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Level IV Data Package

MWH Group   223000

Method: EPA 314

2711200572
2711200573

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 11/23/07 Analyst: ch

QC'd by MLE Date 11/28/07

Instrument: IC 11   Calculated MCT Level: 3155 umhos/cm

Original IPC conductance: 3100 umhos/cm   Daily IPC conductance: 3100 umhos/cm

Calibration including QCS

✓ QCS (20ppb) recovery is within 90% - 110% (18-22ppb) to verify that the calibration curve (minimum 5 points) still holds.

✓ Calibration curve is reanalyzed if QCS fails. Correlation Coefficient is 0.995 or better.

Initial QC Check Samples (MBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

✓ MLBANK is analyzed before samples. Perchlorate, if present, is < or = half of the MRL.

✓ L-ClO4 only: ICCSCV at 2ppb is within 50%-150% (1-3ppb)

✓ ClO4 only: MRL at 4ppb is within 75%-125% (3-5ppb)

✓ IPC (25ppb) recovery is between 80%-120% (20-30ppb)

✓ IPC retention time is within 5% of the retention time of the standards

✓ IPC Conductance level is within 10% of the original

$$PDA/H = 2.8\%$$

$$PDA - 2.0\%$$

LCS/LCSD (25ppb)

✓ Recoveries are between 90%-110% (22.5 – 27.5ppb)

✓ One pair is analyzed per batch (up to 20 samples) or part thereof

MS/MSD (25ppb) NOTE: For UCMR, MS/MSD concentrations alternate between 4ppb and 25ppb

✓ Recoveries are within 80%-120% (20-30ppb) for 25ppb spike   N/A (3.2-4.8ppb) for 4ppb spike

✓ One pair is analyzed per batch (up to 20 samples) or part thereof

✓ RPD between MS and MSD is within 15%.

Continuing Calibration Verification (MCV, HCV) NOTE: For UCMR ECV and MCV are required

✓ Verification Checks alternate between mid- and high-level during the analysis (low- and mid-level for UCMR)

✓ MCV (25ppb) recovery is between 85%-115% (21.25 – 28.75ppb)

✓ HCV (100ppb) recovery is between 85%-115% (85-115ppb)   N/A ECV (4ppb) recovery is between 75%-125% (3.0-5.0)

Pretreat and include the following QC parameters for any batch or part thereof containing samples requiring pretreatment

N/A One Laboratory Reagent Blank (LRB). Perchlorate is < or = half of MRL.

N/A One pair of Laboratory Control Samples (LCS/LCSD). Recovery of perchlorate is between 85%-115%.

One Pair of Laboratory Fortified Matrices (MS/MSD). Recoveries are between 80%-120%

Samples

✓ All samples are analyzed within 28 days of collection.

✓ All samples are analyzed within MCT Conductance limit.

QIR

N/A QIR needed for failed QC

QIR needed for samples analyzed outside of hold time

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Sample No.	Sample Name	Dil.Fac.	Comment	Time	Amount CLO4 CD_1	
1	autocal1	1.0	0	10.23.07 09:05	n.a.	
2	autocal2	1.0	2	10.23.07 09:28	1.5043	
3	autocal3	1.0	4	10.23.07 10:02	3.9108	
4	autocal4	1.0	10	10.23.07 10:24	11.0695	
5	autocal5	1.0	25	10.23.07 10:47	25.9568	
6	autocal6	1.0	50	10.23.07 11:09	49.0930	
7	autocal7	1.0	100	10.23.07 11:32	100.1331	
8	QCS	1.0	20	11.23.07 10:25	19.9018	99.5%
9	IPC	1.0	25	11.23.07 10:47	23.1041	92.4%
10	-MBLK	1.0		11.23.07 11:10	n.a.	ND≤½MRV
11	-MRLCHK-2	1.0	2	11.23.07 11:32	1.9635	98.2%
12	-MRLCHK-4	1.0	4	11.23.07 11:54	4.0136	100%
13	-LCS1	1.0	25	11.23.07 12:17	26.1112	104%
14	-LCS2	1.0	25	11.23.07 12:39	25.6658	103%
15	2711210638	1.0		11.23.07 13:02	n.a.	
16	2711200487	1.0		11.23.07 13:24	18.7988	
17	2711200488	1.0		11.23.07 13:46	16.9748	
18	2711200489	1.0		11.23.07 14:09	16.3812	
19	2711200490	1.0		11.23.07 14:31	n.a.	
20	2711200491	1.0		11.23.07 14:54	17.1827	
21	2711200492	1.0		11.23.07 15:16	16.6186	
22	2711200493	1.0		11.23.07 15:38	15.3158	
23	2711200494	1.0		11.23.07 16:01	19.5679	
24	2711200526	1.0		11.23.07 16:23	n.a.	
25	2711200526-MS	1.0	25	11.23.07 16:46	23.8197	95.3%
26	2711200526-MSD	1.0	25	11.23.07 17:08	23.8137	95.3%
27	CCV	1.0	25	11.23.07 17:30	25.3404	101%
28	2711200572_1/5	5.0	EC=9400	11.23.07 17:53	n.a.	
29	2711200573_1/10000	10000.0		11.23.07 18:15	189881.6228	
30	2711200655	1.0		11.23.07 18:38	n.a.	
31	2711200658	1.0		11.23.07 19:00	n.a.	
32	2711200660	1.0		11.23.07 19:22	n.a.	
33	2711200661	1.0		11.23.07 19:45	n.a.	
34	2711200662	1.0		11.23.07 20:07	n.a.	
35	2711200665	1.0		11.23.07 20:30	n.a.	
36	2711200666	1.0		11.23.07 20:52	n.a.	
37	2711200672	1.0		11.23.07 21:14	n.a.	
38	HCV	1.0	100	11.23.07 21:37	90.4539	90.4%
39	IPC	1.0	25	11.23.07 21:59	23.5662	94.3%
40	-MBLK	1.0		11.23.07 22:22	n.a.	ND≤½MRL
41	-MRLCHK-2	1.0	2	11.23.07 22:44	1.9790	99.0%
42	-MRLCHK-4	1.0	4	11.23.07 23:06	3.9817	99.5%
43	-LCS1	1.0	25	11.23.07 23:29	25.7193	103%
44	-LCS2	1.0	25	11.23.07 23:51	25.8789	104%

CLO4-raja/Summary

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP1 Build 2238

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45	2711200778	1.0		11.24.07 00:14	✓25.5148	
46	2711200780	1.0		11.24.07 00:36	✓32.8782	
47	2711200781	1.0		11.24.07 00:58	✓31.9191	
48	2711200782	1.0		11.24.07 01:21	✓57.7663	
49	2711210357	1.0		11.24.07 01:43	✓n.a.	
50	2711210501	1.0		11.24.07 02:06	✓n.a.	
51	2711210522	1.0		11.24.07 02:28	✓n.a.	
52	2711210523	1.0		11.24.07 02:50	✓n.a.	
53	2711210524	1.0		11.24.07 03:13	✓n.a.	
54	2711210525	1.0		11.24.07 03:35	✓n.a.	
55	2711210525-MS	1.0	25	11.24.07 03:58	✓24.5267	98.1%
56	2711210525-MSD	1.0	25	11.24.07 04:20	✓24.1858	96.7%
57	CCV	1.0	25	11.24.07 04:42	✓26.1467	105%
58	2711210526	1.0		11.24.07 05:05	✓n.a.	
59	2711210527	1.0		11.24.07 05:27	✓n.a.	
60	2711210528	1.0		11.24.07 05:50	✓n.a.	
61	2711210576	1.0		11.24.07 06:12	✓n.a.	
62	2711210577	1.0		11.24.07 06:34	✓n.a.	
63	2711210578	1.0		11.24.07 06:57	✓2.0148	
64	2711210579	1.0		11.24.07 07:19	✓2.4194	
65	2711210580	1.0		11.24.07 07:42	✓2.0318	
66	2711210581	1.0		11.24.07 08:04	✓2.5737	
67	2711210582	1.0		11.24.07 08:26	✓2.5454	
68	HCV	1.0	100	11.24.07 08:49	88.6655	88.7%

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28 Dec 05; Rev 5
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MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Page _____ of _____

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 11/23/07
Analyst: _____
Reviewed By: _____
LIMS Check By: _____

Was QC Criteria Met: Y N
Was QIR Needed: Y N

Time of Analyis Start: 1430 End: —
MRL 2umhos/cm: R# _____ exp of solution: —
KCl Std 1412 R# 201689 exp of solution 04/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1447
Instrument: YSI Model 3200 SN:01A0504, Year Aquired 2001 New

WBM
11/23/07

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result Instrument	Result Reported (µmho/cm)	Comments
Blk	Blank				71	7	uS		0.8562	
STD	MRL 2umhos/cm								—	
STD	KCl - 1000 mhos/cm								999.9	1-3——±50% of TV 950-1050——±5% of TV
1	2711210638	SPIA	MONTEREY	11/21/07				320		
2	2711200487	2-350	MILLER	11/20/07				620		
3	0488	2-360						620		
4	0489	2-370						620		
5	0490	FB						9.4		
6	0491	2-380						620		
7	0492	2-390						630		
8	0493	2-400						660		
9	0494	2-100	↓					640		
10	0526	INJ WELL	VICTORVAL					-500		
DUP	↓	↓	↓	↓				500		RPD < 5%
11	0572	EFF	KM	11/19/07				9400		
12	0573	INF	↓					8900		
13	0655	W8	SACCO					340		
14	0658	W36						-270		
15	0660	W42						560		
16	0661	W43						460		
17	0662	W44						240		
18	0665	W45						310		
19	0666	W47						440		
20	0672	W52						260		
DUP	↓	↓	↓	↓				260		RPD < 5%
STD	KCl - 10 mhos/cm				↓	↓	↓			8-12——RPD < 20% of TV

% RPD = |S1-S2| * 100
        (S1+S2)/2

S1 = reading of 1st sample
S2 = reading of 2nd sample

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CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 11/23/07
Analyst: CM
Reviewed By: _____
LIMS Check By: _____

Was QC Criteria Met: Y   N
Was QIR Needed: Y   N

Time of Analyis Start: 1445   End: —
MRL 2umhos/cm: R#_____ exp of solution: —
KCl Std 1412 R# 201689   exp of solution 09/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1417
Instrument: YSI Model 3200   SN:01A0504, Year Aquired 2001 New

WSH
11/23/07

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (umho/mmho)	Result Instrument	Reported (umho/cm)	Comments
Blk Blank					21	7	uS		—	
STD MRL 2umhos/cm									—	1-3——±50% of TV
STD KCl - 1000 mhos/cm									999.9	950-1050——±5% of TV
1	2711200778	UPGRADIENT KM		11/19/07				2500		
2	0780	LVW 6.05						2600		
3	0781	5.5						2600		
4	0782	0.55						2500		
5	2711210357	MWD A	FOOTHILL	11/21/07				840		
6	0501	730	TUCSON	11/20/07				1000		
7	0522	W3	SLOCNTY	11/19/07				1200		
8	0523	W4						770		
9	0524	TERRACE						1400		
10	0525	THIRD						290		
DUP								290		RPD < 5%
11	0526	8th						780		
12	0527	PALISADES						1200		
13	0528	10th						250		
14	0576	IB	MINER	11/21/07				-8.9		
15	0577	4A-1002						1.1		
16	0578	4A-340						630		
17	0579	4A-350						630		
18	0580	4A-380						630		
19	0581	4A-410						630		
20	0582	4A-440						630		
DUP								630		RPD < 5%
STD KCl - 10 mhos/cm										8-12——RPD < 20% of TV

$$\% RPD = \frac{|S1-S2| * 100}{(S1+S2)/2}$$

S1 = reading of 1st sample
S2 = reading of 2nd sample

conductivity.xls

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\NOV
Timebase: IC11
#Samples: 68

Created: 11/23/2007 9:03:48 AM by clv
Last Update: 11/23/2007 1:44:24 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
1	autocal1		1.0000	Standard	0	Finished	Perchlorate-IC11
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished	Perchlorate-IC11
3	autocal3		1.0000	Standard	4	Finished	Perchlorate-IC11
4	autocal4		1.0000	Standard	10	Finished	Perchlorate-IC11
5	autocal5		1.0000	Standard	25	Finished	Perchlorate-IC11
6	autocal6		1.0000	Standard	50	Finished	Perchlorate-IC11
7	autocal7		1.0000	Standard	100	Finished	Perchlorate-IC11
8	QCS	R201416 EXP 01/06/08	1.0000	Unknown	20	Finished	Perchlorate-IC11
9	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
10	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
11	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
12	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11
13	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
14	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
15	2711210638	MONTEREY SP1A	1.0000	Unknown		Finished	Perchlorate-IC11
16	2711200487	MILLER 2-350	1.0000	Unknown		Finished	Perchlorate-IC11
17	2711200488	MILLER 2-360	1.0000	Unknown		Finished	Perchlorate-IC11
18	2711200489	MILLER 2-370	1.0000	Unknown		Finished	Perchlorate-IC11
19	2711200490	FIELD BLANK	1.0000	Unknown		Finished	Perchlorate-IC11
20	2711200491	MILLER 2-380	1.0000	Unknown		Finished	Perchlorate-IC11
21	2711200492	MILLER 2-390	1.0000	Unknown		Finished	Perchlorate-IC11
22	2711200493	MILLER 2-400	1.0000	Unknown		Finished	Perchlorate-IC11
23	2711200494	MILLER 2-100	1.0000	Unknown		Finished	Perchlorate-IC11
24	2711200526	VICTORVAL INJ WELL	1.0000	Unknown		Finished	Perchlorate-IC11
25	2711200526-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
26	2711200526-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
27	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
28	2711200572_1/5	KM EFF	5.0000	Unknown	EC=9400	Finished	Perchlorate-IC11
29	2711200573_1/10000	KM INF	10000.0000	Unknown		Finished	Perchlorate-IC11
30	2711200655	SACCO W8	1.0000	Unknown		Finished	Perchlorate-IC11
31	2711200658	SACCO W36	1.0000	Unknown		Finished	Perchlorate-IC11
32	2711200660	SACCO W42	1.0000	Unknown		Finished	Perchlorate-IC11
33	2711200661	SACCO W43	1.0000	Unknown		Finished	Perchlorate-IC11
34	2711200662	SACCO W41	1.0000	Unknown		Finished	Perchlorate-IC11
35	2711200665	SACCO W45	1.0000	Unknown		Finished	Perchlorate-IC11
36	2711200666	SACCO W47	1.0000	Unknown		Finished	Perchlorate-IC11
37	2711200672	SACCO W52	1.0000	Unknown		Finished	Perchlorate-IC11
38	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11
39	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
40	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
41	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
42	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\NOV
Timebase: IC11
#Samples: 68

Created: 11/23/2007 9:03:48 AM by clv
Last Update: 11/23/2007 1:44:24 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
1	autocal1	IC#4-CLO4-LOW	10/23/2007 9:05:47 AM	clv
2	autocal2	IC#4-CLO4-LOW	10/23/2007 9:28:11 AM	clv
3	autocal3	IC#4-CLO4-LOW	10/23/2007 10:02:29 AM	clv
4	autocal4	IC#4-CLO4-LOW	10/23/2007 10:24:53 AM	clv
5	autocal5	IC#4-CLO4-LOW	10/23/2007 10:47:18 AM	clv
6	autocal6	IC#4-CLO4-LOW	10/23/2007 11:09:42 AM	clv
7	autocal7	IC#4-CLO4-LOW	10/23/2007 11:32:06 AM	clv
8	QCS	IC#4-CLO4-LOW	11/23/2007 10:25:20 AM	clv
9	IPC	IC#4-CLO4-LOW	11/23/2007 10:47:43 AM	clv
10	-MBLK	IC#4-CLO4-LOW	11/23/2007 11:10:07 AM	clv
11	-MRLCHK-2	IC#4-CLO4-LOW	11/23/2007 11:32:31 AM	clv
12	-MRLCHK-4	IC#4-CLO4-LOW	11/23/2007 11:54:55 AM	clv
13	-LCS1	IC#4-CLO4-LOW	11/23/2007 12:17:19 PM	clv
14	-LCS2	IC#4-CLO4-LOW	11/23/2007 12:39:43 PM	clv
15	2711210638	IC#4-CLO4-LOW	11/23/2007 1:02:07 PM	clv
16	2711200487	IC#4-CLO4-LOW	11/23/2007 1:24:31 PM	clv
17	2711200488	IC#4-CLO4-LOW	11/23/2007 1:46:55 PM	clv
18	2711200489	IC#4-CLO4-LOW	11/23/2007 2:09:19 PM	clv
19	2711200490	IC#4-CLO4-LOW	11/23/2007 2:31:43 PM	clv
20	2711200491	IC#4-CLO4-LOW	11/23/2007 2:54:07 PM	clv
21	2711200492	IC#4-CLO4-LOW	11/23/2007 3:16:31 PM	clv
22	2711200493	IC#4-CLO4-LOW	11/23/2007 3:38:55 PM	clv
23	2711200494	IC#4-CLO4-LOW	11/23/2007 4:01:19 PM	clv
24	2711200526	IC#4-CLO4-LOW	11/23/2007 4:23:42 PM	clv
25	2711200526-MS	IC#4-CLO4-LOW	11/23/2007 4:46:06 PM	clv
26	2711200526-MSD	IC#4-CLO4-LOW	11/23/2007 5:08:30 PM	clv
27	CCV	IC#4-CLO4-LOW	11/23/2007 5:30:54 PM	clv
28	2711200572_1/5	IC#4-CLO4-LOW	11/23/2007 5:53:18 PM	clv
29	2711200573_1/10000	IC#4-CLO4-LOW	11/23/2007 6:15:42 PM	clv
30	2711200655	IC#4-CLO4-LOW	11/23/2007 6:38:06 PM	clv
31	2711200658	IC#4-CLO4-LOW	11/23/2007 7:00:30 PM	clv
32	2711200660	IC#4-CLO4-LOW	11/23/2007 7:22:54 PM	clv
33	2711200661	IC#4-CLO4-LOW	11/23/2007 7:45:17 PM	clv
34	2711200662	IC#4-CLO4-LOW	11/23/2007 8:07:41 PM	clv
35	2711200665	IC#4-CLO4-LOW	11/23/2007 8:30:05 PM	clv
36	2711200666	IC#4-CLO4-LOW	11/23/2007 8:52:29 PM	clv
37	2711200672	IC#4-CLO4-LOW	11/23/2007 9:14:53 PM	clv
38	HCV	IC#4-CLO4-LOW	11/23/2007 9:37:17 PM	clv
39	IPC	IC#4-CLO4-LOW	11/23/2007 9:59:41 PM	clv
40	-MBLK	IC#4-CLO4-LOW	11/23/2007 10:22:05 PM	clv
41	-MRLCHK-2	IC#4-CLO4-LOW	11/23/2007 10:44:28 PM	clv
42	-MRLCHK-4	IC#4-CLO4-LOW	11/23/2007 11:06:52 PM	clv

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\NOV
Timebase: IC11
#Samples: 68

Created: 11/23/2007 9:03:48 AM by clv
Last Update: 11/23/2007 1:44:24 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
43	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
44	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
45	2711200778	KM UPGRADIENT	1.0000	Unknown		Finished	Perchlorate-IC11
46	2711200780	KM 6.05	1.0000	Unknown		Finished	Perchlorate-IC11
47	2711200781	KM 5.5	1.0000	Unknown		Finished	Perchlorate-IC11
48	2711200782	KM 0.55	1.0000	Unknown		Finished	Perchlorate-IC11
49	2711210357	FOOTHILL MWD A	1.0000	Unknown		Finished	Perchlorate-IC11
50	2711210501	TUCSON 730	1.0000	Unknown		Finished	Perchlorate-IC11
51	2711210522	SLOCNTY W3	1.0000	Unknown		Finished	Perchlorate-IC11
52	2711210523	SLOCNTY W4	1.0000	Unknown		Finished	Perchlorate-IC11
53	2711210524	SLOCNTY TERRACE	1.0000	Unknown		Finished	Perchlorate-IC11
54	2711210525	SLOCNTY THIRD	1.0000	Unknown		Finished	Perchlorate-IC11
55	2711210525-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
56	2711210525-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
57	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
58	2711210526	SLOCNTY 8TH	1.0000	Unknown		Finished	Perchlorate-IC11
59	2711210527	SLOCNTY PALISADES	1.0000	Unknown		Finished	Perchlorate-IC11
60	2711210528	SLOCNTY 10TH	1.0000	Unknown		Finished	Perchlorate-IC11
61	2711210576	MILLER FIELD BLANK	1.0000	Unknown		Finished	Perchlorate-IC11
62	2711210577	MILLER 4A-100R	1.0000	Unknown		Finished	Perchlorate-IC11
63	2711210578	MILLER 4A-340	1.0000	Unknown		Finished	Perchlorate-IC11
64	2711210579	MILLER 4A-350	1.0000	Unknown		Finished	Perchlorate-IC11
65	2711210580	MILLER 4A-380	1.0000	Unknown		Finished	Perchlorate-IC11
66	2711210581	MILLER 4A-410	1.0000	Unknown		Finished	Perchlorate-IC11
67	2711210582	MILLER 4A-440	1.0000	Unknown		Finished	Perchlorate-IC11
68	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\NOV
Timebase: IC11
#Samples: 68

Created: 11/23/2007 9:03:48 AM by clv
Last Update: 11/23/2007 1:44:24 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
43	-LCS1	IC#4-CLO4-LOW	11/23/2007 11:29:16 PM	clv
44	-LCS2	IC#4-CLO4-LOW	11/23/2007 11:51:40 PM	clv
45	2711200778	IC#4-CLO4-LOW	11/24/2007 12:14:04 AM	clv
46	2711200780	IC#4-CLO4-LOW	11/24/2007 12:36:28 AM	clv
47	2711200781	IC#4-CLO4-LOW	11/24/2007 12:58:52 AM	clv
48	2711200782	IC#4-CLO4-LOW	11/24/2007 1:21:16 AM	clv
49	2711210357	IC#4-CLO4-LOW	11/24/2007 1:43:39 AM	clv
50	2711210501	IC#4-CLO4-LOW	11/24/2007 2:06:03 AM	clv
51	2711210522	IC#4-CLO4-LOW	11/24/2007 2:28:27 AM	clv
52	2711210523	IC#4-CLO4-LOW	11/24/2007 2:50:51 AM	clv
53	2711210524	IC#4-CLO4-LOW	11/24/2007 3:13:15 AM	clv
54	2711210525	IC#4-CLO4-LOW	11/24/2007 3:35:39 AM	clv
55	2711210525-MS	IC#4-CLO4-LOW	11/24/2007 3:58:03 AM	clv
56	2711210525-MSD	IC#4-CLO4-LOW	11/24/2007 4:20:27 AM	clv
57	CCV	IC#4-CLO4-LOW	11/24/2007 4:42:51 AM	clv
58	2711210526	IC#4-CLO4-LOW	11/24/2007 5:05:15 AM	clv
59	2711210527	IC#4-CLO4-LOW	11/24/2007 5:27:39 AM	clv
60	2711210528	IC#4-CLO4-LOW	11/24/2007 5:50:03 AM	clv
61	2711210576	IC#4-CLO4-LOW	11/24/2007 6:12:27 AM	clv
62	2711210577	IC#4-CLO4-LOW	11/24/2007 6:34:51 AM	clv
63	2711210578	IC#4-CLO4-LOW	11/24/2007 6:57:15 AM	clv
64	2711210579	IC#4-CLO4-LOW	11/24/2007 7:19:39 AM	clv
65	2711210580	IC#4-CLO4-LOW	11/24/2007 7:42:02 AM	clv
66	2711210581	IC#4-CLO4-LOW	11/24/2007 8:04:26 AM	clv
67	2711210582	IC#4-CLO4-LOW	11/24/2007 8:26:50 AM	clv
68	HCV	IC#4-CLO4-LOW	11/24/2007 8:49:14 AM	clv

1   autocal1

0

Sample Name:	**autocal1**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**10/23/2007 09:05**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
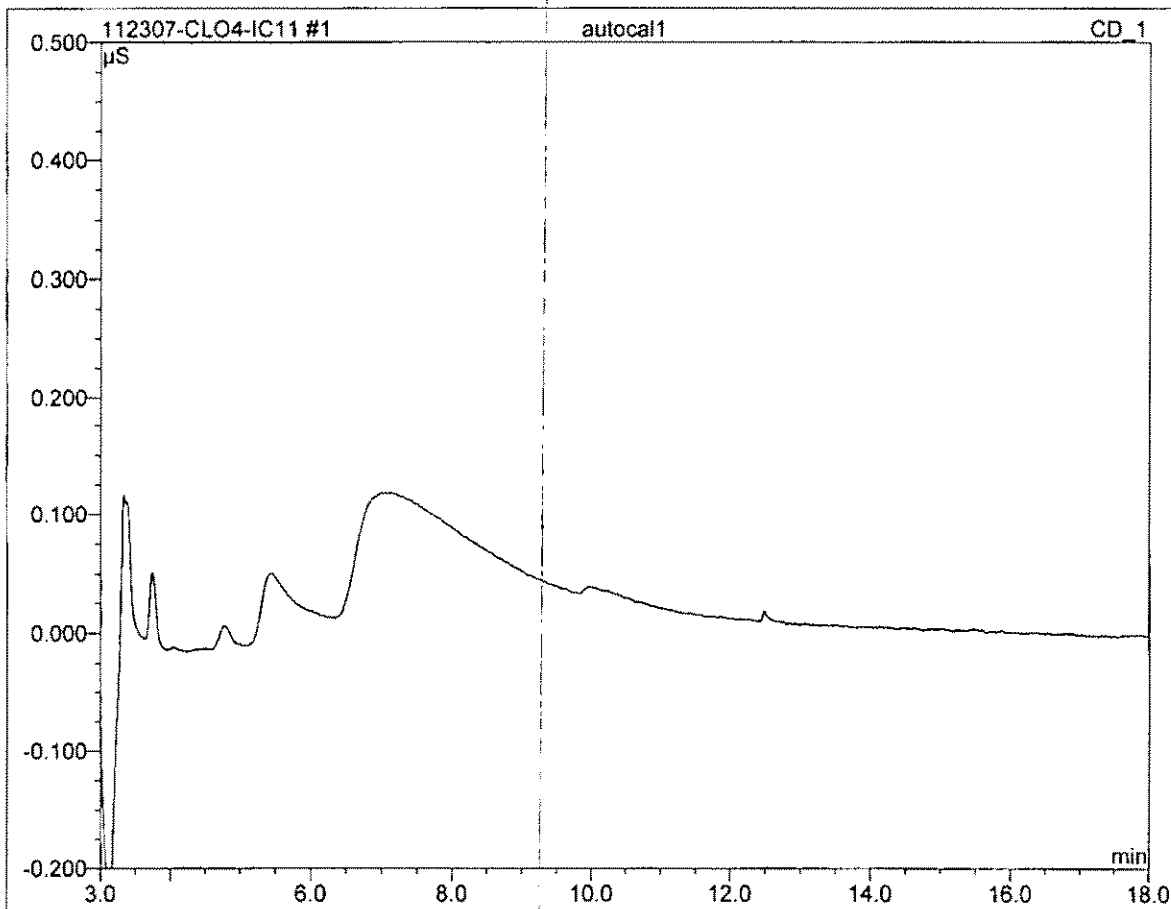
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11

2   autocal2

2

Sample Name:	**autocal2**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**10/23/2007 09:28**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
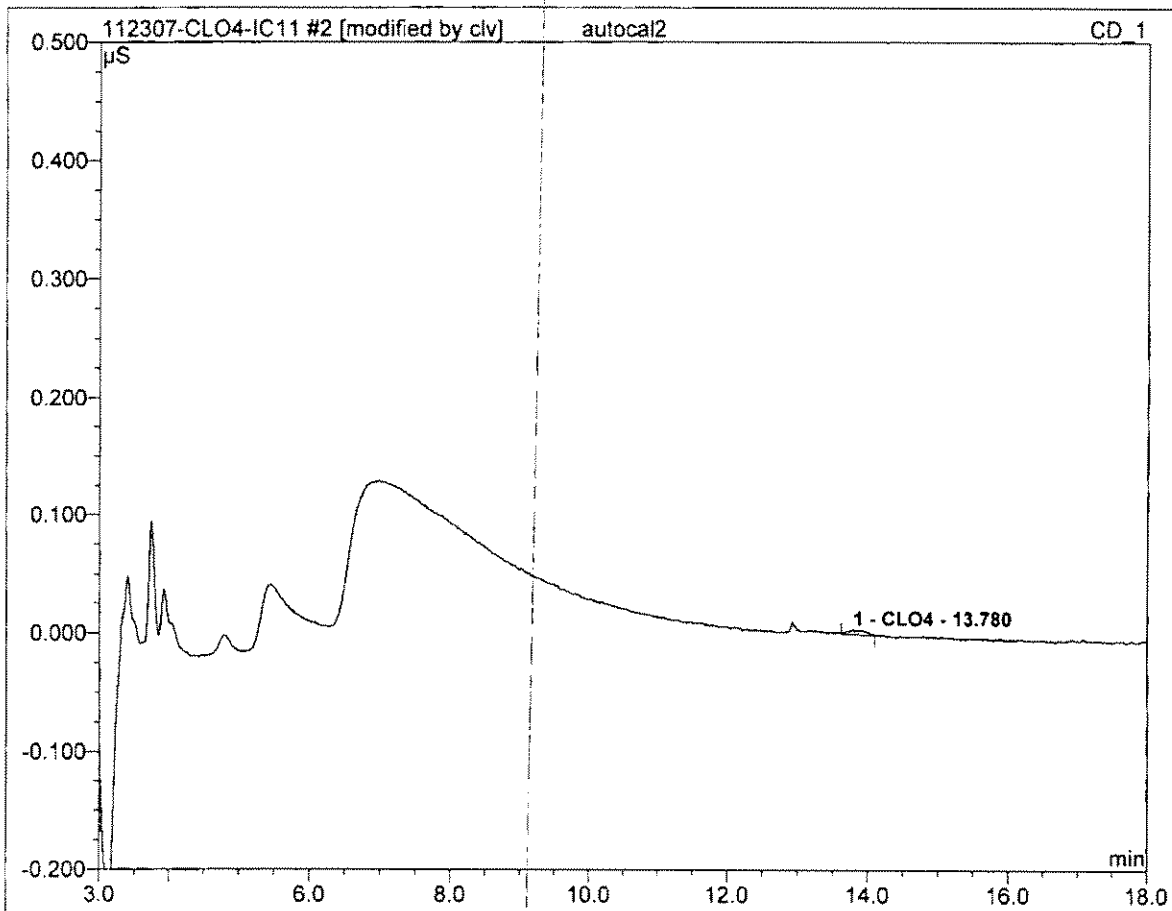
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.78	CLO4	0.004	0.001	100.00	1.504	BMB*
Total:			0.004	0.001	100.00	1.504	

3   autocal3

4

Sample Name:	**autocal3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**10/23/2007 10:02**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**
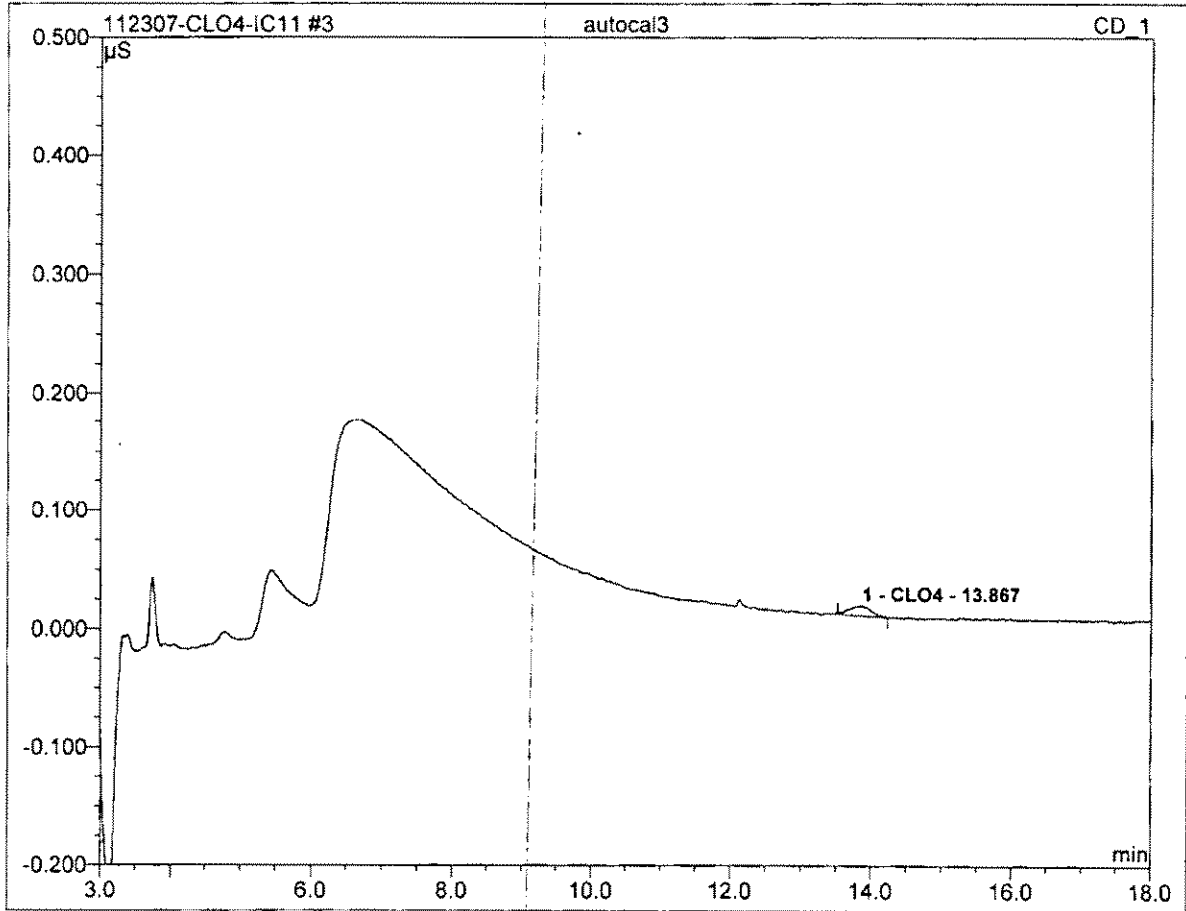
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.87	CLO4	0.009	0.003	100.00	3.911	BMB
Total:			0.009	0.003	100.00	3.911	

4 autocal4

10

Sample Name:	**autocal4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**10/23/2007 10:24**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**
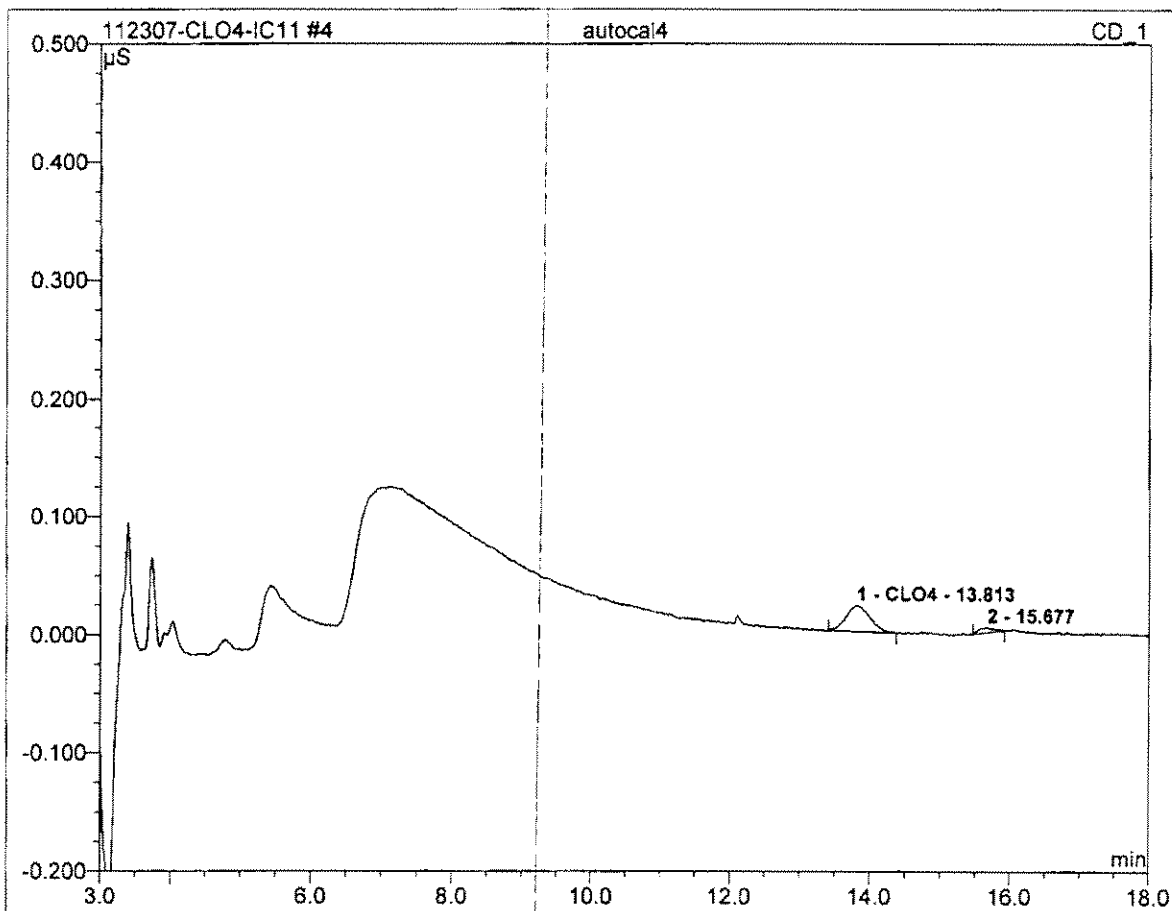
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.81	CLO4	0.022	0.009	88.53	11.069	BMB
Total:			0.022	0.009	88.53	11.069	

5   autocal5

25

Sample Name:	**autocal5**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**10/23/2007 10:47**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**

112307-CLO4-IC11 #5   autocal5   CD_1
1 - CLO4 - 13.847
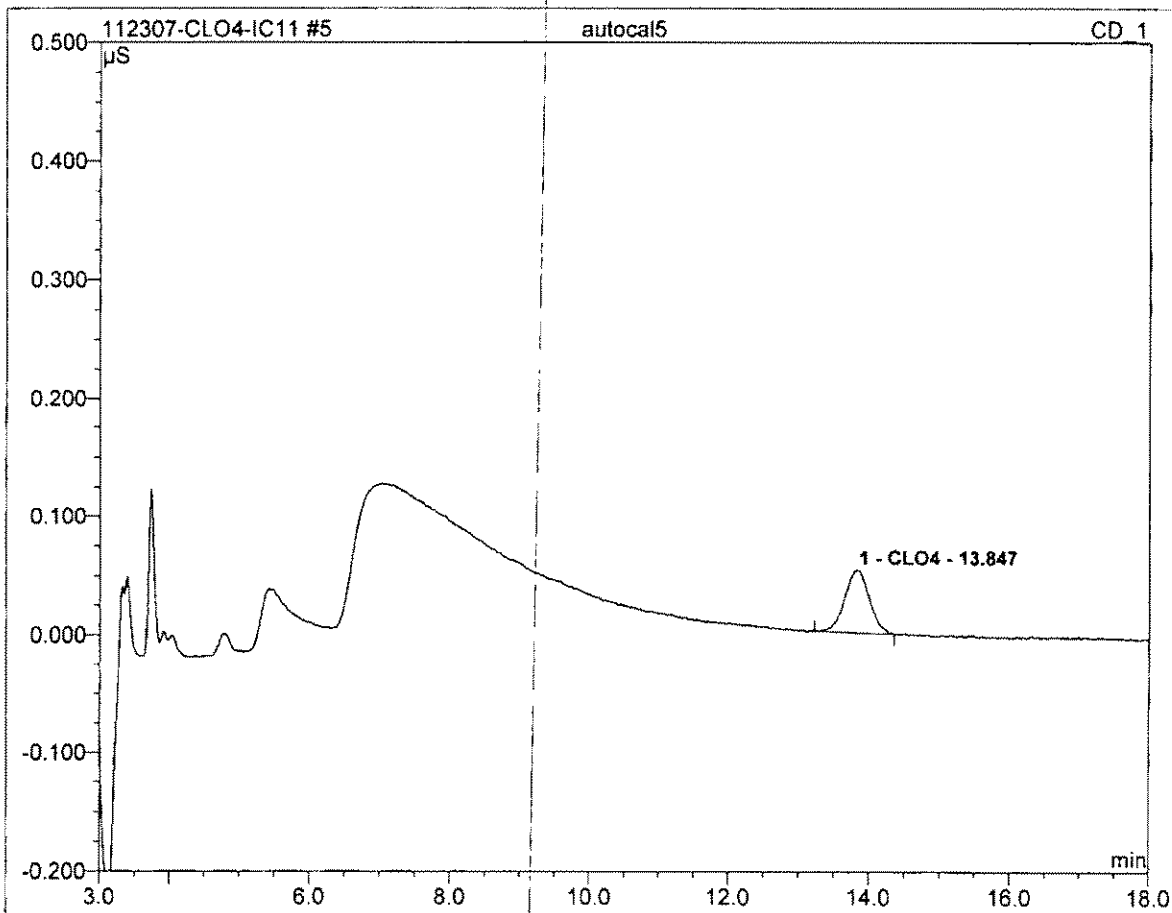
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.85	CLO4	0.053	0.022	100.00	25.957	BMB
Total:			0.053	0.022	100.00	25.957	

6   autocal6

50

Sample Name:	**autocal6**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**10/23/2007 11:09**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
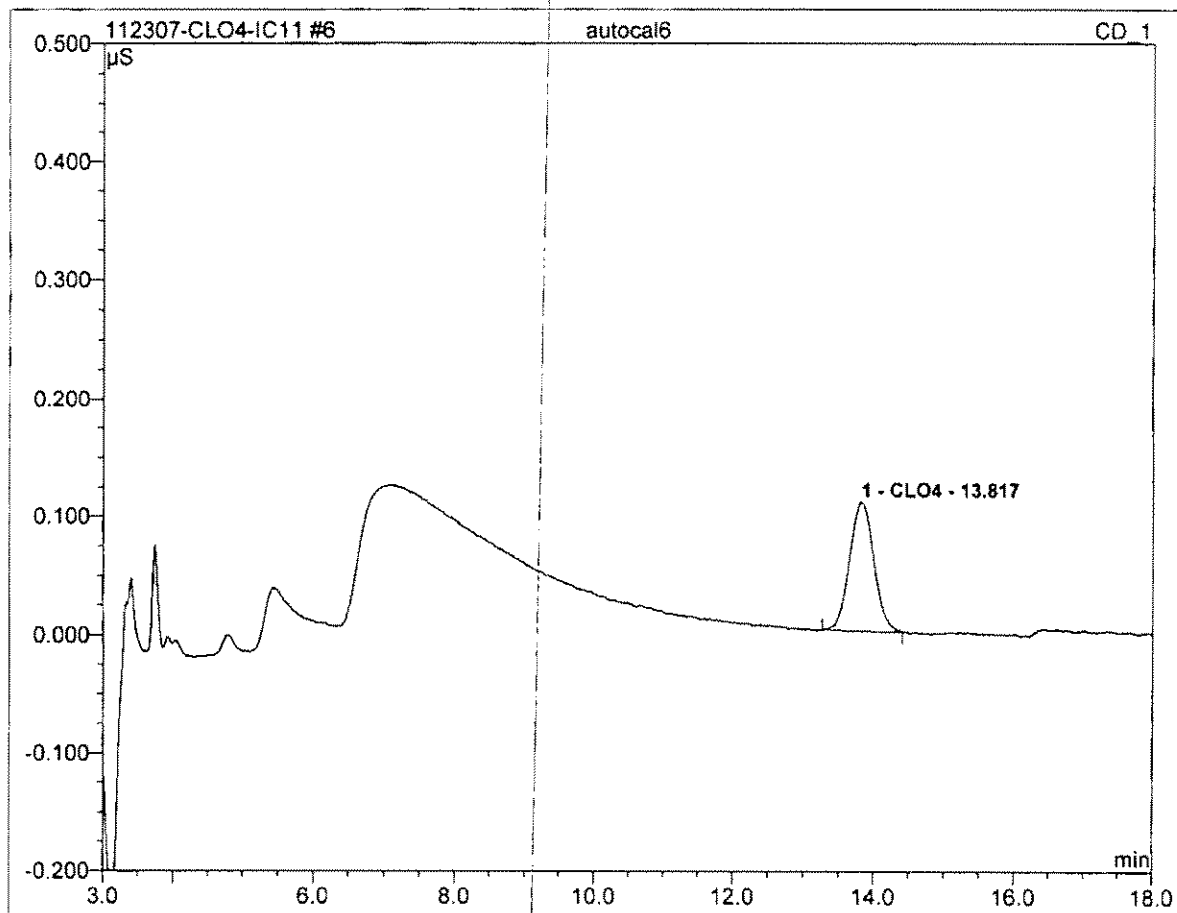
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.82	CLO4	0.110	0.044	100.00	49.093	BMB
Total:			0.110	0.044	100.00	49.093	

CLO4-raja/Integration

7 autocal7

100

Sample Name:	**autocal7**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**10/23/2007 11:32**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
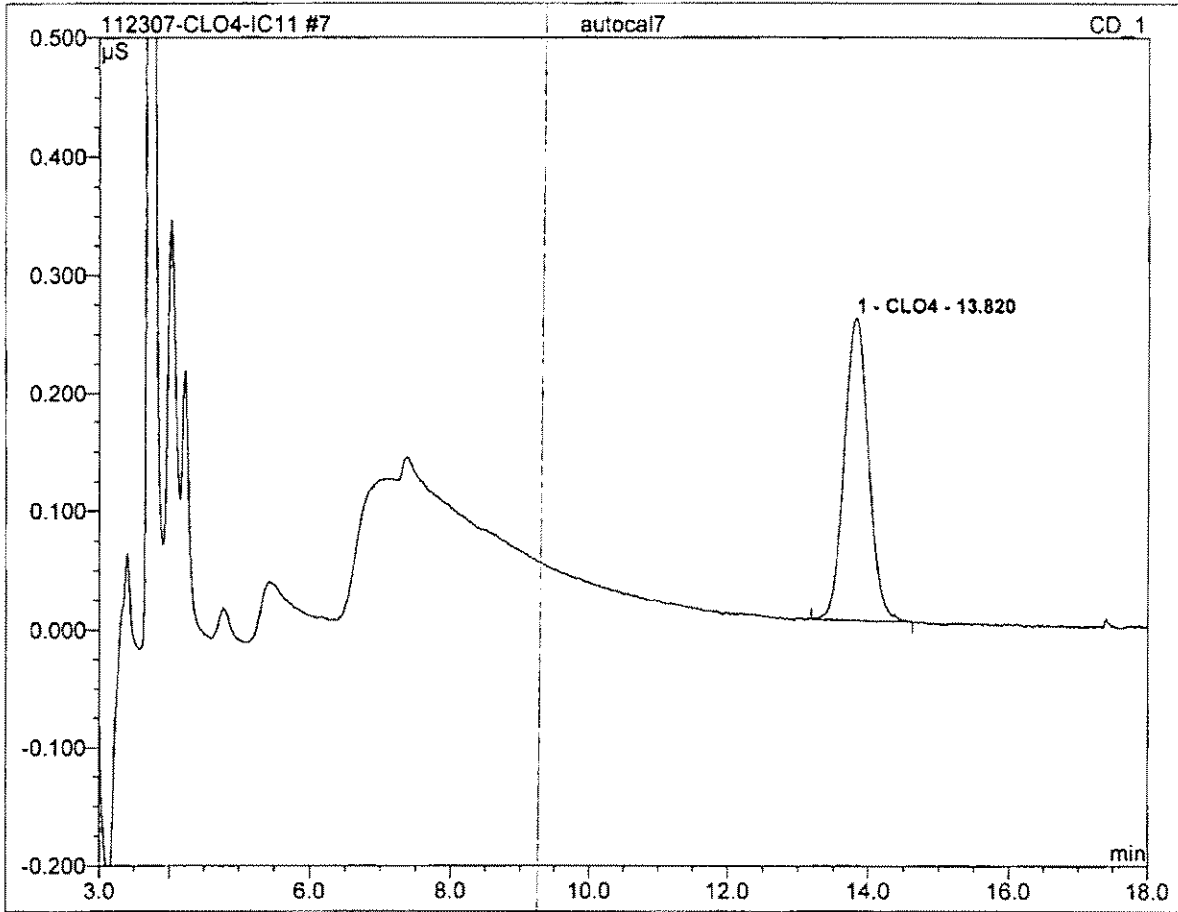
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.82	CLO4	0.256	0.102	100.00	100.133	BMB
Total:			0.256	0.102	100.00	100.133	

CLO4-raja/Integration

7 autocal7

100

Sample Name:	autocal7	Injection Volume:	20.0
Vial Number:	109	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	Perchlorate-IC11	Bandwidth:	n.a.
Quantif. Method:	IC#4-CLO4-LOW	Dilution Factor:	1.0000
Recording Time:	##############	Sample Weight:	1.0000
Run Time (min):	20.00	Sample Amount:	1.0000
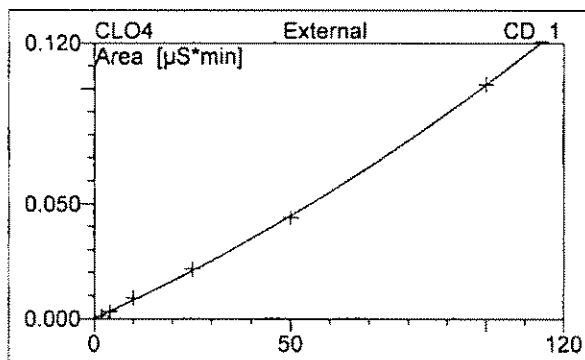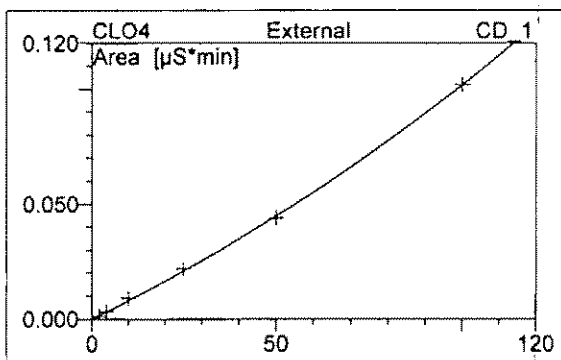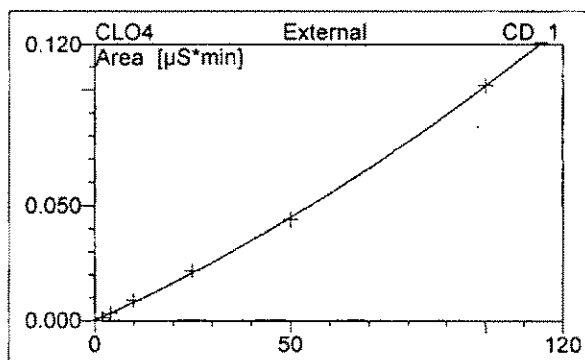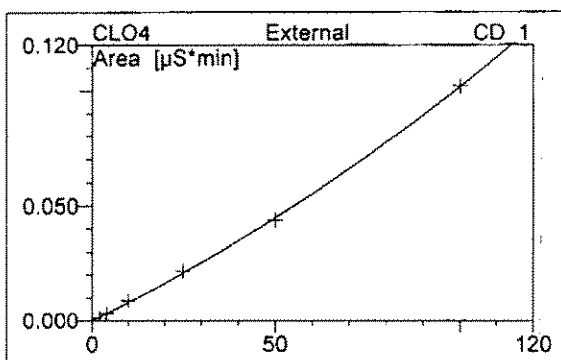
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.82	CLO4	Quad	6	99.7646	0.0000	0.0008	0.0000
Average:					99.7646	0.0000	0.0008	0.0000

8 QCS

20

Sample Name:	**QCS**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 10:25**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
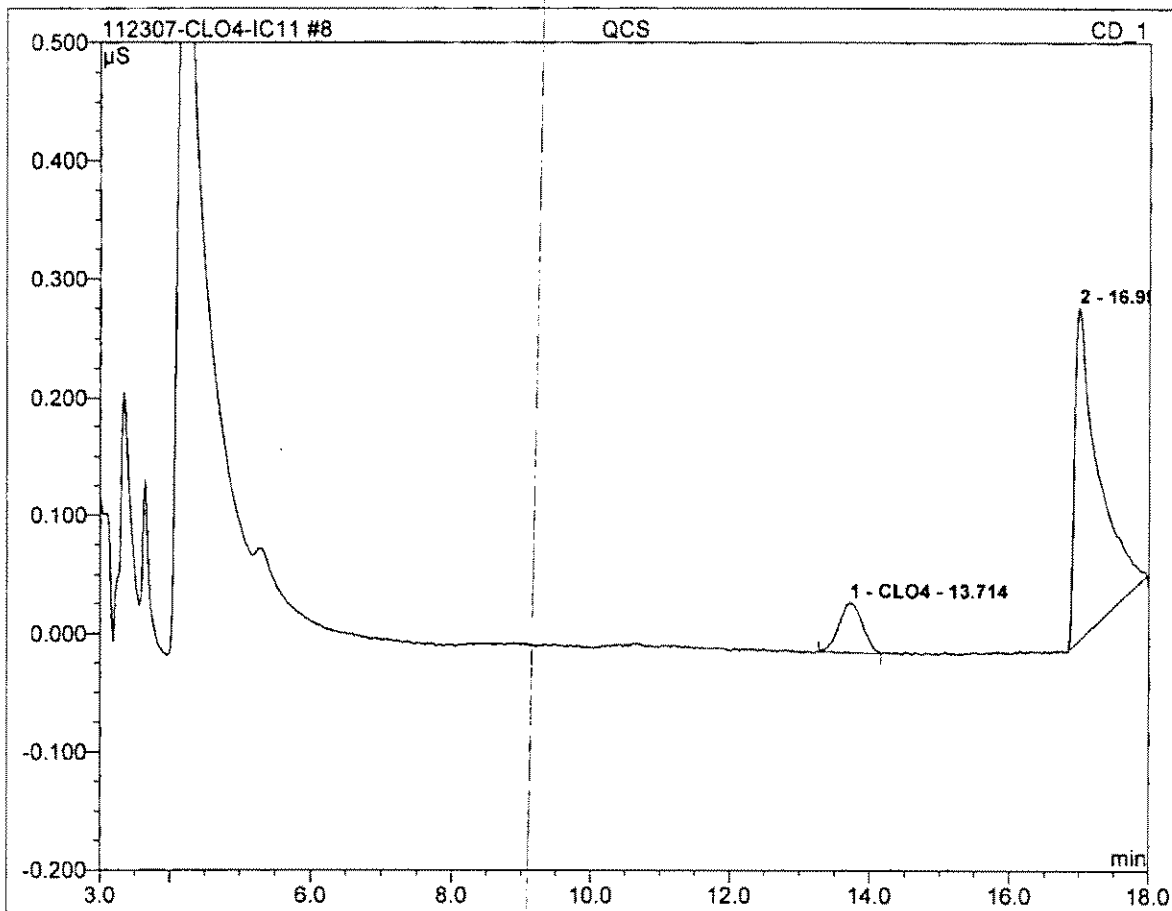
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.71	CLO4	0.042	0.016	12.79	19.902	BMB
Total:			0.042	0.016	12.79	19.902	

CLO4-raja/Integration

9 IPC

25

Sample Name:	**IPC**		Channel:	**CD_1**
Sample Type:	**unknown**		Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 10:47**		Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**		Dilution Factor:	**1.0000**

112307-CLO4-IC11 #9   IPC   CD_1
1 - CLO4 - 13.670
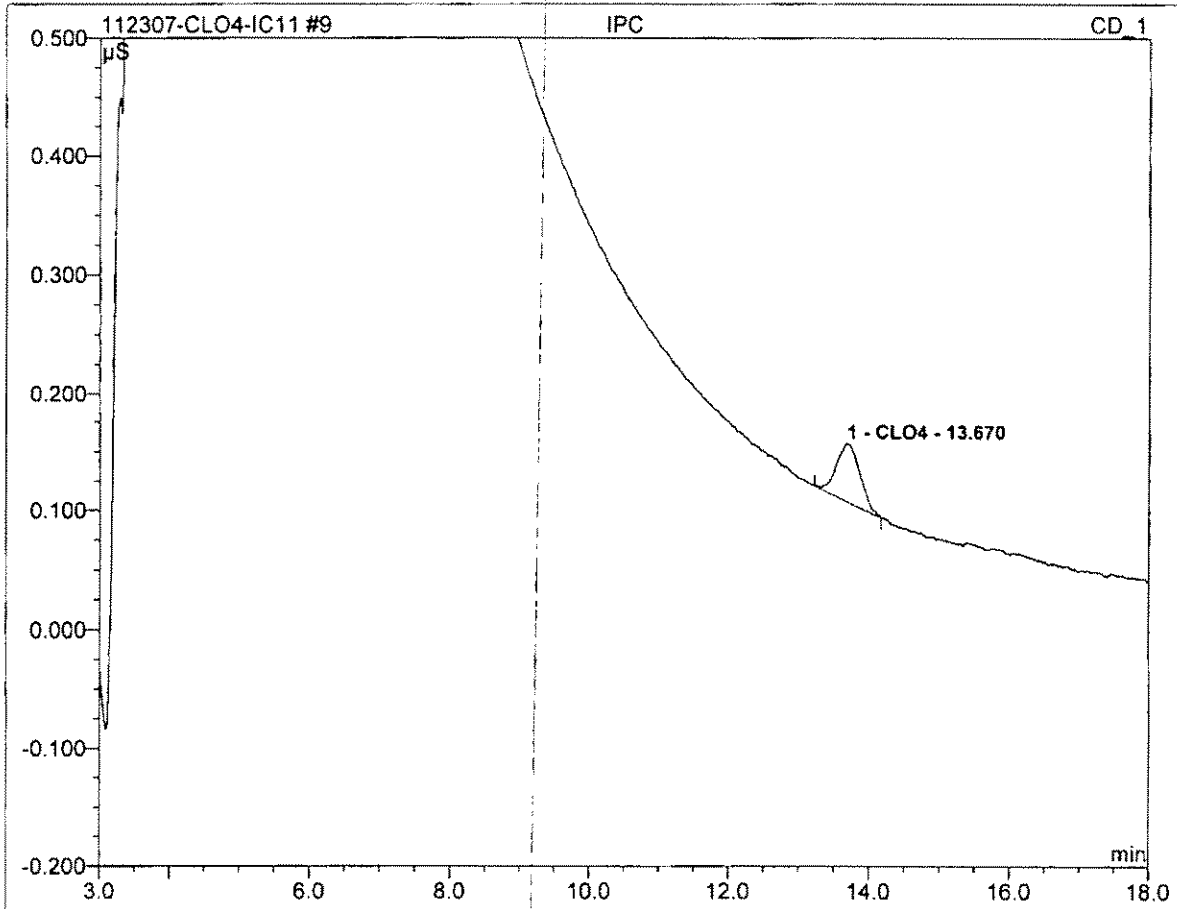
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.67	CLO4	0.048	0.019	100.00	23.104	BMB
Total:			0.048	0.019	100.00	23.104	

10 -MBLK

Sample Name:	**-MBLK**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 11:10**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**

112307-CLO4-IC11 #10   -MBLK   CD_1
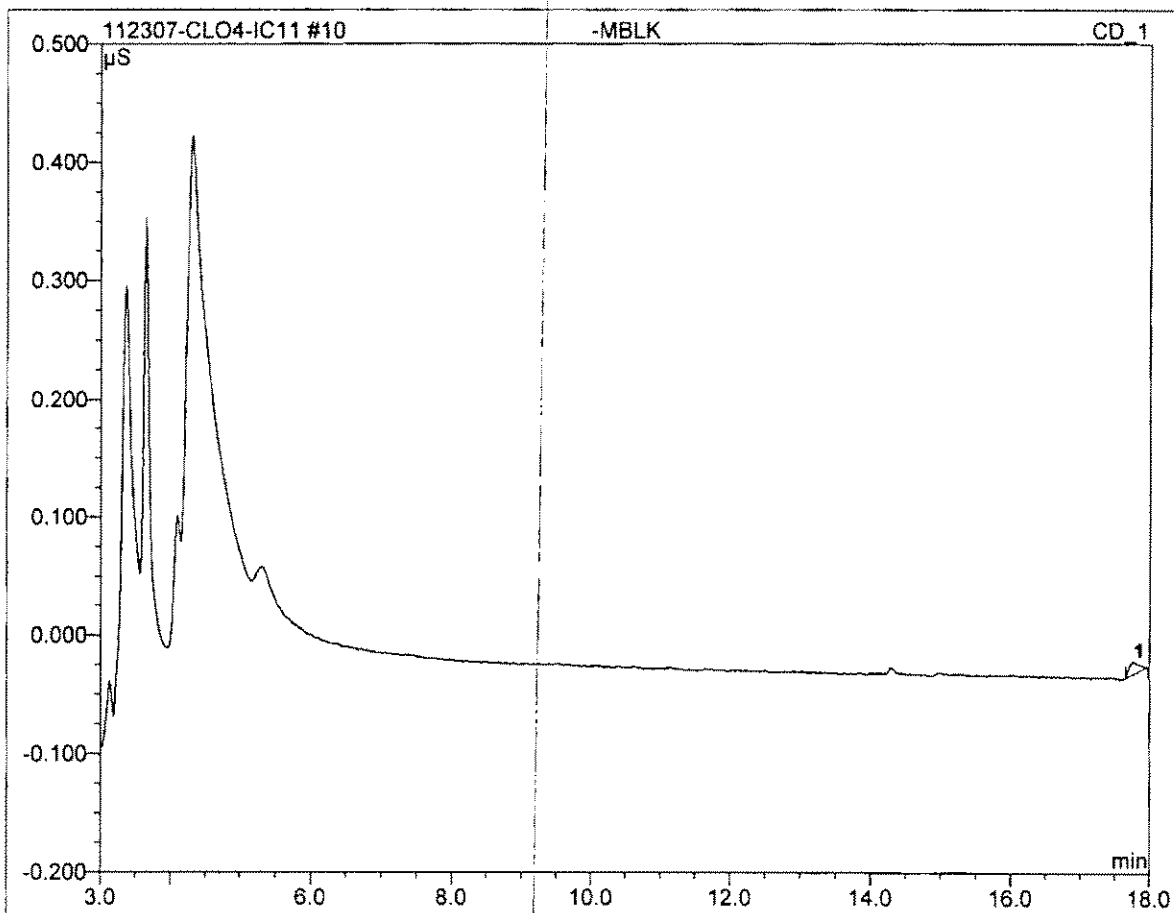
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 -MRLCHK-2

2

Sample Name:	-MRLCHK-2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 11:32	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
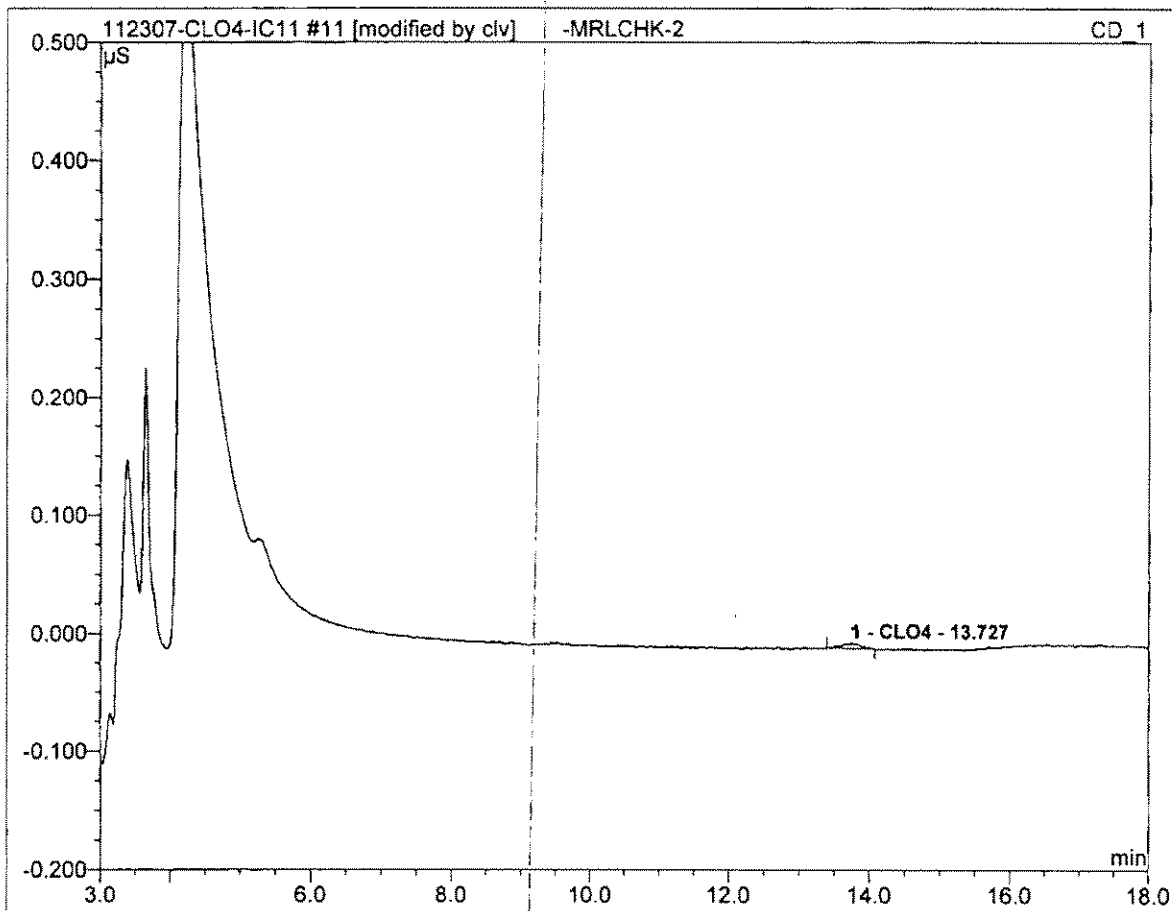
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.005	0.002	100.00	1.963	BMB*
Total:			0.005	0.002	100.00	1.963	

12 -MRLCHK-4

4

Sample Name:	**-MRLCHK-4**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 11:54**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
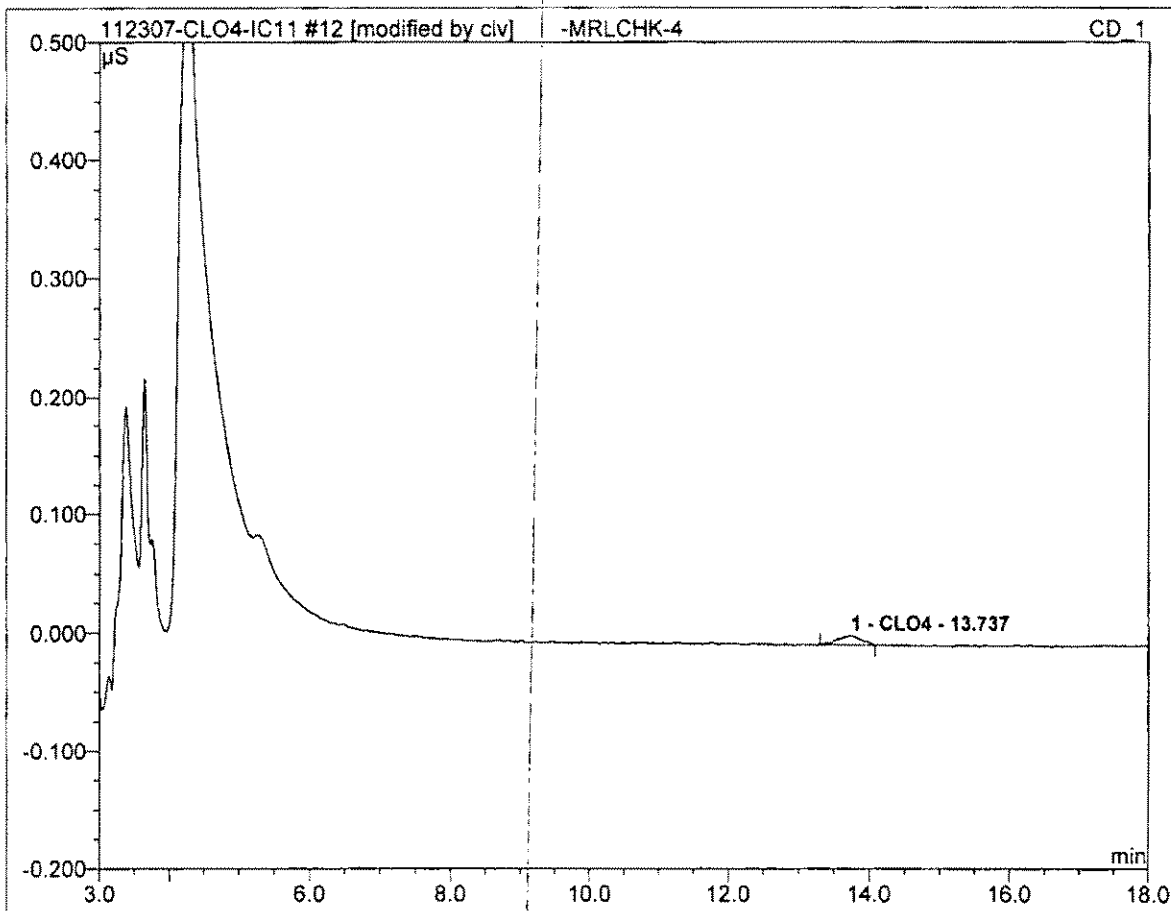
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.008	0.003	100.00	4.014	BMB*
Total:			0.008	0.003	100.00	4.014	

13 -LCS1

25

Sample Name:	-LCS1	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 12:17	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
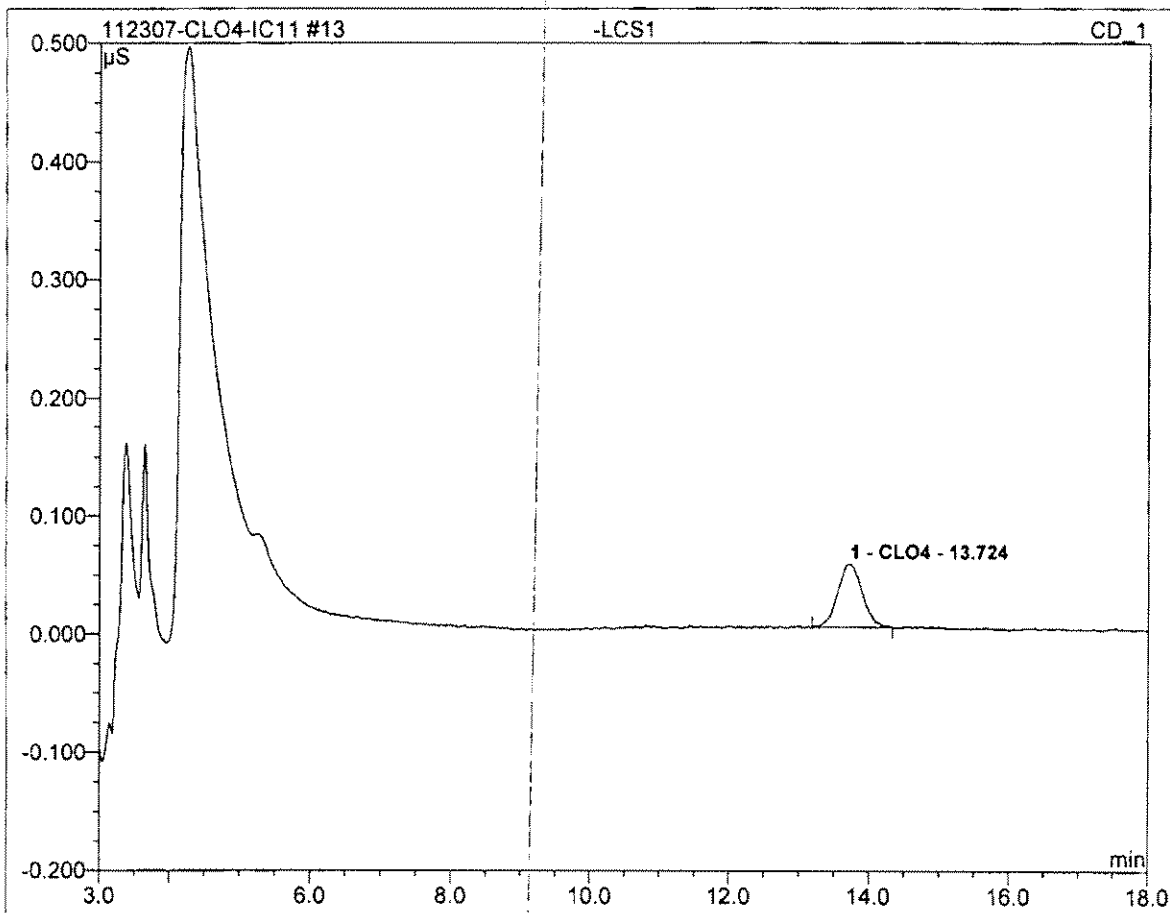
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.054	0.022	100.00	26.111	BMB
Total:			0.054	0.022	100.00	26.111	

14 -LCS2

25

Sample Name:	-LCS2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 12:39	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
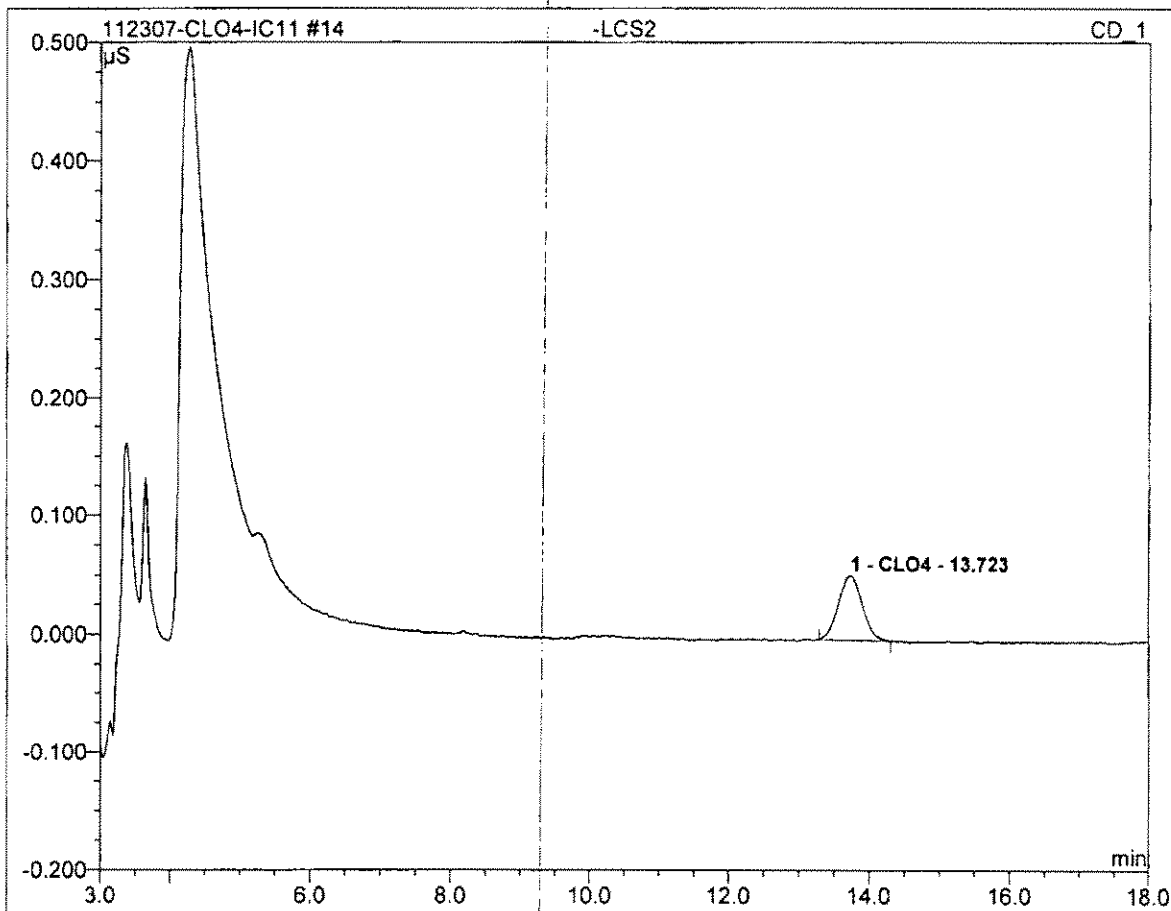
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.055	0.021	100.00	25.666	BMB
Total:			0.055	0.021	100.00	25.666	

24 2711200526

Sample Name:	2711200526	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 16:23	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
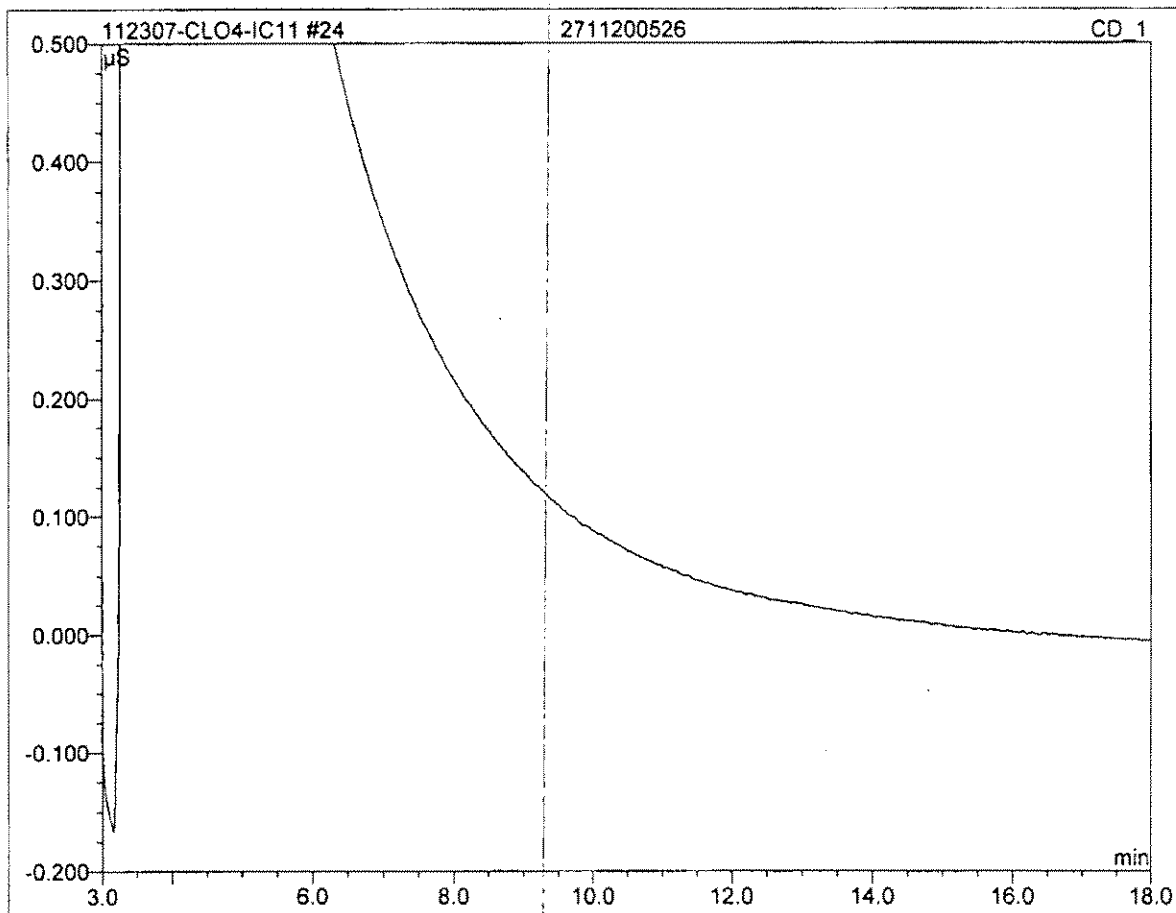
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

25 2711200526-MS

25

Sample Name:	2711200526-MS	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 16:46	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
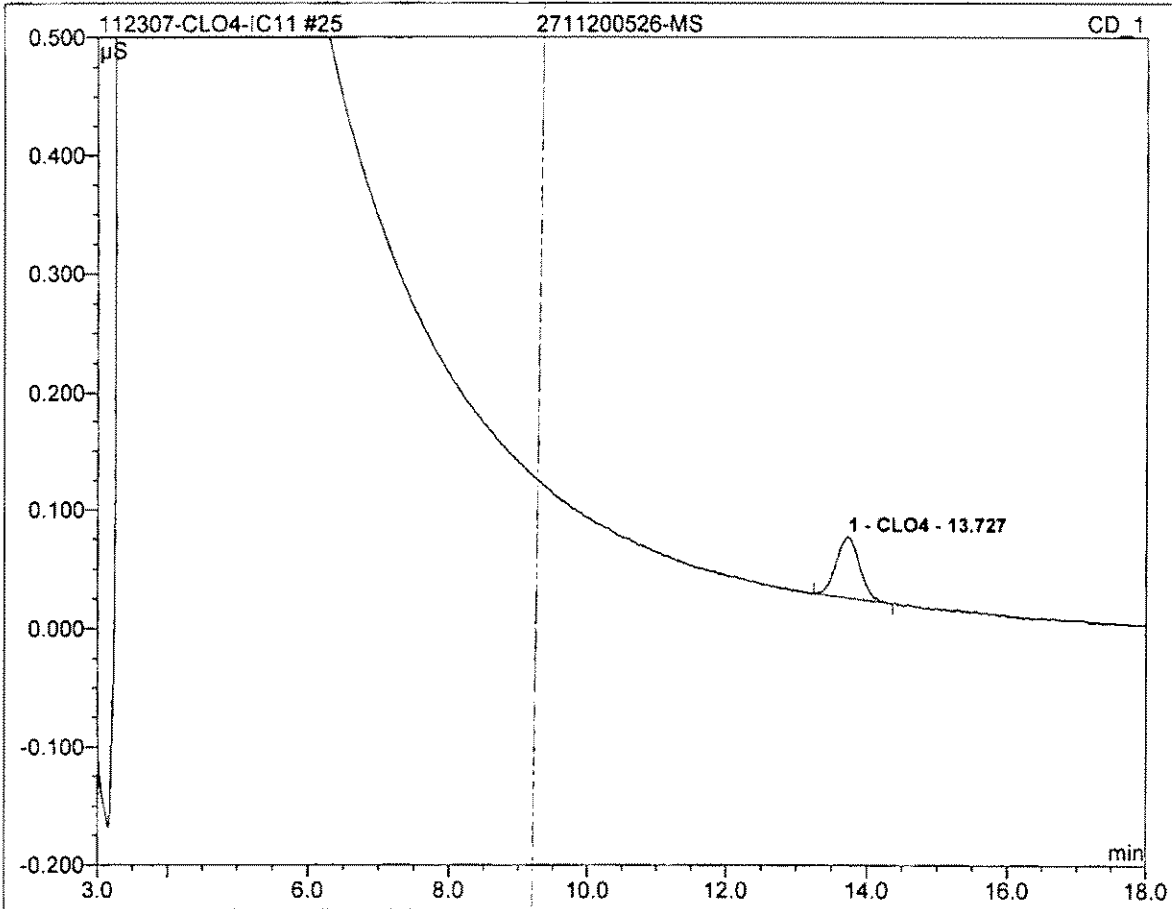
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.052	0.020	100.00	23.820	BMB
Total:			0.052	0.020	100.00	23.820	

26 2711200526-MSD

25

Sample Name:	2711200526-MSD	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 17:08	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
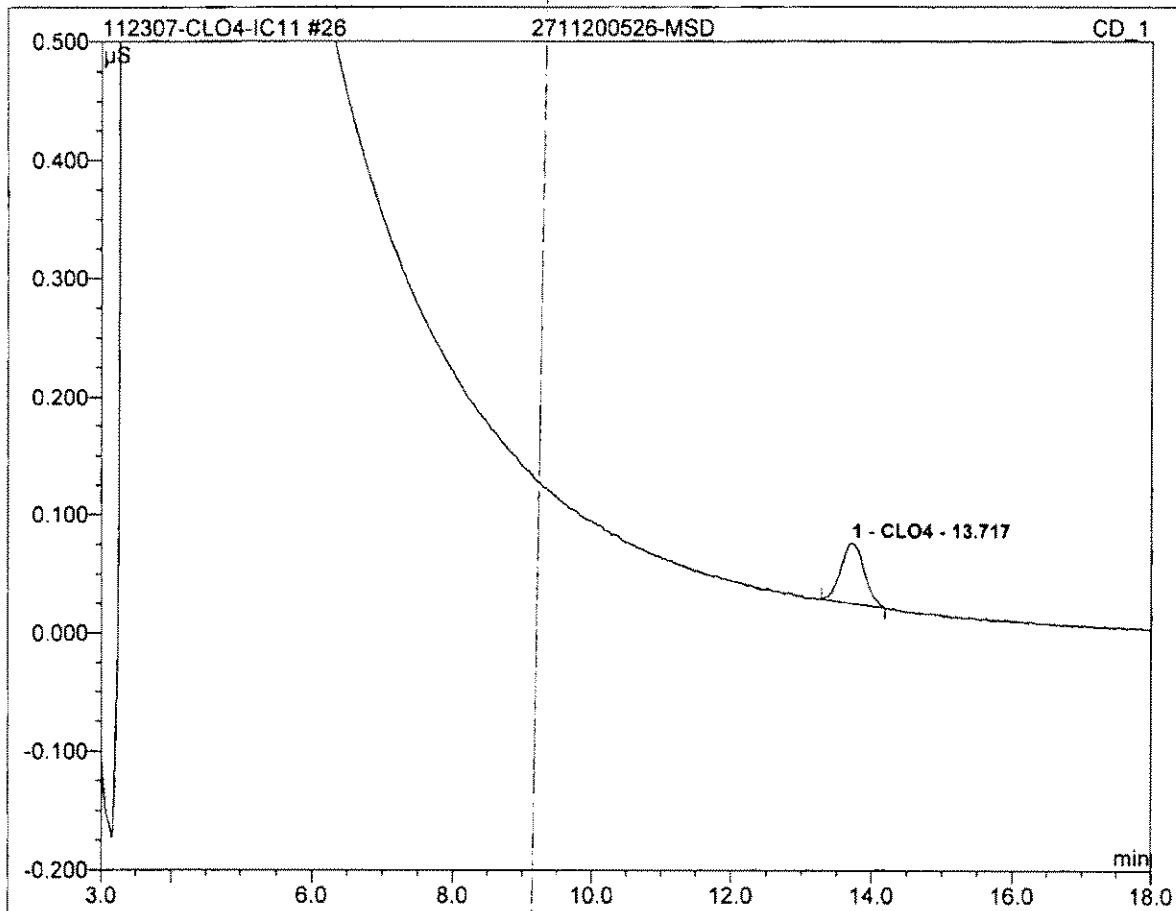
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.051	0.020	100.00	23.814	BMB
Total:			0.051	0.020	100.00	23.814	

27 CCV

25

Sample Name:	**CCV**		Channel:	**CD_1**
Sample Type:	**unknown**		Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 17:30**		Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**		Dilution Factor:	**1.0000**

112307-CLO4-IC11 #27   CCV   CD_1

1 - CLO4 - 13.740
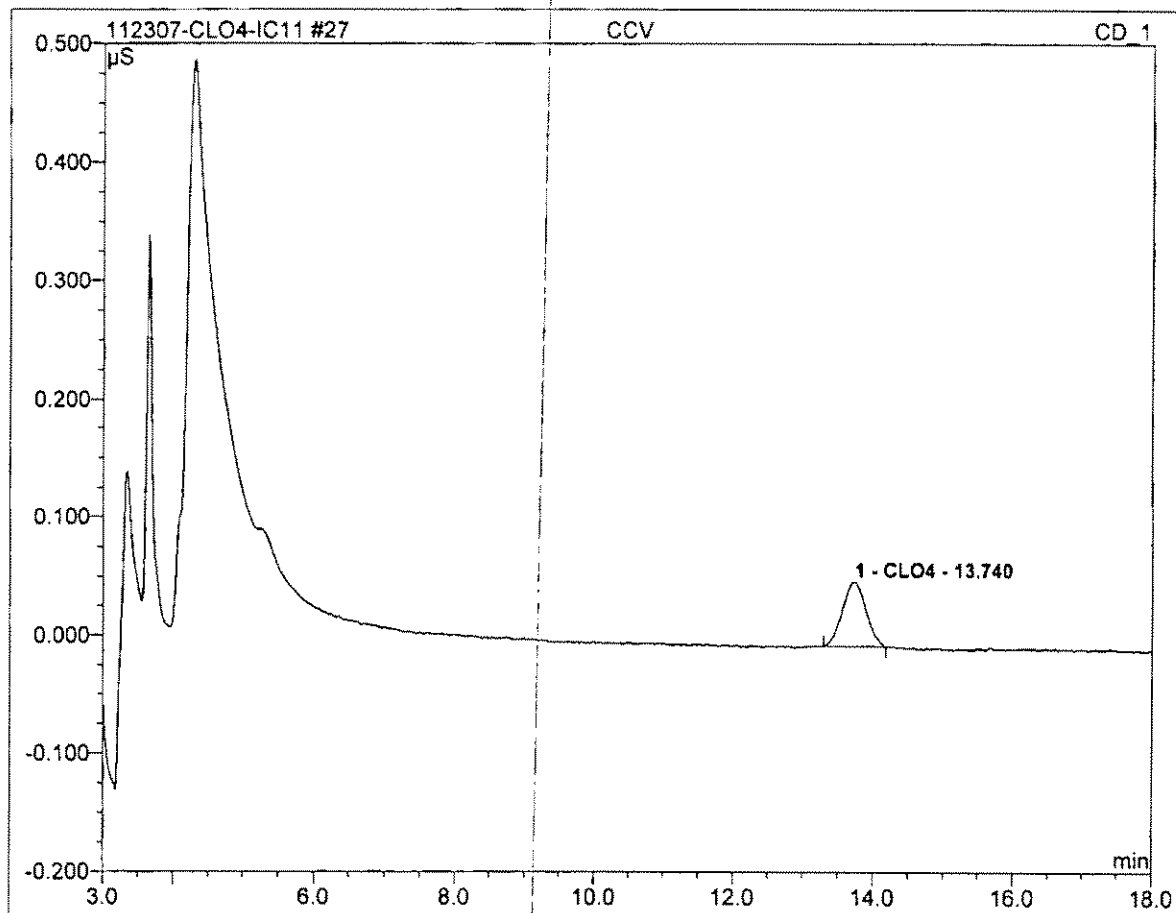
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.055	0.021	100.00	25.340	BMB
Total:			0.055	0.021	100.00	25.340	

28 2711200572_1/5

EC=9400

Sample Name:	2711200572_1/5	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 17:53	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	5.0000
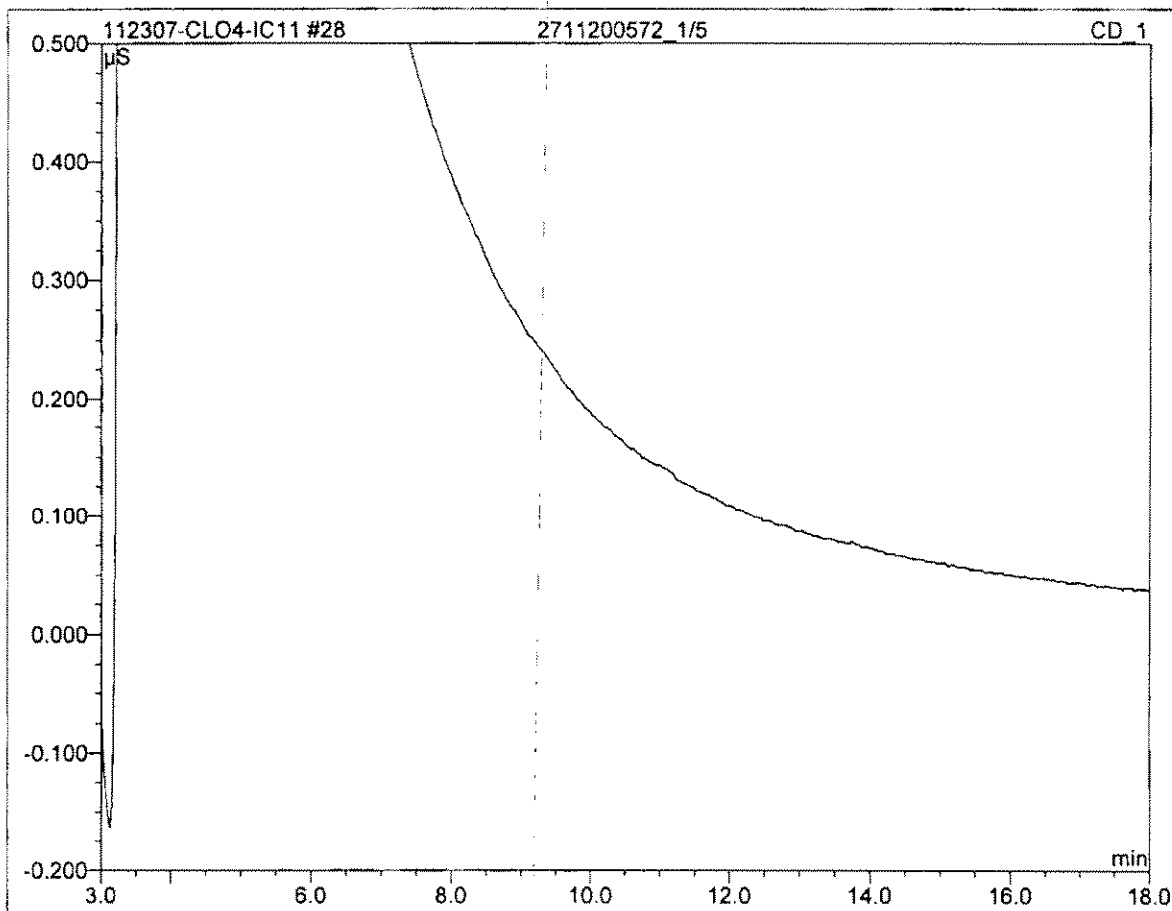
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

29 2711200573_1/10000

Sample Name:	2711200573_1/10000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	11/23/2007 18:15	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	10000.0000
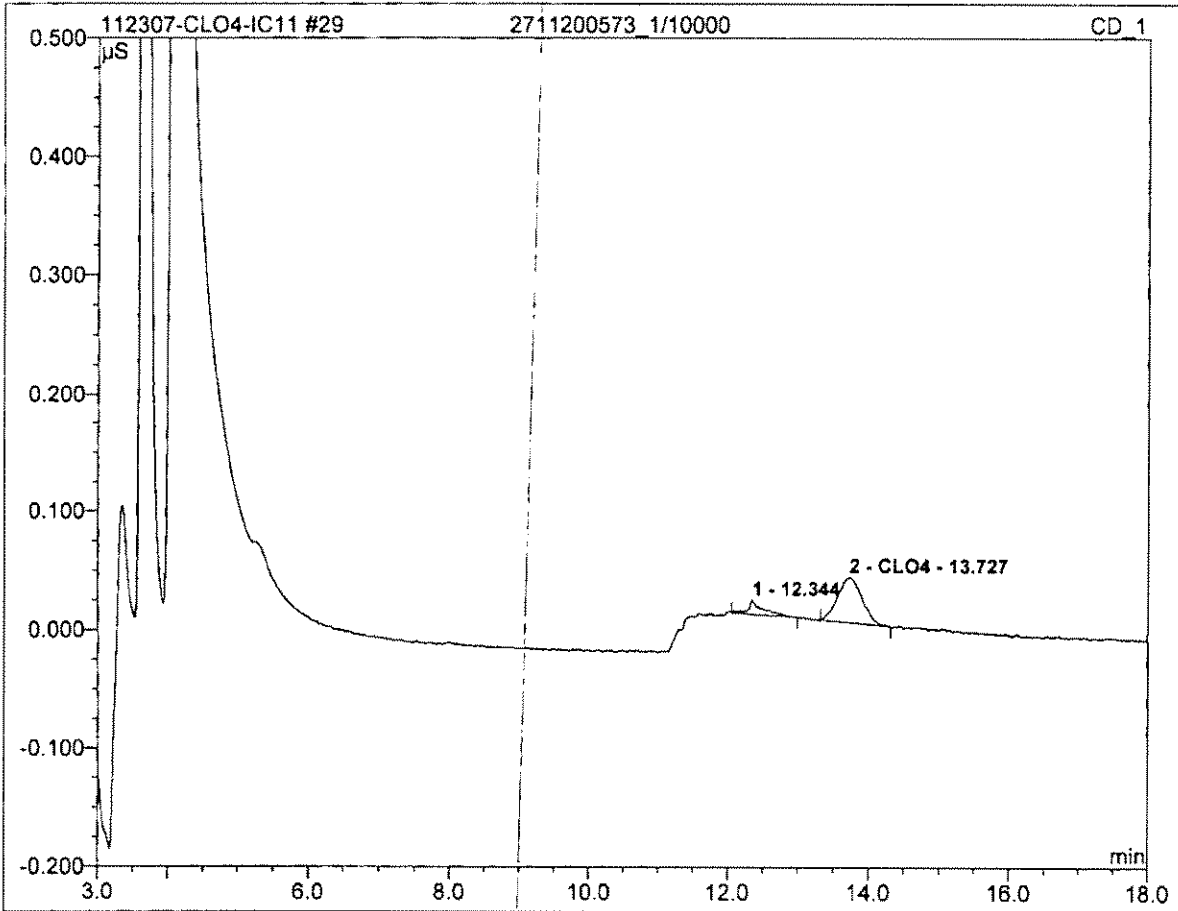
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
2	13.73	CLO4	0.039	0.016	83.67	189881.623	BMB
Total:			0.039	0.016	83.67	189881.623	

38 HCV

100

Sample Name:	**HCV**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 21:37**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
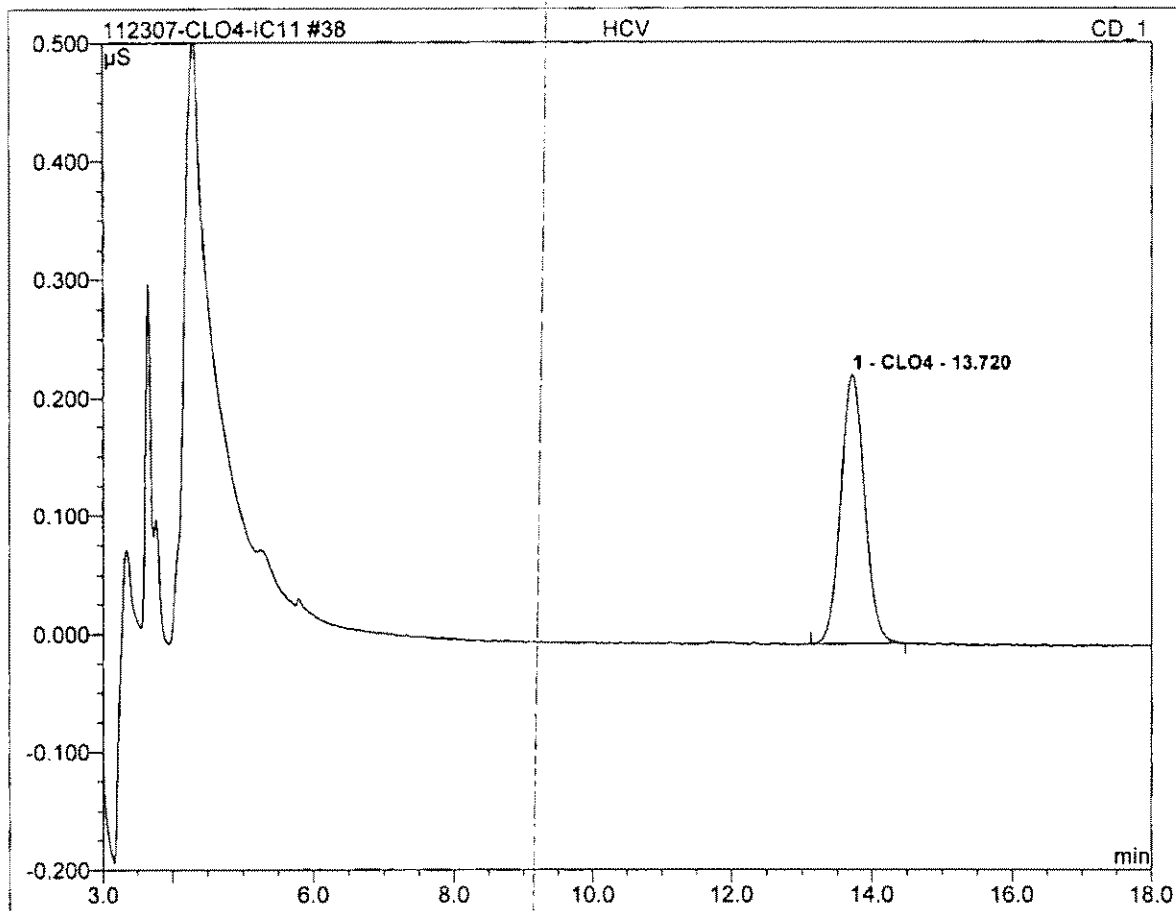
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.228	0.090	100.00	90.454	BMB
Total:			0.228	0.090	100.00	90.454	

39 IPC

25

Sample Name:	**IPC**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**11/23/2007 21:59**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
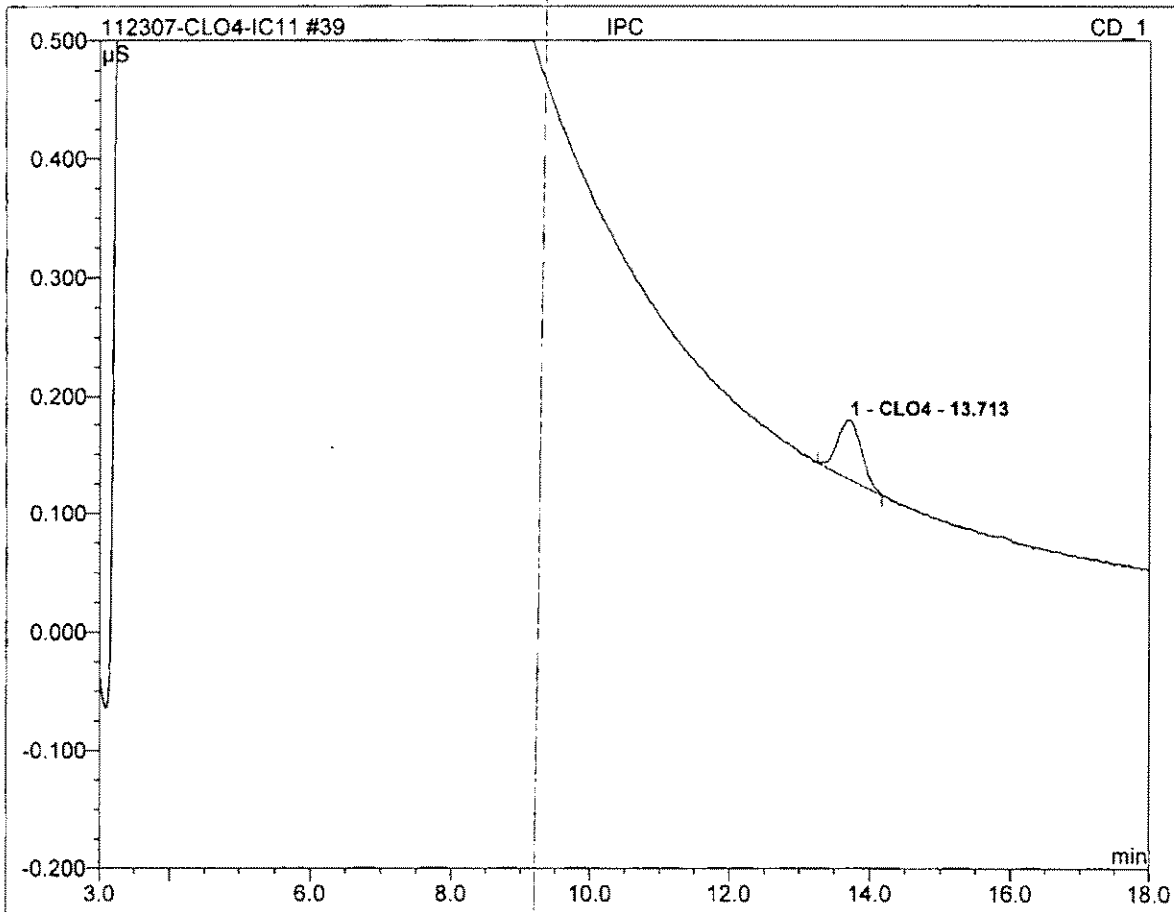
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.71	CLO4	0.051	0.020	100.00	23.566	BMB
Total:			0.051	0.020	100.00	23.566	

Standard Preparation Worksheet & Certificate of Analysis

ABSOLUTE STANDARDS, INC • 44 ROSSOTTO DRIVE • HAMDEN, CT 06514 • (800)-368-1131

CERTIFIED WEIGHT REPORT:

Part Number:	**57001**	**Lot #**
Lot Number:	072806	**Solvent(s):** 072806 ASTM Type 1 Water
Description:	Perchlorate	

R201449

Expiration Date:	072809
Nominal Concentration (µg/mL):	1000

Weight(s) shown below were combined and diluted to (mL): 1000.55

5E-05 Balance Uncertainty
0.084 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight(g)	Actual Weight(g)	*Actual Conc (µg/mL)	Expanded Uncertainty (+/-)
1. Sodium Perchlorate (ClO4)	IN119	AR06730TQ	1000.0	99.0	0.10	81.2	1.2319	1.23216	1000.2	0.00203

Method: E300P M. **Column:** ASAHIPACK ODP50 (150mm X 4.0mm ID X 5.0µm df). **Inj. Volume=** 10µL. **Flow Rate=** 1.5mL/min. **Column Temp.=** 40°C. Isocratic Analysis using Anion Mobile Phase. **Detector:** PDA (DAD1, Sig=360,20 REF=266, 10). **Analyst:** Pedro Rentas.

Peak No.	Name	PDA RT (min.)
1	Sodium Perchlorate	21.78

MSDS Information

(Solvent Safety Info. On Attached pg.)

CAS#	OSHA PEL (TWA)	LD50	NIST SRM
07601-89-0	N/A	N/A	3152a

Formulated By: Lawrence Barry   072806

Reviewed By: Pedro L. Rentas   072806

mAU

min

35
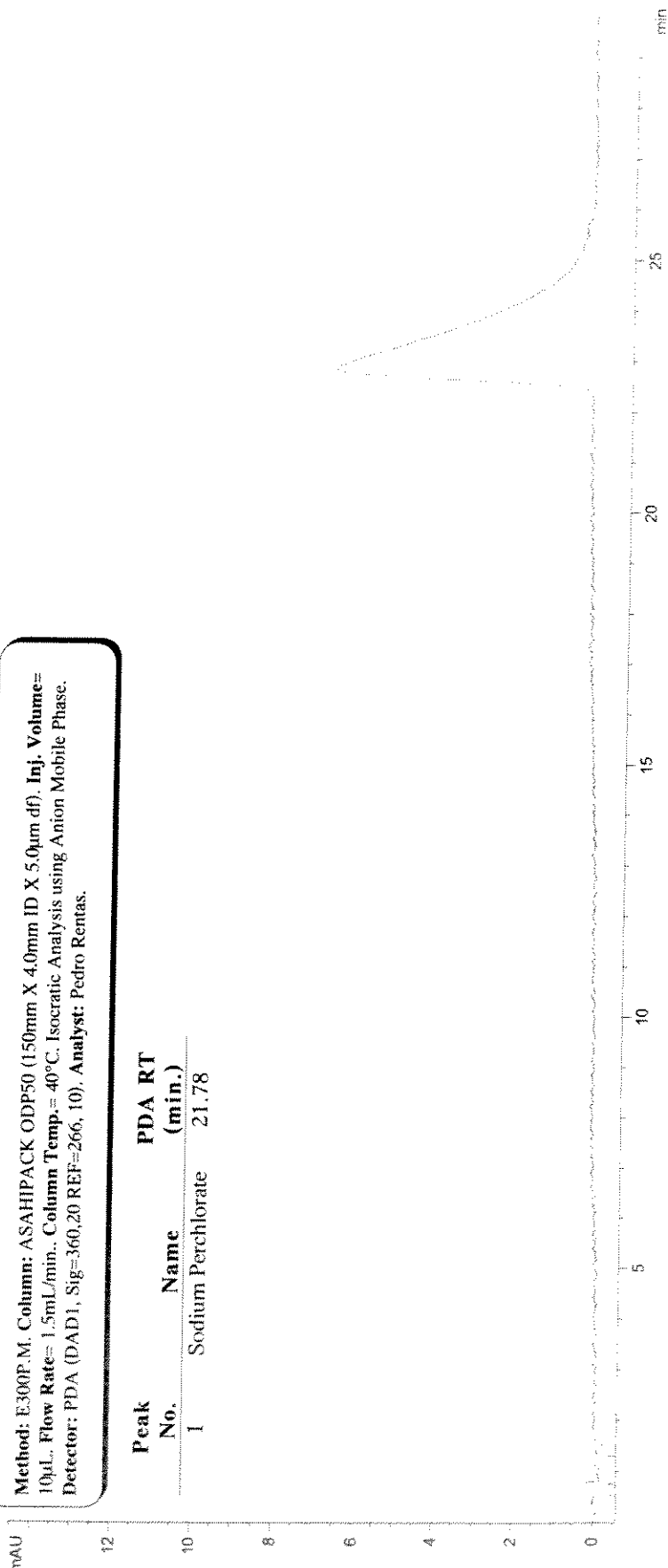
Reagent: Fluoride Std-1000ppm   **Reagent #:** 201447
Date Received: 7 Sep 06   **By:** LMR
Date Expired: 1 Oct 07   **Matrix:** aq
Manufacturer: Inorganic Ventures   **Amount:** 125 ml
Storage Condition: refrigerate 4±2°C   **Lot #:** Y-F01047

Component	Comment	Standard	Concentration
	IV # ICFI-1		

Comment:

Reagent: Phosphate as P 1000ppm std   **Reagent #:** 201448
Date Received: 11 Sep 06   **By:** LMR
Date Expired: 31 Aug 09   **Matrix:** aq
Manufacturer: Absolute Stds   **Amount:** 500 ml
Storage Condition: refrigerate 4±2°C   **Lot #:** 083106

Component	Comment	Standard	Concentration
	Abs Std # 54505		

Comment:

Reagent: Perchlorate 1000ppm std   **Reagent #:** 201449
Date Received: 11 Sep 06   **By:** LMR
Date Expired: 28 Jul 09   **Matrix:** aq
Manufacturer: Absolute Stds   **Amount:** 100 ml
Storage Condition: refrigerate 4±2°C   **Lot #:** 072806

Component	Comment	Standard	Concentration
	Abs Std # 54001		

Comment:

USA

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Santa Rosa, CA 95403   800.878.7654
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EUROPE

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CERTIFICATE OF ANALYSIS

P/N 4400-010177

Ion Chromatography Perchlorate Standard
ClO_4 in H_2O
1000 µg/mL ± 0.5%

Lot # 06F219

R201416

Material Source: Sodium Perchlorate ($NaClO_4$)
Source Purity: 98.6%

This standard solution was prepared using a high-purity starting material and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in a Class A volumetric glassware calibrated in accordance with National Bureau of Standards Circular 602. All balances are routinely calibrated using Class F NIST traceable weights.

This solution was certified instrumentally against the National Institute of Standards and Technology's SRM 3100 series.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

colitag   PEAK PERFORMANCE   Accu-prep 7000™   MOD BLOCK   Nu-Phase™
                               Extraction Manifold   SPE Disks

Reagent: Citric Acid, Monohydrate   Reagent #: 201414
Date Received: 6/30/06   By: WBH
Date Expired: 6/30/08   Matrix: SD
Manufacturer: JT Baker   Amount: 500g
Storage Condition: room Temp   Lot #: C 11643

Component	Comment	Standard	Concentration
	JT-0110-01		

Comment:

Reagent: Ammonia 1000ppm as NH_3 Reagent #: 201415
Date Received: 7 Jul 06   By: LMR
Date Expired: 1 Aug 07   Matrix: aq
Manufacturer: Inorganic Ventures   Amount: 125 ml
Storage Condition: refrigerate   Lot #: Z-10N20033

Component	Comment	Standard	Concentration
	IV# MUOH-NH3-1000		

Comment:

Reagent: ClO4 1000ppm std   Reagent #: 201416
Date Received: 10 Jul 06   By: LMR
Date Expired: 6 Jan 08   Matrix: 2×100ml
Manufacturer: CPI   Amount: aq
Storage Condition: refrigerate 4±2°C   Lot #: 06F219

Component	Comment	Standard	Concentration
	CPI # 4400-010177		

Comment:

Reagent Preparation Documentation

Reagent: ClO4 50 ppb
MW #: ClV060921-8
Date Received/Prepped: 921 06 / / / / /
By: Ch
Date Expired: 10.21.06 / / / / /
Matrix: A
Manufacturer:
Amount: 100 ml
Storage Condition: ROOM TEMP
Lot #:

Component	Comment	Standard	Concentration
5.0 ml 1000 ppb	ClO4 Init. Cal → 100 ml Soln EXP 3/21/07	ClV060921-1	1000 ppb

Comment:

Reagent: ClO4 Init. Cal. Std. 1000 ppb
MW #: ClV060924-1
Date Received/Prepped: 9-24-06/120806/0318(?)/051107/08307/103107
By: Ch
Date Expired: 3-24-06/060807/091807/111107/023008/043108
Matrix: A
Manufacturer: ABSOLUTE GRADE
Amount: 100 ml
Storage Condition: ROOM TEMP
Lot #: 072806

Component	Comment	Standard	Concentration
0.1 ml R201479	→ 100 ml Soln . EXP 072809	ClO4	1000 ppm

Comment:

Reagent: ClO4 2nd Source 1000 ppb
MW #: ClV060924-2
Date Received/Prepped: 9-24-06/120806/032607/040507/083607/10230?
By: Ch
Date Expired: 3-24-06/060807/092607/100307/03208/043208
Matrix: A
Manufacturer: PEAK PERFORMANCE
Amount: 100 ml
Storage Condition: ROOM TEMP
Lot #: 065219

Component	Comment	Standard	Concentration
0.1 ml R201416	→ 100 ml Soln EXP 01U008	ClO4	1000 ppm

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Comment:

Reagent: CLCA IPC Sol Std 5 ppb **MW #:** CWO70205-1

Date Received/Prepped: 020507 / 021607 / / / **By:** cli

Date Expired: 030507 / 031607 / / / **Matrix:** A

Manufacturer: **Amount:** 200 ml

Storage Condition: ROOM TEMP **Lot #:**

Component	Comment	Standard	Concentration
3.0 ml 10,000 ppm	CO3 Soln.	CWO70205-4	10,000 ppm
3.0 ml 10,000 "	SO4	CWO70205-3	10,000 ppm
3.0 ml 10,000 "	Cl	CWO70205-2	10,000 ppm
1.0 ml 1000 ppb	ClO4 2nd Source	CLVO61012-1	1000 ppb
	R201416 EXP 010608		

Comment:

Reagent: 10,000 ppm NaCl soln as Cl **MW #:** CLVO70205-2

Date Received/Prepped: 020507 / 030207 / 091207 / / **By:** cli

Date Expired: 020507 / 091207 / 031208 / / **Matrix:** A

Manufacturer: **Amount:** 100 ml

Storage Condition: ROOM TEMP **Lot #:**

Component	Comment	Standard	Concentration
1.65 g NaCl	→ 100 ml soln.	R200587	

Comment:

Reagent: 10,000 ppm Na2SO4 as SO4 **MW #:** CLVO70205-3

Date Received/Prepped: 020507 / 030207 / 091207 / / **By:** cli

Date Expired: 020507 / 091207 / 031208 / / **Matrix:** A

Manufacturer: **Amount:** 100 ml

Storage Condition: ROOM TEMP **Lot #:**

Component	Comment	Standard	Concentration
1.48 gms	Na2SO4 → 100 ml Soln.	R200651	

Comment:

Reagent Preparation Documentation

Reagent: 10,077 ppm N₂C₃ in H₂O   **MW #:** CWC70205-4
Date Received/Prepped: 020507/031207/091207/   /   /   **By:** JC
Date Expired: 050507/091207/031208/   /   /   **Matrix:** A
Manufacturer: _____   **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
1.77 gms	N₂C₃ → 100 ml soln.	R201472	

Comment:

Reagent: ClO4 25 ppb CCSV   **MW #:** CWO70246
Date Received/Prepped: 021607/022707/   /   /   **By:** CW
Date Expired: 031607/032707/   /   /   **Matrix:** A
Manufacturer: _____   **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
25 ml 100 ppb	ClO4 Int. Cal → 100 ml soln.	ClO4	100 ppb
	R201447 EXP 072809	CWC60924-1	

Comment:

Reagent: ClO4 1.0 ppb MRLCHK   **MW #:** CWO70230
Date Received/Prepped: 022007/032007/041307/052807/061507/091307/   **By:** CW
Date Expired: 032007/042007/051307/062807/071507/081307/   **Matrix:** A
Manufacturer: _____   **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
100 ml 100 ppb	ClO4 Int. Cal. → 100 ml soln	100 ppb	100 ppb
	R201449 EX 072809	CWC60924-1	
	41		

Comment:

Reagent Preparation Documentation

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Reagent: ClO4 IPC Salt Std 5 ppb   FC=1480

MW #: CW070322

Date Received/Prepped: 032207 / 041307 / 05087 / 052407 062507 /

By: clw

Date Expired: 042207 / 051307 / 06087 / 062407 / 072507 /

Matrix: A

Manufacturer: _____

Amount: 100 ml

Storage Condition: ROOM TEMP

Lot #: _____

Component	Comment	Standard	Concentration
1.5 ml 10,000 ppm	CO3 soln	CW070205-4	10,000 ppm
1.5	SO4 St	CW070205-3	
1.5	Cl	CW070205-2	
0.5 1000 ppb	ClO4 Init. Cal. / 100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: ClO4 LCS 25 ppb

MW #: CW070711-1

Date Received/Prepped: 071107 / 072407 / 080907 / 082807 083007 / 091407 / 100907

By: clw

Date Expired: 081107 / 082407 / 090907 / 092807 093007 / 101407 / 110907

Matrix: A

Manufacturer: _____ / 103007 /1115 /1207 /1227

Amount: 100 ml

Storage Condition: ROOM TEMP / 113007 1215 / 0107 / 0107

Lot #: _____

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	ClO4 Init. Cal. → 100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: ClO4 LCSD 25 ppb

MW #: CW070711-2

Date Received/Prepped: 071107 / 072407 / 080907 / 082807 / 083007 / 091407 / 100907

By: clw

Date Expired: 081107 / 082407 / 090907 / 092807 / 093007 / 101407 / 110907

Matrix: A

Manufacturer: _____ / 103007 /1115 /1207 /1227

Amount: 100 ml

Storage Condition: ROOM TEMP / 113007 1215 / 0107 / 0107

Lot #: _____

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	ClO4 Init. Cal. → 100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

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Comment:

Reagent Preparation Documentation

Page:_____

Reagent: ClO4   CCSV   25 ppb   CW 10/01/07   **MW #:** CW070711-3
Date Received/Prepped: 071107 /072407 /080907 /081707 /083007 / 093 100107   **By:** CW
Date Expired: 081107 /082407 /090907 /091707 /093007 / 110107   **Matrix:** A
Manufacturer: /103007 /1/2307 /1207 /1227 **Amount:** 100 ml
Storage Condition: ROOM TEMP /113007 /12237 /0107/0127   **Lot #:**

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	ClO4 Init.Cal ➔ 100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment: _____

Reagent: ClO4   QCSV   20 ppb   **MW #:** CW070711-4
Date Received/Prepped: 071107 /073007 /081507 /083007 /091407 /100907 /110807   **By:** CW
Date Expired: 081107 /083007 /091507 /093007 /101407 /110907 / 120807 **Matrix:** A
Manufacturer: /1207 /010208/ **Amount:** 100 ml
Storage Condition: ROOM TEMP /0107/020208/   **Lot #:**

Component	Comment	Standard	Concentration
2.0 ml 1000 ppb	ClO4 2nd Source ➔ 100 ml Soln.	CW061012-1	1000 ppb
	R201416 EXP 01/06/08		

Comment: _____

Reagent: ClO4   ECSV   4.0 ppb   **MW #:** CW070711-5
Date Received/Prepped: 071107 /072407 /080907 /816 07 /082807 /083007 /091407 /   **By:** CW
Date Expired: 081107 /082407 /090907 /0916 07 /092807 /093007 /101407 / **Matrix:** A
Manufacturer: 100807 /111907 /1108 /112307 **Amount:** 100 ml
Storage Condition: ROOM TEMP 113007 /11907 /1208 /122307   **Lot #:**
1217-0117/1227-0127/

Component	Comment	Standard	Concentration
0.4 ml 1000 ppb	ClO4 Init.Cal ➔ 100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

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Comment: _____

Reagent Preparation Documentation

Reagent: ClO4 MRLCHK 20 ppb   **MW #:** CLV090711-6
Date Received/Prepped: 071107 / 073007 / 080907 / 081607 / 083007 / 092407 / 100307   **By:** Ch
Date Expired: 081107 / 083007 / 090907 / 091607 / 093007 / 101407 / 110307   **Matrix:** A
102207 / 1115 / 1205 / 1220
114207 / 115 / 0105 / 0127   **Amount:** 100 ml
Manufacturer: **Storage Condition:** ROOM TEMP   **Lot #:**

Component	Comment	Standard	Concentration
0.2 ml 1000 ppb	ClO4 Init Cal → 100 ml Soln.	CLV060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: ClO4 MDL-0.5 0.5 ppb   **MW #:** CLV070711-7
Date Received/Prepped: 071107 / / / /   **By:** Ch
Date Expired: 081107 / / / /   **Matrix:** X
Manufacturer: **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:**

Component	Comment	Standard	Concentration
50 ul 1000 ppb	ClO4 Init. Cal → 100 ml Soln	CLV060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: ClO4 IPC EC=1480 5 ppb   **MW #:** CLV070711-8
Date Received/Prepped: 071107 / / / /   **By:** Ch
Date Expired: 081107 / / / /   **Matrix:** A
Manufacturer: **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:**

Component	Comment	Standard	Concentration
1.5 ml 10,000 ppm	CU3	CLV070205-4	10,000 ppm
1.5 ml 10,000 ppm	S04	CLV070205-3	10,000 ppm
1.5 ml 10,000 ppm	Cl 100 ml Soln.	CLV070205-2	10,000 ppm
1.5 ml 1000 ppb	ClO4 Init Cal	CLV060924-1	1000 ppb
	R201449 EXP 072809		

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Comment:

Reagent Preparation Documentation

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Reagent: C104 IPC EC=1000 5 ppb
Date Received/Prepped: 071107 / / / / /
Date Expired: 081107 / / / / /
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CW07071A-9
By: ch
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
1.0 ml 10,000 ppm	CO3	CW070205-4	10,000 ppm
1.0 ml 10,000 ppm	SO4	100 ml Soln.	CW070205-3	10,000 ppm
1.0 ml 10,000 ppm	Cl	CW070205-2	10,000 ppm
0.5 ml 1,000 ppb	ad Init Cal	CW060924-1	1,000 ppb
	R201449 EXP 072809		

Comment:

Reagent: C104 HCV 100 ppb
Date Received/Prepped: 071707 / 080207 / 081607 / 083007 / 091407 / 101107
Date Expired: 081907 / 090207 / 091607 / 093007 / 101407 / 111107 / 103007 / 112007 / 121107 / 113007 / 122007 / 011108
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CW070717-1
By: ch
Matrix: A
Amount: 100
Lot #: _____

Component	Comment	Standard	Concentration
10.0 ml 1000 ppb	C104 Init. Cal → 100 ml Soln	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: C104 IPC EC=3.155 25 ppb
Date Received/Prepped: 071707 / 073007 / 081607 / 083007 / 091007 / 102007
Date Expired: 081707 / 082007 / 091607 / 093007 / 110107 / 113007 / 091407 / 111307 / 111307 / 010208 / 104107 / 124507 / 010708 / 030208
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CW070717-2
By: ch
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
25 ml 10,000 ppm	CO3	CW070205-4	10,000 ppm
25 ml 10,000 ppm	SO4	100 ml Soln.	CW070205-3	10,000 ppm
25 ml 10,000 ppm	Cl	CW070205-2	10,000 ppm
2.5 ml 1000 ppb	C104 Init Cal	CW060924-1	1,000 ppb
	R201449 EXP 072809		

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Comment: