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CASE NARRATIVE

Monthly Data Pall Life Sciences
Project: 1,4-Dioxane Remediation
Date: July 2021

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.

At the end of the month some of the 1,4-dioxane samples were sent to Ann Arbor Technical Services for analysis due to a reproducibility problem. The balance of the samples were analyzed for 1,4-dioxane at Pall Corporation's Environmental Laboratory. All bromate samples were analyzed by Pall Corporation's Environmental Laboratory. The 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 HCl acid-preserved vials to a pH of ≤2, except for 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 (±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 1ppb (part per billion, micrograms per liter, µg/L). All quality control parameters were within the acceptance limits for reported samples unless indicated.

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.

Qualifiers

1,4-Dioxane Qualifier Codes:

Qualifier Code	*Description*
nd:	The compound was analyzed for, but 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

Manager: *Susan E.O. Peters* Susan E.O. Peters Date: 8-10-21

Analyst: *Gage M. Trendel* Date: 8/10/21

PALL Life Sciences

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Sample Analysis Report

July, 2021

Analyst Initials: GHT
Date: 8/10/21

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)
Extraction Wells								
C3								
DOLPH-07-09-21-12:30-1	130	20.0						
TW-20-07-09-21-12:35-1	690	10.0						
TW-24-07-29-21-13:10-1	1900	4.0						
D2								
LB-4-07-09-21-12:05-1	480	10.0						
TW-21-07-09-21-12:15-1	280	10.0						
E								
TW-18-07-09-21-12:20-1	240	10.0						
TW-23-07-09-21-12:10-1	360	10.0						
Marshy								
PW-1-07-09-21-12:25-1	670	10.0						
SW								
TW-22-07-09-21-12:40-1	480	10.0						
TW-28-07-09-21-12:45-1	620	10.0						
Monitoring Wells								
C3								
MW-105s-07-27-21-14:07-1	390	10.0						
MW-16-07-27-21-09:06-1	15	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)
D0								
A2 Cleaning Supply-07-01-21-13:10-1	49	1.0						
MW-53d-07-01-21-10:33-1	nd	1.0						
MW-53i-07-01-21-12:51-1	55	1.0						
MW-53s-07-01-21-11:42-1	nd	1.0						
D2								
170 Aprill-07-29-21-14:14-1	4.0	1.0						
2819 Dexter Rd-07-15-21-14:30-1	190	10.0						
3365 Jackson Rd-07-29-21-12:54-1	180	10.0						
MW-107-07-14-21-11:20-1	550	10.0						
MW-113-07-15-21-11:50-1	130	10.0						
MW-118-07-28-21-12:43-1	54	1.0						
MW-120s-07-08-21-13:45-1	nd	1.0						
MW-121s-07-08-21-09:44-1	nd	1.0						
MW-122s-07-13-21-14:22-1	220	10.0						
MW-123s-07-12-21-14:11-1	nd	1.0						
MW-124s-07-14-21-09:55-1	nd	1.0						
MW-129i-07-12-21-10:18-1	nd	1.0						
MW-129s-07-12-21-09:10-1	nd	1.0						
MW-130i-07-13-21-10:05-1	7.0	1.0						
MW-130s-07-13-21-11:20-1	nd	1.0						
MW-133i-07-28-21-10:13-1	2.0	1.0						
MW-133s-07-28-21-09:01-1	2.0	1.0						
MW-17-07-27-21-11:41-1	260	10.0						
MW-30i-07-29-21-10:26-1	7.0	1.0						
MW-54d-07-22-21-09:56-1	64	1.0						
MW-54s-07-22-21-08:48-1	nd	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)
MW-77-07-26-21-12:08-1	860	20.0						
MW-92-07-22-21-11:23-1	80	1.0						
MW-94s-07-28-21-13:59-1	740	10.0						
MW-BE-1d-07-21-21-13:19-1	96	10.0						
MW-BE-1s-07-21-21-14:27-1	590	10.0						
MW-KD-1d-07-26-21-10:41-1	520	10.0						
MW-KD-1s-07-26-21-09:30-1	140	10.0						
E								
MW-101-07-15-21-10:32-1	92	10.0						
MW-103d-07-06-21-13:03-1	7.0	1.0						
MW-103s-07-06-21-14:28-1	79	10.0						
MW-104-07-07-21-11:54-1	26	1.0						
MW-105d-07-27-21-12:58-1	170	10.0						
MW-106d-07-23-21-13:04-1	nd	1.0						
MW-106s-07-23-21-14:12-1	270	10.0						
MW-108d-07-26-21-14:36-1	460	10.0						
MW-108s-07-26-21-13:27-1	260	10.0						
MW-110-07-07-21-13:10-1	120	4.0						
MW-112d-07-06-21-11:26-1	2.0	1.0						
MW-112i-07-06-21-10:14-1	9.0	1.0						
MW-112s-07-06-21-09:06-1	2.0	1.0						
MW-119-07-15-21-09:12-1	26	1.0						
MW-120d-07-08-21-12:25-1	nd	1.0						
MW-121d-07-08-21-10:59-1	2.0	1.0						
MW-122d-07-13-21-13:07-1	nd	1.0						
MW-123d-07-12-21-12:59-1	nd	1.0						
MW-124d-07-14-21-08:47-1	nd	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)
MW-129d-07-12-21-11:30-1	1.0	1.0						
MW-130d-07-13-21-08:50-1	nd	1.0						
MW-133d-07-28-21-11:23-1	3.0	1.0						
MW-135-07-20-21-14:22-1	nd	1.0						
MW-30d-07-29-21-11:36-1	94	4.0						
MW-69-07-29-21-09:04-1	nd	1.0						
MW-70-07-27-21-10:22-1	2.0	1.0						
MW-76i-07-07-21-09:25-1	100	10.0						
MW-76s-07-07-21-10:34-1	300	10.0						
MW-79d-07-22-21-12:40-1	nd	1.0						
MW-79s-07-22-21-13:50-1	280	10.0						
MW-82s-07-21-21-11:47-1	270	10.0						
MW-84s-07-07-21-14:25-1	77	10.0						
MW-85-07-23-21-11:44-1	480	10.0						
MW-88-07-23-21-10:29-1	150	10.0						
MW-89-07-21-21-09:09-1	1.0	1.0						
MW-90-07-21-21-10:27-1	5.0	1.0						
MW-97d-07-20-21-11:47-1	nd	1.0						
MW-97s-07-20-21-12:57-1	nd	1.0						
MW-98s-07-23-21-09:11-1	7.0	1.0						
MW-99d-07-20-21-09:21-1	nd	1.0						
MW-99s-07-20-21-10:30-1	nd	1.0						
Not Determined								
2575 Valley-07-15-21-13:12-1	120	10.0						
Surface Water								
Not Applicable								

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-07-01-21-13:10-1			nd	2.0				
HC/HR-07-02-21-09:50-1			nd	2.0				
HC/HR-07-06-21-09:15-1			nd	2.0				
HC/HR-07-07-21-10:00-1			nd	2.0				
HC/HR-07-08-21-09:45-1			nd	2.0				
HC/HR-07-09-21-11:55-1			nd	2.0				
HC/HR-07-12-21-09:25-1			nd	2.0				
HC/HR-07-13-21-09:05-1			nd	2.0				
HC/HR-07-14-21-10:55-1			nd	2.0				
HC/HR-07-15-21-09:50-1			nd	2.0				
HC/HR-07-16-21-09:25-1			nd	2.0				
HC/HR-07-19-21-09:25-1			nd	2.0				
HC/HR-07-20-21-10:20-1			nd	2.0				
HC/HR-07-21-21-09:50-1			nd	2.0				
HC/HR-07-22-21-11:00-1			nd	2.0				
HC/HR-07-23-21-09:40-1			nd	2.0				
HC/HR-07-26-21-10:45-1			nd	2.0				
HC/HR-07-27-21-11:05-1			nd	2.0				
HC/HR-07-28-21-10:15-1			nd	2.0				
HC/HR-07-29-21-09:15-1			nd	2.0				
HC/HR-07-30-21-10:15-1			nd	2.0				
Treatment System								
OUTFALL-07-01-21-1	6.0	1.0						
OUTFALL-07-01-21-2			9.0	5.0				
OUTFALL-07-04-21-1	5.0	1.0						
OUTFALL-07-04-21-2			9.2	5.0				
OUTFALL-07-05-21-1	6.0	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-07-05-21-2			12	5.0				
OUTFALL-07-06-21-1	6.0	1.0						
OUTFALL-07-06-21-2			9.8	5.0				
OUTFALL-07-07-21-1	6.0	1.0						
OUTFALL-07-07-21-2			7.5	5.0				
OUTFALL-07-08-21-1	6.0	1.0						
OUTFALL-07-08-21-2			9.0	5.0				
OUTFALL-07-11-21-1	6.0	1.0						
OUTFALL-07-11-21-2			7.2	5.0				
OUTFALL-07-12-21-1	6.0	1.0						
OUTFALL-07-12-21-2			9.0	5.0				
OUTFALL-07-13-21-1	7.0	1.0						
OUTFALL-07-13-21-2			5.2	5.0				
OUTFALL-07-14-21-1	6.0	1.0						
OUTFALL-07-14-21-2			6.7	5.0				
OUTFALL-07-15-21-1	7.0	1.0						
OUTFALL-07-15-21-2			5.5	5.0				
OUTFALL-07-18-21-1	6.0	1.0						
OUTFALL-07-18-21-2			9.2	5.0				
OUTFALL-07-19-21-1	6.0	1.0						
OUTFALL-07-19-21-2			8.3	5.0				
OUTFALL-07-20-21-1	6.0	1.0						
OUTFALL-07-20-21-2			9.0	5.0				
OUTFALL-07-21-21-1	7.0	1.0						
OUTFALL-07-21-21-2			9.0	5.0				
OUTFALL-07-22-21-1	6.0	1.0						
OUTFALL-07-22-21-2			8.2	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-07-25-21-1	6.0	1.0						
OUTFALL-07-25-21-2			6.0	5.0				
OUTFALL-07-26-21-1	7.0	1.0						
OUTFALL-07-26-21-2			9.2	5.0				
OUTFALL-07-27-21-1	7.0	1.0						
OUTFALL-07-27-21-2			9.8	5.0				
OUTFALL-07-28-21-1	6.0	1.0						
OUTFALL-07-28-21-2			8.0	5.0				
OUTFALL-07-29-21-1	6.0	1.0						
OUTFALL-07-29-21-2			7.2	5.0				
Red Pond-07-06-21-07:50-1	310	10.0						
Red Pond-07-12-21-07:40-1	320	10.0						
Red Pond-07-19-21-08:00-1	350	1.0						
Red Pond-07-26-21-07:25-1	340	10.0						
Red Pond-07-30-21-13:00-1	420	20.0						

Data Transmittal Cover Page

Project Name:	Pall Corporation
ATS Project Number:	G001-002
ATS Report Number(s):	Org_SRF_0720211
Client PO Number:	4504293919
Project Description:	This data report contains the results of 61 water samples, received by ATS on 7/20/21, 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: Mr. Gage Trendel Email: gtrendel@fv-operations.com
FAX Number:

No. of Pages (including cover pg.): 75

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

Additional Message:

Date: 8/6/21 Signed:

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

LABORATORY OPERATIONS CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0720211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following 61 samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/20/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/20/21				
MW-54d	7/1/21	Standard	1,4-Dioxane	Water
MW-53s	7/1/21	Standard	1,4-Dioxane	Water
MW-53i	7/1/21	Standard	1,4-Dioxane	Water
A2 Cleaning Supply	7/1/21	Standard	1,4-Dioxane	Water
Outfall	7/1/21	Urgent	1,4-Dioxane	Water
Outfall	7/4/21	Urgent	1,4-Dioxane	Water
Outfall	7/5/21	Urgent	1,4-Dioxane	Water
Red Pond	7/6/21	Standard	1,4-Dioxane	Water
MW-112s	7/6/21	Standard	1,4-Dioxane	Water
MW-112i	7/6/21	Standard	1,4-Dioxane	Water
MW-112d	7/6/21	Standard	1,4-Dioxane	Water
MW-103d	7/6/21	Standard	1,4-Dioxane	Water
MW-103s	7/6/21	Standard	1,4-Dioxane	Water
Outfall	7/6/21	Urgent	1,4-Dioxane	Water
MW-76i	7/7/21	Standard	1,4-Dioxane	Water
MW-76s	7/7/21	Standard	1,4-Dioxane	Water
MW-104	7/7/21	Standard	1,4-Dioxane	Water
MW-110	7/7/21	Standard	1,4-Dioxane	Water
MW-84s	7/7/21	Standard	1,4-Dioxane	Water
Outfall	7/7/21	Urgent	1,4-Dioxane	Water
MW-121s	7/8/21	Standard	1,4-Dioxane	Water
MW-121d	7/8/21	Standard	1,4-Dioxane	Water
MW-120d	7/8/21	Standard	1,4-Dioxane	Water
MW-120s	7/8/21	Standard	1,4-Dioxane	Water

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

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Outfall	7/8/21	Urgent	1,4-Dioxane	Water
LB-4	7/9/21	Standard	1,4-Dioxane	Water
TW-23	7/9/21	Standard	1,4-Dioxane	Water
TW-21	7/9/21	Standard	1,4-Dioxane	Water
TW-18	7/9/21	Standard	1,4-Dioxane	Water
PW-1	7/9/21	Standard	1,4-Dioxane	Water
DOLPH	7/9/21	Standard	1,4-Dioxane	Water
TW-20	7/9/21	Standard	1,4-Dioxane	Water
TW-22	7/9/21	Standard	1,4-Dioxane	Water
TW-28	7/9/21	Standard	1,4-Dioxane	Water
Outfall	7/11/21	Urgent	1,4-Dioxane	Water
Red Pond	7/12/21	Standard	1,4-Dioxane	Water
MW-129s	7/12/21	Standard	1,4-Dioxane	Water
MW-129i	7/12/21	Standard	1,4-Dioxane	Water
MW-129d	7/12/21	Standard	1,4-Dioxane	Water
MW-123d	7/12/21	Standard	1,4-Dioxane	Water
MW-123s	7/12/21	Standard	1,4-Dioxane	Water
Outfall	7/12/21	Urgent	1,4-Dioxane	Water
MW-130d	7/13/21	Standard	1,4-Dioxane	Water
MW-130i	7/13/21	Standard	1,4-Dioxane	Water
MW-130s	7/13/21	Standard	1,4-Dioxane	Water
MW-122d	7/13/21	Standard	1,4-Dioxane	Water
MW-122s	7/13/21	Standard	1,4-Dioxane	Water
Outfall	7/13/21	Urgent	1,4-Dioxane	Water
MW-124d	7/14/21	Standard	1,4-Dioxane	Water
MW-124s	7/14/21	Standard	1,4-Dioxane	Water
MW-107	7/14/21	Standard	1,4-Dioxane	Water
Outfall	7/14/21	Urgent	1,4-Dioxane	Water
MW-119	7/15/21	Standard	1,4-Dioxane	Water
MW-101	7/15/21	Standard	1,4-Dioxane	Water
MW-113	7/15/21	Standard	1,4-Dioxane	Water
2575 Valley	7/15/21	Standard	1,4-Dioxane	Water
2819 Dexter	7/15/21	Standard	1,4-Dioxane	Water
Outfall	7/15/21	Urgent	1,4-Dioxane	Water
Outfall	7/18/21	Urgent	1,4-Dioxane	Water
Red Pond	7/19/21	Standard	1,4-Dioxane	Water
Outfall	7/19/21	Urgent	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses with a standard turn around time (TAT), subsequently it was requested that the TAT's on some samples was changed to urgent.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	13 Samples + 1 Matrix Spike + 1 Matrix Spike Duplicate
1,4-Dioxane (USEPA 1624) – Standard TAT	48 Samples + 3 Matrix Spikes + 3 Matrix Spike Duplicates

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- Red Pond 7/6/21
- MW-76s 7/7/21
- TW-23 7/9/21
- PW-1 7/9/21
- TW-22 7/9/21
- MW-122s 7/13/21
- MW-113 7/15/21
- Red Pond 7/19/21
- MW-103s 7/6/21
- MW-110 7/7/21
- TW-21 7/9/21
- DOPLH 7/9/21
- TW-28 7/9/21
- MW-107 7/14/21
- 2575 Valley 7/15/21
- MW-76i 7/7/21
- LB-4 7/9/21
- TW-18 7/9/21
- TW-20 7/9/21
- Red Pond 7/12/21
- MW-101 7/15/21
- 2819 Dexter 7/15/21

/ August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

/ August 6, 2021
Philip B. Simon (Laboratory Director)

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-53d

Sample Date:	7/1/21
Sample Time:	10:33 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/28/21	13:13	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-53s

Sample Date:	7/1/21
Sample Time:	11:42 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/28/21	13:57	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-53i

Sample Date: 7/1/21
Sample Time: 12:51 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.055	0.001	7/28/21	14:41	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: A2 Cleaning Supply

Sample Date: 7/1/21
Sample Time: 1:10 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.049	0.001	7/28/21	15:25	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/1/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	16:50	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/4/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.005	0.001	7/27/21	22:08	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/5/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	20:52	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Red Pond

Sample Date: 7/6/21
Sample Time: 7:50 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.31	0.01	7/28/21	10:00	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-112s

Sample Date: 7/6/21
Sample Time: 9:06 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	7/28/21	17:37	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-112i

Sample Date: 7/6/21
Sample Time: 10:14 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.009	0.001	7/28/21	18:21	SLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-112d

Sample Date: 7/6/21
Sample Time: 11:26 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	7/29/21	19:05	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-103d

Sample Date: 7/6/21
Sample Time: 1:03 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.067	0.001	7/29/21	22:01	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-103s

Sample Date: 7/6/21
Sample Time: 2:28 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.079	0.01	7/29/21	22:45	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/6/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	19:26	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-7ti

Sample Date: 7/7/21
Sample Time: 11:25 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.10	0.01	7/29/21	0:58	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-7ts

Sample Date: 7/7/21
Sample Time: 10:34 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.30	0.01	7/29/21	1:42	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-104

Sample Date: 7/7/21
Sample Time: 11:54 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.026	0.001	7/29/21	2:20	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-110

Sample Date: 7/7/21
Sample Time: 1:10 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.12	0.004	7/29/21	3:10	SLS

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

K:\G001-002.21\SRF 0726211\ORG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-84s

Sample Date: 7/7/21
Sample Time: 2:25 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.077	0.01	7/29/21	3:54	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/7/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	20:20	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-121s

Sample Date: 7/6/21
Sample Time: 9:44 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/29/21	4:36	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-121d

Sample Date: 7/6/21
Sample Time: 10:58 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	7/29/21	5:22	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-120d

Sample Date: 7/6/21
Sample Time: 12:25 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/29/21	6:18	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-120s

Sample Date: 7/6/21
Sample Time: 1:45 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/29/21	9:52	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/6/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	21:04	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: LN-4

Sample Date: 7/6/21
Sample Time: 12:05 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.48	0.01	7/29/21	9:46	SLS

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

rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-23

Sample Date: 7/9/21
Sample Time: 12:10 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.36	0.01	7/29/21	10:30	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-21

Sample Date: 7/9/21
Sample Time: 12:15 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.20	0.01	7/29/21	11:15	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-18

Sample Date: 7/9/21
Sample Time: 12:20 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.34	0.01	7/29/21	11:58	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: PW-1

Sample Date: 7/9/21
Sample Time: 12:25 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.67	0.01	7/29/21	16:57	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: DOLPH

Sample Date: 7/9/21
Sample Time: 12:30 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.13	0.02	7/29/21	17:42	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-20

Sample Date: 7/9/21
Sample Time: 12:35 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.69	0.01	7/29/21	19:58	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-22

Sample Date: 7/9/21
Sample Time: 12:40 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.48	0.01	7/29/21	20:40	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: TW-28

Sample Date: 7/9/21
Sample Time: 12:45 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.82	0.01	7/29/21	21:25	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na - indicates not available / applicable.

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/11/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	21:48	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Red Pond

Sample Date: 7/12/21
Sample Time: 7:40 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.32	0.01	7/29/21	22:09	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-120s

Sample Date: 7/12/21
Sample Time: 9:10 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/29/21	23:30	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-120i

Sample Date: 7/12/21
Sample Time: 10:19 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	0:22	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-126d

Sample Date: 7/12/21
Sample Time: 11:30 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.001	0.001	7/30/21	1:07	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-123d

Sample Date: 7/12/21
Sample Time: 12:50 PM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	4:04	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-123s

Sample Date: 7/12/21
Sample Time: 2:11 PM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	4:49	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/12/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/27/21	22:32	SLS

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

rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-130d

Sample Date:	7/13/21
Sample Time:	8:50 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	5:33	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-130

Sample Date:	7/13/21
Sample Time:	10:05 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	7/30/21	6:17	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-130s

Sample Date:	7/13/21
Sample Time:	11:20 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	7:02	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-122d

Sample Date:	7/13/21
Sample Time:	1:07 PM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	7:46	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-122s

Sample Date:	7/13/21
Sample Time:	2:22 PM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.22	0.01	7/30/21	7:46	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date:	7/13/21
Sample Time:	na
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	7/27/21	23:16	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-124d

Sample Date:	7/14/21
Sample Time:	8:47 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	9:14	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: MW-124s

Sample Date:	7/14/21
Sample Time:	9:55 AM
Sampled By:	Client
Laboratory Receipt Date:	7/20/21
Sample Matrix:	Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/30/21	15:51	SLS

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

X:\G001-002.21\SRF 0720211\OR\G_SRF_0720211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-107

Sample Date: 7/14/21
Sample Time: 11:20 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.55	0.01	7/30/21	18:36	SLS

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

X:\G001-002.21\SRF 0726211\GRU_SHT_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/14/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/29/21	0:00	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-119

Sample Date: 7/15/21
Sample Time: 9:12 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.026	0.001	7/30/21	17:21	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-101

Sample Date: 7/15/21
Sample Time: 10:32 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.01	8/3/21	4:37	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-113

Sample Date: 7/15/21
Sample Time: 11:50 AM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.13	0.01	7/30/21	19:34	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: 25/5 Valley

Sample Date: 7/15/21
Sample Time: 1:12 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.12	0.01	7/30/21	20:16	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: 2619 Dexter

Sample Date: 7/15/21
Sample Time: 2:30 PM
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.19	0.01	7/30/21	22:32	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/15/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	7/29/21	2:13	SLS

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

X:\G001-002.21\SRF 0726211\OHO_SRF_0726211 rev. 8/5/21

ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/19/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/28/21	2:57	SLS

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

X:\G001-002.21\SRF 0720211\ORG_SRF_0720211 rev. 8/5/21

ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Red Pond

Sample Date: 7/19/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.35	0.001	7/31/21	1:29	SLS

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

X:\G001-002.21\SRF 0720211\ORG_SRF_0720211 rev. 8/5/21

ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0720211

Sample Identification: Outfall 001

Sample Date: 7/19/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/20/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/28/21	3:41	SLS

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

X:\G001-002.21\SRF 0720211\ORG_SRF_0720211 rev. 8/5/21

ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0727211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
Outfall 7/1/21 Matrix Spike	0.016 mg/L	0.015 mg/L	0.016 mg/L	11.0

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	0.010 mg/L	95.8
Outfall 7/1/21 Matrix Spike	0.006 mg/L	0.010 mg/L	0.016 mg/L	108.4
Outfall 7/1/21 Matrix Spike Duplicate	0.006 mg/L	0.010 mg/L	0.015 mg/L	88.8

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%)

X:\G001-002.21\QRF 0720211\ORG_SRF_0720211 rev 8/5/21

ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0726211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-103s 7/6/21 Matrix Spike	0.18 mg/L	0.19 mg/L	0.19 mg/L	7.4

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	97.8
MW-103s 7/6/21 Matrix Spike	0.079 mg/L	0.19 mg/L	0.18 mg/L	101.0
MW-103s 7/6/21 Matrix Spike Duplicate	0.079 mg/L	0.19 mg/L	0.19 mg/L	114.8

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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ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0729211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
Dolph 7/9/21 Matrix Spike	0.31 mg/L	0.33 mg/L	0.32 mg/L	5.3

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	0.011 mg/L	110.7
Dolph 7/9/21 Matrix Spike	0.13 mg/L	0.20 mg/L	0.31 mg/L	89.8
Dolph 7/9/21 Matrix Spike Duplicate	0.13 mg/L	0.20 mg/L	0.33 mg/L	98.3

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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ATS
206 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/665-6000 Fax. 734/665-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0730211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
2575 Valley 7/15/21 Matrix Spike	0.23 mg/L	0.22 mg/L	0.23 mg/L	1.0

SPIKES and/or QC CHECK SAMPLES

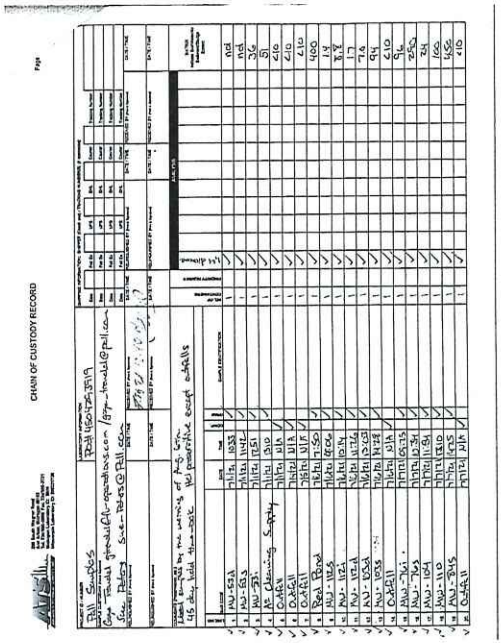
Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.011 mg/L	109.7
2575 Valley 7/15/21 Matrix Spike	0.12 mg/L	0.10 mg/L	0.23 mg/L	106.9
2575 Valley 7/15/21 Matrix Spike Duplicate	0.12 mg/L	0.10 mg/L	0.22 mg/L	104.2

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

Page 1

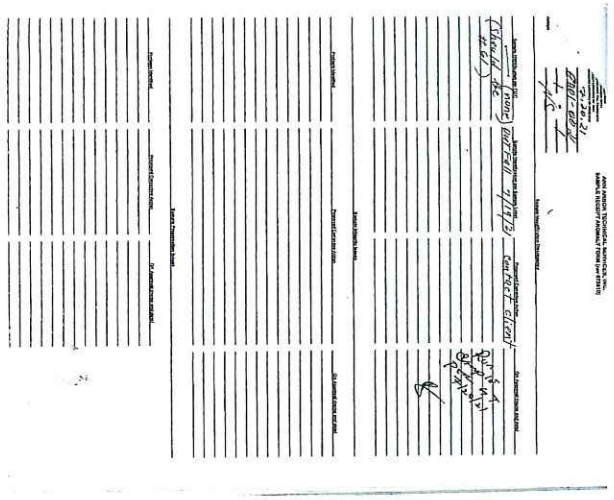
	Sample Code	Date	Time	Grab	Comp	Sample Identification	No. of Containers	Preserv. Number	1,4 Dioxane									
1	MW-125	7/14/21	0644	✓			1		✓									nd
2	MW-121d	7/14/21	10:59	✓			1		✓									2.5
3	MW-120d	7/14/21	12:25	✓			1		✓									nd
4	MW-120s	7/14/21	1345	✓			1		✓									nd
5	Outfall	7/14/21	N/A	✓			1		✓									<10
6	LB-4	7/14/21	1205		✓		1		✓									480
7	TU-23	7/14/21	11:10		✓		1		✓									500
8	TU-24	7/14/21	11:15		✓		1		✓									270
9	TU-25	7/14/21	12:20		✓		1		✓									2.0
10	PW-1	7/14/21	12:25		✓		1		✓									500
11	DUP-1	7/14/21	12:30		✓		1		✓									150
12	TU-20	7/14/21	12:35		✓		1		✓									630
13	TU-22	7/14/21	12:40		✓		1		✓									350
14	TU-28	7/14/21	12:45		✓		1		✓									700
15	Outfall	7/14/21	N/A	✓			1		✓									<10
16	Red Pond	7/14/21	730		✓		1		✓									400
17	MW-118	7/14/21	9:10		✓		1		✓									nd
18	MW-129	7/14/21	10:15		✓		1		✓									nd
19	MW-126d	7/14/21	11:05		✓		1		✓									14
20	MW-123d	7/14/21	12:50		✓		1		✓									nd

CHAIN OF CUSTODY RECORD

Page 2

	Sample Code	Date	Time	Grab	Comp	Sample Identification	No. of Containers	Preserv. Number	1,4 Dioxane									
1	MW-123s	7/14/21	1411	✓			1		✓									nd
2	Outfall	7/14/21	N/A	✓			1		✓									<10
3	MW-130d	7/14/21	8:50	✓			1		✓									nd
4	MW-130i	7/14/21	0835	✓			1		✓									6.1
5	MW-130s	7/14/21	1120	✓			1		✓									nd
6	MW-132d	7/14/21	13:07	✓			1		✓									nd
7	MW-122s	7/15/21	1422	✓			1		✓									2.0
8	Outfall	7/15/21	N/A	✓			1		✓									<10
9	MW-124d	7/14/21	1547	✓			1		✓									nd
10	MW-124s	7/14/21	0855	✓			1		✓									nd
11	MW-107	7/14/21	1420	✓			1		✓									<10
12	Outfall	7/14/21	N/A	✓			1		✓									<10
13	MW-119	7/15/21	9:22	✓			1		✓									32
14	MW-101	7/15/21	10:32	✓			1		✓									86
15	MW-113	7/15/21	1245	✓			1		✓									120
16	JE 2815 Valley	7/15/21	1312	✓			1		✓									110
17	29A Dexter	7/15/21	1430	✓			1		✓									120
18	Outfall	7/15/21	N/A	✓			1		✓									<10
19	Outfall	7/15/21	N/A	✓			1		✓									<10
20	Red Pond	7/14/21	N/A	✓			1		✓									400

Outfall 7/14/21 N/A * extra sample received



290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-0731
Michigan Laboratory ID: 9904
Wisconsin Laboratory ID: 998021730

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0723211
Client PO Number: 4504293919

Project Description: This data report contains the results of 17 water samples, received by ATS on 7/23/21, 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: Mr. Gage Trendel — **Email:** gtrendel@fr-operations.com — **FAX Number:**

No. of Pages (including cover pg.): 25

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

Additional Message:

Date: 8/6/21 **Signed:**

IF YOU DO NOT RECEIVE ALL PAGES OF THIS TRANSMITTAL, PLEASE CALL 734-995-0900.

LABORATORY OPERATIONS CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0723211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following 17 samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/23/21, and associated matrix-specific QA/QC.

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/23/21				
MW-9D	7/22/21	Standard	1,4-Dioxane	Water
MW-54d	7/22/21	Standard	1,4-Dioxane	Water
MW-54s	7/22/21	Standard	1,4-Dioxane	Water
MW-BE-1d	7/22/21	Standard	1,4-Dioxane	Water
MW-79s	7/22/21	Standard	1,4-Dioxane	Water
MW-BE-1s	7/22/21	Standard	1,4-Dioxane	Water
MW-89	7/21/21	Standard	1,4-Dioxane	Water
MW-90	7/21/21	Standard	1,4-Dioxane	Water
MW-82s	7/21/21	Standard	1,4-Dioxane	Water
MW-79d	7/21/21	Standard	1,4-Dioxane	Water
MW-115	7/20/21	Standard	1,4-Dioxane	Water
MW-87s	7/20/21	Standard	1,4-Dioxane	Water
MW-99s	7/20/21	Standard	1,4-Dioxane	Water
MW-99d	7/20/21	Standard	1,4-Dioxane	Water
Outfall	7/20/21	Urgent	1,4-Dioxane	Water
Outfall	7/21/21	Urgent	1,4-Dioxane	Water
Outfall	7/22/21	Urgent	1,4-Dioxane	Water

Consultants in Chemistry & Environmental Science
290 South Wagner Road, Ann Arbor, Michigan 48103 Tel 734/995-0900 Fax 734/995-3731

Upon receipt samples were scheduled for the following analyses with a standard turn around time (TAT), subsequently it was requested that the TAT's on some samples was changed to urgent.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	3 Samples
1,4-Dioxane (USEPA 1624) – Standard TAT	14 Samples + 1 Matrix Spikes + 1 Matrix Spike Duplicates

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- MW-BE-1d 7/22/21
- MW-79s 7/22/21
- MW-BE-1s 7/22/21
- MW-90 7/21/21

Mark T. DeLong / August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

Philip B. Simon / August 6, 2021
Philip B. Simon (Laboratory Director)

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-9D

Sample Date: 7/22/21
Sample Time: 11:23 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.080	0.001	7/31/21	2:13	DLS

Comments
All methods reference US EPA methods unless otherwise noted.
na = Indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-54d

Sample Date: 7/22/21
Sample Time: 9:56 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.084	0.001	7/31/21	2:57	DLS

Comments
All methods reference US EPA methods unless otherwise noted.
na = Indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-54s

Sample Date: 7/22/21
Sample Time: 8:48 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	4:26	DLS

Comments
All methods reference US EPA methods unless otherwise noted.
na = Indicates not available / applicable.

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-8E-1d

Sample Date: 7/21/21
Sample Time: 1:10 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.090	0.01	7/31/21	5:10	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-7Ds

Sample Date: 7/22/21
Sample Time: 1:50 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.28	0.01	7/31/21	9:54	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-8E-1s

Sample Date: 7/21/21
Sample Time: 2:27 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.38	0.01	7/31/21	8:06	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-8S

Sample Date: 7/21/21
Sample Time: 9:05 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.001	0.001	7/31/21	8:50	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-8D

Sample Date: 7/21/21
Sample Time: 10:27 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.005	0.001	7/31/21	9:34	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-4Ds

Sample Date: 7/21/21
Sample Time: 11:47 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.27	0.01	7/31/21	10:19	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-7Dd

Sample Date: 7/22/21
Sample Time: 12:40 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	13:15	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-13S

Sample Date: 7/20/21
Sample Time: 2:22 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	14:00	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-97c

Sample Date: 7/20/21
Sample Time: 12:57 PM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	14:44	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-86c

Sample Date: 7/20/21
Sample Time: 10:30 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	15:28	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: MW-99d

Sample Date: 7/20/21
Sample Time: 9:21 AM
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	16:13	SLS

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

X:\G001-002.210\SRF 0723211\ORG_SRF_0723211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: Outfall 001

Sample Date: 7/20/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/28/21	4:25	SLS

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

X:\G001-002.210\SRF 0723211\ORG_SRF_0723211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: Outfall 001

Sample Date: 7/21/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	7/28/21	5:09	SLS

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

X:\G001-002.210\SRF 0723211\ORG_SRF_0723211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0723211

Sample Identification: Outfall 001

Sample Date: 7/22/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/23/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/28/21	5:53	SLS

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

X:\G001-002.210\SRF 0723211\ORG_SRF_0723211 rev. 8/5/21

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG072711
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Outfall 7/1/21 Matrix Spike	0.016 mg/L	0.015 mg/L	0.016 mg/L	11.8

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	99.8
Outfall 7/1/21 Matrix Spike	0.006 mg/L	0.010 mg/L	0.016 mg/L	100.4
Outfall 7/1/21 Matrix Spike Duplicate	0.006 mg/L	0.010 mg/L	0.015 mg/L	99.8

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: QCORG072012
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 MW-70s 7/22/21 Matrix Spike	0.39 mg/L	0.37 mg/L	0.38 mg/L	5.7

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	99.7
MW-70s 7/22/21 Matrix Spike	0.28 mg/L	0.10 mg/L	0.39 mg/L	115.0
MW-70s 7/22/21 Matrix Spike Duplicate	0.28 mg/L	0.10 mg/L	0.37 mg/L	93.4

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%)

X:\G001-002.210\SRF 0723211\ORG_SRF_0723211 rev 8/5/21

ATS

CHAIN OF CUSTODY RECORD

PROJECT / NUMBER: Pall Samples

LABORATORY INFORMATION: PO# 4504193AA

SAMPLE CUSTODIAN: Gage Trendel gage_trendel@pall.com / gtrendel@FV-operations.com
Sue Peters Sue_Peters@Pall.com

RELINQUISHED BY: Gage Trendel — DATE / TIME: 7/23/21 — RECEIVED BY: [signature] — 7/23/21 11:00 am

RELINQUISHED BY: [signature] — DATE / TIME: 1030 — RECEIVED BY: [signature]

COMMENTS: Need samples reported by morning of 7/26/21
45 day hold time → OK. No preservative except outfalls.

Line	Sample ID	Date	Time	Comp	Grab	Sample Identification	No. of Containers	Priority	1,4-Dioxane	Result
1	MW-92	7/21/21	1123		✓		1		✓	7[illegible]
2	MW-54d	7/21/21	956		✓		1		✓	55
3	MW-54S	7/21/21	848		✓		1		✓	nd
4	MW-BE-1d	7/21/21	1319		✓		1		✓	530
5	MW-79S	7/21/21	1350		✓		1		✓	310
6	MW-BE-1S	7/21/21	1427		✓		1		✓	660
7	MW-89	7/21/21	909		✓		1		✓	1
8	MW-90	7/21/21	1027		✓		1		✓	5
9	MW-123	7/21/21	847		✓		1		✓	340
10	MW-79d	7/21/21	1240		✓		1		✓	nd
11	MW-13S	7/20/21	1122		✓		1		✓	nd
12	~~MW-99d~~	~~7/20/21~~	~~[illegible]~~		✓	Rec'd Broken Vials - [illegible]			✓	
13	MW-97S	7/20/21	1257		✓		1		✓	nd
14	MW-99S	7/20/21	1030		✓		1		✓	nd
15	MW-99d	7/20/21	921		✓		1		✓	nd
16	Outfall	7/20/21		✓			1		✓	<10
17	Outfall	7/21/21		✓			1		✓	<10
18	Outfall	7/22/21		✓			1		✓	<10
19										
20										

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0200 Fax. 734/995-0741
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021796

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0726211
Client PO Number: 4504293919

Project Description: This data report contains the results of seven water samples, received by ATS on 7/26/21, 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, QCPs, 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: Mr. Gage Trendel — **Email:** gtrendel@fr-operations.com — **FAX Number:**

No. of Pages (including cover pg.): 15

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

Additional Message:

Date: 8/5/21 **Signed:**

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

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0726211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following seven samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/26/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/26/21				
Outfall	7/25/21	Urgent	1,4-Dioxane	Water
Red Pond	7/26/21	Standard	1,4-Dioxane	Water
MW-98s	7/23/21	Standard	1,4-Dioxane	Water
MW-88	7/23/21	Standard	1,4-Dioxane	Water
MW-106s	7/23/21	Standard	1,4-Dioxane	Water
MW-106d	7/23/21	Standard	1,4-Dioxane	Water
MW-85	7/23/21	Standard	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses with a standard turn around time (TAT), subsequently it was requested that the TAT's on some samples was changed to urgent.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	1 Sample
1,4-Dioxane (USEPA 1624) – Standard TAT	6 Samples

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- Red Pond 7/26/21
- MW-88 7/23/21
- MW-106s 7/23/21
- MW-85 7/23/21

Mark T. DeLong / August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

Philip B. Simon / August 6, 2021
Philip B. Simon (Laboratory Director)

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0200 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021796

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Outfall 001

Sample Date: 7/25/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/29/21	5:37	DLS

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

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0200 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021796

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: Red Pond

Sample Date: 7/26/21
Sample Time: 7:25 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.34	0.01	7/31/21	16:57	DLS

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

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0200 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021796

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-98s

Sample Date: 7/23/21
Sample Time: 9:11 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	7/31/21	17:42	DLS

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-3R

Sample Date: 7/23/21
Sample Time: 10:29 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.15	0.01	7/31/21	18:26	SLS

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

X1G001-002.21GRF 0726211DHG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-10Rs

Sample Date: 7/23/21
Sample Time: 2:12 PM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.27	0.01	7/31/21	19:10	SLS

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

X1G001-002.21GRF 0726211DHG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-10Rd

Sample Date: 7/23/21
Sample Time: 1:04 PM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	7/31/21	19:55	SLS

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

X1G001-002.21GRF 0726211DHG_SRF_0726211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0726211

Sample Identification: MW-8S

Sample Date: 7/23/21
Sample Time: 11:44 AM
Sampled By: Client
Laboratory Receipt Date: 7/26/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.48	0.01	7/31/21	20:39	SLS

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

X1G001-002.21GRF 0726211DHG_SRF_0726211 rev. 8/5/21

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0737211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
Outfall 7/1/21 Matrix Spike	0.010 mg/L	0.010 mg/L	0.010 mg/L	11.9

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	90.8
Outfall 7/1/21 Matrix Spike	0.006 mg/L	0.010 mg/L	0.016 mg/L	108.4
Outfall 7/1/21 Matrix Spike Duplicate	0.006 mg/L	0.010 mg/L	0.015 mg/L	88.8

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%)

G001-002.21GRF 0726211DHG_SRF_0726211 rev 8/5/21

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0736212
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-7Rs 7/23/21 Matrix Spike	0.39 mg/L	0.37 mg/L	0.38 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	98.7
MW-7Rs 7/23/21 Matrix Spike	0.26 mg/L	0.10 mg/L	0.39 mg/L	113.6
MW-7Rs 7/23/21 Matrix Spike Duplicate	0.26 mg/L	0.10 mg/L	0.37 mg/L	93.4

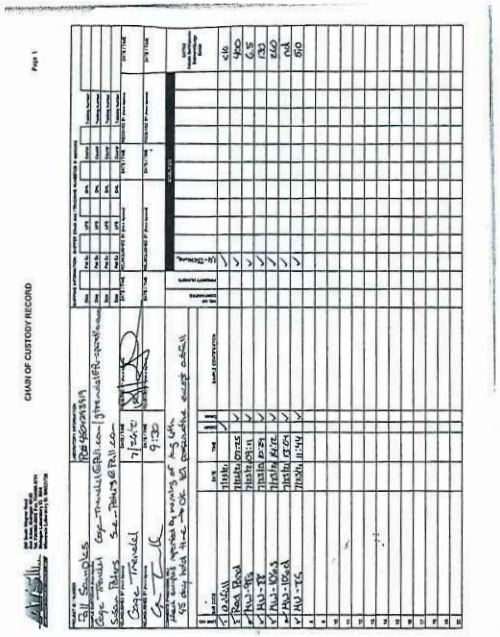
BLANK ANALYSIS

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%)

X1G001-002.21GRF 0726211DHG_SRF_0726211 rev 8/5/21



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Michigan Laboratory ID: 9904
Wisconsin Laboratory ID: 998021720

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0727211
Client PO Number: 4504293919

Project Description: This data report contains the results of six water samples, received by ATS on 7/27/21, 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: Mr. Gage Trendel **Email:** gtrendel@tt-operations.com
FAX Number:

No. of Pages (including cover pg.): 14

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

Additional Message:

Date: 8/6/21 **Signed:**

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LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0727211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following six samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/27/21, and associated matrix-specific QA/QC.

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received: 7/27/21				
Outfall	7/26/21	Urgent	1,4-Dioxane	Water
MW-104d	7/26/21	Standard	1,4-Dioxane	Water
MW-104s	7/26/21	Standard	1,4-Dioxane	Water
MW-77	7/26/21	Standard	1,4-Dioxane	Water
MW-Kd-1d	7/26/21	Standard	1,4-Dioxane	Water
MW-Kd-1s	7/26/21	Standard	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses with a standard turn around time (TAT), subsequently it was requested that the TAT's on some samples was changed to urgent.

Analysis
- 1,4-Dioxane (USEPA 1624) – Urgent TAT
- 1,4-Dioxane (USEPA 1624) – Standard TAT

Number of Samples
- 1 Sample
- 5 Samples + 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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:
- None

Consultants in Chemistry & Environmental Science
200 South Wagner Road, Ann Arbor, Michigan 48103 Tel 734/995-0900 Fax 734/995-3731

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 USEPA. 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 1, 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:
- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:
- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:
- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:
- None

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 / Laboratory Control Samples

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

Matrix Spikes and Spike Duplicates

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

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- MW-104d 7/26/21
- MW-104s 7/26/21
- MW-77 7/26/21
- MW-Kd-1d 7/26/21
- MW-Kd-1s 7/26/21

/ August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

/ August 6, 2021
Philip B. Simon (Laboratory Director)

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: Outfall 001

Sample Date: 7/26/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.067	0.001	7/28/21	7:21	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na – Indicates not available / applicable.
Sample analyzed at native pH.

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: MW-104d

Sample Date: 7/26/21
Sample Time: 2:36 PM
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.46	0.01	8/2/21	10:48	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na – Indicates not available / applicable.

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: MW-104s

Sample Date: 7/26/21
Sample Time: 1:27 PM
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.26	0.01	8/2/21	11:24	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na – Indicates not available / applicable.

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6999 Fax. 734/995-2731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: MW-77

Sample Date: 7/26/21
Sample Time: 12:08 PM
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.66	0.02	8/2/21	13:37	SLS

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

X:\G001-002.21\SRF 0727211\ORG_SRF_0727211 rev. 8/5/21

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6999 Fax. 734/995-2731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: MW-KD-1d

Sample Date: 7/26/21
Sample Time: 10:41 AM
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.52	0.01	8/2/21	14:21	SLS

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

X:\G001-002.21\SRF 0727211\ORG_SRF_0727211 rev. 8/5/21

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6999 Fax. 734/995-2731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0727211

Sample Identification: MW-KD-1s

Sample Date: 7/26/21
Sample Time: 9:30 AM
Sampled By: Client
Laboratory Receipt Date: 7/27/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.14	0.01	8/2/21	15:05	SLS

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

X:\G001-002.21\SRF 0727211\ORG_SRF_0727211 rev. 8/5/21

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6999 Fax. 734/995-2731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG8801211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 MW-10ds 7/26/21 Matrix Spike	0.51 mg/L	0.48 mg/L	0.49 mg/L	5.1

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	109.5
MW-10ds 7/26/21 Matrix Spike	0.26 mg/L	0.25 mg/L	0.51 mg/L	97.0
MW-10ds 7/26/21 Matrix Spike Duplicate	0.26 mg/L	0.25 mg/L	0.48 mg/L	87.5

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 (60 - 120%)
Relative Range
Replicates (<20%)

X:\G001-002.21\SRF 0727211\ORG_SRF_0727211 rev 8/5/21

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6999 Fax. 734/995-2731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCDRG8801211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 MW-10ds 7/26/21 Matrix Spike	0.51 mg/L	0.48 mg/L	0.49 mg/L	5.1

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	109.5
MW-10ds 7/26/21 Matrix Spike	0.26 mg/L	0.25 mg/L	0.51 mg/L	97.0
MW-10ds 7/26/21 Matrix Spike Duplicate	0.26 mg/L	0.25 mg/L	0.48 mg/L	87.5

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 (60 - 120%)
Relative Range
Replicates (<20%)

X:\G001-002.21\SRF 0727211\ORG_SRF_0727211 rev 8/5/21

CHAIN OF CUSTODY RECORD

200 South Wagner Road
Ann Arbor, Michigan 48103
Michigan Laboratory ID: 9904
Wisconsin Laboratory ID: 998021730

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0728211
Client PO Number: 4504293919

Project Description: This data report contains the results of six water samples, received by ATS on 7/28/21, 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: Mr. Gage Trendel **Email:** gtrendel@fr-operations.com
FAX Number:

No. of Pages (including cover pg.): 14

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

Additional Message:

Date: 8/6/21 **Signed:**

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

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0728211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following six samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/28/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/28/21				
MW-105s	7/27/21	Standard	1,4-Dioxane	Water
MW-17	7/27/21	Standard	1,4-Dioxane	Water
MW-105d	7/27/21	Standard	1,4-Dioxane	Water
MW-70	7/27/21	Standard	1,4-Dioxane	Water
MW-16	7/27/21	Standard	1,4-Dioxane	Water
Outfall	7/27/21	Urgent	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	1 Sample
1,4-Dioxane (USEPA 1624) – Standard TAT	5 Samples

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- MW-105s 7/27/21
- MW-17 7/27/21
- MW-105d 7/27/21

Mark T. DeLong / August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

Philip B. Simon / August 6, 2021
Philip B. Simon (Laboratory Director)

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0728211

Sample Identification: MW-105s

Sample Date: 7/27/21
Sample Time: 2:07 PM
Sampled By: Client
Laboratory Receipt Date: 7/28/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.39	0.01	8/2/21	16:35	SLG

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

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0728211

Sample Identification: MW-17

Sample Date: 7/27/21
Sample Time: 11:41 AM
Sampled By: Client
Laboratory Receipt Date: 7/28/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.26	0.01	8/2/21	17:20	SLG

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

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0728211

Sample Identification: MW-105d

Sample Date: 7/27/21
Sample Time: 12:58 PM
Sampled By: Client
Laboratory Receipt Date: 7/28/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.17	0.01	8/2/21	18:04	SLG

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

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6050 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 072821I

Sample Identification: MW-7S

Sample Date: 7/27/21
Sample Time: 10:22 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	8/2/21	19:49	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 072821I

Sample Identification: MW-16

Sample Date: 7/27/21
Sample Time: 9:00 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.015	0.001	8/2/21	19:33	SLS

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

X:\G001-002.21\GRF 072821I\ORG_SRF_072821I rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 072821I

Sample Identification: Outfall 001

Sample Date: 7/27/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.057	0.001	7/29/21	17:29	SLS

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

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0728211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-103s 7/9/21 Matrix Spike	0.18 mg/L	0.19 mg/L	0.19 mg/L	7.4

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	97.0
MW-103s 7/9/21 Matrix Spike	0.079 mg/L	0.10 mg/L	0.19 mg/L	101.0
MW-103s 7/9/21 Matrix Spike Duplicate	0.079 mg/L	0.10 mg/L	0.18 mg/L	114.0

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%)

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0601211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-103s 7/26/21 Matrix Spike	0.51 mg/L	0.48 mg/L	0.49 mg/L	6.1

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	108.5
MW-103s 7/26/21 Matrix Spike	0.26 mg/L	0.25 mg/L	0.51 mg/L	97.5
MW-103s 7/26/21 Matrix Spike Duplicate	0.26 mg/L	0.25 mg/L	0.48 mg/L	87.5

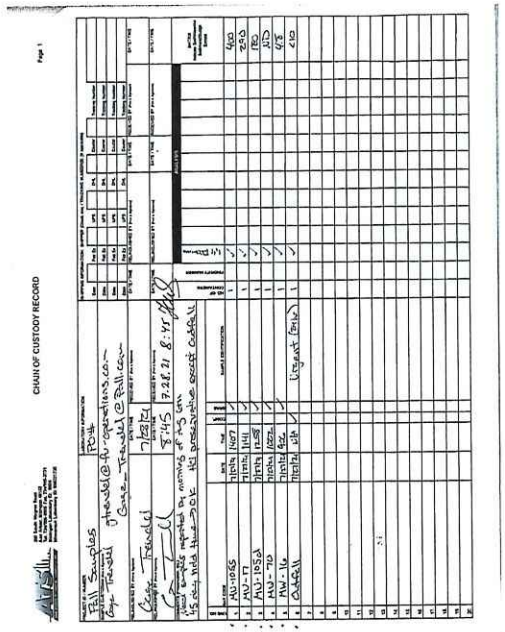
BLANK ANALYSIS

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%)

X:\G001-002.21\GRF 072821I\ORG_SRF_072821I rev 8/5/21



290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998031730

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0729211
Client PO Number: 4504293919

Project Description: This data report contains the results of six water samples, received by ATS on 7/29/21, 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: Mr. Gage Trendel **Email:** gtrendel@fc-operations.com
FAX Number:

No. of Pages (including cover pg.): 14

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

Additional Message:

Date: 8/6/21 **Signed:**

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

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0729211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following six samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/29/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analytes	Matrix
Received: 7/29/21				
Outfall	7/28/21	Urgent	1,4-Dioxane	Water
MW-94s	7/28/21	Standard	1,4-Dioxane	Water
MW-118	7/28/21	Standard	1,4-Dioxane	Water
MW-133d	7/28/21	Standard	1,4-Dioxane	Water
MW-133i	7/28/21	Standard	1,4-Dioxane	Water
MW-133s	7/28/21	Standard	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	1 Sample
1,4-Dioxane (USEPA 1624) – Standard TAT	5 Samples

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- MW-94s 7/28/21

Mark T. DeLong / August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

Philip B. Simon / August 6, 2021
Philip B. Simon (Laboratory Director)

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998031730

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: Outfall 001

Sample Date: 7/28/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/29/21	16:28	GLG

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

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998031730

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: MW-94s

Sample Date: 7/28/21
Sample Time: 1:50 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.74	0.01	8/2/21	20:18	GLG

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

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998031730

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: MW-118

Sample Date: 7/28/21
Sample Time: 12:43 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.054	0.001	8/2/21	23:15	GLG

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

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6865 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998331720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: MW-133d

Sample Date: 7/28/21
Sample Time: 11:23 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.003	0.001	8/3/21	0:43	SLS

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

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ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6865 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998331720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: MW-133i

Sample Date: 7/28/21
Sample Time: 10:13 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	8/3/21	1:28	SLS

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

X:\G001-002.21\SRF 0729211\OHQ_SRF_0729211 rev. 8/5/21

ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6865 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998331720

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729211

Sample Identification: MW-133s

Sample Date: 7/28/21
Sample Time: 9:01 AM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.002	0.001	8/3/21	2:12	SLS

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

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ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6865 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998331720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0729211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
Dolph 7/9/21 Matrix Spike	0.31 mg/L	0.33 mg/L	0.32 mg/L	5.3

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	0.011 mg/L	110.7
Dolph 7/9/21 Matrix Spike	0.13 mg/L	0.20 mg/L	0.31 mg/L	99.8
Dolph 7/9/21 Matrix Spike Duplicate	0.13 mg/L	0.20 mg/L	0.33 mg/L	98.3

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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ATS
200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-6865 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998331720

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0801211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002				
MW-106s 7/26/21 Matrix Spike	0.51 mg/L	0.48 mg/L	0.49 mg/L	6.1

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	109.5
MW-106s 7/26/21 Matrix Spike	0.26 mg/L	0.25 mg/L	0.51 mg/L	97.3
MW-106s 7/26/21 Matrix Spike Duplicate	0.26 mg/L	0.25 mg/L	0.49 mg/L	87.5

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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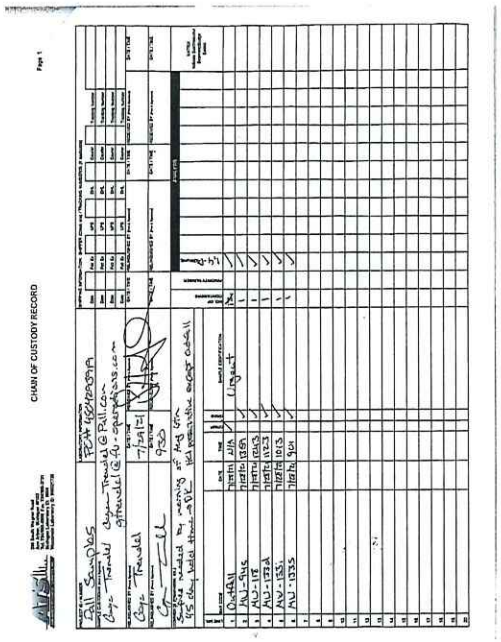


200 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021726

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0729212
Client PO Number: 4504293919

Project Description: This data report contains the results of one water sample, received by ATS on 7/29/21, 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: Mr. Gaga Trendel **Email:** gtrendel@ttv-operations.com
FAX Number:

No. of Pages (including cover pg.): 9

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

Additional Message:

Date: 8/6/21 **Signed:**

IF YOU DO NOT RECEIVE ALL PAGES OF THIS TRANSMITTAL, PLEASE CALL 734-995-0900.

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0729212
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following samples that was received at Ann Arbor Technical Services, Inc. (ATS) on 7/29/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/29/21				
TW-24	7/29/21	Urgent	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	1 Sample

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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

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 USEPA. 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- TW-24 7/29/21

Mark T. DeLong (Quality Assurance Coordinator) / August 6, 2021

Phillip B. Simon (Laboratory Director) / August 6, 2021

Organic Analysis
Data Summary Sheet

For: Mr. Gaga Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0729212

Sample Identification: TW-24

Sample Date: 7/29/21
Sample Time: 1:10 PM
Sampled By: Client
Laboratory Receipt Date: 7/29/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	1.9	0.04	7/30/21	9:59	SLS

Comments
All methods reference US EPA methods unless otherwise noted.
na = Indicators not available / applicable.

Quality Assurance / Quality Control
Data Summary

QC Batch Number: QCORG0730211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 2575 Valley 7/15/21 Matrix Dpike	0.23 mg/L	0.22 mg/L	0.23 mg/L	1.9

SPIKES and/or QC CHECK SAMPLES

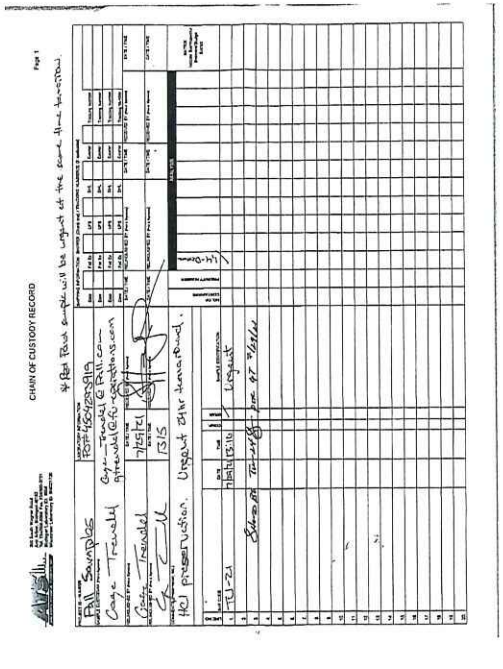
Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002				
Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.011 mg/L	109.7
2575 Valley 7/15/21 Matrix Spike	0.12 mg/L	0.10 mg/L	0.23 mg/L	108.6
2575 Valley 7/15/21 Matrix Spike Duplicate	0.12 mg/L	0.10 mg/L	0.22 mg/L	104.2

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%)



Sarah Stubblefield

From: Trendel, Gage <gage_trendel@pall.com>
Sent: Thursday, July 29, 2021 2:55 PM
To: Sarah Stubblefield
Subject: RE: 1-4 Dioxane Samples

The sample I dropped off this afternoon was labeled TW-21. I checked my in house chain of custody, and it should be labeled TW-24. Sorry for the misupl

From: Sarah Stubblefield <Sarah.Stubblefield@annarbortechnicalservices.com>
Sent: Thursday, July 29, 2021 1:20 PM
To: Trendel, Gage <gage_trendel@pall.com>; Gage Trendel <gtrendel@fv-operations.com>
Cc: Peters, Sue <sue_peters@pall.com>; Philip Simon <Philip.Simon@annarbortechnicalservices.com>; Patterson, Keith <keith_patterson@pall.com>; Brode, Jim <jim_brode@pall.com>
Subject: RE: 1-4 Dioxane Samples

OK, thanks.

Sarah Stubblefield | Senior Chemist / Laboratory Manager
Tel: 734.995.2055 | Fax: 734.995.3721 | Cell: 734.368.4733
Email: Sarah.Stubblefield@AnnArborTechnicalServices.com

Ann Arbor Technical Services, Inc.
250 South Wagner Road | Ann Arbor, Michigan 48103
Web: AnnArborTechnicalServices.com

From: Trendel, Gage <gage_trendel@pall.com>
Sent: Thursday, July 29, 2021 1:10 PM
To: Sarah Stubblefield <Sarah.Stubblefield@annarbortechnicalservices.com>; Gage Trendel <gtrendel@fv-operations.com>
Cc: Peters, Sue <sue_peters@pall.com>; Philip Simon <Philip.Simon@annarbortechnicalservices.com>; Patterson, Keith <keith_patterson@pall.com>; Brode, Jim <jim_brode@pall.com>
Subject: RE: 1-4 Dioxane Samples

Heads up, I'm bringing over the TW-24 and Red Pond sample for urgent analysis shortly.

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0900 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998021799

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0730211
Client PO Number: 4504293919

Project Description: This data report contains the results of seven water samples, received by ATS on 7/30/21, 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: Mr. Gage Trendel — Email: gtrendel@tr-operations.com — FAX Number:

No. of Pages (including cover pg.): 15

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

Additional Message:

Date: 8/6/21 Signed:

IF YOU DO NOT RECEIVE ALL PAGES OF THIS TRANSMITTAL, PLEASE CALL 734-995-0900.

LABORATORY OPERATIONS
CASE NARRATIVE

ATS Project Number: G001-002
Report Date: 8/5/21
SRF / SDG Number(s): 0730211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following seven samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 7/30/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 7/30/21				
Outfall	7/29/21	Urgent	1,4-Dioxane	Water
Red Pond	7/30/21	Urgent	1,4-Dioxane	Water
170 April	7/29/21	Standard	1,4-Dioxane	Water
3365 Jackson	7/29/21	Standard	1,4-Dioxane	Water
MW-30d	7/29/21	Standard	1,4-Dioxane	Water
MW-30s	7/29/21	Standard	1,4-Dioxane	Water
MW-69	7/29/21	Standard	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	2 Samples
1,4-Dioxane (USEPA 1624) – Standard TAT	5 Samples

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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

Consultants in Chemistry & Environmental Science
290 South Wagner Road, Ann Arbor, Michigan 48103 Tel 734/995-0900 Fax 734/995-3731

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 USEPA. 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, IDA 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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported as mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retention times met the acceptance criteria with the following exceptions:

- None

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 / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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:

- Red Pond 7/30/21
- 3365 Jackson 7/29/21
- MW-30d 7/29/21

Mark T. DeLong / August 6, 2021
Mark T. DeLong (Quality Assurance Coordinator)

Philip D. Simon / August 6, 2021
Philip D. Simon (Laboratory Director)

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Data: 8/5/21
ATS SRF: 0730211

Sample Identification: Outfall 001

Sample Date: 7/29/21
Sample Time: na
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.006	0.001	7/29/21	15:28	SLG

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

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Data: 8/5/21
ATS SRF: 0730211

Sample Identification: Red Pond

Sample Date: 7/30/21
Sample Time: 1:00 PM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.42	0.02	7/30/21	15:57	SLG

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

Organic Analysis
Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Data: 8/5/21
ATS SRF: 0730211

Sample Identification: 170 April

Sample Date: 7/29/21
Sample Time: 2:14 PM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.004	0.001	8/3/21	2:56	SLG

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

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0730211

Sample Identification: 3305 Jackson

Sample Date: 7/29/21
Sample Time: 12:54 PM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.19	0.01	8/3/21	3:40	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0730211

Sample Identification: MW-39I

Sample Date: 7/29/21
Sample Time: 11:36 AM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.094	0.004	8/3/21	4:24	SLS

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

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Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0730211

Sample Identification: MW-30I

Sample Date: 7/29/21
Sample Time: 10:26 AM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	0.007	0.001	8/3/21	5:08	SLS

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

X:\G001-002.21\SRF 0730211\ORG_SRF_0730211 rev. 8/5/21

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21
ATS SRF: 0730211

Sample Identification: MW-09

Sample Date: 7/29/21
Sample Time: 9:04 AM
Sampled By: Client
Laboratory Receipt Date: 7/30/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	8/3/21	5:53	SLS

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

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Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0730211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Dolph 7/8/21 Matrix Spike	0.31 mg/L	0.33 mg/L	0.32 mg/L	5.3

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	0.011 mg/L	110.7
Dolph 7/8/21 Matrix Spike	0.13 mg/L	0.20 mg/L	0.31 mg/L	89.6
Dolph 7/8/21 Matrix Spike Duplicate	0.13 mg/L	0.20 mg/L	0.33 mg/L	98.3

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: QCORG0612211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/5/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 MW-39Ba 7/29/21 Matrix Spike	0.51 mg/L	0.48 mg/L	0.49 mg/L	5.1

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	108.5
MW-39Ba 7/29/21 Matrix Spike	0.26 mg/L	0.25 mg/L	0.51 mg/L	97.5
MW-39Ba 7/29/21 Matrix Spike Duplicate	0.26 mg/L	0.25 mg/L	0.48 mg/L	87.5

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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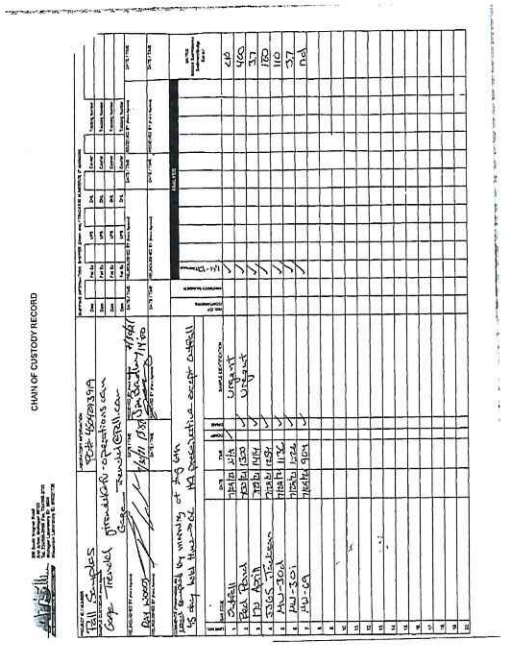

290 South Wagner Road
Ann Arbor, Michigan 48103
Tel. 734/995-0995 Fax. 734/995-3731
Michigan Laboratory ID: 9004
Wisconsin Laboratory ID: 998321736

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): Org_SRF_0809211
Client PO Number: 4504293919

Project Description: This data report contains the results of one of five water samples, received by ATS on 8/9/21, 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: Mr. Gage Trendel — Email: gtrendel@lv-operations.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: 8/10/21 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: 8/10/21
SRF / SDG Number(s): 0809211
Client PO Number: 4504293919

Case Narrative Summary

This case narrative applies to the following sample of five samples that were received at Ann Arbor Technical Services, Inc. (ATS) on 8/9/21, and associated matrix-specific QA/QC:

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
Received 8/9/21				
MW-97d	7/29/21	Urgent	1,4-Dioxane	Water

Upon receipt samples were scheduled for the following analyses.

Analysis	Number of Samples
1,4-Dioxane (USEPA 1624) – Urgent TAT	1 Samples + 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 either presented in the "Sample Receipt" section of this report or in the comments on individual data sheets. All samples were prepared and analyzed within 45 days with the following exceptions:

- None

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 USEPA. 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 (ISS, LFB, LCS), matrix spikes (MS, SPK), and duplicates whether spiked or native (MSD, SPK DUP, DUP, LR).

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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 by purge and trap GC/MS in accordance with USEPA 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. Samples were reported at mg/L.

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

Method calibration was verified through the analysis of a mid-level initial calibration verification (CV) standard at a frequency of every 12 hours. All verification standards met the acceptance criteria with the following exceptions:

- None

Instrument Blanks

Low system background was demonstrated through the analysis of instrument blanks at a minimum of every 12 hours. All instrument blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Internal Standards

Internal standards areas and retension times met the acceptance criteria with the following exceptions:

- None

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

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Laboratory Fortified Blanks / Laboratory Control Samples

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

- None

Matrix Spikes and Spike Duplicates

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

- None

Matrix Replicates

A matrix spike (MS) and matrix spike duplicate (MSD) was analyzed with each QA/QC batch. The 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 (Quality Assurance Coordinator) / August 10, 2021

Philip B. Simon (Laboratory Director) / August 10, 2021

G001-002.21\CN_0809211.doc

Organic Analysis Data Summary Sheet

For: Mr. Gage Trendel
Pall Corporation
642 South Wagner Road
Ann Arbor, MI 48103

ATS Project: Pall Corporation #G001-002
Report Date: 8/10/21
ATS SRF: G803211a

Sample Identification: MW-97d

Sample Date: 7/29/21
Sample Time: 11:47 AM
Sampled By: Client
Laboratory Receipt Date: 8/9/21
Sample Matrix: Water

Parameter	Method	Units	Result	Reporting Limit	Analysis Date	Analysis Time	Analyzed By
Organic Analysis							
1,4-Dioxane	US EPA 1624	mg/L	<0.001	0.001	8/9/21	11:55	SLS

Comments:
All methods reference US EPA methods unless otherwise noted.
na - Indicates not available / applicable.

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Quality Assurance / Quality Control Data Summary

QC Batch Number: GCORG0803211
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 8/10/21

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 Red Pond 8/9/21 Matrix Spike	1.4 mg/L	1.3 mg/L	1.3 mg/L	8.3

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	0.010 mg/L	100.0
Red Pond 8/9/21 Matrix Spike	0.41 mg/L	1.0 mg/L	1.4 mg/L	94.6
Red Pond 8/9/21 Matrix Spike Duplicate	0.41 mg/L	1.0 mg/L	1.3 mg/L	86.3

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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