

Web: www.pall.com

Pall Corporation

Sample Analysis Report

June, 2011

600 Wagner Road Ann Arbor, MI 48103-9019 US Phone: 734.665.0651

Analyst Initials: F.F.
Date: 7-28-11

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments
Extraction Wells							
C3							****
DOLPH-06-06-11-08:44-1	65	1.0					
TW-10-06-06-11-13:14-1	675	1.0					
TW-20-06-06-11-13:06-1	1405	1.0					
D2							
LB-1-06-06-11-09:57-1	246	1.0					
LB-3-06-06-11-10:00-1	463	1.0					
TW-21-06-06-11-10:15-1	190	1.0					
TW-5-06-06-11-10:27-1	452	1.0					
TW-9-06-06-11-13:19-1	978	1.0					
E							
TW-11-06-06-11-10:35-1	219	1.0				***************************************	
TW-18-06-06-11-08:46-1	325	1.0					
Marshy							
PW-1-06-06-11-08:48-1	949	1.0					
Not Applicable							
SW-COMB-06-06-11-08:42-1	482	1.0					
SW							
TW-22-06-06-11-13:27-1	658	1.0					

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments
TW-8-06-06-11-14:20-1	489	1.0					
Monitoring Wells							
D0							
A2 Cleaning Supply-06-02-11-13:00-1	97	1.0					
E							
MW-100-06-02-11-14:10-1	754	1.0					
MW-115-06-01-11-14:45-1	734	1.0					
MW-79s-06-01-11-14:30-1	403	1.0					
MW-85-06-01-11-11:55-1	2336	1.0					
MW-87d-06-01-11-10:20-1	595	1.0					
MW-87s-06-01-11-09:50-1	770	1.0					
MW-88-06-01-11-11:10-1	316	1.0					
TW-15-06-02-11-11:50-1	197	1.0					
Surface Water							
Not Applicable							
HC/HR-06-01-11-08:10-1			nd	2.0			
HC/HR-06-02-11-07:45-1			nd	2.0			
HC/HR-06-03-11-08:30-1			nd	2.0			
HC/HR-06-06-11-09:30-1			nd	2.0			
HC/HR-06-07-11-08:18-1			nd	2.0			
HC/HR-06-08-11-08:40-1			nd	2.0			
HC/HR-06-09-11-07:10-1			nd	2.0			
HC/HR-06-10-11-08:15-1			nd	2.0			
HC/HR-06-13-11-08:00-1			nd	2.0			
HC/HR-06-14-11-07:45-1			nd	2.0			
HC/HR-06-15-11-08:10-1			nd	2.0			

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments
HC/HR-06-16-11-08:20-1			nd	2.0			
HC/HR-06-17-11-08:15-1			nd	2.0			
HC/HR-06-20-11-08:25-1			nd	2.0			
HC/HR-06-21-11-08:15-1			nd	2.0			
HC/HR-06-22-11-08:15-1			nd	2.0			
HC/HR-06-23-11-09:05-1			nd	2.0			
HC/HR-06-24-11-08:45-1			nd	2.0			
HC/HR-06-27-11-08:10-1			nd	2.0			
HC/HR-06-28-11-08:25-1			nd	2.0			
HC/HR-06-29-11-08:20-1			nd	2.0			
HC/HR-06-30-11-08:15-1			nd	2.0			
Treatment System							
OUTFALL-06-01-11-1	5	1.0					
OUTFALL-06-01-11-			5	5.0			
OUTFALL-06-02-11-1	5	1.0					
OUTFALL-06-02-11-			5	5.0			
OUTFALL-06-05-11-1	6	1.0					
OUTFALL-06-05-11-			nd	5.0			
OUTFALL-06-06-11-1	5	1.0					ļ
OUTFALL-06-06-11-			nd	5.0			
OUTFALL-06-07-11-1	5	1.0					-
OUTFALL-06-07-11-			nd	5.0			
OUTFALL-06-08-11-1	5	1.0					
OUTFALL-06-08-11			5	5.0			
OUTFALL-06-09-11-1	5	1.0					
OUTFALL-06-09-11			5	5.0			
OUTFALL-06-12-11-1	5	1.0					

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	
OUTFALL-06-12-11			5	5.0			Ţ
OUTFALL-06-13-11-4	5	1.0					Ī
OUTFALL-06-13-11			5	5.0			Ī
OUTFALL-06-14-11-1	5	1.0					Ī
OUTFALL-06-14-11-			nd	5.0			Ī
OUTFALL-06-15-11-1	5	1.0					Ť
OUTFALL-06-15-11-			nd	5.0			t
OUTFALL-06-16-11-1	4	1.0					T
OUTFALL-06-16-11			nd	5.0			T
OUTFALL-06-19-11-1	4	1.0		•			t
OUTFALL-06-19-11			nd	5.0	W.1.***.		T
OUTFALL-06-20-11-1	4	1.0					t
OUTFALL-06-20-11-		· · · · · · · · · · · · · · · · · · ·	nd	5.0	· · · · · · · · · · · · · · · · · · ·		T
OUTFALL-06-21-11-2	7	1.0					T
OUTFALL-06-21-11			nd	5.0			T
OUTFALL-06-22-11-1	6	1.0					T
OUTFALL-06-22-11-			nd	5.0			T
OUTFALL-06-23-11-1	7	1.0					T
OUTFALL-06-23-11-			nd	5.0			T
OUTFALL-06-26-11-1	4	1.0					T
OUTFALL-06-26-11-			nd	5.0			T
OUTFALL-06-27-11-1	5	1.0	· ·		***		T
OUTFALL-06-27-11-			nd	5.0			f
OUTFALL-06-28-11-1			nd	5.0			T
OUTFALL-06-28-11-3	5	1.0					T
OUTFALL-06-29-11-1			nd	5.0			T
OUTFALL-06-29-11-3	7	1.0					T

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments
OUTFALL-06-30-11-1	8	1.0					
OUTFALL-06-30-11-			nd	5.0			
Red Pond-06-06-11-08:40-1	522	1.0					
Red Pond-06-13-11-08:30-1	536	1.0					
Red Pond-06-20-11-08:00-1	405	1.0					
Red Pond-06-27-11-09:05-1	490	1.0					

2105 Pless Drive · Brighton, Michigan 48114 · Phone (810) 229-7575 · Fax (810) 229-8650 · E-mail bai-brighton@sbcglobal.net

June 30, 2011

Pall Corp. 600 S. Wagner Bldg. 4 Ann Arbor, MI 48103

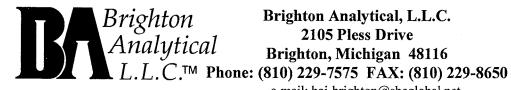
Subject:

Dear Mr. Campbell:

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Enclosed are the results for the samples submitted on 06/28/2011 for the above mentioned project. Duplicate copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be mailed with copy of report. If you have any questions concerning the invoice or the data, please don't hesitate to contact our office. Please reference Brighton Analytical, L.L.C. project ID 15109 when calling with any questions regarding this project.

Sincerely, Brighton Analytical, L.L.C.



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/27/2011 6/28/2011

BA Sample ID: BV04177

Submit Date: Report Date:

6/30/2011

BA Report Number: 15109

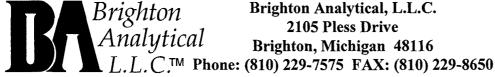
Project Name:

Project Number:

Sample ID: RP-6-27-11-0945

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM) 1,4-Dioxane (SIM)	490*	ug/L	50	SW846 8260B	CW	6/29/2011
DL=Reported detection limit for analytical necompounds require special analytical method target detection limits (TDL).			Relea	ased by: Date:	Afrod 6/30,	1 [])

Elevated dl due to sample matrix.



Brighton Analytical, L.L.C. 2105 Pless Drive Brighton, Michigan 48116

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp. 6/26/2011

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

BA Report Number: 15109

BA Sample ID: BV04178

Sample Date:

Submit Date:

Report Date:

6/28/2011

6/30/2011

Project Name:

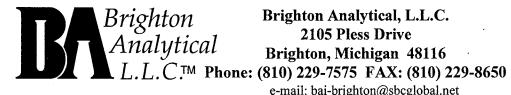
Project Number:

Sample ID: Outfall 001-6-26-11

Analysis **Parameters** Results Units DL Method Reference Analyst Date 1,4-Dioxane(SIM) 1,4-Dioxane (SIM) 1 SW846 8260B CW 4 ug/L 6/29/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date: Submit Date:

6/27/2011 6/28/2011

Report Date:

6/30/2011

BA Report Number: 15109

BA Sample ID: BV04179

Project Name:

Project Number:

Sample ID: Outfall 001-6-27-11

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM) 1,4-Dioxane (SIM)	5	ug/L	1	SW846 8260B	CW	6/29/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

BA	Brighton Ana. 2105 Pless Drive Brighton, MI 48114	lytical, Phone: 81	10-229-	7575		ABB FC	PROJ S \ C REVI DR MA S = Sc	ATION ATION ATRIX olid) NS	TEBEN		Requested/M	ethod	REPORT F	ESULTS TO	•
COMPANY	NAME: PAII CE	rP			1 (1 m)	DW	L = Cio = Drin / = Wa O = (king I stewat	er	X	4 DIOXAMS			GOO S. Wag	er Mi	4810
PROJECT		/				A = A	P = W Air (Te	dlar B	ag)	Sample Matrix	DX4n			Attn:		
PROJECT	NUMBER:					м	F = Fl T = T l = Me	ube		le IV				PHONE: 734	368-30	90
P. O. NUMI	BER:			Conta	iner T	de la		i jijik		du				Sample received within ho	ding time? yes	no 🗆
		If RUSH	I, z	100111111111111111111111111111111111111	0017912912022			T		Ã	FIALS			For TCLP ONLY – Fe	deral Limits 🗖	Other 🗖
	TURNAROUND: (circle one) ss days (verify with lab & specify date needed) iness days	approved l	hv:	UNPRESERVED				ESERVA	reserved	7 021				Samples intact: yes	no□ (if no,	see below)
tandard: 10 busi		Samplin	S (PRE() Y	UNPRE	H,SO,	HDPE NAOH	S H,SO.	GLASS, NO PRESERVATIVE	MEOH Preserved: (F)ield or (L)ab Pre	IOssic	TOK DISSOLVED			Note samples if not int	act:	
Brighton ID#	Sample Description	Time D	Date 0	HDPE	HDPE H,SO,	HDPE N	GLASS	GLAS	MEOH)	I dOI	P. O. C.			Headspace/bubbles in V	OA'S? yes 🔲 no	o□ n/a□
)	RP-6-27-11-0945		2						1		X			Sample containers and	COC match? ye	s no no
4178	OUTFAILOOL-6-26 OUTFAILOOL-6-27	7/	2								X			Comments:	1 4 6	
479	OUTFA11001-6-27	7-//	v							V				John-Ca	mptell &	Polla
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BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY CONTROL

GC/MS VOLATILE METHOD 8260B-SIM

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date:	June 29, 2011	Spike Std. ID:	1769.1	Inst./Detec: VOL 3-GC/MS
Laboratory ID:	BV04187	Matrix:	Water	Analyst: CW

		Matrix Spike - Pre	ecision *		Matrix Spi	ike - Accuracy	LCS- percent	recovery
SURROGATES	SPK 1	SPK 2	Relative Percent Difference	Spk Conc	% Recovery	Range (%)	LCS	Method Blank
COMPOUNDS								
1,4 Dioxane	8.4	9.1	8.0	10ug/L	88%	70-130	100%	<1

* Matrix spike precision +/-20 Relative Percent Difference.

(ug/L	is ec	uivalent	to	ppb)	١
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Comments:					
	Comments:				

2105 Pless Drive · Brighton, Michigan 48114 · Phone (810) 229-7575 · Fax (810) 229-8650 · E-mail bai-brighton@sbcglobal.net

July 11, 2011

Pall Corp. 600 S. Wagner Bldg. 4 Ann Arbor, MI 48103

Subject:

Dear Mr. Campbell:

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Enclosed are the results for the samples submitted on 07/06/2011 for the above mentioned project. Duplicate copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be mailed with copy of report. If you have any questions concerning the invoice or the data, please don't hesitate to contact our office. Please reference Brighton Analytical, L.L.C. project ID 15226 when calling with any questions regarding this project.

Sincerely, Brighton Analytical, L.L.C.



Brighton Analytical, L.L.C. 2105 Pless Drive Brighton, Michigan 48116

L.L.C.TM Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/21/2011

Submit Date:

7/6/2011

Report Date:

7/11/2011

BA Report Number: 15226

BA Sample ID: BV04551

Project Name:

Project Number:

Sample ID: Outfall 001

Analysis Results Units DL Method Reference **Parameters** Analyst Date 1,4-Dioxane(SIM) 1,4-Dioxane (SIM) 7 ug/L 1 SW846 8260B CW7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

1,4-Dioxane result qualified due to received past hold time.



Brighton Analytical, L.L.C. 2105 Pless Drive Brighton, Michigan 48116 L.L.C.TM Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/22/2011

Submit Date:

7/6/2011

Report Date:

7/11/2011

BA Report Number: 15226

BA Sample ID: BV04552

Project Name:

Project Number:

Sample ID: Outfall 001

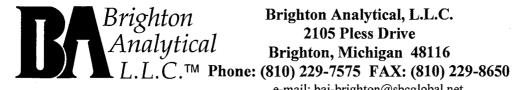
Analysis DL Method Reference Analyst Units Results **Parameters** Date 1,4-Dioxane(SIM) CW SW846 8260B 7/8/2011 1 1,4-Dioxane (SIM) 6 ug/L

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

1,4-Dioxane result qualified due to received past hold time.



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/23/2011

Submit Date:

7/6/2011

Report Date:

7/11/2011

BA Report Number: 15226

BA Sample ID: BV04553

Project Name:

Project Number:

Sample ID: Outfall 001

Analysis DL Method Reference Results Units Analyst **Parameters** Date 1,4-Dioxane(SIM) 1,4-Dioxane (SIM) 7 ug/L SW846 8260B CW 7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

1,4-Dioxane result qualified due to received past hold time.



Brighton Analytical, L.L.C. 2105 Pless Drive

Brighton, Michigan 48116

 $L.L.C.^{TM}$ Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date: 7/3/2011 Submit Date: 7/6/2011

Report Date: 7/11/2011

BA Report Number: 15226

BA Sample ID: BV04554

Project Name:

Project Number:

Sample ID: Outfall 001

Analysis DL Method Reference Analyst Results Units Date **Parameters** 1,4-Dioxane(SIM)

1,4-Dioxane (SIM)

7

ug/L

SW846 8260B

CW

7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

7/4/2011

Submit Date:

7/6/2011

Report Date:

7/11/2011

Project Name:

BA Sample ID: BV04555

BA Report Number: 15226

Project Number:

Sample ID: Outfall 001

Analysis Results Units DL Method Reference **Parameters** Analyst Date

1,4-Dioxane(SIM)

1,4-Dioxane (SIM)

5

ug/L

1

SW846 8260B

CW

7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

Page 1



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

7/5/2011

Submit Date:

7/6/2011

Report Date:

7/11/2011

BA Report Number: 15226

BA Sample ID: BV04556

Project Name:

Project Number:

Sample ID: Outfall 001

Analysis Method Reference Results Units DL Analyst **Parameters** Date 1,4-Dioxane(SIM) CW 1,4-Dioxane (SIM) 1 SW846 8260B 7/8/2011 6 ug/L

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:



7/5/2011

7/6/2011

7/11/2011

BA Sample ID: BV04557

Brighton Analytical, L.L.C. 2105 Pless Drive Brighton, Michigan 48116

L.L.C.TM Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

BA Report Number: 15226

Sample Date:

Submit Date:

Report Date:

Project Name:

Project Number:

Sample ID: RP

Analysis **Parameters** Results Units DL Method Reference Analyst Date 1,4-Dioxane(SIM) 1,4-Dioxane (SIM) 500* ug/L 50 SW846 8260B CW 7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

*Elevated dl due to sample matrix.

	Brighton An		L.C. [™]	.00	0JECT#: 226		Anal	ysis Requested/	Method	PAGE COMPANY/MAI	OF LING ADDR	ESS:
PROJEC	email: bai-brighton@ 2105 Pless Drive Brighton, MI 48114 T NAME: Park 1	Phone: 810- FAX: 810-2		ABBRE FOR S S = L =	VIATIONS <u>MATRIX</u> Solid Liquid					Pall Corp 600 5 W.	Blog	48103
PROJEC	IALL CO	or p		_ 0	rinking H ₂ 0 = Oil Wipes					ATTN: John	Conp	be//
				A = Air	(Tedlar Bag) Filter	.≍	le			PHONE: 734-	368-	3090
PO #: (PI	LEASE NOTE IF DIFFERENT BILLING A	DDRESS)		T = Tube	M=Misc	Matr	astro			FAX OR EMAIL:		
Sample (Collected By:	The second secon	Cont	ainer/Quan	tity	Sample Matrix	28			Samples received within		s no
	STED TURNAROUND: (circle one)	If RUSH, approved by:	N/A N/A	¿pe	Z S Z	Sam	7			Temperature of samples		
1 Day =2.5	3 business days (verify with lab & specify date needs 5X Cost 2 Day= 2X Cost 3 Day = 1.5X Cost	,	VOA'S (PRES) Y N N// HDPE UNPRESERVED HDPE HNOs	OH Preserved?	GLASS, NO PRESERVATIVI STERLIZED BACTERIA MEOH Preserved Y N		7			pHs verified in login?	yes no	
	1: 5 business days	Sample Coll.	VOA'S (PRES) HDPE UNPRES	2 4	S. NO PR					Headspace/bubbles in V	/OA's? yes	no n/a
Brighton	ID# Sample Description	Date Time	VOA'S НОРЕ НОРЕ	HDPE N	STER					Sample containers and C	OC match? ye	es no
145	51/atta/1001	6-21-11	Ţ			سالا	/					
2) 5	52 outFallool	6-22-11	2				2			BILLING ADDRESS (I		
3)	53 OUTFA11001	6-23-11	2				2			John Con	phell 6	19/12
4)	54 OUTFALLOOF	73-11	2			Ш	2			John Con LAUREL = Be	yer O	Poll-Co
5)	S out Follow/	7-4-11	2				2			,		
6)	S6 OUT FA11001	7-5/1	2				2					
7)	ST RP	7-541 0930	2			\downarrow	2					
8)										Drinking H2O: FAX	TO LCHD y	es no
9)										Chlorinated Water Supply ?	АМТ.:	es no
10)										MCL failure: yes no		
Special	I Instructions:					1.000				Client notified (date/time	e/initials):	
	Please fill out the	Chain of Custon	ly completely	and revie	ew. Incori	rect of	incomple	te information v	ill result in a "h	old" on all analyses.		
Trans.	RELINQUISHED BY:	RECEIVE	D BY:	DATE:	TIME:	Trans	RE	CLINQUISHED BY	: I	RECEIVED BY:	DATE:	TIME:
1	Jal Co	Ja Du	/ 7-	611	1:45	3						
2			J		1.721	4						



BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY CONTROL

GC/MS VOLATILE METHOD 8260B-SIM

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date:	July 8, 2011	Spike Sta. iD:	1769		mst./Detec.	VOL 3-GC/W3		
Laboratory ID:	BV04557	Matrix:	Water	•	Anaiyst:	CW		
		Matrix Spike - Pre	cision *		Matrix Spi	ke - Accuracy	LCS- percent	trecovery
SURROGATES	SPK 1	STD	Relative Percent Difference	Spk Conc	% Recovery	Range (%)	LCS	Method Blank
COMPOUNDS								
1,4 Dioxane	25.2	28.6	12.6	25ug/L	108%	70-130	88%	<1
* Matrix spike precision +		ent Difference.						

2105 Pless Drive · Brighton, Michigan 48114 · Phone (810) 229-7575 · Fax (810) 229-8650 · E-mail bai-brighton@sbcglobal.net

July 11, 2011

Pall Corp. 600 S. Wagner Bldg. 4 Ann Arbor, MI 48103

Subject:

Dear Mr. Campbell:

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Enclosed are the results for the samples submitted on 07/01/2011 for the above mentioned project. Duplicate copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be mailed with copy of report. If you have any questions concerning the invoice or the data, please don't hesitate to contact our office. Please reference Brighton Analytical, L.L.C. project ID 15168 when calling with any questions regarding this project.

Sincerely, Brighton Analytical, L.L.C.



Brighton Analytical, L.L.C. 2105 Pless Drive

Brighton, Michigan 48116

M Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/28/2011

Submit Date:

7/1/2011

Report Date:

7/11/2011

BA Report Number: 15168

BA Sample ID: BV04384

Project Name:

Project Number:

Sample ID: Outfall 001

Parameters

Results

Units

DL

Method Reference

Analyst

Analysis Date

1,4-Dioxane(SIM)
1,4-Dioxane (SIM)

5

ug/L

1

SW846 8260B

CW

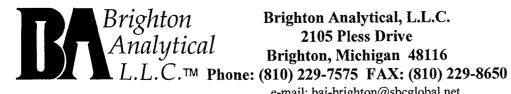
7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

Page 1



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date: 6/29/2011 Submit Date: 7/1/2011

Report Date:

7/11/2011

BA Report Number: 15168

BA Sample ID: BV04385

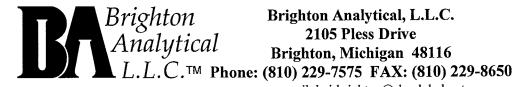
Project Name:

Project Number:

Sample ID: Outfall 001

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date	
1,4-Dioxane(SIM) 1,4-Dioxane (SIM)	7	ug/L	1	SW846 8260B	CW	7/8/2011	
DL=Reported detection limit for compounds require special analy				ased by:	Mon	30/	

target detection limits (TDL).



To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date:

6/30/2011

Submit Date: Report Date: 7/1/2011 7/11/2011

BA Report Number: 15168

BA Sample ID: BV04386

Project Name:

Project Number:

Sample ID: Outfall 001

Analysis Method Reference Units DL Analyst Results **Parameters** Date 1,4-Dioxane(SIM) CW 1,4-Dioxane (SIM) 8 ug/L 1 SW846 8260B 7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:



Brighton Analytical, L.L.C. 2105 Pless Drive Brighton, Michigan 48116 L.L.C.™ Phone: (810) 229-7575 FAX: (810) 229-8650

e-mail: bai-brighton@sbcglobal.net

To: Pall Corp.

600 S. Wagner

Bldg. 4

Ann Arbor, MI 48103

Sample Date: Submit Date:

6/30/2011 7/1/2011

Report Date:

7/11/2011

BA Report Number: 15168

BA Sample ID: BV04387

Project Name:

Project Number:

Sample ID: 400 Maynard St.

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM) 1,4-Dioxane (SIM)	5	ug/L	1	SW846 8260B	CW	7/8/2011

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

14- -	Brighton An			L.C	TM.		89 1		ROJ	ECT /	#:		An	alysis	Reque	sted/N	lethod		PAGE _ COMPANY/MA	OF AILING ADDI	RESS:
	email: bai-brighton@ 2105 Pless Drive Brighton, MI 48114	sbeglobal ne Phone FAX:	: 810-2				Al	BBR FOR	EVL	ATIO TRIX	100000000000000000000000000000000000000								PALL Cor,		la C/
PROJECT							 	L	= Lic	CHARLES OF THE REAL PROPERTY.	H ₂ O								600 S. WAGA	- M; Y	8103
PROJECT	· · · · · · · · · · · · · · · · · · ·	\frac{1}{2} \rightarrow \frac{1}{2}					-		0 = 0 = Wi	Dil			19						ATTN: Tohn	Conple	ell
PROJECT	. #:						A	. = A		dlar Ba	eg)	×	7						PHONE: 7341-	-368-3	090
PO#: (PLE	EASE NOTE IF DIFFERENT BILLING A	DDRESS)					Т=			1 = M	isc.	/atr	×						FAX OR EMAIL:		
Sample Co	ollected By:					C	ainer	/Owe	2.54KG.			Sample Matrix	Dioxane			-			Samples received with	in hold time? ye	es no
PROLUEST	ΓΕΟ TURNAROUND: (circle one)	If RU	SH.	. ≤	Т	Cont	amer	Ť	T			amb	7						Temperature of sample	es °C:	
Rush: 1 -3 t	business days (verify with lab & specify date needs Cost 2 Day= 2X Cost 3 Day = 1.5X Cost	approve		N N/A	ERVEC			Preserved?	RVATIV	TERNA	2 >	מכ	7						pHs verified in login?	yes no	
	5 business days	Sample	Coll.	PRES	NPRES	တို့ ဒ	(AOH	Pres	O PRESE	ED BA	escoved		7						Headspace/bubbles in	VOA's? yes	no n/a
Hrighton II	D# Sample Description	Date	Time	VOA'S (PRES	HDPE UNPRESERVED	HDPE HNO,	HDPE NAOH	AMBER	GLASS, NO PRESERVATIVE	STERILIZED BACTERIA	MEOH Preserved Y N								Sample containers and	COC match? y	res no
4391	· · · · · · · · · · · · · · · · · · ·	6-28-11		2	-			Ì		"	1		X		1						
2) 8		629-11	_	2		+	\dagger	-				1	X		-				BILLING ADDRESS	(IF REQUIRED)):
3) BL		630-11	-	2		+	+-						×						John-Ga	1 phell (8)	Pallo Cox
4) Q	7 400 Maynard 5+	6-30-11	0940	1			1				T,	Į,	7						John-Gon Laural-Be	yer @ Pal	L. Cor
5)			1,70																	, <u> </u>	
6)																					
7)							-														
8)				+										- 					Drinking H2O: FAX	TO LCHD y	es no
9)				t															Chlorinated Water Supply	· ?	yes no
10)									-							 			MCL failure: yes	AMT.:	
-											Ŀ					<u></u>				no ma/initials):	
Special I	Instructions:				2022550	SEALE!		acres	SSESSEE	Co.C.					are var		Jeddin		Client notified (date/ti		· · · · · · · · · · · · · · · · · · ·
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Trans.	RELINQUISHED BY:	REC	CEIVED	BX:			DA	TE:	7	ГІМЕ	: T	rans. #]	RELINC	UISHE	D BY:	3,389,3	<u>, </u>	RECEIVED BY:	DATE:	TIME:
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2 //	/***	we	MARKE	4						Bm		4	 								1



BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY CONTROL

GC/MS **VOLATILE METHOD 8260B-SIM**

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

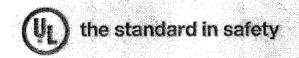
Analysis Date:	July 8, 2011	Spike Std. ID:	1769		Inst./Detec: '	VOL 5-GC/MS		
Laboratory ID:	BV04557	Matrix:	Water		Analyst:	CW		
		Matrix Spike - Pred	cision *		Matrix Sp	ke - Accuracy	LCS- percent	recovery
SURROGATES	SPK 1	STD	Relative Percent	Spk Conc	% Recovery	Range (%)	LCS	Meth

		Matrix Spike - Pre	ecision *		Matrix Sp	LCS- percent recovery		
SURROGATES	SPK 1	Relative STD Percent Difference		Spk Conc	% Recovery	Range (%)	LCS	Method Blank
COMPOUNDS								
1,4 Dioxane	25.2	28.6	12.6	25ug/L	108%	70-130	88%	<1

^{*} Matrix spike precision +/-20 Relative Percent Difference.

(ug/L is equivalent to ppb)

comments:	



Underwriters Laboratories

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 Laboratories inc. 110 S. Hill Street, South Band, Jk 40617-2702 USA 1 800 332 4346 / F: 574 233 8267 / W: Jil son

Laboratory Report

Client: Pall Life Sciences

Report:

264391

Attn: John Campbell

Priority:

Standard Written

600 South Wagner Road Ann Arbor, MI 48103 Status:

Final

PWS ID:

Not Supplied

Copies

to: Laurel Beyer

Sample Information												
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time							
2473856	Outfall 001	317.0	06/16/11 00:00	Client	07/01/11 10:00							
2473857	Outfall 001	317.0	06/19/11 00:00	Client	07/01/11 10:00							
2473858	Outfall 001	317.0	06/20/11 00:00	Client	07/01/11 10:00							
2473859	Outfall 001	317.0	06/21/11 00:00	Client	07/01/11 10:00							
2473860	Outfall 001	317.0	06/22/11 00:00	Client	07/01/11 10:00							
2473861	Outfall 001	317.0	06/23/11 00:00	Client	07/01/11 10:00							
2473862	Outfall 001	317.0	06/26/11 00:00	Client	07/01/11 10:00							
2473863	Outfall 001	317.0	06/27/11 00:00	Client	07/01/11 10:00							
2473864	Outfall 001	317.0	06/28/11 00:00	Client	07/01/11 10:00							
2473865	Outfall 001	317.0	06/29/11 00:00	Client	07/01/11 10:00							
2473866	Outfall 001	317.0	06/30/11 00:00	Client	07/01/11 10:00							
2473867	HC/HR	317.0	06/17/11 08:15	Client	07/01/11 10:00							
2473868	HC/HR	317.0	06/20/11 08:25	Client	07/01/11 10:00							
2473869	HC/HR	317.0	06/21/11 08:15	Client	07/01/11 10:00							
2473870	HC/HR	317.0	06/22/11 08:15	Client	07/01/11 10:00							
2473871	HC/HR	. 317.0	06/23/11 09:05	Client	07/01/11 10:00							
2473872	HC/HR	317.0	06/24/11 08:45	Client	07/01/11 10:00							
2473873	HC/HR	317.0	06/27/11 08:10	Client	07/01/11 10:00							
2473874	HC/HR	317.0	06/28/11 08:25	Client	07/01/11 10:00							
2473875	HC/HR	317.0	06/29/11 08:20	Client	07/01/11 10:00							
2473876	HC/HR	317.0	06/30/11 08:15	Client	07/01/11 10:00							

Report Summary

Note: Sample containers were provided by the client.

Note: In the Method 317.0 analysis of UL sample 2473856, the bromate recoveries in the MS and MSD (73% and 70% respectively were outside the acceptance limits of 75-125%.

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.

Client Name:

Pall Life Sciences

Report #: 264391

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 #:

264391

Project Murger

7/19/2011

Date

Client Name:

Pall Life Sciences

Report #: 264391

Sampling Point: Outfall 001

PWS ID: Not Supplied

	General Chemistry												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#				
15541-45-4 I	Bromate	317.0	10 *	1.0	3.4	ug/L		07/05/11 18:34	2473856				

Sampling Point: Outfall 001

PWS ID: Not Supplied

1			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	3.3	ug/L		07/05/11 19:29	2473857

Sampling Point: Outfall 001

PWS ID: Not Supplied

2			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	3.6	ug/L		07/05/11 19:48	2473858

Sampling Point: Outfall 001

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	3.9	ug/L		07/05/11 20:06	2473859		

Sampling Point: Outfall 001

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	3.5	ug/L		07/05/11 20:25	2473860	

Client Name: Pall Life Sciences

Report #: 264391

Sampling Point: Outfall 001

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	3.9	ug/L		07/05/11 20:43	2473861	

Sampling Point: Outfall 001

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	4.5	ug/L		07/05/11 21:02	2473862	

Sampling Point: Outfall 001

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		07/05/11 21:20	2473863	

Sampling Point: Outfall 001

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	4.9	ug/L		07/05/11 21:39	2473864

Sampling Point: Outfall 001

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		07/05/11 21:57	2473865	

Report #: 264391

Sampling Point: Outfall 001

PWS ID: Not Supplied

			Gene	ral Cho	emistry	13.75			
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		07/05/11 22:34	2473866

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		07/05/11 23:30	2473867	

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.		07/05/11 23:48	2473868

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		07/06/11 00:07	2473869	

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		07/06/11 00:25	2473870

Report #: 264391

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		07/06/11 00:44	2473871	

Sampling Point: HC/HR

PWS ID: Not Supplied

	197		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		07/06/11 01:02	2473872

Sampling Point: HC/HR

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	< 1.0	ug/L		07/06/11 01:21	2473873

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		07/06/11 01:39	2473874

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		07/06/11 01:58	2473875

Client Name: Pall Life Sciences Report #: 264391

Sampling Point: HC/HR

PWS ID: Not Supplied

	3 (3 (3 (3 (3 (3 (3 (3 (3 (3 (3 (3 (3 (3	30	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		07/07/11 14:01	2473876

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

	gamentalise a commence and a commenc	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	formation with the control of the co	
Rea Limit Type:	MCL	SMCL	ΔΙ	į
				ŝ
			Contraction of the Contraction o	٤
Symbol:	*	۸		į
	I		4 · .	

Client Name: Pall Life Sciences Report #: 264391

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.

Chain of Custody Record

Environmental Laboratory Services

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

Company Pall Corp
Name John Campbell
Street 600 5, Wagner Blog 4
City Ann Arbor State Ny1 Zip 48103
Phone 734-368-3090 Fax 734-913-6103
Email John-Campbell @ PALL. Com

Requested Turnaround:	standard 4	business days	* 3 business days	
4	18 hours *	24 hours	* ASAP / Same day	
Project Name / Number:				_
Print Sampler Name:	STN G	amphelo		_
Invoice To: LAUreL	_ Beye	73	4-913-6536	2
Laurel-Beye	er @ Pal	16. Com	7	

RUSH WRITTEN

				W	ater	Mat	rix	of	ပ်			Pr	esei	rvatio	on		
	Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time Confosites	Drinking	Ground	Waste	Other	ber	Containers	Requested Testing	None	4 ° C	HCI	HNO ₃	H ₂ SO ₄	Other	Lab ID
1	OUTFALL OOI	61/61/1		X						Bromste	X	X				_	2473856
2	outFA11001	61191/1	←					1		317	}	X					7 857
3	out FA11 001	6 1201/1						Ì				X					858
4	out Fall 00/	612/11/						7		į		X					859
5	out Fall 001	6 1221//		П				1				X					860
6	Oct F211001	6 1231//						1				X					861
7	OCTFA11001	6 126 1//						1				X				I.	862
8	outfall ool	6 1271/1						1				X		-			863
9	OUTFAN 001	6 1281/1						1				X					1,864
10	OUTFOIL 00/	6 1291/1		X				1		上	4	X					V 865
Releas	ed by Sampler: Jan C	Date: 6/30///	Time:/2:30	Rec	eived	by:	M	CEST.	75					Date:	711	1/	/Time:/0:00
Releas		Date: / /	Time: :	Rec	eived	by:								Date:	1	1	Time: :

			The state of the s		
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 O c	mes 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 C °C

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 CORP	_
Compa		
Name	John Campell	
Street	600 S. Wigner Bldg 4	
City	Ann Arbor State Mi Zip 48103	
Phone	734-368-3090 Fax 134-913-6103	
Email	John-Campbell @PALL Con	

				_
Requested Turnaround:	Standard *)	4 business day	s * 3 business days	`
	48 hours *	24 hours	* ASAP / Same day	
Project Name / Number:				_
Print Sampler Name: _\	Tohn C	Ampbell		_
Invoice To: LAUR	el Bey	er -7	34-913-653	\mathscr{L}
Laure L-Bey	er@ Pal	L. Com		_ /

		R	IISH	W	P			Ë									
	Sample Identification or Location (This will appear on the final report)	Sample Date	Sample Time	Drinking &	Bround Ground	Maste Maste	Other xi	Number of	Containers	Requested Testing	None	4 ° C	esei IOH	rvati ONH	H ₂ SO ₄ no	Other	Lab ID
1	outFall001	6 130111		X				1		Bronste	7	X				` .	2473 866
2	HC/HR	61/71/1	08:15	1				1		317	}	X					867
3	HC/HR	61201/1	08:25					1				À					868
4	HCLHR	6 12/1/1	08:15					1			П	X					869
5	HC'THR	6 122111	08:15					ĺ				X					870
6	11C/HR	6 23 111	09:05	П				1			T	X					871
7	HC/HR	6124111	08:45					1				X					878
8	HC/.HR	6 127 1/1	08:10					1				Y					873
9	HC/HR	6 128111	08:25					1				X					874
10	HCI.HR	6 129 111	08:20	V				1		*	¥	Y					879
Release	d by Sampler: Jah C	Date: 6 30 1 1/	Time:/2:30	Rec	eived b	oy: A	MC	21%	55			<u></u>		Date	7//	1/	Time: 10: 00
Release	d by:	Date: / /	Time: :	Rec	eived l	by:								Date	: /	1	Time: :

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

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 _____ of ____

Compan	y Parl Corp
Name	John Campbell
Street	600 5. Wodaney
City	Any Antor State MI Zip 48103
Phone	734-368-3090 Fax 734-913-6103
Email	John- Campbell@ Poll. Con

Containers are intact Y

Requested Turnaround: Standard	<u>*</u>)4	business days	s * 3 business days	
48 hours	*	24 hours	* ASAP / Same day	
Project Name / Number:				
Print Sampler Name: John		Sample	//	_
	ye	73	4-913-653	6
Laurel - Beyer (DP	Pollo Co	M	- . /

	**************************************	1 S =	W	te	Ма	rix	- s	V	Preservation							
Sample Identification or Locatio (This will appear on the final repor	· · · · · ·	Time	Drinking	Ground	Waste 🕷	Other	Number of Containers	Requested Testing	None	4 ° C	HCI	HNO ₃	H ₂ SO ₄	Other	Lab ID	
1 HC/AR	61301/1	08:15	X				1		X	×					2473876	
2	1 1	:							1	,						
3	1 1	:														
4	1 1	:						14								
5	1 1	:														
6	1 1	:														
7 20 21	1 1	•														
8 Gight Right	1 1	•	†					,						-		
9 00,00	1 1	•								ļ						
10 125 12	1 1	# •							Į							
7 8 9 10 Released by Sampler, Walsh by Released by Chief Released	Date: / /	Time: :	Rece	eived I	y: Ø	me	2175	<u> </u>	L	L	1	Date	71,	11/1	Time/0 : 00	
Released by	Date: / /	Time: :	Rece	eived I	by:		- , , , ,				· · · · · ·	Date	: /	1	Time:	

Correct volume and container Y N

Labels and COC agree Y N

Run Number: 158010 Instrument: IC BK Method(s): 317.0 Analyst: S. Lovick Receipt Batch: 264391 PC File Name: 070511A Submitted By: S. Lovick

Order Number: 210508 Today's Date: 07/19/2011

Client: Pall Life Sciences / John Campbell Generated By: R. Polite

Sample ID: 2474902 Type: Initial Calibration Blank

Analyzed: 07/05/2011 14:34 Extracted: N/A Dil Factor: 1.000

Bromate MRL Amount
1.0 0.0000 Report Units CAS Number Parameter

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

Sample ID: 2474908 Type: Laboratory Reagent Blank Extracted: N/A Analyzed: 07/05/2011 16:25

Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter ------

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

Sample ID: 2474909 Extracted: N/A

Type: Laboratory Fortified Blank
Analyzed: 07/05/2011 16:43 Dil Factor: 1.000 Analyzed: 07/05/2011 16:43

P/F Target Amount ------ 5.0 4.8480 Amount % Rec Limits CAS Number Parameter 15541-45-4 Bromate 4.8480 97 85-115 Pass

Sample ID: 2474910 Type: Instrument Performance Check

Analyzed: 07/05/2011 17:02 Extracted: N/A Dil Factor: 1.000

Target Amount % Rec Limits CAS Number Parameter P/F -----_____ _____ ____ _----____ 1.0 1.0140 101 75-125 Pass 15541-45-4 Bromate

Type: Quality Control Sample Analyzed: 07/05/2011 18:15 Sample ID: 2474911 Extracted: N/A Dil Factor: 1.000

Target Amount CAS Number Parameter % Rec Limits P/F _____ ____ _____ ----

5.0 5.1070 102 15541-45-4 Bromate 85-115 Pass

Sample ID: 2473856 Type: Field Sample Analyzed: 07/05/2011 18:34 Site: Outfall 001 Dil Factor: 1.000 Extracted: N/A

MRL Amount Report Units CAS Number Parameter ------_____ ______ _---1.0 3.3520 3.4 ug/L 15541-45-4 Bromate

Type: Matrix Spike of 2473856
Analyzed: 07/05/2011 10.52 Sample ID: 2474912 Site: Outfall 001 Analyzed: 07/05/2011 18:52 Dil Factor: 1.000 Extracted: N/A

Target Amount Parent Amt %Rec Limits P/F CAS Number Parameter 5.0 7.0140 3.3520 73 75-125 Fail 15541-45-4 Bromate

Sample ID: 2474913 Type: Matrix Spike Duplicate of 2473856 Site: Outfall 001 Dil Factor: 1.000 Analyzed: 07/05/2011 19:11

Target Amount Parent Amt %Rec Limits P/F CAS Number Parameter 5.0 6.8570 3.3520 70 75-125 Fail 15541-45-4 Bromate

Sample ID: 2473857 Extracted: N/A Site: Outfall 001 Type: Field Sample Dil Factor: 1.000

nype: rield Sample
Analyzed: 07/05/2011 19:29

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

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

Page 1 of 4

Version 2.7.0.0

. 00013

Run Number: 158010 PC File Name: 070511A Order Number: 210508

Instrument: IC BK Analyst: S. Lovick Receipt Batch: 264391 Method(s): 317.0 Submitted By: S. Lovick Today's Date: 07/19/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2473858 Extracted: N/A

Type: Field Sample Analyzed: 07/05/2011 19:48

Site: Outfall 001 Dil Factor: 1.000

CAS Number Parameter

15541-45-4 Bromate

3.6480 1.0

MRL

Amount Report Units

3.6 ug/L

Sample ID: 2473859 Extracted: N/A

Type: Field Sample Analyzed: 07/05/2011 20:06 Site: Outfall 001 Dil Factor: 1.000

CAS Number Parameter

MRL

Report Units

15541-45-4 Bromate

1.0

3.8620 3.9 ug/L

Sample ID: 2473860 Extracted: N/A

Type: Field Sample

Site: Outfall 001 Dil Factor: 1.000

Analyzed: 07/05/2011 20:25

CAS Number Parameter 15541-45-4 Bromate

1.0

Amount

Sample ID: 2473861

Type: Field Sample

Site: Outfall 001

Extracted: N/A

Analyzed: 07/05/2011 20:43

Dil Factor: 1.000

CAS Number Parameter _____ 15541-45-4 Bromate

Sample ID: 2473862 Extracted: N/A

Type: Field Sample Type: Field Sample Analyzed: 07/05/2011 21:02

MRL

Site: Outfall 001 Dil Factor: 1.000

MRL Amount Report Units

CAS Number Parameter 15541-45-4 Bromate

1.0

1.0

MRL

10.0

4.4940 4.5 ug/L

Sample ID: 2473863

Extracted: N/A

Type: Field Sample Analyzed: 07/05/2011 21:20 Site: Outfall 001 Dil Factor: 1.000

CAS Number Parameter _____

MRL

Report Units

15541-45-4 Bromate

4.8410 4.8 ug/L 1.0

Amount

Sample ID: 2473864

Type: Field Sample

Site: Outfall 001 Dil Factor: 1.000

Extracted: N/A

Analyzed: 07/05/2011 21:39

MRL Amount Report Units

CAS Number Parameter 15541-45-4 Bromate

4.8640 4.9 ug/L

Sample ID: 2473865 Extracted: N/A

Type: Field Sample Analyzed: 07/05/2011 21:57 Site: Outfall 001

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

1.0

Amount Report Units
4.8380 4.8 ug/L

Target Amount

Sample ID: 2474914 Type: Continuing Calibration Check Extracted: N/A Analyzed: 07/05/2011 22:16

Dil Factor: 1.000

CAS Number Parameter 15541-45-4 Bromate

% Rec Limits P/F 10.2930 103 85-115 Pass

NOTE: The dilution factor is included in the percent recovery calculation. Page 2 of 4

Version 2.7.0.0

Run Number: 158010 PC File Name: 070511A Order Number: 210508

Instrument: IC BK Instrument: IC BK
Analyst: S. Lovick
Receipt Batch: 264391

Method(s): 317.0Submitted By: S. Lovick Today's Date: 07/19/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2473866 Extracted: N/A

Type: Field Sample

Site: Outfall 001 Dil Factor: 1.000

CAS Number Parameter

Analyzed: 07/05/2011 22:34

Report Units

15541-45-4 Bromate

4.9880 5.0 ug/L

 Sample ID: 2474915
 Type: Matrix Spike of 2473866

 Extracted: N/A
 Analyzed: 07/05/2011 22:53

Site: Outfall 001

Dil Factor: 1.000

CAS Number Parameter

Target

Amount Parent Amt %Rec Limits P/F

15541-45-4 Bromate

MRL

1.0

5.0 10.1610 4.9880 103 75-125 Pass

Sample ID: 2474916

Type: Matrix Spike Duplicate of 2473866 Site: Outfall 001

Extracted: N/A

Analyzed: 07/05/2011 23:11

Dil Factor: 1.000

CAS Number Parameter

Amount Parent Amt %Rec Limits P/F

15541-45-4 Bromate

Target Amount Parent Amt
----5.0 10.2270 4.9880

4.9880 105 75-125 Pass

Sample ID: 2473867 Extracted: N/A

Type: Field Sample

Site: HC/HR Dil Factor: 1.000

Analyzed: 07/05/2011 23:30

MRL Amount Report Units

______ 15541-45-4 Bromate

CAS Number Parameter

Amount

...----1.0 0.2450 < 1.0 ug/L

Sample ID: 2473868

Type: Field Sample Analyzed: 07/05/2011 23:48 Site: HC/HR

Dil Factor: 1.000

Extracted: N/A CAS Number Parameter

MRL

15541-45-4 Bromate

Amount Report Units 0.0000 1.0

< 1.0 ug/L

Sample ID: 2473869

Extracted: N/A

Type: Field Sample Analyzed: 07/06/2011 00:07

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

MRL Amount Report Units

15541-45-4 Bromate

1.0

0.0920 < 1.0 ug/L

Sample ID: 2473870 Extracted: N/A

Type: Field Sample Analyzed: 07/06/2011 00:25

Site: HC/HR

Dil Factor: 1.000

CAS Number Parameter

MRL Amount ____

Report Units

15541-45-4 Bromate

1.0

< 1.0 ug/L

Sample ID: 2473871 Extracted: N/A

Type: Field Sample

Site: HC/HR Dil Factor: 1.000

Analyzed: 07/06/2011 00:44

MRL Amount Report Units

CAS Number Parameter

15541-45-4 Bromate

1.0

0.1290 < 1.0 ug/L

Type: Field Sample

0.2600

Sample ID: 2473872 Extracted: N/A

Analyzed: 07/06/2011 01:02

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

MRL

Report Units

15541-45-4 Bromate

1.0

0.2340 < 1.0 ug/L

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

Page 3 of 4

Version 2.7.0.0

. 66615

Run Number: 158010 PC File Name: 070511A Order Number: 210508 Instrument: IC BK Analyst: S. Lovick Receipt Batch: 264391 Method(s): 317.0

Submitted By: S. Lovick Today's Date: 07/19/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2473873 Extracted: N/A

Type: Field Sample

Analyzed: 07/06/2011 01:21

Site: HC/HR Dil Factor: 1.000

CAS Number Parameter

Amount Report Units

15541-45-4 Bromate

----1.0

Type: Field Sample

Site: HC/HR

Sample ID: 2473874 Extracted: N/A

Analyzed: 07/06/2011 01:39

Dil Factor: 1.000

CAS Number Parameter _____

MRL ___

Amount

Report Units

15541-45-4 Bromate

1.0

0.2070 < 1.0 ug/L

Sample ID: 2473875

Type: Field Sample

Site: HC/HR

Analyzed: 07/06/2011 01:58

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: 2474917 Extracted: N/A

Type: Continuing Calibration Check

Analyzed: 07/06/2011 02:16

Dil Factor: 1.000

CAS Number Parameter _____ Target

Amount

% Rec Limits P/F _____ ----

15541-45-4 Bromate

15.0 15

15.4150 103 85-115 Pass

Run Number: 158060 PC File Name: 070711A Method(s): 317.0

Instrument: IC BK Analyst: S. Lovick Receipt Batch: 264391 Submitted By: S. Lovick Order Number: 210508 Today's Date: 07/19/2011

Client: Pall Life Sciences / John Campbell Generated By: R. Polite

Sample ID: 2476117 Type: Initial Calibration Blank

Extracted: N/A Analyzed: 07/07/2011 10:31 Dil Factor: 1.000

MRL Amount Report Units
--1.0 0.0000 < 1.0 ug/L CAS Number Parameter

15541-45-4 Bromate

Sample ID: 2476123 Type: Laboratory Reagent Blank Extracted: N/A Analyzed: 07/07/2011 12:47

Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter 15541-45-4 Bromate

Sample ID: 2476124 Extracted: N/A

Type: Laboratory Fortified Blank
Analyzed: 07/07/2011 13:06 Dil Factor: 1.000

Target Amount % Rec 5.0 4.7260 95 Amount % Rec Limits P/F CAS Number Parameter ______ 85-115 Pass 15541-45-4 Bromate

Type: Instrument Performance Check Sample ID: 2476125 Extracted: N/A

Dil Factor: 1.000 Analyzed: 07/07/2011 13:24

CAS Number Parameter Target Amount % Rec Limits P/F CAS Number Parameter 1.0 1.0310 103 75-125 Pass

Sample ID: 2476126 Type: Quality Control Sample Extracted: N/A Analyzed: 07/07/2011 13:43 Dil Factor: 1.000

Amount rarameter Target Amount % Rec Limits CAS Number Parameter ----

5.0 4.9140 98 85-115 Pass 15541-45-4 Bromate

Type: Field Sample Site: HC/HR
Analyzed: 07/07/2011 14:01 Dil Factor: 1.000

MRL Amount Report Units Sample ID: 2473876 Type: Field Sample Extracted: N/A Analyzed: 07/07/201

CAS Number Parameter - -----1.0 0.1190 < 1.0 ug/L 15541-45-4 Bromate

Type: Matrix Spike of 2473876 Analyzed: 07/07/2011 14:20 Sample ID: 2476127 Extracted: N/A Site: HC/HR

Dil Factor: 1.000

CAS Number Parameter ______ 15541-45-4 Bromate

Sample ID: 2476128 Type: Matrix Spike Duplicate of 2473876 Site: HC/HR
Analyzed: 07/07/2011 14:38 Dil Factor: 1.000 Extracted: N/A

Target Amount Parent Amt %Rec Limits P/F CAS Number Parameter _____ 5.0 3.7680 < MRL 75 75-125 Pass 15541-45-4 Bromate

Sample ID: 2476129 Extracted: N/A

Extracted: N/A

Type: Continuing Calibration Check
Analyzed: 07/07/2011 14:57 Dil Factor: 1.000

Target Amount % Rec Limits Target -----10.0 P/F % Rec Limits CAS Number Parameter _____ ____ 10.0780 101 85-115 Pass 15541-45-4 Bromate

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

Version 2.7.0.0

Underwriters Laboratories

LABORATORY REPORT

This report contains <u>II</u> 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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Underwinters Laboratories Inc. 110 S. Hill Street, South Bend, IN 46617-2702 USA 7:: 500 332-4345 / F:: 574-233-8207 / W.: iif.com



Laboratory Report

Client: Pall Life Sciences

Report:

264962

Final

Attn: John Campbell

Priority:

Standard Written

600 South Wagner Road Ann Arbor, MI 48103 Status: PWS ID:

Not Supplied

Copies

to: Laurel Beyer

	Sampl	e Information		A TRICINIDESISTS	
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2479288	Outfall 001	317.0	07/03/11 00:00	Client	07/13/11 09:15
2479289	Outfall 001	317.0	07/04/11 00:00	Client	07/13/11 09:15
2479290	Outfall 001	317.0	07/05/11 00:00	Client	07/13/11 09:15
2479291	Outfall 001	317.0	07/06/11 00:00	Client	07/13/11 09:15
2479292	Outfall 001	317.0	07/07/11 00:00	Client	07/13/11 09:15
2479293	Outfall 001	317.0	07/10/11 00:00	Client	07/13/11 09:15
2479294	Outfall 001	317.0	07/11/11 00:00	Client	07/13/11 09:15
2479295	HC/HR	317.0	07/01/11 08:25	Client	07/13/11 09:15
2479296	HC/HR	317.0	07/05/11 08:30	Client	07/13/11 09:15
2479297	HC/HR	317.0	07/06/11 09:45	Client	07/13/11 09:15
2479298	HC/HR	317.0	07/07/11 10:00	Client	07/13/11 09:15
2479299	HC/HR	317.0	07/08/11 08:00	Client	07/13/11 09:15
2479300	HC/HR	317.0	07/11/11 09:35	Client	07/13/11 09:15
2479301	HC/HR	317.0	07/12/11 08:25	Client	07/13/11 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.

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Authorized Signature

Title

<u>フ, 21. //</u>Date

Client Name:

Pall Life Sciences

Report #:

264962

Page 1 of 5

Report #: 264962

Sampling Point: Outfall 001

PWS ID: Not Supplied

			Gene	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	5.1	ug/L		07/15/11 13:12	2479288

Sampling Point: Outfall 001

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	5.6	ug/L		07/15/11 14:08	2479289		

Sampling Point: Outfall 001

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	4.1	ug/L		07/15/11 14:26	2479290			

Sampling Point: Outfall 001

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	3.6	ug/L		07/15/11 14:45	2479291			

Sampling Point: Outfall 001

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	2.0	ug/L		07/15/11 15:03	2479292			

Report #: 264962

Sampling Point: Outfall 001

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	4.4	ug/L		07/15/11 15:22	2479293

Sampling Point: Outfall 001

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		07/15/11 15:40	2479294			

Sampling Point: HC/HR

PWS ID: Not Supplied

		2000	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		07/15/11 15:59	2479295

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		07/15/11 16:17	2479296			

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		07/15/11 16:36	2479297		

Report #: 264962

Sampling Point: HC/HR

PWS ID: Not Supplied

			Gene	ral Che	emistry	49230			
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		07/18/11 13:35	2479298

Sampling Point: HC/HR

PWS ID: Not Supplied

			Gene	ral Che	emistry	453			
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		07/18/11 13:53	2479299

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		07/18/11 14:12	2479300

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		07/18/11 14:30	2479301

† 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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1	Reg Limit Type:	MCL	SMCL	AL
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	Symbol:	*	^	!

Client Name: Pall Life Sciences Report #: 264962

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.

(U) the standard in safety		To the state of th	en e		Underwriters Laboratories	110 S. Hill Street South Bend, IN 46617 T 1 800 332 4345 F 1 574 233 8207	Order Batch	#21	105	112	 &2
www.ul.com/water Shaded area for UL use only		CHA	IN OF	CUSTODY F	RECORD	andre en	Page		_ of	<u> </u>	<u>के</u> सः
REPORT TO:	SAMPLER (Signature)			STATE (of sample origin)	PWS ID#	PROJECT NAME	P	'O#			
John Campbell	1 dc			Mi							
BILL TO Pall Cons Atten! LAURCH	0	Yes	No	POPULATION SERVED	SOURCE WATER						ш
BILL TO. Poll Corp Atten; Laurel 600 S. Wagner Ann Arpor Mi 48103	COMPLIANCE MONITORING				ground				CONTAINERS	CODE	TURNAROUND TIME
LAB Number COLLECTION	SAMPLING SIT	E			TEST NAME	SAMPLE REMARKS		RINATED	OF CON	MATRIX (IRNAR
DATE TIME AM PM							YES	NO	##	È	
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RELINQUISHED BY:(Signature)	DATE TIME	RECEIVED BY:(Signature)	DATE	TIME LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT
Jah Gillell	7-12-11 1400 AM 188	<u>a</u>	A\	LAB COMMENTS 11 PM Bromade 317 (not 316) @ 7-13-201
RELINQUISHED BY: (Signature)	DATE TIME	RECEIVED BY:(Signature)	DATE	
	AM PN	ᅥ	AN	Client Provided Sample Container
RELINQUISHED BY:(Signature)	DATE TIME	RECEIVED FOR LABORATORY BY:	DATE	IMF
			. IA	CONDITIONS UPON RECEIPT (object ane):
		+ X1 000	7121	
	AM PN	SYCER	1754 AN	1 PM Iced Wel/Bide Amblent C Upon Receipt N/A
MATRIX CODES:		0 0	TURN-AROUI	ND TIME (TAT) - SURCHARGES
DW-DRINKING WATER	SW = Standa	ard Written: (15 working days) 0%	IV* = [mmediate Verbal: (3 working days) 100%
RW-REAGENT WATER				

UL-SBN-SHIP-F-002-09 Effective Date: 05/08/2009

IW* =Immediate Written: (3 working days)

SP* = Weekend, Holiday

STAT* = Less than 48 hours

125%

CALL

CALL

Samples received unannounced with less than

48 hours holding time remaining may be subject

to additional charges

50%

75%

RV* = Rush Verbal: (5 working days)

RW* = Rush Written: (5 working days)

* Please call, Expedited service not available for all testing

GW-GROUND WATER EW-EXPOSURE WATER

SW-SURFACE WATER

PW-POOL WATER WW-WASTE WATER

Run Number: 158428 PC File Name: 071511A Order Number: 210512

Instrument: IC BK Instrument: IC BK
Analyst: S. Lovick
Receipt Batch: 264962

Method(s): 317.0 Submitted By: S. Lovick Today's Date: 07/21/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2481574 Extracted: N/A Type: Initial Calibration Blank

Analyzed: 07/07/2011 10:31

Dil Factor: 1.000

CAS Number Parameter

1.0 MRL Amount

MRL

Report Units

15541-45-4 Bromate

0.0000

Amount

< 1.0 ug/L

Sample ID: 2481580 Type: Laboratory Reagent Blank Extracted: N/A Analyzed: 07/15/2011 12:17 Analyzed: 07/15/2011 12:17

CAS Number Parameter

Dil Factor: 1.000 Report Units

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

1.0 0.0000 < 1.0 ug/L

Sample ID: 2481581 Extracted: N/A

Type: Laboratory Fortified Blank

Dil Factor: 1.000

Analyzed: 07/15/2011 12:35

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

5.0

5.6530 113 85-115 Pass

Target Amount % Rec Limits P/F

Sample ID: 2481582 Extracted: N/A

Type: Instrument Performance Check

Dil Factor: 1.000

CAS Number Parameter 

Analyzed: 07/15/2011 12:54

Target Amount -----1.0 1.1390 114

% Rec Limits

15541-45-4 Bromate

75-125 Pass

Sample ID: 2479288 Extracted: N/A

Type: Field Sample Analyzed: 07/15/2011 13:12

Site: Outfall 001 Dil Factor: 1.000

CAS Number Parameter

MRL Amount Report Units

15541-45-4 Bromate

1.0

5.0640 5.1 ug/L

 Sample ID: 2481583
 Type: Matrix Spike of 2479288

 Extracted: N/A
 Analyzed: 07/15/2011 13:31

Site: Outfall 001

CAS Number Parameter

Dil Factor: 1.000

\_\_\_\_\_\_ 15541-45-4 Bromate

Amount Parent Amt %Rec Limits P/F

5.0

Target

10.6770 5.0640 -112 75-125 Pass

Sample ID: 2481584 Extracted: N/A

Type: Matrix Spike Duplicate of 2479288 Analyzed: 07/15/2011 13:49

Site: Outfall 001

Dil Factor: 1.000

CAS Number Parameter

15541-45-4 Bromate

5.0

Target Amount Parent Amt %Rec Limits P/F 10.7250 5.0640 113 75-125 Pass

Sample ID: 2479289 Extracted: N/A

Type: Field Sample

Site: Outfall 001

Analyzed: 07/15/2011 14:08

Dil Factor: 1.000

CAS Number Parameter

1.0

15541-45-4 Bromate

Amount

Sample ID: 2479290 Extracted: N/A

Type: Field Sample Analyzed: 07/15/2011 14:26

Site: Outfall 001

CAS Number Parameter

Dil Factor: 1.000

Report Units

15541-45-4 Bromate

----·------1.0 4.0760 4.1 ug/L

MRL

NOTE: The dilution factor is included in the percent recovery calculation. Page 1 of 2

Version 2.7.0.0

Generated By: R. Polite

Run Number: 158428 Instrument: IC BK Method(s): 317.0 Analyst: S. Lovick PC File Name: 071511A Submitted By: S. Lovick

Receipt Batch: 264962 Order Number: 210512 Today's Date: 07/21/2011

Client: Pall Life Sciences / John Campbell

Type: Field Sample Sample ID: 2479291 Site: Outfall 001 Extracted: N/A Analyzed: 07/15/2011 14:45 Dil Factor: 1.000

MRL Amount Report Units Amount CAS Number Parameter

15541-45-4 Bromate 1.0 3.6110 3.6 ug/L

Sample ID: 2479292 Type: Field Sample Analyzed: 07/15/2011 15:03 Type: Field Sample Site: Outfall 001 Dil Factor: 1.000

MRL Amount CAS Number Parameter Report Units

1.0 2.0120 2.0 ug/L 15541-45-4 Bromate

Sample ID: 2479293 Site: Outfall 001 Type: Field Sample Type: Field Sample
Analyzed: 07/15/2011 15:22 Extracted: N/A Dil Factor: 1.000

MRL CAS Number Parameter Amount Report Units 4.3630 4.4 ug/L 15541-45-4 Bromate 1.0

Type: Field Sample Sample ID: 2479294 Site: Outfall 001

Analyzed: 07/15/2011 15:40 Extracted: N/A Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter \_\_\_\_\_ \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ 1.0 4.8360 4.8 ug/L 15541-45-4 Bromate

Sample ID: 2479295 Type: Field Sample Site: HC/HR Extracted: N/A Analyzed: 07/15/2011 15:59 Dil Factor: 1.000

Amount MRL Amount Report Units CAS Number Parameter \_\_\_\_\_\_ 15541-45-4 Bromate 1.0 0.1380 < 1.0 ug/L

Sample ID: 2479296 Type: Field Sample Analyzed: 07/15/2011 16:17 Site: HC/HR Extracted: N/A Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter \_\_\_\_\_ 1.0 0.1280 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2479297 Type: Field Sample Site: HC/HR

Analyzed: 07/15/2011 16:36 Extracted: N/A Dil Factor: 1.000

MRL Amount Report Units CAS Number Parameter \_\_\_\_\_ 0.8980 15541-45-4 Bromate 1.0 < 1.0 ug/L

Sample ID: 2481585 Type: Continuing Calibration Check

Analyzed: 07/15/2011 16:54 Extracted: N/A Dil Factor: 1.000

Target Amount CAS Number Parameter % Rec Limits P/F -----\_-------10.0 11.1670 112 85-115 Pass 15541-45-4 Bromate

Run Number: 158468 PC File Name: 071711A Order Number: 210512

Instrument: IC BK Receipt Batch: 264962

Generated By: R. Polite

Client: Pall Life Sciences / John Campbell

Method(s): 317.0

Dil Factor: 1.000

Submitted By: S. Lovick

Today's Date: 07/21/2011

Sample ID: 2481902

Type: Initial Calibration Blank

Extracted: N/A Analyzed: 07/18/2011 10:30

MRL Amount CAS Number Parameter Report Units 15541-45-4 Bromate 1.0 0.0000

Sample ID: 2481908 Type: Laboratory Reagent Blank

Analyzed: 07/18/2011 12:21 Dil Factor: 1.000 Extracted: N/A

Report Units CAS Number Parameter MRL Amount 0.0000 < 1.0 ug/L

15541-45-4 Bromate 1.0

Sample ID: 2481909 Type: Laboratory Fortified Blank Extracted: N/A Analyzed: 07/18/2011 12:39 Dil Factor: 1.000

Target Amount CAS Number Parameter % Rec Limits P/F 5.0 4.6550 93 15541-45-4 Bromate 85-115 Pass

Sample ID: 2481910 Type: Instrument Performance Check

Analyzed: 07/18/2011 12:58 Extracted: N/A Dil Factor: 1.000

Limits CAS Number Parameter Target Amount % Rec -----15541-45-4 Bromate 1.0 0.8990 90 75-125 Pass

Sample ID: 2481911 Type: Quality Control Sample Extracted: N/A Analyzed: 07/18/2011 13:16

Dil Factor: 1.000

Amount % Rec Limits CAS Number Parameter Target 5.0 15541-45-4 Bromate 4.5090 90 85-115 Pass

Sample ID: 2479298 Type: Field Sample Site: HC/HR Analyzed: 07/18/2011 13:35 Extracted: N/A Dil Factor: 1.000

CAS Number Parameter MRL Amount Report Units 0.0410 < 1.0 ug/L ------\_\_\_\_ 15541-45-4 Bromate 1.0

Type: Field Sample Site: HC/HR Sample ID: 2479299 Analyzed: 07/18/2011 13:53 Extracted: N/A Dil Factor: 1.000

MRL Amount CAS Number Parameter Report Units \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_ \_\_\_\_\_

1.0 0.0330 < 1.0 ug/L 15541-45-4 Bromate

Sample ID: 2479300 Type: Field Sample Site: HC/HR

Analyzed: 07/18/2011 14:12 Extracted: N/A Dil Factor: 1.000

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

Analyzed: 07/18/2011 14:30 Site: HC/HR Sample ID: 2479301 Type: Field Sample

Extracted: N/A Dil Factor: 1.000 Amount Report Units MRL CAS Number Parameter \_\_\_\_\_\_ \_\_\_\_ 1.0 0.0320 < 1.0 ug/L

NOTE: The dilution factor is included in the percent recovery calculation. Page 1 of 2

15541-45-4 Bromate

Version 2.7.0.0

Run Number: 158468 PC File Name: 071711A Order Number: 210512 Instrument: IC BK Analyst: S. Lovick Receipt Batch: 264962 Method(s): 317.0 Submitted By: S. Lovick Today's Date: 07/21/2011

Client: Pall Life Sciences / John Campbell

Generated By: R. Polite

Sample ID: 2481912 Extracted: N/A

Type: Continuing Calibration Check Analyzed: 07/18/2011 17:17

Dil Factor: 1.000

| CAS Number | Parameter | Target | Amount | % Rec | Limits | P/F  |
|------------|-----------|--------|--------|-------|--------|------|
|            |           |        |        |       |        |      |
| 15541-45-4 | Bromate   | 10.0   | 9.8410 | 98    | 85-115 | Pass |