



Pall Corporation

# Sample Analysis Report

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## March, 2013

Analyst Initials: SEUP  
Date: 04-09-13

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)
<b>Residential Wells</b>								
<b>D0</b>								
5005 Jackson Rd-03-22-13-14:35-1	20	1.0						
<b>Not Determined</b>								
697 South Wagner Rd-03-27-13-11:45-1	nd	1.0						
<b>Extraction Wells</b>								
<b>C3</b>								
DOLPH-03-22-13-12:05-1	67	1.0						
TW-20-03-22-13-12:45-1	733	200.0						D
<b>D2</b>								
LB-1-03-22-13-12:10-1	772	100						D
LB-3-03-22-13-12:12-1	676	200.0						D
TW-21-03-05-13-08:15-1	157	25.0						D
TW-5-03-04-13-09:50-1	785	100.0						D
TW-9-03-04-13-11:10-1	644	100.0						D
<b>E</b>								
TW-11-03-04-13-09:52-1	198	10.0						D
TW-18-03-04-13-11:17-1	263	50.0						D
TW-19-03-04-13-08:52-1	955	100.0						D
<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	Qualifier(s)
PW-1-03-22-13-12:40-1	770	100.0						D
<b>SW</b>								
TW-22-03-29-13-13:38-1	610	100.0						D
TW-8-03-22-13-14:10-1	426	100.0						D
<b>Monitoring Wells</b>								
<b>C3</b>								
MW-20-03-25-13-11:20-1	nd	1.0						
MW-2d-03-26-13-14:35-1	31	5.0						D
MW-2s-03-26-13-14:45-1	2	1.0						
MW-39s-03-25-13-10:55-1	5	1.0						
MW-39s-03-25-13-10:55-2	5	1.0						
<b>D0</b>								
A2 Cleaning Supply-03-25-13-09:45-1	82	1.0						
MW-53d-03-25-13-10:30-1	1	1.0						
MW-53i-03-26-13-10:40-1	35	5.0						D
MW-53s-03-25-13-10:00-1	nd	1.0						
MW-93-03-26-13-11:00-1	2	1.0						
<b>D2</b>								
2819 Dexter Rd-03-28-13-11:15-1	682	100.0						D
373 Pinewood Shallow-03-28-13-08:55-1	368	100.0						D
MW-107-03-26-13-13:10-1	379	25.0						D
MW-121s-03-28-13-15:00-1	nd	1.0						
MW-122s-03-26-13-12:40-1	68	10.0						D
MW-126s-03-01-13-12:45-1	nd	1.0						
MW-129i-03-25-13-14:45-1	nd	1.0						
MW-129s-03-25-13-13:35-1	nd	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	Qualifier(s)
MW-130i-03-01-13-13:50-1	nd	1.0						
MW-130s-03-01-13-13:20-1	nd	1.0						
MW-39d-03-26-13-11:30-1	122	25.0						D
MW-4d-03-27-13-15:00-1	1086	200.0						D
MW-54d-03-28-13-14:15-1	59	1.0						
MW-54s-03-28-13-14:30-1	nd	1.0						
MW-77-03-28-13-09:40-1	1626	200.0						D
MW-BE-1d-03-01-13-11:00-1	6	1.0						
MW-BE-1s-03-28-13-10:30-1	672	10.0						D
<b>E</b>								
MW-100-03-27-13-14:25-1	1367	100.0						D
MW-103d-03-29-13-11:30-1	12	2.2						D
MW-103s-03-05-13-13:20-1	96	1.0						
MW-105d-03-28-13-12:35-1	472	100.0						D
MW-106s-03-28-13-13:25-1	355	50.0						D
MW-112i-03-29-13-09:50-1	7	1.0						
MW-119-03-27-13-11:40-1	156	50.0						D
MW-122d-03-25-13-12:50-1	nd	1.0						
MW-126d-03-01-13-12:20-1	nd	1.0						
MW-129d-03-25-13-14:15-1	nd	1.0						
MW-130d-03-01-13-14:35-1	nd	1.0						
MW-76s-03-26-13-13:50-1	272	25.0						D
MW-79d-03-27-13-09:00-1	53	10.0						D
MW-79s-03-27-13-09:30-1	510	100.0						D
MW-81-03-28-13-08:15-1	510	100						D
MW-84s-03-06-13-14:20-1	727	100.0						D
MW-84s-03-27-13-10:00-1	718	200.0						D

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-85-03-27-13-13:05-1	1496	250.0						D
MW-87d-03-27-13-12:10-1	423	100.0						D
MW-87s-03-27-13-12:20-1	1060	200.0						D
MW-88-03-27-13-10:45-1	572	50.0						D
MW-90-03-29-13-12:00-1	25	5.0						D
<b>Marshy</b>								
NMW-1s-03-22-13-13:05-1	1480	200.0						D
NMW-2s-03-22-13-13:15-1	2354	100.0						D
<b>SH</b>								
MW-5d-03-22-13-13:45-1	10647	1000						D
<b>Surface Water</b>								
<b>Not Applicable</b>								
HC/HR-03-01-13-09:05-1				nd	2.0			
HC/HR-03-04-13-09:20-1				nd	2.0			
HC/HR-03-05-13-07:50-1				nd	2.0			
HC/HR-03-06-13-08:15-1				nd	2.0			
HC/HR-03-07-13-08:20-1				nd	2.0			
HC/HR-03-08-13-08:50-1				nd	2.0			
HC/HR-03-11-13-08:10-1				nd	2.0			
HC/HR-03-12-13-08:55-1				nd	2.0			
HC/HR-03-13-13-08:50-1				nd	2.0			
HC/HR-03-14-13-08:40-1				nd	2.0			
HC/HR-03-15-13-07:35-1				nd	2.0			
HC/HR-03-18-13-08:40-1				nd	2.0			
HC/HR-03-19-13-08:55-1				nd	2.0			
HC/HR-03-20-13-09:30-1				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-03-21-13-09:15-1			nd	2.0				
HC/HR-03-22-13-09:10-1			nd	2.0				
HC/HR-03-25-13-08:20-1			nd	2.0				
HC/HR-03-26-13-08:10-1			nd	2.0				
HC/HR-03-27-13-08:15-1			nd	2.0				
HC/HR-03-28-13-08:45-1			nd	2.0				
HC/HR-03-29-13-08:30-1			nd	2.0				
<b>Treatment System</b>								
OUTFALL-03-03-13-1	7	1.0						
OUTFALL-03-03-13-2			nd	5.0				
OUTFALL-03-04-13-1	6	1.0						
OUTFALL-03-04-13-2			nd	5.0				
OUTFALL-03-05-13-1	4	1.0						
OUTFALL-03-05-13-2			nd	5.0				
OUTFALL-03-06-13-1	4	1.0						
OUTFALL-03-06-13-2			5	5.0				
OUTFALL-03-07-13-1	6	1.0						
OUTFALL-03-07-13-2			nd	5.0				
OUTFALL-03-10-13-1	6	1.0						
OUTFALL-03-10-13-2			nd	5.0				
OUTFALL-03-11-13-1	4	1.0						
OUTFALL-03-11-13-2			nd	5.0				
OUTFALL-03-12-13-1	2	1.0						
OUTFALL-03-12-13-2			nd	5.0				
OUTFALL-03-13-13-1	3	1.0						
OUTFALL-03-13-13-2			5	5.0				
OUTFALL-03-14-13-1	4	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	Qualifier(s)
OUTFALL-03-14-13-2			nd	5.0				
OUTFALL-03-17-13-1	4	1.0						
OUTFALL-03-17-13-2			nd	5.0				
OUTFALL-03-18-13-1	3	1.0						
OUTFALL-03-18-13-2			nd	5.0				
OUTFALL-03-19-13-1	4	1.0						
OUTFALL-03-19-13-2			nd	5.0				
OUTFALL-03-20-13-1	3	1.0						
OUTFALL-03-20-13-2			nd	5.0				
OUTFALL-03-21-13-1	6	1.0						
OUTFALL-03-21-13-2			5	5.0				
OUTFALL-03-24-13-1	6	1.0						
OUTFALL-03-24-13-2			nd	5.0				
OUTFALL-03-25-13-1	2	1.0						
OUTFALL-03-25-13-2			nd	5.0				
OUTFALL-03-26-13-1	3	1.0						
OUTFALL-03-26-13-2			nd	5.0				
OUTFALL-03-27-13-1	2	1.0						
OUTFALL-03-27-13-2			nd	5.0				
OUTFALL-03-28-13-1	2	1.0						A
OUTFALL-03-28-13-2			nd	5.0				
OUTFALL-03-31-13-1	3	1.0						
OUTFALL-03-31-13-2			nd	5.0				
Red Pond-03-04-13-08:25-1	227	25.0						D
Red Pond-03-11-13-08:20-1	443	5.0						D
Red Pond-03-18-13-09:00-1	399	100.0						D
Red Pond-03-25-13-08:40-1	490	100.0						D

**Qualifier Code:** \_\_\_\_\_ **Qualifier Description** \_\_\_\_\_

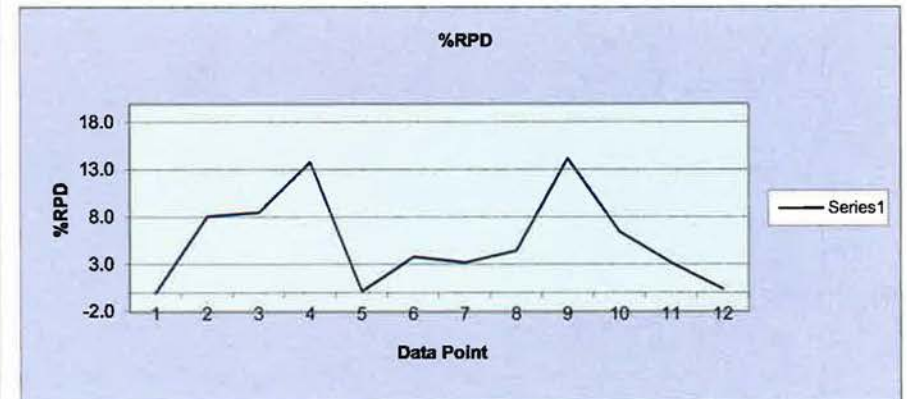
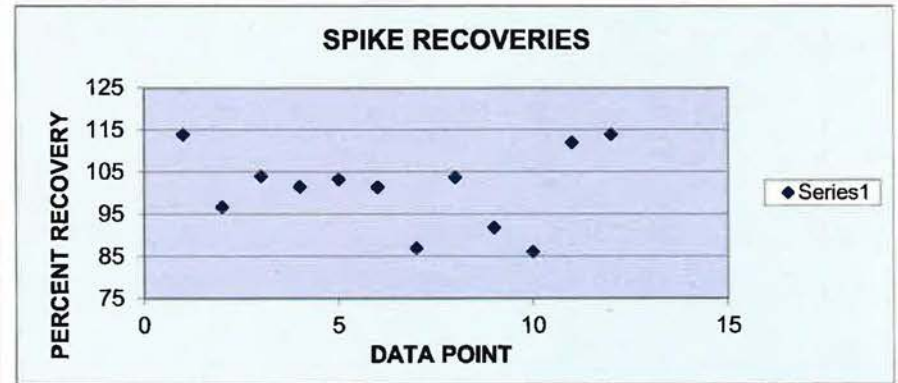
**A** Value reported is the mean of two or more determinations, sample used as a quality sample twice.  
**D** Analyte value quantified from a dilution, reporting limit is raised to reflect dilution

# Control Chart for 03/2013 MS/MSD & Repeat %Recoveries

Analyst: SEOP 04-08-13

**IC:** Metrohm  
**Report Date:** 4/8/2013  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** Bromate  
**Start date:** 3/1/2013  
**End date:** 3/31/2013  
**Desired level:** 100%

MS Recoveries and Replicate Recoveries								
Analysis Date	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=
3/26/2013	114		114	na	na	2.22	0.26	3
3/26/2013	104	91	97	8.1	9.2	2.62	0.30	2
3/26/2013	110	98	104	8.5	8.3			
3/26/2013	118	86	102	13.8	23			
3/26/2013	104	103	103	0.18	0.16			
3/26/2013	104	99	101	3.8	3.4			
3/26/2013	84	89	87	3.2	3.5			
3/26/2013	101	107	104	4.5	4.1			
3/26/2013	83	101	92	14.2	12.5			
3/26/2013	90	82	86	6.5	6.1			
3/29/2013	110	114	112	3.2	3.1			
4/2/2013	114	114	114	0.44	0.49			



# Control Chart for 03/2013 CVS

Analyst: SEOP 04-08-13

GC/MS Data: #2  
 Report Date: 4/8/2013  
 Chemist: Susan E.O. Peters  
 Dept: Environmental  
 Analyte: 1,4-dioxane  
 Start date: 3/1/2013  
 End date: 3/31/2013  
 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								
3/15/2013	10.52	10.53	10.44		10.50	9.85	0.05	0.87	7.24	12.47	8.11	11.60
3/16/2013	10.14	9.80	10.44		10.13	9.85	0.32					
3/19/2013	9.28	10.10			9.69	9.85	0.58					
3/23/2013	8.60	11.30			9.95	9.85	1.91					
3/26/2013	9.62	8.54	8.38	9.92	9.11	9.85	0.77					
3/27/2013	8.28				8.28	9.85	na					
3/28/2013	9.51	10.12			9.81	9.85	0.43					
3/29/2013	11.28	10.82	8.32	9.94	10.09	9.85	1.30					
4/1/2013	11.20	10.50			10.85	9.85	0.49					
4/2/2013	8.33	9.97	8.77		9.02	9.85	0.85					
4/4/2013	11.38				11.38	9.85	na					



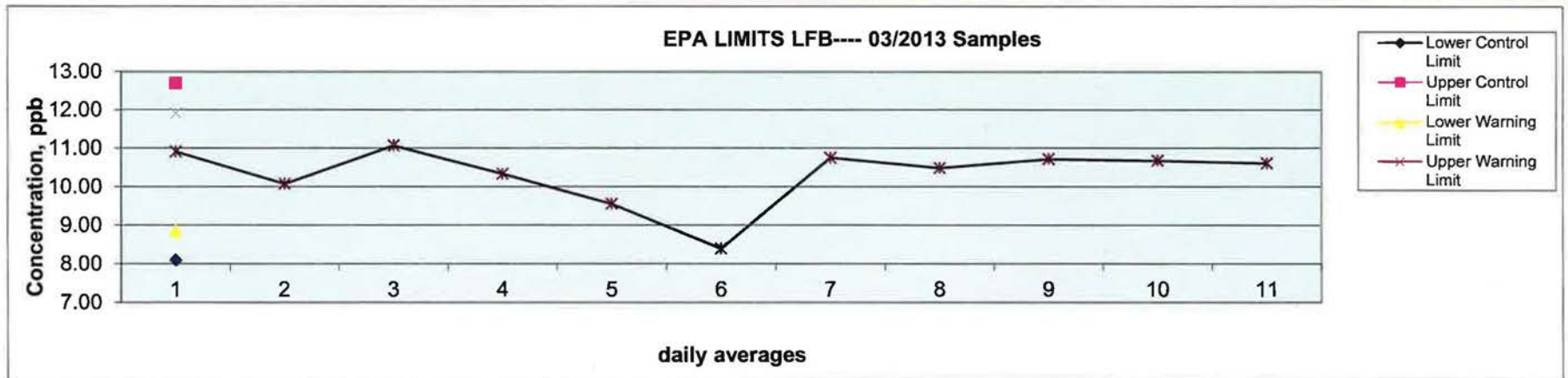


# Control Chart for 3/2013 LFB

Analyst: SEOP 04-08-13

**GC/MS Data:** #2  
**Report Date:** 4/8/2013  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** 1,4-dioxane  
**Start date:** 3/1/2013  
**End date:** 3/31/2013  
**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								
3/15/2013	11.05	9.83	11.85				10.91	10.39	1.02	0.77	8.09	12.68	8.86	11.92
3/16/2013	8.70	10.74	11.20	9.65			10.07	10.39	1.12					
3/19/2013	9.31	11.70	11.50	11.00	11.80		11.06	10.39	1.03					
3/23/2013	9.66	9.37	9.82	11.90	10.90		10.33	10.39	1.05					
3/26/2013	11.96	9.08	9.43	8.99	8.88	8.98	9.55	10.39	1.19					
3/27/2013	8.24	8.54					8.39	10.39	0.21					
3/28/2013	11.39	9.91	10.58	10.90	10.97		10.75	10.39	0.55					
3/29/2013	10.12	9.46	9.14	11.79	11.92		10.49	10.39	1.30					
4/1/2013	9.53	11.80	11.62	11.00	9.64		10.72	10.39	1.08					
4/2/2013	9.73	11.80	10.26	10.92			10.68	10.39	0.89					
4/4/2013	11.54	9.68					10.61	10.39	1.32					

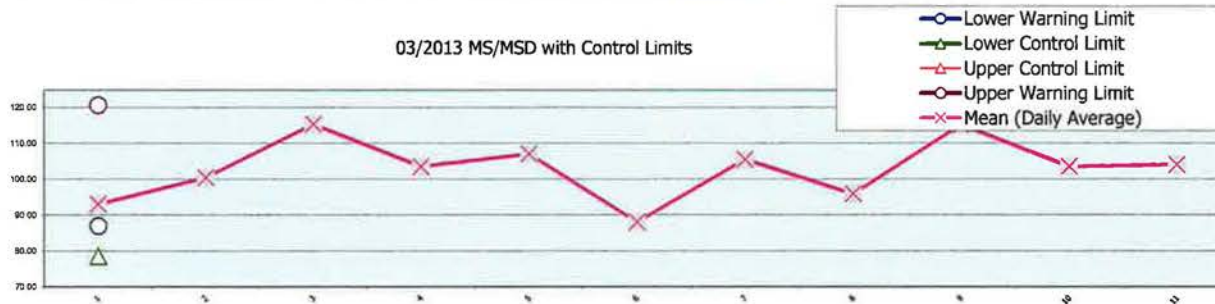


# Control Chart for 03/2013 MS/MSD %Recoveries

Analyst: SEOP 04-08-13

**GC/MS Data:** #2  
**Report Date:** 4/8/2013  
**Chemist:** Susan E.O. Peters  
**Dept:** Environmental  
**Analyte:** 1,4-dioxane  
**Start date:** 3/1/2013  
**End date:** 3/31/2013  
**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	MS 3	MSD 3									
3/15/2013	96	90					93.00	103.94	9.80	8.42	78.66	129.21	87.09	120.79	112.09
3/16/2013	108	91	102				100.40								
3/19/2013	120	114	112				115.33								
3/23/2013	95	114	102				103.47								
3/26/2013	105	117	104	92	108	116	106.96								
3/27/2013	94	82					87.95								
3/28/2013	113	105	99	106			105.44								
3/29/2013	97	90	101				95.79								
4/1/2013	114	114	118				115.23								
4/2/2013	91	115	100	108			103.43								
4/4/2013	100	108					104.00								

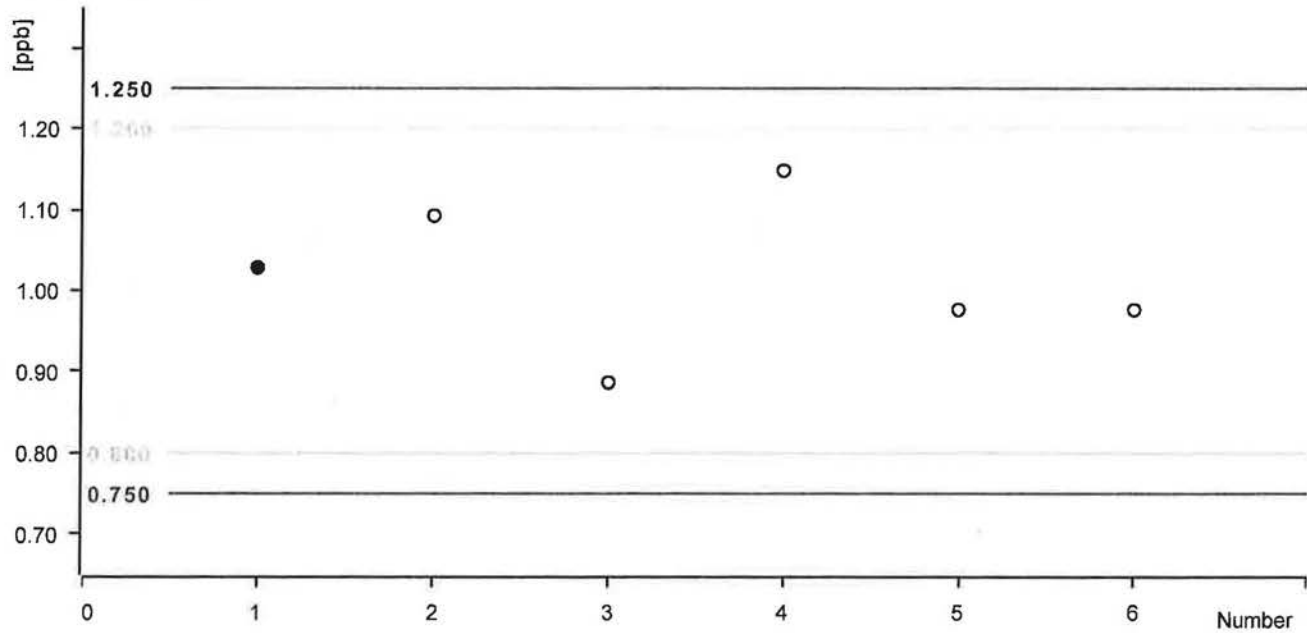


**Control chart**

380P 04-08-13

**Comment**

**ppb Bromate Concentration ICCS**



**Statistics**

Mean value:	1.018 ppb	Absolute standard deviation:	0.093 ppb
Minimum:	0.887 ppb	Relative standard deviation:	9.139 %
Maximum:	1.148 ppb	Number of determinations:	6

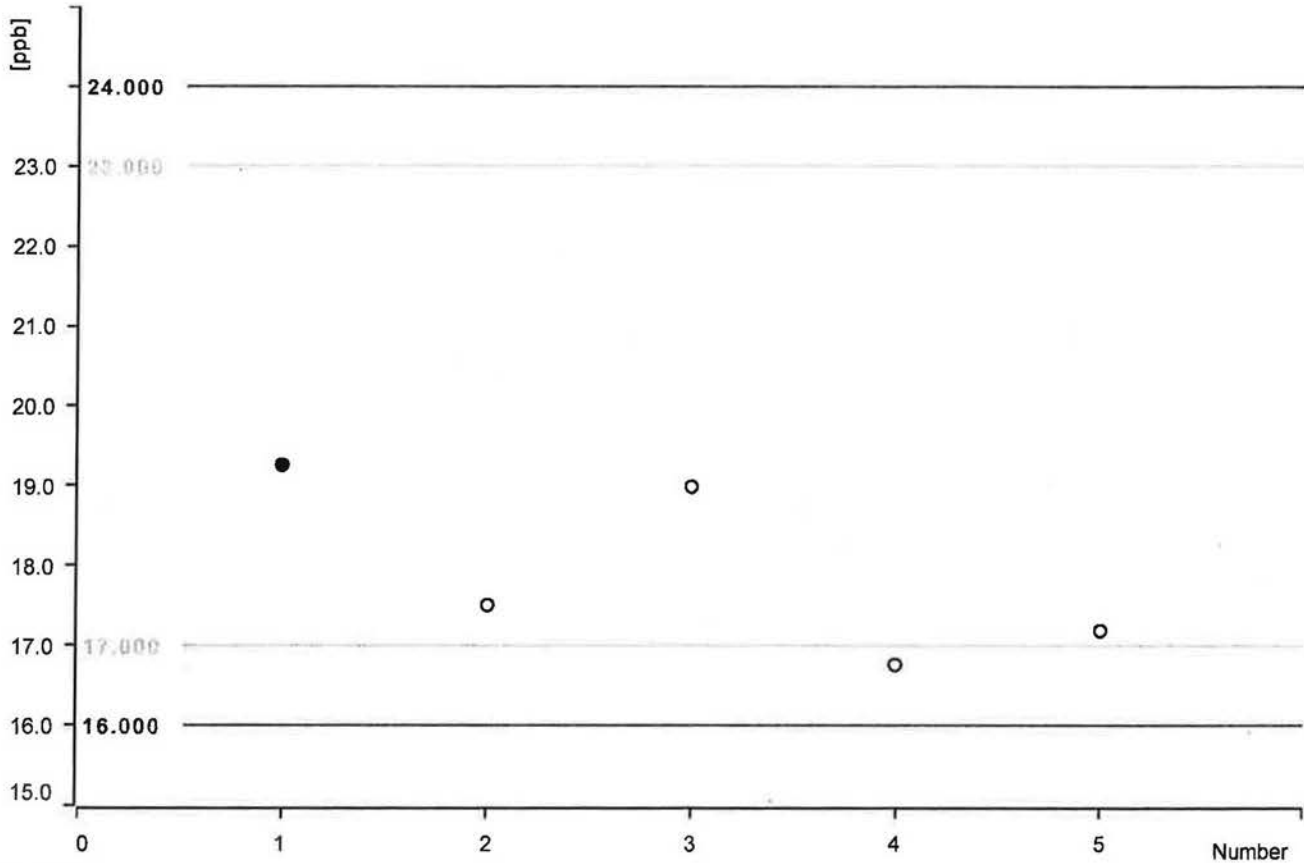
Date	Number	Ident	Sample type	Method	ppb Bromate Concentration ICCS	Statistics
2013-03-26 17:28:31 UTC-4	1	ICCS/LFB	Sample	02122013 300.1	1.028 ppb	on
2013-03-26 18:06:33 UTC-4	2	ICCS/LFB	Sample	02122013 300.1	1.092 ppb	on
2013-03-29 12:01:38 UTC-4	3	ICCS/LFB	Sample	02122013 300.1	0.887 ppb	on
2013-03-29 12:39:22 UTC-4	4	ICCS/LFB	Sample	02122013 300.1	1.148 ppb	on
2013-04-02 09:20:21 UTC-4	5	ICCS/LFB	Sample	02122013 300.1A	0.976 ppb	on
2013-04-02 10:35:48 UTC-4	6	ICCS/LFB	Sample	02122013 300.1A	0.976 ppb	on

**Control chart**

SEOP 04-08-13

**Comment**

**20PPB BROMATE**



**Statistics**

Mean value:	17.941 ppb	Absolute standard deviation:	1.119 ppb
Minimum:	16.758 ppb	Relative standard deviation:	6.236 %
Maximum:	19.263 ppb	Number of determinations:	5

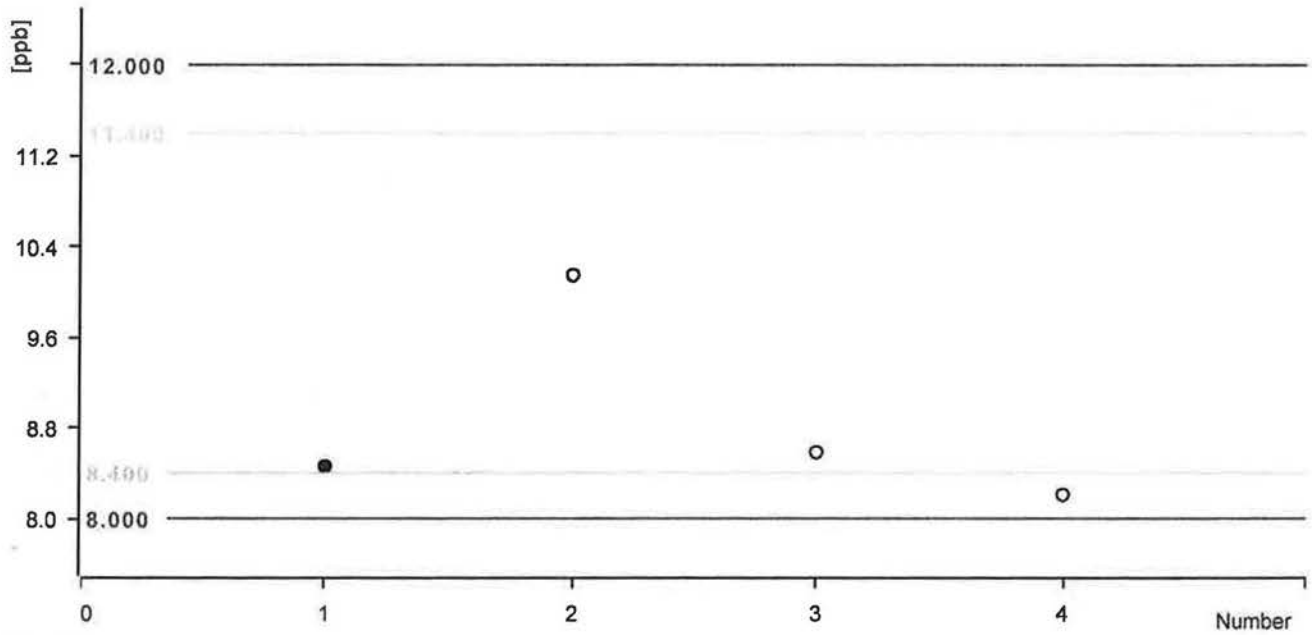
Date	Number	Ident	Sample type	Method	20PPB BROMATE	Statistics
1 2013-01-29 19:58:33 UTC-5	1	20PPB STD	Sample	01082013 300.1	19.263 ppb	on
2 2013-01-29 20:36:17 UTC-5	2	20PPB STD	Sample	01082013 300.1	17.507 ppb	on
3 2013-03-27 15:02:21 UTC-4	3	ECCS/CCCS	Sample	02122013 300.1	18.990 ppb	on
4 2013-03-29 08:00:15 UTC-4	4	ECCS/CCCS	Sample	02122013 300.1	16.766 ppb	on
5 2013-03-29 08:37:59 UTC-4	5	ECCS/CCCS	Sample	02122013 300.1	17.167 ppb	on

**Control chart**

BEUP 04-08-13

**Comment**

**Bromate 10PPB concentration**



**Statistics**

Mean value:	8.852 ppb	Absolute standard deviation:	0.881 ppb
Minimum:	8.210 ppb	Relative standard deviation:	9.954 %
Maximum:	10.153 ppb	Number of determinations:	4

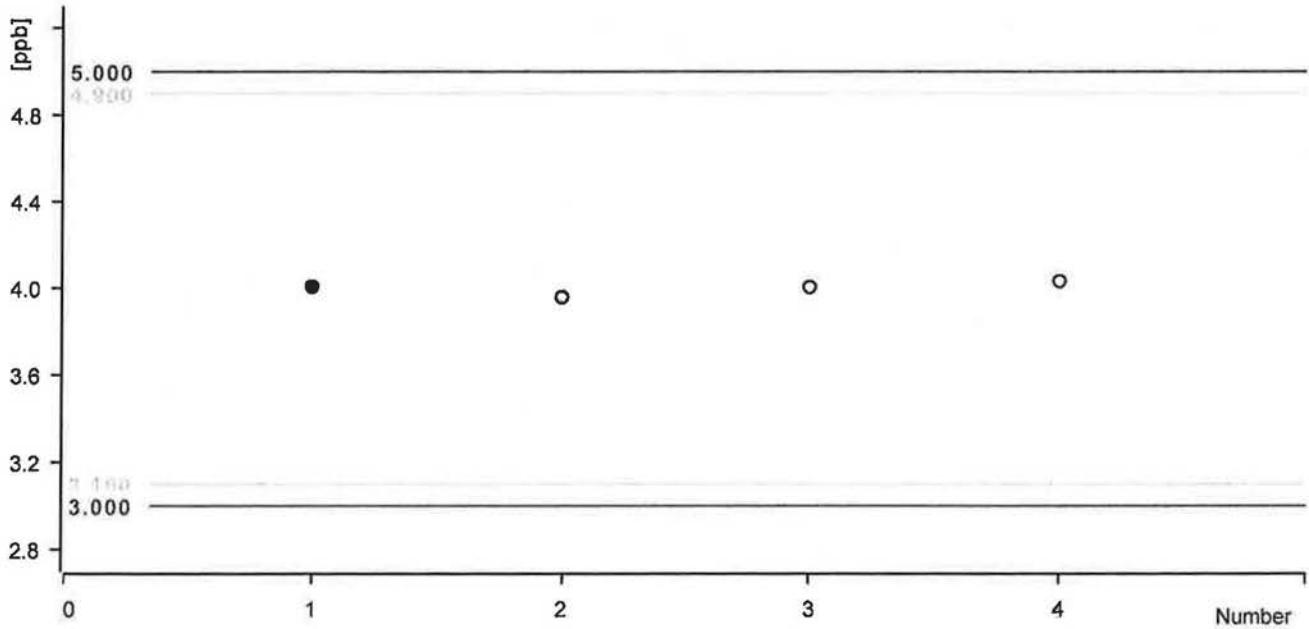
Date	Number	Ident	Sample type	Method	Bromate 10PPB concentration	Statistics
2013-03-27 03:36:59 UTC-4	1	ECCS/CCCS	Sample	02122013 300.1	8.461 ppb	on
2013-03-27 04:15:08 UTC-4	2	ECCS/CCCS	Sample	02122013 300.1	10.153 ppb	on
2013-03-29 04:44:48 UTC-4	3	ECCS/CCCS	Sample	02122013 300.1	8.585 ppb	on
2013-03-29 05:22:33 UTC-4	4	ECCS/CCCS	Sample	02122013 300.1	8.210 ppb	on

**Control chart**

SEOP 04-08-13

**Comment**

**ECCS. CCCS Bromate std 4ppb**



**Statistics**

Mean value:	4.000 ppb	Absolute standard deviation:	0.031 ppb
Minimum:	3.958 ppb	Relative standard deviation:	0.777 %
Maximum:	4.032 ppb	Number of determinations:	4

Date	Number	Ident	Sample type	Method	ECCS. CCCS Bromate std 4ppb	Statistics
1 2013-04-02 18:08:29 UTC-4	1	ECCS/CCCS	Sample	02122013 300.1A	4.007 ppb	on
2 2013-04-02 18:46:13 UTC-4	2	ECCS/CCCS	Sample	02122013 300.1A	3.958 ppb	on
3 2013-04-03 15:27:24 UTC-4	3	ECCS/CCCS	Sample	02122013 300.1A	4.004 ppb	on
4 2013-04-03 16:05:07 UTC-4	4	ECCS/CCCS	Sample	02122013 300.1A	4.032 ppb	on