

CASE NARRATIVE

Monthly Data Pall Life Sciences
Project: 1,4-Dioxane Remediation
Date: July, 2019

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

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

All 1,4-dioxane and bromate samples were analyzed by Pall Corporation's Environmental Laboratory. In addition the following drinking water samples were also analyzed for 1,4-dioxane by Ann Arbor Technical Services (ATS): 697 S. Wagner Road, 723 S. Wagner Road, 745 S. Wagner Road, and 777 S. Wagner Road. All test results in this report meet all NELAP requirements for parameters for which accreditation are required or available. Any exceptions to NELAP requirements are noted in this report. All exceptions are noted per laboratory standard operating procedure based on EPA Method 1624c. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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

RECEIPT/ STORAGE

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

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

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

1,4-Dioxane (GC-MS)

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

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

Bromate (Ion Chromatography)

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

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

Qualifiers

1,4-Dioxane Qualifier Codes:

<u>Qualifier Code</u>	<u>Description</u>
nd:	The compound was analyzed for, but was not detected at or above the detection limit indicated.
D:	Analyte value quantified from a dilution, reporting limit is raised to reflect dilution.
E:	The compound result is greater than the upper quantitation limit in the associated calibration curve, reported as estimate.
B:	The sample vials contained air bubbles larger than 5mm, which may affect compound results.
J:	The compound was positively identified; the associated numerical value is the approximate concentration.
M:	Matrix effects, sample required dilution.
R:	The reported value is unusable and rejected due to variance from quality control criteria.
V:	The reported value is considered estimated due to variance from quality control criteria.
H:	Sample was analyzed past 14 day hold time, but within 28 days.
O:	Samples analyzed in outside laboratory.
S:	Samples split with DEQ.

Bromate Qualifier Codes:

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

Analyst: Susan E.O. Peters Susan E.O. Peters Date: 08-06-19

Report Checked by: Laurel Beyer Laurel Beyer Date: 8-6-19

Sample Analysis Report

July, 2019

642 South Wagner Road
Ann Arbor, MI 48103-9019 US
734.436.4025 phone

Analyst Initials: SEOP
Date: 8-6-19

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
Miscellaneous Wells								
D0								
ARTESIAN #3-07-03-19-11:05-1	9.8	1.0						
Residential Wells								
Not Determined								
697 South Wagner Rd-07-03-19-10:45-1	nd	1.0						
697 South Wagner Rd-07-03-19-10:45-01	nd	1.0					ATS	O, H
723 S. Wagner Road-07-03-19-13:20-1	1.1	1.0						
723 S. Wagner Road-07-03-19-10:20-01	1	1.0					ATS	O, H
745 S. Wagner Road-07-03-19-10:27-1	nd	1.0						
745 S. Wagner Road-07-03-19-10:27-01	nd	1.0					ATS	O, H
777 S. Wagner Road-07-03-19-10:11-1	nd	1.0						
777 S. Wagner Road-07-03-19-10:11-01	nd	1.0					ATS	O, H
Extraction Wells								
C3								
DOLPH-07-02-19-11:40-1	120	1.0						
TW-10-07-19-19-08:02-1	360	10.0						D
TW-20-07-02-19-11:45-1	930	10.0						D
D2								
LB-4-07-02-19-11:00-1	460	10.0						D

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
TW-21-07-02-19-11:15-1	210	5.0						D
TW-21-07-02-19-11:17-1	230	10.0						D
TW-5-07-18-19-11:30-1	780	10.0						D
TW-9-07-19-19-08:00-1	540	10.0						D
E								
TW-11-07-18-19-11:30-1	210	10.0						D
TW-17-07-19-19-07:55-1	180	10.0						D
TW-18-07-02-19-11:26-1	260	5.0						D
TW-19-07-02-19-10:30-1	610	10.0						D
TW-23-07-02-19-10:32-1	430	10.0						D
Marshy								
PW-1-07-02-19-12:21-1	700	10.0						D
SW								
TW-22-07-02-19-12:11-1	190	10.0						D
TW-28-07-02-19-12:00-1	710	10.0						D
Monitoring Wells								
C3								
MW-1 Replacement-07-24-19-15:34-1	2400	100.0						D
MW-15d-07-15-19-11:12-1	nd	1.0						
MW-15s-07-15-19-11:26-1	8.1	1.0						
MW-18d-07-16-19-08:39-1	64	1.0						
MW-22-07-16-19-11:58-1	580	5.0						D
MW-23-07-08-19-12:45-1	170	1.0						
MW-24-07-08-19-13:50-1	670	10.0						D
MW-25d-07-16-19-09:13-1	99	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-2d-07-15-19-12:34-1	46	1.0						
MW-32-07-15-19-13:40-1	22	1.0						
MW-34s-07-30-19-13:05-1	nd	1.0						
MW-35-07-30-19-14:59-1	2.4	1.0						
MW-36-07-15-19-08:28-1	nd	1.0						
MW-38s-07-31-19-11:54-1	nd	1.0						
D0								
A2 Cleaning Supply-07-03-19-11:35-1	82	1.0						
MW-40d-07-25-19-16:35-1	nd	1.0						
MW-53d-07-17-19-12:41-1	nd	1.0						
MW-53i-07-17-19-13:55-1	44	1.0						
MW-53s-07-17-19-13:20-1	nd	1.0						
D2								
2819 Dexter Rd-07-19-19-12:53-1	60	10.0						D
MW-11d-07-31-19-14:25-1	310	10.0						D
MW-121s-07-22-19-08:40-1	nd	1.0						
MW-123s-07-22-19-12:31-1	nd	1.0						
MW-124s-07-23-19-10:00-1	nd	1.0						
MW-129i-07-23-19-11:32-1	nd	1.0						
MW-129s-07-23-19-11:26-1	nd	1.0						
MW-133i-07-25-19-12:08-1	1.2	1.0						
MW-133s-07-25-19-11:19-1	1.2	1.0						
MW-134i-07-26-19-10:18-1	8.1	1.0						
MW-134s-07-26-19-08:56-1	8.0	1.0						
MW-17-07-16-19-11:11-1	280	5.0						D
MW-34d-07-30-19-14:03-1	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-38d-07-31-19-12:53-1	31	1.0						
MW-4d-07-31-19-15:31-1	350	10.0						D
E								
MW-101-07-22-19-15:13-1	100	1.0						
MW-103d-07-18-19-11:56-1	7.8	1.0						
MW-103s-07-18-19-11:37-1	75	1.0						
MW-104-07-19-19-10:13-1	14	1.0						
MW-110-07-19-19-11:31-1	87	1.0						
MW-112d-07-18-19-09:18-1	nd	1.0						
MW-112i-07-18-19-10:34-1	9.7	1.0						
MW-112s-07-18-19-09:09-1	nd	1.0						
MW-115-07-19-19-14:22-1	690	10.0						D
MW-116-07-26-19-14:03-1	360	10.0						D
MW-119-07-22-19-13:51-1	23	1.0						
MW-121d-07-22-19-09:55-1	1.6	1.0						
MW-123d-07-22-19-11:17-1	nd	1.0						
MW-124d-07-23-19-08:45-1	nd	1.0						
MW-129d-07-23-19-12:47-1	1.4	1.0						
MW-133d-07-25-19-13:18-1	3.0	1.0						
MW-134d-07-26-19-11:37-1	3.4	1.0						
MW-76i-07-18-19-13:21-1	100	1.0						
MW-76s-07-18-19-14:35-1	300	5.0						D
MW-84s-07-19-19-08:51-1	41	5.0						D
Marshy								
AMW-1-07-08-19-13:10-1	340	5.0						D
AMW-2-07-08-19-12:20-1	68	5.0						D

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
MOW-1-07-08-19-14:00-1	800	10.0						d
NMW-1d-07-09-19-08:50-1	680	10.0						D
NMW-1s-07-09-19-09:10-1	1800	50.0						D
NMW-2d-07-09-19-09:00-1	840	10.0						D
NMW-2s-07-09-19-09:20-1	2000	50.0						D
NMW-3d-07-08-19-13:32-1	520	10.0						D
NMW-3s-07-08-19-13:23-1	410	10.0						D
PMW-1-07-08-19-13:00-1	110	5.0						D
PMW-2-07-09-19-11:00-1	6400	100.0						D
PMW-3-07-09-19-10:10-1	5700	100.0						D
PMW-4-07-08-19-14:10-1	850	10.0						D
SH								
MW-25s-07-16-19-09:20-1	800	5.0						D
MW-2s-07-15-19-12:04-1	1.6	1.0						
MW-5d-07-24-19-15:20-1	1400	100.0						D
SW								
MW-10d-07-24-19-13:22-1	350	10.0						D
MW-57-07-15-19-10:07-1	2.7	1.0						
Surface Water								
Not Applicable								
Allen Creek-Chapin-West Park-07-24-19-09:33-1	9.8	1.0						
Allen Creek-Eighth-Waterworks-07-24-19-10:28-1	1.0	1.0						
Allen Creek-Maple Ridge-Arborview-07-24-19-10:00-1	nd	1.0						
Allen Creek-Maryfield-Wildwood Park-07-24-19-10:15-1	nd	1.0						
Allen Creek-Murray-Washington-07-24-19-10:40-1	1.3	1.0						

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
Allen Creek-West Park SW-07-24-19-09:46-1	16	1.0						
HC/HR-07-01-19-09:21-1			nd	2.0				
HC/HR-07-02-19-09:15-1			nd	2.0				
HC/HR-07-03-19-07:58-1			nd	2.0				
HC/HR-07-05-19-09:00-1			nd	2.0				
HC/HR-07-08-19-08:30-1			nd	2.0				
HC/HR-07-09-19-08:35-1			nd	2.0				
HC/HR-07-10-19-08:25-1			nd	2.0				
HC/HR-07-11-19-08:15-1			nd	2.0				
HC/HR-07-12-19-08:15-1			nd	2.0				
HC/HR-07-15-19-08:35-1			nd	2.0				
HC/HR-07-16-19-08:20-1			nd	2.0				
HC/HR-07-17-19-13:20-1			nd	2.0				
HC/HR-07-18-19-08:09-1			nd	2.0				
HC/HR-07-19-19-10:20-1			nd	2.0				
HC/HR-07-22-19-09:30-1			nd	2.0				
HC/HR-07-23-19-07:45-1			nd	2.0				
HC/HR-07-24-19-08:15-1			nd	2.0				
HC/HR-07-25-19-08:25-1			nd	2.0				
HC/HR-07-26-19-08:15-1			nd	2.0				
HC/HR-07-29-19-08:40-1			nd	2.0				
HC/HR-07-30-19-08:10-1			nd	2.0				
HC/HR-07-31-19-09:05-1			nd	2.0				
Treatment System								
OUTFALL-07-01-19-2			7.9	5.0				
OUTFALL-07-01-19-1	5.0	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-07-02-19-2			7.2	5.0				
OUTFALL-07-02-19-1	4.7	1.0						
OUTFALL-07-03-19-2			5.7	5.0				
OUTFALL-07-03-19-1	4.7	1.0						
OUTFALL-07-04-19-2			6.3	5.0				
OUTFALL-07-04-19-1	4.6	1.0						
OUTFALL-07-07-19-2			5.5	5.0				
OUTFALL-07-07-19-1	4.1	1.0						
OUTFALL-07-08-19-2			7.7	5.0				
OUTFALL-07-08-19-1	4.3	1.0						
OUTFALL-07-09-19-2			9.6	5.0				
OUTFALL-07-09-19-1	4.6	1.0						
OUTFALL-07-10-19-2			8.4	5.0				
OUTFALL-07-10-19-1	5.0	1.0						
OUTFALL-07-11-19-2			8.8	5.0				
OUTFALL-07-11-19-1	5.6	1.0						
OUTFALL-07-14-19-2			8.3	5.0				
OUTFALL-07-14-19-1	5.5	1.0						
OUTFALL-07-15-19-2			7.4	5.0				
OUTFALL-07-15-19-1	6.1	1.0						
OUTFALL-07-16-19-2			7.4	5.0				
OUTFALL-07-16-19-1	5.4	1.0						H
OUTFALL-07-17-19-1	6.0	1.0						
OUTFALL-07-17-19-2			7.3	5.0				
OUTFALL-07-18-19-1	6.8	1.0						
OUTFALL-07-18-19-2			5.6	5.0				
OUTFALL-07-21-19-2			6.9	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-07-21-19-1	5.7	1.0						
OUTFALL-07-22-19-2			7.2	5.0				
OUTFALL-07-22-19-1	5.3	1.0						
OUTFALL-07-23-19-2			5.8	5.0				
OUTFALL-07-23-19-1	6.0	1.0						
OUTFALL-07-24-19-2			8.3	5.0				
OUTFALL-07-24-19-1	6.0	1.0						
OUTFALL-07-25-19-2			5.7	5.0				
OUTFALL-07-25-19-1	6.9	1.0						
OUTFALL-07-28-19-2			6.1	5.0				
OUTFALL-07-28-19-1	6.0	1.0						
OUTFALL-07-29-19-2			5.3	5.0				
OUTFALL-07-29-19-1	6.3	1.0						
OUTFALL-07-30-19-1	5.3	1.0						
OUTFALL-07-30-19-2			5.5	5.0				
OUTFALL-07-31-19-2			5.8	5.0				
OUTFALL-07-31-19-1	5.3	1.0						
Red Pond-07-01-19-08:47-1	370	1.0						D
Red Pond-07-08-19-09:05-1	370	10.0						D
Red Pond-07-15-19-09:10-1	420	10.0						D
Red Pond-07-22-19-08:54-1	400	1.0						D
Red Pond-07-29-19-09:10-1	360	10.0						D

PLS Qualifier Codes:

- nd: The compound was analyzed for, but was not detected at or above the detection limit indicated.
- D: Analyte value quantified from a dilution, reporting limit is raised to reflect dilution.
- H: Sample was analyzed past 14 day hold time, but within 28 days used by ATS for same method with EPA approval.
- O: Samples analyzed in outside laboratory, Ann Arbor Technical Services (ATS).



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 Ann Arbor, Michigan 48103
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 Michigan Laboratory ID: 9604
 Wisconsin Laboratory ID: 998321720

Data Transmittal Cover Page

Project Name: Pall Corporation
ATS Project Number: G001-002
ATS Report Number(s): SRF_0725191

Project Description: This data report contains the results of four water samples, received by ATS on 7/25/19 to be analyzed for 1,4-Dioxane.

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

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

No. of Pages (including cover pg.): 10

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

Additional Message: _____

Date: 7/31/19 **Signed:** _____

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LABORATORY OPERATIONS CASE NARRATIVE

ATS Project Number: G001-002

Report Date: 7/31/19

SDG Number's: 0725191

Case Narrative Summary

This case narrative applies to the following four samples that were received by Ann Arbor Technical Services, Inc. (ATS) on 7/25/19, and associated matrix-specific QA/QC.

Samples

Client Sample Identification	Sample Date	Requested Turn Around Time	Analysis	Matrix
777 South Wagner Road	7/3/19	Rush	1,4-Dioxane	Drinking Water
745 South Wagner road	7/3/19	Rush	1,4-Dioxane	Drinking Water
697 South Wagner Road	7/3/19	Rush	1,4-Dioxane	Drinking Water
723 South Wagner Road	7/3/19	Rush	1,4-Dioxane	Drinking Water

Upon receipt, samples were scheduled for the following analyses:

Analysis

- 1,4-Dioxane by US EPA 1624

Number of Samples

- 4 + 1 Matrix Spike + 1 Matrix Spike Duplicate

Sample Receipt and Chain of Custody Records

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

Data Review and Approval

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

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

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

Data Deliverables

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

Sample Analysis

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

Anomalies Noted:

- None

Analytical QA/QC Summary

Calibration Verification

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

- None

Instrument Blanks

Instrument blanks were analyzed at a frequency of every 12 hours. All blanks met the acceptance criteria with the following exceptions:

- None

QA/QC Batch Summary

Laboratory Reagent Blanks

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

- None

Laboratory Fortified Blanks and Matrix Spikes

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

- None

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

- None

Matrix Duplicates

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

- None

Sample Dilutions

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

- None



_____/ July 31, 2019

Mark T. DeLong (Quality Assurance Coordinator)



_____/ July 31, 2019

Philip B. Simon (Laboratory Director)



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

Organic Analysis Data Summary Sheet

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

ATS Project: Pall Corporation #G001-002
Report Date: 7/31/19
ATS SRF: 0725191 (Rush)

Sample Identification: 777 South Wagner Road

Sample Date: 7/3/19
Sample Time: 10:11 AM
Sampled By: Client
Laboratory Receipt Date: 7/25/19
Sample Matrix: Drinking Water

<u>Parameter</u>	<u>Method</u>	<u>Units</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Analysis Date</u>	<u>Analysis Time</u>	<u>Analyzed By</u>
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	7/29/19	16:59	JEB

Comments

All methods reference USEPA methods unless otherwise noted.



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Organic Analysis Data Summary Sheet

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

ATS Project: Pall Corporation #G001-002
Report Date: 7/31/19
ATS SRF: 0725191 (Rush)

Sample Identification: 745 South Wagner Road

Sample Date: 7/3/19
Sample Time: 10:27 AM
Sampled By: Client
Laboratory Receipt Date: 7/25/19
Sample Matrix: Drinking Water

<u>Parameter</u>	<u>Method</u>	<u>Units</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Analysis Date</u>	<u>Analysis Time</u>	<u>Analyzed By</u>
Organic Analysis							
1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	7/29/19	14:16	JEB

Comments

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Organic Analysis Data Summary Sheet

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

ATS Project: Pall Corporation #G001-002
Report Date: 7/31/19
ATS SRF: 0725191 (Rush)

Sample Identification: 697 South Wagner Road

Sample Date: 7/3/19
Sample Time: 10:45 AM
Sampled By: Client
Laboratory Receipt Date: 7/25/19
Sample Matrix: Drinking Water

<u>Parameter</u>	<u>Method</u>	<u>Units</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Analysis Date</u>	<u>Analysis Time</u>	<u>Analyzed By</u>
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	<0.001	0.001	7/29/19	17:43	JEB

Comments

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Organic Analysis Data Summary Sheet

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

ATS Project: Pall Corporation #G001-002
Report Date: 7/31/19
ATS SRF: 0725191 (Rush)

Sample Identification: 723 South Wagner Road

Sample Date: 7/3/19
Sample Time: 1:20 PM
Sampled By: Client
Laboratory Receipt Date: 7/25/19
Sample Matrix: Drinking Water

<u>Parameter</u>	<u>Method</u>	<u>Units</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Analysis Date</u>	<u>Analysis Time</u>	<u>Analyzed By</u>
Organic Analysis 1,4-Dioxane	EPA 1624	mg/L	0.001	0.001	7/29/19	18:27	JEB

Comments

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

Quality Assurance / Quality Control Data Summary

QC Batch Number: QCORG0729191-G
Parameter: 1,4-Dioxane (EPA 1624)

ATS Project: Pall Corporation #G001-002
Report Date: 7/31/19

Results of QA Samples run concurrently with project samples

REPLICATE ANALYSIS

Sample	Replicate #1	Replicate #2	Mean	Relative Range (percent)
#G001-002 745 South Wagner Road Matrix Spike	0.010 mg/L	0.010 mg/L	0.010 mg/L	0.7

SPIKES and/or QC CHECK SAMPLES

Sample/Analyte	Known Concentration	Spike Concentration	Analyzed Concentration	Recovery (percent)
#G001-002 Laboratory Fortified Blank	<0.001 mg/L	0.010 mg/L	0.010 mg/L	104.8
745 South Wagner Road Matrix Spike	<0.001 mg/L	0.010 mg/L	0.010 mg/L	100.5
745 South Wagner Road Matrix Spike Duplicate	<0.001 mg/L	0.010 mg/L	0.010 mg/L	101.1

BLANK ANALYSIS

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

Comments:

Calculations performed prior to rounding.

Control Limits:

Recoveries

Laboratory Control Sample Recovery (85 - 115%)

Matrix Spike Recovery (80 - 120%)

Relative Range

Replicates (<20%)



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Michigan Laboratory ID: 8604
Wisconsin Laboratory ID: 996321270

CHAIN OF CUSTODY RECORD

PROJECT ID / NUMBER		LABORATORY INFORMATION				SHIPPING INFORMATION: SHIPPER (Check one) / TRACKING NUMBER(S) (if applicable)								
SAMPLE CUSTODIAN (Print & Signature) Pall Corporation, 642 S. Wagner Rd, Ann Arbor MI Susan Peters		Date	Fed Ex	LPS	DHL	Carrier	Tracking Number							
RELINQUISHED BY (Print & Signature) Susan Peters		DATE / TIME 07-25-19 0:15:30	RECEIVED BY (Print & Signature) 				DATE / TIME	RELINQUISHED BY (Print & Signature)	DATE / TIME	RECEIVED BY (Print & Signature)	DATE / TIME			
COMMENTS (Preservation, etc.) Drinking Water samples - By the end of Mr. Pleasa		DATE / TIME	RECEIVED BY (Print & Signature)				DATE / TIME	RELINQUISHED BY (Print & Signature)	DATE / TIME	RECEIVED BY (Print & Signature)	DATE / TIME			
LINE NO.	BAR CODE	DATE	TIME	COMP.	CRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	PRIORITY NUMBER	ANALYSIS				MATRIX Indicate So/Water/Air Sediment/Sudge Extract	
1.		07-25-19	10:11	/	/	777 S. Wagner Rd	2	1,4	✓					nd
2.		07-25-19	10:27	/	/	745 S. Wagner Rd	2	1,4	✓					↑
3.		07-25-19	10:45	/	/	697 S. Wagner Rd	2	1,4	✓					↑
4.		07-25-19	13:20	/	/	723 S. Wagner Rd	2	1,4	✓					↓
5.		07-25-19					2	1,4	✓					nd
6.														
7.														
8.														
9.														
10.														
11.														
12.														
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