



Pall Corporation

# Sample Analysis Report

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July, 2012

Analyst Initials: SEOP  
Date: 08-13-12

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
<b>Residential Wells</b>							
<b>D0</b>							
4601 Park 4 inch-07-20-12-08:45-1	2	1.0					
4601 Park 6 inch-07-20-12-09:30-1	3	1.0					
<b>Extraction Wells</b>							
<b>C3</b>							
DOLPH-07-02-12-08:12-1	77	1.0					
TW-10-07-02-12-11:03-1	611	1.0					
TW-20-07-02-12-11:00-1	978	1.0					
<b>D2</b>							
LB-1-07-02-12-07:55-1	603	1.0					
LB-3-07-02-12-07:57-1	507	1.0					
TW-21-07-02-12-10:45-1	156	1.0					
TW-5-07-02-12-10:50-1	752	1.0					
TW-9-07-02-12-11:08-1	829	1.0					
<b>E</b>							
TW-11-07-02-12-10:52-1	205	1.0					
TW-18-07-02-12-08:16-1	313	1.0					
TW-19-07-02-12-07:59-1	780	1.0					
<b>Marshy</b>							

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
PW-1-07-02-12-08:18-1	1140	1.0					
<b>SW</b>							
TW-22-07-02-12-11:25-1	405	1.0					
TW-8-07-02-12-11:24-1	455	1.0					
<b>Monitoring Wells</b>							
<b>C3</b>							
MW-15d-07-30-12-12:05-1	nd	1.0					
MW-15s-07-30-12-12:20-1	nd	1.0					
MW-34s-07-30-12-13:05-1	nd	1.0					
MW-35-07-31-12-14:20-1	8	1.0					
MW-36-07-30-12-14:00-1	nd	1.0					
<b>D0</b>							
A2 Cleaning Supply-07-19-12-15:05-1	108	1.0					
MW-40d-07-25-12-10:30-1	nd	1.0					
MW-40s-07-25-12-10:00-1	nd	1.0					
MW-42d-07-25-12-09:15-1	nd	1.0					
MW-42s-07-25-12-09:25-1	nd	1.0					
MW-51-07-18-12-14:35-1	nd	1.0					
MW-53d-07-26-12-13:45-1	2	1.0					
MW-53i-07-26-12-14:25-1	57	1.0					
MW-53s-07-26-12-13:10-1	nd	1.0					
MW-59s-07-18-12-13:15-1	nd	1.0					
MW-61d-07-20-12-11:30-1	nd	1.0					
MW-61s-07-20-12-11:45-1	25	1.0					
MW-93-07-19-12-13:45-1	4	1.0					
<b>D2</b>							

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
MW-120s-07-25-12-13:40-1	nd	1.0					
MW-121s-07-12-12-11:05-1	nd	1.0					
MW-122s-07-25-12-12:10-1	53	1.0					
MW-123s-07-24-12-13:35-1	nd	1.0					
MW-124s-07-24-12-09:20-1	nd	1.0					
MW-126s-07-18-12-11:30-1	nd	1.0					
MW-129i-07-10-12-14:30-1	nd	1.0					
MW-129s-07-10-12-13:10-1	nd	1.0					
MW-130i-07-16-12-13:45-1	nd	1.0					
MW-130s-07-16-12-13:10-1	nd	1.0					
MW-131s-07-18-12-10:10-1	nd	1.0					
MW-133i-07-09-12-10:55-1	nd	1.0					
MW-133s-07-09-12-10:20-1	1	1.0					
MW-134i-07-10-12-11:25-1	8	1.0					
MW-134s-07-10-12-11:50-1	10	1.0					
MW-30i-07-27-12-10:50-1	nd	1.0					
MW-34d-07-30-12-13:30-1	nd	1.0					
MW-38d-07-30-12-14:35-1	45	1.0					
MW-47d-07-24-12-11:30-1	nd	1.0					
MW-47s-07-24-12-11:10-1	nd	1.0					
<b>E</b>							
MW-104-07-24-12-12:10-1	2	1.0					
MW-112d-07-20-12-13:45-1	nd	1.0					
MW-112i-07-20-12-14:30-1	6	1.0					
MW-112s-07-20-12-12:50-1	nd	1.0					
MW-115-07-27-12-14:00-1	577	1.0					
MW-116-07-27-12-13:20-1	578	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
MW-120d-07-25-12-14:30-1	nd	1.0					
MW-121d-07-12-12-11:45-1	nd	1.0					
MW-122d-07-25-12-11:35-1	nd	1.0					
MW-123d-07-24-12-14:30-1	nd	1.0					
MW-124d-07-24-12-10:00-1	nd	1.0					
MW-126d-07-18-12-12:20-1	nd	1.0					
MW-129d-07-10-12-13:50-1	nd	1.0					
MW-130d-07-16-12-14:35-1	nd	1.0					
MW-131d-07-18-12-11:00-1	nd	1.0					
MW-133d-07-09-12-12:00-1	2	1.0					
MW-134d-07-10-12-10:45-1	5	1.0					
MW-135-07-23-12-14:40-1	nd	1.0					new monitoring well
MW-30d-07-27-12-11:55-1	783	1.0					
MW-59d-07-18-12-13:55-1	nd	1.0					
MW-66-07-31-12-14:05-1	1	1.0					
MW-69-07-30-12-11:40-1	nd	1.0					
MW-97d-07-17-12-13:45-1	nd	1.0					
MW-97s-07-17-12-13:05-1	nd	1.0					
MW-98s-07-24-12-10:45-1	nd	1.0					
MW-99d-07-17-12-12:40-1	nd	1.0					
MW-99s-07-17-12-12:05-1	nd	1.0					
<b>SW</b>							
MW-52d-07-31-12-11:30-1	nd	1.0					
MW-52i-07-31-12-11:55-1	nd	1.0					
MW-57-07-31-12-10:45-1	3	1.0					
MW-8d-07-31-12-10:25-1	nd	1.0					
<b>Surface Water</b>							

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
<b>Not Applicable</b>							
HC/HR-07-02-12-08:40-1			nd	2.0			
HC/HR-07-03-12-08:35-1			nd	2.0			
HC/HR-07-05-12-07:50-1			nd	2.0			
HC/HR-07-06-12-07:35-1			nd	2.0			
HC/HR-07-09-12-08:50-1			nd	2.0			
HC/HR-07-10-12-08:35-1			nd	2.0			
HC/HR-07-11-12-08:35-1			nd	2.0			
HC/HR-07-12-12-08:35-1			nd	2.0			
HC/HR-07-13-12-08:35-1			nd	2.0			
HC/HR-07-16-12-08:40-1			nd	2.0			
HC/HR-07-17-12-09:00-1			nd	2.0			
HC/HR-07-18-12-08:35-1			nd	2.0			
HC/HR-07-19-12-07:55-1			nd	2.0			
HC/HR-07-20-12-07:55-1			nd	2.0			
HC/HR-07-23-12-08:10-1			nd	2.0			
HC/HR-07-24-12-08:05-1			nd	2.0			
HC/HR-07-25-12-07:45-1			nd	2.0			
HC/HR-07-26-12-08:40-1			nd	2.0			
HC/HR-07-27-12-07:50-1			nd	2.0			
HC/HR-07-30-12-08:15-1			nd	2.0			
HC/HR-07-31-12-08:40-1			nd	2.0			
<b>Treatment System</b>							
OUTFALL-07-01-12-1	7	1.0					
OUTFALL-07-01-12-2			nd	5.0			
OUTFALL-07-02-12-1	8	1.0					
OUTFALL-07-02-12-2			nd	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
OUTFALL-07-03-12-1	7	1.0					
OUTFALL-07-03-12-2			nd	5.0			
OUTFALL-07-04-12-1	8	1.0					
OUTFALL-07-04-12-2			nd	5.0			
OUTFALL-07-05-12-1	8	1.0					
OUTFALL-07-05-12-2			nd	5.0			
OUTFALL-07-08-12-1	6	1.0					
OUTFALL-07-08-12-2			nd	5.0			
OUTFALL-07-09-12-1	7	1.0					
OUTFALL-07-09-12-2			nd	5.0			
OUTFALL-07-10-12-1	7	1.0					
OUTFALL-07-10-12-2			nd	5.0			
OUTFALL-07-11-12-1	6	1.0					
OUTFALL-07-11-12-2			nd	5.0			
OUTFALL-07-12-12-1	6	1.0					
OUTFALL-07-12-12-2			nd	5.0			
OUTFALL-07-15-12-1	7	1.0					
OUTFALL-07-15-12-2			nd	5.0			
OUTFALL-07-16-12-1	6	1.0					
OUTFALL-07-16-12-2			nd	5.0			
OUTFALL-07-17-12-1	7	1.0					
OUTFALL-07-17-12-2			nd	5.0			
OUTFALL-07-18-12-1	6	1.0					
OUTFALL-07-18-12-2			nd	5.0			
OUTFALL-07-19-12-1	7	1.0					
OUTFALL-07-19-12-2			nd	5.0			
OUTFALL-07-22-12-1	7	1.0					

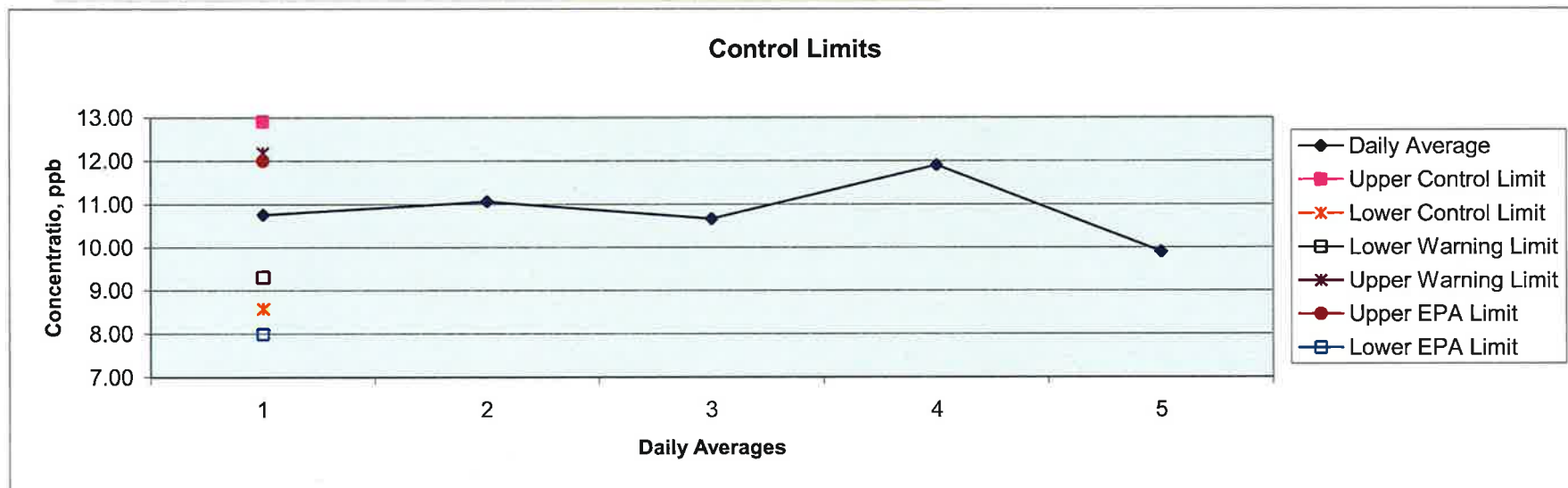
Sample Name - Date/Time Sampled	1,4-Dioxane Results (ppb)	R.L. (ppb)	Bromate Results (ppb)	R.L. (ppb)	Bromide Results (ppb)	R.L. (ppb)	Comments
OUTFALL-07-22-12-2			nd	5.0			
OUTFALL-07-23-12-1	6	1.0					
OUTFALL-07-23-12-2			nd	5.0			
OUTFALL-07-24-12-1	5	1.0					
OUTFALL-07-24-12-2			nd	5.0			
OUTFALL-07-25-12-1	5	1.0					
OUTFALL-07-25-12-2			nd	5.0			
OUTFALL-07-26-12-1	5	1.0					
OUTFALL-07-26-12-2			8	5.0			
OUTFALL-07-29-12-1	5	1.0					
OUTFALL-07-29-12-2			nd	5.0			
OUTFALL-07-30-12-1	5	1.0					
OUTFALL-07-30-12-2			nd	5.0			
OUTFALL-07-31-12-01	5	1.0					
OUTFALL-07-31-12-02			nd	5.0			
Red Pond-07-02-12-08:10-1	546	1.0					
Red Pond-07-09-12-10:00-1	547	1.0					
Red Pond-07-16-12-09:00-1	529	1.0					
Red Pond-07-23-12-08:40-1	423	1.0					
Red Pond-07-30-12-07:25-1	413	1.0					

# Control Chart for 07/2012 CVS

Analyst: Susan E.O. Peters

**GC/MS Data:** #2  
**Report Date:** 8/10/2012  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** 1,4-dioxane  
**Start date:** 7/1/2012  
**End date:** 7/31/2012  
**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								
7/10/2012	11.61	10.49	10.62	10.31	10.76	10.75	0.61	0.72	8.58	12.91	9.30	12.19
7/18/2012	11.90	10.23			11.07	10.75	1.18					
7/19/2012	10.53	10.81			10.67	10.75	0.20					
7/20/2012	11.90				11.90	10.75	na					
7/27/2012	10.13	9.68			9.91	10.75	na					





# Control Chart for 07/2012 MS/MSD %Recoveries

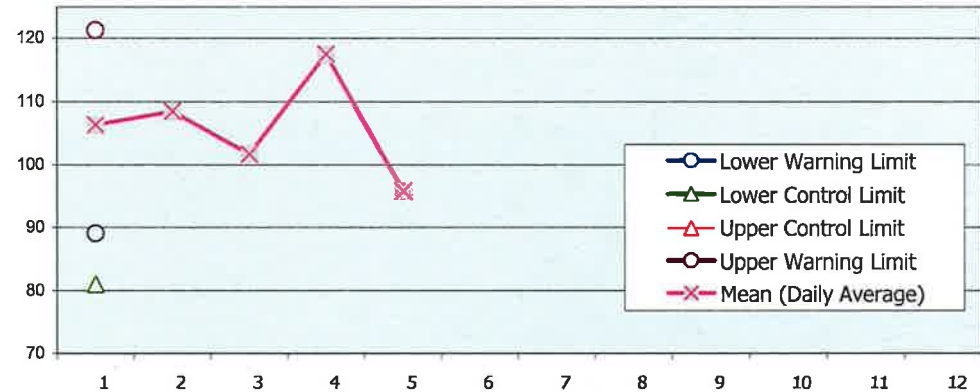
Analyst: Susan E.O. Peters

**GC/MS Data:** #2  
**Report Date:** 8/10/2012  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** 1,4-dioxane  
**Start date:** 7/1/2012  
**End date:** 7/31/2012  
**Desired level:** 100%

EPA LIMITS +/-20%

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
	MS 1	MSD 1	MS 2	MSD 2	MS 3	MSD 3								
7/10/2012	107	119	101	99	105	95.6	106.38	105.19	8.28	8.06	81.03	129.36	89.08	121.31
7/18/2012	116	109	107	102			108.48							
7/19/2012	98	104	100	105			101.75							
7/20/2012	116	119					117.50							
7/27/2012	104	88					95.85							

07/2012 MS/MSD with Control Limits

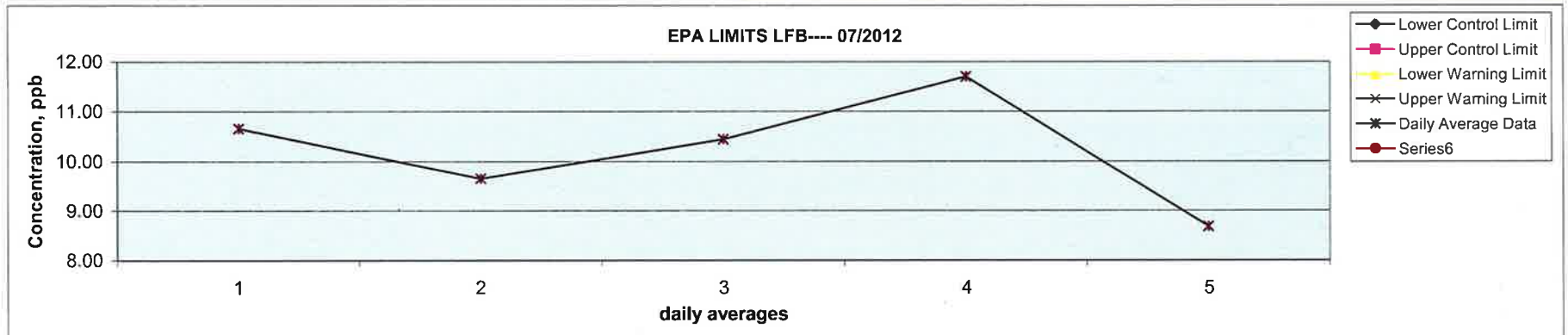


# Control Chart for 07/2012 LFB

Analyst: Bessan E.O. Peters

GC/MS Data: #2  
 Report Date: 8/10/2012  
 Chemist: Susan E.O. Peters  
 Dept: Environmental  
 Analyte: 1,4-dioxane  
 Start date: 7/1/2012  
 End date: 7/31/2012  
 Desired level: 100%

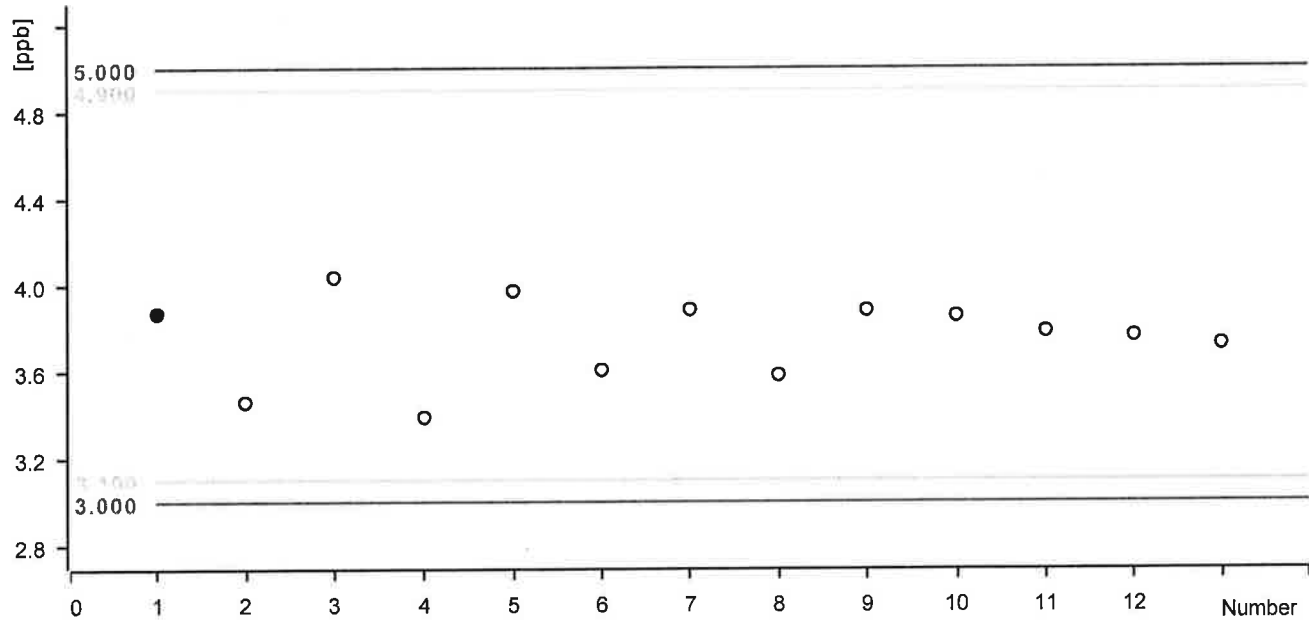
Date	LFB Values									Mean (Daily Average)	Sample Mean (All Individual Data)	Daily Standard Deviation	Daily Average Sample Standard Deviation	Lower Control Limit	Upper Control Limit	Lower Warning Limit	Upper Warning Limit
	LFB 1	LFB 2	LFB 3	LFB 4	LFB 5	LFB 6	LFB 7	LFB 8	LFB 9								
7/10/2012	11.16	9.30	10.29	10.90	11.36	10.74	11.51	10.04	10.64	10.66	10.23	0.70	1.13	6.83	13.62	7.96	12.49
7/18/2012	10.38	9.62	9.83	8.92	9.50					9.65	10.03	0.53					
7/19/2012	10.38	9.69	10.16	11.54						10.44	10.16	0.79					
7/20/2012	11.42	11.86	11.93	11.42	11.86					11.70	10.05	0.26					
7/27/2012	8.87	8.70	8.46	8.63	8.58	8.85				8.68	8.68	0.16					



## Control chart

### Comment

### ECCS. CCCS Bromate std 4ppb



### Statistics

Mean value:	3.754 ppb	Absolute standard deviation:	0.195 ppb
Minimum:	3.389 ppb	Relative standard deviation:	5.201 %
Maximum:	4.036 ppb	Number of determinations:	13

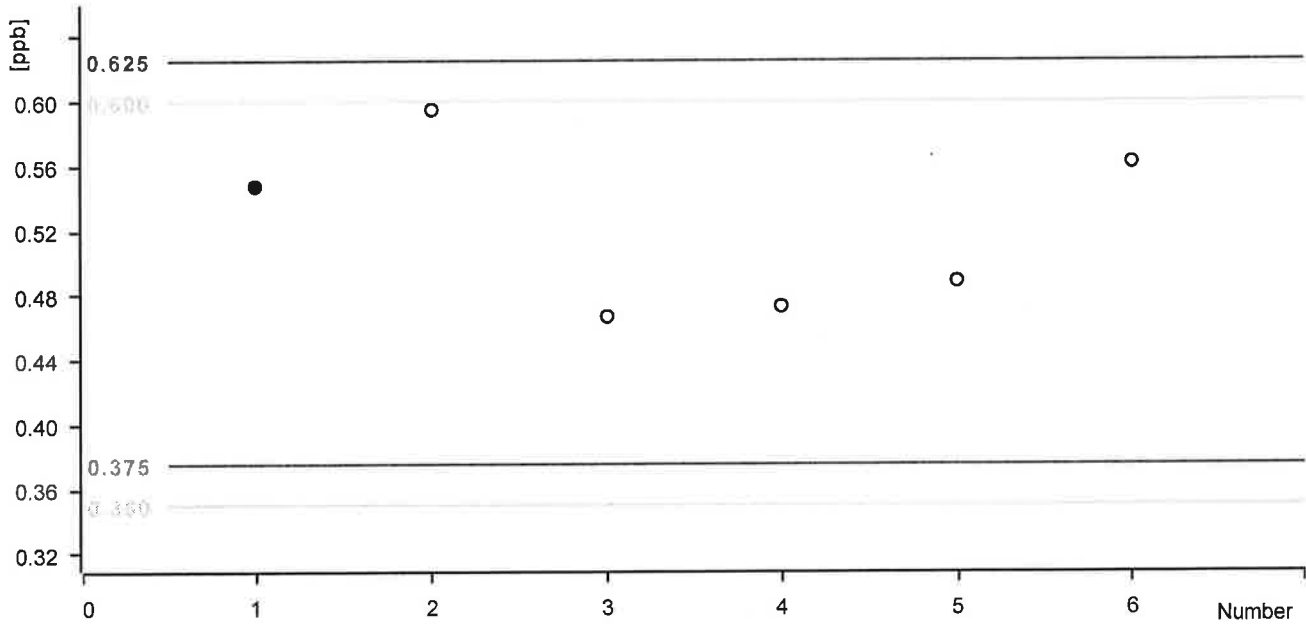
Date	Number	Ident	Sample type	Method	ECCS. CCCS Bromate std 4ppb	Statistics
2012-07-03 20:57:11 UTC-4	1	ECCS/CCCS	Sample	06262012	3.870 ppb	on
2012-07-04 08:53:49 UTC-4	2	ECCS/CCCS	Sample	06262012	3.459 ppb	on
2012-07-04 09:31:33 UTC-4	3	ECCS/CCCS	Sample	06262012	4.036 ppb	on
2012-07-07 04:55:16 UTC-4	4	ECCS	Sample	06262012	3.389 ppb	on
2012-07-07 05:33:12 UTC-4	5	ECCS	Sample	06262012	3.972 ppb	on
2012-07-16 22:19:46 UTC-4	6	ECCS/CCCS	Sample	06262012	3.606 ppb	on
2012-07-16 22:57:29 UTC-4	7	ECCS/CCCS	Sample	06262012	3.884 ppb	on
2012-07-17 03:59:13 UTC-4	8	ECCS/CCCS	Sample	06262012	3.582 ppb	on
2012-07-17 04:36:56 UTC-4	9	ECCS/CCCS	Sample	06262012	3.882 ppb	on
2012-07-18 23:22:55 UTC-4	10	ECCS/CCCS	Sample	06262012	3.656 ppb	on
2012-07-19 00:00:38 UTC-4	11	ECCS/CCCS	Sample	06262012	3.734 ppb	on
2012-07-21 00:00:29 UTC-4	12	ECCS/CCCS	Sample	06262012	3.763 ppb	on
2012-07-21 00:38:13 UTC-4	13	ECCS/CCCS	Sample	06262012	3.724 ppb	on

*Sharon E. Peters*

## Control chart

### Comment

### ppb Bromate Concentration ICCS



### Statistics

Mean value:	0.522 ppb	Absolute standard deviation:	0.053 ppb
Minimum:	0.466 ppb	Relative standard deviation:	10.203 %
Maximum:	0.595 ppb	Number of determinations:	6

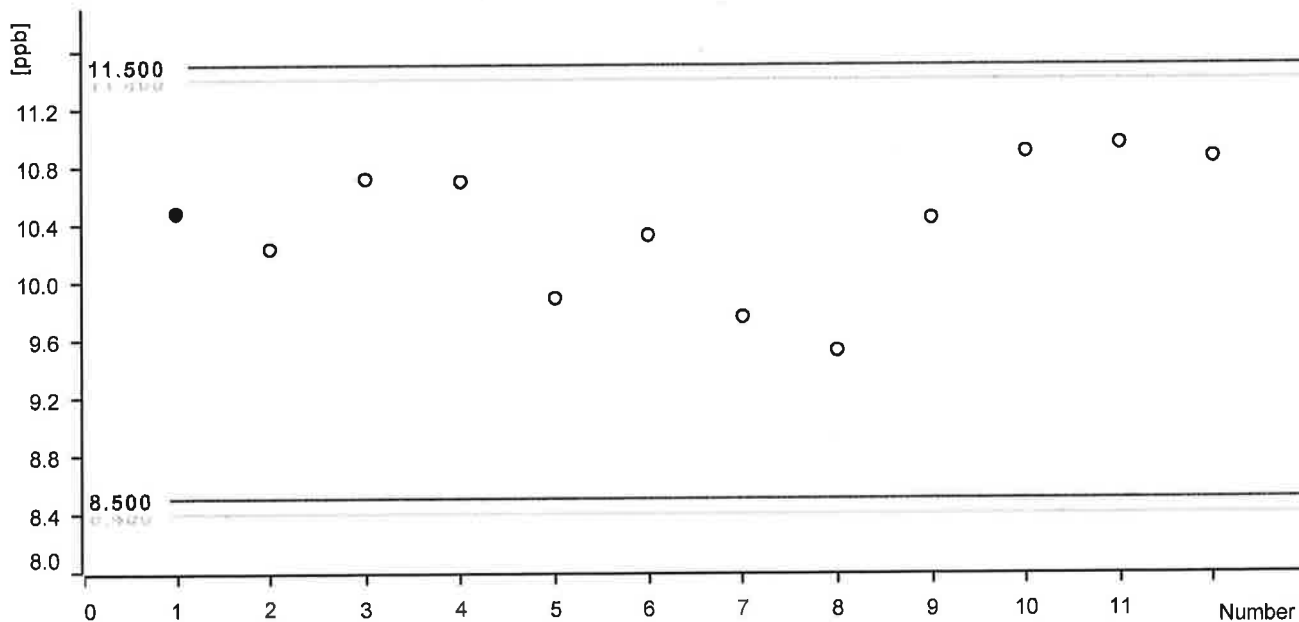
Date	Number	Ident	Sample type	Method	ppb Bromate Concentration ICCS	Statistics
2012-07-03 09:41:48 UTC-4	1	ICCS	Sample	06262012	0.547 ppb	on
2012-07-08 10:35:41 UTC-4	2	ICCS/LFB	Sample	06262012	0.595 ppb	on
2012-07-08 11:13:39 UTC-4	3	ICCS/LFB	Sample	06262012	0.466 ppb	on
2012-07-16 09:57:06 UTC-4	4	ICCS/LFB	Sample	06262012	0.473 ppb	on
2012-07-18 13:56:43 UTC-4	5	ICCS/LFB	Sample	06262012	0.488 ppb	on
2012-07-20 15:50:12 UTC-4	6	ICCS/LFB	Sample	06262012	0.562 ppb	on

*Susan E Peters*

## Control chart

### Comment

### Bromate QCS concentration, ppb



### Statistics

Mean value:	10.395 ppb	Absolute standard deviation:	0.472 ppb
Minimum:	9.519 ppb	Relative standard deviation:	4.542 %
Maximum:	10.955 ppb	Number of determinations:	12

Date	Number	Ident	Sample type	Method	Bromate QCS concentration, ppb	Statistics
2012-07-04 10:09:15 UTC-4	1	QCS	Sample	06262012	10.477 ppb	on
2012-07-04 10:46:58 UTC-4	2	qcs	Sample	06262012	10.229 ppb	on
2012-07-04 13:17:52 UTC-4	3	qcs	Sample	06262012	10.713 ppb	on
2012-07-07 07:28:56 UTC-4	4	QCS	Sample	06262012	10.695 ppb	on
2012-07-17 05:52:21 UTC-4	5	QCS	Sample	06262012	9.863 ppb	on
2012-07-17 06:30:07 UTC-4	6	QCS	Sample	06262012	10.321 ppb	on
2012-07-19 01:16:03 UTC-4	7	QCS	Sample	06262012	9.755 ppb	on
2012-07-19 01:53:47 UTC-4	8	QCS	Sample	06262012	9.519 ppb	on
2012-07-19 19:10:58 UTC-4	9	QCS	Sample	06262012	10.438 ppb	on
2012-07-19 19:48:41 UTC-4	10	QCS	Sample	06262012	10.898 ppb	on
2012-07-21 01:53:36 UTC-4	11	QCS	Sample	06262012	10.955 ppb	on
2012-07-21 02:31:20 UTC-4	12	QCS	Sample	06262012	10.858 ppb	on

*Susan E Peters*

# Control Chart for 07/2012 MS/MSD & Repeat %Recoveries

Analyst: Susan E.O. Peters

**IC:** Metrohm  
**Report Date:** 8/10/2012  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** Bromate  
**Start date:** 7/1/2012  
**End date:** 7/31/2012  
**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=
7/3/2012	103	99	101	4.0	3.0	0.53	0.11	2
	100		100	na	na			
	93		93	na	na			
	108	114	110	5.5	4.8			
	101		101	na	na			
	98		98	na	na			
7/10/2012	96	104	100	6.90	5.4	1.31	0.15	2
	99	99	99	0.1	0.1	0.39	0.24	2
	104		104	na	na			
	102		102	na	na			
7/16/2012	100		100	na	na			
	101	99	100	2.4	1.8	0.23	0.09	2
						0.93	0.01	2
7/18/2012	98	93	95	4.8	3.3	0.63	0.14	3
7/20/2012	101		101	na	na	0.60	0.02	2

