#### LABORATORY REPORT

This report contains // pages. (including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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# Laboratory Report

Client: Pall Life Sciences

Report:

271520

Attn: John Campbell

Priority:

Standard Written

600 South Wagner Road

Status:

Final

Ann Arbor, MI 48103

PWS ID:

Not Supplied

Copies

to: Laurel Beyer

	Sample Information										
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time						
2549689	Outfall 11/07/11	317.0	11/07/11 00:00	Client	11/17/11 09:30						
2549690	HC/HR 11/01/11	317.0	11/01/11 09:05	Client	11/17/11 09:30						
2549691	HC/HR 11/02/11	317.0	11/02/11 08:15	Client	11/17/11 09:30						
2549692	HC/HR 11/03/11	317.0	11/03/11 08:15	Client	11/17/11 09:30						
2549693	HC/HR 11/04/11	317.0	11/04/11 09:20	Client	11/17/11 09:30						
2549694	HC/HR 11/07/11	317.0	11/07/11 08:00	Client	11/17/11 09:30						
2549695	HC/HR 11/08/11	317.0	11/08/11 08:10	Client	11/17/11 09:30						
2549696	HC/HR 11/09/11	317.0	11/09/11 07:50	Client	11/17/11 09:30						
2549697	HC/HR 11/10/11	317.0	11/10/11 08:40	Client	11/17/11 09:30						
2549698	HC/HR 11/11/11	317.0	11/11/11 08:55	Client	11/17/11 09:30						
2549699	Outfall 11/01/11	317.0	11/01/11 00:00	Client	11/17/11 09:30						
2549700	Outfall 11/02/11	317.0	11/02/11 00:00	Client	11/17/11 09:30						
2549701	Outfall 11/03/11	317.0	11/03/11 00:00	Client	11/17/11 09:30						
2549702	Outfall 11/06/11	317.0	11/06/11 00:00	Client	11/17/11 09:30						
2549703	Outfall 11/08/11	317.0	11/08/11 00:00	Client	11/17/11 09:30						
2549704	Outfall 11/09/11	317.0	11/09/11 00:00	Client	11/17/11 09:30						
2549705	Outfall 11/10/11	317.0	11/10/11 00:00	Client	11/17/11 09:30						
2549706	Outfall 11/13/11	317.0	11/13/11 00:00	Client	11/17/11 09:30						
2549707	Outfall 11/14/11	317.0	11/14/11 00:00	Client	11/17/11 09:30						
2549708	Outfall 11/15/11	317.0	11/15/11 00:00	Client	11/17/11 09:30						
2549709	HC/HR 11/14/11	317.0	11/14/11 07:50	Client	11/17/11 09:30						
2549710	HC/HR 11/15/11	317.0	11/15/11 08:30	Client	11/17/11 09:30						
2549711	HC/HR 11/16/11	317.0	11/16/11 08:25	Client	11/17/11 09:30						

#### **Report Summary**

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Pall Life Sciences

Report #: 271520

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Authorized Signature

Client Name:

Pall Life Sciences

Report #:

271520

Roject Man

-11-29-2011

Date

Report #: 271520

Sampling Point: Outfall 11/07/11

PWS ID: Not Supplied

	General Chemistry												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#				
15541-45-4	Bromate	317.0	10 *	1.0	7.9	ug/L		11/22/11 09:50	2549689				

Sampling Point: HC/HR 11/01/11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 10:13	2549690			

Sampling Point: HC/HR 11/02/11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 11:22	2549691			

Sampling Point: HC/HR 11/03/11

PWS ID: Not Supplied

	General Chemistry												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#				
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 11:45	2549692				

Sampling Point: HC/HR 11/04/11

	General Chemistry												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#				
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 12:08	2549693				

Report #: 271520

Sampling Point: HC/HR 11/07/11

PWS ID: Not Supplied

				ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromale	317.0	10 *	1.0	< 1.0	ug/L			2549694

Sampling Point: HC/HR 11/08/11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 12:54	2549695			

Sampling Point: HC/HR 11/09/11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L			2549696			

Sampling Point: HC/HR 11/10/11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#			
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 13:40	2549697			

Sampling Point: HC/HR 11/11/11

	General Chemistry											
Analyte ID#	Aṇalyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 14:03	2549698			

Report #: 271520

Sampling Point: Outfall 11/01/11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4 Bri	omate	317.0	10 *	1.0	7.6	ug/L		11/22/11 14:49	2549699

Sampling Point: Outfall 11/02/11

PWS ID: Not Supplied

			Gene	ral Ch	emistry-				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	8.4	ug/L		11/22/11 15:58	2549700

Sampling Point: Outfall 11/03/11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	7.8	ug/L		11/22/11 16:21	2549701

Sampling Point: Outfall 11/06/11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4 E	Bromate	317.0	10 *	1.0	8.3	ug/L		11/22/11 16:44	2549702

Sampling Point: Outfall 11/08/11

General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4		317.0	10 *	1.0	7.1	ug/L		11/22/11 17:07	2549703		

Pall Life Sciences

Report #: 271520

Sampling Point: Outfall 11/09/11

PWS ID: Not Supplied

General Chemistry										
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#	
15541-45-4	Bromate	317.0	10 *	1.0	6.8	ug/L.	***	11/22/11 17:30	2549704	

Sampling Point: Outfall 11/10/11

PWS ID: Not Supplied

	General Chemistry										
Analyte ID#	- Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4	Bromate	317.0	10 *	1.0	5.1	ug/L	•••	11/22/11 17:53	2549705		

Sampling Point: Outfall 11/13/11

PWS ID: Not Supplied

General Chemistry										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#	
15541-45-4	Bromate	317.0	10 *	1.0	5.3	ug/L		11/22/11 18:16	2549706	

Sampling Point: Outfall 11/14/11

PWS ID: Not Supplied

	General Chemistry										
Analyte ID#	Analyte	Method ·	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4	Bromate	317.0	10 *	1.0	4.3	ug/L		11/22/11 18:39			

Sampling Point: Outfall 11/15/11

General Chemistry										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#	
	Bromate	317.0	10 *	1.0	< 1.0	ug/L	'	11/22/11 19:02	2549708	

Pall Life Sciences

Report #: 271520

Sampling Point: HC/HR 11/14/11

PWS ID: Not Supplied

	Prace Basemanie engl		Gene	ral Cho	emistry				
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	1.4	ug/L		11/22/11 01:31	2549709

Sampling Point: HC/HR 11/15/11

PWS ID: Not Supplied

	General Chemistry										
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 02:40	2549710		

Sampling Point: HC/HR 11/16/11

PWS ID: Not Supplied

	General Chemistry										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/22/11 03:03	2549711		

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

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	Reg Limit Type:	MCL	SMCŁ	Δ1	ŝ
		MOL	SHOL	Λ <b>ι</b> -	É
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#### Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The LTB container follows the collection bottles to and from the collection site, but the LTB is not opened at any time during the trip. LTB is not exposed to site conditions or pumping and collection equipment. The LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Matrix Duplicate (LFD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Matrix (LFM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 162822 PC File Name: 112111B Order Number: 215622

Instrument: IC DP Instrument: 1C Dr Analyst: J. Timm Receipt Batch: 271520

Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/28/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2547373 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 11/22/2011 00:22

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL

Report Units

Sample ID: 2547351 Extracted: N/A Type: Instrument Performance Check

Analyzed: 11/22/2011 00:45

Dil Factor: 1.000

0.0000 < 1.0 ug/L

CAS Number Parameter 15541-45-4 Bromate

Target Amount

1.0

1.0

P/F % Rec Limits -----

-----

Sample ID: 2547375 Extracted: N/A

Type: Laboratory Fortified Blank

Dil Factor: 1,000

92

CAS Number Parameter

Analyzed: 11/22/2011 01:08

15541-45-4 Bromate

Target \_\_\_\_\_ 5.0 4.6271

Amount

\_\_\_\_\_

0.9207

Amount

93 85-115 Pass

% Rec Limits

\_\_\_\_\_ \_\_\_\_

75-125 Pass

Sample ID: 2549709 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 01:31

Site: HC/HR 11/14/11 Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

1.0

1.3685 1.4 ug/L

MRI, Amount Report Units \_\_\_\_\_

Sample ID: 2551514 Extracted: N/A

Type: Matrix Spike of 2549709 Site: HC/HR 11/14/11 Analyzed: 11/22/2011 01:54 Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target 5.0 5.5160 1.3685 83 75-125 Pass

----

----

5.0

Amount Parent Amt %Rec Limits P/F

Sample ID: 2551515 Extracted: N/A

Type: Matrix Spike Duplicate of 2549709 Site: HC/HR 11/14/11 Analyzed: 11/22/2011 02:17

Dil Factor: 1.000

CAS Number Parameter

Target Amount Parent Amt %Rec Limits P/F

15541-45-4 Bromate

Sample ID: 2549710 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 02:40 Site: HC/HR 11/15/11 Dil Factor: 1.000

5.5556 1.3685 84 75-125 Pass

CAS Number Parameter \_\_\_\_\_\_

MRL

Amount Report Units -----1.0 0.6359 < 1.0 ug/L

15541-45-4 Bromate

Type: Field Sample

Site: HC/HR 11/16/11

Sample ID: 2549711 Extracted: N/A

CAS Number Parameter

15541-45-4 Bromate

Analyzed: 11/22/2011 03:03 Site: HC/RR 11/10/

MRL Amount Report Report Units \_\_\_\_ 0.4175 < 1.0 ug/L 1.0

Sample ID: 2547366

Type: Continuing Calibration Check

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter

15541-45-4 Bromate

Analyzed: 11/22/2011 04:58

\_\_\_\_\_\_\_

Amount Target \_----10.0 9.8013 98 85-115 Pass

% Rec Limits

P/F

NOTE: The dilution factor is included in the percent recovery calculation. Page 1 of 1

Run Number: 162898 PC File Name: 112211A Order Number: 215622

Analyst: J. Timm Instrument: IC DP Analyst: J. Timm Receipt Batch: 271520

Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/28/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2547384 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 11/22/2011 08:18

Dil Factor: 1.000

MRL Amount CAS Number Parameter Report Units 15541-45-4 Bromate 1.0 0.0000 < 1.0 ug/L

Sample ID: 2547353 Extracted: N/A

Type: Instrument Performance Check

Analyzed: 11/22/2011 08:41

Dil Factor: 1.000

Target Amount % Rec Limits P/F CAS Number Parameter -----1.0 1.1301 113 75-125 Pass 15541-45-4 Bromate

Sample ID: 2547386 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 11/22/2011 09:04

Dil Factor: 1.000

Target P/F Amount CAS Number Parameter % Rec Limits ------\_\_\_\_ 4.9110 5.0 98 85-115 Pass 15541-45-4 Bromate

Sample ID: 2535629 Extracted: N/A

Type: Quality Control Sample Analyzed: 11/22/2011 09:27

Dil Factor: 1.000

Amount Target % Rec Limits P/F CAS Number Parameter -----------\_\_\_\_ \_\_\_\_\_ ----4.9617 99 85-115 Pass 15541-45-4 Bromate 5.0

Sample ID: 2549689 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 09:50 Site: Outfall 11/07/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter 7.9407 15541-45-4 Bromate 1.0 7.9 ug/L

Sample ID: 2549690 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 10:13

Site: HC/HR 11/01/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter \_\_\_\_\_ \_\_\_\_ 1.0 0.9625 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2552523 Extracted: N/A

Type: Matrix Spike of 2549690 Analyzed: 11/22/2011 10:36

Site: HC/HR 11/01/11 Dil Factor: 1.000

Amount Parent Amt %Rec Limits P/F CAS Number Parameter Target -----5.0 5.2729 < MRL 105 75-125 Pass 15541-45-4 Bromate

Sample ID: 2552524 Extracted: N/A

Type: Matrix Spike Duplicate of 2549690 Site: HC/HR 11/01/11 Analyzed: 11/22/2011 10:59 Dil Factor: 1.000 Analyzed: 11/22/2011 10:59

Target Amount Parent Amt %Rec Limits P/F CAS Number Parameter 5.0 5.3145 < MRL 106 75-125 Pass 15541-45-4 Bromate

Sample ID: 2549691 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 11:22

Site: HC/HR 11/02/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter 1.0 0.8828 < 1.0 ug/L 15541-45-4 Bromate

Run Number: 162898 PC File Name: 112211A Order Number: 215622

Sample ID: 2549692

Instrument: IC DP Analyst: J. Timm Receipt Batch: 271520 Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/28/2011

Client: Pall Life Sciences / John Campbell

Type: Field Sample

Extracted: N/A Analyzed: 11/22/2011 11:45

Site: HC/HR 11/03/11 Dil Factor: 1.000

Generated By: P. Mahler

CAS Number Parameter Amount Report Units MRL \_\_\_\_ < 1.0 ug/L 15541-45-4 Bromate 1.0 0.9600

Sample ID: 2549693 Extracted: N/A

Type: Field Sample

Analyzed: 11/22/2011 12:08

Site: HC/HR 11/04/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter \_\_\_\_\_ ----1.0 0.9420 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2549694 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 12:31

Site: HC/HR 11/07/11 Dil Factor: 1.000

MRL CAS Number Parameter Amount Report Units 1.0 0.8615 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2549695 Extracted: N/A

Type: Field Sample

Analyzed: 11/22/2011 12:54

Site: HC/HR 11/08/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter ---------1.0 0.9580 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2549696 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 13:17

Site: HC/HR 11/09/11 Dil Factor: 1.000

CAS Number Parameter MRL ----15541-45-4 Bromate 1.0

Sample ID: 2549697 Extracted: N/A

Type: Field Sample

Analyzed: 11/22/2011 13:40

Site: HC/HR 11/10/11 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter 1.0 15541-45-4 Bromate 0.8982 < 1.0 ug/L

Sample ID: 2549698 Extracted: N/A

Type: Field Sample

Analyzed: 11/22/2011 14:03

Site: HC/HR 11/11/11 Dil Factor: 1.000

CAS Number Parameter MRL Amount. Report Units 0.8606 < 1.0 ug/L 15541-45-4 Bromate 1.0

Sample ID: 2547367 Extracted: N/A

Type: Continuing Calibration Check
Analyzed: 11/22/2011 14:26 Dil Factor: 1.000

Target Amount P/F CAS Number Parameter % Rec Limits ----10.0 10.0518 101 15541-45-4 Bromate 85-115 Pass

Sample ID: 2549699 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 14:49 Site: Outfall 11/01/11 Dil Factor: 1.000

MRL Amount Report Units
1.0 7.5687 7.6 ug/L CAS Number Parameter 15541-45-4 Bromate

Run Number: 162898 PC File Name: 112211A Order Number: 215622

Sample ID: 2552525 Extracted: N/A Instrument: IC DP Analyst: J. Timm Receipt Batch: 271520 Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/28/2011

Client: Pall Life Sciences / John Campbell

Type: Matrix Spike of 2549699 Analyzed: 11/22/2011 15:12 Generated By: P. Mahler
Site: Outfall 11/01/11
Dil Factor: 1.000

 CAS Number
 Parameter
 Target
 Amount
 Parent Amt
 %Rec
 Limits
 P/F

 15541-45-4
 Bromate
 5.0
 13.2573
 7.5687
 114
 75-125
 Pass

 Sample ID: 2552526
 Type: Matrix Spike Duplicate of 2549699
 Site: Outfall 11/01/11

 Extracted: N/A
 Analyzed: 11/22/2011 15:35
 Dil Factor: 1.000

 CAS Number
 Parameter
 Target
 Amount
 Parent Amt
 %Rec
 Limits
 P/F

 15541-45-4
 Bromate
 5.0
 13.1806
 7.5687
 112
 75-125
 Pass

 Sample ID: 2549700
 Type: Field Sample
 Site: Outfall 11/02/11

 Extracted: N/A
 Analyzed: 11/22/2011 15:58
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 8.4145
 8.4
 ug/L

 Sample ID: 2549701
 Type: Field Sample
 Site: Outfall 11/03/11

 Extracted: N/A
 Analyzed: 11/22/2011 16:21
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 7.8350
 7.8 ug/L

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 8.2705
 8.3
 ug/L

 Sample ID: 2549703
 Type: Field Sample
 Site: Outfall 11/08/11

 Extracted: N/A
 Analyzed: 11/22/2011 17:07
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 7.1014
 7.1 ug/L

 Sample ID: 2549704
 Type: Field Sample
 Site: Outfall 11/09/11

 Extracted: N/A
 Analyzed: 11/22/2011 17:30
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 6.7617
 6.8
 ug/L

 Sample ID: 2549705
 Type: Field Sample
 Site: Outfall 11/10/11

 Extracted: N/A
 Analyzed: 11/22/2011 17:53
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 5.1426
 5.1 ug/L

 Sample ID: 2549706
 Type: Field Sample
 Site: Outfall 11/13/11

 Extracted: N/A
 Analyzed: 11/22/2011 18:16
 Dil Factor: 1.000

 CAS Number
 Parameter
 MRL
 Amount
 Report
 Units

 15541-45-4
 Bromate
 1.0
 5.2894
 5.3
 ug/L

Run Number: 162898 PC File Name: 112211A Order Number: 215622

Instrument: IC DP Analyst: J. Timm Receipt Batch: 271520 Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/28/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2549707 Extracted: N/A

Type: Field Sample Analyzed: 11/22/2011 18:39

Site: Outfall 11/14/11

CAS Number Parameter

Dil Factor: 1.000 Amount Report Units

15541-45-4 Bromate

----1.0

4.3140 4.3 ug/L

Sample ID: 2549708 Extracted: N/A

Type: Field Sample

Site: Outfall 11/15/11

CAS Number Parameter

Analyzed: 11/22/2011 19:02

Dil Factor: 1.000 Report Units

------15541-45-4 Bromate

MRL \_\_\_\_

Target

MRL

-----

Amount

Amount

1.0 0.7170 < 1.0 ug/L

Sample ID: 2547377 Extracted: N/A

Type: Continuing Calibration Check

Analyzed: 11/22/2011 19:25

Dil Factor: 1.000

CAS Number Parameter \_\_\_\_\_ 15541-45-4 Bromate

-----15.0 14.0743

% Rec Limits ---------

P/F ----94 85-115 Pass



#### Environmental Laboratory Services 600 South Wagner Rd. Ann Arbor, MI 48103-9019. Phone: (734)-913-6531 \* Fax: (734)-913-6103

**Chain of Custody Record** 

Page	of
100	

271520

Compon	y Pall Corporation	
Compan	ly trem cos posacrios	
Name	6008,Wagner	Road Susan E O. Peters
Street	AL 6005, Wagn	new Road
City	Ann Arbor	State Zip
Phone	7-34-913-6531	Fax 734-913-6103
Email		

Requested Turnaround: Before the end of the month Project Name / Number:	48 hours	4 business days 24 hours	* 3 business days  * ASAP / Same day
Print Sampler Name:		 	
Invoice To:			
		_	

			W	ter	Mati	rix	ō	<b>က</b>			Pr	eser	rvation			
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number o	<u>.</u> ≡	Requested Testing	None	4°C	HCI	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
1 Outfall 11/07/11	11/07/11	composit														2549 689
2 HC/HR 11/01/11	11/01/11	09:05														, 690
3 HC/HR 11/02/11	11/02/11	08:19														691
4 HCHR 11+03/11	11/03/11	08:15														692
5 HC/HR 11/04/11	11/04/11	09:20														693
6 HC/HR 11/07/11	11/07/11	08:00	1			1										694
7 HC/HR 11/08/11	H 108/11	08:10								ودر ما (و	487.5	115 6				696
8 HCIHR 11/09/11	11/09/11	07:50							<b>ब्रुट की ब्रुट में दे</b> ल	15 15/-	किट्योऽ। 		1,544	13275	31. 'e w	696
9 1+C 1+R 11/10 (1)	11/10/11	08:40														697
10 HCHR IIIII	11/11/11	08:55														y 698
Released by Sampler: A CAMMU	Date: / /	Time:	Red	eived	by: 🧲	ععد	200	~) €	20P&	sec	$\infty$		Dat	e: [t /	الم/ا	Time: 10:35
Released by Devocan ED Retero	Date:\ /16/1(	Time: 12:00	Red	eived	by: S	55	ک	20%	<u> </u>				Dat	e   /	17/11	Time: 09:30
						(	2	7								<i>'</i>

												/>		
Within holding times	Υ	N	Containers are intact Y	N	Labels and COC agree	Y N	1	Correct volume and container	Υ	N	Ice remaining	Ty)	N	Temperature on receipt <u>0.4</u> °C
												1	ЫU	

PALL	Pall Corporation

#### **Environmental Laboratory Services**

600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# **Chain of Custody Record**

Page 2 of 3

Company	Pall Corporation	) (	Requested Turnaround: Standard 4 business days * 3 business days
Name	Busan E. O. Peters		There end 48 hours * 24 hours * ASAP/Same day
Street	600 S. Wagner Road		Project Name / Number:
City	ANN ACOUC State M 1 Zip 48103		Print Sampler Name:
Phone	734-913-6531 Fax		Invoice To:
Email	Sue-Peters@pall.com	$\mathcal{I}\setminus$	

			W	ater	Mat	rix	of Is		<u> </u>	Pr	ese	rvati	ion		
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of Containers	Requested Testing Bromatc	None	4 ° C	HCI	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
1 Outfall 11/01/11	11/01/11	composit				1	1	317		<b>'</b>	,				2549,699
2 OutFall 11/02/11	11/05/11	composit				V	ţ	317_		1					700
3 Outfoon 1103/11	N/03/11	composil				w	Į	317		1					701
4 Outfell WordII	11/06/11	composit				V	1	317		س					707
5 Outfall 11/08/11	11/08/11	Camposit				V	1	317		~					703
6 Outfall 11/09/11	11/09/11	composit				·/	í	317							704
7 Outcoll 11/10/11	11 10 / 11	composite				1	1	317		1/		i Virt.	SLV je	25	VIIIIIIIE705
8 Outfall 11/13/11	N/13/11	Composite				V	1	317		-					706
9 Outfeell H/14/11	11/14/1	composit				•	í	31子		· ·					707
10 Outfall 11/15/11	11/15/11	Composit				7	1	317		· ·					708
Released by Sampler:	Date: / /	Time: :	Red	ceived	by	200	202	2000	ee	0		Date	e: \\ /	6/11	Time: 10:30
Released by: Susan 20 Roses	Date: (1 / 16 / 1)	Time: 12:00	Red	eived	by:	_	20					Date	e: [{ <sup>/</sup>	17/11	Time: 09:30
						(	20	>						, <del></del>	

						\	
Within holding times Y	N	Containers are intact Y N	Labels and COC agree Y N	Correct volume and container Y N	Ice remaining (Y	) N	Temperature on receiptC
					E	ВÌи	<i>-</i>

(PALL)	Pall	Corporation

#### **Environmental Laboratory Services**

600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# **Chain of Custody Record**

Compan	y Pall Corporation	۱ /
	Susan E.O. Peters	
Street	600 5, Wagner Road	
City	Ann Arbor State Mi Zip 48103	
Phone	734-913- Fax 734-913-	
Email	Sue-Peters@pall.com	) \

Requested Turnaround: ( Before the end the manth	Standard * 48 hours	4 business days 24 hours	* 3 business days  * ASAP / Same day	)
Project Name / Number:				
Print Sampler Name:				
Invoice To:				
				1

				W	ater	Mat	rix	of irs			Pı	resei	vati	on		
	Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of Containers	Requested Testing Bromete	None	4 ° C	HCI	HNO3	H₂SO₄	Other	Lab ID
1	HC HR 11-14-11	11/14/11	07:60				V	1	ろ)子		V					2549,709
2	HC/HR 11-15-11	11/15/11	08:30				1	l	317		~					710
3	HC HR 11-16-11 EN	SK 08/16/11	08:25				<b>W</b>	ı	317		_/					J 711
4	\$	E 0 / /														12.00
5		1 1	N N													
6		1 1	R R												**********	9
7		1 1		_						يُل رأت						
8	<u></u>	oss Offs	nn COC	h			~~	1							F NEWS	Marie Criefich
9		USS, UIIS		1	<b>y</b>	<b></b> 1		<b>!-L</b>		-		<b>—</b>				apart programme and a state of
10		<i>I I</i>	:		<u> </u>										_	P. Or. Complete ed.
	sed by Sampler: John CMU	Date: / /	Time: :	Red	eived	by O	w	(De/J) &	O Pexe	 LX	)	·	Date	:[[/	16/61	Time:1 (): 35
Releas	sed by: Ducan EDRESELS	Date:   / 6/ 1	Time: 12:00	Red	eived	by:		38	حوي				Date	:/(/	17/11	Time: 0930
								0	2		_^	***************************************				

Within holding times Y N	Containers are intact Y N	Labels and COC agree Y N	Correct volume and container	Y N	Ice remaining (Y)	N	Temperature on receipt $0.2$	<b>∱</b> ∘c
*	V 1 1 1					* -		

Blue



### LABORATORY REPORT

This report contains \_\_\_\_ pages (including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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# Laboratory Report

Client:

Pall Life Sciences

Report:

271807

Attn:

John Campbell

600 South Wagner Road

Ann Arbor, MI 48103

Priority:

Immediate Written

Status:

Final

PWS ID:

Not Supplied

Copies

to: La

Laurel Beyer

	Sampl	e Information			
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2552981	Outfall 11-16-11	317.0	11/16/11 00:00	Client	11/23/11 09:45
2552982	Outfall 11-17-11	317.0	11/17/11 00:00	Client	11/23/11 09:45
2552983	Outfall 11-20-11	317.0	11/20/11 00:00	Client	11/23/11 09:45
2552984	Outfall 11-21-11	317.0	11/21/11 00:00	Client	11/23/11 09:45

#### **Report Summary**

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

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WWW Chlm W Authorized Signature

Pall Life Sciences

Client Name: Report #:

271807

Mejectusa.

Date

Page 1 of 3

Report #: 271807

Sampling Point: Outfall 11-16-11

PWS ID: Not Supplied

General Chemistry									
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	4.4	ug/L		11/28/11 15:58	2552981

Sampling Point: Outfall 11-17-11

PWS ID: Not Supplied

			Gene	ral Che	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	5.6	ug/L	***	11/28/11 16:21	2552982

Sampling Point: Outfall 11-20-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	. Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	5.3	ug/L		11/28/11 16:44	2552983

Sampling Point: Outfall 11-21-11

PWS ID: Not Supplied

General Chemistry									
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	5.8	ug/L		11/28/11 17:07	2552984

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

produced to the control of the contr	2000 <del></del>	programmer, the second	
Reg Limit Type:	MCL	SMCL	AL
Sarrage of the same and the same of the sa			representative productive and a second of the second of th
Symbol:	*	۸	1

Client Name: Pall Life Sciences Report #: 271807

#### **Lab Definitions**

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 163043 PC File Name: 112811Aa Order Number: 216046 Instrument: IC DP Analyst: J. Timm Receipt Batch: 271807 Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2547363 Extracted: N/A Type: Instrument Performance Check Analyzed: 11/28/2011 14:26

Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4	Bromate	1.0	1.1001	110	75-125	Pass

Sample ID: 2547395 Type: Laboratory Reagent Blank Extracted: N/A Analyzed: 11/28/2011 14:49

Dil Factor: 1.000

CAS Number Parameter	MRL	Amount	Report Units
15541-45-4 Bromate	1.0	0.0000	< 1.0 ug/L

Sample ID: 2547397 Extracted: N/A Type: Laboratory Fortified Blank Analyzed: 11/28/2011 15:12

Dil Factor: 1.000

CAS Number Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4 Bromate	5.0	4.8315	97	85-115	Pass

Sample ID: 2541665 Extracted: N/A Type: Quality Control Sample Analyzed: 11/28/2011 15:35

Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4	Bromate	5.0	4.9900	100	85-115	Pass

Sample ID: 2552981 Extracted: N/A

Type: Field Sample
Analyzed: 11/28/2011 15:58

Site: Outfall 11-16-11

Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report	Units
15541-45-4	Bromate	1.0	4.4147	4.4	ug/L

Sample ID: 2552982 Extracted: N/A

Type: Field Sample
Analyzed: 11/28/2011 16:21

Site: Outfall 11-17-11 Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report	Units
15541-45-4	Bromate	1.0	5.5501	5.6	ug/L

Sample ID: 2552983 Extracted: N/A Type: Field Sample Analyzed: 11/28/2011 16:44 Site: Outfall 11-20-11 Dil Factor: 1.000

CAS Number	Parameter		MRL	Amount	Report	Units
15541-45-4	Bromate	,	1.0	5,3363	5.3	ug/L

Sample ID: 2552984 Extracted: N/A

Type: Field Sample Analyzed: 11/28/2011 17:07 Site: Outfall 11-21-11 Dil Factor: 1.000

	•				
CAS Number	Parameter	MRL	Amount	Report	Units
15541-45-4	Bromate	1.0	5.8167	5.8	ug/L

Sample ID: 2547378 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 11/28/2011 20:34

Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4	Bromate	10.0	9.1096	91	85-115	Pass

(PALL) Pall Corporation	PALL	Pall Corporation
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#### **Environmental Laboratory Services**

600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

Chain of Custody Record
216046 Page of a 71807

Company	y Pall Corporation			
Name	Susan EO Pete	S		
Street	6005. Wagner Ro			
City	Ann Arbor Mi	StateM/i	Zip	48103
Phone	434-913-6531	Fax <u>734-9</u>	13-61	03
Email	sue-poters@p	allicom		

Requested Turnaround:	Standard	*	4 business days	* 3 business days
Before end of month	,	*	24 hours	* ASAP / Same day
Project Name / Number Print Sampler Name:				
Invoice To:				

See - percent		lmr	77	<u> </u>	di	a	te	1	Nrit	te	n			***			ン
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking &	ater Punos	Maste Maste	Other		ontainers	Requested Testing Bromate 317	None	4 ° C	ese:	rvati CONH	H <sub>2</sub> SO <sub>4</sub>	Other	Lab II	>
1 HC HR 11-17-11 00 N	11/17/11	08:10				<b>V</b>	Ì		3 F		1					en er en en en en	
1 HC HR 11-17-11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	11/18/11	08:20				1	l		317		1/						
3 HC/HR 11-21-11)	11/18/11	07:30				V	i		317		<b>V</b>					Artuman sansa Santanus arang	
4 Ite/HR 11-22-11	11/22/11	08:15				V	l		317		~						
5 Outfall 11-16-11	11/16/11	composite				1	ì		317		1					25520	181
6 Outfall 11-17-11	11/17/11	composite				1	į		317	2	7	1 27 1 5 5	ta 530	1		I C	A Charles and a
7 Outfall 11-20-11	11/20/11	composite				1	1		<b>5</b> 17	FR.	1/	- 13			i Serial di	$\overline{q}$	83
8 Outfall 11-21-11	11/21/11	composite				1	i		317		1/	-		-		1/9	84
9	1 1	:			_				FAST (	13.5							
10	1 1	•						1									10322000 12322000 12322000
Released by Sampler: Sho Compbel	Date: O.S a bove	Time:	Red	eived	oy: S	بنود	rew?	<u></u>	Oexe	2/0	·	L	Date	: 11/	32/11	Time: :	
Released by: Seedow ED REYEW	Date: /as/11	Time AZ GG	Red	eived	oy: <b>/</b>	m	Les	nis	lei						13 11	Time: $q:$	45/

Within holding times (Y) N	Containers are intact (Y) N	Labels and COC agree (Y) N	Correct volume and container (Y)	N Ice remaining (	N Temperature on receipt 2.0 °C

#### LABORATORY REPORT

This report contains pages. (including the cover page)

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# Laboratory Report

Client:

Pall Life Sciences

Report:

271805

Attn:

John Campbell

Priority:

Immediate Written

600 South Wagner Road

Status:

Final

Ann Arbor, MI 48103

PWS ID:

Not Supplied

Copies

to:

Laurel Beyer

	Sample Information										
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time						
2552972	HC/HR 11-17-11	317.0	11/17/11 08:10	Client .	11/23/11 09:45						
2552973	HC/HR 11-18-11	317.0	11/18/11 08:20	Client	11/23/11 09:45						
2552974	HC/HR 11-21-11	317.0	11/21/11 07:30	Client	11/23/11 09:45						
2552975	HC/HR 11-22-11	317.0	11/22/11 08:15	Client	11/23/11 09:45						

#### **Report Summary**

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

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Authorized Signature

Pall Life Sciences

Client Name: Report #:

271805

Project May

Date

Page 1 of 3

Report #: 271805

Sampling Point: HC/HR 11-17-11

PWS ID: Not Supplied

The second secon			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/28/11 17:30	2552972

Sampling Point: HC/HR 11-18-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L	***		2552973

Sampling Point: HC/HR 11-21-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
	Bromate	317.0	10 *	1.0	< 1.0	ug/L	•••	11/28/11 18:16	2552974

Sampling Point: HC/HR 11-22-11

PWS ID: Not Supplied

			Gene	ral Ch	emis <b>tr</b> y	(1947) (1947)			
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		11/28/11 18:39	2552975

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

( - TANK			
Reg Limit Type:	MCL	SMCL.	AL
Symbol:	ation. A timber in including in the contract of the state	٨	

#### Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 163043 PC File Name: 112811Aa Order Number: 216046

Instrument: IC DP Analyst: J. Timm Receipt Batch: 271805

Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

% Rec Limits

Sample ID: 2547363 Extracted: N/A

Type: Instrument Performance Check

Analyzed: 11/28/2011 14:26

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target -----1.0

\_\_\_\_\_ 1.1001 110

75-125 Pass

P/F

Sample ID: 2547395 Extracted: N/A

Type: Laboratory Reagent Blank

Analyzed: 11/28/2011 14:49

Dil Factor: 1.000

CAS Number Parameter ------15541-45-4 Bromate

MRL Amount \_\_\_\_ 1.0

\_\_\_\_\_

Amount

Report Units \_\_\_\_\_\_\_ 0.0000 < 1.0 ug/L

Sample ID: 2547397 Extracted: N/A

Type: Laboratory Fortified Blank

Analyzed: 11/28/2011 15:12

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target: \_\_\_\_ 5.0

Amount: \_\_\_\_\_ 4.8315 % Rec Limits \_\_\_\_ \_\_\_\_\_ 97

P/F ----85-115 Pass

Sample ID: 2541665 Extracted: N/A

Type: Quality Control Sample Analyzed: 11/28/2011 15:35

Dil Factor: 1.000

CAS Number Parameter

Amount Target ----------

% Rec Limits \_\_\_\_ \_\_\_\_\_

P/F \_ \_ \_ \_

4.9900 100 85-115 Pass

Sample ID: 2552972 Extracted: N/A

15541-45-4 Bromate

Type: Field Sample

Analyzed: 11/28/2011 17:30

Site: HC/HR 11-17-11 Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL -1.0

\_\_\_\_

10.0

5.0

Amount 0.6965

Report Units < 1.0 ug/L

Sample ID: 2552973 Extracted: N/A

Type: Field Sample Analyzed: 11/28/2011 17:53

Site: HC/HR 11-18-11

Dil Factor: 1.000

CAS Number Parameter \_\_\_\_\_ 15541-45-4 Bromate

MRL \_\_\_\_

Amount \_\_\_\_\_

Report Units \_\_\_\_

1.0

0.6021 < 1.0 ug/L

Sample ID: 2552974 Extracted: N/A

Type: Field Sample

Analyzed: 11/28/2011 18:16

Site: HC/HR 11-21-11 Dil Factor: 1.000

CAS Number Parameter

MRL ----

Amount

Report Units

15541-45-4 Bromate

1.0

0.6003 < 1.0 ug/L

Sample ID: 2552975 Extracted: N/A

Type: Field Sample

Analyzed: 11/28/2011 18:39

Site: HC/HR 11-22-11 Dil Factor: 1.000

CAS Number Parameter

Amount Report Units

15541-45-4 Bromate

1.0

0.6913

< 1.0 ug/L

Sample ID: 2547378 Extracted: N/A

\_\_\_\_\_\_

Type: Continuing Calibration Check
Dil Factor: 1.000 Analyzed: 11/28/2011 20:34

CAS Number Parameter 15541-45-4 Bromate

Amount \_\_\_\_\_ 9.1096 91

% Rec Limits

P/F \_\_\_\_

85-115 Pass

(PALL)	Pall Corporation	1
	•	

#### **Environmental Laboratory Services**

600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# Chain of Custody Record 216046 271805

	t .	- /
Page	of _	

Company Pall Corporation		Requested Turnaround: Standard	* 4 business days * 3 business days
Name Susan EO Pete		Before end of 18 hours	* 24 hours * ASAP / Same day
Street 6005. Wagnew Ro	<u> 24                                   </u>	Project Name / Number.	
City Ann Arbor Mi	State	Print Sampler Name:	
Phone 434-913-6531	Fax 734-913-6103	Invoice To:	
Email sue poterse po	ulicon	I adiata t	Nritten
		Immediate v	Wfitten

			W	ater	Mat	rix	of			Pı	ese	rvati	on		
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of Containers	Requested Testing Bromate 317	None	4 ° C	HCI	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
1 HC/HR 11-17-11	11/17/11	08:10				<b>V</b>	ì	317		~					2552972
2 HC14R 11-18-11	11/18/11	08:20				1	l	317		1					ALCOS.
3 HC/1+R 11-21-11	11/21/11	07:30				V	l	715		~					i and
4 ItC/HR 11-22-11	11/22/11	08:15				1	l	317		~					1/975
5 Outfall 11-16-11	11/16/11	composite				1	i	317		V	1				
6 Outfall 11-17-11	11/17/11	composite				~	١	317	1	7		ता , १९३३ १ - १	1	1000	
7 Outfall 11-20-11	11/20/11	composite				./	1	517	75-	1	72 F	j "	* !	केंद्र व	
8 Outfall 11-21-Way	11/21/11	composite				1	ì	317		خرة ا					
9 Outtall 11-21-112	1 1	:						المشتور الا	ije (1 h	र ६ स	ephysics of pu		- 15	, ,	
10	1 1	:													
Released by Sampler: Sho Compbel	Date: Q\$ a pore	Time:	Red	eived	by: g	معاد	ಹ್ಳುತ	2 Pesse	2	1		Date Q.5	:   /	32/11	Time: :
Released by: Susaw ED Rutes	Date: /ax/11	Timeog 80	Red	eived	by:	m	Len	ski						23 <sup> </sup> U	Time: 9:45AV

	C-		_	•	1	<b>/</b> \			1			7 6
Within holding times	v	N N	l Coptainers are intact 🗥	YIN	Llabels and COC agree (	Y	N	Correct volume and container (Y	) N	I Ice remaining /	YIN	Temperature on receipt 4.0 °C
	Ι.	<i>)</i> ''	Tomas Comment	,				Carlo don a contrata de la contrata del la contrata de la contrata del la contrata de la contrat	<i>_</i> ''	1200 1011121111119		Tomperators on Totalpe
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## LABORATORY REPORT

This report contains \_\_\_\_\_ pages. (including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

This report may not be reproduced, except in full, without written approval from Underwriters Laboratories Inc. (UL).

Effective Date: 2011-05-16



Underwriters Laboratories

# Laboratory Report

Client:

Pall Life Sciences

Attn:

John Campbell

600 South Wagner Road Ann Arbor, MI 48103 Report:

271109

Priority:

Standard Written

Status:

Final

PWS ID:

**Not Supplied** 

Copies

to:

Laurel Beyer

		Sample Information		and the state of t	
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2544764	Outfall 11-7-11	317.0	11/07/11 00:00	Client	11/09/11 09:30

#### Report Summary

Note: Sample container was provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Underwriters Laboratories (UL).

Moir Chlebace
Authorized Signature

Client Name: Report #:

271109

Pall Life Sciences

Project Magn

11-16-1

Date

Report #: 271109

Sampling Point: Outfall 11-7-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	8.1	ug/L		11/09/11 12:32	2544764

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
- Lance who are the same to be a first the control of the control	The state of the s	A CONTRACTOR OF THE PROPERTY O	The second secon
Symbol:	*	۸	!

Client Name: Pall Life Sciences Report #: 271109

#### **Lab Definitions**

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

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Laboratory Trip Blank (LTB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The LTB container follows the collection bottles to and from the collection site, but the LTB is not opened at any time during the trip. LTB is not exposed to site conditions or pumping and collection equipment. The LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Matrix Duplicate (LFD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Matrix (LFM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 162547 PC File Name: 110911A Order Number: 215388

Instrument: IC DP Analyst: J. Timm Receipt Batch: 271109

Method(s): 317.0 Submitted By: J. Timm Today's Date: 11/16/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2547417 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 11/09/2011 10:38

Dil Factor: 1.000

CAS Number Parameter	MRL	Amount	Report	Units
15541-45-4 Bromate	1.0	0.0000	< 1.0	ug/L

Sample ID: 2547419 Extracted: N/A

Type: Laboratory Fortified Blank

Analyzed: 11/09/2011 11:23

Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4	Bromate	5.0	5.5648	111	85-115	Pass

Sample ID: 2547420 Extracted: N/A

Type: Instrument Performance Check

Analyzed: 11/09/2011 12:10

Dil Factor: 1.000

CAS Number Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4 Bromate	1.0	1.2412	124	75-125	Pass

Sample ID: 2544764 Extracted: N/A

Type: Field Sample

Analyzed: 11/09/2011 12:32

Site: Outfall 11-7-11 Dil Factor: 1.000

Amount Report Units CAS Number Parameter MRL \_\_\_\_\_\_ ----15541-45-4 Bromate 1.0 8.0778 8.1 ug/L

Sample ID: 2547421 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 11/09/2011 17:07

Dil Factor: 1.000

CAS Number Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4 Bromate	10.0	11.1205	111	85-115	Pass



#### **Environmental Laboratory Services**

600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# **Chain of Custody Record**

Page	of	
5511911	<del>108</del> -2	271109

/ Same day

Street         600 8004h Wagne Road         Project Name / Number:           City         City         City         Project Name / Number:           Phone         734-913-653   Fax 734-913-6103         Project Name / Number:           Invoice To:         Invoice To:	Company Pal	el Cerperoexum	\ (	Requested Turnaround: Standard * 4 business days * 3 business days
City         City         City         City         City         City         City         City         Print Sampler Name:				48 hours * 24 hours * ASAP / Same d
Phone 734-913-6531 Fax 734-913-6103 Invoice To:	Street (0)			Project Name / Number:
	-	· · · · · · · · · · · · · · · · · · ·		Print Sampler Name: J. Campbell
Fmail Sura Poters @ Mell. COM				Invoice To:
	Email Suc.	2-Petris@pall.com	/ (	

				W	ater	Mat	rix	ĭ	ģ			Pr	eser	vatio	n		
	Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of	Containers	Requested Testing Bromatic	None	4 ° C	HCI	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
1	Outfall 11-7-11	111707111	Composit				V	I		517		7					254476
2	EFF 1A-360	11 1084 11	10:20				V	Ī		317		V	•				
3	EFF2A-360	11 108/11	10:22				<b>V</b>	ì		317		V					
4	EFF-1A-390	11/08/11	13:50				<b>V</b>	١		317		V					TO N
5	EFF-2A-390	11/08/11	13:52				1	1		317	_	~					7/W 6
6	Control	11/08/11	Composit				V	(		31子		/			1	EDA	//
7		1 1	:													•••••	
8	BEOP	1 1	:														
9	11-08-11	1 1		-													
10		1 1	:														The production of the producti
Releas	ed by Sampler: Campbell	Date: 11 /08 / 11	Time: 13:59	Rec	eived	by: 😴	كند	som.	<u>5</u>	DPex	ec	0		Date:	(1/0	8/11	Time: 14:00
Releas	ed by: Dussin ED Perens	Date:# 1087 11	Time: 14:15	Rec	eived	by:	S	PX	٥	lon				Date		11	Time: 09:37

Y) N Temperature on receipt 2.4°C Within holding times Labels and COC agree Y Containers are intact Correct volume and container Ice remaining

#### LABORATORY REPORT

This report contains \_\_\_\_ pages (including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at  $(800)\ 332-4345$  or  $(574)\ 233-4777$ .

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Underwriters Laboratories

# Laboratory Report

Client:

Pall Life Sciences

Report:

272077

Attn:

John Campbell

Priority:

Immediate Written

600 South Wagner Road

Status:

Final

Ann Arbor, MI 48103

PWS ID:

Not Supplied

Copies

to: Laurel Beyer

	Sampl	e Information			
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2556863	Outfall 11-22-11	317.0	11/22/11 00:00	Client	12/02/11 09:30
2556864	Outfall 11-23-11	317.0	11/23/11 00:00	Client	12/02/11 09:30
2556865	Oulfall 11-27-11	317.0	11/27/11 00:00	Client	12/02/11 09:30
2556866	Outfall 11-28-11	317.0	11/28/11 00:00	Client	12/02/11 09:30
2556867	Outfall 11-29-11	317.0	11/29/11 00:00	Client	12/02/11 09:30
2556868	Outfall 11-30-11	317.0	11/30/11 00:00	Client	12/02/11 09:30

### **Report Summary**

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Underwriters Laboratories (UL).

Authorized Signature

Client Name:

Pall Life Sciences

Report #:

272077

My Mgw
Tille

Page 1 of 4

Date

Client Name: Pall Life Sciences

Report #: 272077

Sampling Point: Outfall 11-22-11

PWS ID: Not Supplied

17 ( ) 18			⊸Géne	ral Che	mistry				
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	5.6	ug/L			2556863

Sampling Point: Outfall 11-23-11

PWS ID: Not Supplied

			: Gene	ral Ch	emistry	i ti shghise ag		grade for	
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
	Bromate	317.0	10 *	1.0	6.5	ug/L		12/05/11 21:13	2556864

Sampling Point: Outfall 11-27-11

PWS ID: Not Supplied

To the second		t de la company	Gene	ral Che	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	4.4	ug/L	***	12/05/11 21:58	2556865

Sampling Point: Outfall 11-28-11

PWS ID: Not Supplied

			Gene	ral Che	mistry	TU SAN RECES			
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	4.4	ug/L		12/05/11 22:21	2556866

Sampling Point: Outfall 11-29-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry.		Market English		
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	4.5	ug/L		12/05/11 22:43	2556867

Client Name:

Pall Life Sciences

Report #: 272077

Sampling Point: Outfall 11-30-11

PWS ID: Not Supplied

(C) (-) (C) (C)		では基準での影響	Gene	ral Che	emistry:	et a chilice spinis	69号,69号1号号5		trantigues.
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4		317.0	10 *	1.0	5.7	ug/L		12/05/11 23:06	2556868

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

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Rea Limit Type:	i MCL i	SMCL	Al Al	i
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Sumbali	*	Λ	i 1	į

### Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

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Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 163263 PC File Name: 120511a Order Number: 216289 Instrument: IC BK Analyst: S. Lovick Receipt Batch: 272077 Method(s): 317.0 Submitted By: S. Lovick Today's Date: 12/07/2011

Generated By: P. Mahler

Client: Pall Life Sciences / John Campbell

Sample ID: 2558145 Extracted: N/A

Type: Initial Calibration Blank

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Analyzed: 12/01/2011 11:13 MRL

Report Units

Sample ID: 2558151

Type: Laboratory Reagent Blank

Extracted: N/A

Analyzed: 12/05/2011 17:06

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL

MRL

Target

MRL

1.0

MRL

1.0

1.0

Amount 0.0000

Amount

0.0000

Report Units < 1.0 ug/L

< 1.0 ug/L

Sample ID: 2558152 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 12/05/2011 17:28

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target \_\_\_\_ 5.0

Amount 4.2520

% Rec Limits P/F 85-115 Pass

Sample ID: 2547396 Extracted: N/A

Type: Instrument Performance Check Analyzed: 12/05/2011 17:51

Dil Factor: 1.000

CAS Number Parameter

Target \_ 1.0

Amount \_\_\_\_ 0.8400

Limits P/F % Rec 84 75-125 Pass

15541-45-4 Bromate Sample ID: 2556863

Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 20:51 Site: Outfall 11-22-11 Dil Factor: 1.000

CAS Number Parameter

Amount

Report Units 5.6340 5.6 ug/L

1.0 15541-45-4 Bromate

Sample ID: 2556864 Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 21:13 Site: Outfall 11-23-11 Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

1.0

Amount -----6.5090

Amount

9.0560

Report Units 6.5 ug/L

Sample ID: 2558153 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 12/05/2011 21:36

Dil Factor: 1,000

91

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

10.0

Site: Outfall 11-27-11

% Rec Limits

85-115

Sample ID: 2556865 Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 21:58

Report Units Amount 4.3700

15541-45-4 Bromate

CAS Number Parameter

Type: Field Sample

Site: Outfall 11-28-11 Dil Factor: 1.000

Sample ID: 2556866 Extracted: N/A

CAS Number Parameter

15541-45-4 Bromate

Analyzed: 12/05/2011 22:21

Report Units Amount -----4.4400 4.4 ug/L

PC File Name: 120511a Order Number: 216289

Instrument: IC BK Instrument: IC BK Analyst: S. Lovick Receipt Batch: 272077 Method(s): 317.0 Submitted By: S. Lovick Today's Date: 12/07/2011

Client: Pall Life Sciences / John Campbell

Sample ID: 2556867 Extracted: N/A Extracted: N/A

Type: Field Sample

Analyzed: 12/05/2011 22:43

Site: Outfall 11-29-11

Dil Factor: 1.000

Generated By: P. Mahler

CAS Number Parameter

Report Units

15541-45-4 Bromate

1.0

1.0

Amount

4.4640 4.5 ug/L

Sample ID: 2556868 Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 23:06

Site: Outfall 11-30-11

CAS Number Farameter

Dil Factor: 1.000

15541-45-4 Bromate

MRL

Amount Report Units 5.7370 5.7 ug/L

Sample ID: 2557975 Extracted: N/A

Type: Matrix Spike of 2556868

Site: Outfall 11-30-11

CAS Number Parameter

Analyzed: 12/05/2011 23:28

Dil Factor: 1.000

Target Amount Parent Amt 8Rec Limits P/F 5.0 10.0890 5.7370 87 75-125 Pass

15541-45-4 Bromate

Sample ID: 2557976

Type: Matrix Spike Duplicate of 2556868 Site: Outfall 11-30-11 Analyzed: 12/05/2011 23:51

Dil Factor: 1,000

Extracted: N/A CAS Number Parameter

-----

15.0

Target Amount Parent Amt %Rec Limits P/F

15541-45-4 Bromate

5.0

9.7480 5.7370 80 75-125 Pass

Sample ID: 2558154 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 12/06/2011 00:13

Dil Factor: 1.000

13.9350 93 85-115

CAS Number Parameter 15541-45-4 Bromate

Target:

Amount

% Rec Limits

P/F Pass

NOTE: The dilution factor is included in the percent recovery calculation.

Page 2 of 2

Version 2.7.0.0

(PA	11)
7.	/

Pall Corporation

Environmental Laboratory Services 600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# Chain of Custody Record

272077

Requested Turnaround: Standard \* 4 business days

48 hours \*

\* ASAP / Same day

Project Name / Number: November Dota

Print Sampler Name: Rober

24 hours

Invoice To: \_\_\_

y Pall Corporation	)	
Susan Peter	<u> </u>	
600 South Wagn	en Road	
Ann Arbor	_ State_ M\'ı	Zip 48703-9019
734-913-6531	Fax 734-9	713-6103
sue_peters @ po	ell.com	
•	Susan Peter 600 South Wagn Ann Arbur 734-913-6531	y Pall Corporation Susan Peters 600 South Wagner Road Ann Arbur state Mi 734-913-6531 Fax 734- suc_peters@pall.com

		z o	e Wi	Charles of the Control of the Contro												<b>3</b>
	Sample Identification or Location (This will appear on the final report)	egiat Sample Date	Sample Time	Drinking &	eter punous	Waste	Other	Number of Containers	Requested Testing	None	4 ° C	HCI	HNO3	H2SO4	Other	Lab ID
1	Outfull 11-22-11	11/22/11	composite		-		1	1	317		V					2556 X63
2	Outfall 11-23-1)	11/23/11	Composite				1	i	317		<b>V</b>					964
3	Outfell 11-27-11	11/24/11	composite				1	I	ত দে		1					865
4	Outfall 11-28-11	11/28/11	composite				1	1	317		V					866
5	Outfall 11-29-11	11/99/11	composite				1		FIS		1			-		\$ \$67
6	Outfall 11-30-11	N/30/11	composite				1	1	3!7		1	<del> </del>				J/ Šec
7	HC/HR 11-23-11/20	11/23/11	08:10				Á	and the		* 64	, u	CES- 1				
8	140 64R 11-28-11 09 0 000	11/28/11	08:1S				9		NIP		W					
9	HC HR -11-29-1122 6	11/29/11	08:40				(3	ABAT	ira	N BA	دخانجا	a i sa	E pose	95.		
10	HC/HR 11-30-11	11 10E1 11	09:20				0	MIVIT	LLU	M	in the same		-	Des :		
Releas	ed by Sampler Rursing + C. Duma	Date: On/daytes	Time: :	Red	eived	by: S	كععد	2000 S	Her? OF	2	)		Date	OS VO	ans No	Time: :
Releas	Slean Earter	Date:12/01/11	Time: (%: () ()	Red	eived	by: à	كوفو	ا عىك	Depres	;			Date		<u> </u>	Time() 9:30

<del></del>	······································	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>			~	
Within holding times Y N Co	ontainers are intact Y N	Labels and COC agree Y N	Correct volume and container Y	N Ice remainir	ng(Y)N	Temperature on receipt O, 2c
			<u> </u>			

Underwriters Laboratories

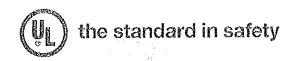
## LABORATORY REPORT

This report contains \_\_\_\_\_ pages (including the cover page)

If you have any questions concerning this report, please do not he sitate to call us at  $(800)\ 332-4345$  or  $(574)\ 233-4777$ .

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Understates Laborations for 110 S. Fall Street, South Bend, th 40617-2702 USA T : 800-332.43457 F : 574.233.82677 W . pt con-



Underwriters Laboratories

# Laboratory Report

Client:

Pall Life Sciences

Report:

272076

Attn:

John Campbell

Priority:

Immediate Written

600 South Wagner Road

Status:

Final

Ann Arbor, MI 48103

PWS ID:

Not Supplied

Copies

to: Laurel Beyer

Sample Information								
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time			
2556858	HC/HR 11-23-11	317.0	11/23/11 08:10	Client	12/02/11 09:30			
2556859	HC/HR 11-28-11	317.0	11/28/11 08:15	Client	12/02/11 09:30			
2556860	HC/HR 11-29-11	317.0	11/29/11 08:40	Client	12/02/11 09:30			
2556861	HC/HR 11-30-11	317.0	11/30/11 09:20	Client	12/02/11 09:30			
2556862	HC/HR 12-1-11	317.0	12/01/11 09:00	Client	12/02/11 09:30			

Report Summary

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Underwriters Laboratories (UL).

Authorized Signature

Pall Life Sciences

Client Name: Report #:

272076

Title Man

12/1/2011

Date

Client Name: Pall Life Sciences

Report #: 272076

Sampling Point: HC/HR 11-23-11

PWS ID: Not Supplied

			Gene	ral Che	mistry		rem trace of the		
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		12/05/11 18:13	2556858

Sampling Point: HC/HR 11-28-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		12/05/11 19:21	2556859

Sampling Point: HC/HR 11-29-11

PWS ID: Not Supplied

	General Chemistry								
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		12/05/11 19:43	2556860

Sampling Point: HC/HR 11-30-11

PWS ID: Not Supplied

(基)(章)(章)(章)	General Chemistry								
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL. ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L	•••	12/05/11 20:06	2556861

Sampling Point: HC/HR 12-1-11

PWS ID: Not Supplied

	General Chemistry								
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L	***	12/05/11 20:28	2556862

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

	en in de la companya	والمتعلق والمستحد والمتعارض والمعارض والمتعارض	والقاء الخصيصة مهاجرته استسفاد والواسا سيسادك ولوي الواري الداوراني	والمحارفة والحارب والمستطام والمستطين والمستطين والمرازين والمرازي
	Reg Limit Type:	MCL	SMCL	AL.
	Promise Contract State Contract Contrac	government of the contract of	en persona programa de esperante de la constantación de la constan	gay transport and the State of the State of Stat
- 1	Symbol:	*	۸	i
	, 0,	ž	,	i

Client Name: Pall Life Sciences Report #: 272076

### Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Run Number: 163263 PC File Name: 120511a Order Number: 216289

Instrument: IC BK Analyst: S. Lovick Receipt Batch: 272076 Method(s): 317.0 Submitted By: S. Lovick Today's Date: 12/07/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2558145 Extracted: N/A

Type: Initial Calibration Blank Analyzed: 12/01/2011 11:13

Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report Units
15541-45-4	Bromate	1.0	0.0000	< 1.0 ug/L

Sample ID: 2558151 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 12/05/2011 17:06

Dil Pactor: 1.000

CAS Number	Parameter	MRL	Amount	Report	Units
	************				
15541-45-4	Bromate	1.0	0.0000	< 1.0	ug/L

Sample ID: 2558152 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 12/05/2011 17:28

Dil Factor: 1.000

CAS Number Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4 Bromate	5.0	4,2520	85	85-115	Pass

Sample ID: 2547396 Extracted: N/A

Type: Instrument Performance Check

Analyzed: 12/05/2011 17:51

Dil Factor: 1.000

CAS Number Parameter	Target	Amount	% Rec	Limits	P/F
	 		~		
15541-45-4 Bromate	1.0	0.8400	84	75-125	Pass

Sample ID: 2556858 Extracted: N/A

Type: Field Sample

Site: HC/HR 11-23-11

Analyzed: 12/05/2011 18:13 Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report	Units
				<b></b>	
15541-45-4	Bromate	1.0	0.4910	< 1.0	ug/L

Sample ID: 2557973 Extracted: N/A

Type: Matrix Spike of 2556858 Analyzed: 12/05/2011 18:36

Site: HC/HR 11-23-11 Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	Parent Amt	%Rec	Limits	P/F
15541-45-4	Bromate	5.0	4.3820	< MRL	88	75-125	Pass

Sample ID: 2557974 Extracted: N/A

Type: Matrix Spike Duplicate of 2556858 Analyzed: 12/05/2011 18:58

Site: HC/HR 11-23-11 Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	Parent Amt	%Rec	Limits	P/F
15541-45-4	Bromate	5.0	4.4950	< MRL	90	75-125	Pass

Sample ID: 2556859 Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 19:21

Site: HC/HR 11-28-11 Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report	Units
15541-45-4	Bromate	1.0	0.0000	< 1.0	ug/L

Sample ID: 2556860 Extracted: N/A

Type: Field Sample Analyzed: 12/05/2011 19:43 Site: HC/HR 11-29-11 Dil Factor: 1.000

CAS Number	Parameter	MRL	Amount	Report Uni	ts
				··	
15541-45-4	Bromate	1.0	0.0000	< 1.0 ug/	L

Run Number: 163263 PC File Name: 120511a Order Number: 216289 Instrument: IC BK Analyst: S. Lovick Receipt Batch: 272076

Method(s): 317.0 Submitted By: S. Lovick Today's Date: 12/07/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2556861

Type: Field Sample

Site: HC/HR 11-30-11

Extracted: N/A

Analyzed: 12/05/2011 20:06

Dil Factor: 1,000

CAS Number Parameter

MRL

Report Units

15541-45-4 Bromate

1.0

\_\_\_\_\_ 0.1220

Amount

< 1.0 ug/L

Sample ID: 2556862

Type: Field Sample

Site: HC/HR 12-1-11

Extracted: N/A

Analyzed: 12/05/2011 20:28

Dil Factor: 1.000

CAS Number Parameter

MRL

15541-45-4 Bromate

1.0

Amount < 1.0 ug/L 0.0000

Report Units

Sample ID: 2558153

Extracted: N/A

Type: Continuing Calibration Check Analyzed: 12/05/2011 21:36

Dil Factor: 1.000

91

CAS Number Parameter 15541-45-4 Bromate

Target 10.0

Amount 9.0560

% Rec Limits 85-115

P/F Pass

PALL	Pall Corporation
------	------------------

Environmental Laboratory Services 600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

# **Chain of Custody Record**

	Pleaso
Company Paul Curporation	Requested Turnaround: Standard * 4 business days * 3 business days
Vame Susan Peters	48 hours * 24 hours * ASAP / Same day
Street 600 South Wagner Road	Project Name / Number: NOVEM DE Deta
City Ann Actour state M'1 Zip 48103-9019	Print Sampler Name: RObert Ursing / Christian Duma
Phone <u>734-913-6531</u> Fax <u>734-913-6103</u>	Invoice To: Laurel Beyer -
Email <u>sue peters@ policom</u> IMME	date Writton

												96			
			W	ater	Mat	rix	of FS					vati	en /		
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of Containers	Requested Testing	None	4 ° C	HCI	HNO3	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
1 Outfull 11-22/11 123-11 D	1 / Se / 14	composite	 			1/	l	317		V					
2 Outfall 11,23-11 Delp	11/23/11	Composite				:/	Î	317		V					
3 Outfeld 11-27-11	11/24/11	composite				V	ì	ত দে		1					
4 Outfall 11-28-11	11/28/11	· Composite				1	t	317		V			-		
5 Outfall 11-29-11	11/99/11	composite				1	i	317		1					
6. Outtail 11-30-11	11/05/11	composite				1	1	317		1			7.	······································	
7 HC/HR 11-23-11	11/23/11	08:10.				,ï	ogen lagrame			7 80	rap :	Se= ·			2556858
8 14C/L+R 11-28-11	11/28/11	08:1S				7					5 36	Cal E			854
9 HC HR - 11-29-11	11/29/11	08:40				0	AAAF	ira	* A A	F 77 7	1 7 5	: Carr	74		860
10 HC/HR 11-30-11	11/30/11	09:20				Q/				100	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R Para	A STATE		1861
Released by Sampler Runsing + C. Duma	Date: ON/CLOYED	Time: :	Rec	eived	by:≲	كديد	2000 E	EO Per	260	<u> </u>	<u> </u>	Date	DAIC	sayer oove	
Released by: Siecon EO Resters	Date: Q 6 / 1 \	Time: 076:00	Rec	eived	by: 🗼	كعه	lle.	Degres	,			Date		1	Time() 9:30

Within holding times Y N Containers are intact Y N Labels and COC agree Y N Correct volume and container Y N Ice remaining (Y) N Temperat	ture on receipt 🔾 🔾 C

(PALL)	Pall	Corporation

### Environmental Laboratory Services 600 South Wagner Rd. Ann Arbor, MI 48103-9019 Phone: (734)-913-6531 \* Fax: (734)-913-6103

## **Chain of Custody Record**

Page 2 of 2

Compan	y Pall Corporation	
Name	Busan Peters	
Street	600 South Was	gner Road
City	Ann Arbor	State Mi Zip 4 \$103-9019
Phone	734-913 653)	Fax 734-913-6103
Email	sue - peters@ pay	1.com

Requested Turnaround: Standard \* 4 business days (\* 3 business days)

48 hours \* 24 hours \* ASAP / Same day

Project Name / Number: November daya

Print Sampler Name: Robert Ursing / Christian Duma
Invoice To: Laure | Psyper

				w	ater	Mat	rix	L- 10			Pi	rese	rvati	on		
	Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number of Containers	Requested Testing Bromule	None	4 ° C	HCI	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Other	Lab ID
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Relea	sed by Sampler: R. Ursing + C. Duma	Date: 12/01/11	Time: :	Re	ceived	by:		anceo	Reser	<u> </u>	.L	J	Date	: (g./	<u> </u>	Time: 08:00
Relea	sed by Sampler: R. Ursing + C. Dumased by: X. Susaw ED Peters	Date: 12 01 / 11	Time: 12:00	Re	ceived	by:	20	eu 0	2322			······································	Date	j	1(	Time:9:30

Within holding times Y N Containers are intact Y N Labels and COC agree Y N Correct volume and container Y N Ice remaining Y N Temperature on receipt . 🗻