

**CASE NARRATIVE****Monthly Data Pall Life Sciences****Project: 1,4-Dioxane Remediation****Date: September, 2019**

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.

The samples requiring analysis for 1,4-dioxane were split between Pall Corporation's Environmental Laboratory and Ann Arbor Technical Services (ATS). All bromate samples were analyzed at Pall Corporation's Environmental 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.

The delay in sample analysis was due to a catastrophic autosampler failure that took considerable time to isolate and fix. The manufacturer's representative made major repairs only to find out that these repairs did not entirely fix the problems. Samples were sent out to ATS for analysis after the service engineer was unable to eliminate all problems during his service call.

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 HCl acid-preserved vials to a pH of  $\leq 2$ , with the exception of the Pall ozone treatment samples. These samples have chemicals that, when mixed with the HCl acid, cause interferences and trap damage. 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 as long as there is evidence that chilling has begun. All samples are iced or refrigerated at 4°C ( $\pm 2^\circ\text{C}$ ) 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.

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## Qualifiers

### 1,4-Dioxane Qualifier Codes:

<i>Qualifier Code</i>	<i>Description</i>
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:

<i>Qualifier Code</i>	<i>Description</i>
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 E.O. Peters Date: 10/03/19

Report Checked by: Laurel Beyer Laurel Beyer Date: 10/3/19



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# Sample Analysis Report

September, 2019

Analyst Initials: DEOP  
Date: 10-3-19

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)
<b>Residential Wells</b>								
<b>D0</b>								
5005 Jackson Rd-09-10-19-09:22-1	14	1.0						O
<b>Extraction Wells</b>								
<b>C3</b>								
DOLPH-09-09-19-10:28-1	120	2.0						O, D
TW-10-09-12-19-11:36-1	450	10.0						D
TW-20-09-09-19-10:34-1	860	20.0						O, D
<b>D2</b>								
LB-4-09-09-19-10:10-1	480	10.0						O, D
TW-21-09-09-19-10:20-1	190	10.0						O, D
TW-9-09-12-19-11:34-1	510	10.0						D
<b>E</b>								
TW-18-09-09-19-10:23-1	240	10.0						O, D
TW-19-09-09-19-09:33-1	560	10.0						O, D
TW-23-09-09-19-09:36-1	480	10.0						O, D
<b>Marshy</b>								
PW-1-09-09-19-10:40-1	800	20.0						O, D
<b>SW</b>								
TW-22-09-09-19-09:23-1	470	10.0						O, 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)
TW-28-09-09-19-09:26-1	820	10.0						O, D
<b>Monitoring Wells</b>								
<b>C3</b>								
MW-125-09-23-19-15:00-1	230	10.0						D
MW-127s-09-23-19-13:00-1	nd	1.0						
MW-128s-09-23-19-10:42-1	nd	1.0						
MW-20-09-03-19-09:35-1	nd	1.0						O
MW-28-09-01-19-13:37-1	nd	1.0						O
MW-37-09-23-19-12:01-1	210	10.0						D
MW-39s-09-11-19-08:50-1	2	1.0						O
<b>D0</b>								
110 Parkland Plaza-09-12-19-09:12-1	1.2	1.0						
4141 Jackson Rd-09-10-19-08:43-1	3	1.0						O
4401 Park West-09-12-19-11:58-1	5.4	1.0						
4742 Park Rd-09-12-19-13:30-1	2.7	1.0						
A2 Cleaning Supply-09-04-19-12:49-1	88	2.0						O, D
MW-31-09-13-19-11:48-1	8.4	1.0						
MW-42d-09-11-19-11:50-1	nd	1.0						O
MW-42s-09-11-19-13:10-1	nd	1.0						O
MW-51-09-18-19-09:10-1	nd	1.0						
MW-53d-09-04-19-09:06-1	nd	1.0						O
MW-53i-09-04-19-10:18-1	56	1.0						O
MW-53s-09-04-19-09:29-1	nd	1.0						O
MW-59s-09-13-19-10:21-1	nd	1.0						
MW-60-09-12-19-10:38-1	2.9	1.0						
MW-93-09-04-19-11:43-1	1	1.0						O



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)
<b>D2</b>								
465 Dupont-09-20-19-10:06-1	920	25.0						D
MW-131s-09-18-19-12:23-1	nd	1.0						
MW-39d-09-11-19-10:08-1	30	1.0						O
MW-56s-09-01-19-12:34-1	69	2.0						O, D
MW-63i-09-17-19-11:06-1	nd	1.0						
MW-63s-09-17-19-12:21-1	nd	1.0						
MW-94s-09-16-19-13:01-1	760	25.0						D
<b>E</b>								
MW-103s-09-05-19-10:58-1	75	1.0						O
MW-112i-09-05-19-09:40-1	10	1.0						O
MW-112s-09-05-19-09:12-1	nd	1.0						O
MW-127d-09-23-19-13:27-1	nd	1.0						
MW-128d-09-23-19-09:30-1	nd	1.0						
MW-131d-09-18-19-10:56-1	nd	1.0						
MW-56d-09-03-19-11:20-1	nd	1.0						O
MW-59d-09-13-19-09:01-1	nd	1.0						
MW-63d-09-17-19-09:50-1	nd	1.0						
MW-76i-09-06-19-08:57-1	99	2.0						O, D
MW-76s-09-06-19-10:20-1	220	10.0						O, D
MW-84s-09-05-19-12:21-1	15	1.0						O
<b>SW</b>								
MW-52d-09-16-19-10:25-1	nd	1.0						
MW-52i-09-16-19-11:38-1	1.3	1.0						
<b>Surface Water</b>								
<b>Not Applicable</b>								

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-09-03-19-07:30-1			nd	2.0				
HC/HR-09-04-19-07:26-1			nd	2.0				
HC/HR-09-05-19-09:27-1			nd	2.0				
HC/HR-09-06-19-07:25-1			nd	2.0				
HC/HR-09-09-19-10:00-1			nd	2.0				
HC/HR-09-10-19-09:15-1			nd	2.0				
HC/HR-09-11-19-10:00-1			nd	2.0				
HC/HR-09-12-19-07:15-1			nd	2.0				
HC/HR-09-13-19-07:45-1			nd	2.0				
HC/HR-09-16-19-09:05-1			nd	2.0				
HC/HR-09-17-19-08:23-1			nd	2.0				
HC/HR-09-18-19-08:25-1			nd	2.0				
HC/HR-09-19-19-09:15-1			nd	2.0				
HC/HR-09-20-19-09:05-1			nd	2.0				
HC/HR-09-23-19-08:52-1			nd	2.0				
HC/HR-09-24-19-08:15-1			nd	2.0				
HC/HR-09-25-19-07:40-1			nd	2.0				
HC/HR-09-26-19-09:15-1			nd	2.0				
HC/HR-09-27-19-08:15-1			nd	2.0				
HC/HR-09-30-19-08:10-1			nd	2.0				
<b>Treatment System</b>								
OUTFALL-09-01-19-1	6.5	1.0						
OUTFALL-09-01-19-2			6.6	5.0				
OUTFALL-09-02-19-1	5.9	1.0						
OUTFALL-09-02-19-2			6.3	5.0				
OUTFALL-09-03-19-2			5.6	5.0				
OUTFALL-09-03-19-1	5.6	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-09-04-19-2			6.9	5.0				
OUTFALL-09-04-19-1	5.4	1.0						
OUTFALL-09-05-19-1	6.0	1.0						
OUTFALL-09-05-19-2			7.4	5.0				
OUTFALL-09-08-19-1	5.5	1.0						
OUTFALL-09-08-19-2			5.6	5.0				
OUTFALL-09-09-19-2			5.5	5.0				
OUTFALL-09-09-19-1	6.2	1.0						
OUTFALL-09-10-19-2			6.2	5.0				
OUTFALL-09-10-19-1	6.1	1.0						
OUTFALL-09-11-19-2			5.4	5.0				
OUTFALL-09-11-19-1	6.1	1.0						
OUTFALL-09-12-19-2			5.2	5.0				
OUTFALL-09-12-19-1	5.3	1.0						
OUTFALL-09-15-19-2			6.0	5.0				
OUTFALL-09-15-19-1	5.8	1.0						
OUTFALL-09-16-19-2			6.4	5.0				
OUTFALL-09-16-19-1	5.6	1.0						
OUTFALL-09-17-19-2			5.7	5.0				
OUTFALL-09-17-19-1	5.5	1.0						
OUTFALL-09-18-19-2			5.4	5.0				
OUTFALL-09-18-19-1	5.9	1.0						
OUTFALL-09-19-19-2			6.3	5.0				
OUTFALL-09-19-19-1	6.2	1.0						
OUTFALL-09-22-19-1	6.2	1.0						
OUTFALL-09-22-19-2			5.3	5.0				
OUTFALL-09-23-19-1	6.3	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-09-23-19-2			6.6	5.0				
OUTFALL-09-24-19-1	6.7	1.0						
OUTFALL-09-24-19-2			5.7	5.0				
OUTFALL-09-25-19-1	6.7	1.0						
OUTFALL-09-25-19-2			6.3	5.0				
OUTFALL-09-26-19-2			6.2	5.0				
OUTFALL-09-26-19-1	4.5	1.0						
OUTFALL-09-29-19-2			7.5	5.0				
OUTFALL-09-29-19-1	5.5	1.0						
OUTFALL-09-30-19-2			6.7	5.0				
OUTFALL-09-30-19-1	5.1	1.0						
Red Pond-09-03-19-08:44-1	360	10.0						D
Red Pond-09-09-19-08:19-1	400	10.0						O, D
Red Pond-09-16-19-08:23-1	360	10.0						D
Red Pond-09-23-19-08:30-1	340	10.0						D
Red Pond-09-30-19-07:50-1	360	10.0						D

**PLS Qualifier Codes:**

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.  
H: Sample was analyzed past 14 day hold time, but within 45 days used by ATS for same method with EPA approval.  
O: Samples analyzed in outside laboratory, Ann Arbor Technical Services (ATS).





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Michigan Laboratory ID: 9604  
Wisconsin Laboratory ID: 995321720

## Data Transmittal Cover Page

Project Name: Pall Corporation  
ATS Project Number: G001-002  
ATS Report Number(s): SRF\_0912191

Project Description: This data report contains the results of thirty two water samples, received by ATS on 9/12/19 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](mailto:Sue.Peters@Pall.com)  
FAX Number:

No. of Pages (including cover pg.): 40

From: Sarah Stubblefield Email: [Sarah.Stubblefield@AnnArborTechnicalServices.com](mailto:Sarah.Stubblefield@AnnArborTechnicalServices.com)  
Senior Chemist / Lab Manager FAX Number: 734-995-3731

Additional Message:

Date: 9/20/19 Signed:

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## LABORATORY OPERATIONS CASE NARRATIVE

ATS Project Number: G001-002  
Report Date: 9/18/19  
SDG Number's: 0912191

### Case Narrative Summary

This case narrative applies to the following thirty-two samples that were received by Ann Arbor Technical Services, Inc. (ATS) on 9/12/19, and associated matrix-specific QA/QC.

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
MW-20	9/3/19	Standard	1,4-Dioxane	Water
MW-56d	9/1/19	Standard	1,4-Dioxane	Water
MW-28	9/1/19	Standard	1,4-Dioxane	Water
MW-53d	9/4/19	Standard	1,4-Dioxane	Water
MW-53i	9/4/19	Standard	1,4-Dioxane	Water
MW-53s	9/4/19	Standard	1,4-Dioxane	Water
MW-93	9/4/19	Standard	1,4-Dioxane	Water
ANN ARBOR CLEANING	9/4/19	Standard	1,4-Dioxane	Water
MW-112s	9/5/19	Standard	1,4-Dioxane	Water
MW-112i	9/5/19	Standard	1,4-Dioxane	Water
MW-103s	9/5/19	Standard	1,4-Dioxane	Water
MW-84s	9/5/19	Standard	1,4-Dioxane	Water
MW-76i	9/6/19	Standard	1,4-Dioxane	Water
MW-76s	9/6/19	Standard	1,4-Dioxane	Water
RED POND	9/9/19	Standard	1,4-Dioxane	Water
TW-22	9/9/19	Standard	1,4-Dioxane	Water
TW-28	9/9/19	Standard	1,4-Dioxane	Water
TW-19	9/9/19	Standard	1,4-Dioxane	Water
TW-23	9/9/19	Standard	1,4-Dioxane	Water
LB-4	9/9/19	Standard	1,4-Dioxane	Water
TW-21	9/9/19	Standard	1,4-Dioxane	Water
TW-18	9/9/19	Standard	1,4-Dioxane	Water
TW-2 (DOLPH)	9/9/19	Standard	1,4-Dioxane	Water
TW-20	9/9/19	Standard	1,4-Dioxane	Water
PW-1	9/9/19	Standard	1,4-Dioxane	Water
MW-56s	9/1/19	Standard	1,4-Dioxane	Water

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**Samples cont.**

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
MW-42s	9/11/19	Standard	1,4-Dioxane	Water
MW-42d	9/11/19	Standard	1,4-Dioxane	Water
MW-39s	9/11/19	Standard	1,4-Dioxane	Water
MW-39d	9/11/19	Standard	1,4-Dioxane	Water
5005 JACKSON RD	9/10/19	Standard	1,4-Dioxane	Water
4141 JACKSON RD	9/10/19	Standard	1,4-Dioxane	Water

Upon receipt, samples were scheduled for the following analyses:

Analysis	Number of Samples
• 1,4-Dioxane by US EPA 1624	• 32 + 2 Matrix Spike + 2 Matrix Spike Duplicate

**Sample Receipt and Chain of Custody Records**

Samples were delivered directly to ATS by Pall Corporation staff. Samples were received with proper chain of custody records included. Sample condition and anomalies 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 procedure (SOP) 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 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. 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. 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:

#### Samples

Client Sample Identification	Sample Date
ANN ARBOR CLEANING	9/4/19
MW-76l	9/6/19
MW-76s	9/6/19
RED POND	9/9/19
TW-22	9/9/19
TW-28	9/9/19
TW-19	9/9/19
TW-23	9/9/19
LB-4	9/9/19
TW-21	9/9/19
TW-18	9/9/19
TW-2 (DOLPH)	9/9/19
TW-20	9/9/19
PW-1	9/9/19
MW-56s	9/11/19



#### 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: 9/18/19  
ATS SRF: 0912191

Sample Identification: MW-20

Sample Date: 9/3/19  
Sample Time: 9:35 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	18:07	JEB

/ September 18, 2019

Mark T. DeLong (Quality Assurance Coordinator)

/ September 18, 2019

Philip B. Simon (Laboratory Director)

#### Comments

All methods reference USEPA methods unless otherwise noted.

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rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-56d

Sample Date: 9/1/19  
Sample Time: 11:20 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	18:50	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-28

Sample Date: 9/1/19  
Sample Time: 1:37 PM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	19:32	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19



## 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: 9/18/19  
ATS SRF: 0912191

Sample Identification: MW-53d

Sample Date: 9/4/19  
Sample Time: 9:06 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	20:14	JEB

### Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

Sample Identification: MW-53s

Sample Date: 9/4/19  
Sample Time: 9:29 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	20:57	JEB

### Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-53i

Sample Date: 9/4/19  
Sample Time: 10:18 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.058	0.001	9/16/19	21:39	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-93

Sample Date: 9/4/19  
Sample Time: 11:43 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	22:22	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

Sample Identification: A2 Cleaning

Sample Date: 9/4/19  
Sample Time: 12:49 PM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.088	0.002	9/16/19	23:04	JEB

Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

Sample Identification: MW-112s

Sample Date: 9/5/19  
Sample Time: 9:12 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	23:46	JEB

Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-112i

Sample Date: 9/5/19  
Sample Time: 9:40 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.010	0.001	9/17/19	0:29	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-103s

Sample Date: 9/5/19  
Sample Time: 10:58 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/17/19	1:11	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19



## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-84s

Sample Date: 9/5/19  
Sample Time: 12:21 PM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.015	0.001	9/17/19	1:54	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-76i

Sample Date: 9/6/19  
Sample Time: 8:57 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.099	0.002	9/17/19	2:36	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-76s

Sample Date: 9/6/19  
Sample Time: 10:20 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/16/19	16:00	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** Red Pond

Sample Date: 9/9/19  
Sample Time: 8:19 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.40	0.01	9/17/19	3:19	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-22

Sample Date: 9/9/19  
Sample Time: 9:23 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.47	0.01	9/17/19	4:01	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-28

Sample Date: 9/9/19  
Sample Time: 9:26 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.82	0.01	9/17/19	4:43	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-19

Sample Date: 9/9/19  
Sample Time: 9:33 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.56	0.01	9/17/19	5:26	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-23

Sample Date: 9/9/19  
Sample Time: 9:36 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.48	0.01	9/17/19	6:08	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19



## 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: 9/18/19  
ATS SRF: 0912191

### Sample Identification: LB-4

Sample Date: 9/9/19  
Sample Time: 10:10 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.48	0.01	9/17/19	12:50	JEB

### Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

### Sample Identification: TW-21

Sample Date: 9/9/19  
Sample Time: 10:20 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.19	0.01	9/17/19	10:43	JEB

### Comments

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-18

Sample Date: 9/9/19  
Sample Time: 10:23 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.24	0.01	9/17/19	13:33	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-2 (DOLPH)

Sample Date: 9/9/19  
Sample Time: 10:28 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.12	0.002	9/17/19	14:15	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** TW-20

Sample Date: 9/9/19  
Sample Time: 10:34 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.86	0.02	9/17/19	22:01	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** PW-1

Sample Date: 9/9/19  
Sample Time: 10:40 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.80	0.02	9/17/19	15:39	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-56s

Sample Date: 9/1/19  
Sample Time: 12:34 PM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.069	0.002	9/17/19	16:22	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-42s

Sample Date: 9/11/19  
Sample Time: 1:10 PM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/17/19	17:04	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-42d

Sample Date: 9/11/19  
Sample Time: 11:50 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/17/19	17:46	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

**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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-39s

Sample Date: 9/11/19  
Sample Time: 8:50 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
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	9/17/19	18:29	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** MW-39d

Sample Date: 9/11/19  
Sample Time: 10:08 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.030	0.001	9/17/19	19:11	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19

## 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: 9/18/19  
ATS SRF: 0912191

**Sample Identification:** 5005 Jackson Road

Sample Date: 9/10/19  
Sample Time: 9:22 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.014	0.001	9/17/19	19:53	JEB

**Comments**

All methods reference USEPA methods unless otherwise noted.

X:\G001-002.19\ORG\_SRF\_0912191

rev. 9/18/19



## 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: 9/18/19  
ATS SRF: 0912191

Sample Identification: 4141 Jackson Road

Sample Date: 9/10/19  
Sample Time: 8:43 AM  
Sampled By: Client  
Laboratory Receipt Date: 9/12/19  
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	0.003	0.001	9/17/19	20:36	JEB

## Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0916191  
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002  
Report Date: 9/18/19

Results of QA Samples run concurrently with project samples

### REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-76s 9/6/19 Matrix Spike	0.81 mg/L	0.81 mg/L	0.81 mg/L	0.6
TVW-21 9/9/19 Matrix Spike	0.57 mg/L	0.74 mg/L	0.71 mg/L	9.3

### SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank #1 9/16/19	<0.001 mg/L	0.010 mg/L	0.010 mg/L	101.4
Laboratory Fortified Blank #2 9/17/19	<0.001 mg/L	0.010 mg/L	0.010 mg/L	99.2
MW-76s 9/6/19 Matrix Spike	0.22 mg/L	0.50 mg/L	0.81 mg/L	118.3
MW-76s 9/6/19 Matrix Spike Duplicate	0.22 mg/L	0.50 mg/L	0.81 mg/L	117.3
TVW-21 9/9/19 Matrix Spike	0.19 mg/L	0.50 mg/L	0.57 mg/L	96.3
TVW-21 9/9/19 Matrix Spike Duplicate	0.19 mg/L	0.50 mg/L	0.74 mg/L	109.5

### BLANK ANALYSIS

Sample	Analyzed Concentration	QC Decision
#G001-002		
Laboratory Reagent Blank #1 9/16/19	<0.001 mg/L	Acceptable
Laboratory Reagent Blank #2 9/17/19	<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%)

### Comments

All methods reference USEPA methods unless otherwise noted.

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rev. 9/18/19

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380 South Wagner Road  
Ann Arbor, Michigan 48106  
Tel: 734.965.4300 Fax: 734.965.4371  
Michigan Laboratory ID: 5804  
Wisconsin Laboratory ID: 89022723

# CHAIN OF CUSTODY RECORD

Page 1 OF 2

PROJECT ID / NUMBER		LABORATORY INFORMATION		SHIPPER INFORMATION (SHIPPER (check one) / TRACKING NUMBER(S) (if applicable))	
SAMPLE CUSTODIAN (print name) Susan Peters Pall Corp.		642 S. Wagner Rd Ann Arbor MI Sue Peters @ Pall.com		Date: <input type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer <input type="checkbox"/> Winter Tracking Number: <input type="checkbox"/>	
RELINQUISHED BY (print name) Jason Freeman		DATE / TIME 9/17/19 12:14		DATE / TIME RECEIVED BY (print name) Sue Peters	
RELINQUISHED BY (print name)		DATE / TIME		DATE / TIME	
COMMENTS (Preparation, etc.) Standard Turn Around is Fine - Thanks		ANALYSIS		MATRIX Indicate Substrate(s) and Sample Shape Boxed	
LINE NO.	BAR CODE	DATE	TIME	CONC.	SAMPLE IDENTIFICATION
1.		9-17-19	09:14	✓	Pal-20
2.		09-20-19	09:25	✓	n.d.
3.		09-20-19	11:20	✓	n.d.
4.		09-20-19	13:27	✓	n.d.
5.		09-20-19	09:16	✓	n.d.
6.		09-20-19	09:29	✓	n.d.
7.		09-20-19	10:15	✓	n.d.
8.		09-20-19	11:13	✓	n.d.
9.		9-24-19	12:49	✓	n.d.
10.		9-24-19	09:12	✓	n.d.
11.		9-24-19	09:40	✓	n.d.
12.		9-24-19	10:58	✓	n.d.
13.		9-24-19	12:21	✓	n.d.
14.		9-24-19	08:57	✓	n.d.
15.		9-24-19	10:28	✓	n.d.
16.		9-24-19	08:19	✓	n.d.
17.		9-24-19	09:23	✓	n.d.
18.		9-24-19	09:26	✓	n.d.
19.		9-24-19	09:33	✓	n.d.
20.		9-24-19	09:36	✓	n.d.



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Page 2 OF 2

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SAMPLE CUSTODIAN (print name) Susan Peters Pall Corporation		642 S. Wagner Rd Ann Arbor MI Sue Peters @ Pall.com		Date: <input type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer <input type="checkbox"/> Winter Tracking Number: <input type="checkbox"/>	
RELINQUISHED BY (print name) Jason Freeman		DATE / TIME 9/17/19 12:14		DATE / TIME RECEIVED BY (print name) Sue Peters	
RELINQUISHED BY (print name)		DATE / TIME		DATE / TIME	
COMMENTS (Preparation, etc.) Standard Turn Around is Fine - Thanks		ANALYSIS		MATRIX Indicate Substrate(s) and Sample Shape Boxed	
LINE NO.	BAR CODE	DATE	TIME	CONC.	SAMPLE IDENTIFICATION
1.		9-24-19	10:30	✓	LB-4
2.		9-24-19	10:20	✓	TW-21
3.		9-24-19	10:23	✓	TW-18
4.		9-24-19	10:28	✓	TW-2 (DUPH)
5.		9-24-19	10:24	✓	TW-20
6.		9-24-19	10:10	✓	PA-1
7.		9-1-19	12:34	✓	MW-565
8.		9-1-19	13:10	✓	MW-425
9.		9-11-19	11:50	✓	MW-424
10.		9-11-19	08:50	✓	MW-393
11.		9-11-19	10:08	✓	MW-392
12.		9-10-19	09:10	✓	6005 Jackson Rd
13.		9-24-19	08:43	✓	4141 Jackson Rd
14.					
15.					
16.					
17.					
18.					
19.					
20.					