TABLE OF CONTENTS

Level IV Data Package

MWH Group 216651

Method: EPA 314

2709180347
2709180348

1

Perchlorate QC Checklist

Analysis Date: 09/18/07 Analyst: CL

Instrument: IC11

QC'd by: MME Date 092007

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

$PDA/H = 4.2\%$

$PDA = 2.7\%$

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%.
- N/A 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

Sample No.	Sample Name	Dil.Fac.	Comment	Time	Amount CLO4 CD_1	
1	autocal1	1.0	0	09.14.07 12:48	n.a.	
2	autocal2	1.0	2	09.14.07 13:10	1.9674	
3	autocal3	1.0	4	09.14.07 13:32	3.8053	
4	autocal4	1.0	10	09.14.07 13:55	10.0962	
5	autocal5	1.0	25	09.14.07 14:17	25.3344	
6	autocal6	1.0	50	09.14.07 14:40	49.7608	
7	autocal7	1.0	100	09.14.07 15:02	100.0355	
8	WASH	1.0		09.18.07 09:56	n.a.	
9	WASH	1.0		09.18.07 10:19	n.a.	
10	WASH	1.0		09.18.07 10:41	n.a.	
11	QCS	1.0	20	09.18.07 11:03	19.3695	96.8%
12	IPC	1.0	25	09.18.07 11:26	23.3526	93.4%
13	-MBLK	1.0		09.18.07 11:48	n.a.	ND≤½MRL
14	-MRLCHK-2	1.0	2	09.18.07 12:11	1.8119	90.6%
15	-MRLCHK-4	1.0	4	09.18.07 12:33	✓ 3.6164	90.4%
16	-LCS1	1.0	25	09.18.07 12:55	✓26.1224	104%
17	-LCS2	1.0	25	09.18.07 13:18	✓ 27.1856	109%
18	2709150013_1/10000	10000.0	RR	09.18.07 13:40	✓231401.5018	
19	2709170361	1.0		09.18.07 14:03	✓ n.a.	
20	2709170363	1.0		09.18.07 14:25	✓ n.a.	
21	2709170170	1.0		09.18.07 14:47	/ 0.9117	
22	2709170170-MS	1.0	25	09.18.07 15:10	✓ 24.4455	23.5/94.1%
23	2709170170-MSD	1.0	25	09.18.07 15:32	✓ 25.0807	24.2/96.7%
24	2709170364_1/2	2.0		09.18.07 15:55	✓ n.a.	
25	2709170365_1/2	2.0		09.18.07 16:17	✓n.a.	
26	2709180094_1/5	5.0	EC=9200	09.18.07 16:39	/ 9.9017	
27	2709180095_1/10000	10000.0		09.18.07 17:02	✓ 251593.2843	
28	2709180114	1.0		09.18.07 17:24	/ 59.4247	
29	2709180120_1/5	5.0	EC=10000	09.18.07 17:47	✓ 112.0376	
30	CCV	1.0	25	09.18.07 18:09	24.4520	97.8%
31	2709180125_1/2500	2500.0		09.18.07 18:31	/ 79745.4984	
32	2709180126_1/10000	10000.0		09.18.07 18:54	√ 336655.1322	
33	2709180127_1/10000	10000.0		09.18.07 19:16	/ 303864.3994	
34	2709180128_1/2500	2500.0		09.18.07 19:38	/ 85973.5898	
35	2709180129_1/5000	5000.0		09.18.07 20:01	√134042.4512	
36	2709180130_1/10000	10000.0		09.18.07 20:23	√244197.8147	
37	2709180131_1/500	500.0		09.18.07 20:46	/ 11475.5837	
38	2709180132_1/500	500.0		09.18.07 21:08	/ 11772.0326	
39	2709180133_1/500	500.0		09.18.07 21:30	/ 7251.1361	
40	2709180134_1/5	5.0	EC=9600	09.18.07 21:53	/ n.a.	
41	HCV	1.0	100	09.18.07 22:15	98.9300	98.9%
42	IPC	1.0	25	09.18.07 22:38	23.5302	94.1%
43	-MBLK	1.0		09.18.07 23:00	n.a.	ND≤½MRL
44	-MRLCHK-2	1.0	2	09.18.07 23:22	1.2110	60.6%

45	-MRLCHK-4 DNR	1.0	4	09.18.07 23:45	4.0865	DNR
46	-LCS1	1.0	25	09.19.07 00:07	25.4927	102 %
47	-LCS2 DNR	1.0	25	09.19.07 00:30	30.0056	DNR
48	2709180135_1/100	100.0		09.19.07 00:52	2424.8814	
49	2709180136_1/200	200.0		09.19.07 01:14	8787.1495	
50	2709180137_1/100	100.0		09.19.07 01:37	3900.9543	
51	2709180138_1/100	100.0		09.19.07 01:59	1608.8210	
52	2709180139_1/100	100.0		09.19.07 02:22	1368.2123	
53	2709180140_1/100	100.0		09.19.07 02:44	2778.8049	
54	2709180140-MS	100.0	25	09.19.07 03:06	5129.0347	23.5/94.0%
55	2709180140-MSD	100.0	25	09.19.07 03:29	5304.0274	25.2/101%
56	2709180141_1/10000	10000.0		09.19.07 03:51	343133.9565	
57	2709180173	1.0		09.19.07 04:14	n.a.	
58	2709180174	1.0		09.19.07 04:36	n.a.	
59	2709180347_1/5	5.0	EC=9100	09.19.07 04:59	n.a.	
60	CCV	1.0	25	09.19.07 05:21	23.2613	93.0%
61	2709180348_1/10000	10000.0		09.19.07 05:43	262217.3921	
62	2709180351	1.0		09.19.07 06:06	35.4766	
63	2709180361	1.0		09.19.07 06:28	39.8330	
64	2709180362	1.0		09.19.07 06:51	39.6678	
65	2709180371	1.0		09.19.07 07:13	60.3978	
66	HCV	1.0	100	09.19.07 07:36	96.4252	96.4 %
67	-MRLCHK-4	1.0	RR	09.19.07 09:23	3.2650	81.6%
68	-LCS2	1.0	25	09.19.07 12:21	26.3861	106 %

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3829

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 09/19/07
Analyst: Ch
Reviewed By: _____
LIMS Check By: _____

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

WBh 9/19/07

Time of Analyis Start: 1550   End: _____
MRL 2umhos/cm: R# _____ exp of solution: _____
KCl Std 1412 R# 201669 exp of solution 01/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1442
Instrument: YSI Model 3200   SN:01A0504, Year Aquired 2001 New

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result Instrument	Reported (µmho/cm)	Comments
Blk	Blank									
STD	MRL 2umhos/cm				21	7	ml		0.6215	
STD	KCl - 1000 mhos/cm								—	1-3 —— ±50% of TV
1	2709150013	PC 101 R	KM	09/17/07					999.9	950-1050 —— ±5% of TV
2	2709170361	W9	XWA	09/17/07				RR	10000	
3	0363	W11	↓					500		
4	0170	GN3	CDM					870		
5	0364	ARCH 1	XWA					920		
6	0365	↓ 2	↓	↓				1380		
7	2709180099	EFF-COMP	KM	09/15/07				1500		
8	0095	INF		↓				9200		
9	0114	NORTHS WW		09/19/07				9300		
10	0120	A121 1						2400		
DUP	↓	↓						10000		
11	0125	2						10000		RPD < 5%
12	0126	3						14700		
13	0127	4						10000		
14	0128	6						8600		
15	0129	7						10000		
16	0130	∇ 8						14600		
17	0131	PC 99 R2/R3						14500		
18	0132	115R						6200		
19	0133	↓ 116R						6500		
20	0134	SF 1						5900		
DUP	↓	↓		↓				9600		
STD	KCl - 10 mhos/cm							960		RPD < 5%
									—	8-12 —— RPD < 20% of TV

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

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

conductivity.xls

5

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3829

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 09/19/07
Analyst: CM
Reviewed By: _____
LIMS Check By: _____

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

Time of Analysis Start: 1600   End: _____

MRL 2umhos/cm: R# _____   exp of solution: _____
KCl Std 1412 R# 201669   exp of solution 01/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1442

W3L 9/19/07

Instrument: YSI Model 3200 SN:01A0504, Year Aquired 2001 New

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result Instrument	Reported (µmho/cm)	Comments
Blk	Blank				M	7	MS		—	
STD	MRL 2umhos/cm								—	
STD	KCl - 1000 mhos/cm								999.9	1-3 — ±50% of TV
1	2709180135	PC117	KM	09/17/07				4900		850-1050 — ±5% of TV
2	0136	118						6200		
3	0137	119						5900		
4	0138	120						4400		
5	0139	121						4300		
6	0140	153						4600		
7	0141	ART9						10000		
8	0173	720	CALWATER					640		
9	0174	373						600		
10	0347	EFF	KM					9100		
DUP		Clt cg/olu						9100		
11	0348	LWW EFF						9100		RPD < 5%
12	0351	LWW 6186						2300		
13	0361	605						2400		
14	0362	5.5						2400		
15	0371	0.55						2300		
16										
17										
18										
19										
20										
DUP	2709180371	LWW 0.55	KM	09/17/07				2300		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

conductivity.xls

6

Title:							
Datasource:	Dionex_USPAS2SDIO2						
Location:	IC\IC11_CLO4\2007\SEP						
Timebase:	IC11				Created:		9/18/2007 9:09:10 AM by clv
#Samples:	68				Last Update:		9/19/2007 1:48:07 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	WASH		1.0000	Unknown		Finished	Perchlorate-IC11
9	WASH		1.0000	Unknown		Finished	Perchlorate-IC11
10	WASH		1.0000	Unknown		Finished	Perchlorate-IC11
11	QCS	R201449 EXP 07/28/09	1.0000	Unknown	20	Finished	Perchlorate-IC11
12	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
13	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
14	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
15	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11
16	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
17	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
18	2709150013_1/10000	KM PC-101R	10000.0000	Unknown	RR	Finished	Perchlorate-IC11
19	2709170361	IEUA 1003663 W9	1.0000	Unknown		Finished	Perchlorate-IC11
20	2709170363	IEUA 1207333 W11	1.0000	Unknown		Finished	Perchlorate-IC11
21	2709170170	CDM GN-3	1.0000	Unknown		Finished	Perchlorate-IC11
22	2709170170-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
23	2709170170-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
24	2709170364_1/2	IEUA 1207088 ARCHI 1	2.0000	Unknown		Finished	Perchlorate-IC11
25	2709170365_1/2	IEUA 1207089 ARCHI 2	2.0000	Unknown		Finished	Perchlorate-IC11
26	2709180094_1/5	KM EFF-COMP	5.0000	Unknown	EC=9200	Finished	Perchlorate-IC11
27	2709180095_1/10000	KM INF-COMP	10000.0000	Unknown		Finished	Perchlorate-IC11
28	2709180114	KM NORTHSHORE LVW	1.0000	Unknown		Finished	Perchlorate-IC11
29	2709180120_1/5	KM ART-1	5.0000	Unknown	EC=10000	Finished	Perchlorate-IC11
30	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
31	2709180125_1/2500	KM ART-2	2500.0000	Unknown		Finished	Perchlorate-IC11
32	2709180126_1/10000	KM ART-3	10000.0000	Unknown		Finished	Perchlorate-IC11
33	2709180127_1/10000	KM ART-4	10000.0000	Unknown		Finished	Perchlorate-IC11
34	2709180128_1/2500	KM ART-6	2500.0000	Unknown		Finished	Perchlorate-IC11
35	2709180129_1/5000	KM ART-7	5000.0000	Unknown		Finished	Perchlorate-IC11
36	2709180130_1/10000	KM ART-8	10000.0000	Unknown		Finished	Perchlorate-IC11
37	2709180131_1/500	KM PC-99R2/R3	500.0000	Unknown		Finished	Perchlorate-IC11
38	2709180132_1/500	KM PC-115R	500.0000	Unknown		Finished	Perchlorate-IC11
39	2709180133_1/500	KM PC-116R	500.0000	Unknown		Finished	Perchlorate-IC11
40	2709180134_1/5	KM SF-1	5.0000	Unknown	EC=9600	Finished	Perchlorate-IC11
41	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11
42	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11

Title:			
Datasource:	Dionex_USPAS2SDIO2		
Location:	IC\IC11_CLO4\2007\SEP		
Timebase:	IC11	Created:	9/18/2007 9:09:10 AM by clv
#Samples:	68	Last Update:	9/19/2007 1:48:07 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
1	autocal1	IC#4-CLO4-LOW	9/14/2007 12:48:04 PM	clv
2	autocal2	IC#4-CLO4-LOW	9/14/2007 1:10:26 PM	clv
3	autocal3	IC#4-CLO4-LOW	9/14/2007 1:32:50 PM	clv
4	autocal4	IC#4-CLO4-LOW	9/14/2007 1:55:14 PM	clv
5	autocal5	IC#4-CLO4-LOW	9/14/2007 2:17:38 PM	clv
6	autocal6	IC#4-CLO4-LOW	9/14/2007 2:40:01 PM	clv
7	autocal7	IC#4-CLO4-LOW	9/14/2007 3:02:25 PM	clv
8	WASH	IC#4-CLO4-LOW	9/18/2007 9:56:39 AM	clv
9	WASH	IC#4-CLO4-LOW	9/18/2007 10:19:03 AM	clv
10	WASH	IC#4-CLO4-LOW	9/18/2007 10:41:27 AM	clv
11	QCS	IC#4-CLO4-LOW	9/18/2007 11:03:51 AM	clv
12	IPC	IC#4-CLO4-LOW	9/18/2007 11:26:15 AM	clv
13	-MBLK	IC#4-CLO4-LOW	9/18/2007 11:48:39 AM	clv
14	-MRLCHK-2	IC#4-CLO4-LOW	9/18/2007 12:11:02 PM	clv
15	-MRLCHK-4	IC#4-CLO4-LOW	9/18/2007 12:33:26 PM	clv
16	-LCS1	IC#4-CLO4-LOW	9/18/2007 12:55:51 PM	clv
17	-LCS2	IC#4-CLO4-LOW	9/18/2007 1:18:15 PM	clv
18	2709150013_1/10000	IC#4-CLO4-LOW	9/18/2007 1:40:38 PM	clv
19	2709170361	IC#4-CLO4-LOW	9/18/2007 2:03:02 PM	clv
20	2709170363	IC#4-CLO4-LOW	9/18/2007 2:25:26 PM	clv
21	2709170170	IC#4-CLO4-LOW	9/18/2007 2:47:50 PM	clv
22	2709170170-MS	IC#4-CLO4-LOW	9/18/2007 3:10:14 PM	clv
23	2709170170-MSD	IC#4-CLO4-LOW	9/18/2007 3:32:38 PM	clv
24	2709170364_1/2	IC#4-CLO4-LOW	9/18/2007 3:55:01 PM	clv
25	2709170365_1/2	IC#4-CLO4-LOW	9/18/2007 4:17:25 PM	clv
26	2709180094_1/5	IC#4-CLO4-LOW	9/18/2007 4:39:49 PM	clv
27	2709180095_1/10000	IC#4-CLO4-LOW	9/18/2007 5:02:13 PM	clv
28	2709180114	IC#4-CLO4-LOW	9/18/2007 5:24:36 PM	clv
29	2709180120_1/5	IC#4-CLO4-LOW	9/18/2007 5:47:00 PM	clv
30	CCV	IC#4-CLO4-LOW	9/18/2007 6:09:23 PM	clv
31	2709180125_1/2500	IC#4-CLO4-LOW	9/18/2007 6:31:47 PM	clv
32	2709180126_1/10000	IC#4-CLO4-LOW	9/18/2007 6:54:11 PM	clv
33	2709180127_1/10000	IC#4-CLO4-LOW	9/18/2007 7:16:35 PM	clv
34	2709180128_1/2500	IC#4-CLO4-LOW	9/18/2007 7:38:59 PM	clv
35	2709180129_1/5000	IC#4-CLO4-LOW	9/18/2007 8:01:23 PM	clv
36	2709180130_1/10000	IC#4-CLO4-LOW	9/18/2007 8:23:47 PM	clv
37	2709180131_1/500	IC#4-CLO4-LOW	9/18/2007 8:46:11 PM	clv
38	2709180132_1/500	IC#4-CLO4-LOW	9/18/2007 9:08:35 PM	clv
39	2709180133_1/500	IC#4-CLO4-LOW	9/18/2007 9:30:58 PM	clv
40	2709180134_1/5	IC#4-CLO4-LOW	9/18/2007 9:53:22 PM	clv
41	HCV	IC#4-CLO4-LOW	9/18/2007 10:15:46 PM	clv
42	IPC	IC#4-CLO4-LOW	9/18/2007 10:38:10 PM	clv

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\SEP
Timebase: IC11   Created: 9/18/2007 9:09:10 AM by clv
#Samples: 68   Last Update: 9/19/2007 1:48:07 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
43	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
44	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
45	-MRLCHK-4 DNR	4	1.0000	Unknown	4	Finished	Perchlorate-IC11
46	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
47	-LCS2 DNR	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
48	2709180135_1/100	KM PC-117	100.0000	Unknown		Finished	Perchlorate-IC11
49	2709180136_1/200	KM PC-118	200.0000	Unknown		Finished	Perchlorate-IC11
50	2709180137_1/100	KM PC-119	100.0000	Unknown		Finished	Perchlorate-IC11
51	2709180138_1/100	KM PC-120	100.0000	Unknown		Finished	Perchlorate-IC11
52	2709180139_1/100	KM PC-121	100.0000	Unknown		Finished	Perchlorate-IC11
53	2709180140_1/100	KM PC-133	100.0000	Unknown		Finished	Perchlorate-IC11
54	2709180140-MS	25	100.0000	Unknown	25	Finished	Perchlorate-IC11
55	2709180140-MSD	25	100.0000	Unknown	25	Finished	Perchlorate-IC11
56	2709180141_1/10000	KM ART-9	10000.0000	Unknown		Finished	Perchlorate-IC11
57	2709180173	CALWATER 720	1.0000	Unknown		Finished	Perchlorate-IC11
58	2709180174	CALWATER 373	1.0000	Unknown		Finished	Perchlorate-IC11
59	2709180347_1/5	KM EFF	5.0000	Unknown	EC=9100	Finished	Perchlorate-IC11
60	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
61	2709180348_1/10000	KM INF	10000.0000	Unknown		Finished	Perchlorate-IC11
62	2709180351	KM LVW UPGRADIENT	1.0000	Unknown		Finished	Perchlorate-IC11
63	2709180361	KM LVW 6.05	1.0000	Unknown		Finished	Perchlorate-IC11
64	2709180362	KM LVW 5.5	1.0000	Unknown		Finished	Perchlorate-IC11
65	2709180371	KM LVW 0.55	1.0000	Unknown		Finished	Perchlorate-IC11
66	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11
67	-MRLCHK-4	4	1.0000	Unknown	RR	Finished	Perchlorate-IC11
68	-LCS2	25	1.0000	Unknown	RR	Finished	Perchlorate-IC11

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Title:			
Datasource:	Dionex_USPAS2SDIO2		
Location:	IC\IC11_CLO4\2007\SEP		
Timebase:	IC11	Created:	9/18/2007 9:09:10 AM by clv
#Samples:	68	Last Update:	9/19/2007 1:48:07 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
43	-MBLK	IC#4-CLO4-LOW	9/18/2007 11:00:33 PM	clv
44	-MRLCHK-2	IC#4-CLO4-LOW	9/18/2007 11:22:57 PM	clv
45	-MRLCHK-4 DNR	IC#4-CLO4-LOW	9/18/2007 11:45:21 PM	clv
46	-LCS1	IC#4-CLO4-LOW	9/19/2007 12:07:45 AM	clv
47	-LCS2 DNR	IC#4-CLO4-LOW	9/19/2007 12:30:09 AM	clv
48	2709180135_1/100	IC#4-CLO4-LOW	9/19/2007 12:52:33 AM	clv
49	2709180136_1/200	IC#4-CLO4-LOW	9/19/2007 1:14:56 AM	clv
50	2709180137_1/100	IC#4-CLO4-LOW	9/19/2007 1:37:20 AM	clv
51	2709180138_1/100	IC#4-CLO4-LOW	9/19/2007 1:59:44 AM	clv
52	2709180139_1/100	IC#4-CLO4-LOW	9/19/2007 2:22:08 AM	clv
53	2709180140_1/100	IC#4-CLO4-LOW	9/19/2007 2:44:32 AM	clv
54	2709180140-MS	IC#4-CLO4-LOW	9/19/2007 3:06:56 AM	clv
55	2709180140-MSD	IC#4-CLO4-LOW	9/19/2007 3:29:36 AM	clv
56	2709180141_1/10000	IC#4-CLO4-LOW	9/19/2007 3:51:59 AM	clv
57	2709180173	IC#4-CLO4-LOW	9/19/2007 4:14:23 AM	clv
58	2709180174	IC#4-CLO4-LOW	9/19/2007 4:36:47 AM	clv
59	2709180347_1/5	IC#4-CLO4-LOW	9/19/2007 4:59:10 AM	clv
60	CCV	IC#4-CLO4-LOW	9/19/2007 5:21:34 AM	clv
61	2709180348_1/10000	IC#4-CLO4-LOW	9/19/2007 5:43:58 AM	clv
62	2709180351	IC#4-CLO4-LOW	9/19/2007 6:06:22 AM	clv
63	2709180361	IC#4-CLO4-LOW	9/19/2007 6:28:46 AM	clv
64	2709180362	IC#4-CLO4-LOW	9/19/2007 6:51:33 AM	clv
65	2709180371	IC#4-CLO4-LOW	9/19/2007 7:13:56 AM	clv
66	HCV	IC#4-CLO4-LOW	9/19/2007 7:36:46 AM	clv
67	-MRLCHK-4	IC#4-CLO4-LOW	9/19/2007 9:23:12 AM	clv
68	-LCS2	IC#4-CLO4-LOW	9/19/2007 12:21:27 PM	clv

1 autocal1

0

Sample Name:	autocal1	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	09/14/2007 12:48	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
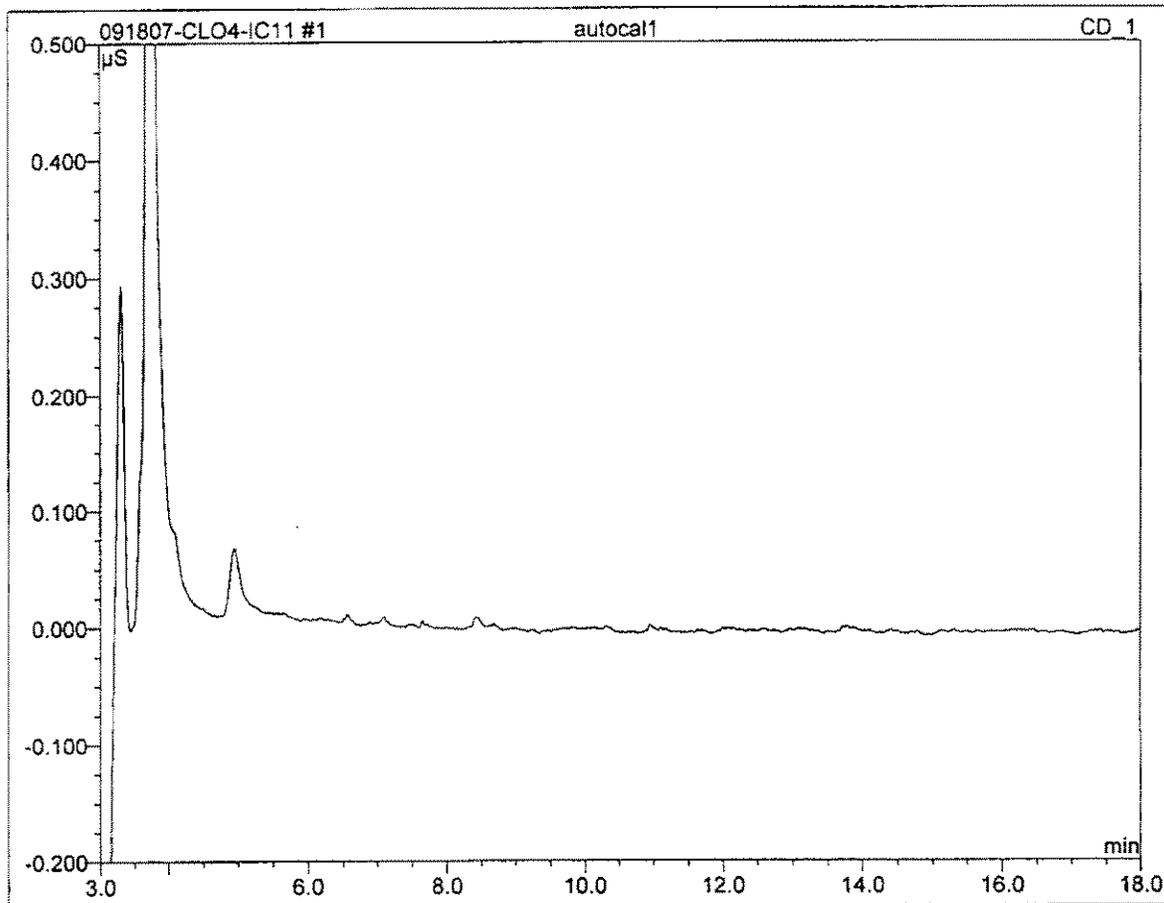
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2   autocal2

2

Sample Name:	autocal2	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	09/14/2007 13:10	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
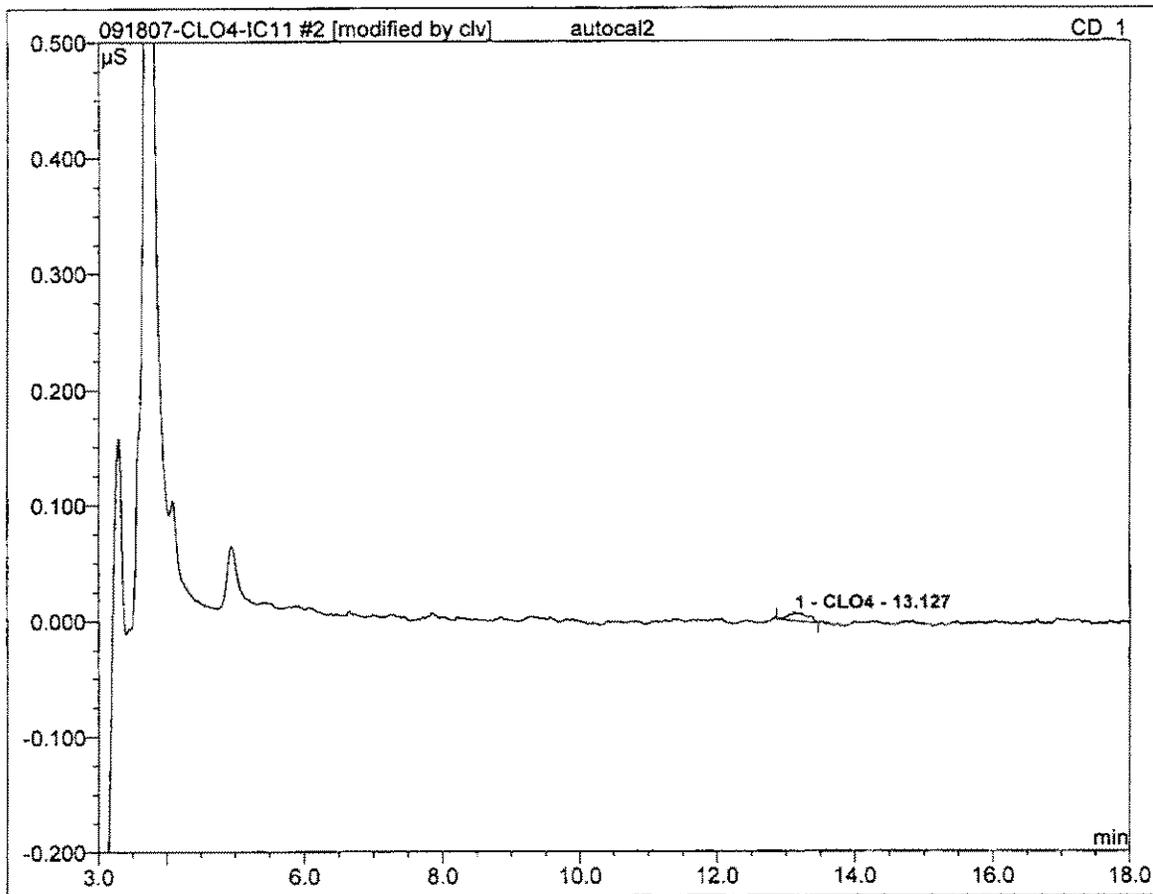
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.13	CLO4	0.007	0.002	100.00	1.967	BMB*
Total:			0.007	0.002	100.00	1.967	

3   autocal3

4

| Sample Name:	autocal3	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	09/14/2007 13:32	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
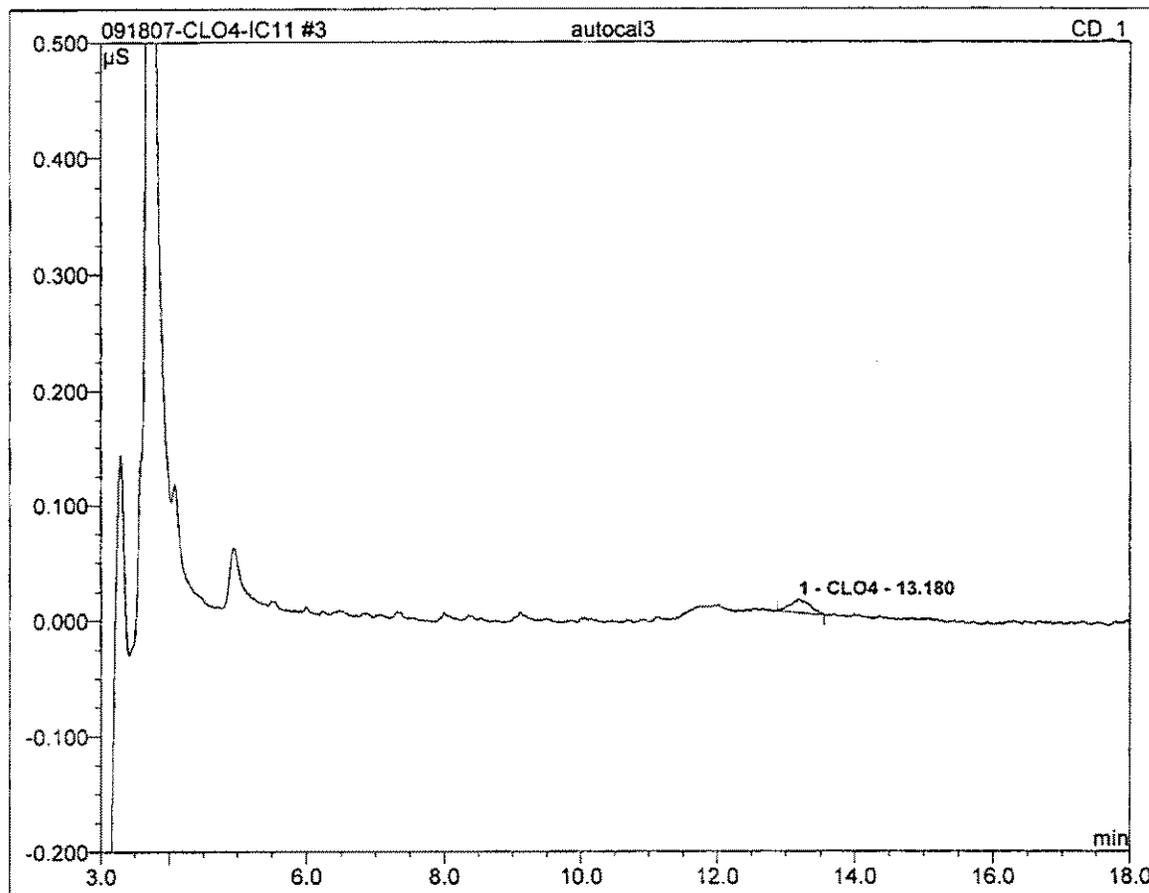
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.18	CLO4	0.012	0.004	100.00	3.805	BMB
Total:			0.012	0.004	100.00	3.805	

4   autocal4

10

| Sample Name:	autocal4		Channel:	CD_1
Sample Type:	standard		Control Program:	Perchlorate-IC11
Recording Time:	09/14/2007 13:55		Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv		Dilution Factor:	1.0000
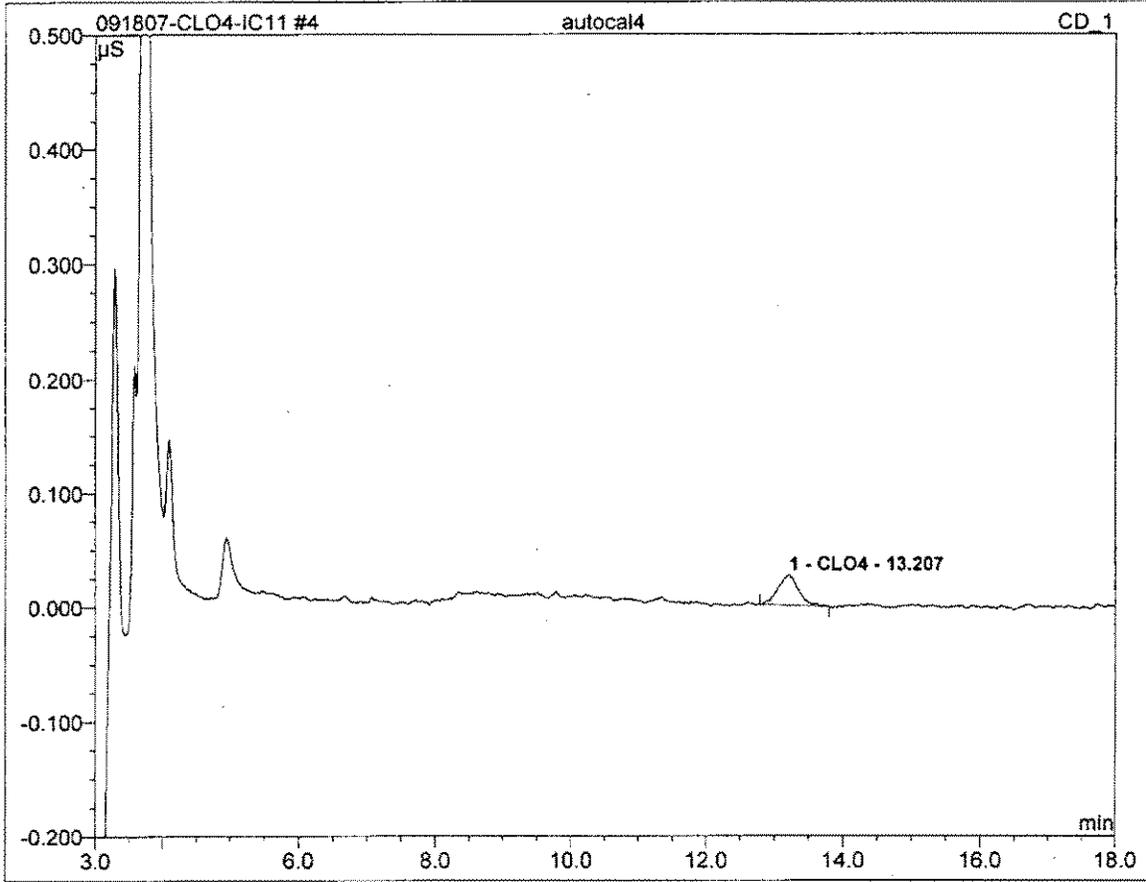
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.21	CLO4	0.027	0.009	100.00	10.096	BMB
Total:			0.027	0.009	100.00	10.096	

5   autocal5

25

Sample Name:	**autocal5**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/14/2007 14:17**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
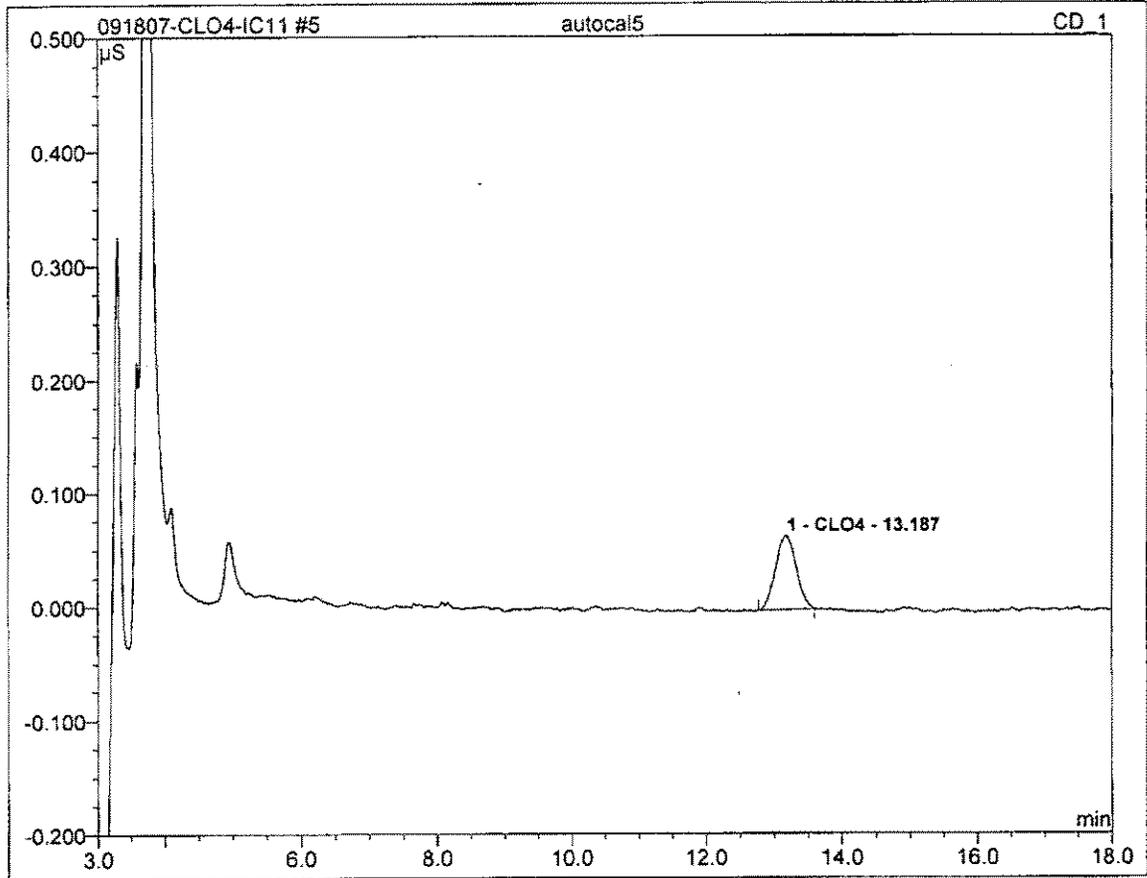
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.19	CLO4	0.065	0.023	100.00	25.334	BMB
Total:			0.065	0.023	100.00	25.334	

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:	**9/14/2007 15:02**	Sample Weight:	**1.0000**
Run Time (min):	**20.00**	Sample Amount:	**1.0000**
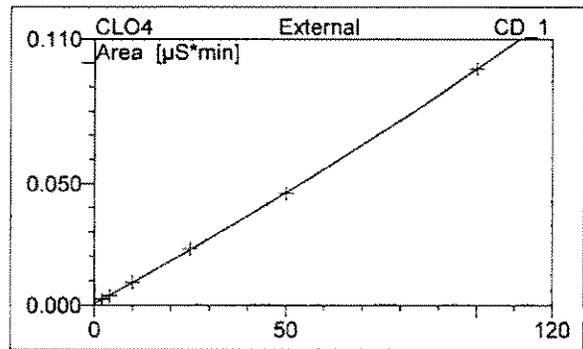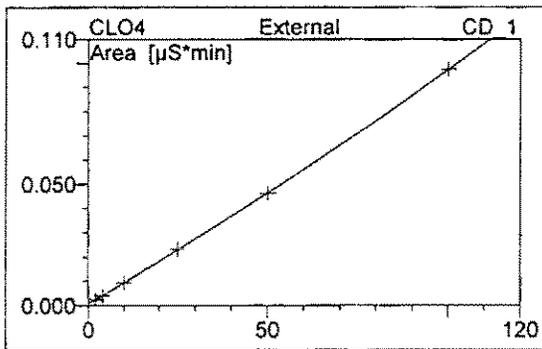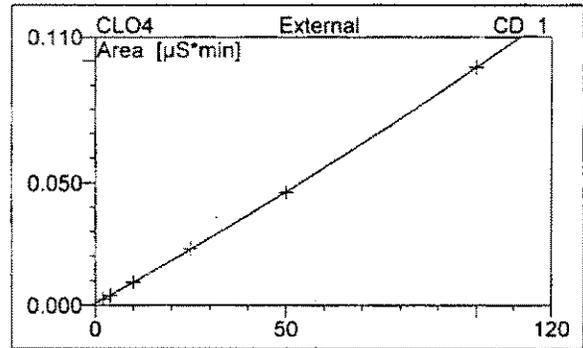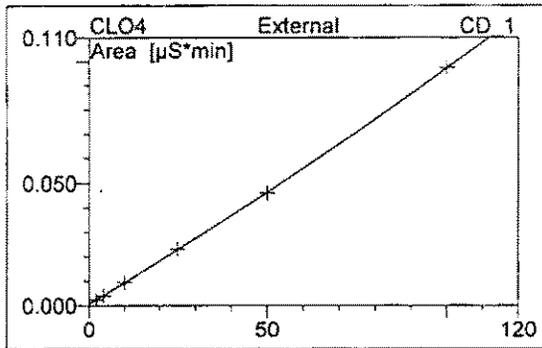
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.17	CLO4	QOff	6	99.9538	0.0006	0.0009	0.0000
2	16.91	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.9538	0.0006	0.0009	0.0000

6 autocal6

50

Sample Name:	**autocal6**	Channel:	**CD_1**
Sample Type:	**standard**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/14/2007 14:40**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**

091807-CLO4-IC11 #6 [modified by clv]   autocal6   CD_1

1 - CLO4 - 13.173
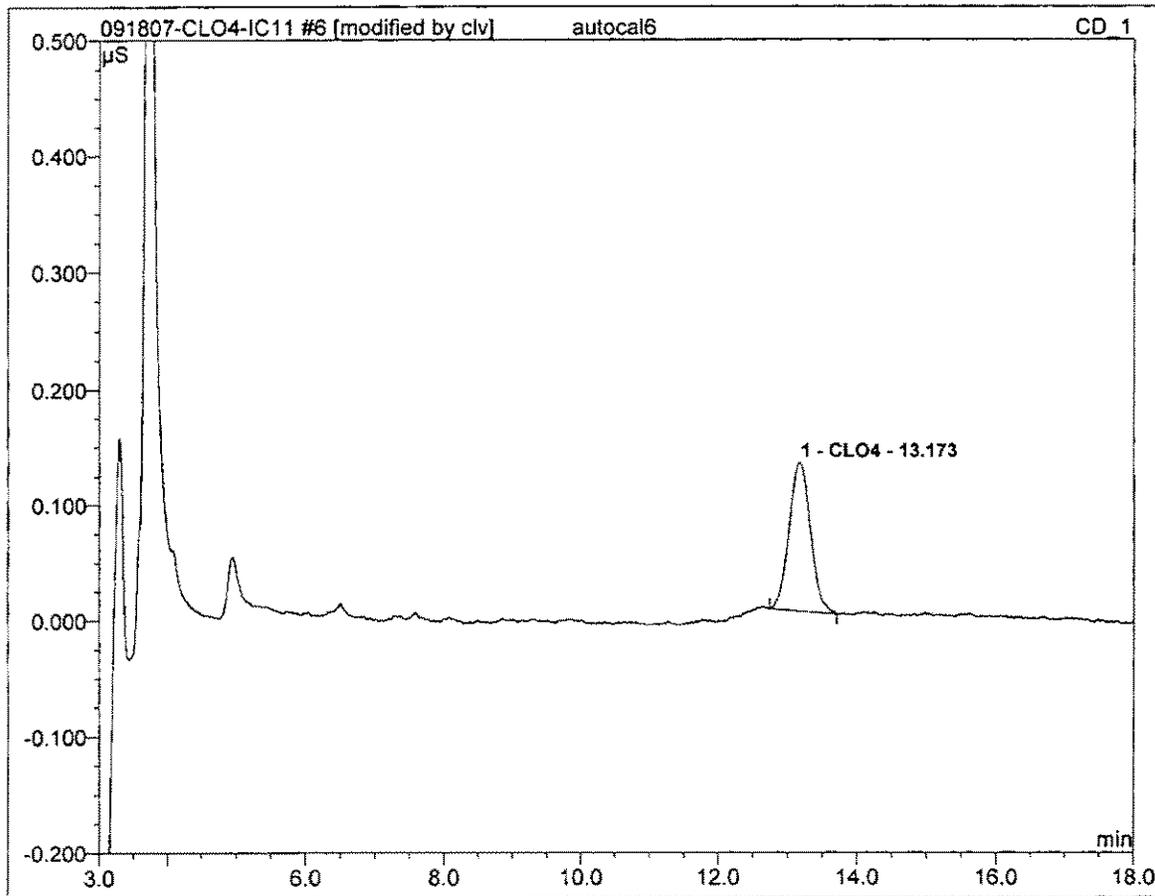
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.17	CLO4	0.129	0.046	100.00	49.761	BMB*
Total:			0.129	0.046	100.00	49.761	

7 autocal7

100

Sample Name:	autocal7		Channel:	CD_1
Sample Type:	standard		Control Program:	Perchlorate-IC11
Recording Time:	09/14/2007 15:02		Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv		Dilution Factor:	1.0000
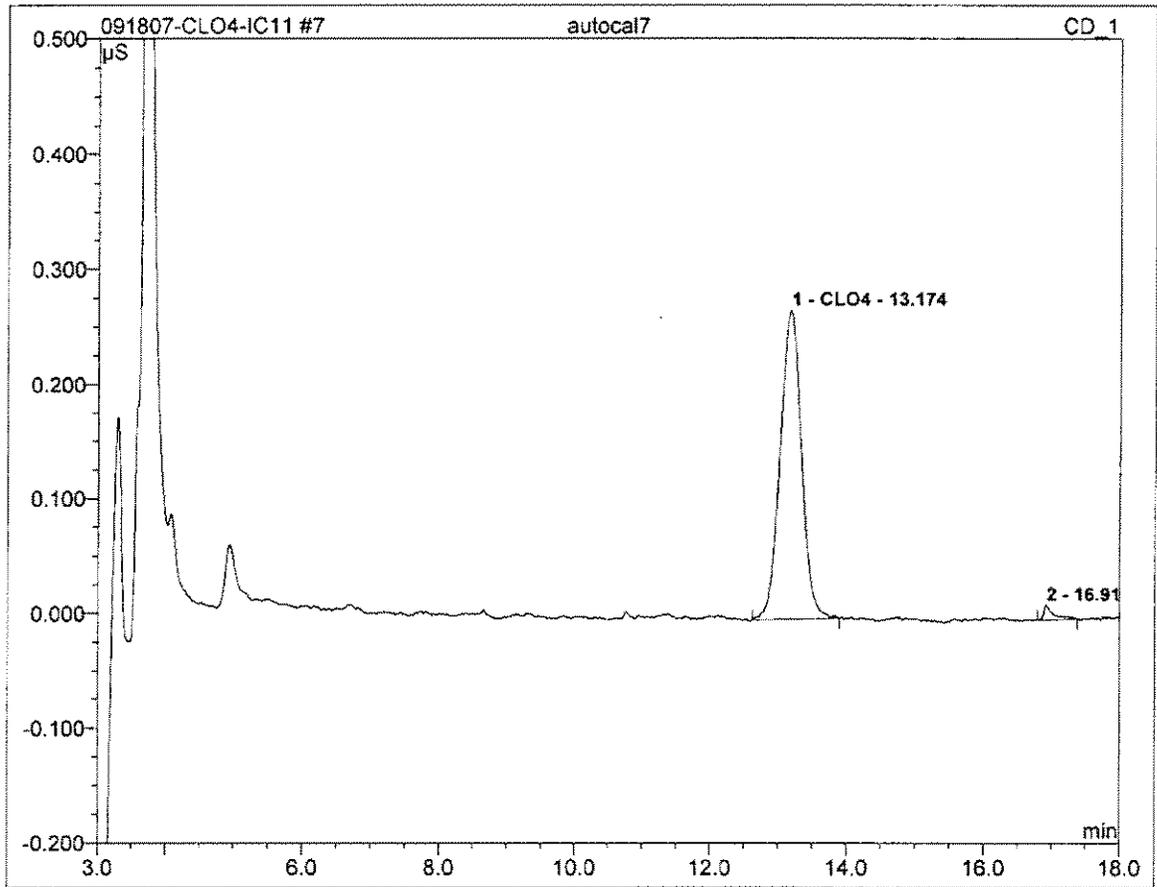
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.17	CLO4	0.269	0.097	97.82	100.035	BMB
Total:			0.269	0.097	97.82	100.035	

8 WASH

Sample Name:	WASH		Channel:	CD_1
Sample Type:	unknown		Control Program:	Perchlorate-IC11
Recording Time:	09/18/2007 09:56		Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv		Dilution Factor:	1.0000
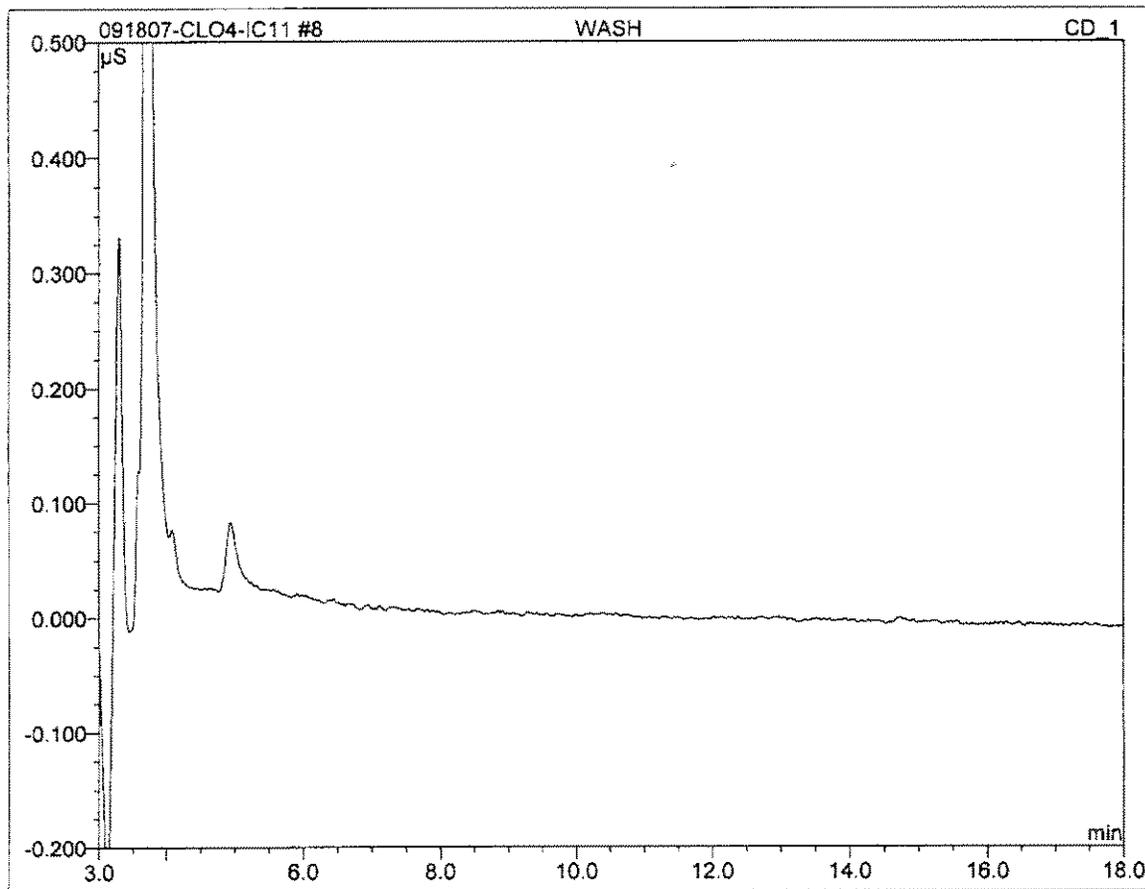
091807-CLO4-IC11 #8   WASH   CD_1

No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

CLO4-raja/Integration

9 WASH

Sample Name:	**WASH**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/18/2007 10:19**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
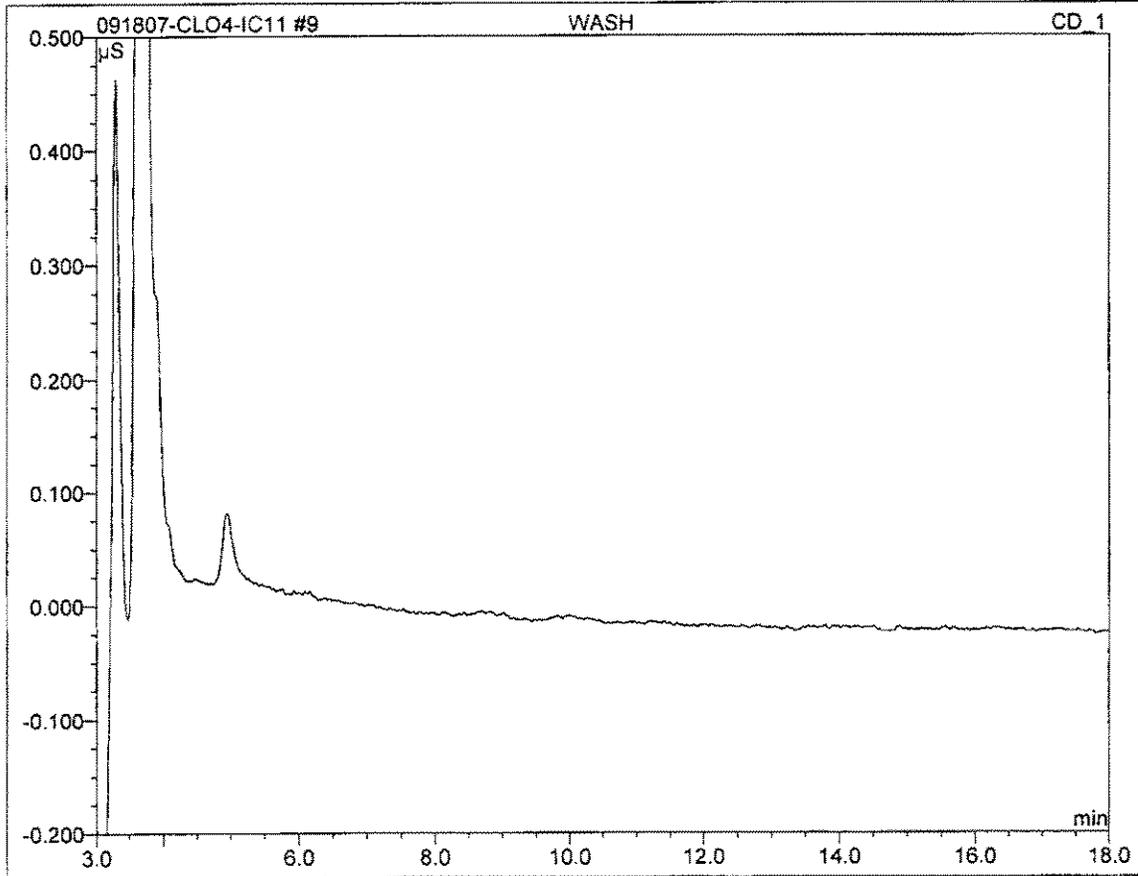
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

10 WASH

|			
Sample Name:	WASH	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/18/2007 10:41	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
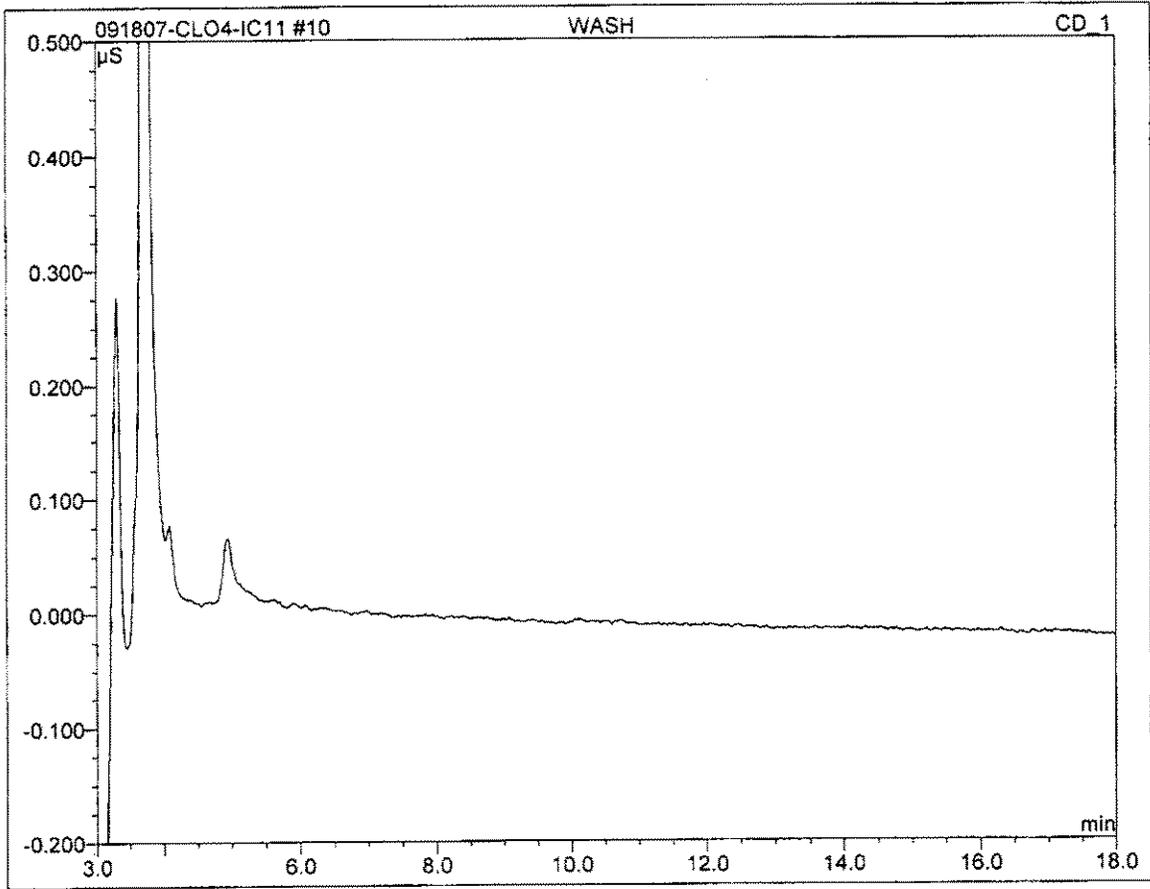
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

21

11 QCS

20

Sample Name:	**QCS**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/18/2007 11:03**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
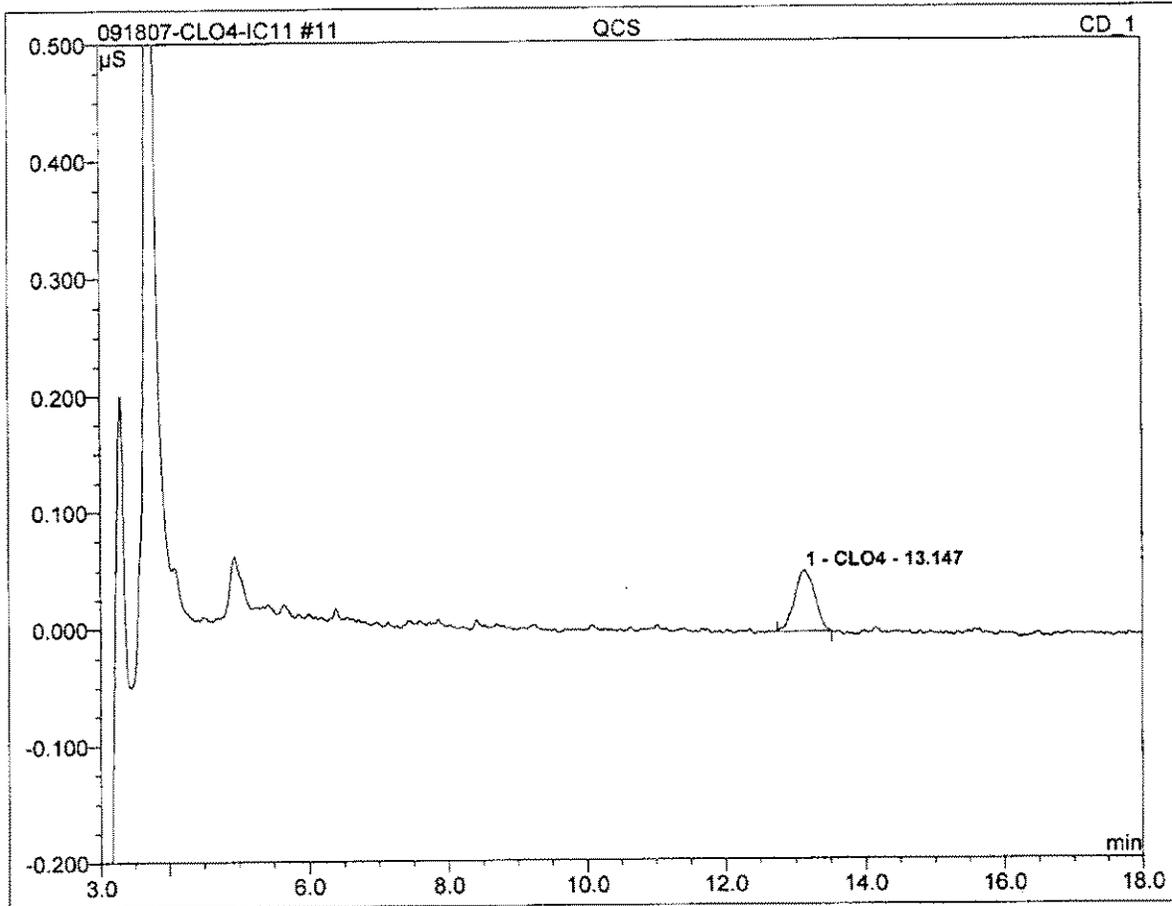
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.15	CLO4	0.052	0.018	100.00	19.369	BMB
Total:			0.052	0.018	100.00	19.369	

CLO4-raja/Integration

12 IPC

25

Sample Name:	**IPC**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/18/2007 11:26**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
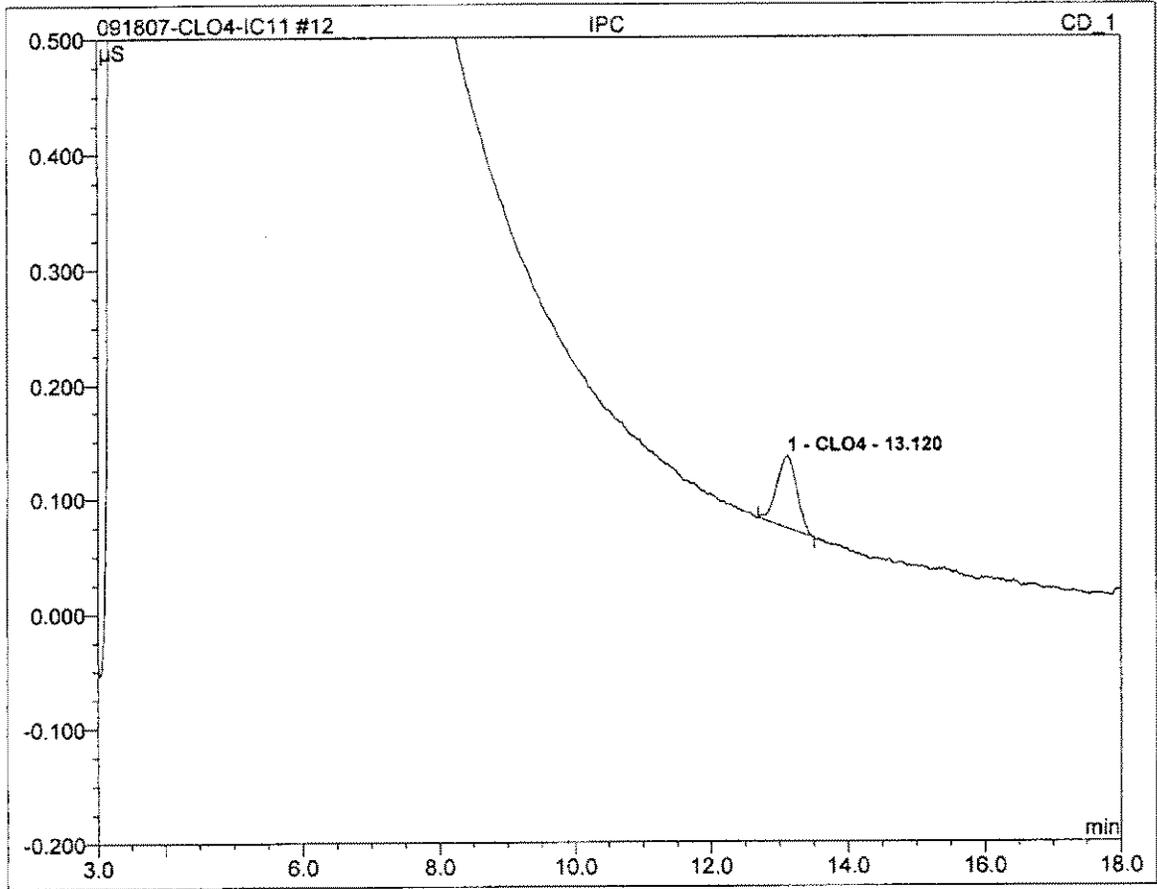
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.12	CLO4	0.063	0.021	100.00	23.353	BMB
Total:			0.063	0.021	100.00	23.353	

41 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**09/18/2007 22:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**
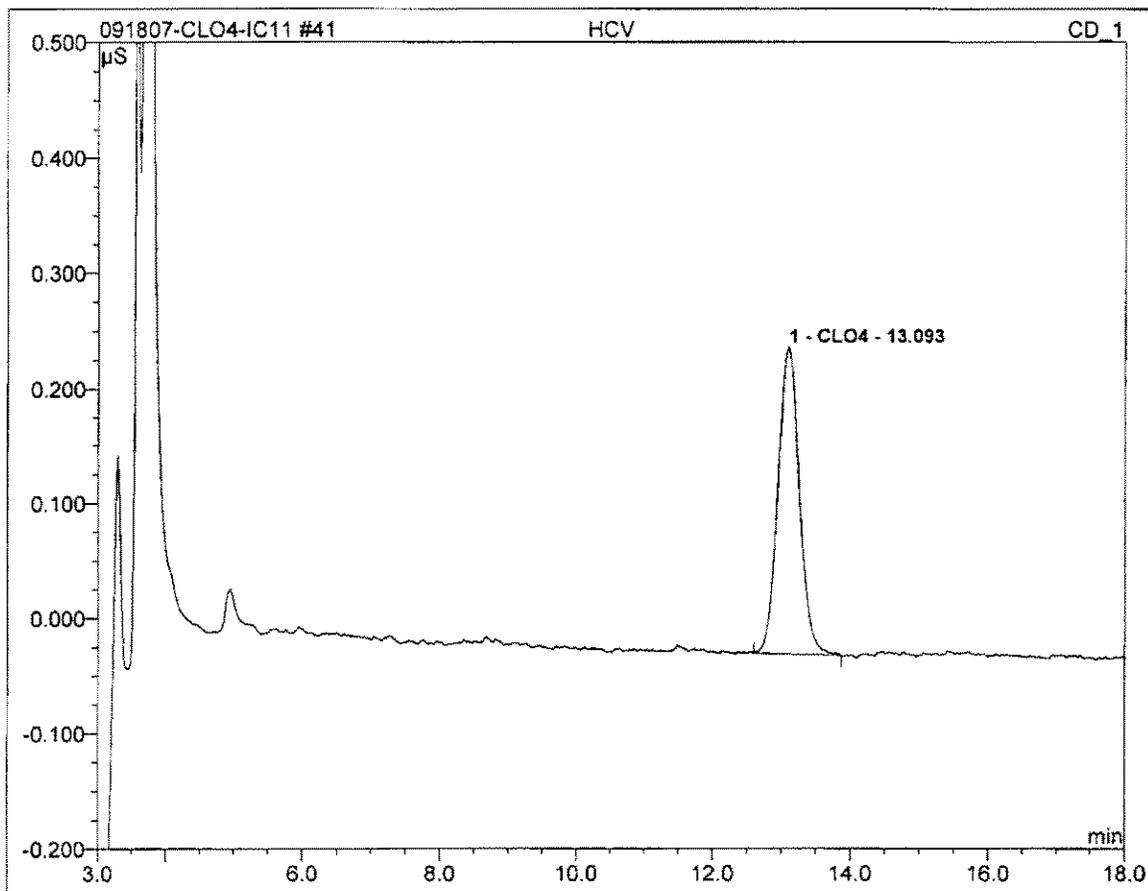
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.09	CLO4	0.267	0.096	100.00	98.930	BMB
Total:			0.267	0.096	100.00	98.930	

42 IPC

25

Sample Name:	**IPC**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/18/2007 22:38**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
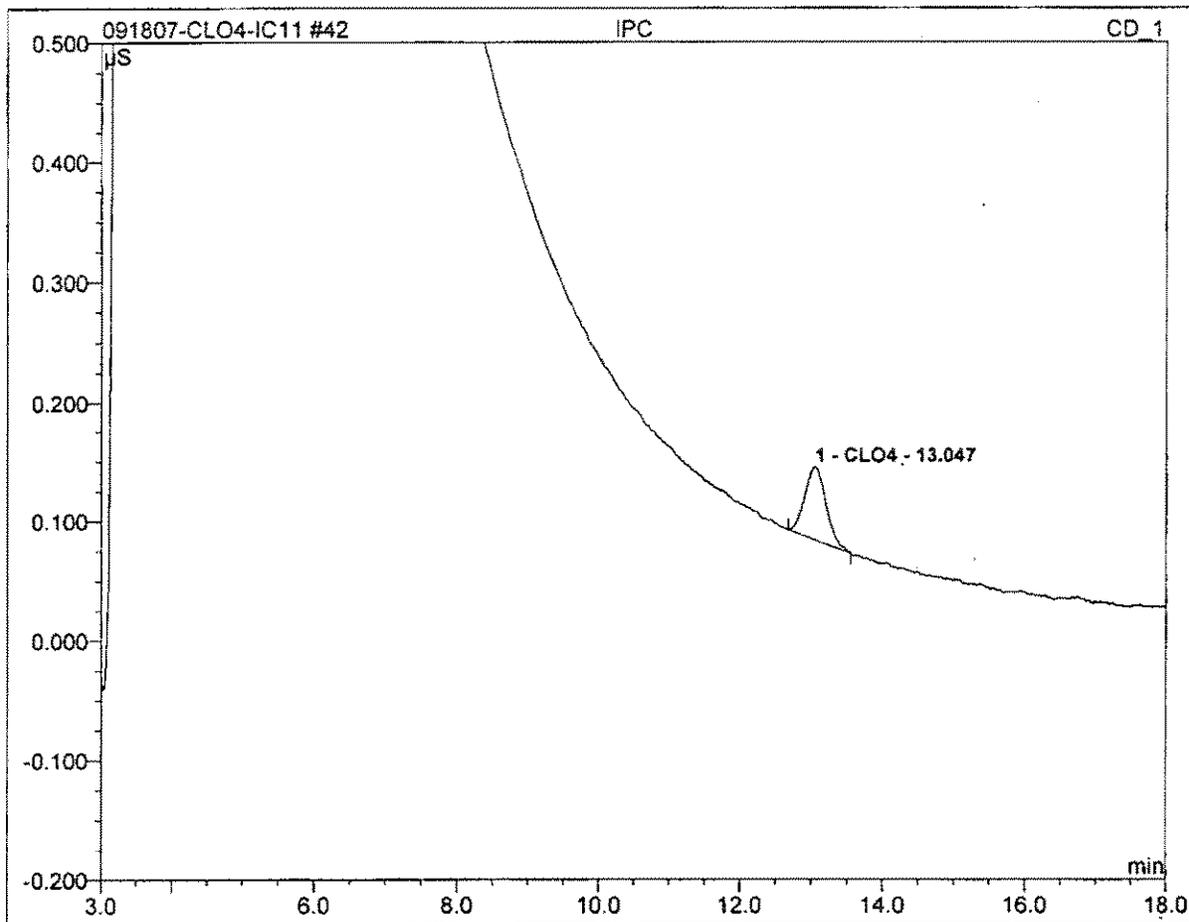
091807-CLO4-IC11 #42   IPC   CD_1

1 - CLO4 - 13.047

No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.05	CLO4	0.061	0.021	100.00	23.530	BMB
Total:			0.061	0.021	100.00	23.530	

43 -MBLK

Sample Name:	**-MBLK**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/18/2007 23:00**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
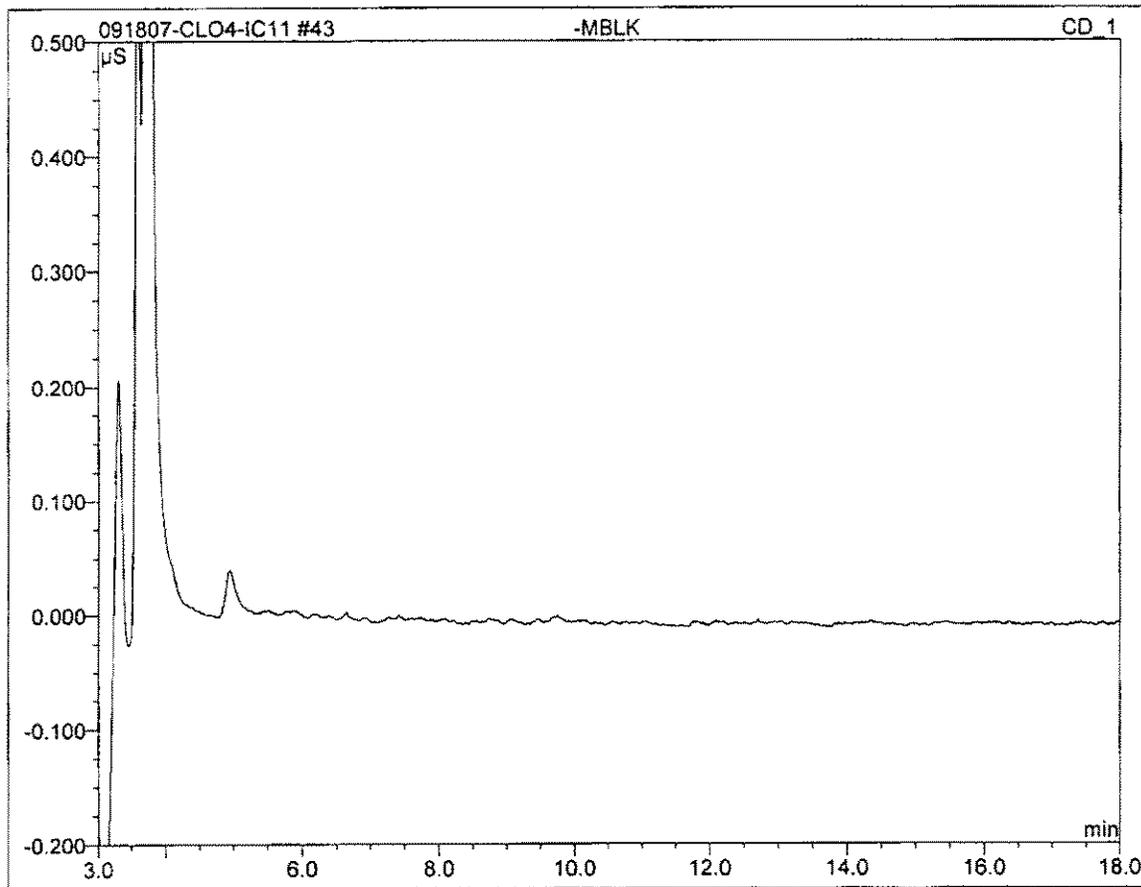
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

44 -MRLCHK-2

2

Sample Name:	-MRLCHK-2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/18/2007 23:22	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000

091807-CLO4-IC11 #44 [modified by clv]   -MRLCHK-2   CD_1
1 - CLO4 - 13.130
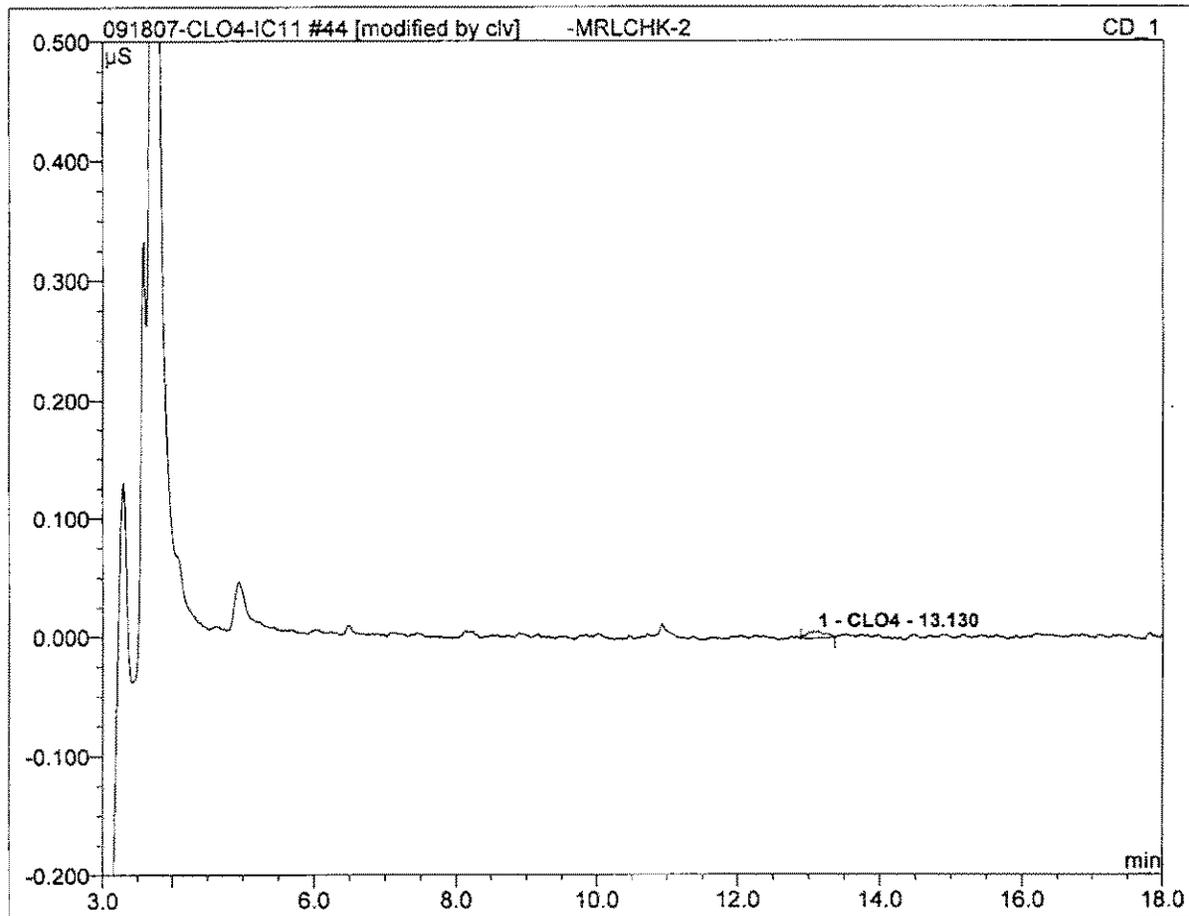
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.13	CLO4	0.006	0.002	100.00	1.211	BMB*
Total:			0.006	0.002	100.00	1.211	

46 -LCS1

25

Sample Name:	**-LCS1**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/19/2007 00:07**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
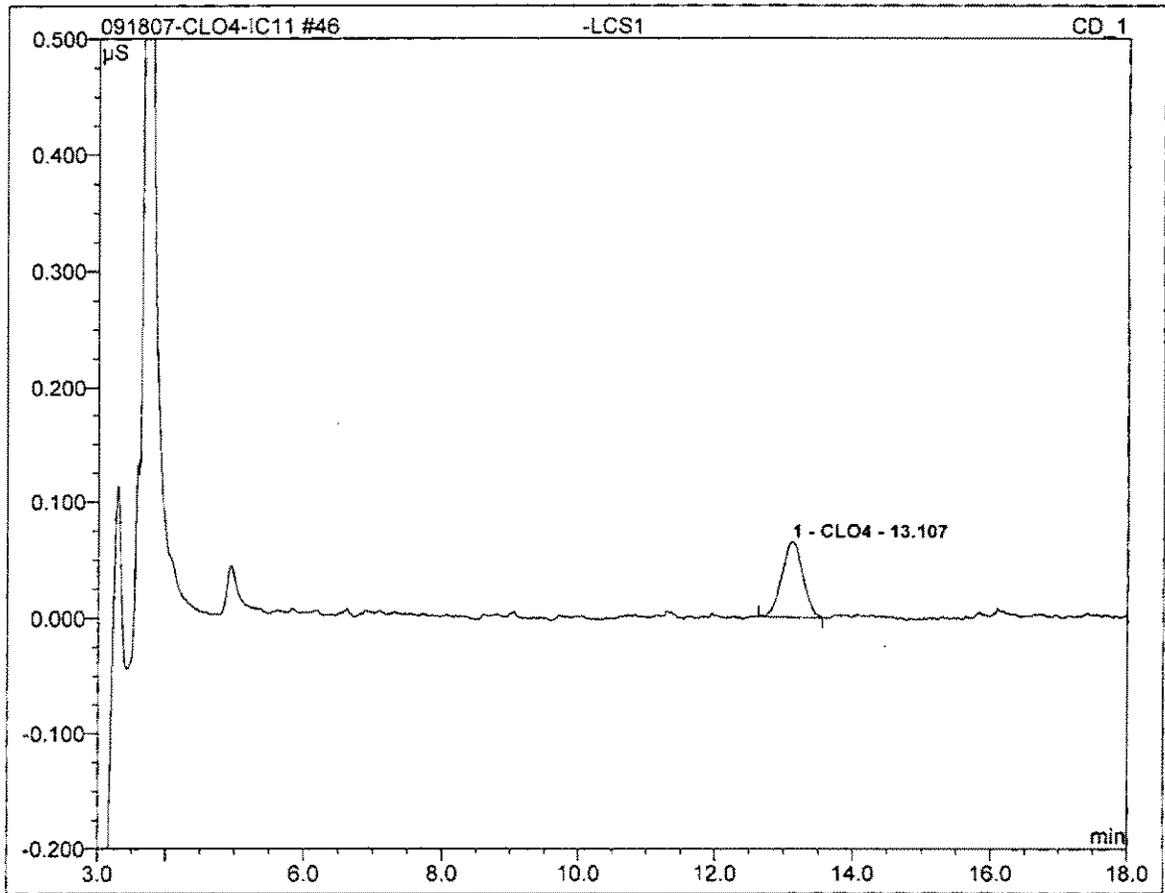
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.11	CLO4	0.065	0.023	100.00	25.493	BMB
Total:			0.065	0.023	100.00	25.493	

53 2709180140_1/100

Sample Name:	**2709180140_1/100**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/19/2007 02:44**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**100.0000**
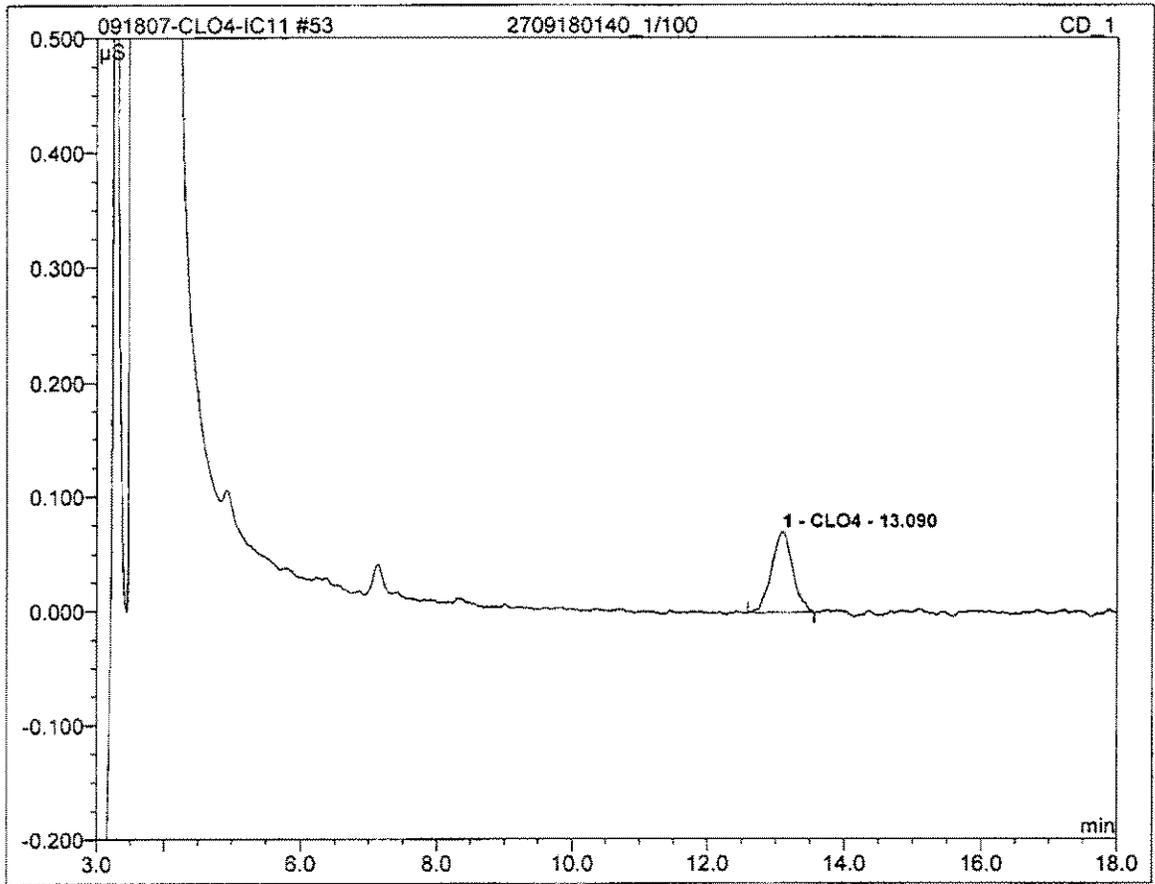
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.09	CLO4	0.071	0.025	100.00	2778.805	BMB
Total:			0.071	0.025	100.00	2778.805	

54 2709110140-MS

25 ~~clv 09/19/07~~

Sample Name:	**2709110140-MS**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/19/2007 03:06**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**100.0000**
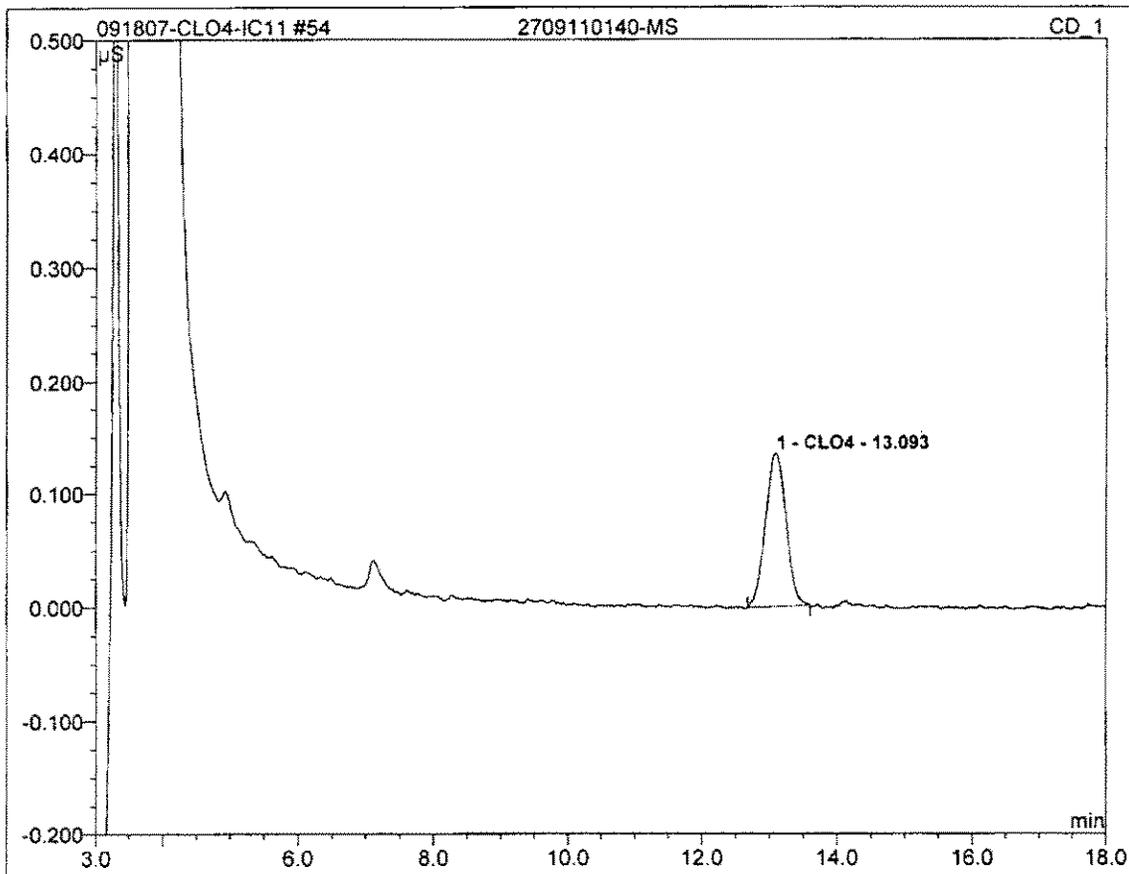
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.09	CLO4	0.135	0.048	100.00	5129.035	BMB
Total:			0.135	0.048	100.00	5129.035	

55 2709110140-MSD

25   dw 09/9/7

Sample Name:	**2709110140-MSD**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/19/2007 03:29**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**100.0000**
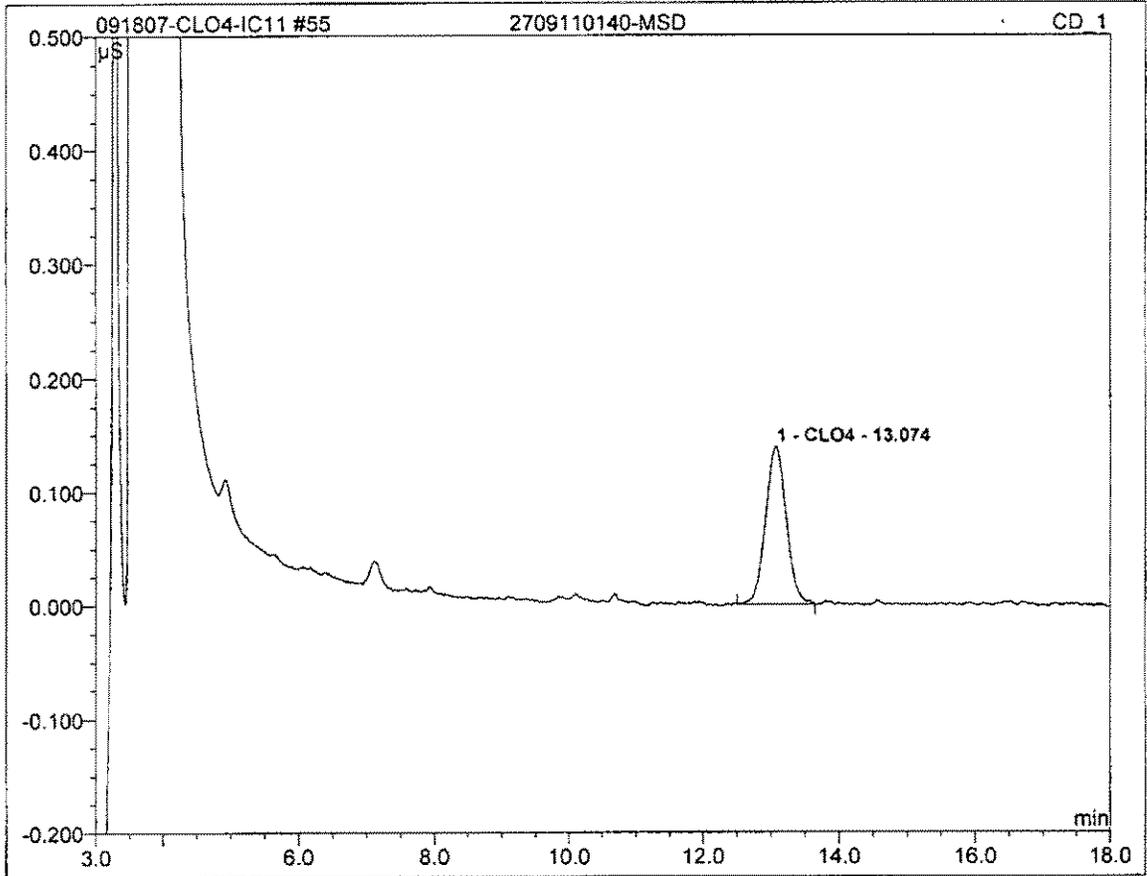
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.07	CLO4	0.139	0.049	100.00	5304.027	BMB
Total:			0.139	0.049	100.00	5304.027	

CLO4-raja/integration

Chromeleon (c) Dionex 1996-2000
Version 6.70 SP2a Build 1871 (Demo-Installation)

59 2709180347_1/5

EC=9100

Sample Name:	2709180347_1/5	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/19/2007 04:59	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	5.0000
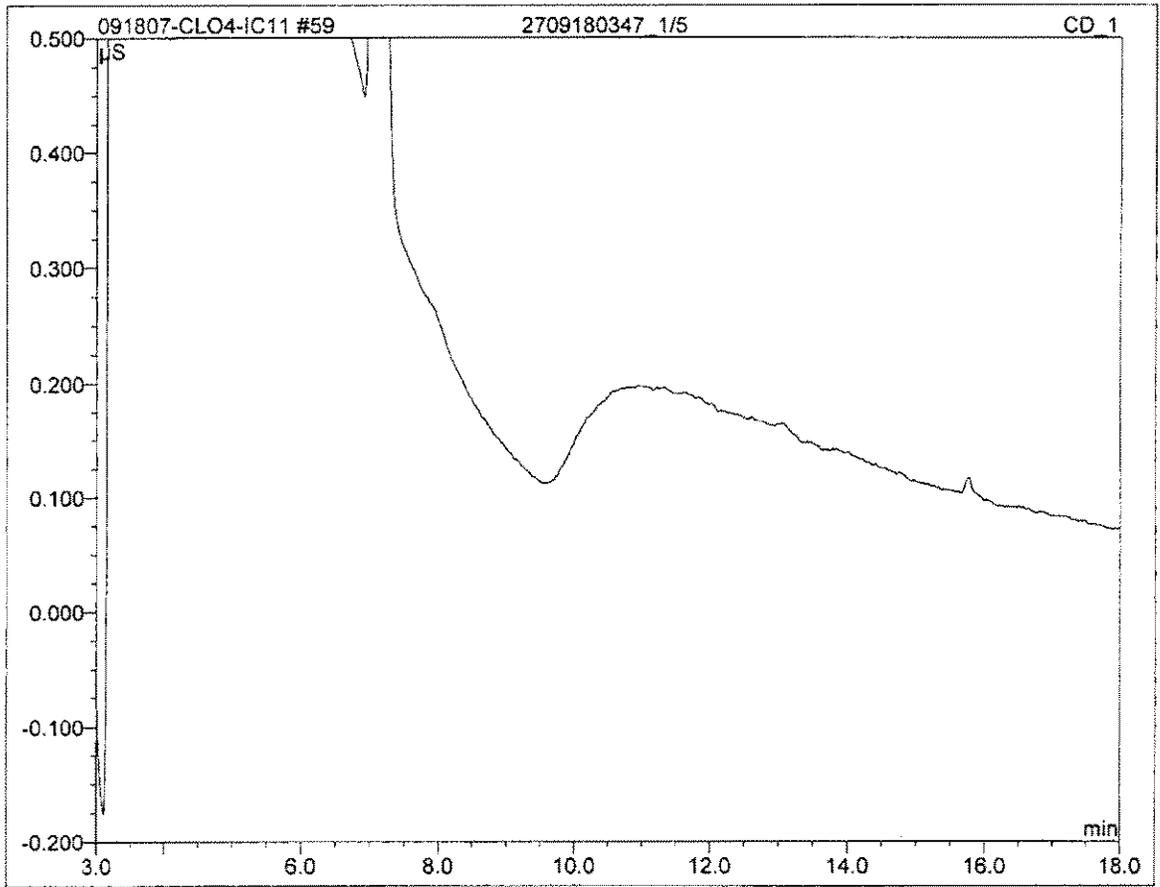
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

60 CCV

25

Sample Name:	**CCV**	Channel:	**CD_1**
Sample Type:	**unknown**	Control Program:	**Perchlorate-IC11**
Recording Time:	**09/19/2007 05:21**	Quantif. Method:	**IC#4-CLO4-LOW**
Analyst:	**clv**	Dilution Factor:	**1.0000**
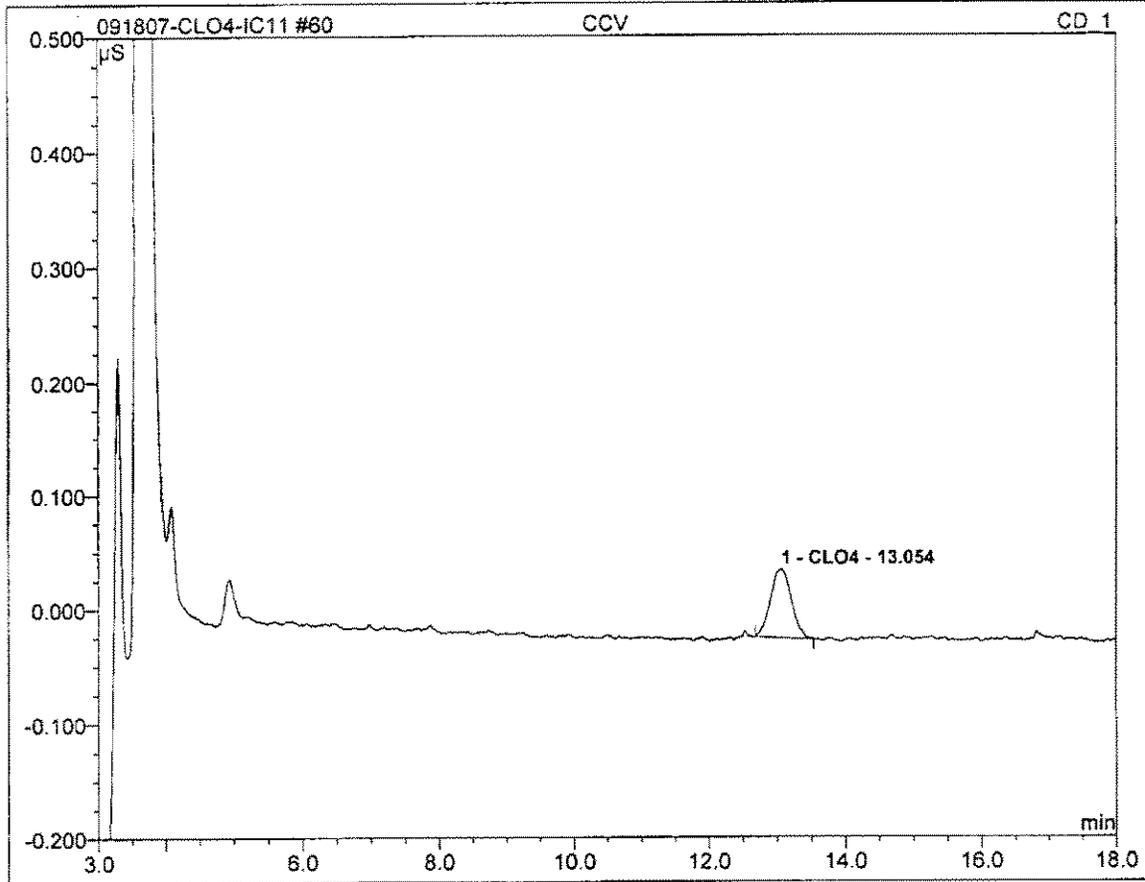
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.05	CLO4	0.061	0.021	100.00	23.261	BMB
Total:			0.061	0.021	100.00	23.261	

61 2709180348_1/10000

Sample Name:	2709180348_1/10000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/19/2007 05:43	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	10000.0000

091807-CLO4-IC11 #61   2709180348_1/10000   CD_1
1 - CLO4 - 13.053
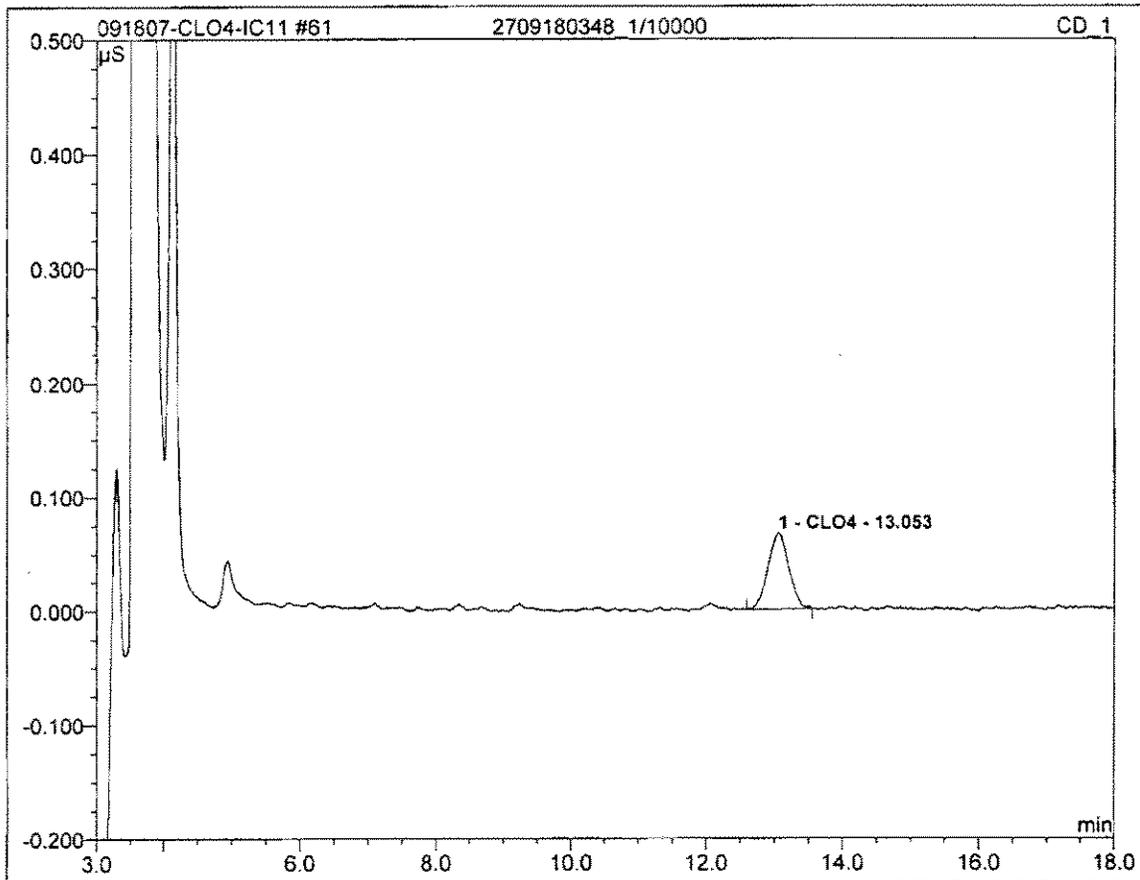
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.05	CLO4	0.067	0.024	100.00	262217.392	BMB
Total:			0.067	0.024	100.00	262217.392	

66 HCV

100

Sample Name:	HCV	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/19/2007 07:36	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
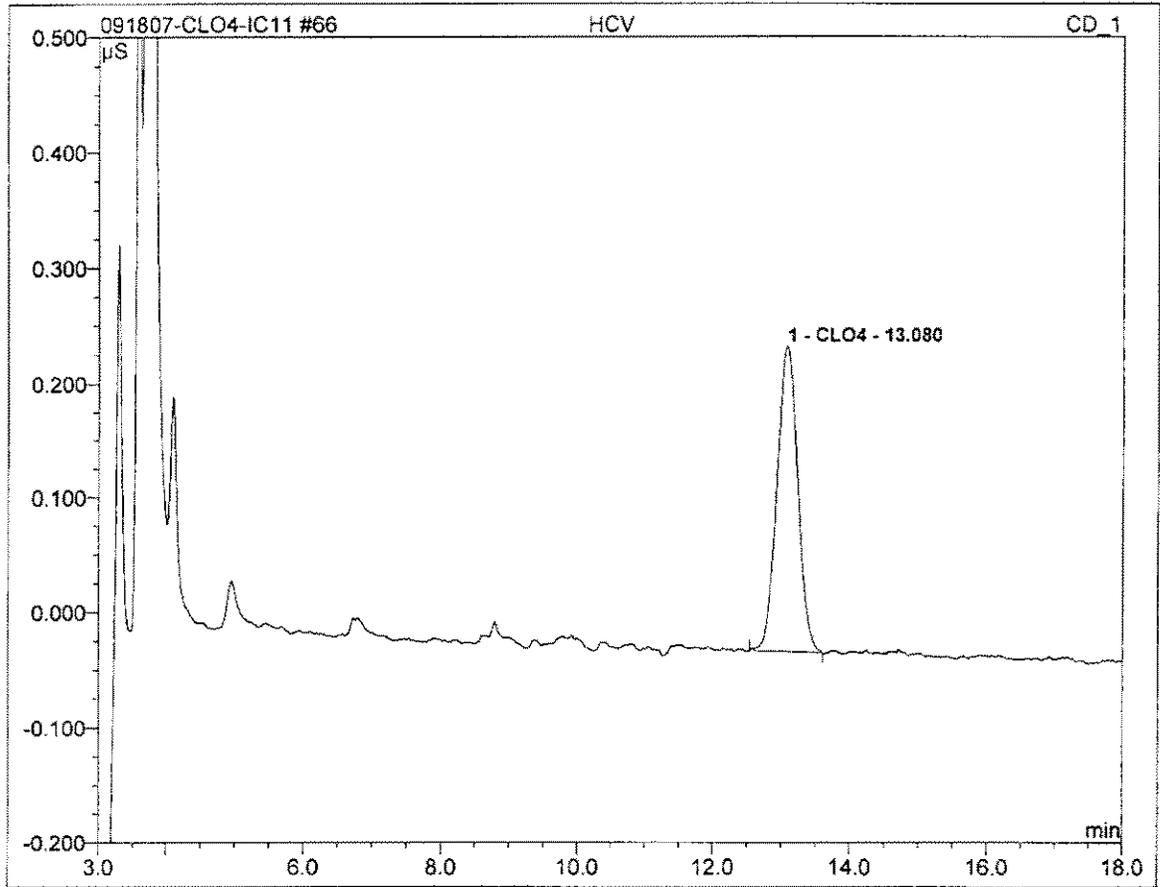
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.08	CLO4	0.266	0.094	100.00	96.425	BMB
Total:			0.266	0.094	100.00	96.425	

67 -MRLCHK-4

RR

Sample Name:	-MRLCHK-4	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/19/2007 09:23	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000
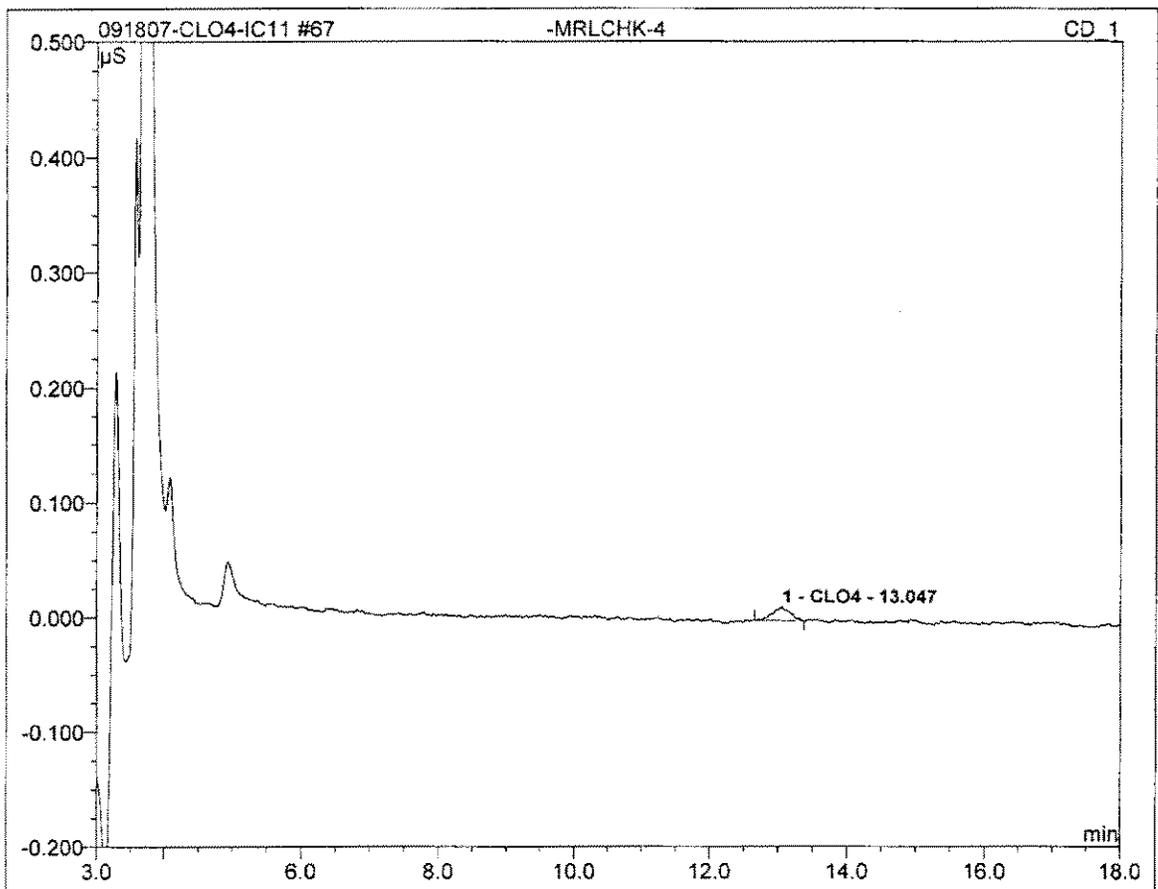
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.05	CLO4	0.012	0.003	100.00	3.265	BMB
Total:			0.012	0.003	100.00	3.265	

68 -LCS2

RR

Sample Name:	-LCS2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	09/19/2007 12:21	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000

091807-CLO4-IC11 #68   -LCS2   CD_1
1 - CLO4 - 13.067
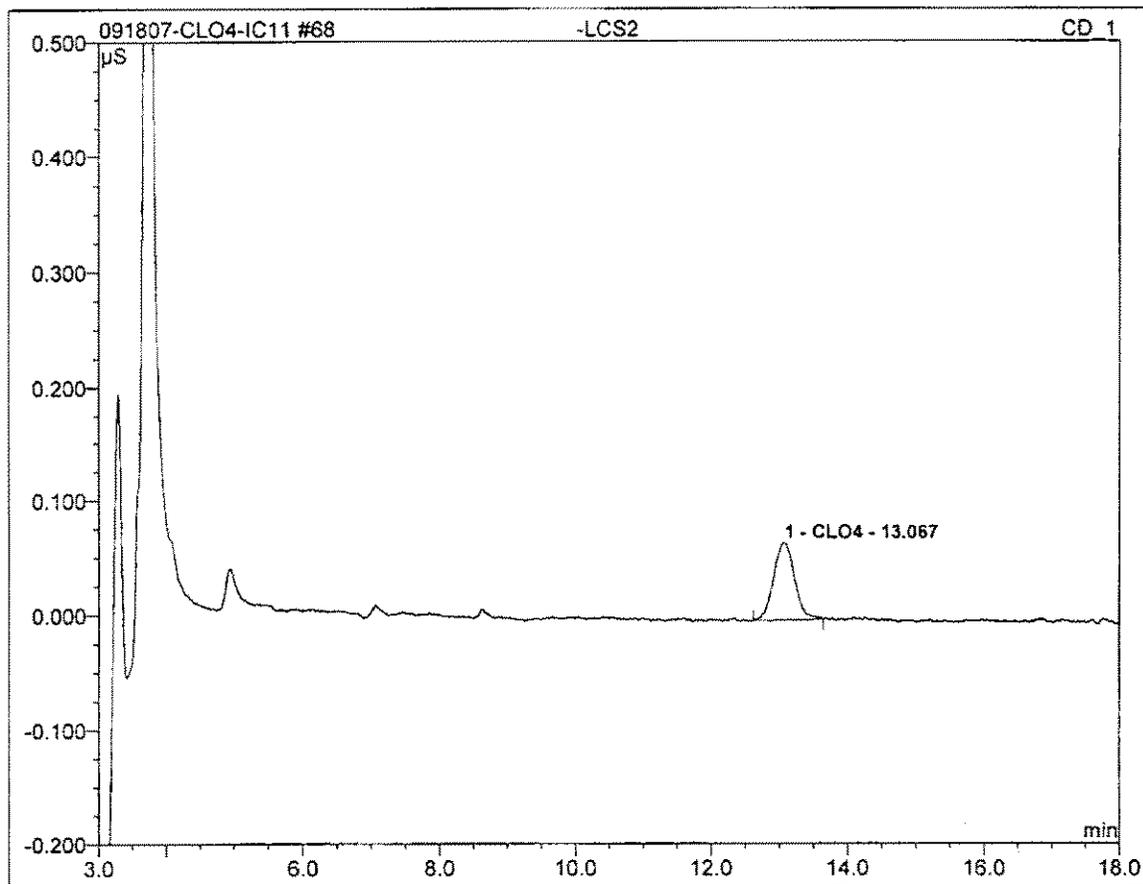
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.07	CLO4	0.067	0.024	100.00	26.386	BMB
Total:			0.067	0.024	100.00	26.386	

Standard Preparation Worksheet & Certificate of Analysis

Reagent Preparation Documentation

Reagent: ClO4 ＃O ppb ECSV   **MW #:** CLV070108-2
Date Received/Prepped: 010807/011607/012407/013007/020707/021407   **By:** clw
Date Expired: 020807/021607/022407/023007/030707/031407   **Matrix:** 1
Manufacturer: _____   **Amount:** 100 ul
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
100 ul 100 ppb	ClO4 Int. Cal → 100 ml soln.	ClO4	100 ppb
	R201449 EXP 072807	CLV060924-1	

Comment:

Reagent: ClO4 100 ppb Cal std.   **MW #:** CLV070108.3
Date Received/Prepped: 010807/041307/050807/081507/083007/100107/122707   **By:** clw
Date Expired: 020807/051307/060807/091507/093007/110107/012708   **Matrix:** 1
Manufacturer: _____   **Amount:** 100 ul
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
10 ml 1000 ppb	ClO4 Int. Cal → 100 ml soln.	ClO4	100 ppb
	R201449 EXP 072807	CLV060924-1	

Comment:

Reagent: ClO4 25 ppb CCSV   **MW #:** CLV070108-4
Date Received/Prepped: 010807/011707/012207/012707/020207/021107   **By:** clw
Date Expired: 020807/021707/022207/022707/030207/031107   **Matrix:** 1
Manufacturer: _____   **Amount:** 100 ul
Storage Condition: ROON TEMP   **Lot #:** _____

Component	Comment	Standard	Concentration
25 ml 100 ppb	ClO4 Int. Cal → 100 ml soln.	ClO4	100 ppb
	R201449 EXP 072809	CLV060924-1	

Comment:

Reagent Preparation Documentation

Page: _____

Reagent: ClO4 50 ppb cal std
Date Received/Prepped: 010807 /041307 /050807 /081507 /083007 /100107
Date Expired: 020807 /051307 /060807 /091507 /093007 /110107
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CLV070108-5
By: Clin
Matrix: _____
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
5.0 ml 1000 ppb	ClO4 Init Cal → 100 ml Stin 12-X0149 EX 077809	Accu CW560024-1	1000 ppb

Comment:

Reagent: ClO4 LCS 25 ppb
Date Received/Prepped: 012707 /020207 /021107 /021607 /022707 /
Date Expired: 022707 /030207 /031107 /031607 /032707 /
Manufacturer: _____
Storage Condition: _____

MW #: CLV070127-1
By: Clin
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	ClO4 2nd Source → 100 ml Soln	CWV061012-1	1000 ppb

Comment:

Reagent: ClO4 LCSD 25 ppb
Date Received/Prepped: 012707 /020207 /021107 /021607 /022707 /
Date Expired: 022707 /030207 /031107 /031607 /032707 /
Manufacturer: _____
Storage Condition: _____

MW #: CLV070127-2
By: Clin
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	ClO4 2nd Source → 100 ml Soln	CWV061012-1	1000 ppb

40

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: CLCA IPC Sut Std 5 ppb

MW #: CLVC70205-1

Date Received/Prepped: 020507 / 0216071 / / /
By: JL

Date Expired: 030507 / 0316071 / / /
Matrix: A

Manufacturer: _____
Amount: 200 ml

Storage Condition: ROOM TEMP
Lot #: _____

Component	Comment	Standard	Concentration
3.0 ml 10,000 ppm	CO3 soln.	CLVC70205-4	10,000 ppm
3.0 ml 10,000 "	SO4	200 ml	CLVC70205-3	10,000 ppm
3.0 ml 10,000 "	Cl	soln.	CLVC70205-2	10,000 ppm
1.0 ml 1000 ppb	ClO4 2nd source	CLVC61012-1	1000 ppb
	R201416 EXP 010608		

Comment: _____

Reagent: 10,000 ppm NaCl soln as Cl

MW #: CLV070205-2

Date Received/Prepped: 020507 / 030507 / 091207 / / /
By: JL

Date Expired: 020507 / 091207 / 031207 / /
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 #: CLV070205-3

Date Received/Prepped: 020507 / 031207 / 091207 / / /
By: JL

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	
	41		

Comment: _____

Reagent Preparation Documentation

Page: _____

Reagent: 10,000 ppm Na₂CO₃ in CW₃ MW #: CW070205-4
Date Received/Prepped: 020507/031207/091207/   /   / By: cln
Date Expired: 080507/091207/031208/   /   / Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
1.77 gms	Na₂CO₃ → 100 ml soln.	R201472	

Comment: _____

Reagent: ClO4   25 ppb   CCSV MW #: CW070246
Date Received/Prepped: 021607/022707/   /   /   / By: cln
Date Expired: 031607/032707/   /   /   / Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
25 ml 100 ppb	ClO4 Init. Cal → 100 ml soln.	ClO4	100 ppb
	R201449 EXP 072809	CW06024-1	

Comment: _____

Reagent: ClO4 1.0 ppb MRLCHK MW #: CW070220
Date Received/Prepped: 022007/037007/041307/050807/061507/091307 By: cln
Date Expired: 032007/042007/051307/060807/071507/081307 Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
100 ml 100 ppb	ClO4 Init. Cal → 100 ml soln	100 ppb	100 ppb
	R201449 EX 072809	CW06024-1	
	42		

Comment: _____

Reagent Preparation Documentation

FC=1480

Reagent: Cl04 IPC Salt Std 5 ppb   **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	Cl04 Init. Cal.	100 ml Soln.	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent: Cl04 LCS 25 ppb   **MW #:** CW070711-1

Date Received/Prepped: 071107 / 072407 / 080907 / 082807 / 083007 / 09/407 / 100907 /   **By:** clw

Date Expired: 081107 / 082407 / 090907 / 092807 / 093007 / 101407 / 110907 /   **Matrix:** A

103007 / 115 / 1207 / 1227   **Manufacturer:** _____   **Amount:** 100 ml

Storage Condition: ROOM TEMP 112007 1215 / 010 / 0107   **Lot #:** _____

Component	Comment	Standard	Concentrat
2.5 ml 1000 ppb	Cl04 Init. Cal. → 100 ml soln	CW060924-1	1000 pp
	R201449 EXP 072809		

Comment:

Reagent: Cl04 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

103007 / 115 / 1207 / 1227   **Manufacturer:** _____   **Amount:** 100 ml

Storage Condition: ROOM TEMP 112007 1215 / 010 / 0129   **Lot #:** _____

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	Cl04 Init. Cal → 100 ml soln	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment: 43

Reagent Preparation Documentation

Reagent: ClO4 CCSV 25 ppb MW 10/6/07   **MW #:** CW070711-3
Date Received/Prepped: 071107 / 072407 / 080907 / 081707 / 083007 / 093100107   **By:** CW
Date Expired: 081107 / 082407 / 090907 / 091707 / 093007 / 110107   **Matrix:** A
Manufacturer: 103007 / 112307 / 1207 / 1237   **Amount:** 150 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. R201449 EXP 072809	CW060924-1	1000 ppb

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. R201416 EXP 01/06/08	CW061012-1	1000 ppb

Comment:

Reagent: ClO4 ECSV 40 ppb   **MW #:** CW070711-5
Date Received/Prepped: 071107 / 072407 / 080907 / 081607 / 082007 / 083007 / 091407   **By:** CW
Date Expired: 081107 / 082407 / 090907 / 091607 / 092807 / 093007 / 101407   **Matrix:** A
Manufacturer: 100307 / 101907 / 1108 / 112307   **Amount:** 100 ml
Storage Condition: ROOM TEMP 113007 / 110907 / 1208 / 122307   **Lot #:**
1217 - 0117 / 1237 - 0127 /

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

Comment:

44

Reagent Preparation Documentation

Page:_____

Reagent: ClO4 MRLCHK 20 ppb   **MW #:** CW070711-6
Date Received/Prepped: 071107 / 073007 / 080907 / 081607 / 083007 / 091407 / 100307   **By:** CH
Date Expired: 081107 / 083009 / 090907 / 091607 / 093009 / 101407 / 110307   **Matrix:** A
Manufacturer: _____ 102207 / 1115 / 1205 / 1227 / 110307 / 1215 / 0105 / 0127   **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:** _____

Component	Comment	Standard	Concentr...
0.2 ml (1500 ppb)	ClO4 Init Cal → 100 ml Soln	CW060924-1	1500 ppb
	R201449 EXP 072809		

Comment:

Reagent: ClO4 MDL-0.5 0.5 ppb   **MW #:** CW070711-7
Date Received/Prepped: 071107 / / / /   **By:** CH
Date Expired: 081107 / / / /   **Matrix:** A
Manufacturer: _____   **Amount:** 100 ml
Storage Condition: ROOM TEMP   **Lot #:** _____

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

Comment:

Reagent: ClO4 IPC EC=1480 5 ppb   **MW #:** CW070711-8
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	CO3	CW070205-4	10,000 ppm
1.5 ml 10,000 ppm	SO4	CW070205-3	10,000 ppm
1.5 ml 10,000 ppm	Cl → 100 ml Soln	CW070205-2	10,000 ppm
0.5 ml 1000 ppb	ClO4 Init Cal	CW060924-1	1000 ppb
	R201449 EXP 072809		

Comment:

Reagent Preparation Documentation

Reagent: C104 IPC EC=1000 5 ppb **MW #:** CW 07071-9
Date Received/Prepped: 071107 / / / / / **By:** ch
Date Expired: 081107 / / / / / **Matrix:** A
Manufacturer: **Amount:** 100 ml
Storage Condition: ROOM TEMP **Lot #:**

Component	Comment	Standard	Concentration
1.0 ml 10,000 ppm	CO₃	CW 070205-4	10,000 ppm
1.0 ml 10,000 ppm	SO4 100 ml Stn.	GLV070205-3	10,000 ppm
1.0 ml 10,000 ppm	Cl	CW070205-2	10,000 ppm
0.5 ml 1,000 ppb	C104 Int Cal	CW060924-1	1,000 ppb
	R201447 EXP 072809		

Comment:

Reagent: C104 HCV 100 ppb **MW #:** CW 070717-1
Date Received/Prepped: 071707 /080207 /081607 /083007 /091407 /101107 **By:** ch
Date Expired: 081707 /090207 /091607 /093007 /101407 /111107 **Matrix:** A
Manufacturer: 103007 / 112007 /121107 **Amount:** 10V
Storage Condition: ROOM TEMP / 113007 / 122007 011108 **Lot #:**

Component	Comment	Standard	Concentration
10.0 ml 1000 ppb	C104 Purt. Cal → 100 ml Stn	CW060924-1	1000 ppb
	R201447 EXP 072809		

Comment:

Reagent: C104 IPC EC=3.155 25 ppb **MW #:** CW 070717-2
Date Received/Prepped: 071707 /073007 /081607 /083009 /091007 /103007 **By:** ch
Date Expired: 081707 /082007 /091607 /093007 /101007 /113007 **Matrix:** A
Manufacturer: 091407 /115/ 1207/010208 **Amount:** 100 ml
10/410/ 1215/010708 /020208
Storage Condition: ROOM TEMP **Lot #:**

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

46

Comment:

ANALYTICAL STANDARDS, INC. • 44 RUSSELL? DRIVE • HAMDEN, CT 06514 • (800)-368-1131

CERTIFIED WEIGHT REPORT:

Part Number:	**57001**
Lot Number:	072806
Description:	Perchlorate
Expiration Date:	072809
Nominal Concentration (µg/mL):	1000

Lot #: 072806

Solvent(s): 072806   ASTM Type 1 Water

R201449

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

Formulated By: Lawrence Barry   072806

Reviewed By: Pedro L. Rentas   072806

MSDS Information

	CAS#	(Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50	NIST SRM
	07601-89-0	N/A	N/A	3152a

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

47