each QA/QC batch. The LRB's met the acceptance criteria with the following exceptions:

- **None**

Laboratory Fortified Blanks and Matrix Spikes

A laboratory fortified blank (LFB) / laboratory control sample (LCS) was analyzed with each QA/QC batch. The LCS/LFB's met the acceptance criteria with the following exceptions:

- **None**

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The MS/MSD met the acceptance criteria with the following exceptions:

Sample ID	Constituent	Percent Recovery	Acceptance Limits
Outfall 3/8/20 Matrix Spike Duplicate	1,4-Dioxane	79.2	80–120%

Matrix Duplicates

A replicate analysis was analyzed with each QA/QC batch. All replicates met the acceptance criteria with the following exceptions:

Sample ID	Constituent	Percent Difference	Acceptance Limits
Outfall 3/8/20	1,4-Dioxane	24.2	<20%

Sample Dilutions

Samples containing compounds at concentrations above the initial calibration curve were diluted and reanalyzed for those compounds. The following samples were diluted for 1,4-Dioxane:

- MW-17 3/6/20
- RP 3/9/20
- MW-37 3/9/20
- MW-125 3/9/20
- MW-76I 3/10/20
- MW-76S 3/10/20
- RP 3/16/20

Mark A DeLong

/ March 24, 2020

Mark T. DeLong (Quality Assurance Coordinator)

/ March 24, 2020

Philip B. Simon (Laboratory Director)

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Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Inorganic Analysis Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0320202

Sample Identification: Test

Sample Date: 3/20/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/20/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/20/20	15:41	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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rev. 3/24/20

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0998 Fax. 734/996-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/9/20 Updated 3/24/20
ATS SRF: 0309201 (Urgent)

Sample Identification: Outfall 001

Sample Date: 3/8/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.004	0.001	3/9/20	13:34	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

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rev. 3/24/20

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0998 Fax. 734/996-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0309202

Sample Identification: MW-53S

Sample Date: 3/6/20
Sample Time: 9:54 AM
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/9/20	19:12	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

X:\G001-002.20\ORG_SRF_MARCH

rev. 3/24/20

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0309202

Sample Identification: MW-53d

Sample Date: 3/6/20
Sample Time: 10:10 AM
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/9/20	19:56	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0309202

Sample Identification: MW-53i

Sample Date: 3/6/20
Sample Time: 11:17 AM
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.036	0.001	3/9/20	20:40	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0309202

Sample Identification: MW-17

Sample Date: 3/6/20
Sample Time: 12:05 PM
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.26	0.01	3/9/20	21:23	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/10/20 Updated 3/24/20
ATS SRF: 0310201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/9/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.006	0.001	3/10/20	12:08	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310201

Sample Identification: RP

Sample Date: 3/9/20
Sample Time: 8:35 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.34	0.01	3/10/20	13:12	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-127s

Sample Date: 3/9/20
Sample Time: 9:11 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/10/20	15:58	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-127d

Sample Date: 3/9/20
Sample Time: 9:37 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/10/20	16:42	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-128s

Sample Date: 3/9/20
Sample Time: 10:58 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/10/20	17:25	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0995 Fax. 734/996-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-128d

Sample Date: 3/9/20
Sample Time: 11:06 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/10/20	18:09	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0995 Fax. 734/996-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-37

Sample Date: 3/9/20
Sample Time: 12:00 PM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.30	0.01	3/10/20	18:53	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0995 Fax. 734/996-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0310202

Sample Identification: MW-125

Sample Date: 3/9/20
Sample Time: 1:03 PM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.22	0.01	3/10/20	19:37	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/996-0995 Fax. 734/996-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/11/20 Updated 3/24/20
ATS SRF: 0311201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/10/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.006	0.001	3/11/20	11:41	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0311202

Sample Identification: MW-112s

Sample Date: 3/10/20
Sample Time: 8:50 AM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/11/20	14:35	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0311202

Sample Identification: MW-112i

Sample Date: 3/10/20
Sample Time: 9:15 AM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.009	0.001	3/11/20	15:27	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0311202

Sample Identification: MW-103s

Sample Date: 3/10/20
Sample Time: 9:50 AM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.075	0.001	3/11/20	16:11	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0311202

Sample Identification: MW-76i

Sample Date: 3/10/20
Sample Time: 11:07 AM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.10	0.002	3/11/20	16:55	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0311202

Sample Identification: MW-76s

Sample Date: 3/10/20
Sample Time: 12:17 PM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.28	0.01	3/11/20	17:39	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/12/20 Updated 3/24/20
ATS SRF: 0312201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/11/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/12/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.006	0.001	3/12/20	11:27	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/13/20 Updated 3/24/20
ATS SRF: 0313201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/12/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/13/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.006	0.001	3/13/20	11:07	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/16/20 Updated 3/24/20
ATS SRF: 0316201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/15/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.006	0.001	3/16/20	11:22	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0316201

Sample Identification: RP

Sample Date: 3/16/20
Sample Time: 8:00 AM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.49	0.01	3/16/20	13:34	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0316202

Sample Identification: MW-133D

Sample Date: 3/13/20
Sample Time: 10:05 AM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.004	0.001	3/16/20	14:18	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0316202

Sample Identification: MW-133I

Sample Date: 3/13/20
Sample Time: 11:14 AM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.002	0.001	3/16/20	15:01	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0316202

Sample Identification: MW-133S

Sample Date: 3/13/20
Sample Time: 11:58 AM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.002	0.001	3/16/20	15:45	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20
ATS SRF: 0316202

Sample Identification: MW-93

Sample Date: 3/13/20
Sample Time: 12:42 PM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/18/20	16:29	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/20/20 Updated 3/24/20
ATS SRF: 0320201 (Urgent)

Sample Identification: Outfall

Sample Date: 3/19/20
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 3/20/20
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.005	0.001	3/20/20	11:33	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/9/20 Updated 3/24/20
ATS SRF: 0309201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/9/20
Sample Time: 7:45 AM
Sampled By: Client
Laboratory Receipt Date: 3/9/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/9/20	10:53	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

290 South Wagner Road
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Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/10/20 Updated 3/24/20
ATS SRF: 0310201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/10/20
Sample Time: 7:55 AM
Sampled By: Client
Laboratory Receipt Date: 3/10/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/10/20	11:27	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/11/20 Updated 3/24/20
ATS SRF: 0311201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/11/20
Sample Time: 7:50 AM
Sampled By: Client
Laboratory Receipt Date: 3/11/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/11/20	14:02	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/12/20 Updated 3/24/20
ATS SRF: 0312201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/12/20
Sample Time: 7:35 AM
Sampled By: Client
Laboratory Receipt Date: 3/12/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/12/20	10:35	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/13/20 Updated 3/24/20
ATS SRF: 0313201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/13/20
Sample Time: 7:50 AM
Sampled By: Client
Laboratory Receipt Date: 3/13/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/13/20	10:33	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 3/16/20 Updated 3/24/20
ATS SRF: 0316201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/16/20
Sample Time: 8:00 AM
Sampled By: Client
Laboratory Receipt Date: 3/16/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/16/20	10:31	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Inorganic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
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ATS Project: Pall Corporation #G001-002
Report Date: 3/20/20 Updated 3/24/20
ATS SRF: 0320201 (Urgent)

Sample Identification: HC/HR

Sample Date: 3/20/20
Sample Time: 7:50 AM
Sampled By: Client
Laboratory Receipt Date: 3/20/20
Sample Matrix: Surface Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Inorganic Analysis							
Bromate	ATS 300.1 MOD	mg/L	<0.002	0.002*	3/20/20	11:51	SLS

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
*Elevated reporting limit due to matrix interference.

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Quality Assurance / Quality Control
Data Summary

QC Batch Number: QCORG0309201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/8/20 Matrix Spike	0.026 mg/L	0.020 mg/L	0.023 mg/L	24.2*

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	87.3
Outfall 3/8/20 Matrix Spike	0.004 mg/L	0.020 mg/L	0.026 mg/L	106.9
Outfall 3/8/20 Matrix Spike Duplicate	0.004 mg/L	0.020 mg/L	0.020 mg/L	79.2*

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
*Outside standard contol limits.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control
Data Summary

IC Batch Number: QCORG0310201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/9/20 Matrix Spike	0.024 mg/L	0.024 mg/L	0.024 mg/L	3.3

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	88.9
Outfall 3/9/20 Matrix Spike	0.006 mg/L	0.020 mg/L	0.024 mg/L	91.3
Outfall 3/9/20 Matrix Spike Duplicate	0.006 mg/L	0.020 mg/L	0.024 mg/L	87.4

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control
Data Summary

QC Batch Number: QCORG0311201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/10/20 Matrix Spike	0.025 mg/L	0.026 mg/L	0.026 mg/L	6.4

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	101.5
Outfall 3/10/20 Matrix Spike	0.006 mg/L	0.020 mg/L	0.025 mg/L	94.9
Outfall 3/10/20 Matrix Spike Duplicate	0.006 mg/L	0.020 mg/L	0.026 mg/L	103.1

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0312201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/11/20 Matrix Spike	0.027 mg/L	0.027 mg/L	0.027 mg/L	1.1

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.011 mg/L	107.9
Outfall 3/11/20 Matrix Spike	0.006 mg/L	0.020 mg/L	0.027 mg/L	105.4
Outfall 3/11/20 Matrix Spike Duplicate	0.006 mg/L	0.020 mg/L	0.027 mg/L	103.9

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0313201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/12/20 Matrix Spike	0.027 mg/L	0.024 mg/L	0.025 mg/L	11.2

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	87.4
Outfall 3/12/20 Matrix Spike	0.006 mg/L	0.020 mg/L	0.027 mg/L	103.5
Outfall 3/12/20 Matrix Spike Duplicate	0.006 mg/L	0.020 mg/L	0.024 mg/L	94.5

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0316201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/15/20 Matrix Spike	0.026 mg/L	0.026 mg/L	0.026 mg/L	1.0

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.011 mg/L	112.1
Outfall 3/15/20 Matrix Spike	0.006 mg/L	0.026 mg/L	0.026 mg/L	102.1
Outfall 3/15/20 Matrix Spike Duplicate	0.006 mg/L	0.026 mg/L	0.026 mg/L	100.9

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0320201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 3/19/20 Matrix Spike	0.026 mg/L	0.026 mg/L	0.026 mg/L	0.1

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.011 mg/L	114.2
Outfall 3/19/20 Matrix Spike	0.005 mg/L	0.020 mg/L	0.026 mg/L	108.1
Outfall 3/19/20 Matrix Spike Duplicate	0.005 mg/L	0.020 mg/L	0.026 mg/L	107.9

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0309201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 HC/HR 3/9/20 Matrix Spike	0.010 mg/L	0.010 mg/L	0.010 mg/L	3.7

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	99.4
HC/HR 3/9/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.010 mg/L	98.9
HC/HR 3/9/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.010 mg/L	102.6

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0310201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 HC/HR 3/10/20 Matrix Spike	0.008 mg/L	0.009 mg/L	0.008 mg/L	8.4

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	93.8
HC/HR 3/10/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.008 mg/L	80.8
HC/HR 3/10/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	87.9

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0311201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 HC/HR 3/11/20 Matrix Spike	0.008 mg/L	0.008 mg/L	0.008 mg/L	0.7

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	92.2
HC/HR 3/11/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.008 mg/L	83.7
HC/HR 3/11/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.008 mg/L	84.2

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0312201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 HC/HR 3/12/20 Matrix Spike	0.009 mg/L	0.010 mg/L	0.009 mg/L	6.2

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	96.2
HC/HR 3/12/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	90.5
HC/HR 3/12/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.010 mg/L	96.2

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002 Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0313201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
HC/HR 3/13/20 Matrix Spike	0.009 mg/L	0.009 mg/L	0.009 mg/L	5.0

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.009 mg/L	93.7
HC/HR 3/13/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	89.7
HC/HR 3/13/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	94.3

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002		
Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0316201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
HC/HR 3/16/20 Matrix Spike	0.009 mg/L	0.009 mg/L	0.009 mg/L	4.7

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	99.1
HC/HR 3/16/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	89.5
HC/HR 3/16/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	93.8

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002		
Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0320201
Parameter: Bromate (ATS 300.1 MOD)

ATS Project: Pall Corporation #G001-002
Report Date: 3/24/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
HC/HR 3/20/20 Matrix Spike	0.009 mg/L	0.009 mg/L	0.009 mg/L	1.2

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	97.0
HC/HR 3/20/20 Matrix Spike	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	92.5
HC/HR 3/20/20 Matrix Spike Duplicate	<0.002 mg/L**	0.010 mg/L	0.009 mg/L	91.4

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002		
Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.
** Elevated reporting limit due to matrix interference.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (80 - 120%)
Matrix Spike Recovery (70 - 130%)
Relative Range
Replicates (<20%)

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp.

Please send rush data to K. Patterson and L.Beyer; final reports should be sent to L.Beyer and S.Peters

	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	# OF CONTAINERS	PRESERVATIVE NUMBER	1,4Dioxane	Bromate	
1.			X		Outfall 001	2		X		< 7ppb
2.		07:45	X		HC/HR	1			X	n.d.
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										
17.										
18.										
19.										
20.										

ATS

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp. Standard Turn Around

Please send rush data to K. Patterson and L.Beyer; data reports should go to L.Beyer and S.Peters

3/9/10 0815

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line	Date	Time			Sample Identification	No. of Containers		1,4-dioxane
1.	3/6/10	09:54		X	MW - 535	2		X
2.	↓	10:10		↓	MW - 530	2		↓
3.	↓	11:17		↓	MW - 535	1		↓
4.	↓	12:05		↓	MW - 17	1		↓

COPY JEB

COPY JEB

ATS

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp.

Please send data to K. Patterson and L.Beyer

RAY WOODS 3/9/10 0730

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line	Date	Time			Sample Identification	No. of Containers		1,4-dioxane	Bromate		Matrix
1.	[illegible]	—	X		Outfall	2		X			<7ppb
2.	[illegible]	07:55		X	HC/HR	1			X		n.d.
3.	3/9/10	08:35		X	FP	2		X	— HCl	Preserved	

ATS

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp. Standard Turn Around

Please send rush data to K. Patterson and L.Beyer; data reports should go to L.Beyer and S.Peters

RAY WOODS 3/10/10 0730

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line	Date	Time			Sample Identification	No. of Containers		1,4-dioxane
1.	3/9/10	09:11		X	MW - 127S	2		X
2.	↓	09:37		↓	MW - 127D	2		↓
3.	↓	10:58		↓	MW - 128S	2		↓
4.	↓	11:06		↓	MW - 128D	2		↓
5.	↓	12:00		↓	MW - 37	1		↓
6.	↓	13:03		↓	MW - 125	1		↓

ATS

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp.

Please send data to K. Patterson and L.Beyer

RAY WOODS 3/11/10 08:25

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line	Date	Time			Sample Identification	No. of Containers		1,4-dioxane	Bromate	Matrix
1.	[illegible]	—	X		Outfall	3		X		<7ppb
2.	[illegible]	07:58		X	HC/HR	1			X	n.d.

CHAIN OF CUSTODY RECORD

Page 1

Project ID / Name: Pall Corp. Standard Turn Around

Please send rush data to K. Patterson and L.Beyer; data reports should go to L.Beyer and S.Peters

Relinquished by: RAY WOODS — 3/11/20 [illegible]

Comments: Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line No.	Lab Code	Date	Time	Comp.	Grab	Sample Identification	No. of Containers	Priority Number	1,4-dioxane	Matrix
1.		3/10/20	08:50		X	MW-112S	2		X	
2.		↓	09:15		↓	MW-112I	2		↓	
3.			09:50			MW-103S	1			
4.			11:07			MW-76I	1			
5.		↓	12:17		↓	MW-76S	1		↓	

CHAIN OF CUSTODY RECORD

Page 1

Project ID / Name: Pall Corp.

Please send data to K. Patterson and L.Beyer

Relinquished by: RAY WOODS — 3/12/20 [illegible]

Comments: Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line No.	Lab Code	Date	Time	Comp.	Grab	Sample Identification	No. of Containers	Priority Number	1,4-dioxane	Bromate	Matrix
1.		[illegible]	—	X		Outfall	2		X		<7ppb
2.		[illegible]	07:35		X	HC/HR	1			X	n.d.

CHAIN OF CUSTODY RECORD

Page 1

Project ID / Name: Pall Corp.

Please send data to K. Patterson and L.Beyer

Relinquished by: RAY WOODS — 3/13/20 [illegible]

Comments: Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line No.	Lab Code	Date	Time	Comp.	Grab	Sample Identification	No. of Containers	Priority Number	1,4-dioxane	Bromate	Matrix
1.		[illegible]	—	X		Outfall	2		X		<7ppb
2.		[illegible]	07:50		X	HC/HR	1			X	n.d.

CHAIN OF CUSTODY RECORD

Page 1

Project ID / Name: Pall Corp.

Please send data to K. Patterson and L.Beyer

Relinquished by: RAY WOODS — 3/16/20 [illegible]

Comments: Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

Line No.	Lab Code	Date	Time	Comp.	Grab	Sample Identification	No. of Containers	Priority Number	1,4-dioxane	Bromate	Matrix
1.		[illegible]	—	X		Outfall	2		X		<7ppb
2.		[illegible]	07:40		X	HC/HR	1			X	n.d.
3.		3/16/20	08:00		X	RP	2		X	– Precision [illegible]	

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp. Standard Turn Around

Please send rush data to K. Patterson and L.Beyer; data reports should go to L.Beyer and S.Peters

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

LAB NO.	BARCODE	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	PRIORITY NUMBER	1,4-dioxane
1		3/25/20	10:05	X		MW - 133D	2		X
2			11:14			MW - 133T	1		
3			11:58			MW - 133S			
4			12:42			MW-93			

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp.

Please send rush data to K. Patterson and L.Beyer, data reports should go to L.Beyer and S.Peters

Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

LAB NO.	BARCODE	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	PRIORITY NUMBER	1,4-dioxane	Bromate	NOTES
1		03/19/2020	–		X	Outfall	2		X		<7ppb
2		03/01/2020	07:30		X	HC/HR	1			X	n.d.

CHAIN OF CUSTODY RECORD

Page 1

Pall Corp.

Please send rush data to K. Patterson and L.Beyer; final reports should be sent to L.Beyer and S.Peters

LAB NO.	BARCODE	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	PRIORITY NUMBER	Bromate	NOTES
1		3/26/20			X	TEST	1		X	<15ppb

290 South Wagner Road
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Tel. 734/995-0999 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0326201

Project Description: This data report contains the results of one water sample, received by ATS between 3/26/20, to be analyzed for 1,4-Dioxane.

We certify that the sample analyses for this report have been conducted in accordance with guidelines provided in the referenced standard test method, and are consistent with detailed procedures described in a written Standard Operating Procedure specific to the ATS Laboratories, as required by USEPA. Laboratory data sheets, SOPs, and QA/QC information are available for inspection and audit at the laboratory upon request. Unless specifically noted on the data report, all applicable sample preservation and holding time requirements have been met.

Recipient: Ms. Sue Peters **Email:** Sue_Peters@Pall.com
FAX Number:

No. of Pages (Including cover pg.): 7

From: Sarah Stubblefield, Senior Chemist / Lab Manager **Email:** Sarah.Stubblefield@AnnArborTechnicalServices.com
FAX Number: 734-995-3731

Additional Message:

Date: 4/3/20 **Signed:**

IF YOU DO NOT RECEIVE ALL PAGES OF THIS TRANSMITTAL, PLEASE CALL 734-995-0995.

ANN ARBOR TECHNICAL SERVICES, INC.

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 4/3/20
SRF / SDG Numbers: 0326201

Case Narrative Summary

This case narrative applies to the following sample that was received at Ann Arbor Technical Services, Inc. (ATS) on 3/26/20, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 3/26/20				
697 S Wagner Road	2/24/20	Standard	1,4-Dioxane	Drinking Water

Upon receipt, samples were scheduled for the following analyses:

Analysis	Number of Samples
• 1,4-Dioxane (US EPA 1624) (Standard Turn)	• 1 + 1 Matrix Spike / 1 Matrix Spike Duplicate

Sample Receipt, Chain of Custody Records, and Holding Times

Samples were delivered directly to ATS by Pall Corporation staff. Samples were received with proper chain of custody records included. Sample condition and anomalies, if any, are presented in the "Chain of Custody and Sample Receipt Documentation" section of this report.

Data Review and Approval

All data contained in this report have been generated in accordance with guidelines provided in the referenced standard test method, and are consistent with detailed procedures described in a written standard operating procedures (SOPs) specific to the ATS Laboratory, as required by US EPA. All data are peer and management reviewed to ensure compliance with the above referenced SOP's and project specifications. In addition all data conform to the laboratory's Quality Assurance / Quality Control Manuals.

A single QA/QC batch is defined as no more than 20 samples excluding method blanks (MB, LRB), fortified blanks (BS, LFB, LCS), matrix spikes (MS, SPK), and duplicates whether spiked or native (MSD, SPK DUP, DUP, LR).

Consultants in Chemistry & Environmental Science
290 South Wagner Road, Ann Arbor, Michigan 48103 Tel 734/995-0995 Fax 734/995-3731

Data Deliverables

This data package constitutes a Level II package; other data report packages (Level I, Level IV DVP, EPA R5 EDD) are available upon request. There were no hardcopy data summary sheets generated for this project.

Sample Analysis

1,4-Dioxane Analysis (GC/MS): Samples were analyzed in accordance with US EPA method 1624 (Volatile Organic Compounds by Isotope Dilution Gas Chromatography – Mass Spectrometry). An initial calibration with at least five levels was used to quantitate 1,4-Dioxane. Samples were reported to project specific reporting limits.

Anomalies Noted:
- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the running of a mid-level initial calibration verification (CV) standard at a frequency of every 24 hours (1,4-Dioxane). All verification standards met the acceptance criteria with the following exceptions:
- None

Instrument Blanks

Instrument blanks were analyzed at a frequency of every 24 hours (1,4-Dioxane). All blanks met the acceptance criteria with the following exceptions:
- None

QA/QC Batch Summary

Laboratory Reagent Blanks

A laboratory reagent blank (LRB) was analyzed with each QA/QC batch. The LRB's met the acceptance criteria with the following exceptions:
- None

Laboratory Fortified Blanks and Matrix Spikes

A laboratory fortified blank (LFB) / laboratory control sample (LCS) was analyzed with each QA/QC batch. The LCS/LFB's met the acceptance criteria with the following exceptions:
- None

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The MS/MSD met the acceptance criteria with the following exceptions:
- None

Matrix Duplicates

A replicate analysis was analyzed with each QA/QC batch. All replicates met the acceptance criteria with the following exceptions:
- None

Sample Dilutions

Samples containing compounds at concentrations above the initial calibration curve were diluted and reanalyzed for those compounds. The following samples were diluted for 1,4-Dioxane:
- None

Mark T. DeLong / April 3, 2020

Mark T. DeLong (Quality Assurance Coordinator)

Philip B. Simon / April 3, 2020

Philip B. Simon (Laboratory Director)

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis
Data Summary Sheet

For: Ms. Sue Peters
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 4/3/20
ATS SRF: 0326201

Sample Identification: 697 S Wagner Road

Sample Date: 2/24/20
Sample Time: 11:00 AM
Sampled By: Client
Laboratory Receipt Date: 3/26/20
Sample Matrix: Drinking Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	3/26/20	12:06	JEB

Comments
All methods reference USEPA methods unless otherwise noted.
na - Indicates not available / applicable.
Sample analyzed at native pH.

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Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9604
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0326201
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 4/3/20

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
697 Wagner Road 2/24/20 Matrix Spike	0.012 mg/L	0.011 mg/L	0.011 mg/L	4.6

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	99.4
697 Wagner Road 2/24/20 Matrix Spike	<0.001 mg/L	0.010 mg/L	0.012 mg/L	117.3
697 Wagner Road 2/24/20 Matrix Spike Duplicate	<0.001 mg/L	0.010 mg/L	0.011 mg/L	112.0

BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002		
Laboratory Reagent Blank	<0.001 mg/L	Acceptable

Comments:
Calculations performed prior to rounding.

Control Limits:
Recoveries
Laboratory Control Sample Recovery (85 - 115%)
Matrix Spike Recovery (80 - 120%)
Relative Range
Replicates (<20%)

CHAIN OF CUSTODY RECORD

PROJECT ID / NUMBER: Pall Corp. Standard Turn Around

SAMPLE CUSTODIAN: Standard Turn around Drinking Water

Please send ~~rush data to K. Patterson and L.Bayer, data reports should go to L.Bayer and S.Fetels~~ to Sue
Today

RELINQUISHED BY: Ray Woods
DATE / TIME: 3/26/20 11:40
RECEIVED BY: [signature]

COMMENTS: Outfall (1,4-dioxane) samples and HC/HR (bromate) are RUSH SAMPLES

LINE NO.	BAR CODE	DATE	TIME	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	PRIORITY NUMBER	1,4-dioxane	MATRIX
1.		2-24-20	11:00			6978. Wagner Rd	2		X	Drinking water
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
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