

RECEIVED

OCT 19 2011

MDEO - RRD JACKSON DISTRICT OFFICE

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).

Underwriters Laberatories Inc 110 S. Hill Street, South Bend, IN 46617-2702 USA 1 : 800 332-4345 / F:: 574-233-8207 / W:: pl.som



Laboratory Report

Client: Pall Life Sciences

Report:

268724

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						
2517734	Outfall 09-01-11	317.0	09/01/11 00:00	Client	09/20/11 09:15						
2517735	Outfall 09-04-11	317.0	09/04/11 00:00	Client	09/20/11 09:15						
2517736	Outfall 09-05-11	317.0	09/05/11 00:00	Client	09/20/11 09:15						
2517737	Outfall 09-06-11	317.0	09/06/11 00:00	Client	09/20/11 09:15						
2517738	Outfall 09-07-11	317.0	09/07/11 00:00	Client	09/20/11 09:15						
2517739	Outfall 09-08-11	317.0	09/08/11 00:00	Client	09/20/11 09:15						
2517740	Outfall 09-11-11	317.0	09/11/11 00:00	Client	09/20/11 09:15						
2517741	Outfall 09-12-11	317.0	09/12/11 00:00	Client	09/20/11 09:15						
2517742	Outfall 09-13-11	317.0	09/13/11 00:00	Client	09/20/11 09:15						
2517743	Outfall 09-14-11	317.0	09/14/11 00:00	Client	09/20/11 09:15						
2517744	Outfall 09-15-11	317.0	09/15/11 00:00	Client	09/20/11 09:15						
2517745	Outfall 09-18-11	317.0	09/18/11 00:00	Client	09/20/11 09:15						

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

Genior Project Manager

<u>/の-/ -//</u> Date

Client Name:

Pall Life Sciences

Report #:

268724

Page 1 of 5

Report #: 268724

Sampling Point: Outfall 09-01-11

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	5.2	ug/L		09/21/11 12:43	2517734			

lampling Point: Outfall 09-04-11

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	4.6	ug/L.		09/21/11 13:06	2517735			

ampling Point: Outfall 09-05-11

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	5.4	ug/L		09/21/11 13:29				

ampling Point: Outfall 09-06-11

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	4.9	ug/L		09/23/11 16:44				

ampling Point: Outfall 09-07-11

	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	5.1	ug/L		09/23/11 17:30	2517738		

Report #: 268724

Sampling Point: Outfall 09-08-11

PWS ID: Not Supplied

Constitution of the	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzeď Date	UL ID#			
15541-45-4	Bromate	317.0	10 *	1.0	4.6	ug/L		09/23/11 17:53	2517739			

Sampling Point: Outfall 09-11-11

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	4.9	ug/L	# + #	09/23/11 18:16	2517740			

Sampling Point: Outfall 09-12-11

PWS ID: Not Supplied

	General Chemistry											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#			
15541-45-4	Bromale	317.0	10 *	1.0	4.8	ug/L_		09/23/11 18:39	2517741			

Sampling Point: Outfall 09-13-11

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	4.8	ug/L		09/23/11 19:02	2517742			

Sampling Point: Outfall 09-14-11

	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	5.0	ug/L		09/23/11 19:25				

Report #: 268724

ampling Point: Outfall 09-15-11

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	5.3	ug/L		09/23/11 19:48	2517744				

ampling Point: Outfall 09-18-11

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
	Bromate	317.0	10 *	1.0	5.1	ug/L		09/23/11 20:11	2517745

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

	و المستقدمة والمستقد المينية المستقدمة والمستقدمة والمستقدمة والمستقدمة والمستقدمة والمستقدمة والمستقدمة والمستقدمة		Annual Street Committee Co
Reg Limit Type:	MCL	SMCL	Al.
ASSESSMENT AND ADMINISTRATION OF THE PROPERTY		A SANDE CONTRACTOR DE L'ARTER DE	THE PERSON NAMED OF THE PERSON NAMED IN THE PE
Symbol:	*	^	!

Client Name: Pall Life Sciences Report #: 268724

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: 160831 PC File Name: 092111a Order Number: 213668

Instrument: IC DP Analyst: J. Timm Receipt Batch: 268724

Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2519989

Type: Laboratory Reagent Blank Analyzed: 09/21/2011 08:07

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: 2519990 Extracted: N/A

Type: Instrument Performance Check Analyzed: 09/21/2011 08:30

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target Amount ____ 1.0 1.2061 121 75-125 Pass

% Rec Limits P/F ____

Sample ID: 2519991 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 09/21/2011 08:53

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target -----5.0

Amount -----5.5542 111 85-115 Pass

% Rec Limits -----____

Sample ID: 2517734 Extracted: N/A

Type: Field Sample Type: Field Sample Analyzed: 09/21/2011 12:43

Site: Outfall 09-01-11 Dil Factor: 1,000

CAS Number Parameter

1.0 5.2149 5.2 ug/L

MRL Amount Report Units

_______ 15541-45-4 Bromate

Extracted: N/A

Type: Field Sample Analyzed: 09/21/2011 13:06 Site: Outfall 09-04-11

Dil Factor: 1.000

Report Units

CAS Number Parameter

Sample ID: 2517735
Extracted: N/A

15541-45-4 Bromate

1.0

~---

~---

4.5548 4.6 ug/L

Amount

Sample ID: 2517736

Extracted: N/A

Type: Field Sample

Analyzed: 09/21/2011 13:29

Site: Outfall 09-05-11

Dil Factor: 1.000

CAS Number Parameter _____ 15541-45-4 Bromate

----1.0 Amount 5.4246 5.4 ug/L

Report Units

Sample ID: 2519994

Extracted: N/A

Type: Continuing Calibration Check

Analyzed: 09/21/2011 14:59

Dil Factor: 1.000

CAS Number Parameter _____ 15541-45-4 Bromate

Target

Amount _____ 10.0 11.2176 112 85-115 Pass

% Rec Limits

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

Page 1 of 1

Version 2.7.0.0

Run Number: 160880 PC File Name: 092311A Order Number: 213668

Instrument: IC DP Analyst: J. Timm Receipt Batch: 268724 Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2521009 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 09/23/2011 14:03

Dil Factor: 1.000

15541-45-4 Bromate

CAS Number Parameter

1.0

MRL Amount Report Units

0.0000 < 1.0 ug/L

Sample ID: 2521010 Type: Instrument Performance Check

Extracted: N/A

Analyzed: 09/23/2011 14:26

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target Amount _____ 1.0 0.9350 94

4.9628

Limits P/F % Rec -----_____

____ 75-125 Pass

Sample ID: 2521011 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 09/23/2011 14:49

Dil Factor: 1.000

CAS Number Parameter

Target

Amount

P/F % Rec Limits ____ _____ ----85-115

15541-45-4 Bromate

Type: Quality Control Sample

Dil Factor: 1.000

99

Extracted: N/A CAS Number Parameter Analyzed: 09/23/2011 15:12

Amount

% Rec Limits P/F

15541-45-4 Bromate

Sample ID: 2521012

Target ____ 5.0

5.0

---------4.7719 95 85-115 Pass

Pass

Sample ID: 2517737 Extracted: N/A

Type: Field Sample Analyzed: 09/23/2011 16:44 Site: Outfall 09-06-11

Dil Factor: 1.000

4.8956 4.9 ug/L

CAS Number Parameter

1.0

MRL

MRL Amount Report Units

15541-45-4 Bromate

Extracted: N/A

Type: Matrix Spike of 2517737

Site: Outfall 09-06-11

Dil Factor: 1.000

CAS Number Parameter

Sample ID: 2519995

Analyzed: 09/23/2011 17:07

Target Amount Parent Amt %Rec Limits P/F ______

15541-45-4 Bromate

Type: Field Sample

5.0 9.2692 4.8956 87 75-125 Pass Site: Outfall 09-07-11

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter

Sample ID: 2517738

Analyzed: 09/23/2011 17:30

15541-45-4 Bromate

1.0

Sample ID: 2517739

Type: Field Sample

Site: Outfall 09-08-11

Extracted: N/A

Analyzed: 09/23/2011 17:53

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL ____

Amount Report Units 4.6427 4.6 ug/L

Sample ID: 2517740

Extracted: N/A

Type: Field Sample

Analyzed: 09/23/2011 18:16

Site: Outfall 09-11-11 Dil Factor: 1.000

CAS Number Parameter

MRL Amount Report Units
---- 1.0 4.8605 4.9 ug/L

15541-45-4 Bromate

1.0

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

Page 1 of 2

Version 2.7.0.0

Run Number: 160880 PC File Name: 092311A Order Number: 213668

Instrument: IC DP Analyst: J. Timm Receipt Batch: 268724

Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2517741

Type: Field Sample

Analyzed: 09/23/2011 18:39

Site: Outfall 09-12-11 Dil Factor: 1.000

15541-45-4 Bromate

CAS Number Parameter

1.0

1.0

1.0

MRL Amount Report Units

4.8131

4.8 ug/L

Sample ID: 2517742 Extracted: N/A

Type: Field Sample

Analyzed: 09/23/2011 19:02

Site: Outfall 09-13-11

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL Amount Report Units
1.0 4.7776 4.8 ug/L

Sample ID: 2517743 Extracted: N/A

Type: Field Sample

Type: rieid Sample Analyzed: 09/23/2011 19:25

Site: Outfall 09-14-11

Dil Factor: 1.000

CAS Number Parameter

MRL

Amount Report Units
5.0422 5.0 ug/L

15541-45-4 Bromate

Sample ID: 2517744 Type: Field Sample Extracted: N/A Analyzed: 09/23/2011 19:48

Site: Outfall 09-15-11 Dil Factor: 1.000

MRL Amount Report Units

CAS Number Parameter 15541-45-4 Bromate

5.3072 5.3 ug/L

_ _ ...

Sample ID: 2517745 Extracted: N/A Extracted: N/A

Type: Field Sample

Analyzed: 09/23/2011 20:11

Site: Outfall 09-18-11

Dil Factor: 1.000

CAS Number Parameter

MRL Amount Report Units

15541-45-4 Bromate

1.0

5.0684 5.1 ug/L

Sample ID: 2521013 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 09/23/2011 20:34

Dil Factor: 1.000

CAS Number Parameter _____ 15541-45-4 Bromate

Target Amount % Rec Limits P/F 10.0 9.6307 96 85-115

Pass



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

Chain of Custody Record	
268124	F
200	

Page of 3

Compan			
Name	Susan E.O. Pete		
Street	600 South Wag	ner Rd.	Bldq#4
City	Ann Arbor	State	zip <u>~48103</u> _
Phone	7-34-913-6531	Fax_ <u>73</u> U	1-913-6103
Email	Sue. Peters @ Pa	llicom	

1	Requested Turnaround: Standard * 4 business days * 3 business days	\
	48 hours * 24 hours * ASAP / Same day	
	Project Name / Number:	
	Print Sampler Name Invoice To 2	
	SAMPLE CONTAINER	1

			Water Matrix			rix	of rs		Preservation						
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time		Ground	Waste	Other	Number of Containers	Requested Testing Broyce	None	4 ° C	HG	HNO ₃	H ₂ SO ₄	Other	Lab ID
1 Outfall 09-01-11	09/01/11	composite				V	ļ	317		√				···· · · · · · · · · · · · · · · · · ·	25.17734
2 Outfall 09-04-11	09/04/11	composite				1	l	317		V					\ ₹785
3 Out Fall 09-05-11	09/05/11	composite				V	ì	317		✓					736
4 Outfall 09-06-11	09/06/11	comoside				V	l	317		√					737
5 Out Fall 09-07-11	11/20/20	comosite				V	Ĺ	317		√					738
6 butfall 09-08-11	09/08/11	composite				√	1	317		~					739
7 Outfall 09-11-11	9/11/11	cominside				✓		317		~					740
8 Outfall 09-12-11	09/12/11	composite				V	ì	317		/					741
9 Outfall 09-13-11	11/81/90	cominative				V	1	る仔		4					12742
10 Outfall 09-14-11	09/14/11	composite				\checkmark	1	317		✓					V. JUB
Released by Sampler: Sonn C/CD	Date A600e	1	Rec	eived	by: 🧲	عَد	Crace	EDPe	B -Ø	کار	2	Date C	كالخ	ob	Time: :
Released by: Supple Retects	Date: 19/11	Time: :	Red	eived	by:	(00)	Lee P	Depuis	-			Date	1 20	2/1	Time 69:15

		<u> </u>		<u> </u>
	7	7.		7
Within holding times Y N Containers are intact Y N Labels and COC agree Y N Correct volume and container Y	N Ice remaining /	Ý) N	1 Temperature on receipt .	<u> </u>
		<u></u>	<u> </u>	



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

Pall Cor	<u>b</u>			
BUSAN E.	3. Pet	-e'Z		
6005,000	icner	Road	Bldc	14年4
Ann Arb	. ST	State M	Zip	F.01847
734-913-6	531	Fax 734	1-913-0	6103
Bue: Peter	49 DE	u con	Λ	
	Pall Cor Susan E. 6005, WC Ann Arb 734-913-6 Sur: Peter	Pall Corp Susan E.O. Pet 6008, Wag new Ann Arbur 734-913-653 I Sue: Peters@PA	Susan E. O. Peters 6008, Wagner Road Ann Arbot state M	Susan E. O. Peters 6008, Wagnew Road Bldg Ann Arbot state Mi zip

/	Requested Turnaround: Standard * 4 business days * 3 business days
	48 hours * 24 hours * ASAP / Same day
	Project Name / Number:
	Print Sampler Name:
	Invoice To:
	ULIEIN! FNUVIUEU

SAMPLE CONTAINER

					Mat	rix	of	ķ		Preservation						
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other		Containers	Requested Testing	None	4 ° C	HCI	HNO ₃	H₂SO₄	Other	Lab ID
1 Qutrall 09-15-11	09/15/11	Composite				V	1		Bromate 317		V					26 TH
2 Ocettall 09-18-11	09/18/11	Composite				V	١		317		V					英字形
3 HC/HR 9-2-11	109/2/11	08:15														
4 HC HR 9-6-11	09/06/11	08:30						·								
5 HC HR 09-7-11	114018	08:30														
6 HC 1+R 09-08-11 XV	09/08/11	08:20														
7 HC/HR 09-29-11 2 XV	09/09/11	08:10														
8 HC/HR 08-12-11 Det b	09/12/11	08:35								'						
9 HC/HR 09-13-11	11 181 90	08:25						·		*******						
10 HOTHR 09-14-11	09/14/11	05:30														
Released of Sampler: YOUNG CD	Date: Node	Time: :	Rec	eived	by:	<u>}</u>		Cu	₅₀₆	fee	0		Date	AV	10/2	Time:
Refeased by: Supposed Paters	Date@9 / 19 / 11	Time: 10 : 30	Rec	eived	DV://	و00ء	r	<u>J.</u>	mys				Date	रं येट		Time: 09:15

han a constant of			T		<u> </u>							/
Within holding times Y	N	Containers are intact Y N	Labels and COC agree	V N	Correct values and sentence			1	/·`	١		t —
		delitation and intage 1	rapers and coc agree	I N	Correct volume and container	Y	N	Ice remaining	/ Y) N	Temperature on receipt 4	° 0
		 	<u> </u>	 	I					/		
									=		**************************************	

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).



Laboratory Report

Client:

Pall Life Sciences

Report:

268725

Attn:

John Campbell

Priority:

Standard Written

600 South Wagner Road Ann Arbor, MI 48103 Status:

Final

PWS ID:

Not Supplied

Copies

to: Laurel Beyer

Appellation of the second of t	Sampl	e Information	and the second		
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2517781	HC/HR 9-2-11	317.0	09/02/11 08:15	Client	09/20/11 09:15
2517782	HC/HR 9-6-11	317.0	09/06/11 08:30	Client	09/20/11 09:15
2517783	HC/HR 9-7-11	317.0	09/07/11 08:30	Client	09/20/11 09:15
2517784	HC/HR 9-08-11	317.0	09/08/11 08:20	Client	09/20/11 09:15
2517785	HC/HR 9-09-11	317.0	09/09/11 08:10	Client	09/20/11 09:15
2517786	HC/HR 9-12-11	317.0	09/12/11 08:35	Client	09/20/11 09:15
2517787	HC/HR 9-13-11	317.0	09/13/11 08:25	Client	09/20/11 09:15
2517788	HC/HR 9-14-11	317.0	09/14/11 08:30	Client	09/20/11 09:15
2517789	HC/HR 9-15-11	317.0	09/15/11 08:35	Client	09/20/11 09:15
2517790	HC/HR 9-16-11	317.0	09/16/11 08:30	Client	09/20/11 09:15
2517791	HC/HR 9-19-11	- 317.0	09/19/11 07:50	Client	09/20/11 09:15

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

Senior Phoject Manager

<u>/// ////</u> Date

Client Name:

Pall Life Sciences

Report #:

268725

Page 1 of 5

Report #: 268725

ampling Point: HC/HR 9-2-11

PWS ID: Not Supplied

	General Gnemistry									
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		09/21/11 19:34	2517781	

ampling Point: HC/HR 9-6-11

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	•	09/21/11 21:29	2517782

ampling Point: HC/HR 9-7-11

PWS ID: Not Supplied

	General Chemistry										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
15541-45-4		317.0	10 *	1.0	< 1.0	ug/L		09/21/11 22:38	2517783		

ampling Point: HC/HR 9-08-11

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		09/21/11 23:01	2517784

ampling Point: HC/HR 9-09-11

	General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#	
5541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		09/21/11 23:24	2517785	

Client Name:

Pall Life Sciences

Report #: 268725

Sampling Point: HC/HR 9-12-11

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		09/21/11 23:47	2517786

Sampling Point: HC/HR 9-13-11

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		09/22/11 00:10	2517787

Sampling Point: HC/HR 9-14-11

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	< 1.0	ug/L		09/22/11 00:33	2517788

Sampling Point: HC/HR 9-15-11

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.	*	09/22/11 00:56	2517789

Sampling Point: HC/HR 9-16-11

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 09/22/11 01:19 2517790									

Client Name: Pall Life Sciences Report #: 268725

Sampling Point: HC/HR 9-19-11

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		09/22/11 01:42	2517791		

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

201 W 12 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1										
Reg Limit Type:	MCL	SMCL	AL.							
rog cime type.		and the state of t								
Symbol:	*	۸	!!!							

Client Name: Pall Life Sciences Report #: 268725

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: 160831 PC File Name: 092111a Order Number: 213668 Instrument: IC DP Analyst: J. Timm Receipt Batch: 268725 Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2519989 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 09/21/2011 08:07

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL ____ 1.0

Amount Report Units -----

< 1.0 ug/L

Sample ID: 2519990

Type: Instrument Performance Check

Extracted: N/A

Analyzed: 09/21/2011 08:30

Dil Factor: 1.000

15541-45-4 Bromate

CAS Number Parameter

Target Amount ________ 1.0 1.2061 121

0.0000

% Rec Limits _____ 75-125 Pass

P/F ----

Sample ID: 2519991 Extracted: N/A

Type: Laboratory Fortified Blank Analyzed: 09/21/2011 08:53

Dil Factor: 1.000

CAS Number Parameter

15541-45-4 Bromate

Target

Amount.

5.5542

% Rec Limits ____ -----111 85-115 Pass

P/F

Sample ID: 2519994

Extracted: N/A

Type: Continuing Calibration Check

1.0

10.0

5.0

Analyzed: 09/21/2011 14:59

Dil Factor: 1.000

CAS Number Parameter

Sample ID: 2517781 Extracted: N/A

Target Amount _____

% Rec Limits

P/F ----

______ 15541-45-4 Bromate

Site: HC/HR 9-2-11 Dil Factor: 1.000

11.2176 112 85-115 Pass

Extracted: N/A CAS Number Parameter

Type: Field Sample
Analyzed: 09/21/2011 19:34

MRL Amount Report OHICS

< 1.0 ug/L

15541-45-4 Bromate

Type: Continuing Calibration Check

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Extracted: N/A

Sample ID: 2519997

Analyzed: 09/21/2011 19:57

Target Amount 15.0 17.4496 116 85-115, Fail

0.0000

% Rec Limits P/F

Run Number: 160832 PC File Name: 092111B Order Number: 213668

Instrument: IC DP Instrument: IC DP Analyst: J. Timm Receipt Batch: 268725 Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2520008 Type: Laboratory Reagent Blank Extracted: N/A

Analyzed: 09/21/2011 20:20

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: 2520009 Extracted: N/A

Type: Instrument Performance Check

Analyzed: 09/21/2011 20:43 Dil Factor: 1.000

CAS Number Parameter Target Amount % Rec Limits ----------____ 1.0 124 75-125 Pass 15541-45-4 Bromate 1.2386

Sample ID: 2520010 Extracted: N/A

Type: Laboratory Fortified Blank

Analyzed: 09/21/2011 21:06 Dil Factor: 1.000

Target Amount % Rec Limits CAS Number Parameter -----____ 5.0 5.4839 110 85-115 Pass 15541-45-4 Bromate

Sample ID: 2517782 Type: Field Sample Site: HC/HR 9-6-11 Type: Field Sample Analyzed: 09/21/2011 21:29 Extracted: N/A Dil Factor: 1.000

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

Type: Matrix Spike of 2517782 Sample ID: 2520011 Site: HC/HR 9-6-11 Dil Factor: 1.000 Analyzed: 09/21/2011 21:52 Extracted: N/A

Target Amount Parent Amt %Rec Limits P/F CAS Number Parameter -----5.0 4.8219 < MRL 96 75-125 Pass 15541-45-4 Bromate

Type: Matrix Spike Duplicate of 2517782 Site: HC/HR 9-6-11 Analyzed: 09/21/2011 22:15 Dil Factor: 1.000 Sample ID: 2520012 Analyzed: 09/21/2011 22:15 Extracted: N/A

Target Amount Parent Amt %Rec Limits P/F
5.0 5.0510 < MRL 101 75-125 Pass CAS Number Parameter 15541-45-4 Bromate

Sample ID: 2517783 Site: HC/HR 9-7-11 Type: Field Sample Type: Field Sample
Analyzed: 09/21/2011 22:38 Dil Factor: 1.000 Extracted: N/A

MRL Amount Report Units CAS Number Parameter 1.0 15541-45-4 Bromate 0.4532 < 1.0 ug/L

Sample ID: 2517784 Site: HC/HR 9-08-11 Type: Field Sample Extracted: N/A Analyzed: 09/21/2011 23:01 Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter 1.0 0.4069 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2517785 Type: Field Sample Site: HC/HR 9-09-11 Analyzed: 09/21/2011 23:24 Dil Factor: 1.000 Extracted: N/A

Amount Report Units MRLCAS Number Parameter ______ ----0.4074 < 1.0 ug/L 15541-45-4 Bromate 1.0

Run Number: 160832 PC File Name: 092111B Order Number: 213668

Instrument: IC DP Analyst: J. Timm Analyst: J. Timm Receipt Batch: 268725

Method(s): 317.0 Submitted By: J. Timm Today's Date: 09/30/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Amount

Amount

Sample ID: 2517786

Type: Field Sample Analyzed: 09/21/2011 23:47

Site: HC/HR 9-12-11 Dil Factor: 1.000

CAS Number Parameter

MRL

Report Units

15541-45-4 Bromate

1.0

0.6668 < 1.0 ug/L

Sample ID: 2517787

Type: Field Sample

Site: HC/HR 9-13-11 Dil Factor: 1.000

Extracted: N/A

Analyzed: 09/22/2011 00:10

CAS Number Parameter 15541-45-4 Bromate

MRL 1.0 0.9075 < 1.0 ug/L

Report Units ______

Sample ID: 2517788

Type: Field Sample

Site: HC/HR 9-14-11

Extracted: N/A

Analyzed: 09/22/2011 00:33

Dil Factor: 1.000

CAS Number Parameter

MRL ____

Amount Report Units

15541-45-4 Bromate

1.0

0.7573

< 1.0 ug/L

Sample ID: 2517789 Extracted: N/A

Type: Field Sample

Analyzed: 09/22/2011 00:56

Site: HC/HR 9-15-11 Dil Factor: 1.000

MRL Amount Report Units

CAS Number Parameter

15541-45-4 Bromate

1.0

Site: HC/HR 9-16-11

Sample ID: 2517790 Extracted: N/A

Type: Field Sample Analyzed: 09/22/2011 01:19

Dil Factor: 1.000

0.6752 < 1.0 ug/L

CAS Number Parameter

MRL

Report Units

15541-45-4 Bromate

----1.0

10.0

-----0.7006 < 1.0 ug/L

Amount

Sample ID: 2517791 Extracted: N/A

Type: Field Sample Analyzed: 09/22/2011 01:42

Site: HC/HR 9-19-11 Dil Factor: 1.000

CAS Number Parameter

MRL Amount

15541-45-4 Bromate

1.0

-----0.8036 < 1.0 ug/L

Report Units

Sample ID: 2520013

Type: Continuing Calibration Check

Analyzed: 09/22/2011 06:25

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter 15541-45-4 Bromate

Target

Amount -----

11.2881 113

% Rec Limits

85-115 Pass

P/F ----



Pall Corporation

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

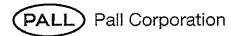
Chain of Custody Record 25

Compar	ny Pall Corp
Name	Susan E.O. Peters
Street	6008, Wag new Road Bldg #4
City	Ann Arbor state Mi zip 48103
Phone	734-913-653 Fax 734-913-6103
Email	Sue Peters@ PALL Com
	· · · · · · · · · · · · · · · · · · ·

/	Requested Turnaround: Standard * 4 business days * 3 business days
	48 hours * 24 hours * ASAP / Same day
	Project Name / Number:
	Print Sampler Name:
	Invoice To:

			W	ater	Mat	rix	of	Ç,			Pro	eser	vati	оп		
Sample Identification or Location (This will appear of the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other	Number o	Containers	Requested Testing Browatc	None	4 ° C	HCI	HNO3	H ₂ SO ₄	Other	Lab ID
1 Quttall 09-15-11	09/15/11	Composite				~	1		517		V					2512181
2 Outfall 09-18-11	09/18/11	Composite				/	1		317		V					/ 782,
3 HC HR 9-2-11	09/2/11	08:15						2	517781						25 25	17-18/7/85
4 HC HR 9-6-11	9/06/11	0E:30							787							1787/784
5 HC HR 09-7-11	114018	08:30							783			- 1				18378
6 HC 1 HR OG -08-11	11 180190	08:20							784							184
7 HC/HR 09-09-11	09/09/11	08:10							785					70	<u> </u>	784
8 HC/HR 09-12-11	09/12/11	08:35							786				d	70	/	265
9 HC/HR 09-13-11	09/13/11	08:25							787							786
10 HC (HR 09-14-11	09/14/11	05:30							V 789	ζ						V 787
Released by Sampler: SonnC CD	Date: Node	Time: :	l		DY:C	كنا		Cu	800es		0	4	Date	Ah	OVE	Time
Released by: Scioon 80 Paters	Date@9/19/11	Time: 10 : 30	Rec	eived i	oy:K	e002	۶ ر	7	dind				Date	i do	1	Time: 09:15

<u> </u>						1
Within holding times Y N Containers a	are intact Y N Labels and COC agree Y	N Correct volume and container	Y N Ice remaining	У (Y	Temperature on receipt 4	°C



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

Chain of Custody Record

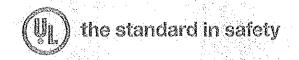
Page 3 of 3

Compar	ny Pall Corporation	`
Name	Susan E.O. Peters	
Street	600 South wag new Road Blog #4	
City	Ann Arbor State Mi Zip 48103	
Phone	734-913-6531 Fax 734-913-6103	
Email	345- sue peters@ pall, com	ر

Requested Turnaround:	Standard * 4 business days * 3 business days
	48 hours * 24 hours * ASAP / Same day
Project Name / Number:	
Print Sampler Name:	TODAMPER
Invoice To:	! rauyiutu
23 6 5 6 7 9 1	
The second date	- VVNIAINET

	1		W	ater	Mat	rix	of irs		Pre				ion			
Sample Identification or Location (This will appear on the final report)	Sample Sample Date Time		Drinking	Ground	Waste	Other	Number of Containers	Requested Testing	None	4 ° C	HCI	HNO3	H ₂ SO ₄	Other	Lab ID	
1 HC/HR 09-15-11	09/15/11	08:35				V	١	317		V					251778889	
2 HC/HR 09-16-11	09/16/11	08:30	1			~	f	る日		V					V 289 40	
3 HC/HR 09-19-11	09/19/11	*C#:0750				/	1	317		/					9-20-1-45	
4	I = I	:														
5	1 1	:														
6	1 1	:														
7 1017	1 1	,														
8 09-19-11	1 1	:				-	-									
9 SEOF	1 1	:													Strain of the st	
10	.1 1						<u> </u>								1000 m 200 m 2	
Released by Sampler: John C/CD	Date: HOOK	Time: :	Rec	eived	by:€	30	son	EO. Pet	20		J	Date	44€	ok	Time: :	
Released by: Sussession Electron	Date 29/19/11	Time: 10:30	Rec	eived	bv: N /	/	he D	Lignes				Date		1	Time; 9:15	

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 4°C



Laboratory Report

Client:

Pall Life Sciences

Report:

269539

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 1	e Information		kewataren a.a	
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2526404	Outfall	317.0	09/19/11 00:00	Client	10/05/11 09:30
2526405	Outfall	317.0	09/20/11 00:00	Client	10/05/11 09:30
2526406	Outfall	317.0	09/21/11 00:00	Client	10/05/11 09:30
2526407	Outfall	317.0	09/22/11 00:00	Client	10/05/11 09:30
2526408	Outfall	317.0	09/25/11 00:00	Client	10/05/11 09:30
2526409	Outfall	317.0	09/26/11 00:00	Client	10/05/11 09:30
2526410	Outfall	317.0	09/27/11 00:00	Client	10/05/11 09:30
2526411	Outfall	317.0	09/28/11 00:00	Client	10/05/11 09:30
2526412	Outfall	317.0	09/29/11 00:00	Client	10/05/11 09:30
2526413	Oulfall	317.0	10/02/11 00:00	Client	10/05/11 09:30
2526414	Oulfall	317.0	10/03/11 00:00	Client	10/05/11 09:30
2526415	HC/HR	317.0	09/20/11 09:20	Client	10/05/11 09:30
2526416	HC/HR	317.0	09/21/11 09:50	Client	10/05/11 09:30
2526417	HC/HR	317.0	09/22/11 07:45	Client	10/05/11 09:30
2526418	HC/HR	317.0	09/23/11 09:00	Client	10/05/11 09:30
2526419	HC/HR	317.0	09/26/11 09:05	Client	10/05/11 09:30
2526420	HC/HR	317.0	09/27/11 08:30	Client	10/05/11 09:30
2526421	HC/HR	317.0	09/28/11 09:20	Client	10/05/11 09:30
2526422	HC/HR	317.0	09/29/11 08:30	Client	10/05/11 09:30
2526423	HC/HR	317.0	09/30/11 09:30	Client	10/05/11 09:30
2526424	HC/HR	317.0	10/03/11 09:10	Client	10/05/11 09:30
2526425	HC/HR	317.0	10/04/11 09:00	Client	10/05/11 09:30

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.

Report Summary

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.

Client Name:

Pall Life Sciences

Report #: 269539

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 #:

269539

Title Title

10-17-20

Date

Report #: 269539

Sampling Point: Outfall

PWS ID: Not Supplied

			Gene	ral Cho	emistry		-		
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Đate	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	3.3	ug/L		10/11/11 20:54	2526404

Sampling Point: Outfall

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	3.7	ug/L		10/11/11 21:17	2526405					

Sampling Point: Outfall

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	3.2	ug/L.	•••	10/11/11 21:40	

Sampling Point: Outfall

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	4.1	ug/L	477	10/11/11 22:03	2526407

Sampling Point: Outfall

			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	4.5	ug/L	***	10/11/11 22:26	

Report #: 269539

Sampling Point: Outfall

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		10/11/11 22:49	2526409		

Sampling Point: Outfall

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	4.6	ug/L		10/11/11 23:12	2526410		

Sampling Point: Outfall

PWS ID: Not Supplied

	General Chemistry										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#		
	Bromate	317.0	10 *	1.0	4.2	ug/L		10/11/11 23:58			

Sampling Point: Outfall

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	4.2	ug/L		10/12/11 01:07	2526412		

Sampling Point: Outfall

			Gene	ral Ch	emilstry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	4.7	ug/L		10/12/11 01:30	2526413

Report #: 269539

Sampling Point: Outfall

PWS ID: Not Supplied

	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	4.5	ug/L		10/12/11 01:53	2526414		

Sampling Point: HC/HR

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		10/12/11 02:16	2526415		

Sampling Point: HC/HR

PWS ID: Not Supplied

	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		10/12/11 02:39	2526416			

Sampling Point: HC/HR

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		10/12/11 03:02	2526417		

Sampling Point: HC/HR

	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		10/12/11 03:25	2526418			

Report #: 269539

Sampling Point: HC/HR

PWS ID: Not Supplied

			Gene	ral Ch	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRLţ	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 *	1.0	< 1.0	ug/L		10/12/11 03:48	2526419

Sampling Point: HC/HR

PWS ID: Not Supplied

			Gene	ral Chi	emistry				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#
15541-45-4	Bromate	317.0	10 4	1.0	< 1.0	ug/L		10/12/11 04:11	2526420

Sampling Point: HC/HR

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	1	317.0	10 *	1.0	< 1.0	ug/L		10/12/11 12:54	2526421

Sampling Point: HC/HR

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		10/12/11 14:03	

Sampling Point: HC/HR

			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		10/12/11 14:26	2526423

Client Name: F

Pall Life Sciences

Report #: 269539

Sampling Point: HC/HR

PWS ID: Not Supplied

Special Property Services			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	< 1.0	ug/L		10/12/11 14:49	2526424

Sampling Point: HC/HR

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		10/12/11 15:12	2526425

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

يباي والشاوران وبوزات بالشنارة حماه ووجوباه بالبراء والماسية والمحاب والمتساد	والمناسبة المستحد والمستحد والمستحديث الاستحداث المتحارض والمناوي والمناسبة والمستحدود والمتحدود والمراج	يدو خاستهمية استعادى وماحاته سندادك سندادك والمحاجرة بعرف بالواجات والمنجع يبينا فيستقمص والمحاجز	والمائلة والمباراة ومنارت والمساوون ومياه المناه وموجود وموادون والمائدة	
Reg Limit Type:	MCL	SMCL	AL I	
		And the second section of the contract of the	المحافظة المساولات المساولة المساولة والمساولة والمساولة المساولة	
Symbol:	*	٨	1	

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.

	_	
(PALL) Pall	Corporation

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

Chain of Custody Record

Page 1 of 3 214228 269539

Company Name Street City Phone	Pall Corp. Susan, EO, Peters Long South unagner Road Bldg #4 Ann Arbor state Mi Zip 48103 FOUR PROBLEM FOR FOUR FOUR POST FOR FOUR POST FOUR POST FOR FOUR POST FOR FOUR POST FOUR		Requested Turnaround: Standard * 4 business days * 3 business days 48 hours * 24 hours * ASAP / Same day Project Name / Number: Print Sampler Name: Invoice To:	`
Email		\mathcal{I}		J

		· · · · · · · · · · · · · · · · · · ·	W	ater	Mat	rix	of	ស្			Pr	eser	vati	on		
Sample Identification or Location (This will appear on the final report)	. Sample Date	Sample Tîme	Drinking	Ground	Waste	Other	Number o	Containers	Requested Testing	None	4 º C	HCI	HNO3	H₂SO₄	Other	rap ID
1 Guttell	09/19/11	comp.				1	ŝ		3(7		V					おおおよりは
2 Outfall	09/20/11	Como	·			3/00	1		517		V					77 405
3 Outfoll	09/21/11	Corrig				2009	Î		317		V					407
4 Oct-Fell	09/22/11	COM D				200	ì		715		1/				***********	un7
5 Outfall	09/25/11	COMP				1/m	ı		F16		V					408
6 Outfall	09/26/11	Como				V	ì		313							1 460
7 Oct Foll	09/27/11	comb				./	1		416		\checkmark					410
8 Outrall	09/28/11	Comp				1000	Ì		517		V				***********	1 40
9 Outrell	09/29/11	aoina				.,00	į		317		V					15.35
10 Outfall 10-2-11	09/30/Hz					1/	1		8i7		1				***	dis da
Released by Sampler:	Date: / /	Time: :	Rec	eived	by:	- +U:	······································						Date	: /	1	Time: :
Released by: Stemmi 20 Pareis	Date:10/04/11	Time: :	Rec	eived	by;	S	کچک	<u> </u>	يمرجي				Date	:NOI	511	Time:09:30

				_	<u> </u>	. 8 .	
Within holding times Y N Containers are intact Y N Labels and COC agree Y N Correct volume and container	ΥŢ	N :	Ice remaining	(Y)	/ N	Temperature on receipt N/A	_°C
						J	

PA	LL)	Pall	Corporation

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

Chain of Custody Record

Page <u>2</u> of <u>3</u>

214228

Company Pall Com	Requested Turnaround: Standard * 4 business days * 3 business days
Name Susan E.O. Peres Street 1000 South Wagner Kood Didot 4	48 hours * 24 hours * ASAP / Same day Project Name / Number:
City $2000000000000000000000000000000000000$	Print Sampler Name:
Email	Invoice To:

			W	ater	Mat	rįx.	of			Pı	ese	rvati	on	*********	
Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking	Ground	Waste	Other Tress	Number of Containers	Requested Testing	None	4 ⁹ C.	HCI	HNO ₃	H ₂ SO ₄	Other	Lab ID
1 Outfall	10/03/11	COMP				V	2	317		1					7635-414
2 HC HR	09/20/11	09:20				1/	â	317		V					
3 HCHR	09/21/11	09:50				3 James	I	Fis		V					S. Salida
4 HCHR	og /22/11	07:45		F		~	a donesi	FIE		V					1127
5 4C/4R	09/23/11	09:00				1	,	317		V					7.0
6 HC/HR	09/26/11	09:05		ļ		المحمدة	9	317		3/					مَالِكُ ا
7 HOLK	09/27/1	08:30				160	1	317		V					er Program
8 HCIHR	09/28/11	୦୧ :ସଠ				V		317	<u> </u>	V					10.0
9 HC THR	09/29/11	08:30	<u> </u>			1		317		1	,				1110
10 HC/HP	09/30/11	09:30				1	<u> </u>	317	1						117 7 192
Released by Sampler." Sown C. Bob 1	Date: / /	Time: :	Rec	eived I	by:					<u></u>	·	Date	: /	1	Time: :
Released by: Success Early Resident	Date: 10/04/11	Time: :	Rec	eived	оу:	8	چې	(D)				Date	01	5111	Time:19:30

										·) T	^
Within holding times	Υ	N	Containers are intact	Y	N	L	abels and COC agree Y N	Correct volume and container	Υ	N	Ice remaining	Y /	N Temperature on receipt NIDOC
												- #	The state of the s
													- Control of the Cont

PALL) Pall	Corporation

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

Chain of Custody Record

Page <u>3</u> of <u>3</u>

Company Name Street City Phone	Poll Corp Susan E.O. Peters 600South Wagner Road Blog # 4 Ann Arbor state M. Zip 48103		Requested Turnaround: Standard * 4 business days * 3 business days 48 hours * 24 hours * ASAP / Same day Project Name / Number: Print Sampler Name: Invoice To:
Email		ا (ر	

			Water Matrix					<u></u>			Pı	esei	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	None	4 ° C	HCI	HNO ₃	H ₂ SO ₄	Other	Lab ID
1 HOLHR	10 600 01	CA:10			X	V	1		317		Jan 19					2 <i>586</i> 494
2 HCHR	10/04/11	09:00			W.	V	١		317		1					2500435
3	1	:														
4	1 1	:														
5	1 1	:	_													
6	1 1	:			Di Americana de Sala	Mark States										
7	1 1	:														
8	1 1	:														T
9	1 1	•														
10		:	ĺ													
Released by Sampler Sonn C Robert U	Date: / /	Time: :	Red	eived	by:								Date	: /	1	Time: :
Released by: Swanse Research	Date: 10 / 04/ 11	Time: :	Red	eived	by:	S.	2_	2	lo~				Date	10/	5/11	Time:
							\bigcirc		<u> </u>							
Within holding times Y N Containers are intact Y N L	abels and COC agree	Y N Correct	volu	ne a	nd co	ntain	er Y	N	Ice remain	ning /	(Y)	N	Temp	eratu	ice ou	receipt <u>N/A</u> °c

Run Number: 161464 PC File Name: 101211A Order Number: 214228

Instrument: IC DP Analyst: J. Timm Receipt Batch: 269539 Method(s): 317.0 Submitted By: J. Timm Today's Date: 10/14/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2526251 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 10/11/2011 17:27

Dil Factor: 1.000

CAS Number Parameter

MRL

Report Units

1.0 0.0000 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2526252

Type: Instrument Performance Check

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter Analyzed: 10/11/2011 17:50

Amount % Rec Limits 1.0 1.1623 116 75-125 Pass

4.9406

Amount

15541-45-4 Bromate Sample ID: 2526253

Type: Laboratory Fortified Blank

Dil Factor: 1.000

Extracted: N/A Analyzed: 10/11/2011 18:13 CAS Number Parameter

Amount Target 5.0

5.0

MRL

MRL

1.0

1.0

1.0

% Rec Limits P/F

85-115

Pass

15541-45-4 Bromate Sample ID: 2530428 Extracted: N/A

Type: Quality Control Sample Analyzed: 10/11/2011 18:36

Dil Factor: 1.000

99

CAS Number Parameter

Target

Amount % Rec Limits P/F 4.8285 85-115 Pass 97

15541-45-4 Bromate Sample ID: 2526404

Type: Field Sample

Site: Outfall

Extracted: N/A CAS Number Parameter Analyzed: 10/11/2011 20:54

Dil Factor: 1.000

15541-45-4 Bromate

Amount Report Uni 1.0 3.3261

3.3 ug/L

Report Units

Sample ID: 2526405 Extracted: N/A

Type: Field Sample

Analyzed: 10/11/2011 21:17

Site: Outfall Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

1.0

Amount 3.6513

3.2315

Report Units 3.7 ug/L

Sample ID: 2526406 Extracted: N/A

Type: Field Sample

Analyzed: 10/11/2011 21:40

Site: Outfall Dil Factor: 1.000

CAS Number Parameter

MRL

Report Units Amount 3.2 ug/L

15541-45-4 Bromate Sample ID: 2526407

Extracted, N/A

Type: Field Sample

Site: Outfall Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Analyzed: 10/11/2011 22:03 MRL

Amount Report Units ______ 4.0944 4.1 ug/L

Sample ID: 2526408 Extracted: N/A

Type: Field Sample

Site: Outfall Dil Factor: 1,000

CAS Number Parameter 15541-45-4 Bromate

Analyzed: 10/11/2011 22:26

Report Units ------4.4525 4.5 ug/L

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

Page 1 of 3

Version 2.7.0.0

Run Number: 161464 PC File Name: 101211A

Order Number: 214228

Instrument: IC DP Analyst: J. Timm Receipt Batch: 269539 Method(s): 317.0 Submitted By: J. Timm Today's Date: 10/14/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2526409 Extracted: N/A

Type: Field Sample

Analyzed: 10/11/2011 22:49

Site: Outfall Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL 1.0

Amount Report Units
4.2956 4.3 ug/L

4.6 ug/L

Sample ID: 2526410

Extracted: N/A

Type: Field Sample Analyzed: 10/11/2011 23:12 Site: Outfall

Dil Factor: 1.000

CAS Number Parameter

MRL Amount Report Units

15541-45-4 Bromate

Type: Continuing Calibration Check

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter

Sample ID: 2530429

Analyzed: 10/11/2011 23:35

Target Amount % Rec Limits P/F

10.0

Target

5.0

1.0

Site: Outfall Dil Factor: 1,000

9.1404 91 85-115 Pass

Sample ID: 2526411 Extracted: N/A

Type: Field Sample Analyzed: 10/11/2011 23:58

MRL Amount Report Units

4.5527

CAS Number Parameter 15541-45-4 Bromate.

1.0

4.2350 4.2 ug/L

Sample ID: 2530409 Extracted: N/A

Type: Matrix Spike of 2526411 Analyzed: 10/12/2011 00:21

Site: Outfall Dil Factor: 1.000

15541-45-4 Bromate

5.0

Amount Parent Amt %Rec Limits P/F 8.1096 4.2350 77 75-125 Pass

Sample ID: 2530410 Extracted: N/A

Type: Matrix Spike Duplicate of 2526411 Site: Outfall Dil Factor: 1.000 Analyzed: 10/12/2011 00:44

CAS Number Parameter 15541-45-4 Bromate

Target

Amount Parent Amt %Rec Limits P/F

Sample ID: 2526412 Extracted: N/A

Type: Field Sample

Site: Outfall Dil Factor: 1.000

Analyzed: 10/12/2011 01:07

MRL Amount

Report Units

CAS Number Parameter 15541-45-4 Bromate

_______ 1.0

____ 4.1621 4.2 ug/L

8.1928 4.2350 79 75-125 Pass

Sample ID: 2526413 Extracted: N/A

Type: Field Sample

Analyzed: 10/12/2011 01:30

Site: Outfall Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRL

Amount Report Units
4.6693 4.7 ug/L

Sample ID: 2526414 Extracted: N/A

Type: Field Sample

Analyzed: 10/12/2011 01:53

Site: Outfall Dil Factor: 1.000

CAS Number Parameter

15541-45-4 Bromate

1.0

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

Page 2 of 3

Version 2.7.0.0

Run Number: 161464 PC File Name: 101211A Order Number: 214228

Instrument: IC DP Analyst: J. Timm Receipt Batch: 269539 Method(s): 317.0 Submitted By: J. Timm Today's Date: 10/14/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2526415 Extracted: N/A

Type: Field Sample

Analyzed: 10/12/2011 02:16

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

Report Units

15541-45-4 Bromate

1.0

< 1.0 ug/L 0.5644

Sample ID: 2526416

Type: Field Sample

Site: HC/HR

Extracted: N/A

Analyzed: 10/12/2011 02:39

Dil Factor: 1.000

CAS Number Parameter

Amount MRL ____ 1.0

Report Units < 1.0 ug/L

15541-45-4 Bromate

Sample ID: 2526417 Extracted: N/A

Type: Field Sample Analyzed: 10/12/2011 03:02 Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

MRL

Amount Report Units

15541-45-4 Bromate

1.0

0.5393 < 1.0 ug/L

Amount

0.4385

Sample ID: 2526418 Extracted: N/A

Type: Field Sample Analyzed: 10/12/2011 03:25 Site: HC/HR Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

MRI. ----

Report Units

Amount 1.0

0.5783 < 1.0 ug/L

Sample ID: 2526419 Extracted: N/A

Type: Field Sample Analyzed: 10/12/2011 03:48 Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

Report Units

15541-45-4 Bromate

1.0

Amount

Amount

0.4816 < 1.0 ug/L

Sample ID: 2526420 Extracted: N/A

Type: Field Sample

Site: HC/HR

Analyzed: 10/12/2011 04:11

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

0.4940 1.0

Report Units < 1.0 ug/L

Sample ID: 2530430 Extracted: N/A

Type: Continuing Calibration Check

Analyzed: 10/12/2011 04:34

Dil Factor: 1.000

97

CAS Number Parameter 15541-45-4 Bromate

Target

15.0

MRL

Amount 14.5338 % Rec Limits

P/F 85-115 Pass

Run Number: 161466 PC File Name: 101211A Order Number: 214228 Instrument: IC DP Analyst: J. Timm

Submitted By: J. Timm
Today's Date: 10/14/2011 Receipt Batch: 269539

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2530454 Extracted: N/A

Type: Laboratory Reagent Blank Analyzed: 10/12/2011 11:22

Dil Factor: 1.000

Method(s): 317.0

CAS Number Parameter 15541-45-4 Bromate

MRL 1.0

Report Units

< 1.0 ug/L 0.0000

Sample ID: 2530455 Extracted: N/A

Type: Instrument Performance Check Analyzed: 10/12/2011 11:45

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target 1.0

Amount % Rec Limits

P/F 106 75-125 Pass

Sample ID: 2530456

Type: Laboratory Fortified Blank

Extracted: N/A

Analyzed: 10/12/2011 12:08

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target 5.0

Amount 97 4.8554

% Rec Limits 85-115 Pass

P/F

Sample ID: 2530457 Extracted: N/A

Type: Quality Control Sample Analyzed: 10/12/2011 12:31

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

Target 5.0

Amount 4.6283 93 85-115 Pass

1.0649

% Rec Limits

Sample ID: 2526421 Extracted: N/A

Type: Field Sample

Site: HC/HR Dil Factor: 1,000

CAS Number Parameter

Analyzed: 10/12/2011 12:54

MRL Amount Report Units

15541-45-4 Bromate

1.0

5.0

0.6127 < 1.0 ug/L

Sample ID: 2530458 Extracted: N/A

Type: Matrix Spike of 2526421

Analyzed: 10/12/2011 13:17

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

Target

Amount Parent Amt %Rec Limits P/F

15541-45-4 Bromate

Sample ID: 2526422

Type: Field Sample

Analyzed: 10/12/2011 14:03

Site: HC/HR

Extracted: N/A

Amount

Dil Factor: 1.000 Report Units

5.3773 < MRL 108 75-125 Pass

CAS Number Parameter

1.0

0.7309 < 1.0 ug/L

15541-45-4 Bromate

Sample ID: 2526423

Type: Field Sample Analyzed: 10/12/2011 14:26 Site: HC/HR

Extracted: N/A CAS Number Parameter

Dil Factor: 1.000 Amount

15541-45-4 Bromate

1.0

MRL

0.6484 < 1.0 ug/L

Report Units

Sample ID: 2526424

Extracted: N/A

Type: Field Sample

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

Analyzed: 10/12/2011 14:49

15541-45-4 Bromate

MRL 1.0

Amount Report Units 0.6790 < 1.0 ug/L

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

Page 1 of 2

Version 2.7.0.0

Run Number: 161466 PC File Name: 101211A Order Number: 214228 Instrument: IC DP Analyst: J. Timm Receipt Batch: 269539 Method(s): 317.0 Submitted By: J. Τίπεκ Today's Date: 10/14/2011

Client: Pall Life Sciences / John Campbell

Generated By: P. Mahler

Sample ID: 2526425 Extracted: N/A Type: Field Sample Analyzed: 10/12/2011 15:12 Site: HC/HR Dil Factor: 1.000

Amount

0.7554

CAS Number Parameter
15541-45-4 Bromate

: 10/12/2011 15:12 MRL

1.0

Report Units

< 1.0 ug/L

Sample ID: 2530459 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 10/12/2011 17:30

Dil Factor: 1.000

CAS Number	Parameter	Target	Amount	% Rec	Limits	P/F
15541-45-4	Bromate	10.0	9.8577	99	85-115	Pass