



Pall Corporation

Sample Analysis Report

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February, 2014

Analyst Initials: SEOP
Date: 03-05-14

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
Extraction Wells								
C3								
DOLPH-02-10-14-10:11-1	78	1.0						
TW-20-02-10-14-10:34-1	770	10.0						D
D2								
LB-4-02-10-14-08:45-1	450	10.0						D
TW-21-02-10-14-09:51-1	110	5.0						D
TW-5-02-10-14-09:59-1	530	25.0						D
TW-9-02-10-14-10:24-1	720	10.0						D
E								
TW-11-02-10-14-09:57-1	200	5.0						D
TW-18-02-10-14-10:16-1	250	10.0						D
TW-19-02-10-14-08:46-1	600	10.0						D
Marshy								
PW-1-02-10-14-10:17-1	670	25.0						D
SW								
TW-22-02-10-14-11:20-1	400	25.0						D
TW-8-02-10-14-11:22-1	660	10.0						D
Monitoring Wells								

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
C3								
MW-105s-02-24-14-14:40-1	600	25.0						D
MW-18d-02-14-14-12:03-1	170	10.0						D
MW-2d-02-14-14-09:41-1	36	1.0						
MW-2s-02-14-14-09:26-1	3	1.0						
MW-32-02-14-14-10:10-1	10	1.0						
MW-34s-02-12-14-14:10-1	nd	1.0						
MW-35-02-13-14-10:41-1	5	1.0						
MW-37-02-12-14-14:35-1	280	10.0						D
D0								
A2 Cleaning Supply-02-11-14-14:45-1	51	1.0						
D2								
2819 Dexter Rd-02-24-14-11:35-1	440	25.0						D
MW-11d-02-14-14-11:40-1	98	5.0						D
MW-120s-02-25-14-09:40-1	nd	1.0						
MW-121s-02-26-14-10:50-1	nd	1.0						
MW-123s-02-25-14-11:05-1	nd	1.0						
MW-124s-02-26-14-13:25-1	nd	1.0						
MW-130i-02-25-14-13:25-1	nd	1.0						
MW-130s-02-25-14-12:50-1	nd	1.0						
MW-34d-02-12-14-14:00-1	nd	1.0						
MW-38d-02-12-14-13:35-1	41	5.0						D
MW-92-02-24-14-10:40-1	26	1.0						
E								
MW-103s-02-13-14-12:35-1	65	1.0					sample split with state	

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
MW-105d-02-24-14-14:25-1	310	10.0						D
MW-106s-02-24-14-13:20-1	270	5.0						D
MW-112i-02-13-14-12:10-1	7	1.0					sample split with state	
MW-112s-02-13-14-11:30-1	nd	1.0					sample split with state	
MW-115-02-12-14-12:55-1	590	10.0						D
MW-116-02-12-14-12:15-1	480	10.0						D
MW-120d-02-25-14-10:30-1	nd	1.0						
MW-121d-02-26-14-11:30-1	nd	1.0						
MW-123d-02-25-14-12:05-1	nd	1.0						
MW-124d-02-26-14-14:05-1	nd	1.0						
MW-130d-02-25-14-14:20-1	nd	1.0						
MW-64-02-14-14-11:05-1	47	1.0						
MW-66-02-13-14-10:30-1	2	1.0						
MW-76i-02-13-14-13:25-1	80	5.0					sample split with state	D
MW-76s-02-13-14-13:45-1	270	10.0					sample split with state	D
MW-81-02-24-14-10:01-1	380	10.0						D
MW-84s-02-12-14-11:35-1	460	25.0						D
Marshy								
NMW-1s-02-14-14-13:40-1	2300	100.0						D
NMW-2s-02-14-14-13:55-1	2400	100.0						D
Surface Water								
Not Applicable								
HC/HR-02-03-14-1			nd	2.0				
HC/HR-02-04-14-1			nd	2.0				
HC/HR-02-05-14-1			nd	2.0				
HC/HR-02-06-14-1			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	Qualifier(s)
HC/HR-02-07-14-1			nd	2.0				
HC/HR-02-10-14-08:00-1			nd	2.0				
HC/HR-02-11-14-08:05-1			nd	2.0				
HC/HR-02-12-14-08:35-1			nd	2.0				
HC/HR-02-13-14-08:15-1			nd	2.0				
HC/HR-02-14-14-08:10-1			nd	2.0				
HC/HR-02-18-14-09:00-1			nd	2.0				
HC/HR-02-19-14-08:50-1			nd	2.0				
HC/HR-02-20-14-08:35-1			nd	2.0				
HC/HR-02-21-14-09:15-1			nd	2.0				
HC/HR-02-24-14-08:10-1			nd	2.0				
HC/HR-02-25-14-08:35-1			nd	2.0				
HC/HR-02-26-14-08:23-1			nd	2.0				
HC/HR-02-27-14-08:15-1			nd	2.0				
HC/HR-02-28-14-08:10-1			nd	2.0				
Treatment System								
OUTFALL-02-02-14-1	4	1.0					Analyzed @ Brighton Analytical	O
OUTFALL-02-02-14-02			5	5.0				
OUTFALL-02-03-14-1	4	1.0					Analyzed @ Brighton Analytical	O
OUTFALL-02-03-14-02			6	5.0				
OUTFALL-02-04-14-1	4	1.0					Analyzed @ Brighton Analytical	O
OUTFALL-02-04-14-02			7	5.0				
OUTFALL-02-05-14-1	4	1.0					Analyzed @ Brighton Analytical	O
OUTFALL-02-05-14-02			6	5.0				

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
OUTFALL-02-06-14-1	4	1.0					Analyzed @ Brighton Analytical	O
OUTFALL-02-06-14-02			8	5.0				
OUTFALL-02-09-14-1	6	1.0						
OUTFALL-02-09-14-2			7	5.0				
OUTFALL-02-10-14-1	6	1.0						
OUTFALL-02-10-14-2			7	5.0				
OUTFALL-02-11-14-1	6	1.0						
OUTFALL-02-11-14-2			7	5.0				
OUTFALL-02-12-14-1	5	1.0						
OUTFALL-02-12-14-2			8	5.0				
OUTFALL-02-13-14-1	5	1.0						
OUTFALL-02-13-14-2			6	5.0				
OUTFALL-02-16-14-1	6	1.0						
OUTFALL-02-16-14-2			7	5.0				
OUTFALL-02-17-14-1	6	1.0						
OUTFALL-02-17-14-2			8	5.0				
OUTFALL-02-18-14-1	6	1.0						
OUTFALL-02-18-14-2			8	5.0				
OUTFALL-02-19-14-1	5	1.0						
OUTFALL-02-19-14-2			8	5.0				
OUTFALL-02-20-14-1	5	1.0						
OUTFALL-02-20-14-2			5	5.0				
OUTFALL-02-23-14-1	5	1.0						
OUTFALL-02-23-14-2			7	5.0				
OUTFALL-02-24-14-1	6	1.0						
OUTFALL-02-24-14-2			7	5.0				

Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments	Qualifier(s)
OUTFALL-02-25-14-1	5	1.0						
OUTFALL-02-25-14-2			7	5.0				
OUTFALL-02-26-14-1	6	1.0						
OUTFALL-02-26-14-2			7	5.0				
OUTFALL-02-27-14-1	5	1.0						
OUTFALL-02-27-14-2			8	5.0				
Red Pond-02-04-14-08:20-1	540	5.0					Analyzed @ Brighton Analytical	D, O
Red Pond-02-10-14-07:35-1	460	10.0						D
Red Pond-02-18-14-14:00-1	500	10.0						D
Red Pond-02-24-14-07:40-1	470	10.0						D

Qualifier Code:

O
D

Qualifier Description

Samples analyzed in outside laboratory
Analyte value quantified from a dilution, reporting limit is raised to reflect dilution

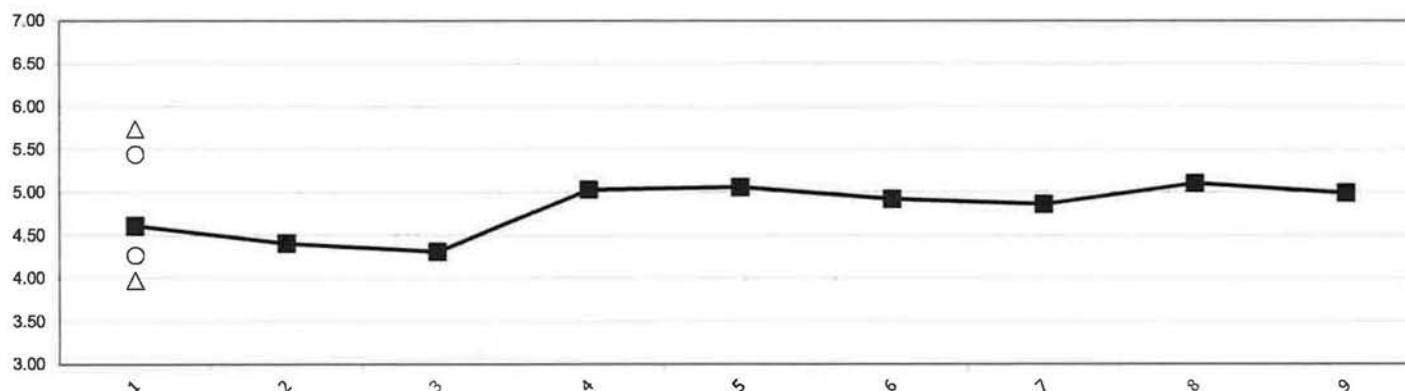
Control Chart for 02/2014 CVS

Analyst: Susan E.O. Peters

GC/MS Data: #2
Report Date: 3/5/2014
Chemist: Susan E.O. Peters
Dept: Environmental
Analyte: 1,4-dioxane
Start date: 2/1/2014
End date: 2/28/2014
Desired level: 100%

Date	CVS Values				Mean (Daily Average)	Sample Mean (All Individual Data)	Daily Standard Deviation	Daily Average Sample Standard Deviation	Lower Control Limit	Upper Control Limit	Lower Warning Limit	Upper Warning Limit
	CVS 1	CVS 2	CVS 3	CVS 4								
2/12/2014	4.61				4.61	4.86	na	0.29	3.97	5.74	4.27	5.45
2/13/2014	4.41				4.41	4.86	na					
2/14/2014	4.31				4.31	4.86	na					
2/20/2014	5.06	5.00			5.03	4.86	0.04					
2/21/2014	5.06				5.06	4.86	na					
2/24/2014	4.92				4.92	4.86	na					
2/25/2014	4.86				4.86	4.86	na					
2/26/2014	4.90	5.31			5.10	4.86	0.29					
2/28/2014	4.99				4.99	4.86	na					

02/2014 CVS with Control Limits

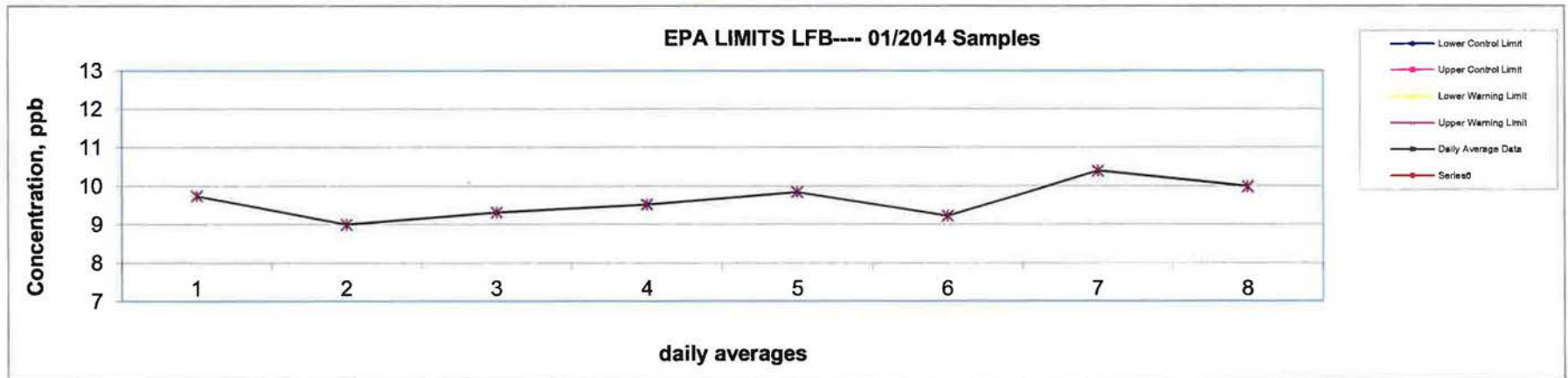


Control Chart for 02/2014 LFB

Analyst: Susan E. Peters

GC/MS Data: #2
Report Date: 3/5/2014
Chemist: Susan E.O. Peters
Dept: Environmental
Analyte: 1,4-dioxane
Start date: 2/1/2014
End date: 2/28/2014
Desired level: 100%

Date	LFB Values						Mean (Daily Average)	Sample Mean (All Individual Data)	Daily Standard Deviation	Daily Average Sample Standard Deviation	Lower Control Limit	Upper Control Limit	Lower Warning Limit	Upper Warning Limit
	LFB 1	LFB 2	LFB 3	LFB 4	LFB 5	LFB 6								
2/12/2014	9.44	9.89	9.90				9.74	9.69	0.26	0.44	8.35	11.02	8.80	10.57
2/13/2014	9.07	8.60	9.33				9.00	9.69	0.37					
2/14/2014	8.73	9.51	9.70				9.31	9.69	0.51					
2/20/2014	9.55	9.40	9.48	9.50	9.48	9.70	9.52	9.69	0.10					
2/21/2014	9.72	10.06	9.75				9.84	9.69	0.19					
2/24/2014	9.61	9.01	9.05				9.22	9.69	0.34					
2/25/2014	9.97	10.32	10.89				10.39	9.69	0.47					
2/26/2014	10.47	9.7	9.4	9.3	10.46	10.54	9.99	9.69	0.56					
2/28/2014	10.11	9.67	10.28				10.02	9.69	0.31					



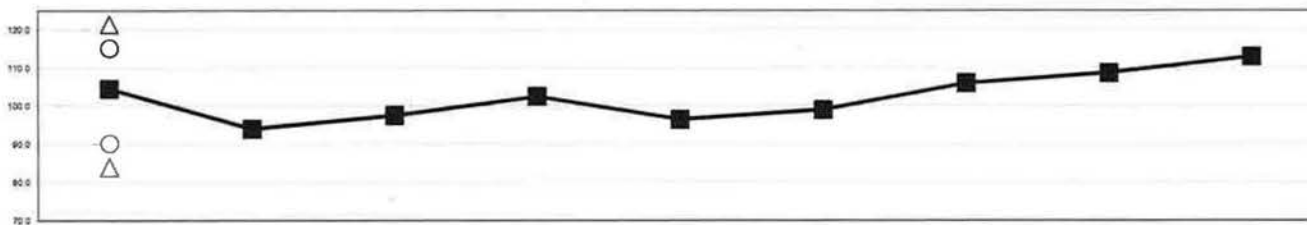
Control Chart for 02/2014 MS/MSD %Recoveries

Analyst: Susan E.O. Peters

GC/MS Data: #1 & #2
 Report Date: 3/5/2014
 Chemist: Susan E.O. Peters
 Dept: Environmental
 Analyte: 1,4-dioxane
 Start date: 2/1/2014
 End date: 2/28/2014
 Desired level: 100%

Date	Matrix Spike % Recovery Values							Mean (Daily Average)	Sample Mean (All Individual Data)	Daily Standard Deviation	Daily Average Sample Standard Deviation	Lower Control Limit	Upper Control Limit	Lower Warning Limit	Upper Warning Limit	Mean RPD (Individual Data)
	MS 1	MSD 1	MS 2	MSD 2	Replicate Ave.	Std. Dev.	# data pts									
2/12/2014	106	103			5.67	0.07	2	104.50	102.7	8.0	6.2	84.0	121.4	90.2	115.2	102.7
2/13/2014	82	106						94.00								
2/14/2014	88	107			4.93	0.44	2	97.50								
2/20/2014	98	100	108	104	5.68	0.11	2	102.50								
2/21/2014	95	98			5.26	0.30	2	96.45								
2/24/2014	95	103						99.00								
2/25/2014	108	104						106.00								
2/26/2014	109	111	106					108.67								
2/28/2014	116	110			5.02	0.15	2	113.00								

02/2014 MS/MSD with Control Limits

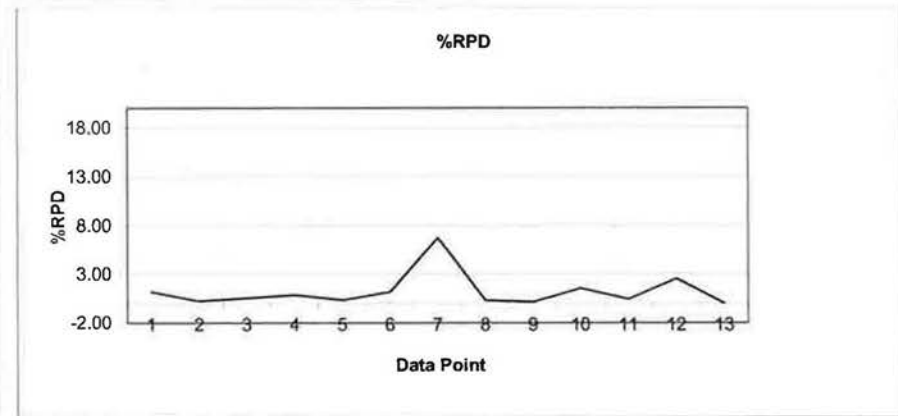
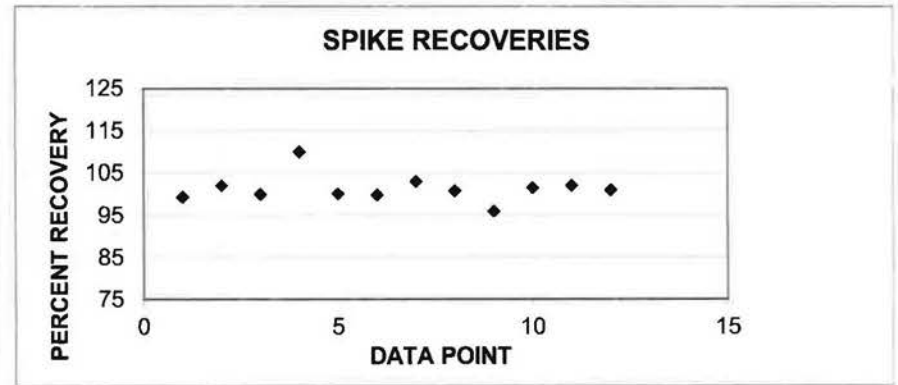


Control Chart for 02/2014 MS/MSD & Repeat %Recoveries

Analyst: Susan E.O. Peters

IC: Metrohm
Report Date: 3/5/2014
Chemist: Susan E.O. Peters
Dept: Environmental
Analyte: Bromate
Start date: 2/1/2014
End date: 2/28/2014
Desired level: 100%

Analysis Date	MS Recoveries and Replicate Recoveries							
	Spike 1 ----- % Rec	Spike 2 ----- % Rec	Ave. Spike Recovery (75-125%)	%RPD Spike Recovery (0-20%)	Std. Dev. Spikes	Ave. Sample Replicates	Std. Dev. Sample Replicates	n =
2/11/2014	100	99	99	1.19	0.99	1.53	0.18	2
2/12/2014	102	102	102	0.23	0.35	1.46	0.07	2
2/13/2014	100	100	100	0.55	0.50	1.59	0.001	2
2/14/2014	110	111	110	0.87	0.71	1.30	0.05	2
2/19/2014	100	100	100	0.33	0.20	1.67	0.15	2
2/20/2014	101	99	100	1.20	0.75	1.74	0.11	2
2/21/2014	99	107	103	6.75	5.52	1.07	0.02	2
2/24/2014	101	101	101	0.31	0.20	1.35	0.02	2
2/25/2014	96	96	96	0.16	0.14	1.31	0.10	2
2/26/2014	102	101	102	1.57	0.75	1.49	0.03	2
2/27/2014	102	102	102	0.46	0.26	1.47	0.07	2
2/28/2014	103	100	101	2.54	2.26	1.71	0.13	2

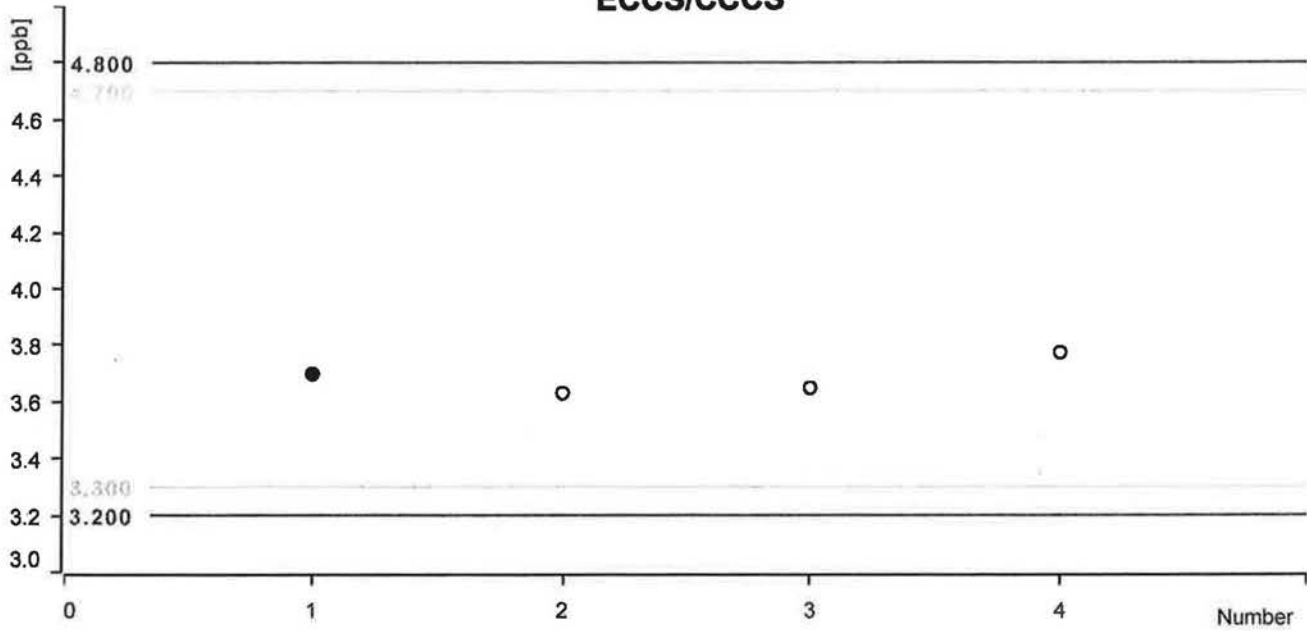


Control chart

Comment

Bromate 4 PPB concentration

ECCS/CCCS



Statistics

Mean value:	3.687 ppb	Absolute standard deviation:	0.064 ppb
Minimum:	3.630 ppb	Relative standard deviation:	1.736 %
Maximum:	3.773 ppb	Number of determinations:	4

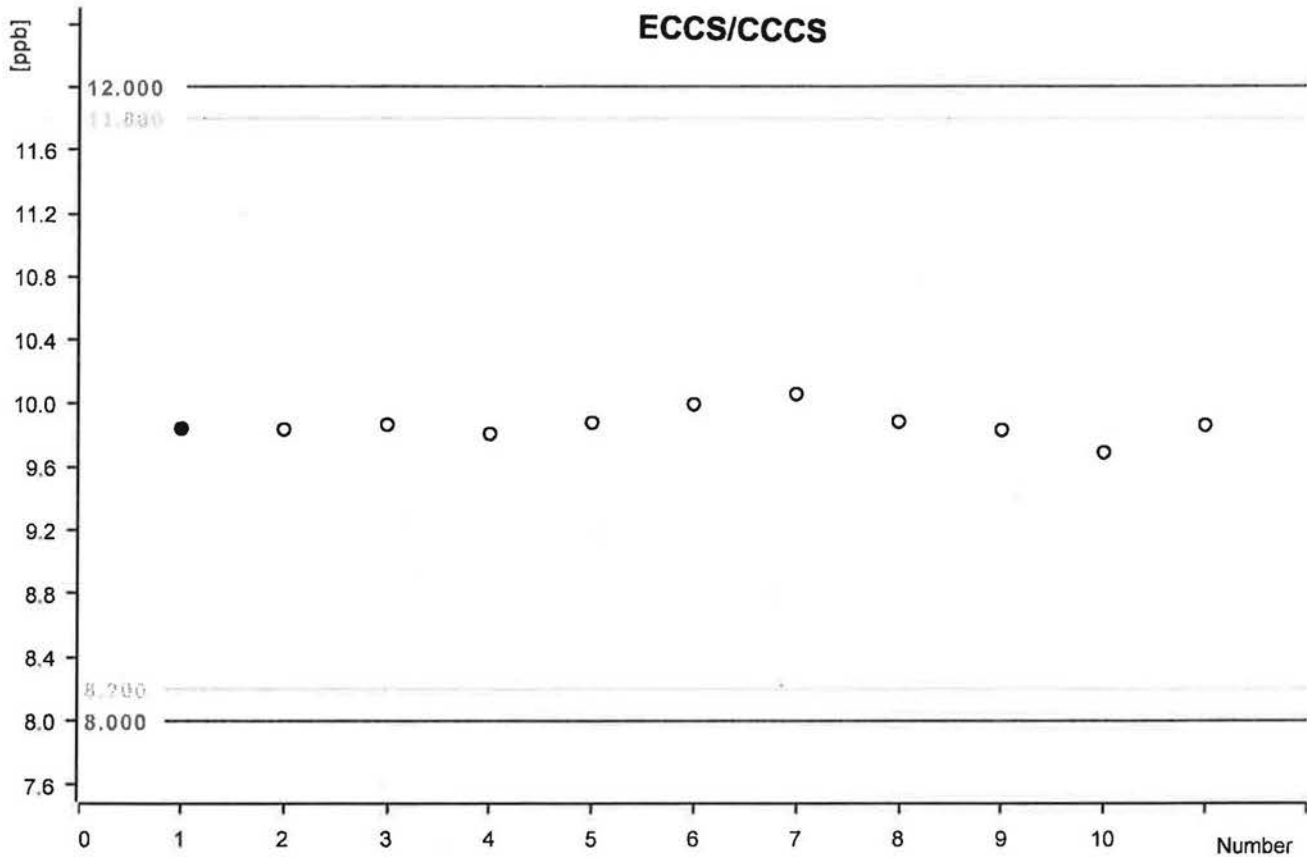
Date	Number	Ident	Sample type	Method	Bromate 4 PPB concentration	Statistics
2014-02-12 22:55:26 UTC-5	1	ECCS/CCCS	Sample	02122014 300.1	3.696 ppb	on
2014-02-13 14:50:23 UTC-5	2	ECCS/CCCS	Sample	02122014 300.1	3.630 ppb	on
2014-02-14 14:40:37 UTC-5	3	ECCS/CCCS	Sample	02122014 300.1	3.648 ppb	on
2014-02-18 19:11:00 UTC-5	4	ECCS/CCCS	Sample	02122014 300.1	3.773 ppb	on

Control chart

3EUP

Comment

10PPB BROMATE ECCS/CCCS



Statistics

Mean value:	9.867 ppb	Absolute standard deviation:	0.095 ppb
Minimum:	9.689 ppb	Relative standard deviation:	0.965 %
Maximum:	10.056 ppb	Number of determinations:	11

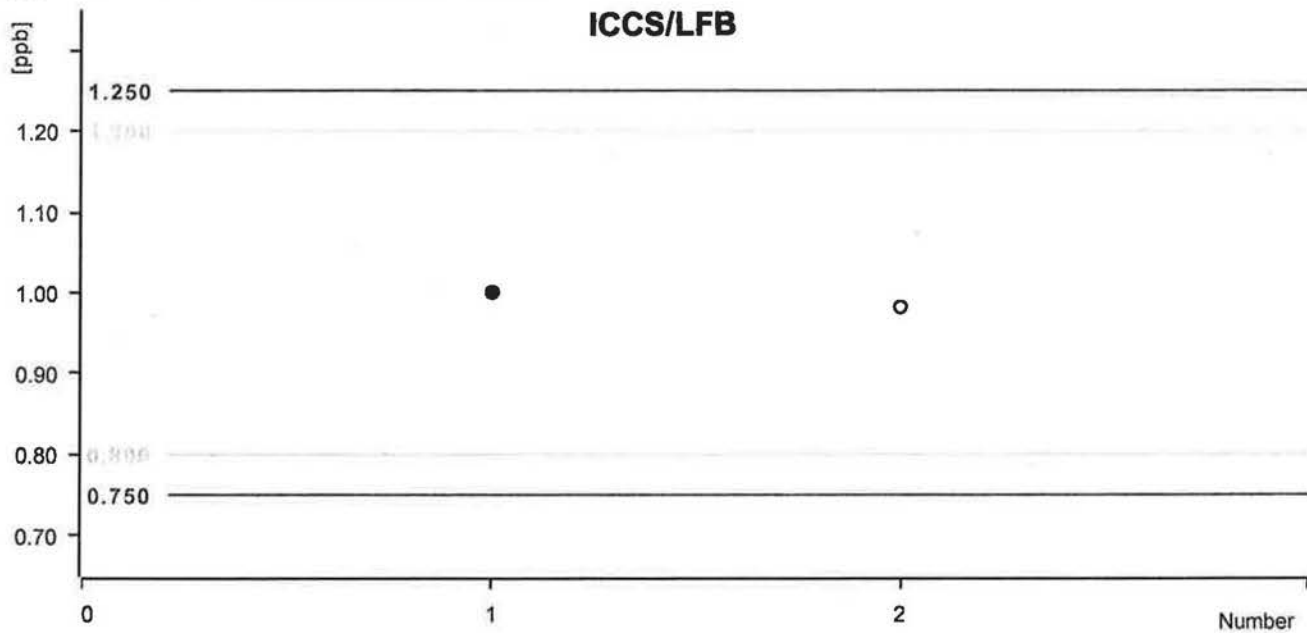
Date	Number	Ident	Sample type	Method	10PPB BROMATE ECCS/CCCS	Statistics
2014-02-20 01:47:40 UTC-5	1	ECCS/CCCS	Sample	02192014 300.1	9.841 ppb	on
2014-02-20 16:48:14 UTC-5	2	ECCS/CCCS	Sample	02192014 300.1	9.835 ppb	on
2014-02-20 17:46:42 UTC-5	3	ECCS/CCCS	Sample	02192014 300.1	9.884 ppb	on
2014-02-21 14:09:34 UTC-5	4	ECCS/CCCS	Sample	02192014 300.1	9.806 ppb	on
2014-02-24 15:47:35 UTC-5	5	ECCS/CCCS	Sample	02192014 300.1	9.877 ppb	on
2014-02-25 13:57:39 UTC-5	6	ECCS/CCCS	Sample	02192014 300.1	9.993 ppb	on
2014-02-26 14:28:31 UTC-5	7	ECCS/CCCS	Sample	02192014 300.1	10.056 ppb	on
2014-02-27 20:22:28 UTC-5	8	ECCS/CCCS	Sample	02192014 300.1	9.884 ppb	on
2014-02-27 21:00:12 UTC-5	9	ECCS/CCCS	Sample	02192014 300.1	9.831 ppb	on
2014-02-28 14:14:58 UTC-5	10	ECCS/CCCS	Sample	02192014 300.1	9.888 ppb	on
2014-02-28 21:47:45 UTC-5	11	ECCS/CCCS	Sample	02192014 300.1	9.860 ppb	on

Control chart

SEOP

Comment

ppb Bromate Concentration ICCS



Statistics

Mean value:	0.991 ppb	Absolute standard deviation:	0.013 ppb
Minimum:	0.982 ppb	Relative standard deviation:	1.313 %
Maximum:	1.000 ppb	Number of determinations:	2

Date	Number	Ident	Sample type	Method	ppb Bromate Concentration ICCS	Statistics
2014-02-27 08:10:10 UTC-5	1	ICCS/LFB	Sample	02192014 300.1	1.000 ppb	on
2014-02-28 08:05:29 UTC-5	2	ICCS/LFB	Sample	02192014 300.1	0.982 ppb	on

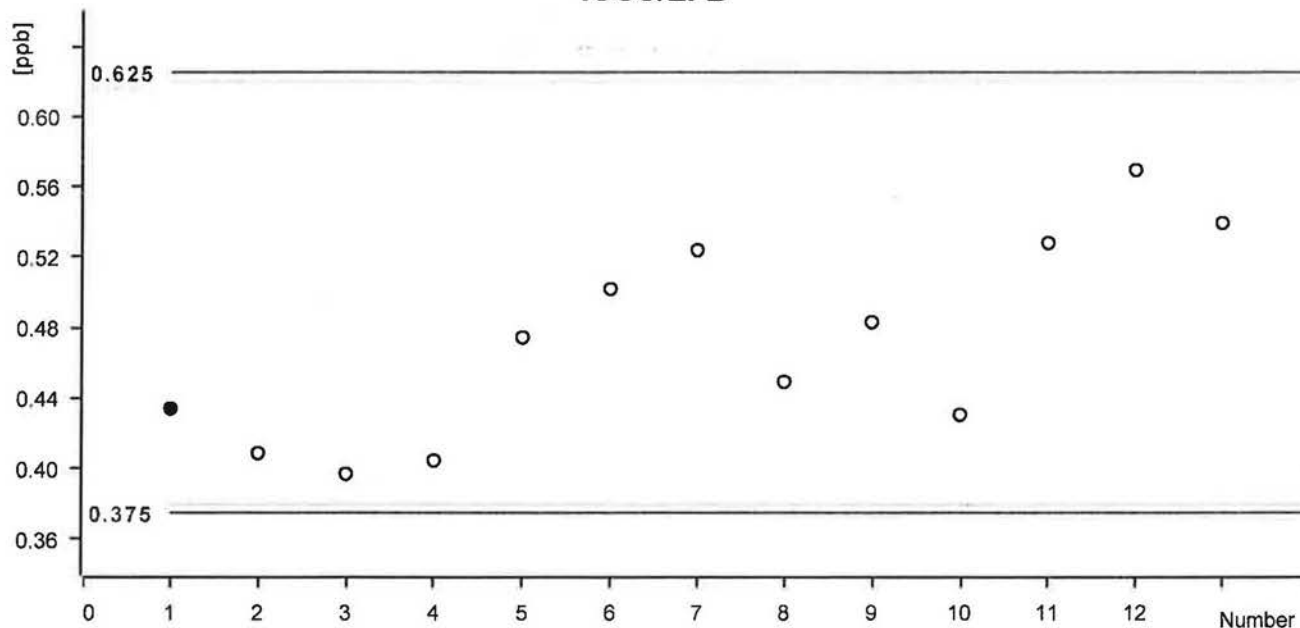
Control chart

3EUP

Comment

0.5PPB STD

ICCS/LFB



Statistics

Mean value:	0.473 ppb	Absolute standard deviation:	0.057 ppb
Minimum:	0.397 ppb	Relative standard deviation:	12.025 %
Maximum:	0.569 ppb	Number of determinations:	13

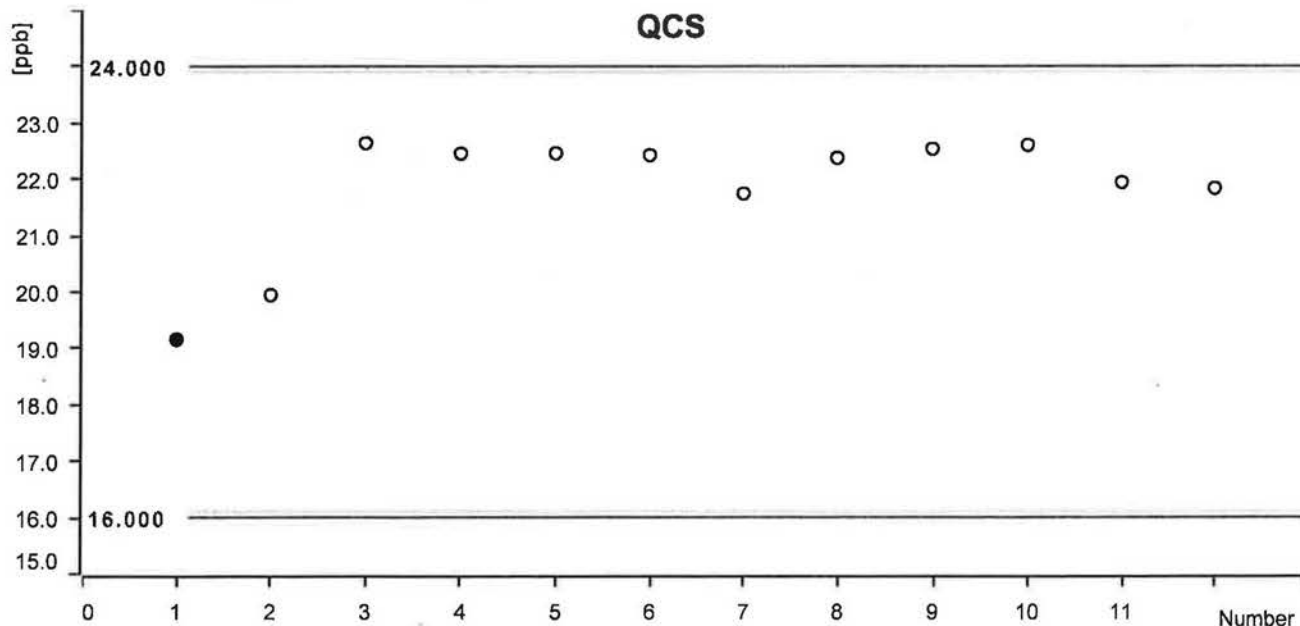
Date	Number	Ident	Sample type	Method	0.5PPB STD	Statistics
2014-02-12 17:15:56 UTC-5	1	ICCS/LFB	Sample	02122014 300.1	0.434 ppb	on
2014-02-13 08:48:14 UTC-5	2	ICCS/LFB	Sample	02122014 300.1	0.409 ppb	on
2014-02-14 08:12:59 UTC-5	3	ICCS/LFB	Sample	02122014 300.1	0.397 ppb	on
2014-02-14 08:56:36 UTC-5	4	ICCS/LFB	Sample	02122014 300.1	0.406 ppb	on
2014-02-18 09:38:53 UTC-5	5	ICCS/LFB	Sample	02122014 300.1	0.474 ppb	on
2014-02-19 16:59:34 UTC-5	6	ICCS/LFB	Sample	02192014 300.1	0.502 ppb	on
2014-02-20 10:08:15 UTC-5	7	ICCS/LFB	Sample	02192014 300.1	0.524 ppb	on
2014-02-20 10:46:06 UTC-5	8	ICCS/LFB	Sample	02192014 300.1	0.449 ppb	on
2014-02-21 08:29:58 UTC-5	9	ICCS/LFB	Sample	02192014 300.1	0.483 ppb	on
2014-02-24 09:10:46 UTC-5	10	ICCS/LFB	Sample	02192014 300.1	0.430 ppb	on
2014-02-25 08:15:57 UTC-5	11	ICCS/LFB	Sample	02192014 300.1	0.528 ppb	on
2014-02-25 08:55:46 UTC-5	12	ICCS/LFB	Sample	02192014 300.1	0.569 ppb	on
2014-02-26 08:28:50 UTC-5	13	ICCS/LFB	Sample	02192014 300.1	0.539 ppb	on

Control chart

SEUP

Comment

20PPB BROMATE



Statistics

Mean value:	21.843 ppb	Absolute standard deviation:	1.125 ppb
Minimum:	19.157 ppb	Relative standard deviation:	5.149 %
Maximum:	22.640 ppb	Number of determinations:	12

Date	Number	Ident	Sample type	Method	20PPB BROMATE	Statistics
2014-02-13 16:05:51 UTC-5	1	QCS	Sample	02122014 300.1	19.157 ppb	on
2014-02-18 20:26:27 UTC-5	2	QCS	Sample	02122014 300.1	19.943 ppb	on
2014-02-19 13:42:24 UTC-5	3	QCS	Sample	02192014 300.1	22.640 ppb	on
2014-02-20 03:03:07 UTC-5	4	QCS	Sample	02192014 300.1	22.452 ppb	on
2014-02-20 19:02:10 UTC-5	5	QCS	Sample	02192014 300.1	22.459 ppb	on
2014-02-21 15:25:06 UTC-5	6	QCS	Sample	02192014 300.1	22.424 ppb	on
2014-02-24 17:03:06 UTC-5	7	QCS	Sample	02192014 300.1	21.742 ppb	on
2014-02-25 15:13:10 UTC-5	8	QCS	Sample	02192014 300.1	22.375 ppb	on
2014-02-26 15:44:02 UTC-5	9	QCS	Sample	02192014 300.1	22.538 ppb	on
2014-02-27 22:15:38 UTC-5	10	QCS	Sample	02192014 300.1	22.605 ppb	on
2014-02-28 15:30:26 UTC-5	11	QCS	Sample	02192014 300.1	21.943 ppb	on
2014-02-28 23:03:12 UTC-5	12	QCS	Sample	02192014 300.1	21.837 ppb	on



Brighton Analytical, L.L.C.
2105 Pless Drive
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Phone: (810) 229-7575 FAX: (810) 229-8650
 e-mail: bai-brighton@sbcglobal.net

Sample Date: 2/2/2014
 Submit Date: 2/3/2014
 Report Date: 2/3/2014

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

BA Report Number: **27942**
 BA Sample ID: **BZ05811**

Project Name: **1,4-Dioxane**
 Project Number:
 Sample ID: **Outfall 001-2-2-14**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM)						
1,4-Dioxane (SIM)	4	ug/L	1	EPA 1624(SIM)	CW	2/3/2014

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:

[Signature]
 2/3/14



Brighton Analytical, L.L.C.
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 Phone: (810) 229-7575 FAX: (810) 229-8650
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Sample Date: 2/3/2014
 Submit Date: 2/5/2014
 Report Date: 2/5/2014

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

BA Report Number: 27972
 BA Sample ID: BZ05879

Project Name: 1,4 d
 Project Number:
 Sample ID: Outfall 001-2-3-14

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM)						
1,4-Dioxane (SIM)	4	ug/L	1	EPA 1624(SIM)	CW	2/5/2014

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:

[Signature]
 2/5/14



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 e-mail: bai-brighton@sbcglobal.net

Sample Date: 2/4/2014
 Submit Date: 2/5/2014
 Report Date: 2/5/2014

To: Pall Corp.
 600 S. Wagner
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 Ann Arbor, MI 48103

BA Report Number: **27972**
 BA Sample ID: **BZ05880**

Project Name: **1,4 d**
 Project Number:
 Sample ID: **Outfall 001-2-4-14**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM)						
1,4-Dioxane (SIM)	4	ug/L	1	EPA 1624(SIM)	CW	2/5/2014

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: 2/5/14



Brighton Analytical, L.L.C.
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Phone: (810) 229-7575 FAX: (810) 229-8650
 e-mail: bai-brighton@sbcglobal.net

Sample Date: 2/5/2014
 Submit Date: 2/7/2014
 Report Date: 2/7/2014

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

BA Report Number: **28004**
 BA Sample ID: **BZ05950**

Project Name: **1,4 Dioxane**
 Project Number:
 Sample ID: **Outfall 001-2-5-14**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM)						
1,4-Dioxane (SIM)	4	ug/L	I	EPA 1624(SIM)	CW	2/7/2014

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

Released by: *[Signature]*
 Date: 2.7.14



Brighton Analytical, L.L.C.
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Phone: (810) 229-7575 FAX: (810) 229-8650
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Sample Date: 2/6/2014
Submit Date: 2/7/2014
Report Date: 2/7/2014


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

BA Report Number: 28004
BA Sample ID: BZ05951

Project Name: 1,4 Dioxane
Project Number:
Sample ID: Outfall 001-2-6-14

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM) 1,4-Dioxane (SIM)	4	ug/L	1	EPA 1624(SIM)	CW	2/7/2014

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: 2-7-14



Brighton Analytical, L.L.C.
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Phone: (810) 229-7575 FAX: (810) 229-8650
 e-mail: bai-brighton@sbcglobal.net

Sample Date: 2/4/2014
 Submit Date: 2/7/2014
 Report Date: 2/14/2014


To: Pall Corp.
 600 S. Wagner
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 Ann Arbor, MI 48103

BA Report Number: **28005**
 BA Sample ID: **BZ05952**

Project Name: **1,4, Dioxane**
 Project Number:
 Sample ID: **RP-2-4-14-0720**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dioxane(SIM)						
1,4-Dioxane (SIM)	540	ug/L	5	EPA 1624(SIM)	CW	2/13/2014

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: 2-14-14

Elevated volatile dl due to sample matrix.

GC/MS
VOLATILE METHOD 8260 SIM

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: February 3, 2014

Spike Std. ID: 2229.10

Inst./Detac: Vol 5 GC/MS

Laboratory ID: BZ05811

Matrix: Water

Analyst: CW

	Matrix Spike - Precision				Matrix spike - Accuracy					
	Spike 1	Spike 2	Relative Percent Difference	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background	Method Blank	LCS
1,4 Dioxane	9.3	10.1	8.2	10	93	101	70-130	<1	<1	82%

ug/L is equivalent to ppb

Comments: _____

**GC/MS
VOLATILE METHOD 1624 SIM**

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: February 5, 2014

Spike Std. ID: 2229.10

Inst./Detec: _____

Vol 5 GC/MS

Laboratory ID: BZ05880

Matrix: Water

Analyst: _____

CW

	Matrix Spike - Precision				Matrix spike - Accuracy					
	Spike 1	Spike 2	Relative Percent Difference	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background	Method Blank	LCS
1,4 Dioxane	6.0	6.9	1.0	5	120	118	70-130	<1	<1	104%

ug/L is equivalent to ppb

Comments: _____

**GC/MS
VOLATILE METHOD 1624 SIM**

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: February 7, 2014
Laboratory ID: BZ06951

Spike Std. ID: 2229.10
Matrix: Water

Inst./Detect: Vol 5 GC/MS
Analyst: CW

	Matrix Spike - Precision				Matrix spike - Accuracy					
	Spike 1	Spike 2	Relative Percent Difference	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background	Method Blank	LCS
1,4 Dioxane	38.2	39.7	3.9	50	78	79	70-130	<1	<1	80%

ug/L is equivalent to ppb

Comments: _____

GC/MS
VOLATILE METHOD 1624 SIM

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: February 13, 2014

Spike Std. ID: 2229 sec

Inst./Detec:

Vol 5 GC/MS

Laboratory ID: LCS

Matrix: Water

Analyst:

CW

	Matrix Spike - Precision				Matrix spike - Accuracy					LCS
	Spike 1	Spike 2	Relative Percent Difference	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background	Method Blank	
1,4 Dioxane	113.4	97.2	15.4	100	113	87	70-130	<1	<1	108%

ug/L is equivalent to ppb

Comments: _____