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Level IV Data Package

MWH Group 212263

Method: 314 CLO4

Sample No.:

2708030224

2708030225

2708030226

2708030227

2708030228

2708030229

2708030230

2708030231

2708030232

2708030233

2708030234

2708030235

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 08/06/07 Analyst: ch

QC'd by MWF Date 8-14-07

Instrument: 1C11 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 (MLBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

- MLBLANK is analyzed before samples. Perchlorate, if present, is \leq 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

$$PDA/H = 0.4\%$$

$$PDA = 3.6\%$$

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 ~~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) 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

- One Laboratory Reagent Blank (LRB). Perchlorate is \leq or = half of MRL.
- 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

- 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	08.02.07 09:38	n.a.	
2	autocal2	1.0	2	08.02.07 10:01	2.2251	
3	autocal3	1.0	4	08.02.07 10:23	3.6308	
4	autocal4	1.0	10	08.02.07 10:45	10.3344	
5	autocal5	1.0	25	08.02.07 11:08	24.6636	
6	autocal6	1.0	50	08.02.07 11:30	50.1703	
7	autocal7	1.0	100	08.02.07 11:53	99.9758	
8	QCS	1.0	20	08.06.07 10:51	18.6166	93.1%
9	IPC	1.0	25	08.06.07 11:13	23.7019	94.8%
10	-MBLK	1.0		08.06.07 11:35	n.a.	NDS/MRV
11	-MRLCHK-2	1.0	2	08.06.07 11:58	2.0960	105%
12	-MRLCHK-4	1.0	4	08.06.07 12:20	3.6792	92.0%
13	-LCS1	1.0	25	08.06.07 12:43	26.5731	106%
14	-LCS2	1.0	25	08.06.07 13:05	26.7081	107%
15	2708010228_1/50000	50000.0	RR/CONFIRMED	08.06.07 13:27	2587398.4174	
16	2708010229_1/100	100.0	RR/CONFIRMED	08.06.07 13:50	1715.6320	
17	2708010230_1/10000	10000.0	RR	08.06.07 14:12	422751.2070	
18	2708020344_1/10000	10000.0	RR/CONFIRMED	08.06.07 14:35	314854.5818	
19	2708020570_1/2	2.0	RR/CONFIRMED	08.06.07 14:57	7.1042	
20	2708020570-MS	2.0	25	08.06.07 15:19	55.4146	48.3/2 = 24.2%
21	2708020570-MSD	2.0	25	08.06.07 15:42	56.8826	29.9/99.6%
22	2708010300_1/500DNR	500.0	RR	08.06.07 16:04	8975.1533	DNR
23	2708010300-MS	1.0	CONFIRMATION	08.06.07 16:27	26.3618	DNR
24	2708030110 DNR	1.0		08.06.07 16:49	n.a.	DNR
25	2708030224_1/10000	10000.0		08.06.07 17:11	196488.3152	
26	2708030225_1/1000	1000.0		08.06.07 17:34	42768.0756	
27	2708030226_1/10000	10000.0		08.06.07 17:56	226791.1607	
28	CCV	1.0	25	08.06.07 18:19	25.3633	101%
29	2708030227_1/1000	1000.0		08.06.07 18:41	55319.2904	
30	2708030228_1/2500	2500.0		08.06.07 19:03	146936.5612	
31	2708030229_1/2500	2500.0		08.06.07 19:26	102866.6617	
32	2708030230_1/10000	10000.0		08.06.07 19:48	497078.6045	
33	2708030231_1/100DNR	100.0		08.06.07 20:11	11184.9429	DNR
34	2708030232_1/1000	1000.0		08.06.07 20:33	37536.6591	
35	2708030233_1/50000	50000.0		08.06.07 20:55	1801374.0673	
36	2708030234_1/1000	1000.0		08.06.07 21:18	33879.1500	
37	2708030235_1/1000	1000.0		08.06.07 21:40	30092.1268	
38	2708030239_1/50000	50000.0		08.06.07 22:03	4559275.5659	
39	HCV	1.0	100	08.06.07 22:25	106.6846	107%
40	IPC	1.0	25	08.06.07 22:47	23.5938	94.4%
41	-MBLK	1.0		08.06.07 23:10	n.a.	NDS/MRV
42	-MRLCHK-2	1.0	2	08.06.07 23:32	2.4670	123%
43	-MRLCHK-4	1.0	4	08.06.07 23:55	4.4000	110%
44	-LCS1	1.0	25	08.07.07 00:17	26.3823	100%

45	-LCS2	1.0	25	08.07.07 00:39	✓26.7101	107%
46	2708030247_1/50000	50000.0		08.07.07 01:02	✓2264973.4674	
47	2708030248_1/50000	50000.0		08.07.07 01:24	✓2120775.1873	
48	2708030249_1/50000	50000.0		08.07.07 01:47	✓1091193.2255	
49	2708040012	1.0		08.07.07 02:09	✓42.6713	
50	2708040013	1.0		08.07.07 02:31	✓42.3981	
51	2708040013-MS	1.0	25	08.07.07 02:54	✓68.2756	25.9/104%
52	2708040013-MSD	1.0	25	08.07.07 03:16	✓69.5522	27.2/109%
53	2708040001_1/1000	1000.0		08.07.07 03:38	✓24709.0407	
54	2708040002_1/10000DNR	10000.0		08.07.07 04:01	—19749.2165	DNR
55	2708040003_1/50000	50000.0		08.07.07 04:23	✓994288.6681	
56	2708040004_1/50000	50000.0		08.07.07 04:46	✓64291.1512	
57	2708040005_1/50000	50000.0		08.07.07 05:08	✓082171.7512	
58	CCV	1.0	25	08.07.07 05:30	25.8977	104%
59	2708040006_1/50000DNR	50000.0		08.07.07 05:53	1975957.0956	
60	2708040007_1/50000DNR	50000.0		08.07.07 06:15	991100.3858	
61	2708040008_1/50000DNR	50000.0		08.07.07 06:38	853339.3541	
62	2708040009_1/50000DNR	50000.0		08.07.07 07:00	870704.4886	
63	2708040010_1/1000DNR	1000.0		08.07.07 07:22	33847.9773	
64	2708040011_1/1000DNR	1000.0		08.07.07 07:45	35339.0292	
65	2707310412_1/50000DNR	50000.0	RR	08.07.07 08:07	725130.6897	
66	2708010223_1/5000DNR	5000.0	RR	08.07.07 08:30	141966.6557	
67	2708010297_1/6DNR	6.0	RR/EC=16900	08.07.07 08:52	24010.0811	
68	2708010300_1/4DNR	4.0	RR/EC=11500	08.07.07 09:14	8198.9304	
69	HCV	1.0	POWER OUTAGE	08.07.07 09:37	n.a.	
70	WASH	1.0		08.07.07 13:07	n.a.	
71	HCV	1.0	100	08.07.07 13:30	65.3823	
72	HCV	1.0	100	08.07.07 13:52	74.5598	
73	STOP	1.0		08.07.07 14:14	n.a.	

V.B: MM 8/14/07

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 08/09/07

Analyst: DL

Reviewed By: _____

LIMS Check By: _____

Was QC Criteria Met: Y N

Was QIR Needed: Y N

WBL 8/9/07

Time of Analysis Start: 1040 End: _____

MRL 2umhos/cm: Ref _____ exp of solution: _____

KCl Std 1412 R# 201668 exp of solution 12/07

TV = 1412 µmho/cm @ 25°C for 0.0100M

Reading: 1400

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

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result		Comments
								Instrument	Reported (µmho/cm)	
	Blank				21	7	u		0.5600	
	STD MRL 2umhos/cm									1-3---±50% of TV
	STD KCl - 1000 mhos/cm									950-1050---±5% of TV
1	2708010228	M37	KM	07/31/07					8800	
2	0229	EB1	↓	↓					71	
3	0230	MDX	↓	↓					5700	
4	2708020344	MD2	↓	08/01/07					9200	
5	0570	HOLE LAKE	IEWA	07/25/07					1500	
6	2708030224	M87	KM	08/02/07					3100	
7	0225	M74	↓	↓					7800	
8	0226	M73	↓	↓					4500	
9	0227	M80	↓	↓					8500	
10	0228	M102	↓	↓					2900	
	DUP	↓	↓	↓					5200	RPD < 5%
11	0229	M101	↓	↓					4000	
12	0230	M86	↓	↓					4700	
13	0232	M100	↓	↓					2100	
14	0233	M36	↓	↓					16900	
15	0234	M11	↓	↓					4500	
16	0235	M10	↓	↓					4000	
17	0239	GW11	↓	↓					39000	
18	0247	GWTP DISCU	KM	↓					21000	
19	0248	WEST	↓	↓					8600	
20	0249	EAST	↓	↓					11600	
	DUP	↓	↓	↓					11600	RPD < 5%
	STD KCl - 10 mhos/cm									8-12---RPD < 20% of TV

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

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

Sequence: 080807-CLO4-IC11
Operator: clv

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Printed: 8/9/2007 11:02:58 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007VAUG
Timebase: IC11
#Samples: 73

Created: 8/4/2007 9:38:17 AM by clv
Last Update: 8/8/2007 5:04:53 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
1	autocal1		1.0000	Standard	0	Finished
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished
3	autocal3		1.0000	Standard	4	Finished
4	autocal4		1.0000	Standard	10	Finished
5	autocal5		1.0000	Standard	25	Finished
6	autocal6		1.0000	Standard	50	Finished
7	autocal7		1.0000	Standard	100	Finished
8	QCS	R201449 EXP 07/28/09	1.0000	Unknown	20	Finished
9	IPC	EC=3155	1.0000	Unknown	25	Finished
10	-MBLK		1.0000	Unknown		Finished
11	-MRLCHK-2	2	1.0000	Unknown	2	Finished
12	-MRLCHK-4	4	1.0000	Unknown	4	Finished
13	-LCS1	25	1.0000	Unknown	25	Finished
14	-LCS2	25	1.0000	Unknown	25	Finished
15	2708010228_1/50000	KM M-37	50000.0000	Unknown	RR/CONFIRMED	Finished
16	2708010229_1/100	KM EB-1	100.0000	Unknown	RR/CONFIRMED	Finished
17	2708010230_1/10000	KM MD-4	10000.0000	Unknown	RR	Finished
18	2708020344_1/10000	KM MD-2	10000.0000	Unknown	RR/CONFIRMED	Finished
19	2708020570_1/2	IEJA HOLE LAKE OUT	2.0000	Unknown	RR/CONFIRMED	Finished
20	2708020570-MS	25	2.0000	Unknown	25	Finished
21	2708020570-MSD	25	2.0000	Unknown	25	Finished
22	2708010300_1/500DNR	KM H-28A	500.0000	Unknown	RR	Finished
23	2708010300-MS	25	1.0000	Unknown	CONFIRMATION	Finished
24	2708030110 DNR	TUCSON 112	1.0000	Unknown		Finished
25	2708030224_1/10000	KM M-87	10000.0000	Unknown		Finished
26	2708030225_1/1000	KM M-74	1000.0000	Unknown		Finished
27	2708030226_1/10000	KM M-73	10000.0000	Unknown		Finished
28	CCV	25	1.0000	Unknown	25	Finished
29	2708030227_1/1000	KM M-88	1000.0000	Unknown		Finished
30	2708030228_1/2500	KM M-102	2500.0000	Unknown		Finished
31	2708030229_1/2500	KM M-101	2500.0000	Unknown		Finished
32	2708030230_1/10000	KM M-86	10000.0000	Unknown		Finished
33	2708030231_1/100DNR	KM M-84	100.0000	Unknown		Finished
34	2708030232_1/1000	KM M-100	1000.0000	Unknown		Finished
35	2708030233_1/50000	KM M-36	50000.0000	Unknown		Finished
36	2708030234_1/1000	KM M-11	1000.0000	Unknown		Finished
37	2708030235_1/1000	KM M-10	1000.0000	Unknown		Finished
38	2708030239_1/50000	KM GW-11	50000.0000	Unknown		Finished
39	HCV	100	1.0000	Unknown	100	Finished
40	IPC	EC=3155	1.0000	Unknown	25	Finished
41	-MBLK		1.0000	Unknown		Finished
42	-MRLCHK-2	2	1.0000	Unknown	2	Finished

Sequence: 080607-CLO4-IC11
Operator: clv

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Title:
Datasource: Dionex_USPAS2SDIO2
Location: ICVC11_CLO4\2007AUG
Timebase: IC11
#Samples: 73

Created: 8/4/2007 9:38:17 AM by clv
Last Update: 8/8/2007 5:04:53 PM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
1	autocal1	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 9:38:42 AM	clv
2	autocal2	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:01:05 AM	clv
3	autocal3	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:23:29 AM	clv
4	autocal4	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:45:53 AM	clv
5	autocal5	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:08:17 AM	clv
6	autocal6	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:30:41 AM	clv
7	autocal7	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:53:05 AM	clv
8	QCS	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 10:51:07 AM	clv
9	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:13:31 AM	clv
10	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:35:54 AM	clv
11	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:58:18 AM	clv
12	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 12:20:42 PM	clv
13	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 12:43:06 PM	clv
14	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 1:05:30 PM	clv
15	2708010228_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 1:27:53 PM	clv
16	2708010229_1/100	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 1:50:17 PM	clv
17	2708010230_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 2:12:41 PM	clv
18	2708020344_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 2:35:05 PM	clv
19	2708020570_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 2:57:29 PM	clv
20	2708020570-MS	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 3:19:52 PM	clv
21	2708020570-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 3:42:16 PM	clv
22	2708010300_1/500DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 4:04:40 PM	clv
23	2708010300-MS	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 4:27:04 PM	clv
24	2708030110 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 4:49:28 PM	clv
25	2708030224_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 5:11:51 PM	clv
26	2708030225_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 5:34:15 PM	clv
27	2708030226_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 5:56:39 PM	clv
28	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 6:19:03 PM	clv
29	2708030227_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 6:41:27 PM	clv
30	2708030228_1/2500	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 7:03:51 PM	clv
31	2708030229_1/2500	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 7:26:15 PM	clv
32	2708030230_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 7:48:38 PM	clv
33	2708030231_1/100DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 8:11:02 PM	clv
34	2708030232_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 8:33:26 PM	clv
35	2708030233_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 8:55:50 PM	clv
36	2708030234_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 9:18:14 PM	clv
37	2708030235_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 9:40:37 PM	clv
38	2708030239_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 10:03:01 PM	clv
39	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 10:25:25 PM	clv
40	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 10:47:49 PM	clv
41	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:10:13 PM	clv
42	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:32:36 PM	clv

Sequence: 080607-CLO4-IC11
Operator: clv

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Printed: 8/9/2007 11:02:58 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC1C11_CLO4\2007AUG
Timebase: IC11
#Samples: 73

Created: 8/4/2007 9:38:17 AM by clv
Last Update: 8/8/2007 5:04:53 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
43	-MRLCHK-4	4	1.0000	Unknown	4	Finished
44	-LCS1	25	1.0000	Unknown	25	Finished
45	-LCS2	25	1.0000	Unknown	25	Finished
46	2708030247_1/50000	GWTP DISCHARGE	50000.0000	Unknown		Finished
47	2708030248_1/50000	GWTP WEST	50000.0000	Unknown		Finished
48	2708030249_1/50000	GWTP EAST	50000.0000	Unknown		Finished
49	2708040012	KM OUTFALL 1	1.0000	Unknown		Finished
50	2708040013	KM OUTFALL 2	1.0000	Unknown		Finished
51	2708040013-MS	25	1.0000	Unknown	25	Finished
52	2708040013-MSD	25	1.0000	Unknown	25	Finished
53	2708040001_1/1000	KM M-85	1000.0000	Unknown		Finished
54	2708040002_1/10000DNR	KM M-83	10000.0000	Unknown		Finished
55	2708040003_1/50000	KM M-70	50000.0000	Unknown		Finished
56	2708040004_1/50000	KM M-71	50000.0000	Unknown		Finished
57	2708040005_1/50000	KM M-72	50000.0000	Unknown		Finished
58	CCV	25	1.0000	Unknown	25	Finished
59	2708040006_1/50000DNR	KM M-22A	50000.0000	Unknown		Finished
60	2708040007_1/50000DNR	KM M-38	50000.0000	Unknown		Finished
61	2708040008_1/50000DNR	KM M-89	50000.0000	Unknown		Finished
62	2708040009_1/50000DNR	KM M-17A	50000.0000	Unknown		Finished
63	2708040010_1/1000DNR	KM M-115	1000.0000	Unknown		Finished
64	2708040011_1/1000DNR	KM M-14A	1000.0000	Unknown		Finished
65	2707310412_1/50000DNR	KM MD-1	50000.0000	Unknown	RR	Finished
66	2708010223_1/50000DNR	KM M-79	5000.0000	Unknown	RR	Finished
67	2708010297_1/6DNR	KM M-5A	6.0000	Unknown	RR/EC=16900	Finished
68	2708010300_1/4DNR	KM H-28A	4.0000	Unknown	RR/EC=11500	Finished
69	HCV	100	1.0000	Unknown	POWER OUTAGE	Interrupted
70	WASH		1.0000	Unknown		Finished
71	HCV	100	1.0000	Unknown	100	Finished
72	HCV	100	1.0000	Unknown	100	Finished
73	STOP		1.0000	Unknown		Interrupted

Sequence: 080607-CLO4-IC11
Operator: clv

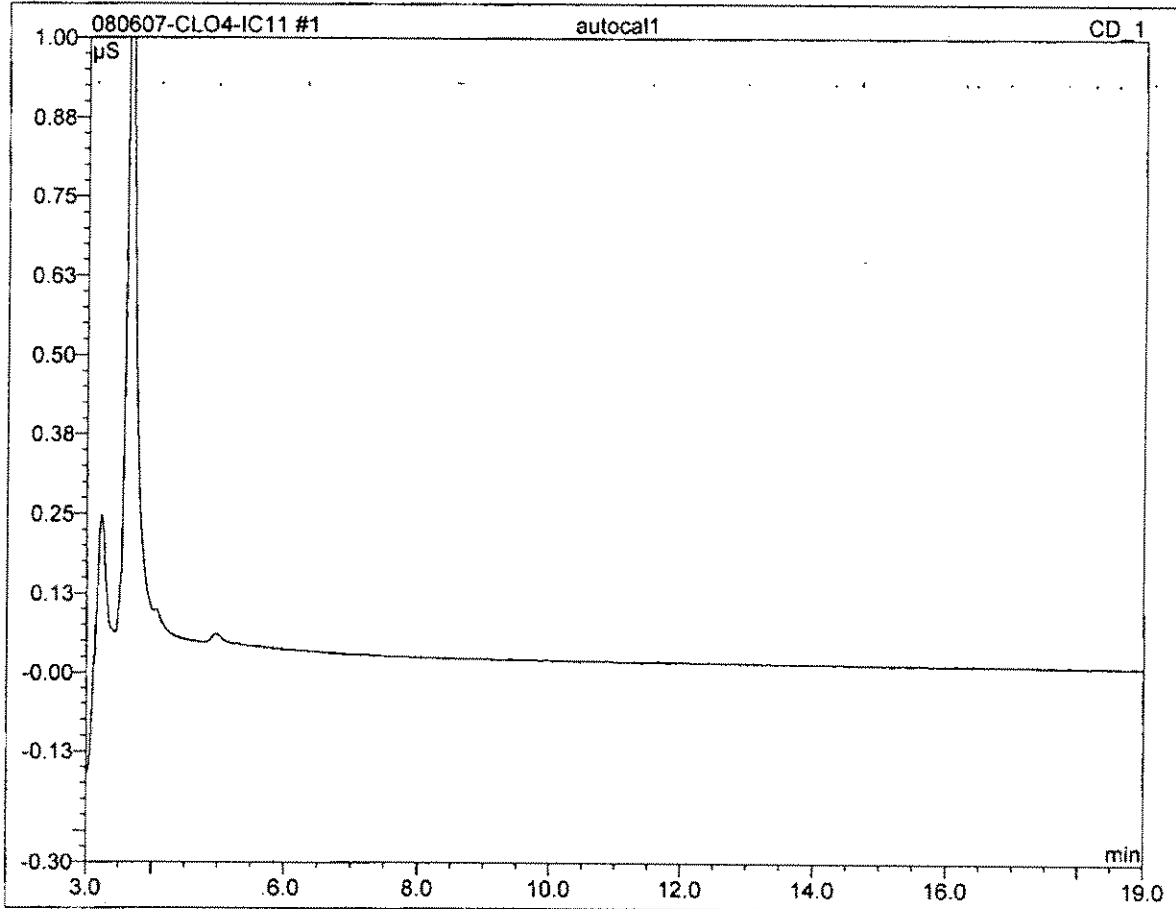
Page 4 of 4
Printed: 8/9/2007 11:02:58 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2007\AUG
Timebase: IC11
#Samples: 73

Created: 8/4/2007 9:38:17 AM by clv
Last Update: 8/8/2007 5:04:53 PM by clv

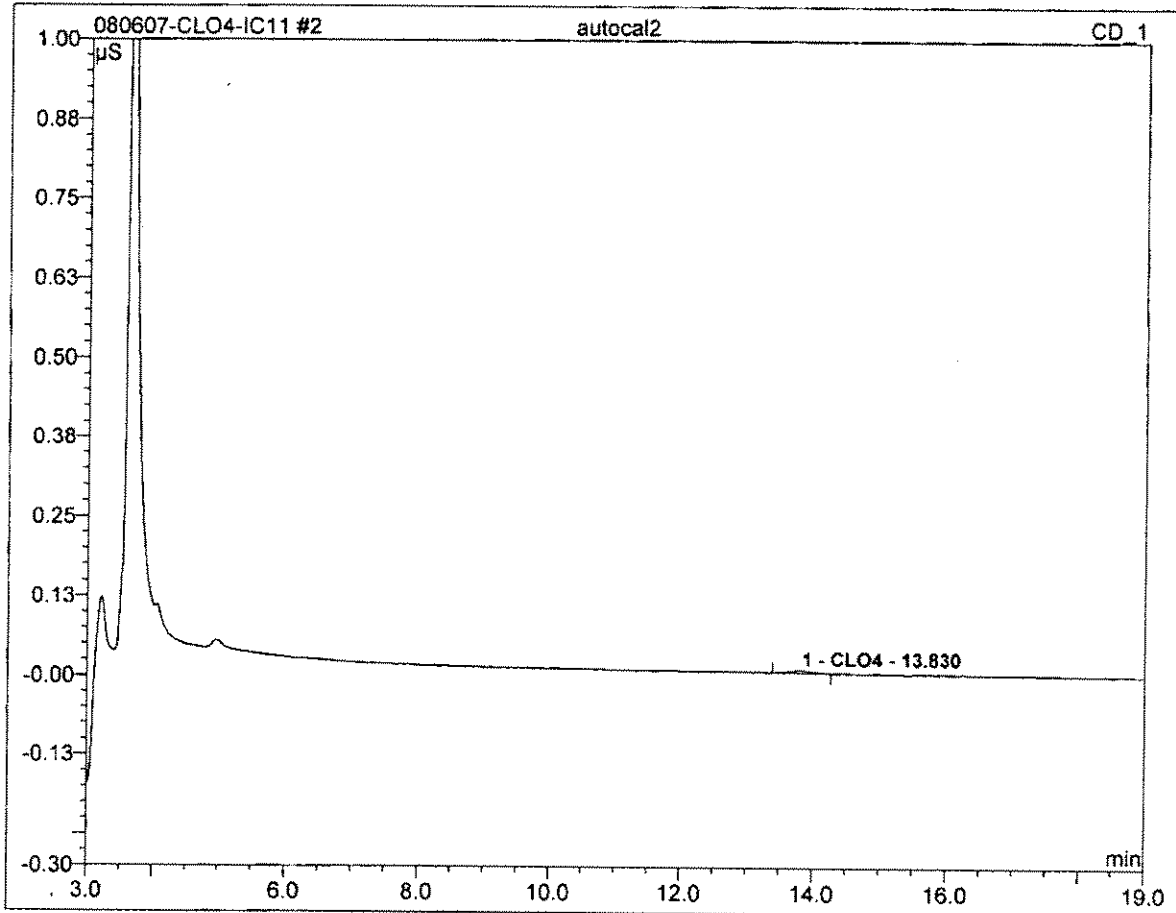
No.	Name	Program	Method	Inj. Date/Time	*Analyst
43	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	8/6/2007 11:55:00 PM	clv
44	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 12:17:24 AM	clv
45	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 12:39:48 AM	clv
46	2708030247_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:02:12 AM	clv
47	2708030248_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:24:36 AM	clv
48	2708030249_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:47:00 AM	clv
49	2708040012	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 2:09:23 AM	clv
50	2708040013	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 2:31:47 AM	clv
51	2708040013-MS	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 2:54:11 AM	clv
52	2708040013-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 3:16:35 AM	clv
53	2708040001_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 3:38:59 AM	clv
54	2708040002_1/10000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 4:01:23 AM	clv
55	2708040003_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 4:23:46 AM	clv
56	2708040004_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 4:46:10 AM	clv
57	2708040005_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 5:08:34 AM	clv
58	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 5:30:58 AM	clv
59	2708040006_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 5:53:22 AM	clv
60	2708040007_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 6:15:46 AM	clv
61	2708040008_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 6:38:10 AM	clv
62	2708040009_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 7:00:33 AM	clv
63	2708040010_1/1000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 7:22:57 AM	clv
64	2708040011_1/1000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 7:45:21 AM	clv
65	2707310412_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 8:07:45 AM	clv
66	2708010223_1/5000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 8:30:09 AM	clv
67	2708010297_1/6DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 8:52:33 AM	clv
68	2708010300_1/4DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 9:14:56 AM	clv
69	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 9:37:20 AM	clv
70	WASH	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:07:50 PM	clv
71	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:30:10 PM	clv
72	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/7/2007 1:52:31 PM	clv
73	STOP	IC11 Stop	IC#4-CLO4-LOW	8/7/2007 2:14:52 PM	clv

1 autocal1			
0			
Sample Name:	autocal1	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 09:38	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



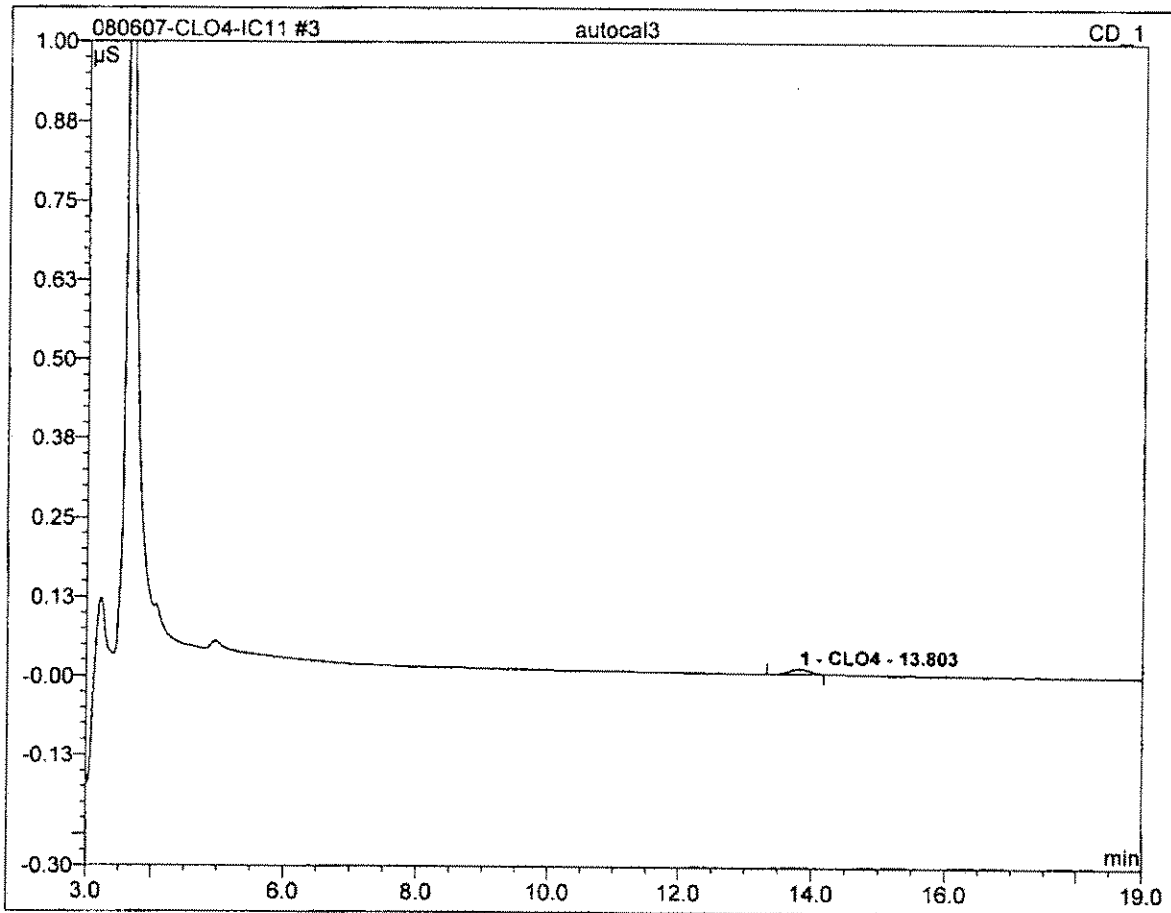
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2			
2			
Sample Name:	autocal2	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:01	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



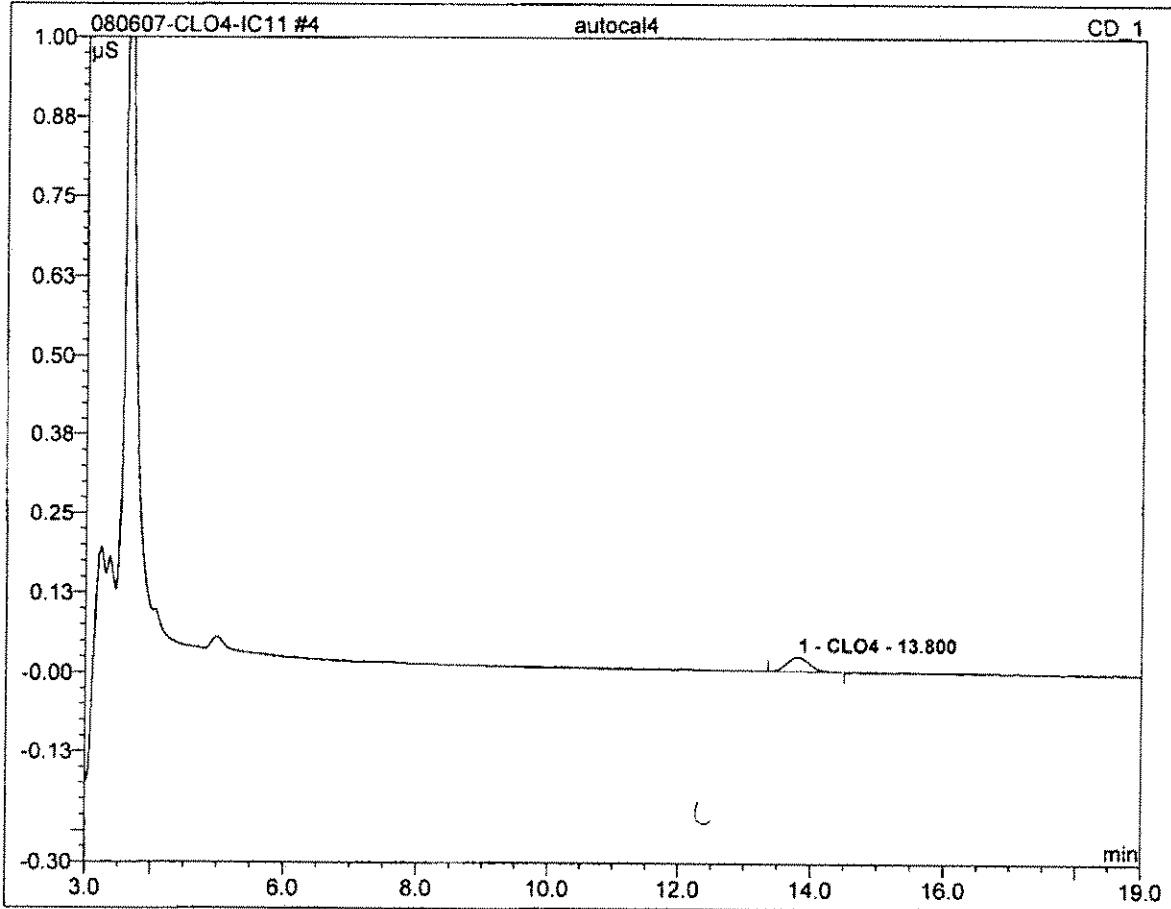
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.83	CLO4	0.004	0.002	100.00	2.225	BMB
Total:			0.004	0.002	100.00	2.225	

3 autocal3			
4			
Sample Name:	autocal3	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:23	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



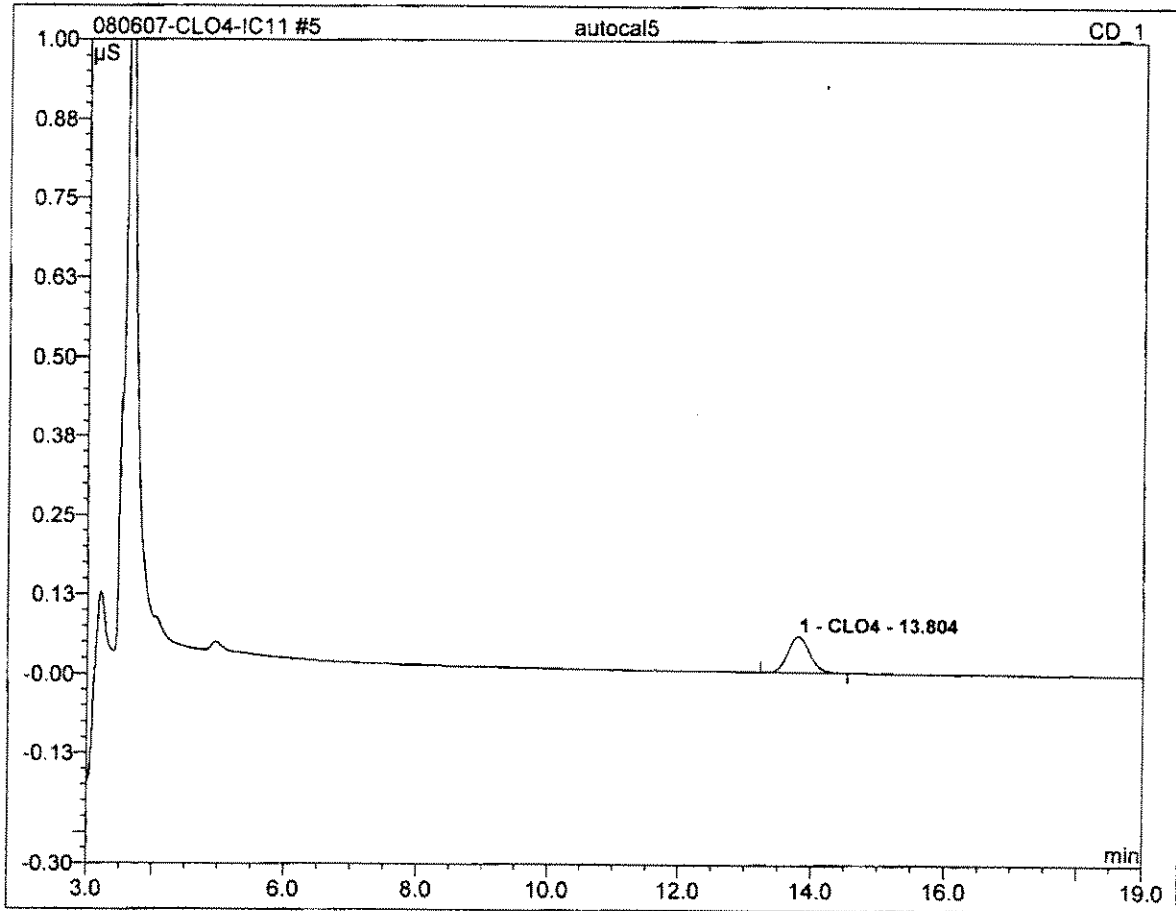
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.80	CLO4	0.008	0.003	100.00	3.631	BMB
Total:			0.008	0.003	100.00	3.631	

4 autocal4			
10			
Sample Name:	autocal4	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:45	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



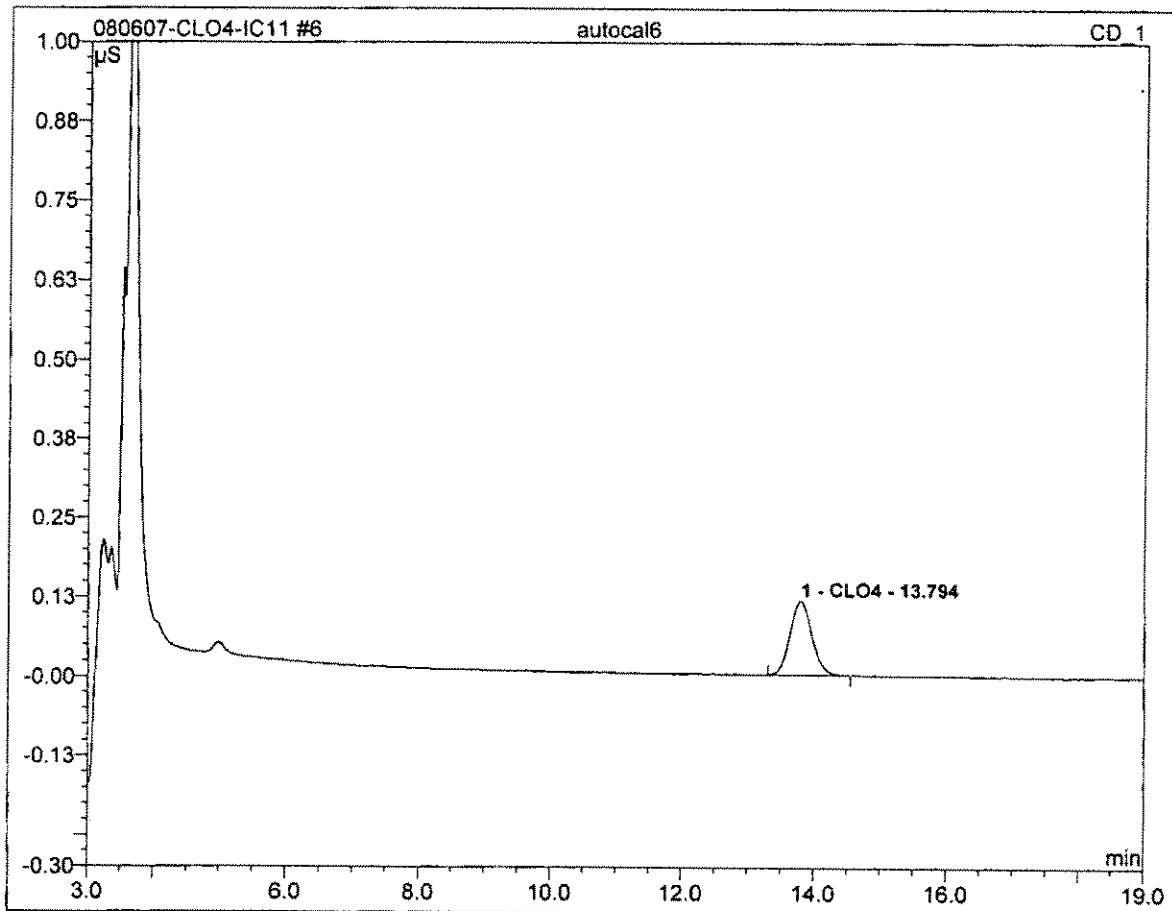
No.	Ret. Time min	Peak Name	Height μS	Area μS*min	Rel. Area %	Amount	Type
1	13.80	CLO4	0.023	0.009	100.00	10.334	BMB
Total:			0.023	0.009	100.00	10.334	

5 autocal5			
25			
Sample Name:	autocal5	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:08	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



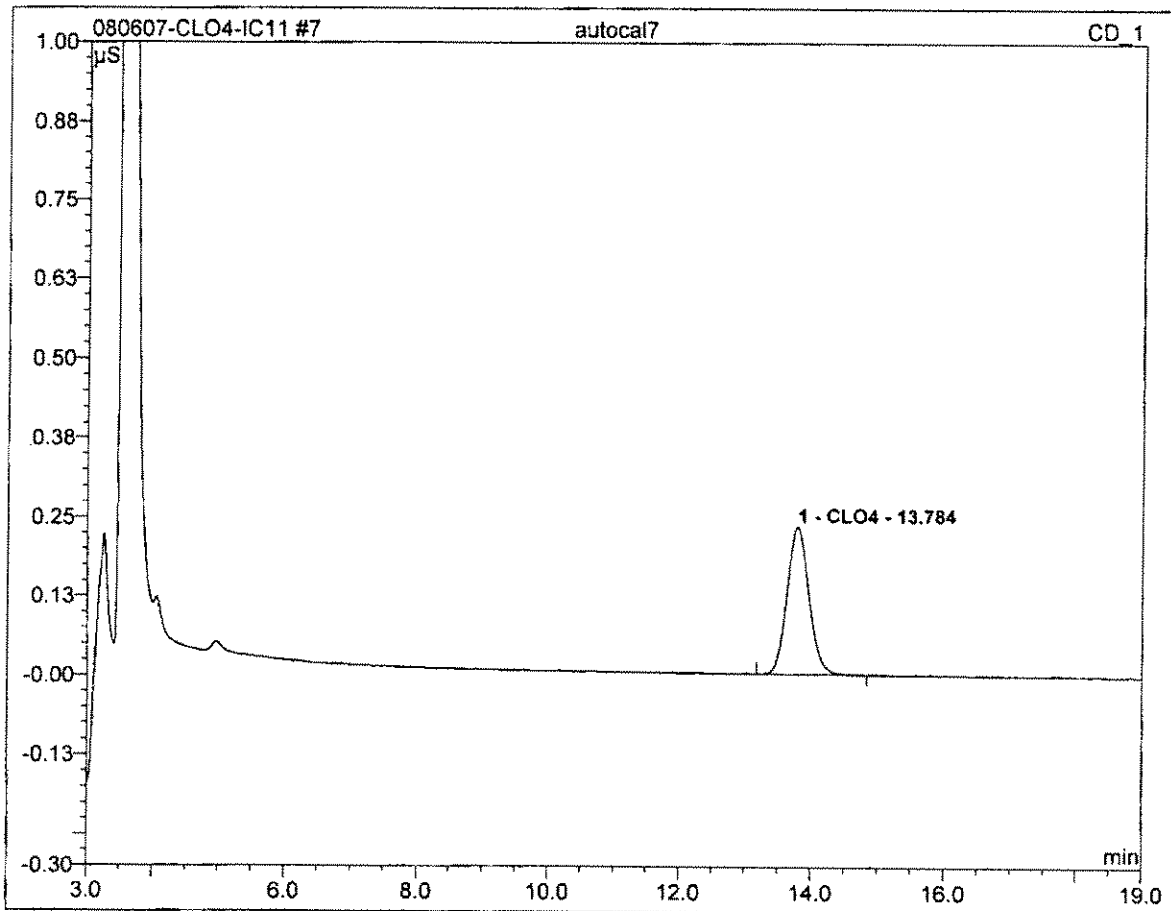
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.80	CLO4	0.056	0.021	100.00	24.664	BMB
Total:			0.056	0.021	100.00	24.664	

6 autocal6			
50			
Sample Name:	autocal6	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:30	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



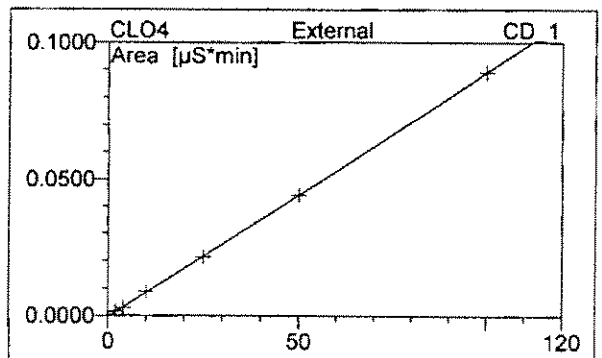
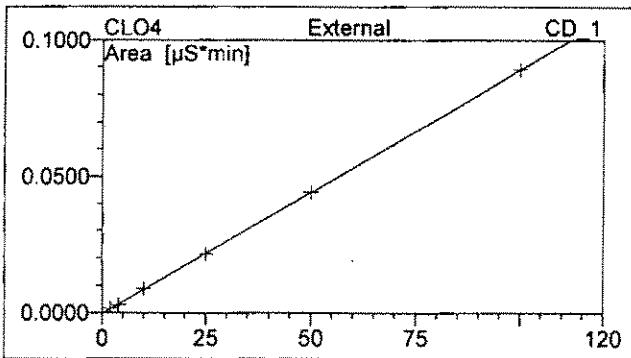
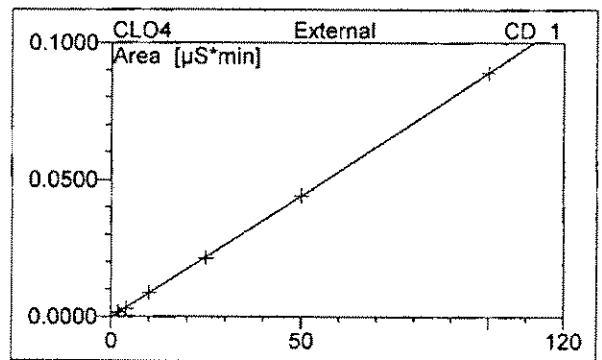
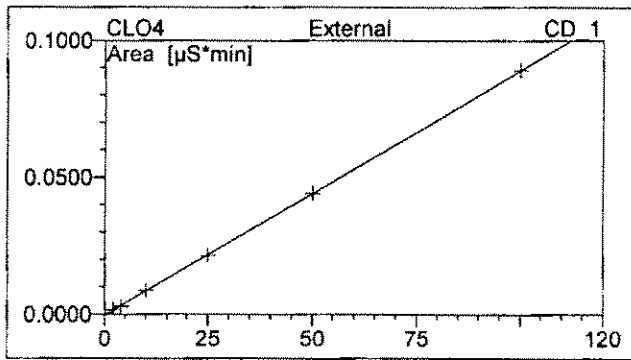
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.79	CLO4	0.116	0.044	100.00	50.170	BMB
Total:			0.116	0.044	100.00	50.170	

7 autocal7			
100			
Sample Name:	autocal7	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:53	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



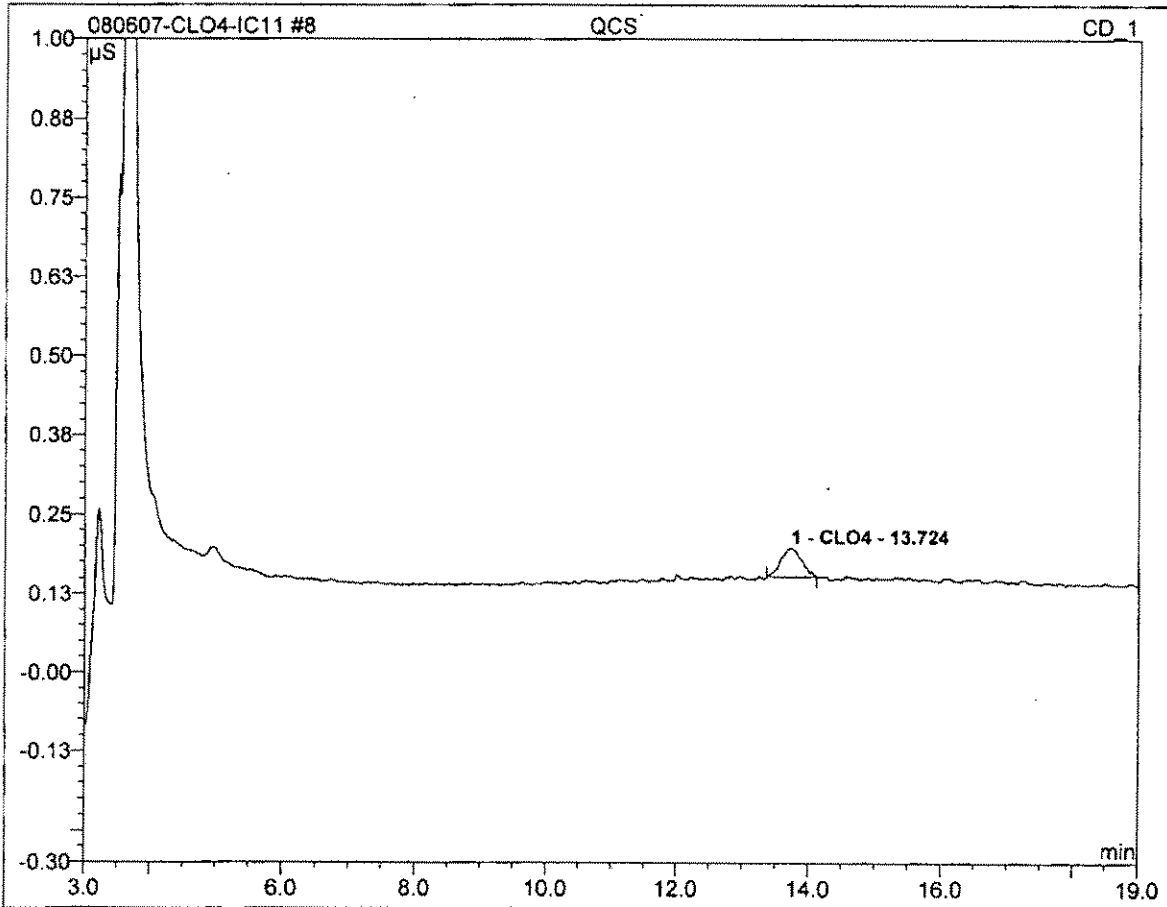
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.78	CLO4	0.233	0.089	100.00	99.976	BMB
Total:			0.233	0.089	100.00	99.976	

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: 8/2/2007 11:53	Sample Weight: 1.0000
Run Time (min): 20.00	Sample Amount: 1.0000



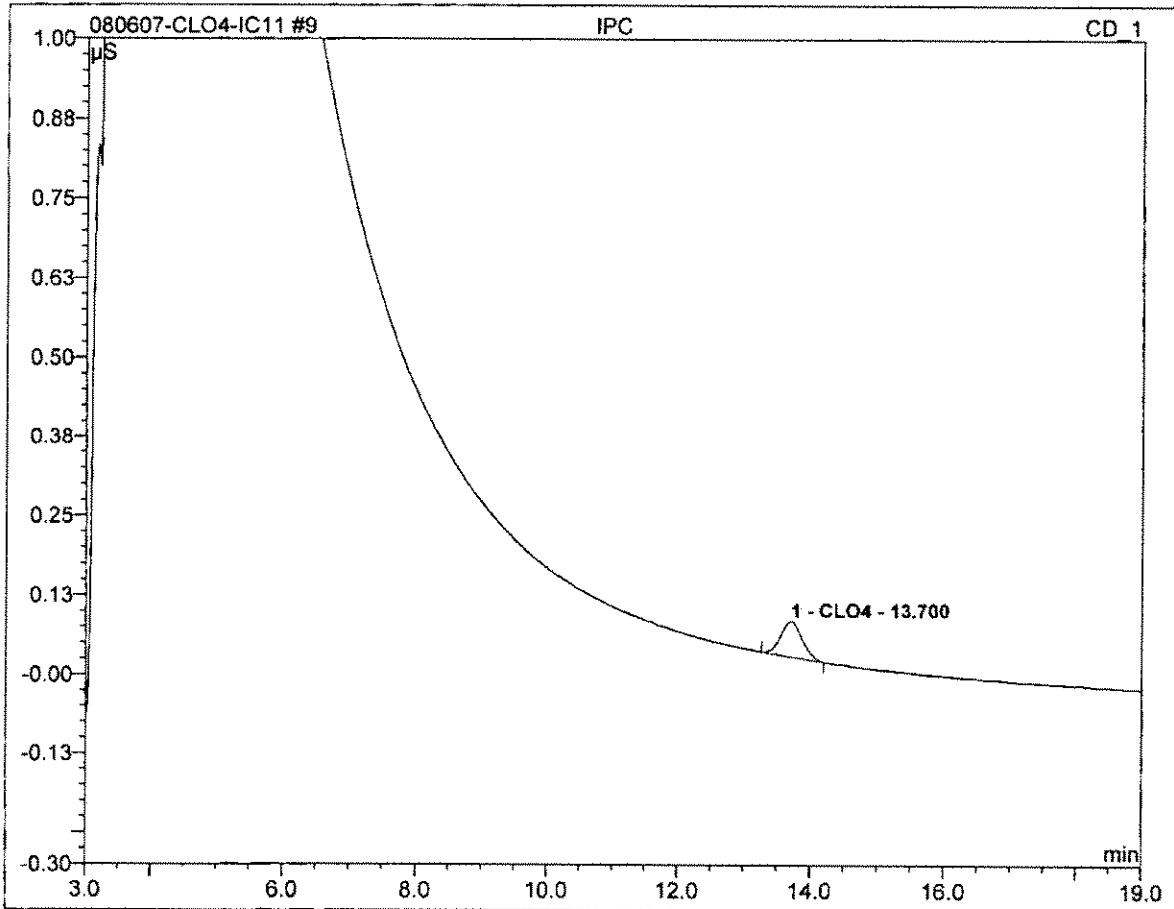
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.78	CLO4	QOff	6	99.9966	-0.0005	0.0009	0.0000
Average:					99.9966	-0.0005	0.0009	0.0000

8 QCS			
20			
Sample Name:	QCS	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 10:51	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



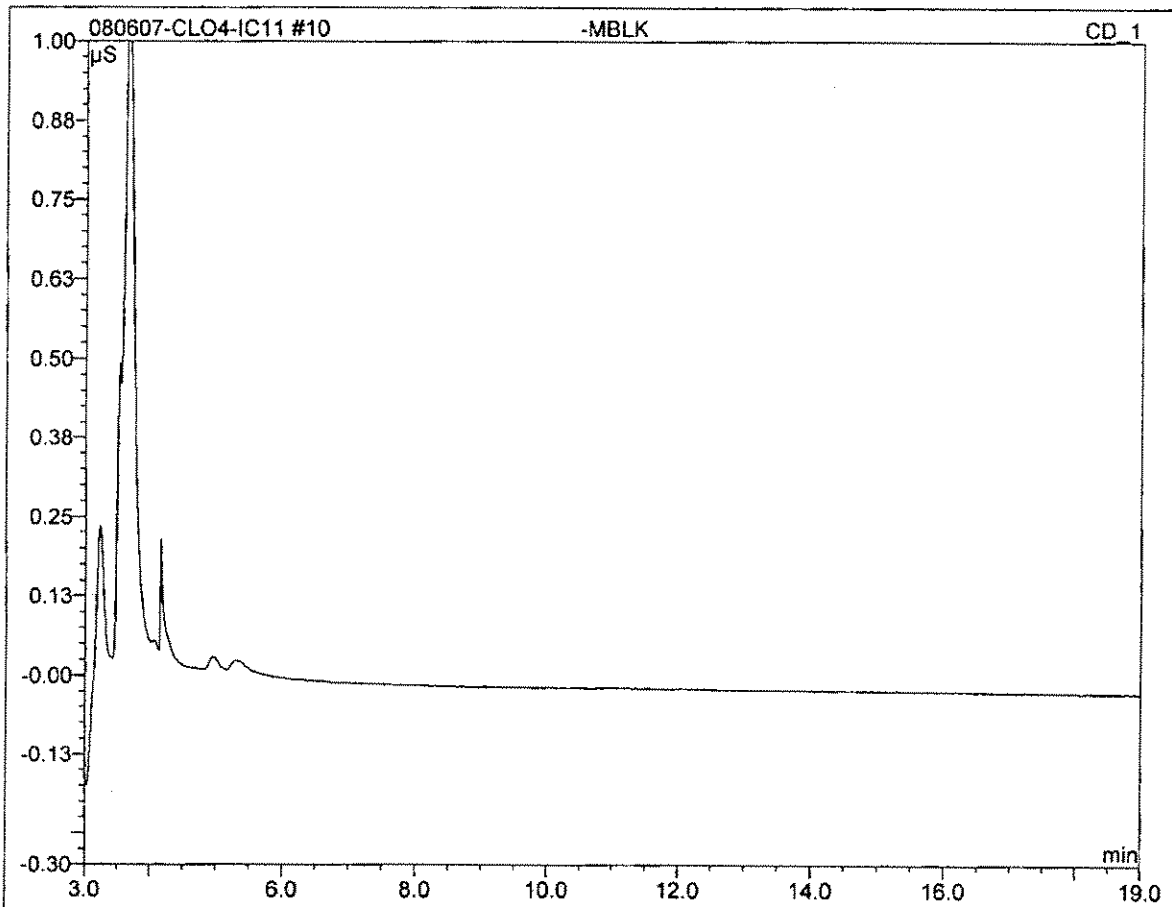
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.045	0.016	100.00	18.617	BMB
Total:			0.045	0.016	100.00	18.617	

9 IPC			
25			
Sample Name:	IPC	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 11:13	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



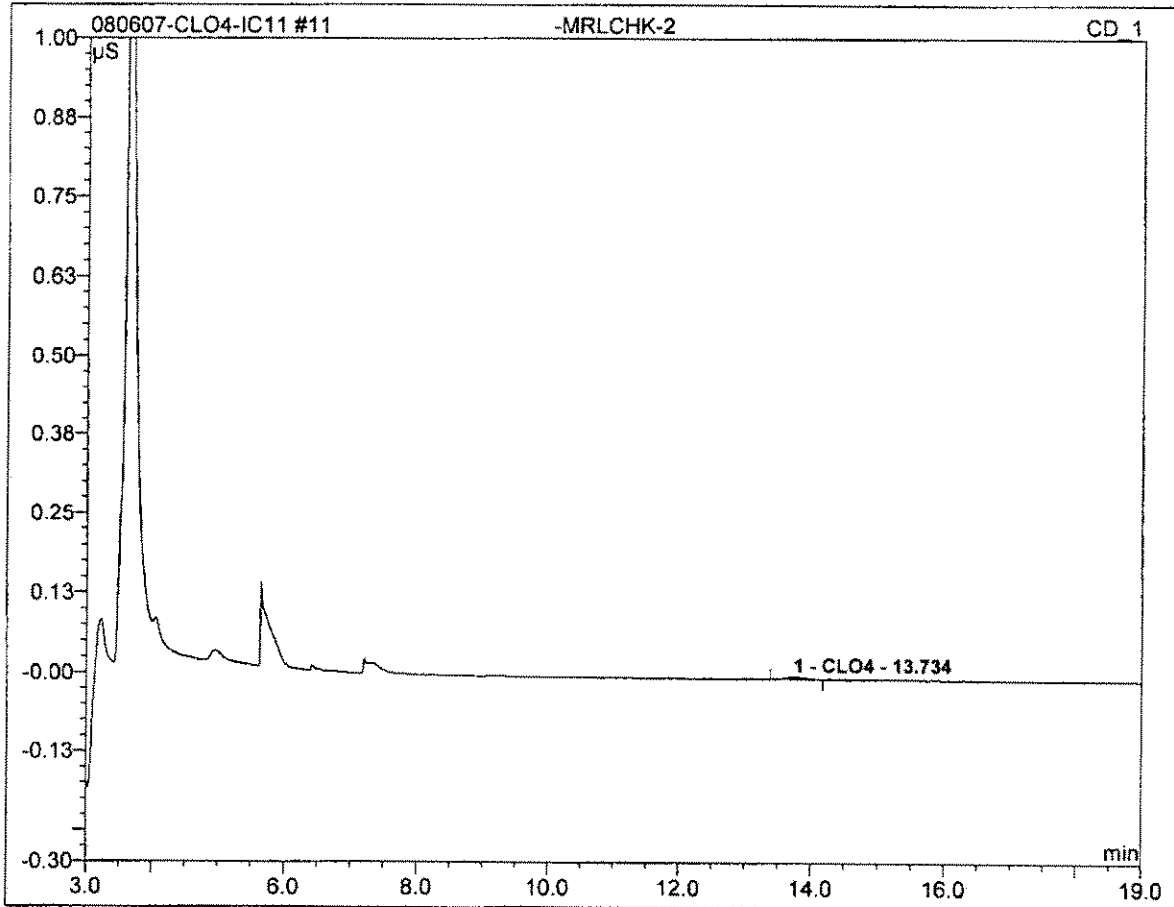
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.70	CLO4	0.055	0.021	100.00	23.702	BMB
Total:			0.055	0.021	100.00	23.702	

10 -MBLK			
Sample Name:	-MBLK	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 11:35	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



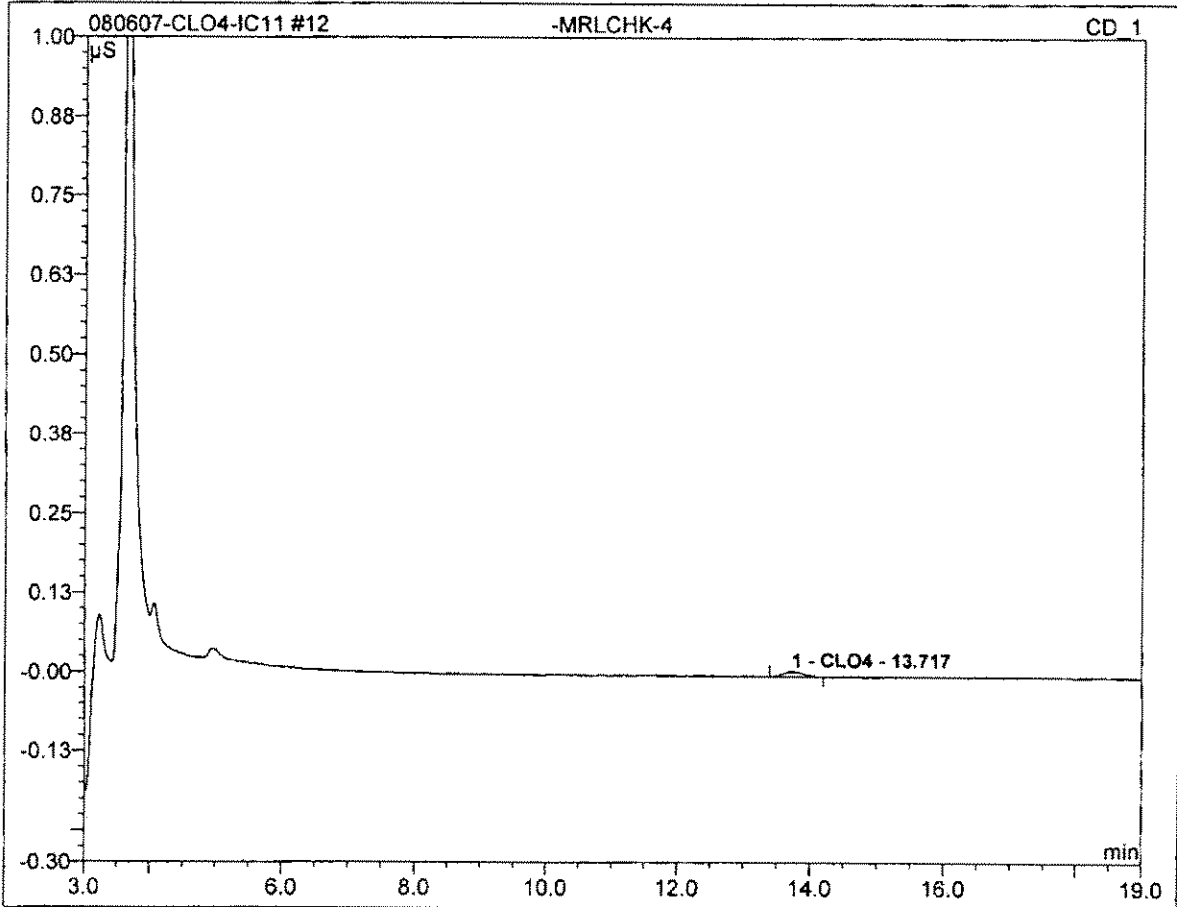
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 -MRLCHK-2			
2			
Sample Name:	-MRLCHK-2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 11:58	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



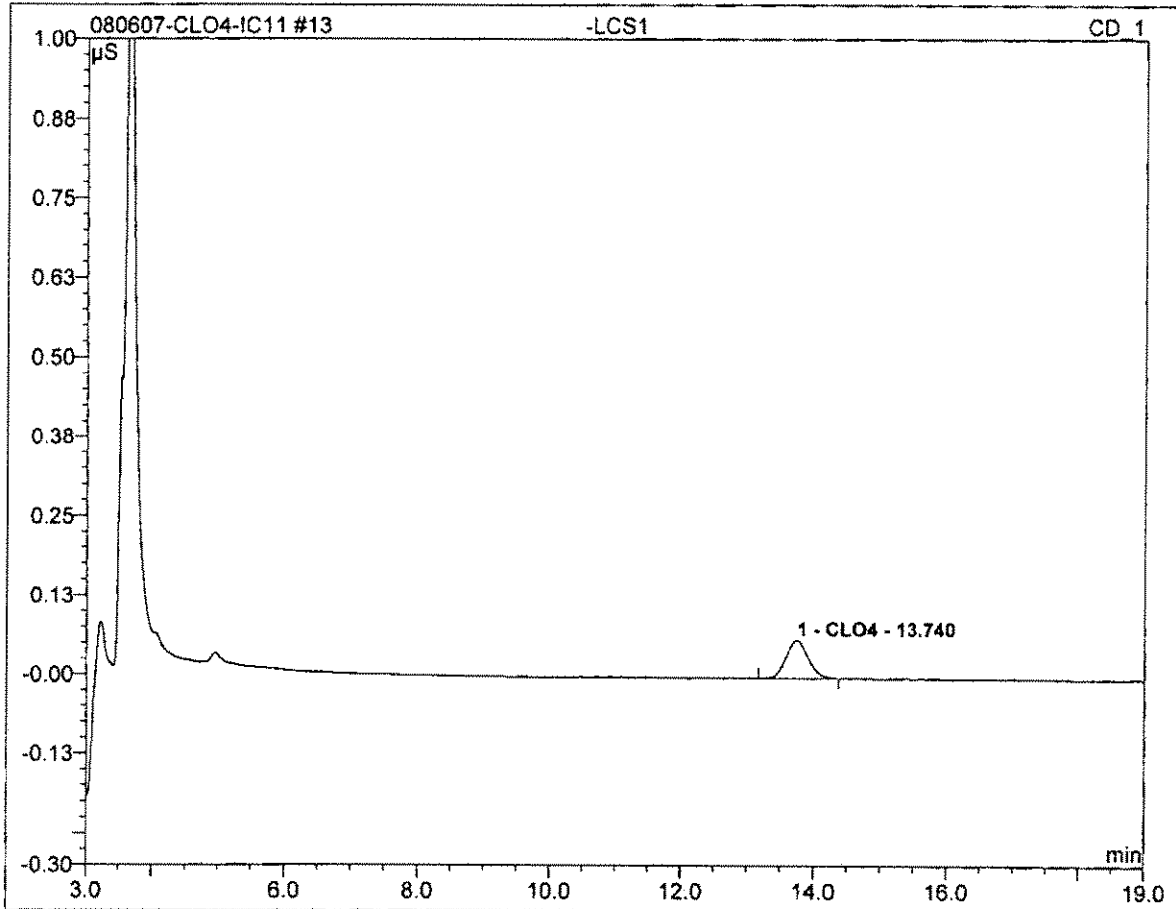
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.004	0.001	100.00	2.096	BMB
Total:			0.004	0.001	100.00	2.096	

12 -MRLCHK-4			
4			
Sample Name:	-MRLCHK-4	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 12:20	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



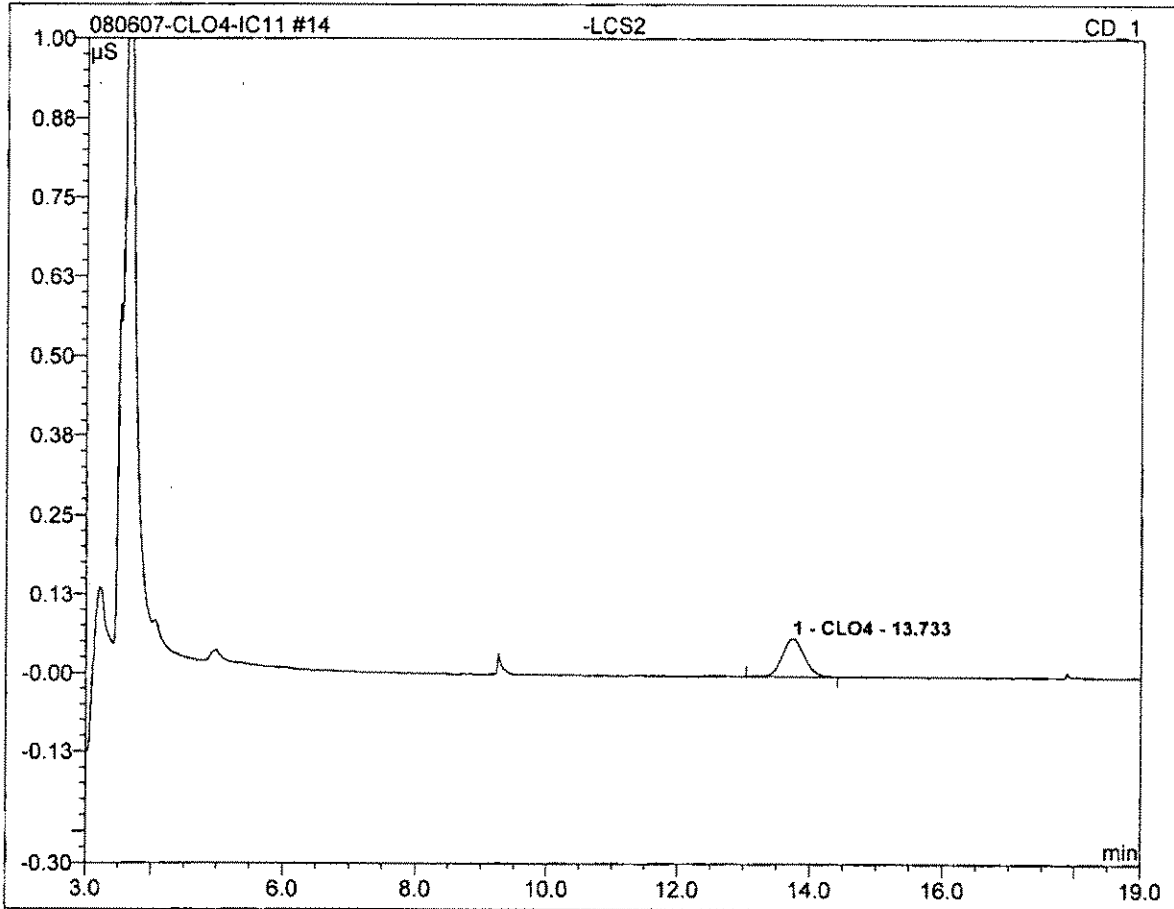
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.008	0.003	100.00	3.679	BMB
Total:			0.008	0.003	100.00	3.679	

13 -LCS1			
25			
Sample Name:	-LCS1	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 12:43	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



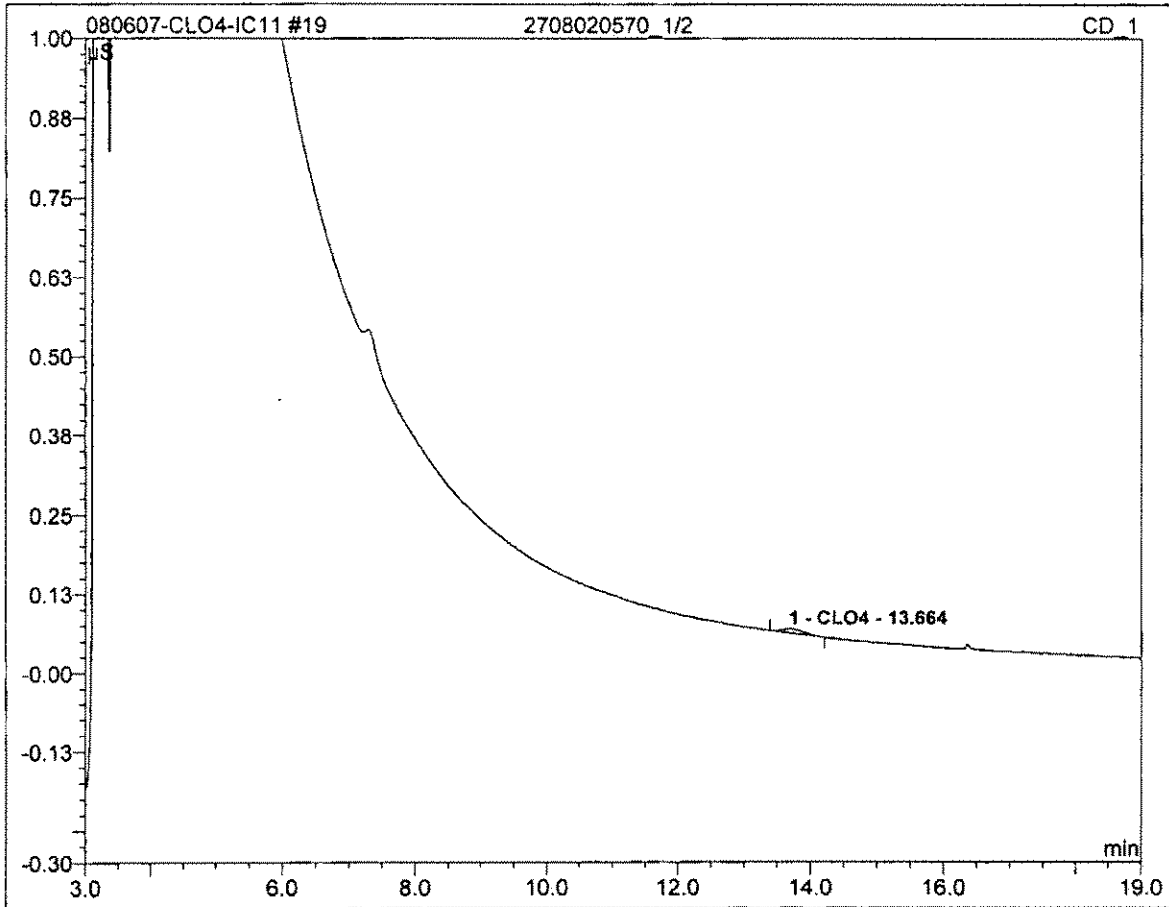
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.060	0.023	100.00	26.573	BMB
Total:			0.060	0.023	100.00	26.573	

14 -LCS2			
25			
Sample Name:	-LCS2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 13:05	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



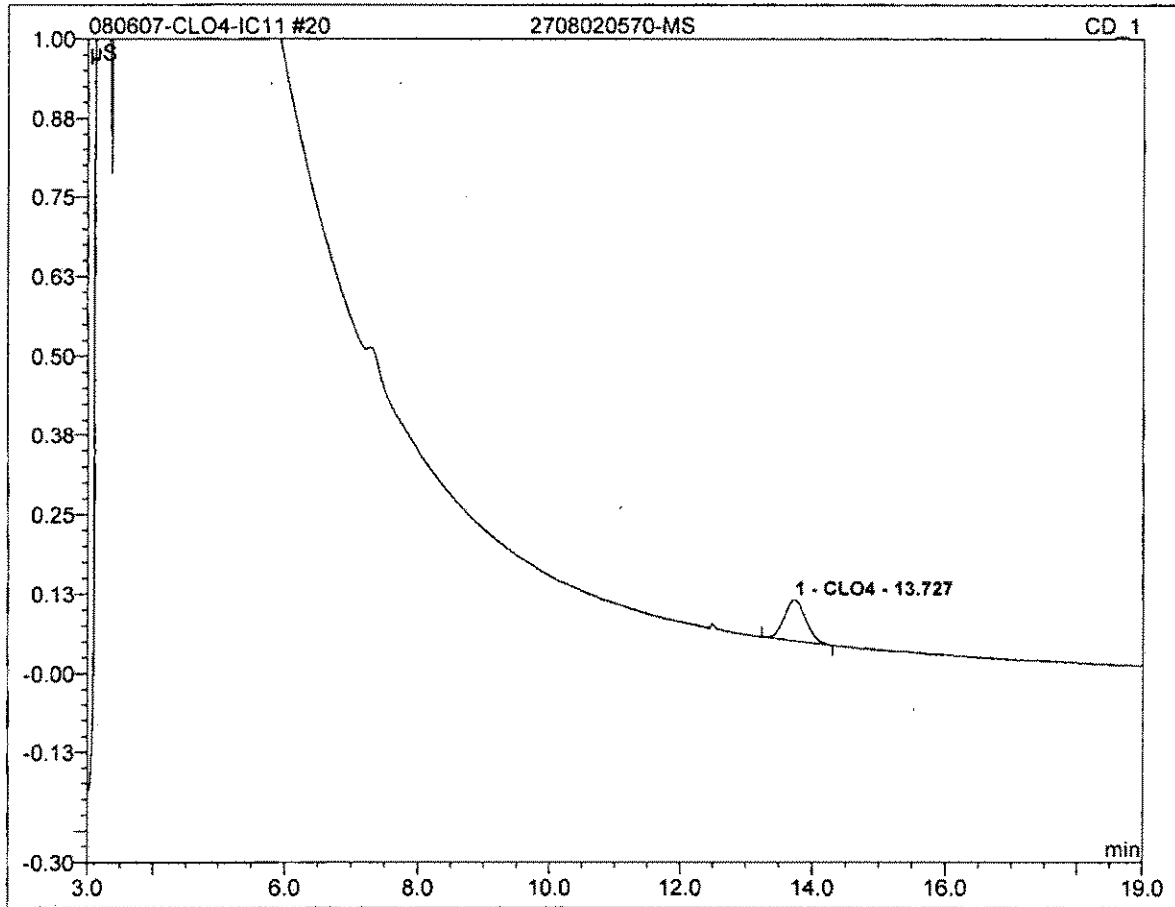
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.060	0.023	100.00	26.708	BMB
Total:			0.060	0.023	100.00	26.708	

19 2708020570_1/2			
RR/CONFIRMED			
Sample Name:	2708020570_1/2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 14:57	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	2.0000



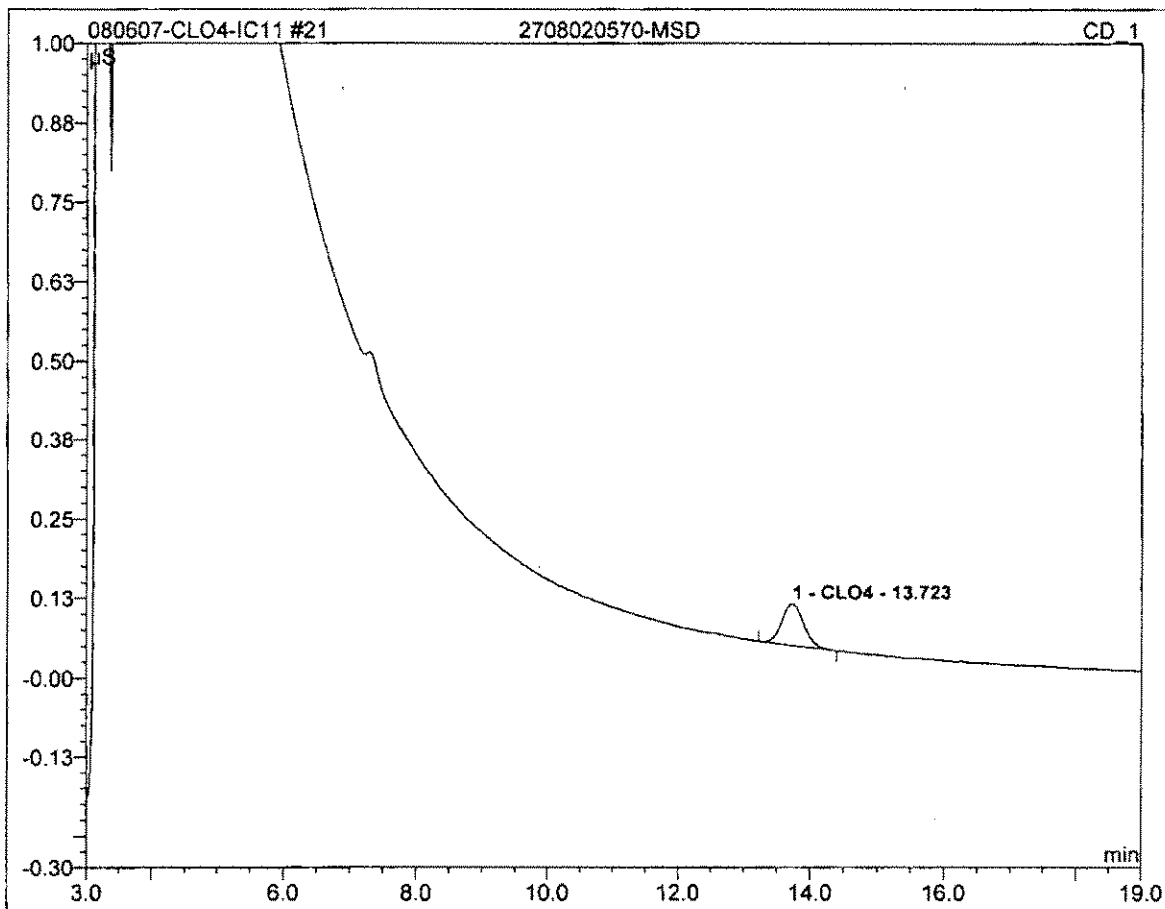
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.66	CLO4	0.006	0.003	100.00	7.104	BMB
Total:			0.006	0.003	100.00	7.104	

20 2708020570-MS			
25			
Sample Name:	2708020570-MS	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 15:19	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	2.0000



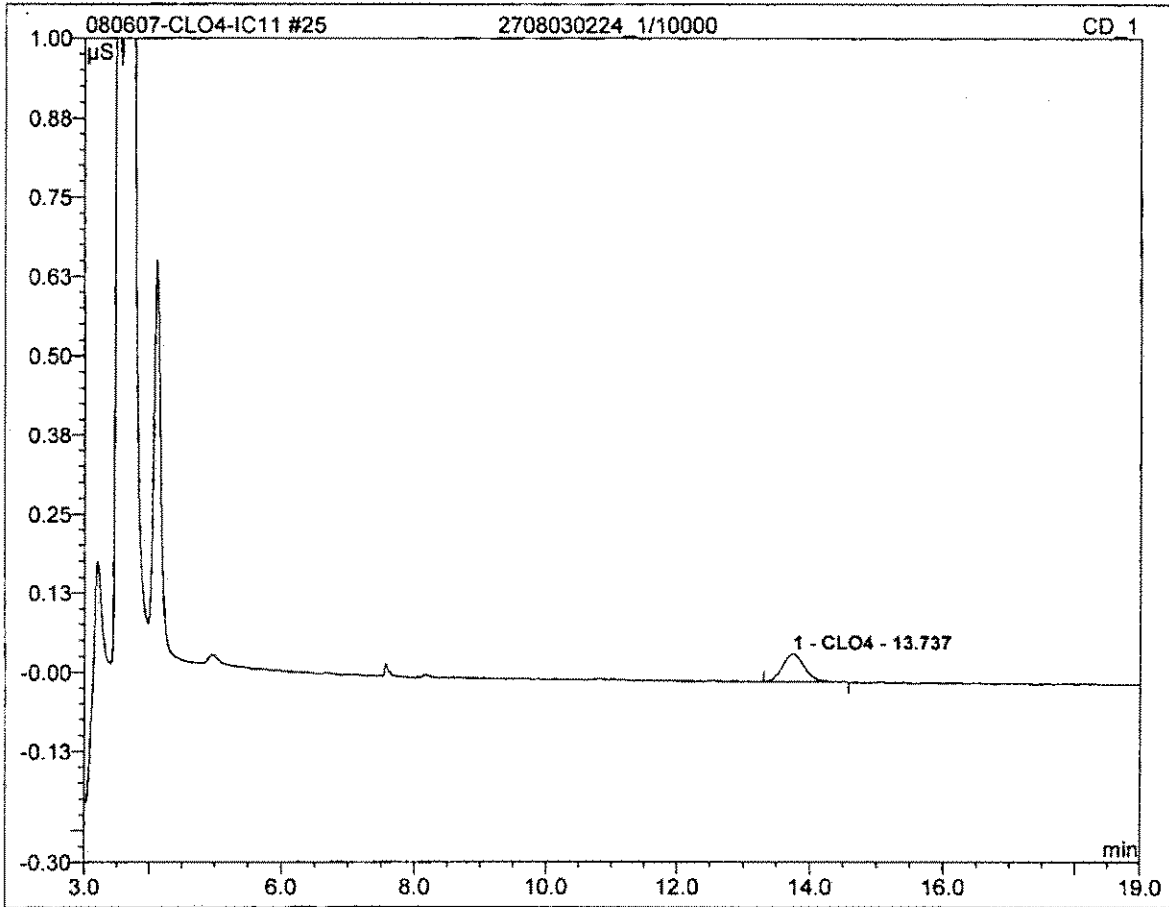
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.064	0.024	100.00	55.415	BMB
Total:			0.064	0.024	100.00	55.415	

21 2708020570-MSD			
25			
Sample Name:	2708020570-MSD	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 15:42	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	2.0000



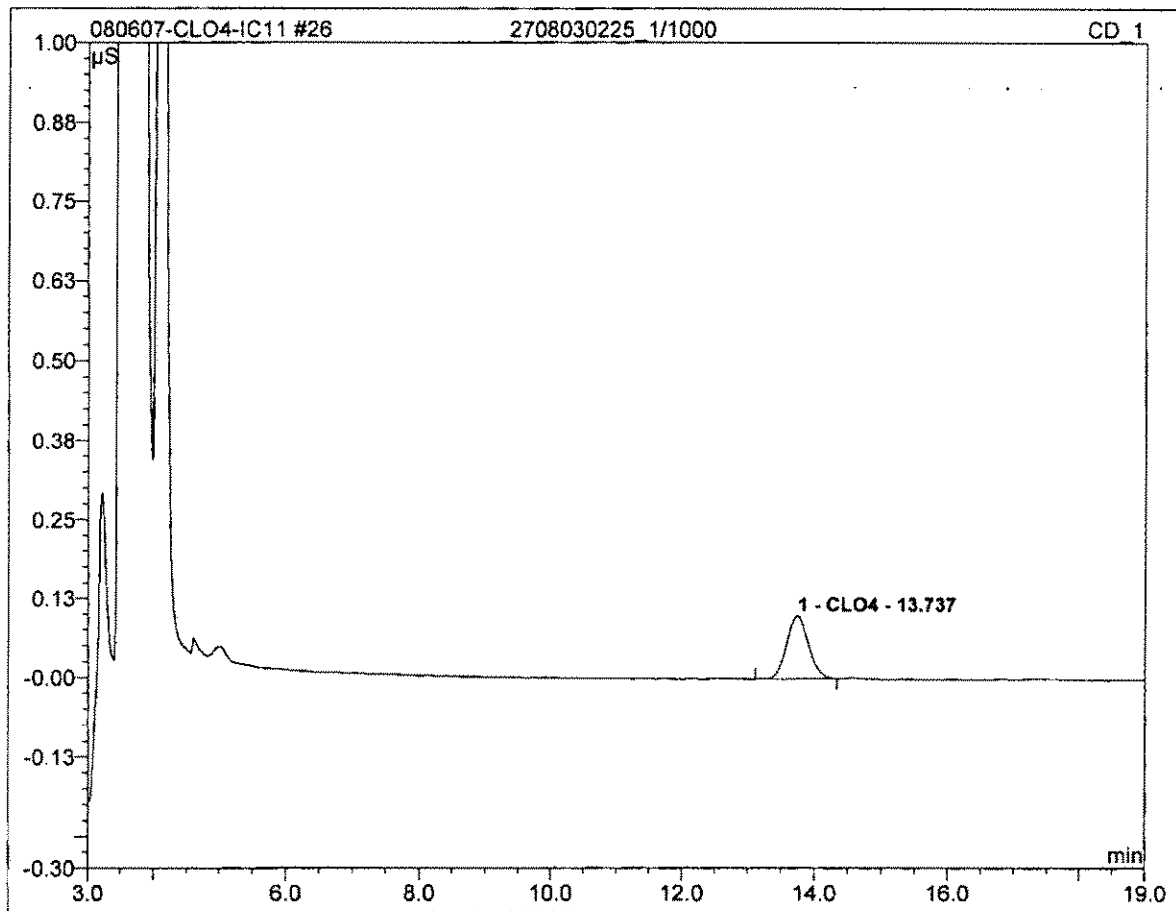
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.065	0.025	100.00	56.883	BMB
Total:			0.065	0.025	100.00	56.883	

25 2708030224_1/10000			
Sample Name:	2708030224_1/10000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 17:11	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	10000.0000



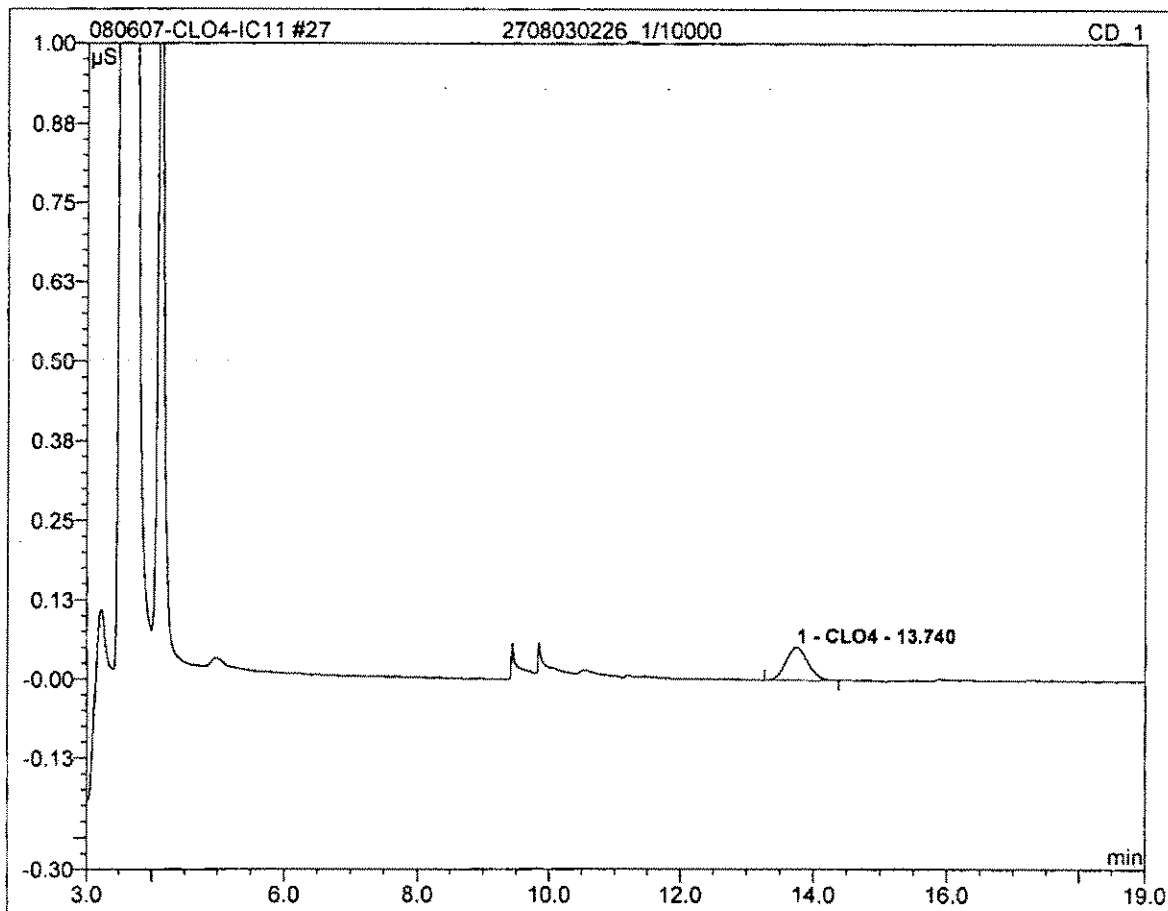
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.044	0.017	100.00	196488.315	BMB
Total:			0.044	0.017	100.00	196488.315	

26 2708030225_1/1000			
Sample Name:	2708030225_1/1000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 17:34	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1000.0000



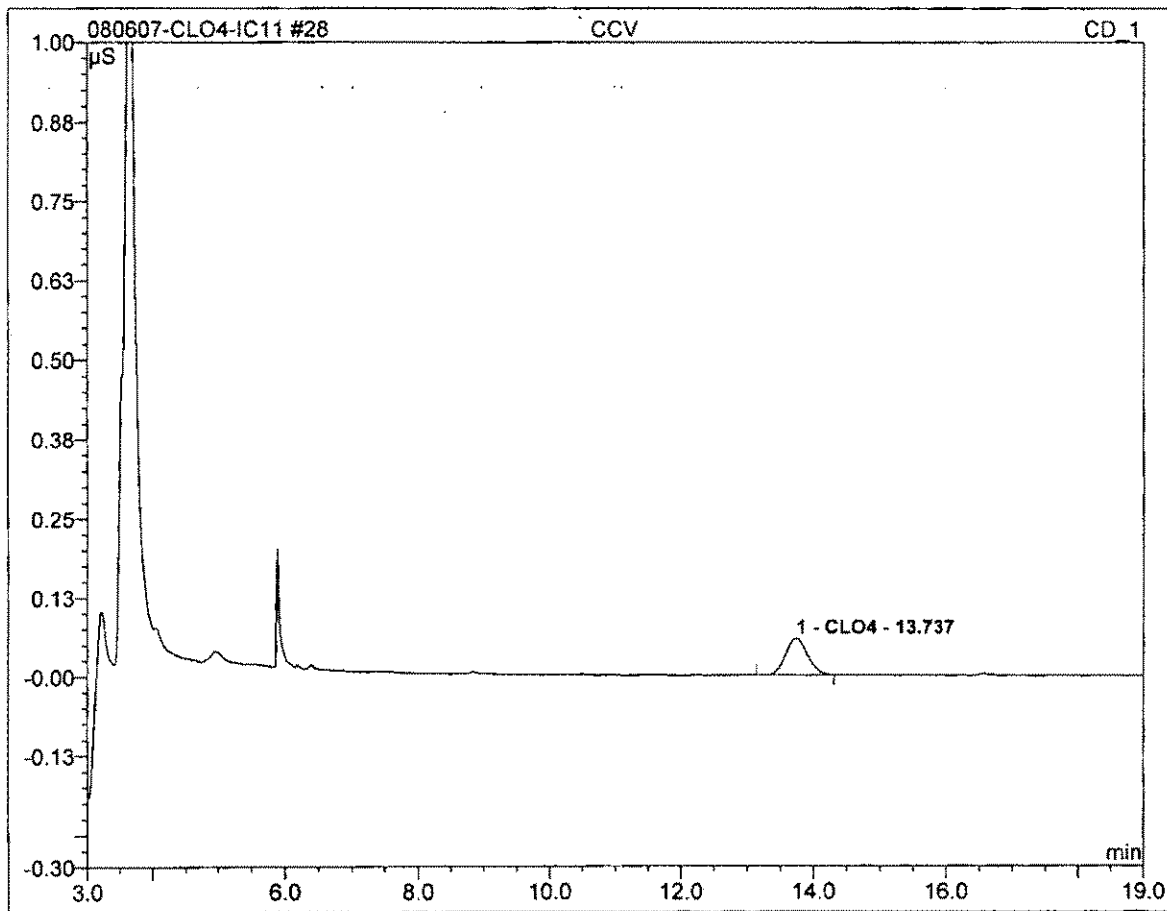
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.099	0.038	100.00	42768.076	BMB
Total:			0.099	0.038	100.00	42768.076	

27 2708030226_1/10000			
Sample Name:	2708030226_1/10000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 17:56	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	10000.0000



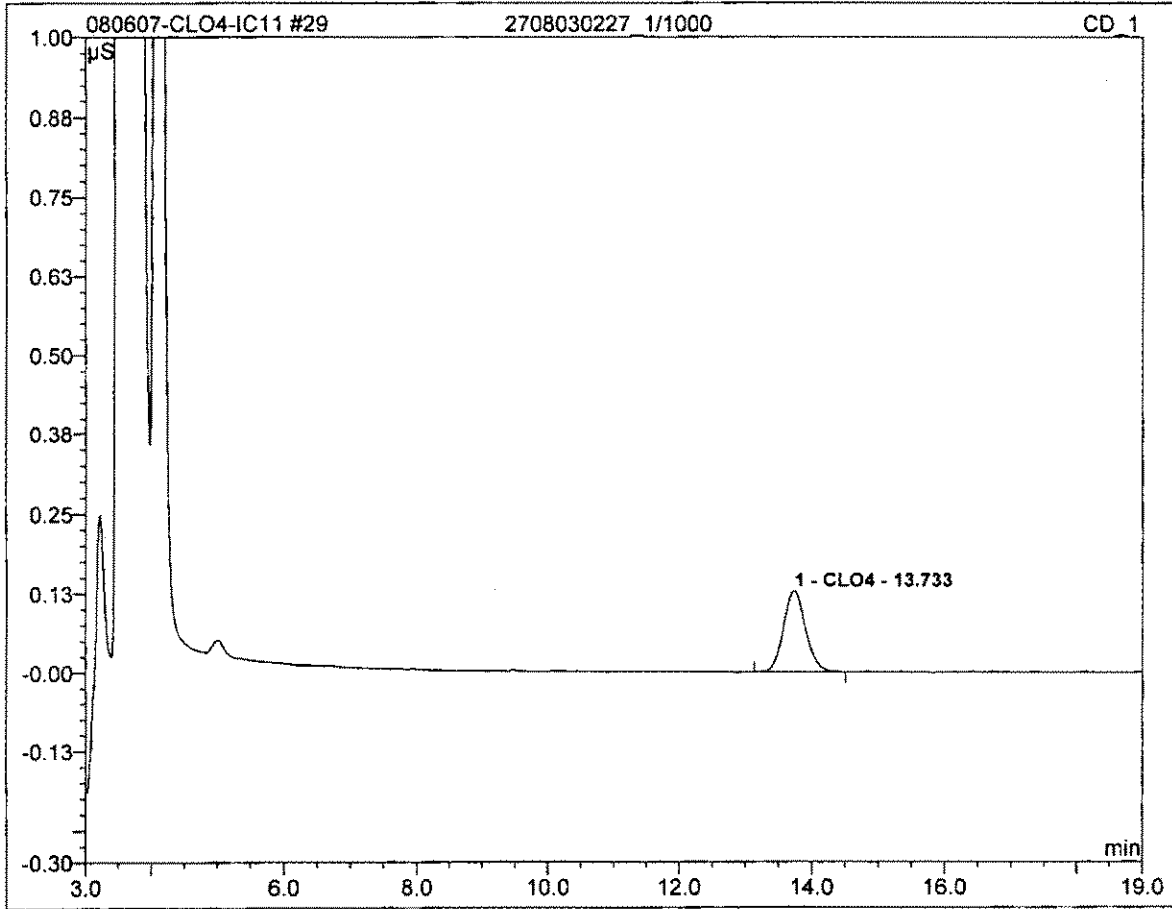
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.052	0.020	100.00	226791.161	BMB
Total:			0.052	0.020	100.00	226791.161	

28 CCV			
25			
Sample Name:	CCV	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 18:19	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



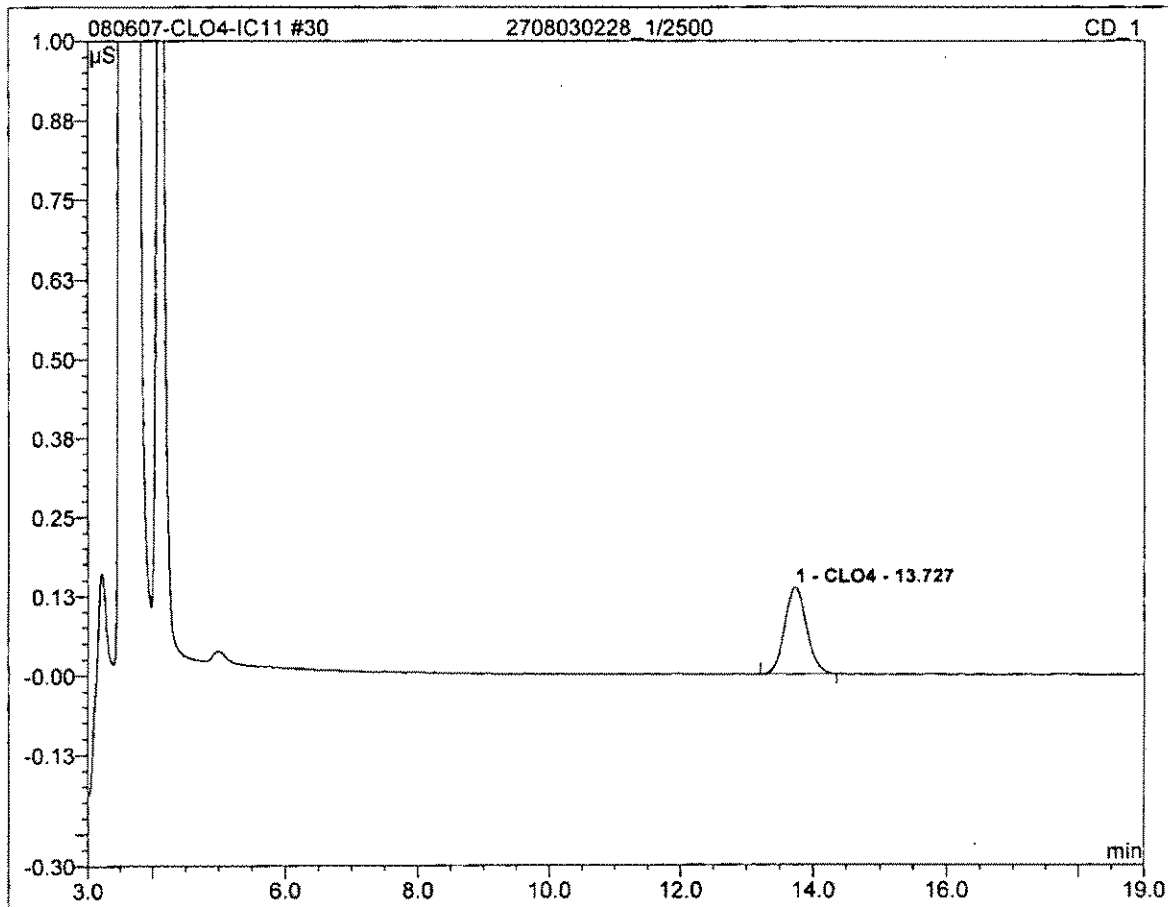
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.058	0.022	100.00	25.363	BMB
Total:			0.058	0.022	100.00	25.363	

29 2708030227_1/1000			
Sample Name:	2708030227_1/1000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 18:41	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1000.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.127	0.049	100.00	55319.290	BMB
Total:			0.127	0.049	100.00	55319.290	

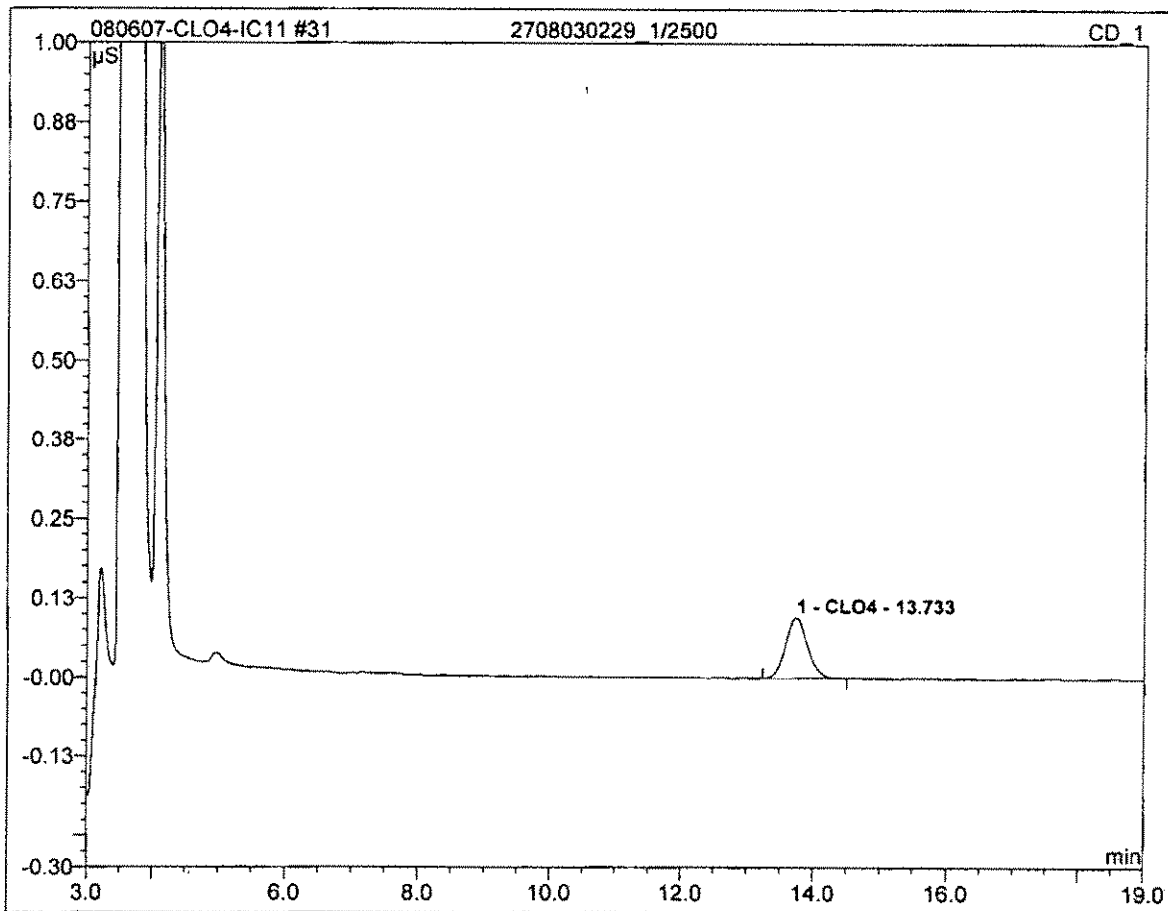
30 2708030228_1/2500			
Sample Name:	2708030228_1/2500	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 19:03	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	2500.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.137	0.052	100.00	146936.561	BMB
Total:			0.137	0.052	100.00	146936.561	

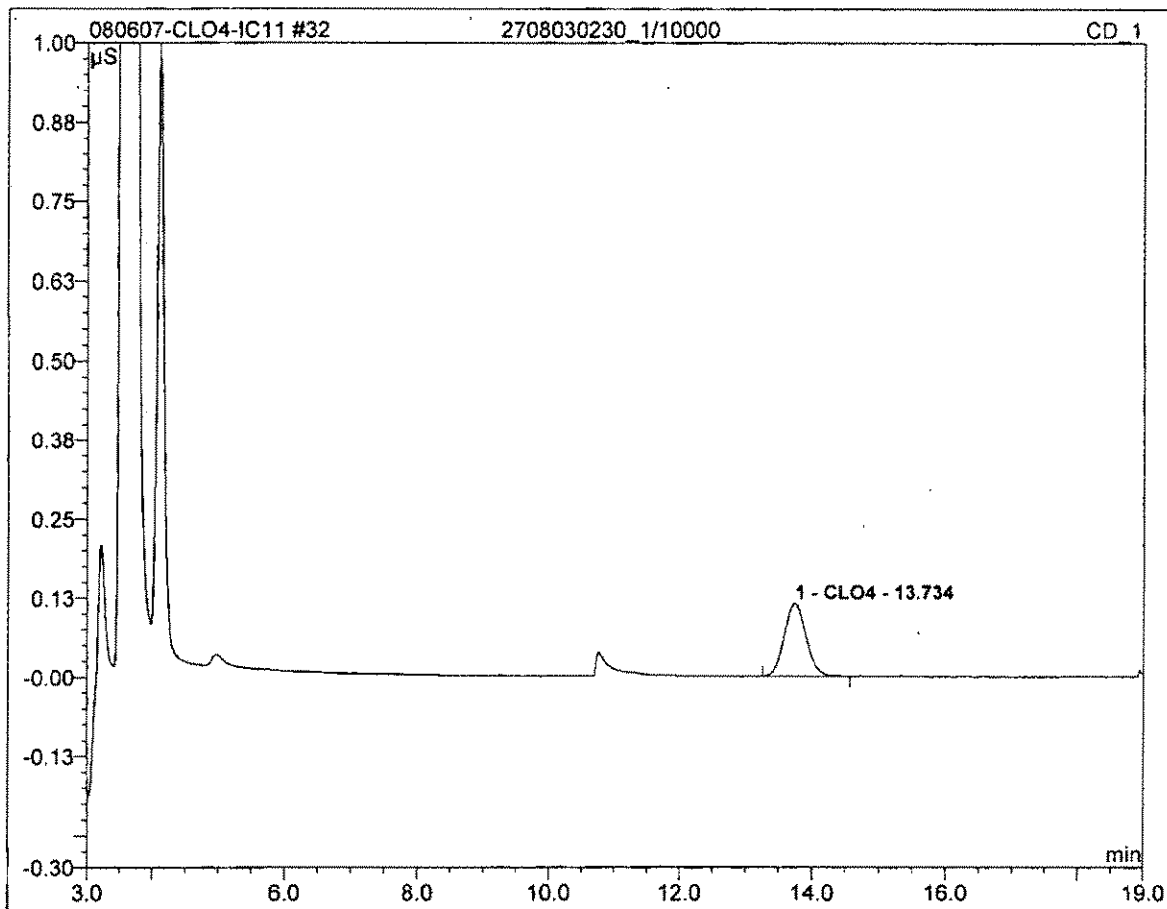
31 2708030229_1/2500

Sample Name:	2708030229_1/2500	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 19:26	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	2500.0000



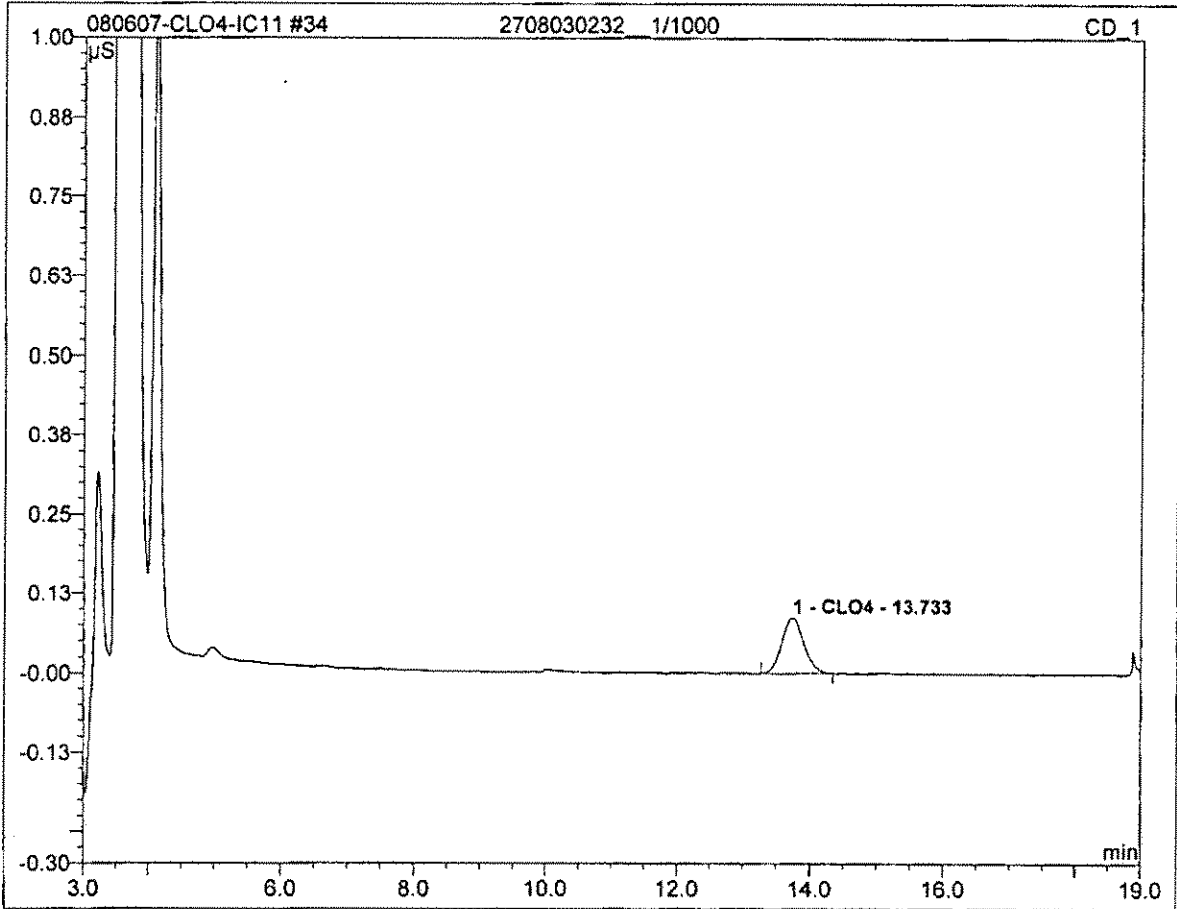
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.095	0.036	100.00	102866.662	BMB
Total:			0.095	0.036	100.00	102866.662	

32 2708030230_1/10000			
Sample Name:	2708030230_1/10000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 19:48	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	10000.0000



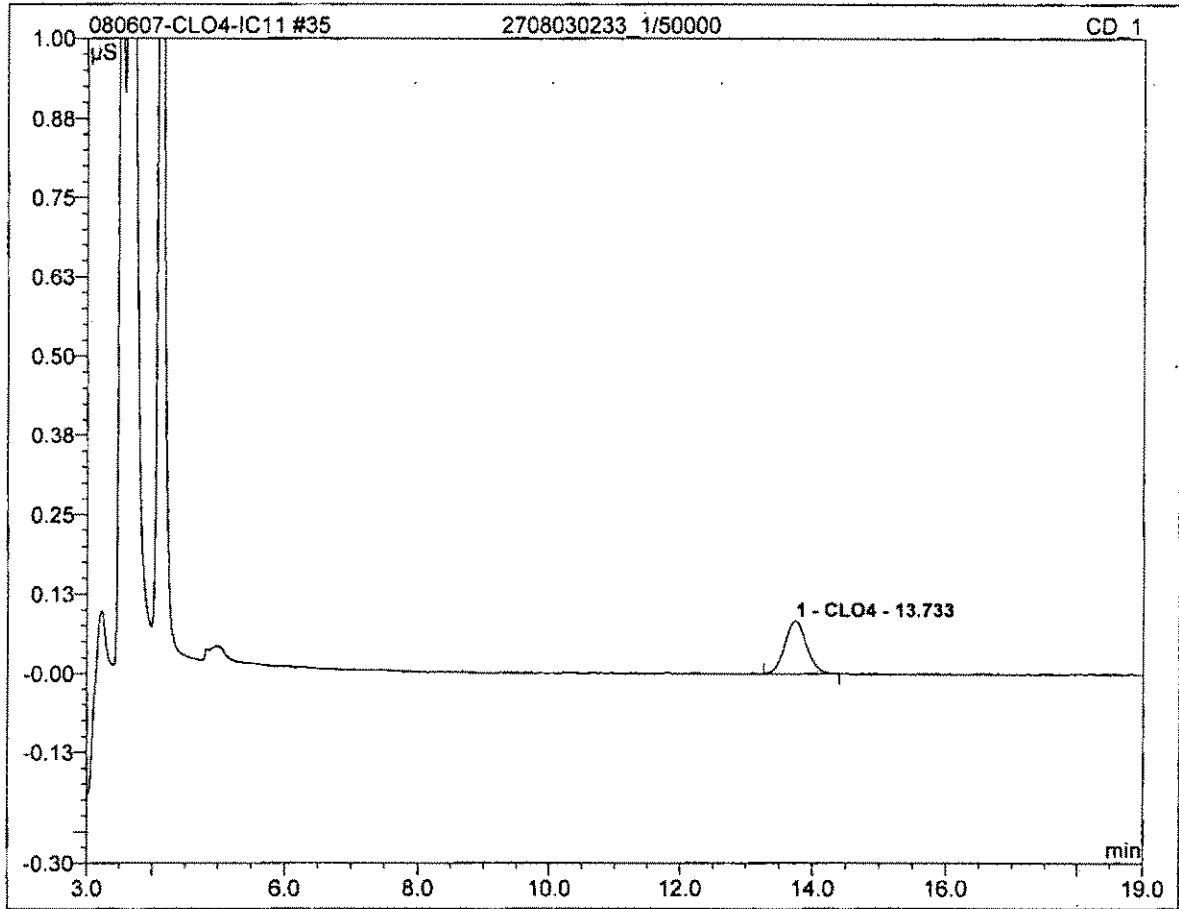
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.115	0.044	100.00	497078.605	BMB
Total:			0.115	0.044	100.00	497078.605	

34 2708030232__1/1000			
Sample Name:	2708030232__1/1000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 20:33	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1000.0000



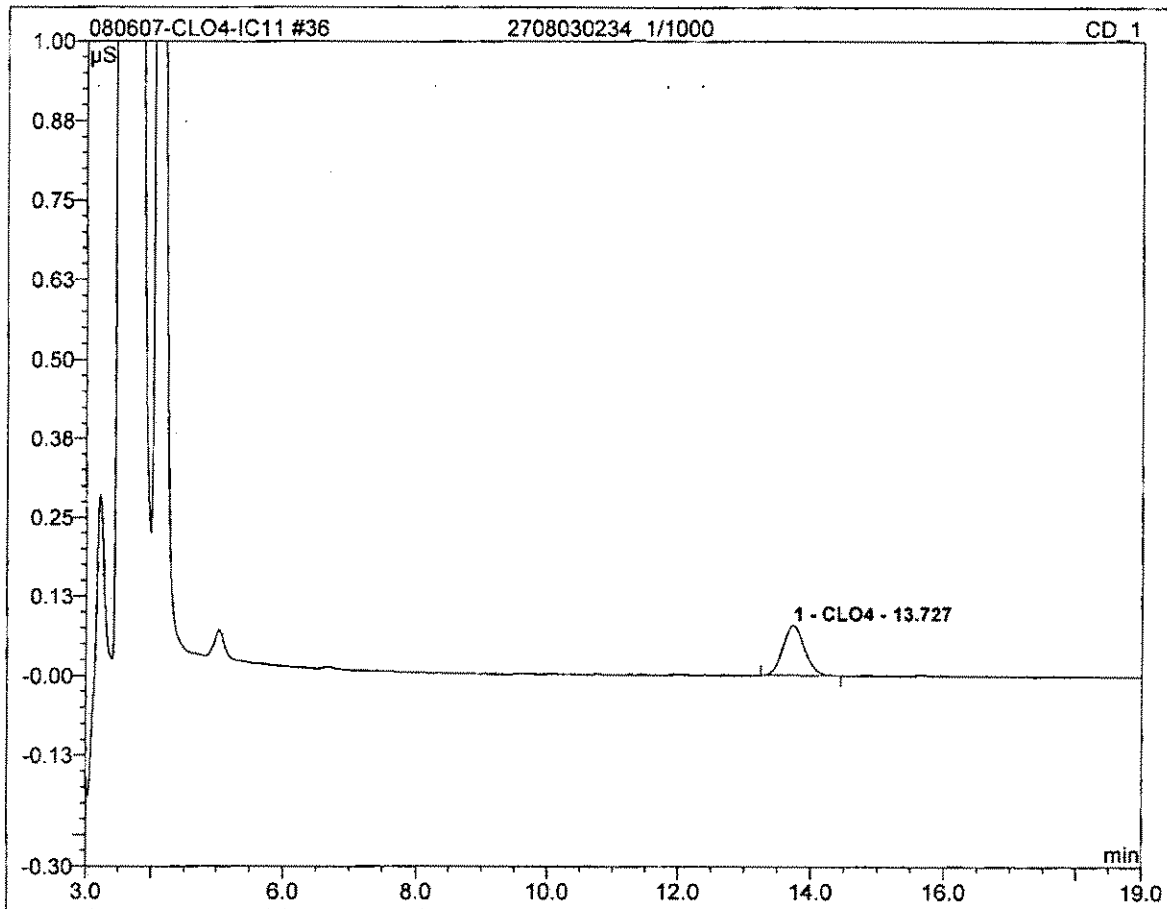
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.087	0.033	100.00	37536.659	BMB
Total:			0.087	0.033	100.00	37536.659	

35 2708030233_1/50000			
Sample Name:	2708030233_1/50000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 20:55	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	50000.0000



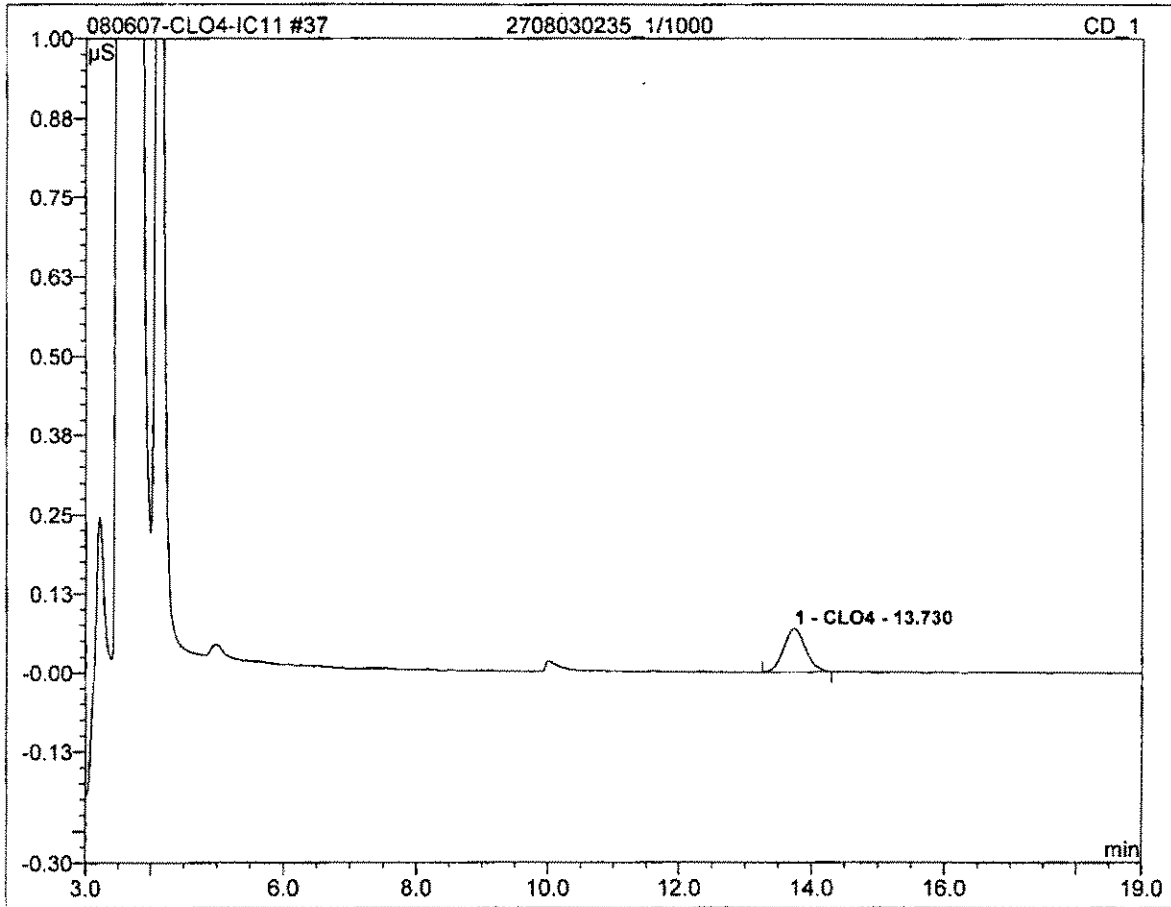
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.083	0.032	100.00	1801374.067	BMB
Total:			0.083	0.032	100.00	1801374.067	

36 2708030234_1/1000			
Sample Name:	2708030234_1/1000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 21:18	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1000.0000



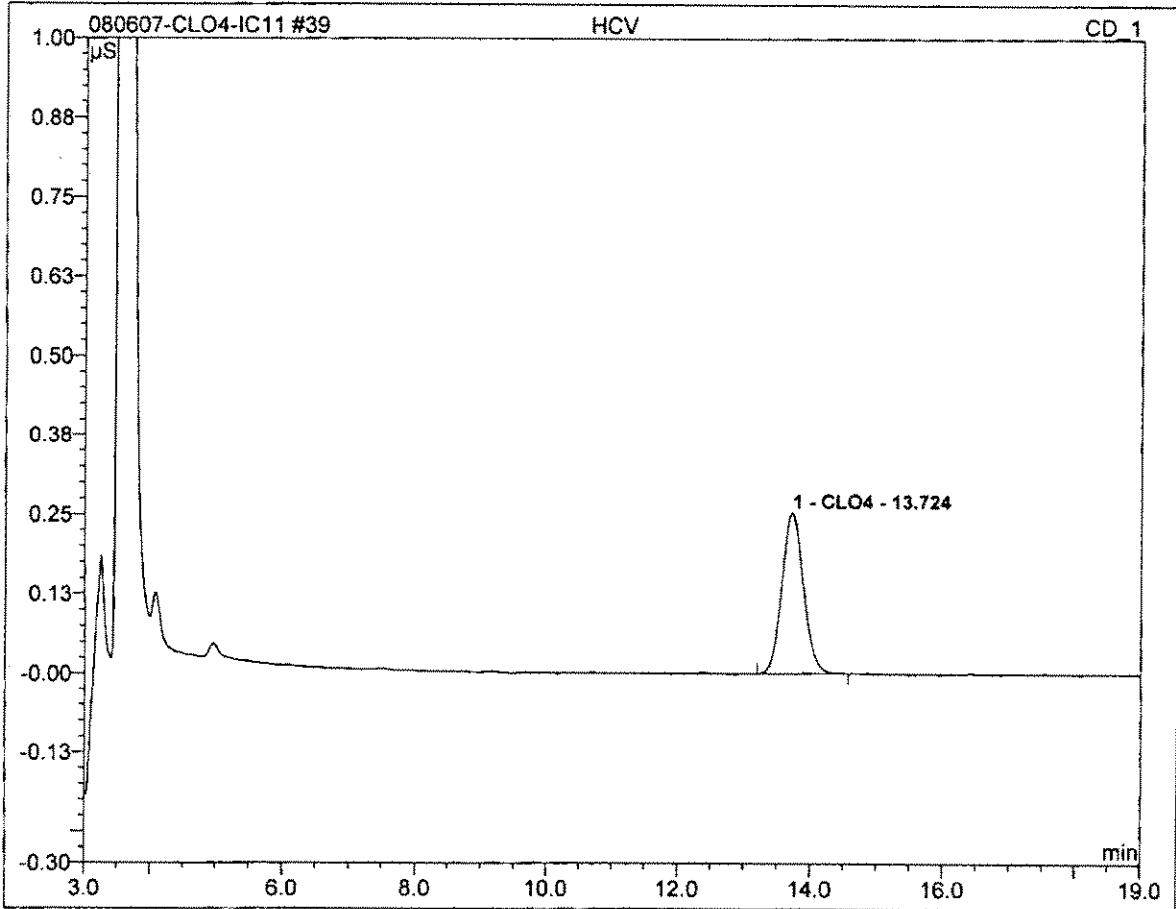
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.079	0.030	100.00	33879.150	BMB
Total:			0.079	0.030	100.00	33879.150	

37 2708030235_1/1000			
Sample Name:	2708030235_1/1000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 21:40	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1000.0000



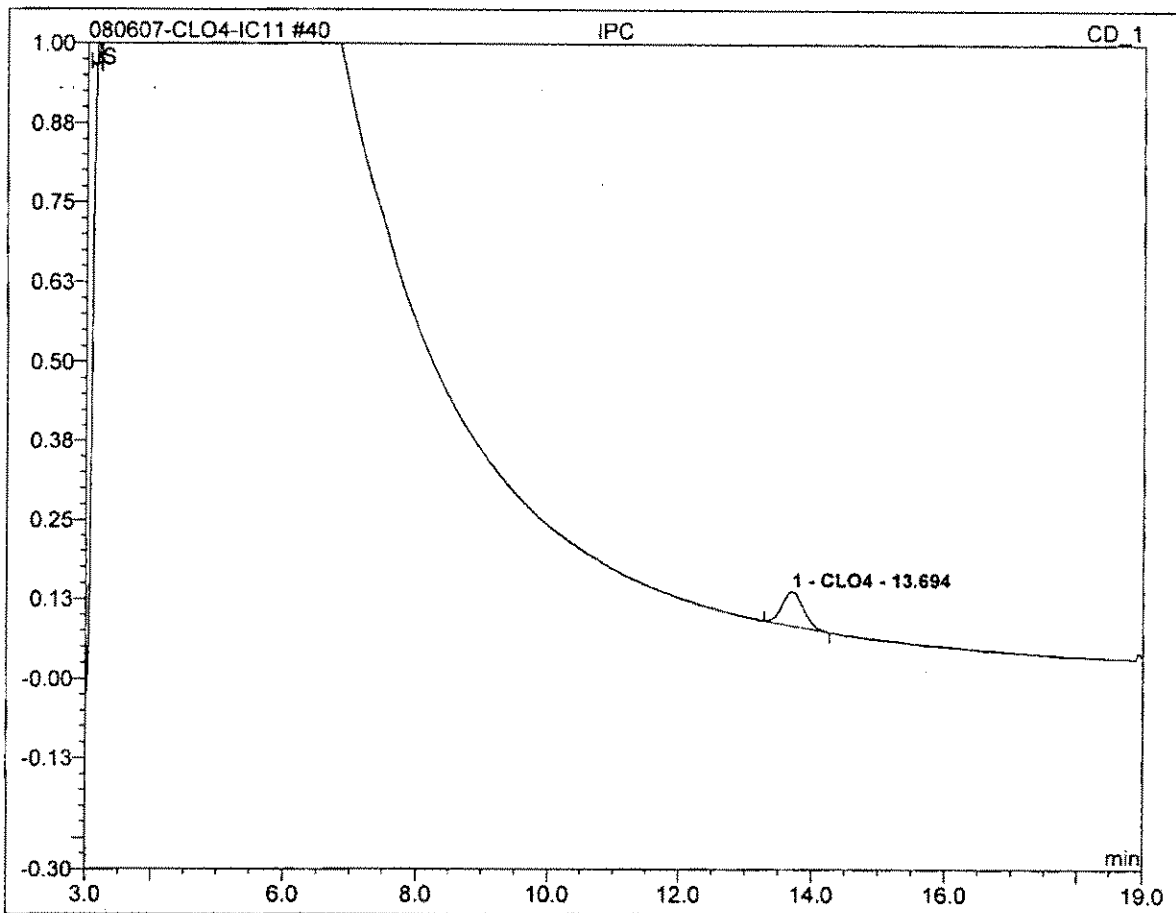
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.068	0.026	100.00	30092.127	BMB
Total:			0.068	0.026	100.00	30092.127	

39 HCV			
100			
Sample Name:	HCV	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 22:25	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	13.72	CLO4	0.252	0.095	100.00	106.685	BMB
Total:			0.252	0.095	100.00	106.685	

40 IPC			
25			
Sample Name:	IPC	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/06/2007 22:47	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	13.69	CLO4	0.055	0.020	100.00	23.594	BMB
Total:			0.055	0.020	100.00	23.594	

Perchlorate QC Checklist

rev. 27 Mar 03

Analysis Date: 08/10/07 Analyst: cb

QC'd by MWE Date 8-13-07

Instrument: IC11 Calculated MCT Level: 3195 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 (MLBANK, 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

$$PDA/H = 0.6 \%$$

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 NA (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) NA 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

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

- 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	08.02.07 09:38	n.a.
2	autocal2	1.0	2	08.02.07 10:01	2.2251
3	autocal3	1.0	4	08.02.07 10:23	3.6308
4	autocal4	1.0	10	08.02.07 10:45	10.3344
5	autocal5	1.0	25	08.02.07 11:08	24.6636
6	autocal6	1.0	50	08.02.07 11:30	50.1703
7	autocal7	1.0	100	08.02.07 11:53	99.9758
8	QCS DNR.	1.0	20	08.08.07 10:48	13.0639
9	IPC	1.0	25	08.08.07 11:10	21.1623
10	QCS	1.0	20	08.08.07 11:32	19.2430
11	-MBLK	1.0		08.08.07 11:55	n.a.
12	-MRLCHK-2	1.0	2	08.08.07 12:17	1.9270
13	-MRLCHK-4	1.0	4	08.08.07 12:40	✓3.9692
14	-LCS1	1.0	25	08.08.07 13:02	✓23.1719
15	-LCS2	1.0	25	08.08.07 13:24	✓23.8980
16	2708030231_1/500 ✓	500.0	RR	08.08.07 13:47	✓9312.8173
17	2708040002_1/1000	1000.0	RR	08.08.07 14:09	✓9530.4089
18	2708040006_1/50000	50000.0	RR	08.08.07 14:32	✓1804990.5259
19	2708040007_1/50000	50000.0	RR	08.08.07 14:54	✓905762.8433
20	2708040008_1/50000 DNR	50000.0	RR	08.08.07 15:16	2674610.7216
21	2708040009_1/50000	50000.0	RR	08.08.07 15:39	✓974436.6529
22	2708040010_1/1000	1000.0	RR	08.08.07 16:01	✓32021.5171
23	2708040011_1/1000	1000.0	RR	08.08.07 16:24	✓32170.0720
24	2707310412_1/50000	50000.0	RR	08.08.07 16:46	✓686977.2409
25	2708010223_1/5000	5000.0	RR	08.08.07 17:08	✓134533.3021
26	2708010223-MS	5000.0	25	08.08.07 17:31	✓255650.1921
27	2708010223-MSD	5000.0	25	08.08.07 17:53	✓248419.5309
28	CCV	1.0	25	08.08.07 18:16	24.3999
29	2708070254 DNR	1.0		08.08.07 18:38	n.a.
30	2708060472_1/2	2.0		08.08.07 19:00	✓n.a.
31	2708060473_1/10 DNR	10.0		08.08.07 19:23	n.a.
32	2708060474_1/10 DNR	10.0		08.08.07 19:45	23.7249
33	2708060475_1/10 DNR	10.0		08.08.07 20:08	19.9112
34	2708060476_1/2	2.0		08.08.07 20:30	✓n.a.
35	2708060477_1/2	2.0		08.08.07 20:52	✓n.a.
36	2708060478_1/2	2.0		08.08.07 21:15	✓n.a.
37	2708070267_1/5	5.0		08.08.07 21:37	✓n.a.
38	2708070270_1/50000 DNR	50000.0		08.08.07 21:59	227179.9508
39	HCV	1.0	100	08.08.07 22:22	98.9092
40	IPC	1.0	25	08.08.07 22:44	23.6957
41	-MBLK	1.0		08.08.07 23:07	12.4928
42	-MRLCHK-2	1.0	2	08.08.07 23:29	4.0005
43	-MRLCHK-4	1.0	4	08.08.07 23:51	6.9200
44	-LCS1	1.0	25	08.09.07 00:14	26.6043

CLO4-raja/Summary

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

45	-LCS2	1.0	25	08.09.07 00:36	27.5157
46	2708070418_1/5	5.0		08.09.07 00:58	n.a.
47	2708070422_1/2500	2500.0		n.a.	n.a.
48	2708070423_1/10000	10000.0		n.a.	n.a.
49	2708070424_1/10000	10000.0		n.a.	n.a.
50	2708070425_1/5000	5000.0		n.a.	n.a.
51	2708070426_1/5000	5000.0		n.a.	n.a.
52	2708070427_1/10000	10000.0		n.a.	n.a.
53	2708070428_1/500	500.0		n.a.	n.a.
54	2708070429_1/500	500.0		n.a.	n.a.
55	2708070430_1/500	500.0		n.a.	n.a.
56	2708070430-MS	1.0	25	n.a.	n.a.
57	2708070430-MSD	1.0	25	n.a.	n.a.
58	CCV	1.0	25	n.a.	n.a.
59	2708070431_1/100	100.0		n.a.	n.a.
60	2708070432_1/5	5.0		n.a.	n.a.
61	2708070433_1/100	100.0		n.a.	n.a.
62	2708070434_1/200	200.0		n.a.	n.a.
63	2708070437_1/100	100.0		n.a.	n.a.
64	2708070439_1/100	100.0		n.a.	n.a.
65	2708070440_1/100	100.0		n.a.	n.a.
66	2708070441_1/100	100.0		n.a.	n.a.
67	2708070442_1/10000	10000.0		n.a.	n.a.
68	2708070591_1/5	5.0		n.a.	n.a.
69	HCV	1.0	100	n.a.	n.a.
70	STOP	1.0		n.a.	n.a.

*DNR
POWER
OUTAGE*

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 08/09/07

Analyst: cha

Reviewed By: _____

LIMS Check By: _____

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

Wsu 8/9/07

Time of Analysis Start: 1050 End: _____

MRL 2umhos/cm: R# _____ exp of solution: _____
KCl Std 1412 R# 201668 exp of solution 12/07
TV = 1412 umhos/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504 Year Acquired 2001 New

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (umho/mmho)	Result		Comments
								Instrument	Reported (umho/cm)	
	Blank				21	7	WS			
	STD MRL 2umhos/cm									1-3---±50% of TV
	STD KCl - 1000 mhos/cm									950-1050---±5% of TV
1	2708030231	M84	KM	08/02/07				1400		
2	2708040002	M83		08/03/07						
3	0006	M22A								
4	0007	M38								
5	0009	M17A								
6	0010	M115								
7	0011	M14A								
8	2708010223	M79		07/31/07				3200		
9	2708060472	CHINOCOK	IEUA	08/06/07				870		
10	0476	SARBEUWD						1100		
DUP	↓	↓						1100		RPD < 5%
11	0477	SARBEUWD						990		
12	0478	TETESCAL						1200		
13	2708070267	EFF-COM	KM	08/04/07				8500		
14										
15										
16										
17										
18										
19										
20										
DUP	2708070267	EFF-COM	KM	08/04/07				8500		RPD < 5%
STD	KCl - 10 mhos/cm									8-12---RPD < 20% of TV

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

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

Sequence: 080807-CLO4-IC11
Operator: clv

Page 1 of 4
Printed: 8/9/2007 11:02:26 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC11_CLO4\2007AUG
Timebase: IC11
#Samples: 70

Created: 8/7/2007 9:10:44 AM by clv
Last Update: 8/9/2007 9:44:11 AM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
1	autocal1		1.0000	Standard	0	Finished
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished
3	autocal3		1.0000	Standard	4	Finished
4	autocal4		1.0000	Standard	10	Finished
5	autocal5		1.0000	Standard	25	Finished
6	autocal6		1.0000	Standard	50	Finished
7	autocal7		1.0000	Standard	100	Finished
8	QCS DNR	R201449 EXP 07/28/09	1.0000	Unknown	20	Finished
9	IPC	EC=3155	1.0000	Unknown	25	Finished
10	QCS	RR	1.0000	Unknown	20	Finished
11	-MBLK		1.0000	Unknown		Finished
12	-MRLCHK-2	2	1.0000	Unknown	2	Finished
13	-MRLCHK-4	4	1.0000	Unknown	4	Finished
14	-LCS1	25	1.0000	Unknown	25	Finished
15	-LCS2	25	1.0000	Unknown	25	Finished
16	2708030231_1/500	KM M-84	500.0000	Unknown	RR	Finished
17	2708040002_1/1000	KM M-83	1000.0000	Unknown	RR	Finished
18	2708040006_1/50000	KM M-22A	50000.0000	Unknown	RR	Finished
19	2708040007_1/50000	KM M-38	50000.0000	Unknown	RR	Finished
20	2708040008_1/50000DNR	KM M-89	50000.0000	Unknown	RR	Finished
21	2708040009_1/50000	KM M-17A	50000.0000	Unknown	RR	Finished
22	2708040010_1/1000	KM M-115	1000.0000	Unknown	RR	Finished
23	2708040011_1/1000	KM M-14A	1000.0000	Unknown	RR	Finished
24	2707310412_1/50000	KM MD-1	50000.0000	Unknown	RR	Finished
25	2708010223_1/5000	KM M-79	5000.0000	Unknown	RR	Finished
26	2708010223-MS	25	5000.0000	Unknown	25	Finished
27	2708010223-MSD	25	5000.0000	Unknown	25	Finished
28	CCV	25	1.0000	Unknown	25	Finished
29	2708070254 DNR	CALWATER 678	1.0000	Unknown		Finished
30	2708060472_1/2	IEUA CHINO CRK	2.0000	Unknown		Finished
31	2708060473_1/10 DNR	IEUA CUCAMONGA CRK	10.0000	Unknown		Finished
32	2708060474_1/10 DNR	IEUA CUCAMONGA CRK	10.0000	Unknown		Finished
33	2708060475_1/10 DNR	IEUA SAN ANTONIO CRK	10.0000	Unknown		Finished
34	2708060476_1/2	IEUA SAR@MWD	2.0000	Unknown		Finished
35	2708060477_1/2	IEUA SAR BELOW PRADO	2.0000	Unknown		Finished
36	2708060478_1/2	IEUA TEMESCAL	2.0000	Unknown		Finished
37	2708070267_1/5	KM EFF-COMP	5.0000	Unknown		Finished
38	2708070270_1/50000 DNR	KM INF-COMP	50000.0000	Unknown		Finished
39	HCV	100	1.0000	Unknown	100	Finished
40	IPC	EC=3155	1.0000	Unknown	25	Finished
41	-MBLK		1.0000	Unknown		Finished
42	-MRLCHK-2	2	1.0000	Unknown	2	Finished

Sequence: 080807-CLO4-IC11
Operator: clv

Page 2 of 4
Printed: 8/9/2007 11:02:26 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC11_CLO4\2007\AUG
Timebase: IC11
#Samples: 70

Created: 8/7/2007 9:10:44 AM by clv
Last Update: 8/9/2007 9:44:11 AM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
1	autocal1	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 9:38:42 AM	clv
2	autocal2	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:01:05 AM	clv
3	autocal3	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:23:29 AM	clv
4	autocal4	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 10:45:53 AM	clv
5	autocal5	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:08:17 AM	clv
6	autocal6	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:30:41 AM	clv
7	autocal7	Perchlorate-IC11	IC#4-CLO4-LOW	8/2/2007 11:53:05 AM	clv
8	QCS DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 10:48:04 AM	clv
9	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:10:28 AM	clv
10	QCS	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:32:52 AM	clv
11	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:55:16 AM	clv
12	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 12:17:39 PM	clv
13	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 12:40:03 PM	clv
14	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 1:02:27 PM	clv
15	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 1:24:51 PM	clv
16	2708030231_1/500	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 1:47:15 PM	clv
17	2708040002_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 2:09:38 PM	clv
18	2708040006_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 2:32:02 PM	clv
19	2708040007_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 2:54:26 PM	clv
20	2708040008_1/50000DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 3:16:49 PM	clv
21	2708040009_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 3:39:13 PM	clv
22	2708040010_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 4:01:37 PM	clv
23	2708040011_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 4:24:02 PM	clv
24	2707310412_1/50000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 4:46:26 PM	clv
25	2708010223_1/5000	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 5:08:50 PM	clv
26	2708010223-MS	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 5:31:14 PM	clv
27	2708010223-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 5:53:38 PM	clv
28	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 6:16:02 PM	clv
29	2708070254 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 6:38:27 PM	clv
30	2708060472_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 7:00:51 PM	clv
31	2708060473_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 7:23:15 PM	clv
32	2708060474_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 7:45:39 PM	clv
33	2708060475_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 8:08:03 PM	clv
34	2708060476_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 8:30:25 PM	clv
35	2708060477_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 8:52:46 PM	clv
36	2708060478_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 9:15:08 PM	clv
37	2708070267_1/5	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 9:37:31 PM	clv
38	2708070270_1/50000 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 9:59:53 PM	clv
39	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 10:22:15 PM	clv
40	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 10:44:36 PM	clv
41	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:07:00 PM	clv
42	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:29:22 PM	clv

Sequence: 080807-CLO4-IC11
Operator: clv

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Printed: 8/9/2007 11:02:26 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC1C11_CLO4\2007AUG
Timebase: IC11
#Samples: 70

Created: 8/7/2007 9:10:44 AM by clv
Last Update: 8/9/2007 9:44:11 AM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
43	-MRLCHK-4	4	1.0000	Unknown	4	Finished
44	-LCS1	25	1.0000	Unknown	25	Finished
45	-LCS2	25	1.0000	Unknown	25	Finished
	2708070418_1/5	KM ART-1	5.0000	Unknown		Running
47	2708070422_1/2500	KM ART-2	2500.0000	Unknown		Single
48	2708070423_1/10000	KM ART-3	10000.0000	Unknown		Single
49	2708070424_1/10000	KM ART-4	10000.0000	Unknown		Single
50	2708070425_1/5000	KM ART-6	5000.0000	Unknown		Single
51	2708070426_1/5000	KM ART-7	5000.0000	Unknown		Single
52	2708070427_1/10000	KM ART-8	10000.0000	Unknown		Single
53	2708070428_1/500	KM PC99R2/R3	500.0000	Unknown		Single
54	2708070429_1/500	KM PC-115R	500.0000	Unknown		Single
55	2708070430_1/500	KM PC-116R	500.0000	Unknown		Single
56	2708070430-MS	25	1.0000	Unknown	25	Single
57	2708070430-MSD	25	1.0000	Unknown	25	Single
58	CCV	25	1.0000	Unknown	25	Single
59	2708070431_1/100	KM SEEP SURFACE	100.0000	Unknown		Single
60	2708070432_1/5	KM SF-1	5.0000	Unknown		Single
61	2708070433_1/100	KM PC-117	100.0000	Unknown		Single
62	2708070434_1/200	KM PC-118	200.0000	Unknown		Single
63	2708070437_1/100	KM PC-119	100.0000	Unknown		Single
64	2708070439_1/100	KM PC-120	100.0000	Unknown		Single
65	2708070440_1/100	KM PC-121	100.0000	Unknown		Single
66	2708070441_1/100	KM PC-133	100.0000	Unknown		Single
67	2708070442_1/10000	KM ART-9	10000.0000	Unknown		Single
68	2708070591_1/5	KM EFF	5.0000	Unknown		Single
69	HCV	100	1.0000	Unknown	100	Single
70	STOP		1.0000	Unknown		Single

Sequence: 080807-CLO4-IC11
Operator: clv

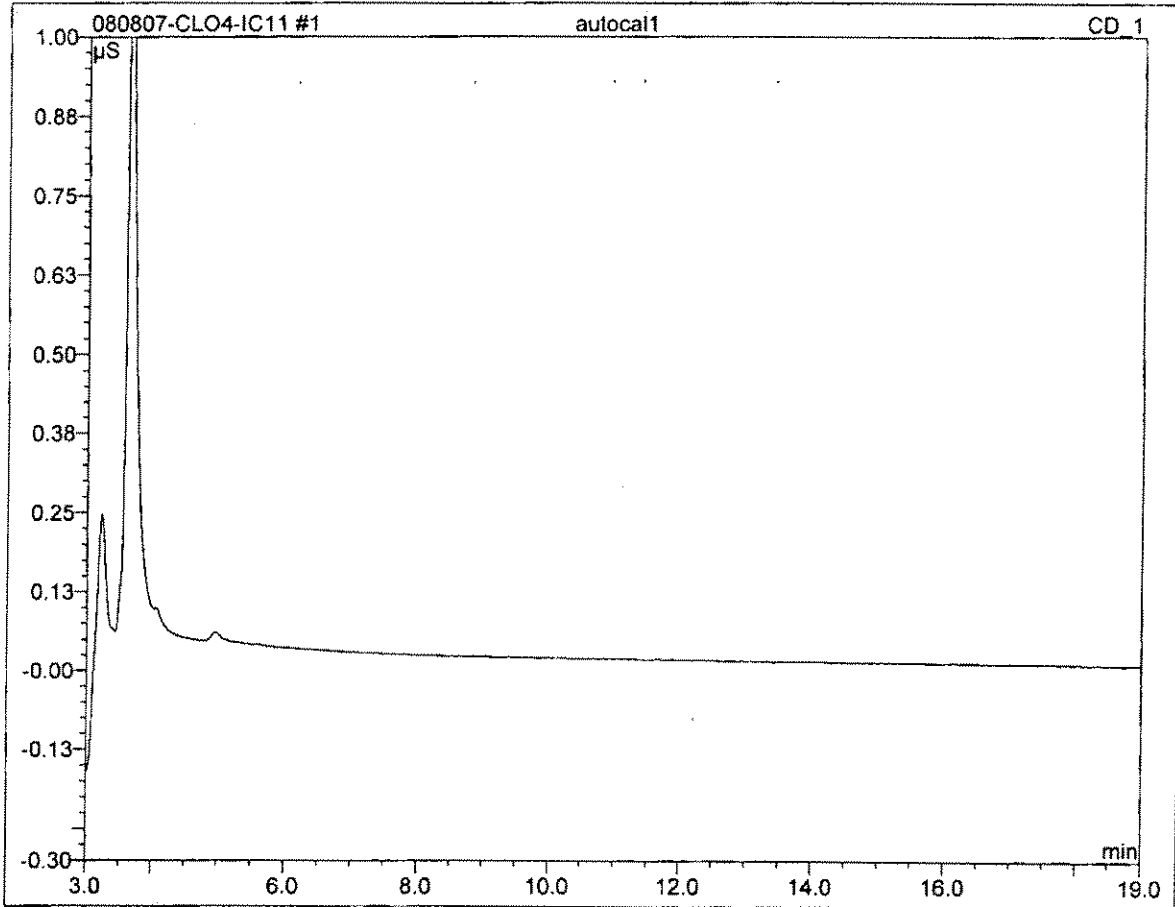
Page 4 of 4
Printed: 8/9/2007 11:02:26 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC11_CLO4\2007AUG
Timebase: IC11
#Samples: 70

Created: 8/7/2007 9:10:44 AM by clv
Last Update: 8/9/2007 9:44:11 AM by clv

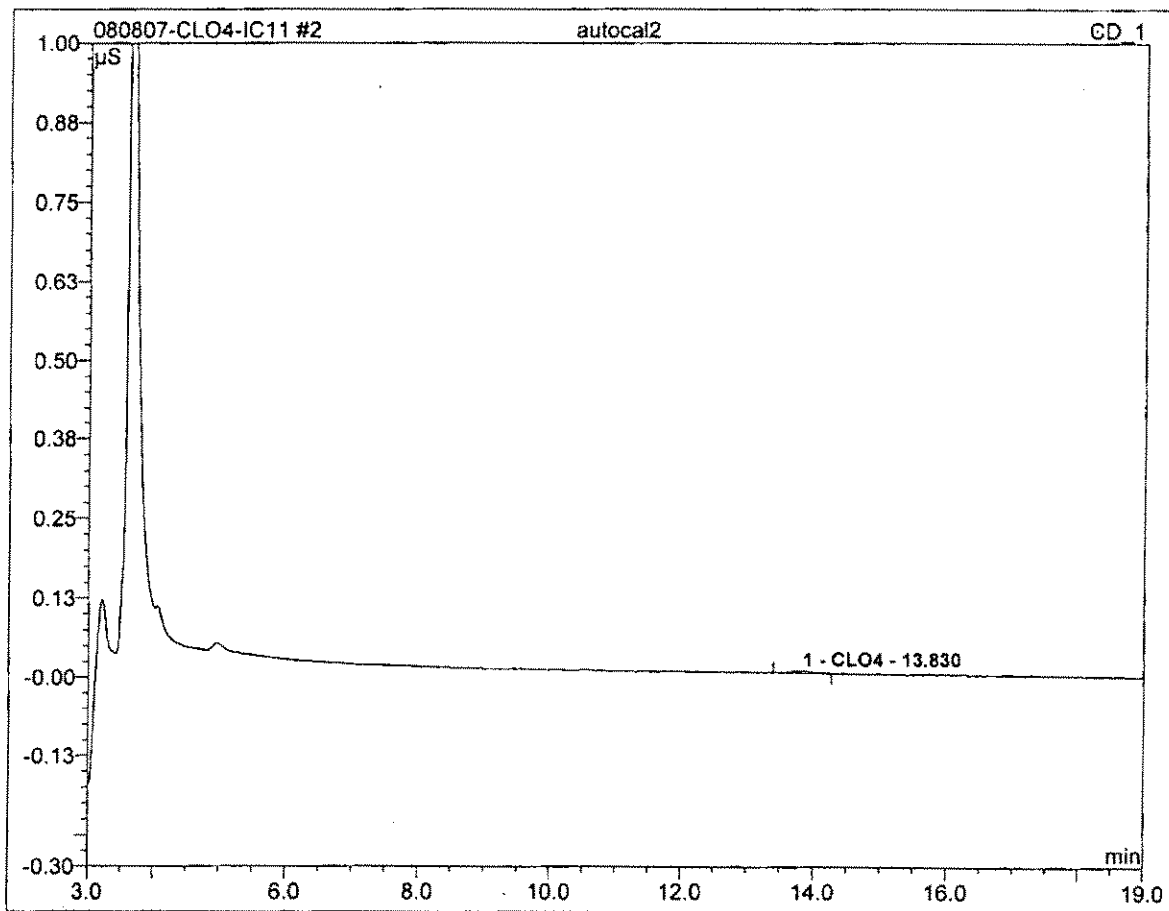
No.	Name	Program	Method	Inj. Date/Time	*Analyst
43	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	8/8/2007 11:51:45 PM	clv
44	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	8/9/2007 12:14:07 AM	clv
45	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	8/9/2007 12:36:29 AM	clv
46	2708070418_1/5	Perchlorate-IC11	IC#4-CLO4-LOW	8/9/2007 12:58:52 AM	clv
47	2708070422_1/2500	Perchlorate-IC11	IC#4-CLO4-LOW		clv
48	2708070423_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
49	2708070424_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
50	2708070425_1/5000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
51	2708070426_1/5000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
52	2708070427_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
53	2708070428_1/500	Perchlorate-IC11	IC#4-CLO4-LOW		clv
54	2708070429_1/500	Perchlorate-IC11	IC#4-CLO4-LOW		clv
55	2708070430_1/500	Perchlorate-IC11	IC#4-CLO4-LOW		clv
56	2708070430-MS	Perchlorate-IC11	IC#4-CLO4-LOW		clv
57	2708070430-MSD	Perchlorate-IC11	IC#4-CLO4-LOW		clv
58	CCV	Perchlorate-IC11	IC#4-CLO4-LOW		clv
59	2708070431_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
60	2708070432_1/5	Perchlorate-IC11	IC#4-CLO4-LOW		clv
61	2708070433_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
62	2708070434_1/200	Perchlorate-IC11	IC#4-CLO4-LOW		clv
63	2708070437_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
64	2708070439_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
65	2708070440_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
66	2708070441_1/100	Perchlorate-IC11	IC#4-CLO4-LOW		clv
67	2708070442_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW		clv
68	2708070591_1/5	Perchlorate-IC11	IC#4-CLO4-LOW		clv
69	HCV	Perchlorate-IC11	IC#4-CLO4-LOW		clv
70	STOP	IC11 Stop	IC#4-CLO4-LOW		clv

1 autocal1			
0			
Sample Name:	autocal1	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 09:38	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



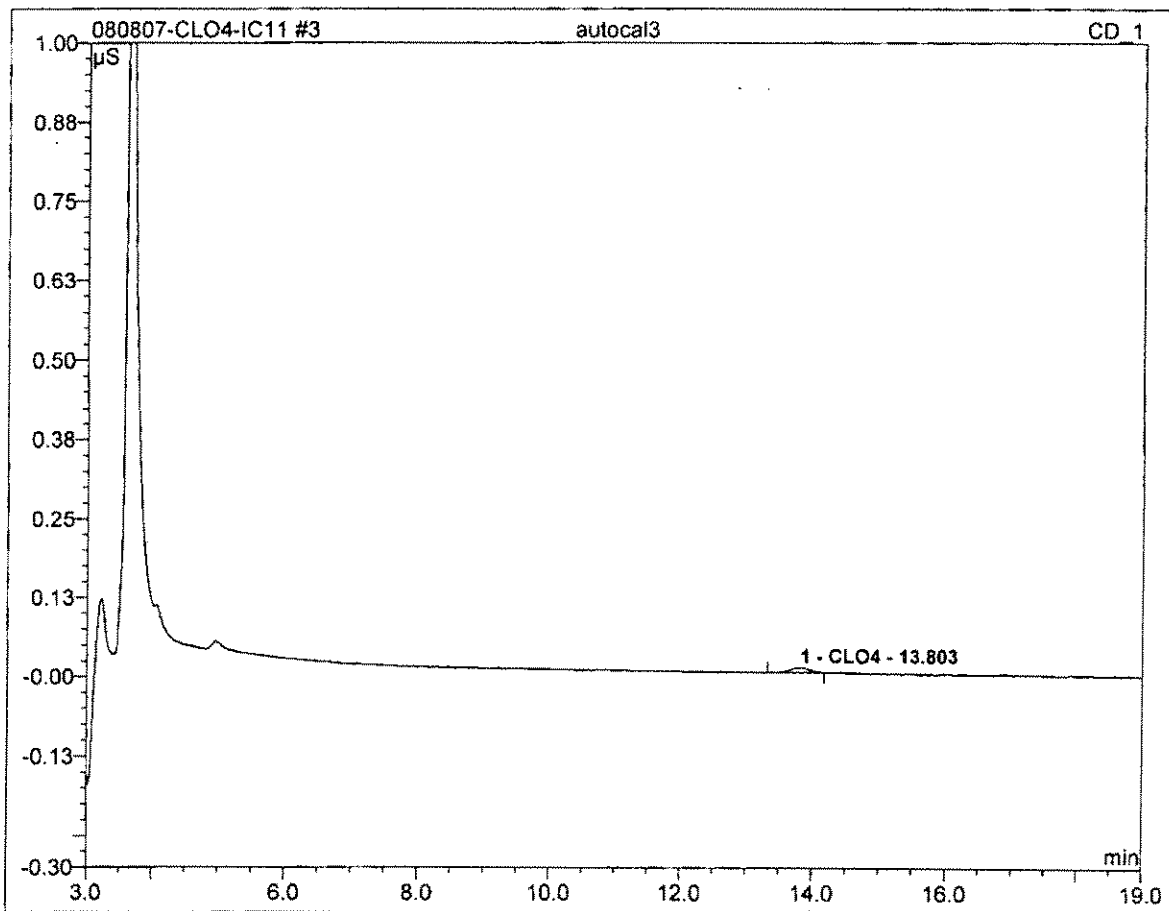
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2			
2			
Sample Name:	autocal2	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:01	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



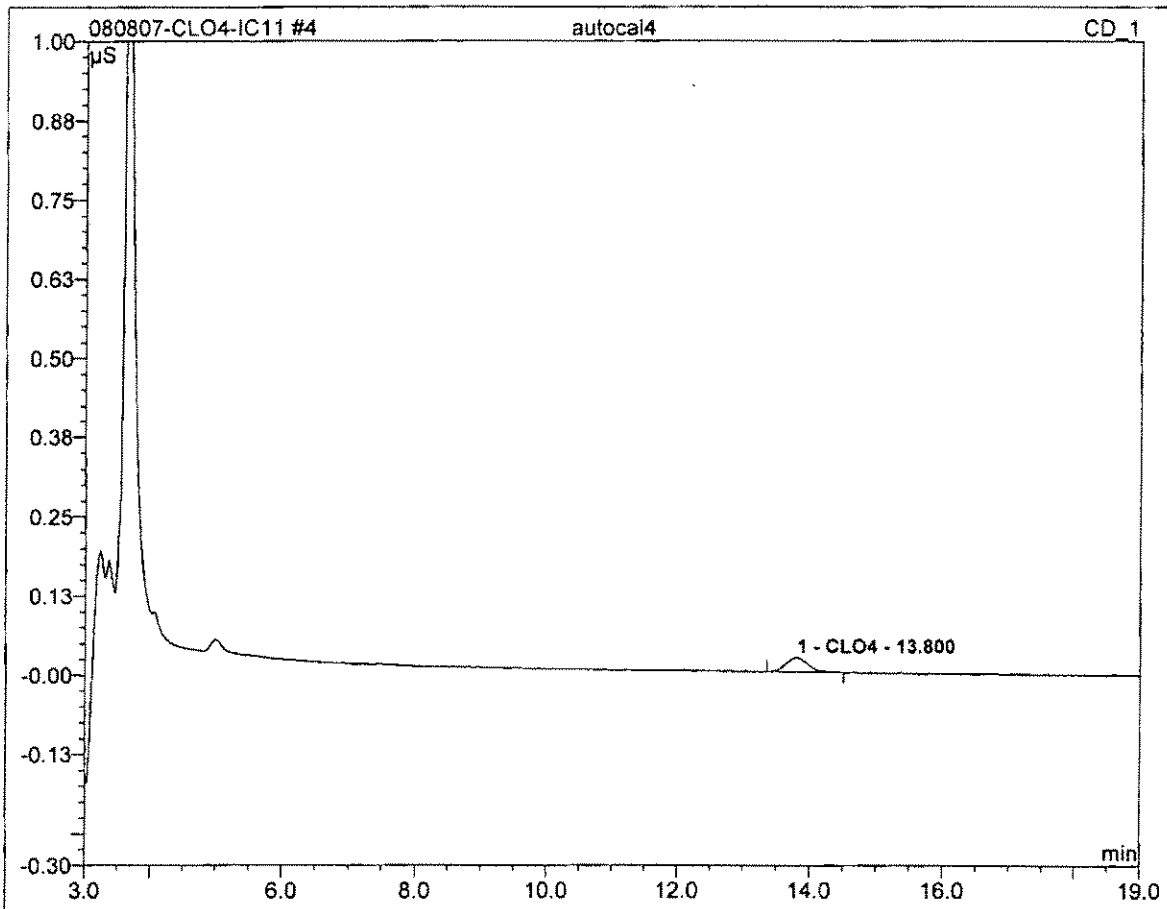
No.	Ret. Time min	Peak Name	Height µS	Area µS*min	Ref. Area %	Amount	Type
1	13.83	CLO4	0.004	0.002	100.00	2.225	BMB
Total:			0.004	0.002	100.00	2.225	

3 autocal3			
4			
Sample Name:	autocal3	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:23	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



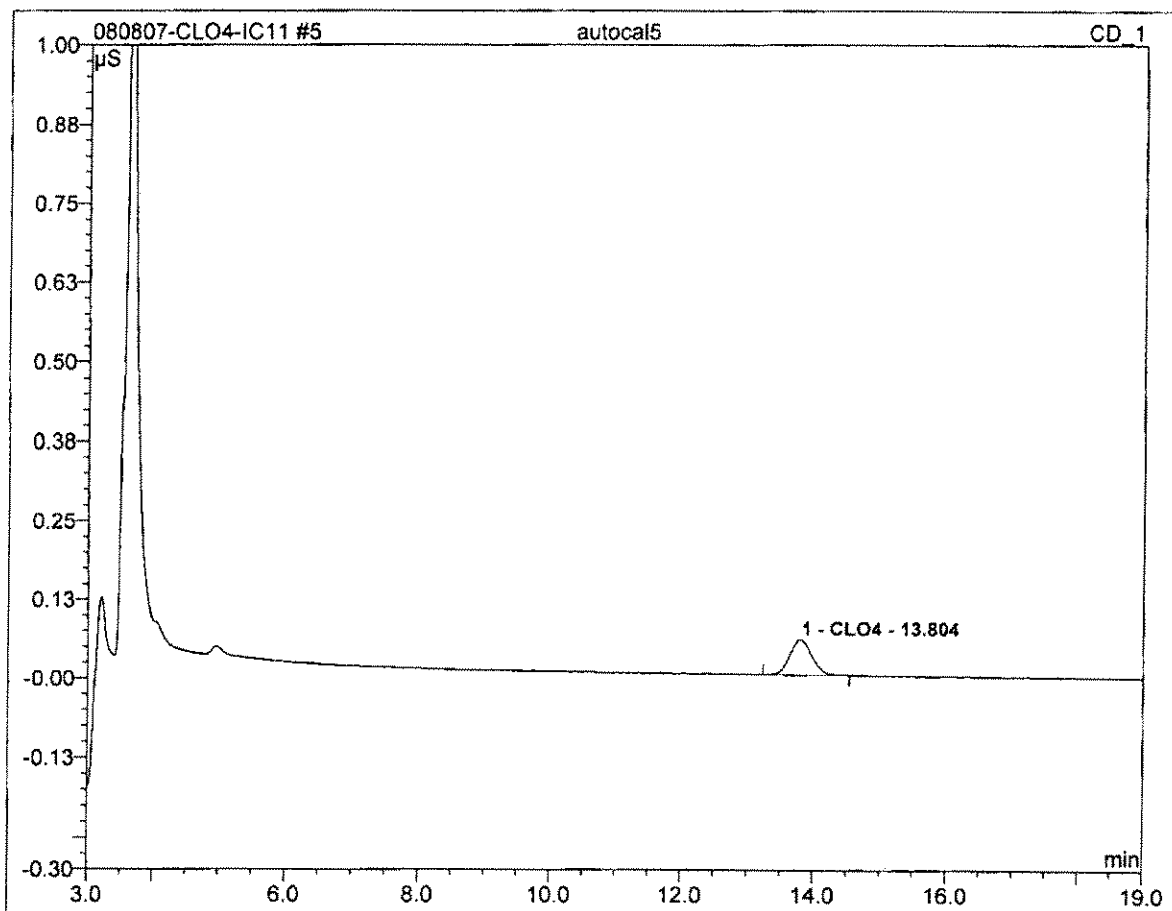
No.	Ret. Time min	Peak Name	Height µS	Area µS*min	Rel. Area %	Amount	Type
1	13.80	CLO4	0.008	0.003	100.00	3.631	BMB
Total:			0.008	0.003	100.00	3.631	

4 autocal4			
10			
Sample Name:	autocal4	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 10:45	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



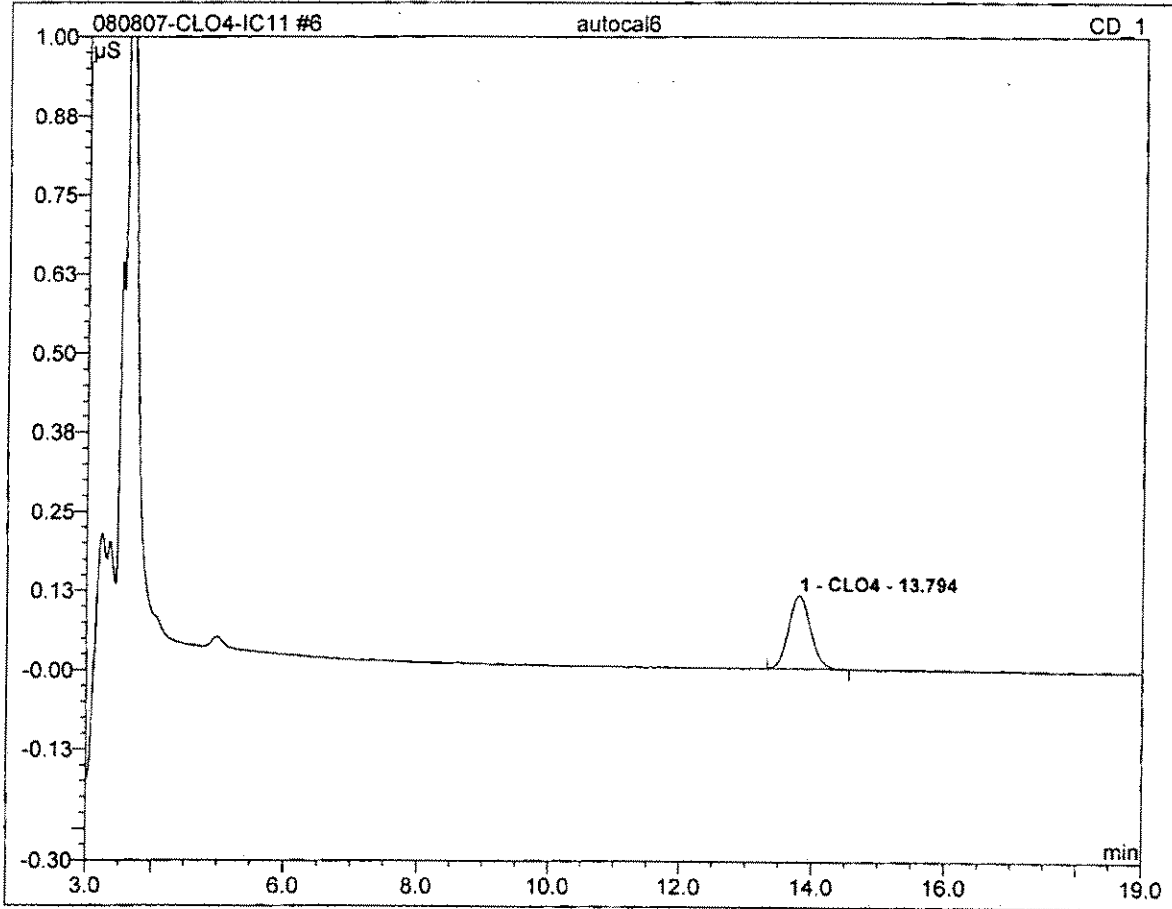
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.80	CLO4	0.023	0.009	100.00	10.334	BMB
Total:			0.023	0.009	100.00	10.334	

5 autocal5			
25			
Sample Name:	autocal5	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:08	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



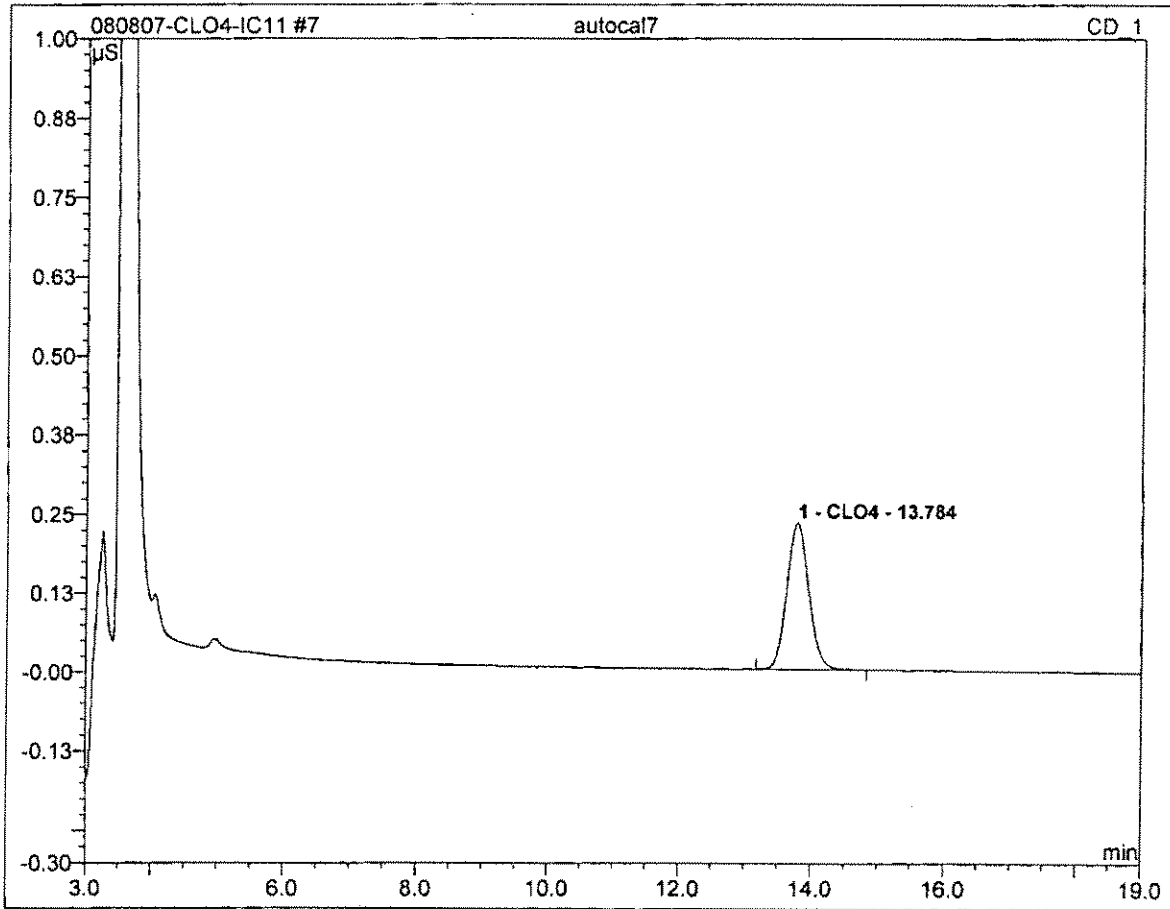
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.80	CLO4	0.056	0.021	100.00	24.664	BMB
Total:			0.056	0.021	100.00	24.664	

6 autocal6			
50			
Sample Name:	autocal6	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:30	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



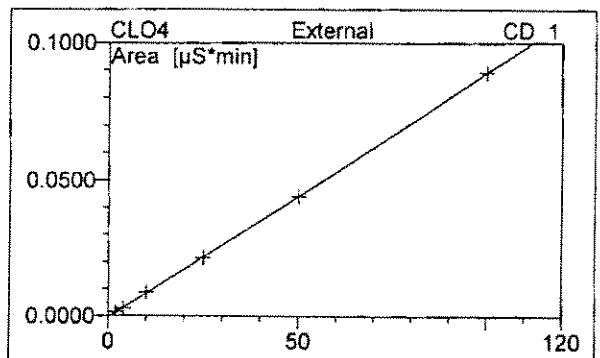
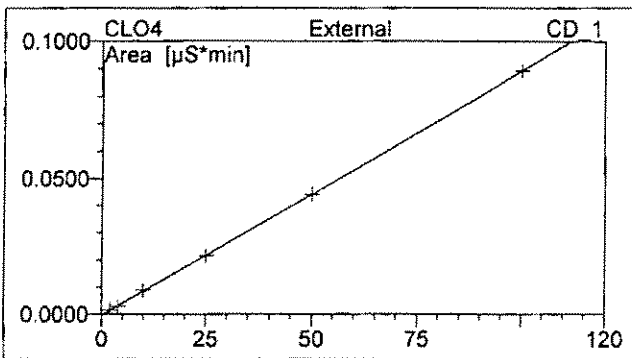
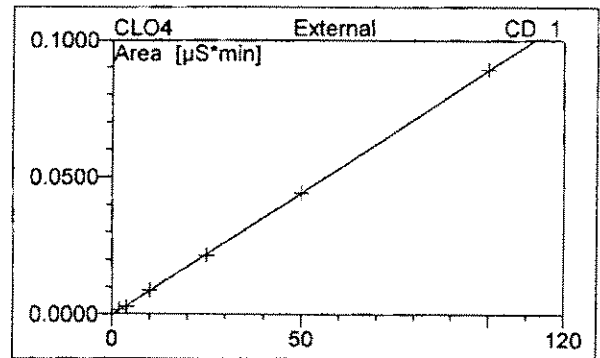
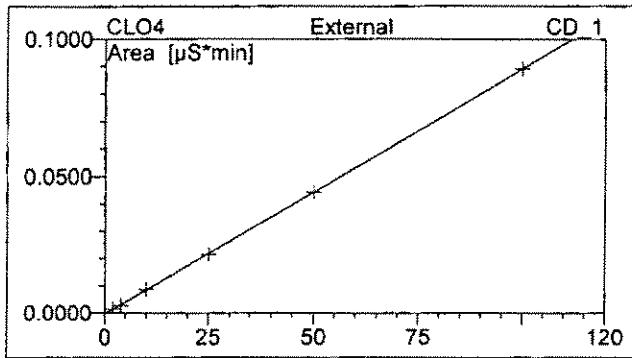
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.79	CLO4	0.116	0.044	100.00	50.170	BMB
Total:			0.116	0.044	100.00	50.170	

7 autocal7			
100			
Sample Name:	autocal7	Channel:	CD_1
Sample Type:	standard	Control Program:	Perchlorate-IC11
Recording Time:	08/02/2007 11:53	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



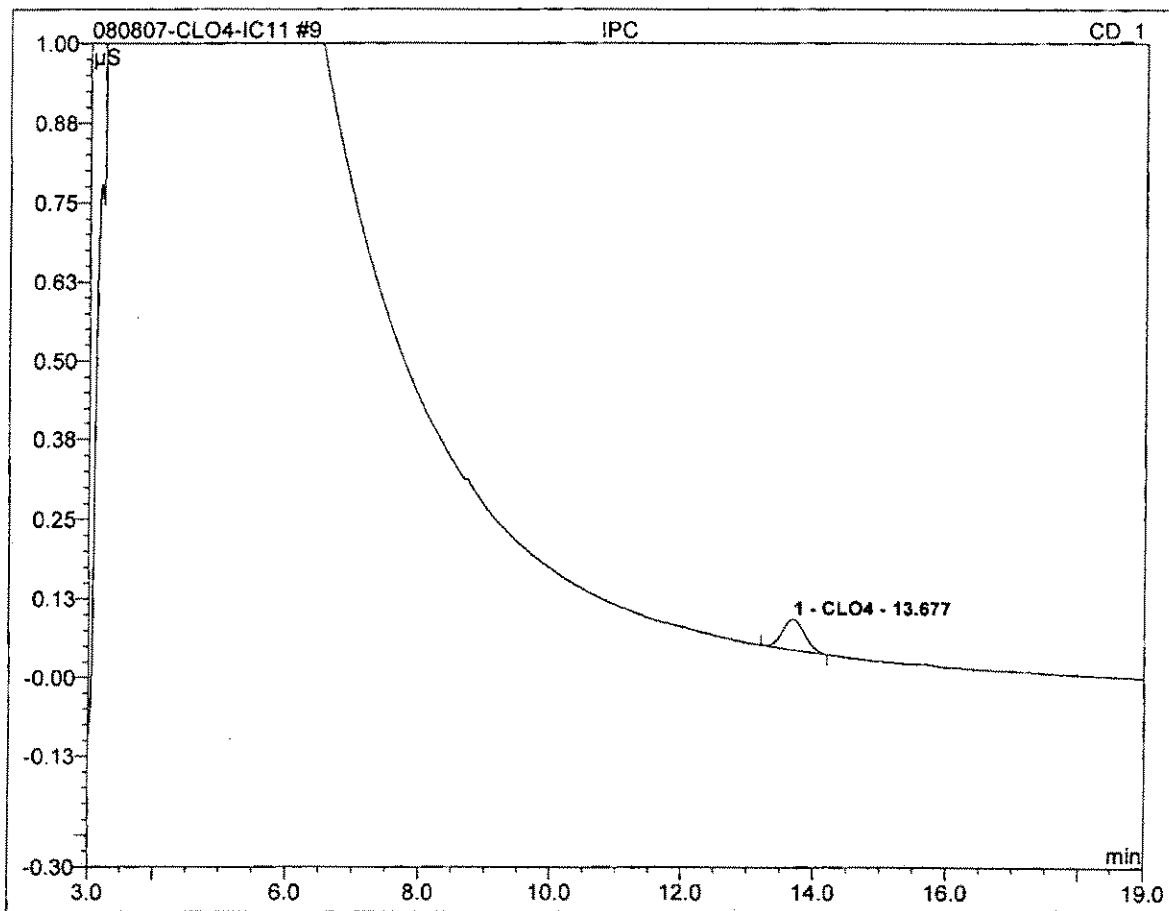
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.78	CLO4	0.233	0.089	100.00	99.976	BMB
Total:			0.233	0.089	100.00	99.976	

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: 8/2/2007 11:53	Sample Weight: 1.0000
Run Time (min): 20.00	Sample Amount: 1.0000



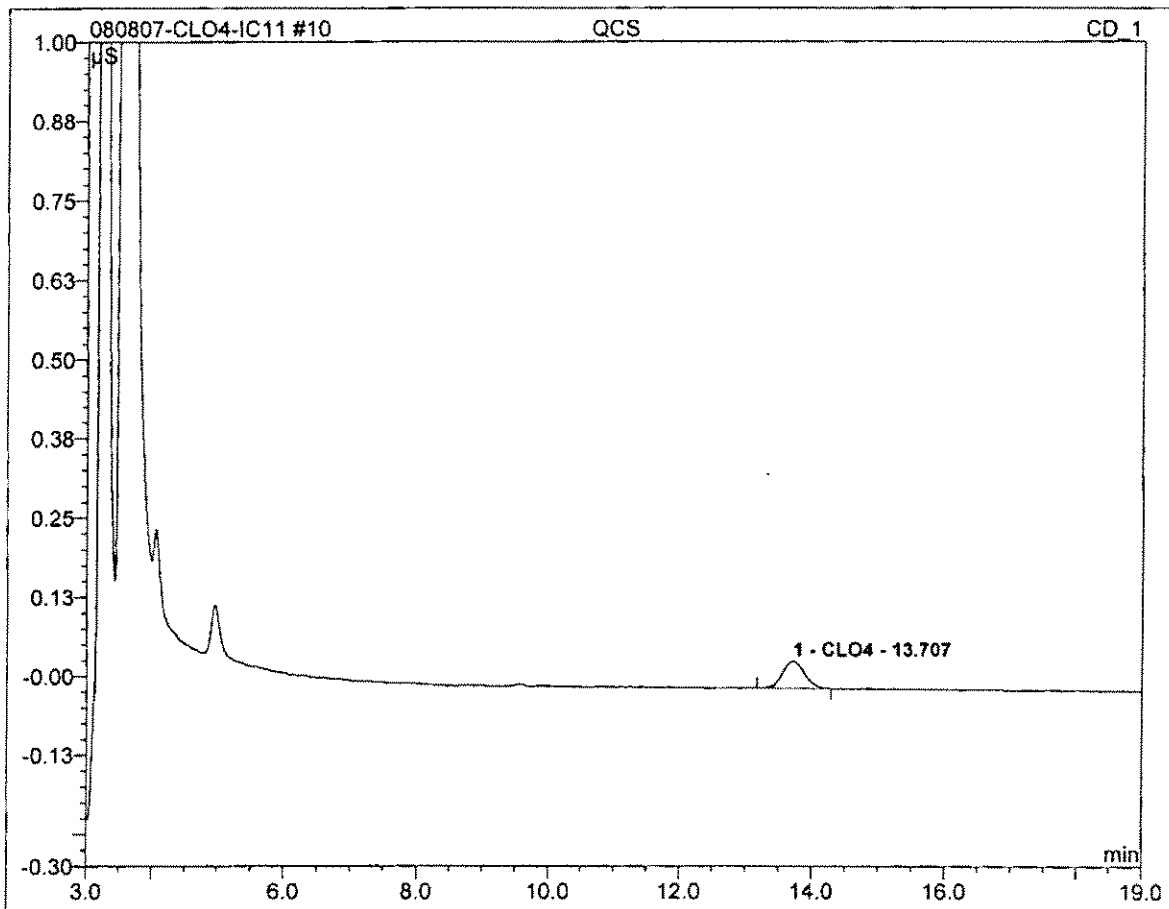
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.78	CLO4	QOff	6	99.9966	-0.0005	0.0009	0.0000
Average:					99.9966	-0.0005	0.0009	0.0000

9 IPC			
25			
Sample Name:	IPC	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 11:10	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	13.68	CLO4	0.048	0.018	100.00	21.162	BMB
Total:			0.048	0.018	100.00	21.162	

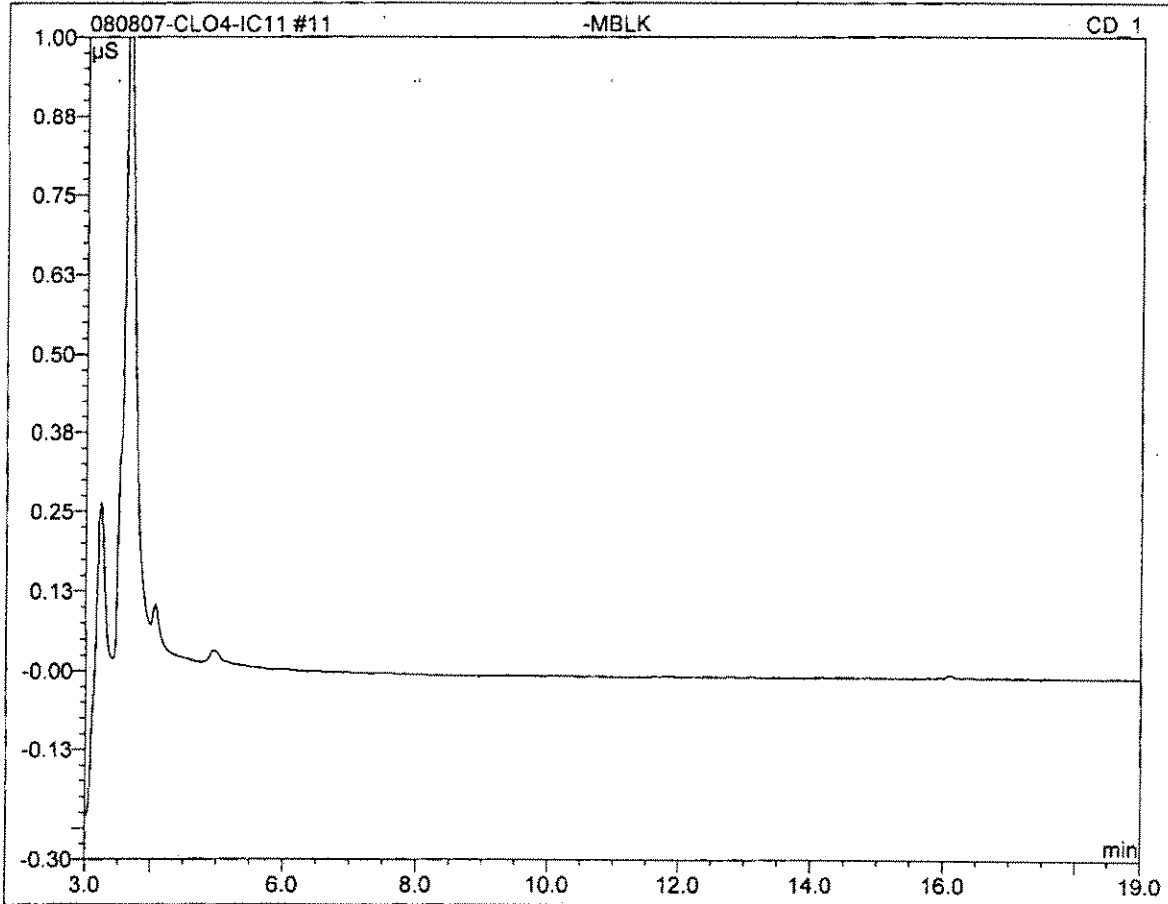
10 QCS			
20			
Sample Name:	QCS	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 11:32	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	13.71	CLO4	0.044	0.017	100.00	19.243	BMB
Total:			0.044	0.017	100.00	19.243	

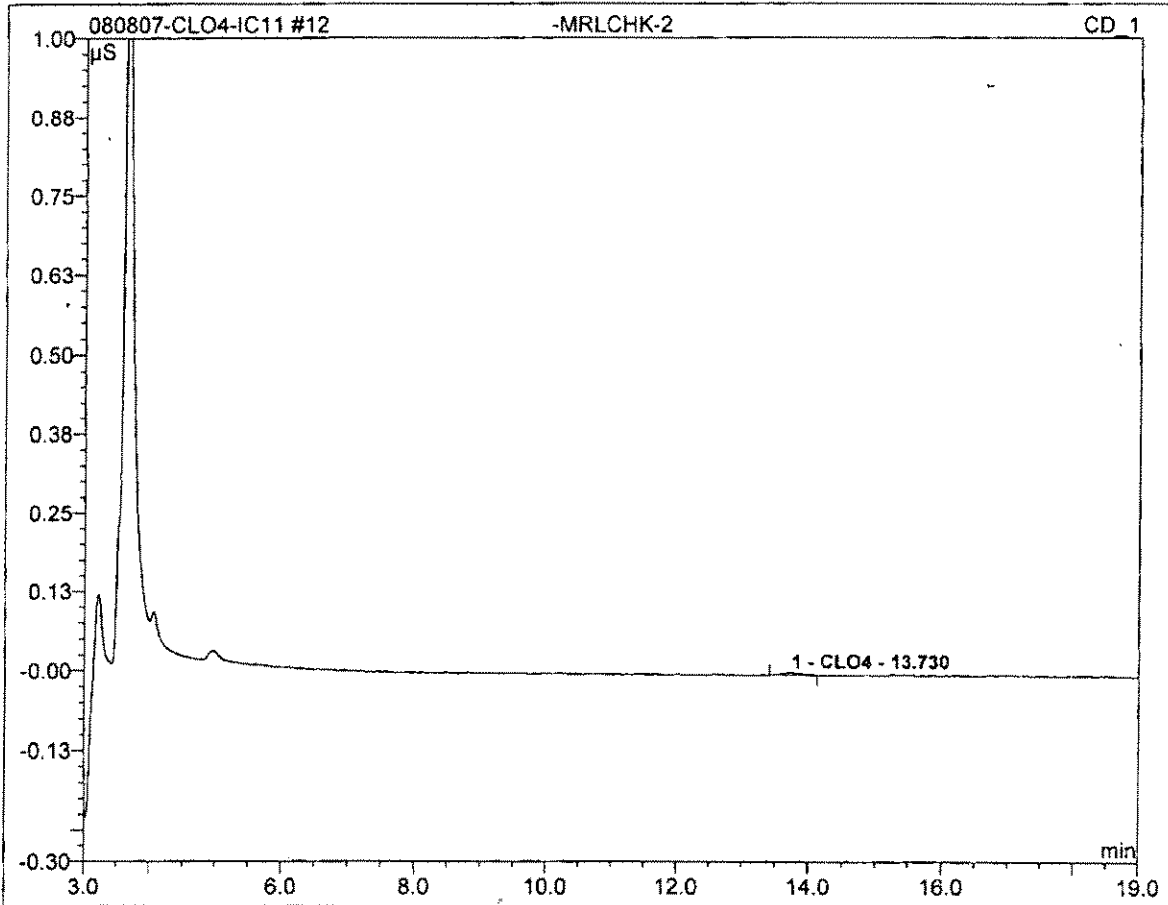
11 -MBLK

Sample Name:	-MBLK	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 11:55	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



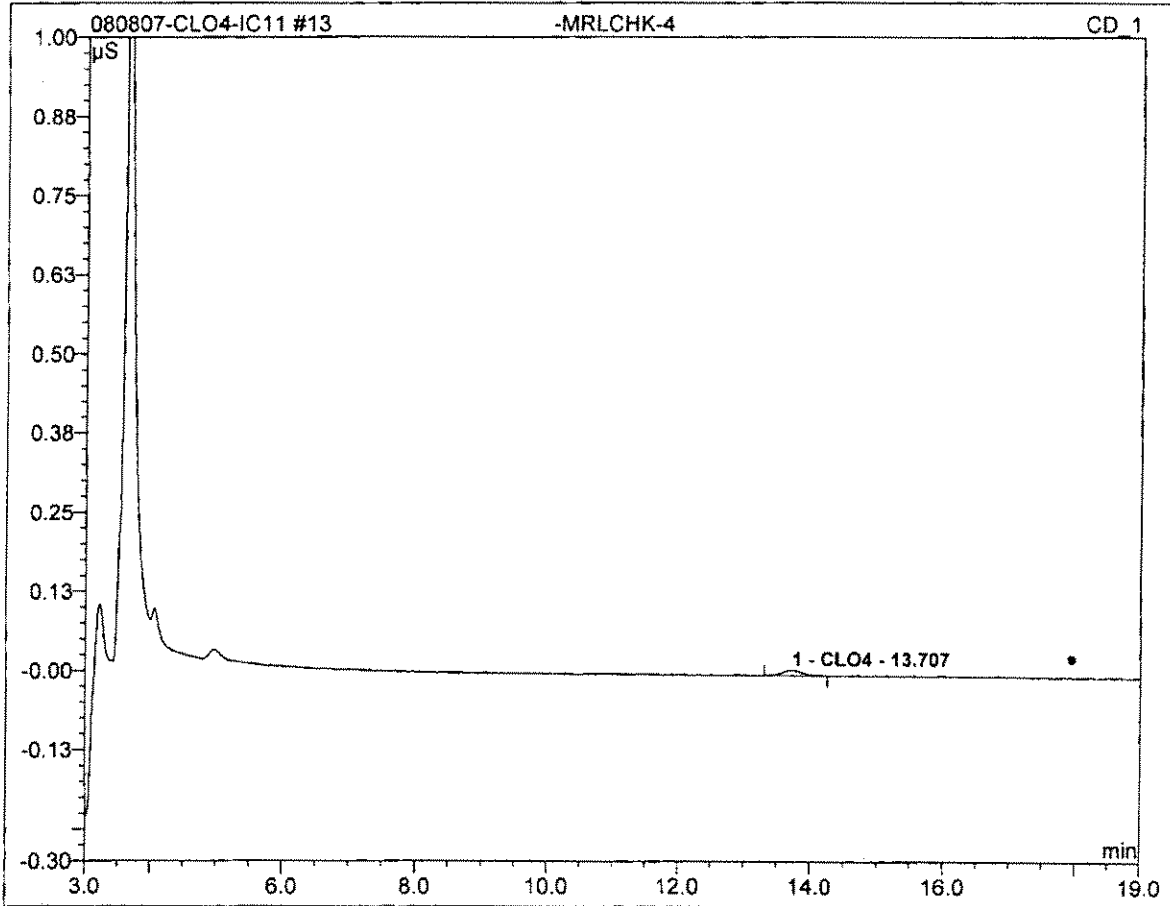
No.	Ret. Time min	Peak Name	Height μS	Area μS*min	Rel. Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12 -MRLCHK-2			
2			
Sample Name:	-MRLCHK-2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 12:17	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



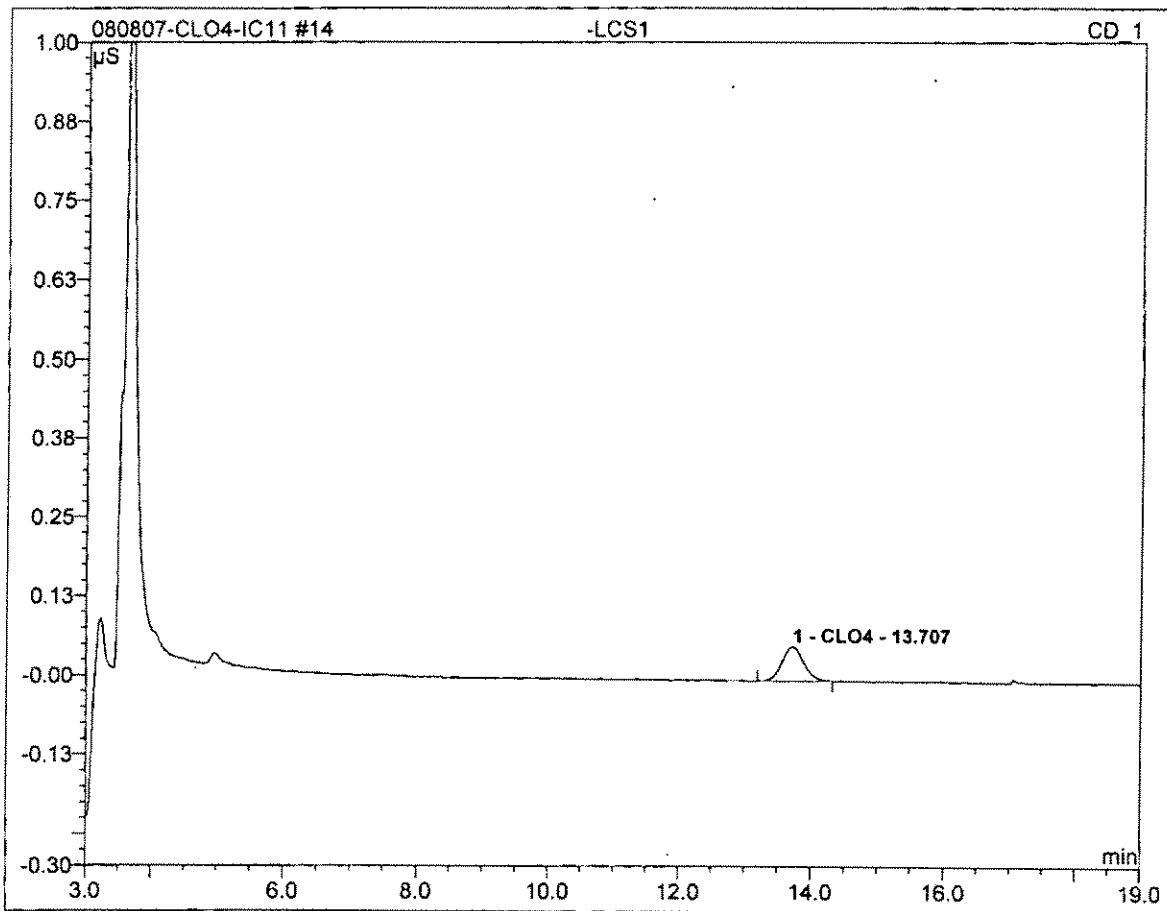
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.004	0.001	100.00	1.927	BMB
Total:			0.004	0.001	100.00	1.927	

13 -MRLCHK-4			
4			
Sample Name:	-MRLCHK-4	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 12:40	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



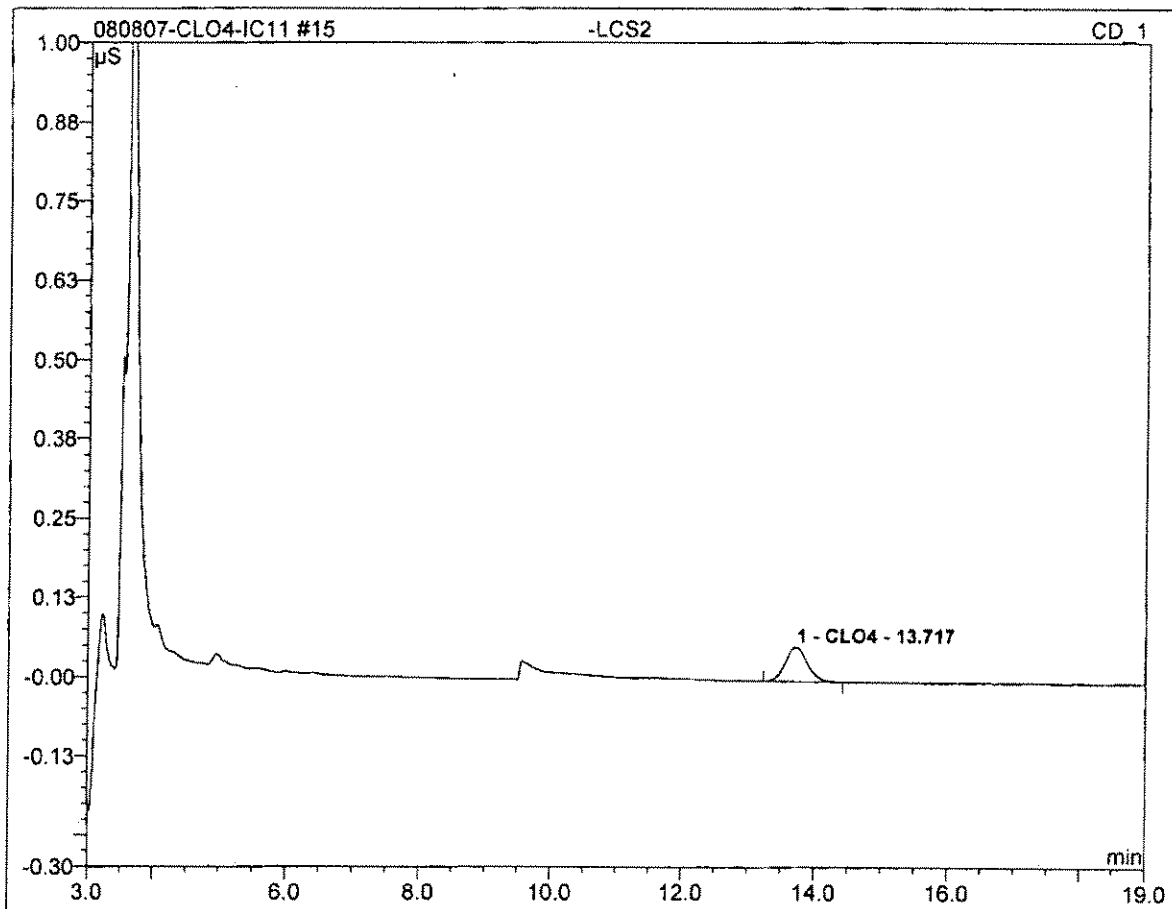
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.71	CLO4	0.008	0.003	100.00	3.969	BMB
Total:			0.008	0.003	100.00	3.969	

14 -LCS1			
25			
Sample Name:	-LCS1	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 13:02	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



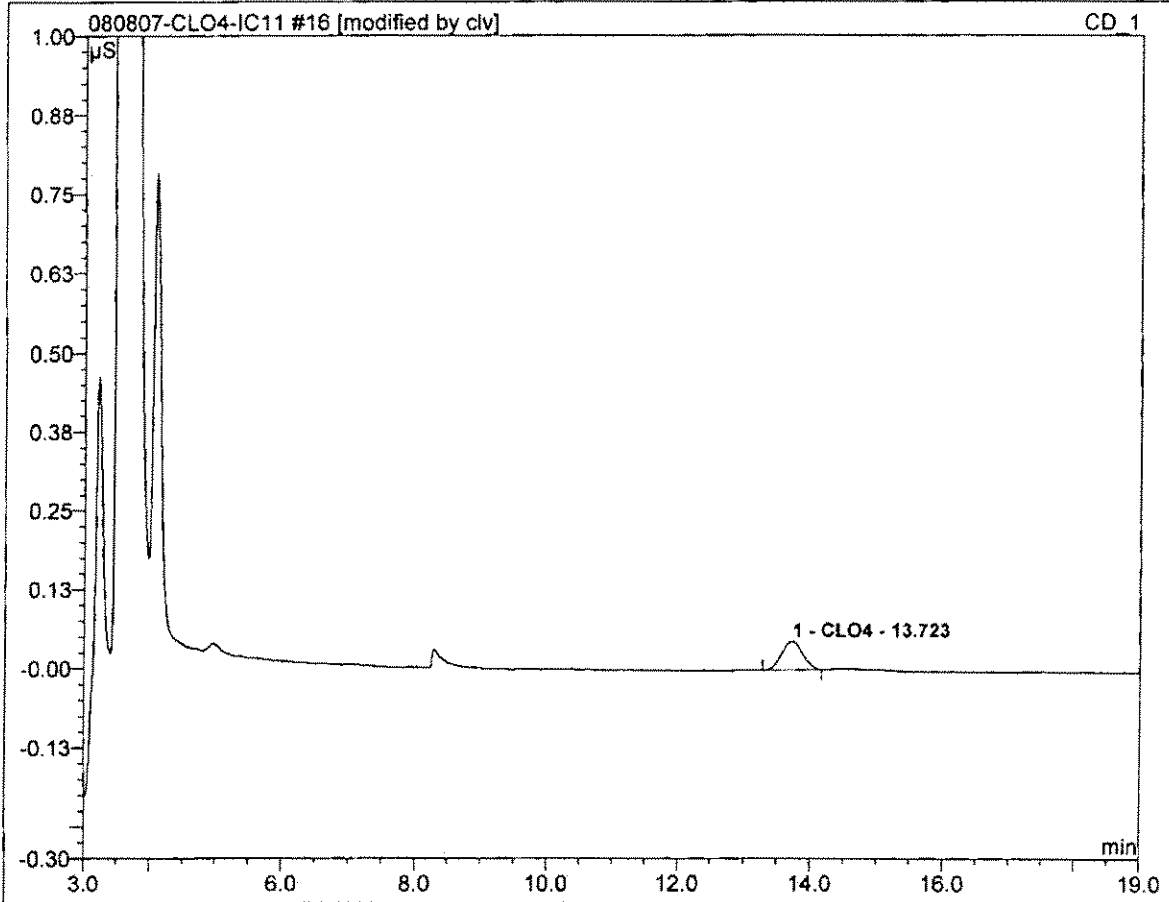
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.71	CLO4	0.053	0.020	100.00	23.172	BMB
Total:			0.053	0.020	100.00	23.172	

15 -LCS2			
25			
Sample Name:	-LCS2	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 13:24	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



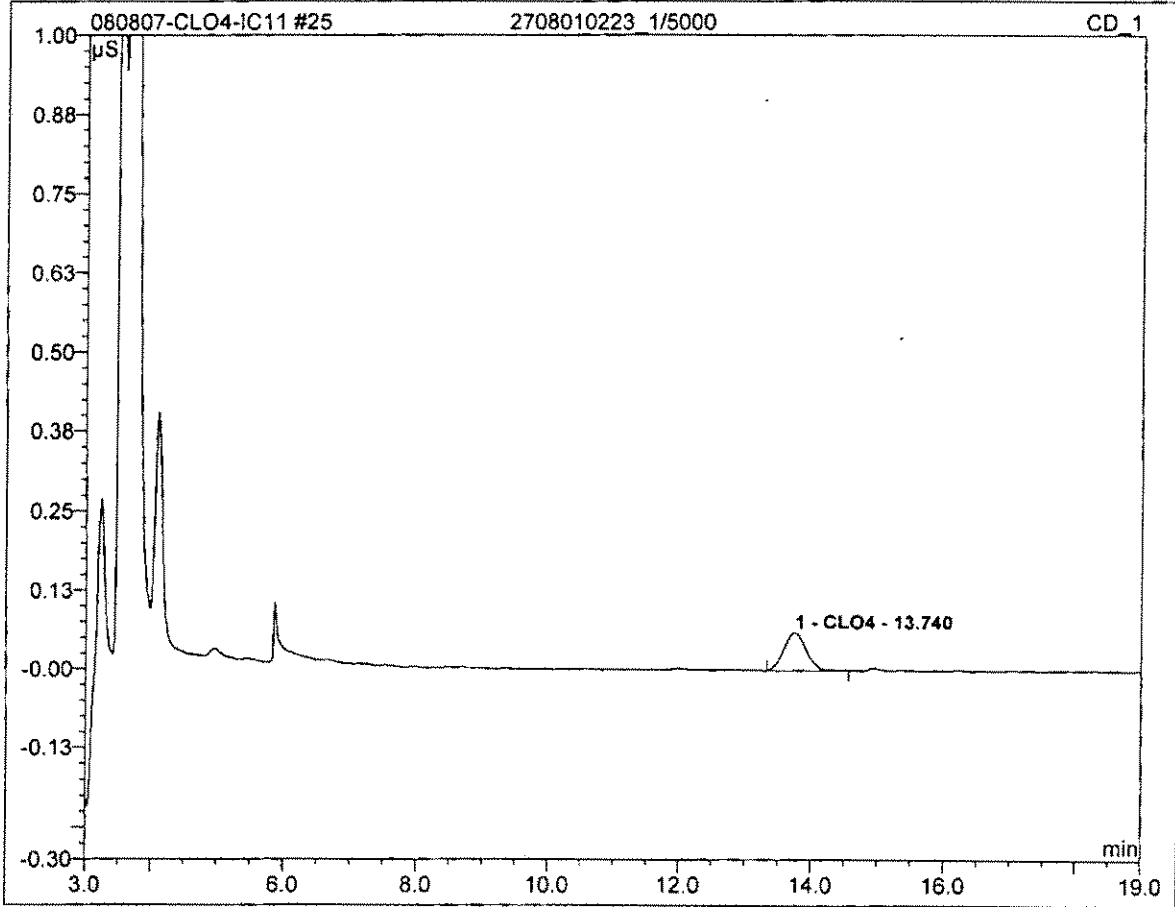
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.054	0.021	100.00	23.898	BMB
Total:			0.054	0.021	100.00	23.898	

16 2708030231_1/500			
RR			
Sample Name:	2708030231_1/500	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 13:47	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	500.0000



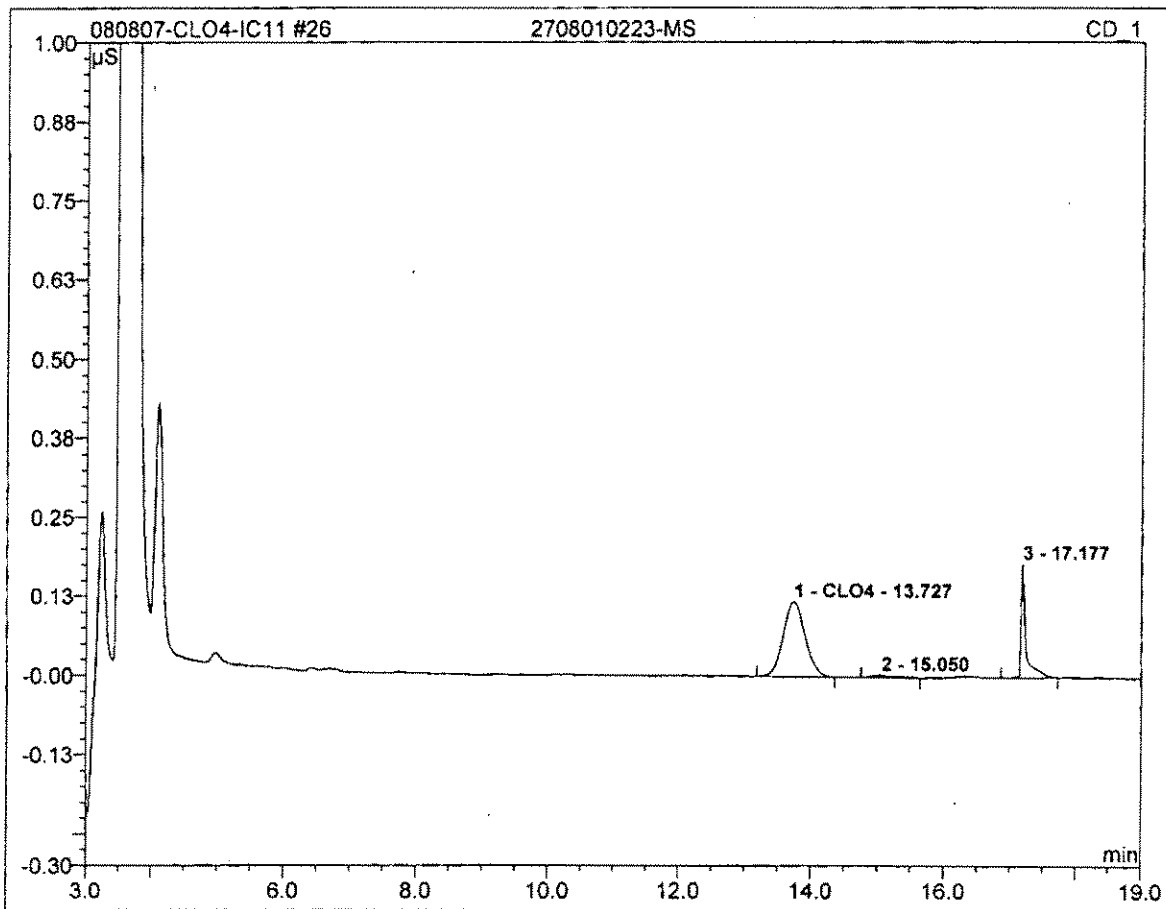
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.72	CLO4	0.044	0.016	100.00	9312.817	BMB*
Total:			0.044	0.016	100.00	9312.817	

25 2708010223_1/5000			
RR			
Sample Name:	2708010223_1/5000	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 17:08	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	5000.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.060	0.023	100.00	134533.302	BMB
Total:			0.060	0.023	100.00	134533.302	

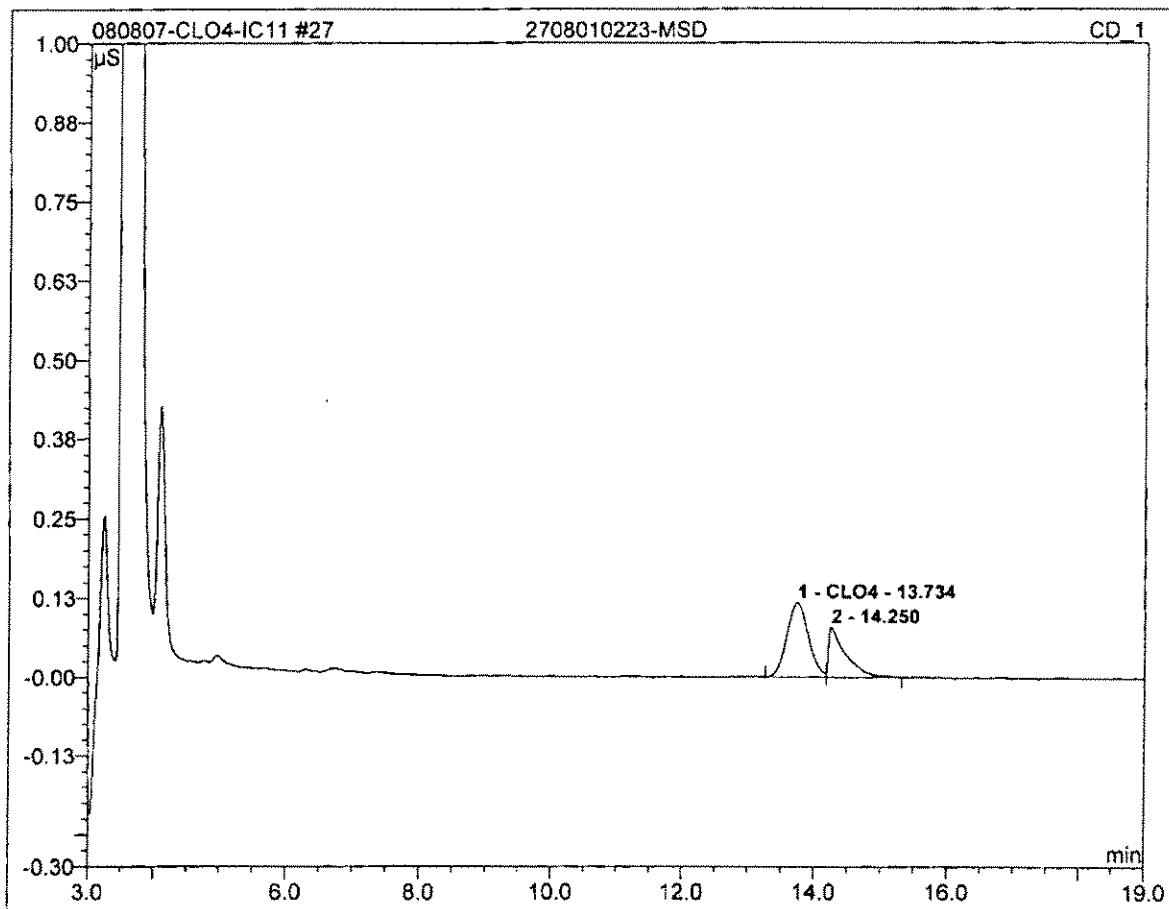
26 2708010223-MS			
25			
Sample Name:	2708010223-MS	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 17:31	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	5000.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.118	0.045	72.42	255650.192	BMB
Total:			0.118	0.045	72.42	255650.192	

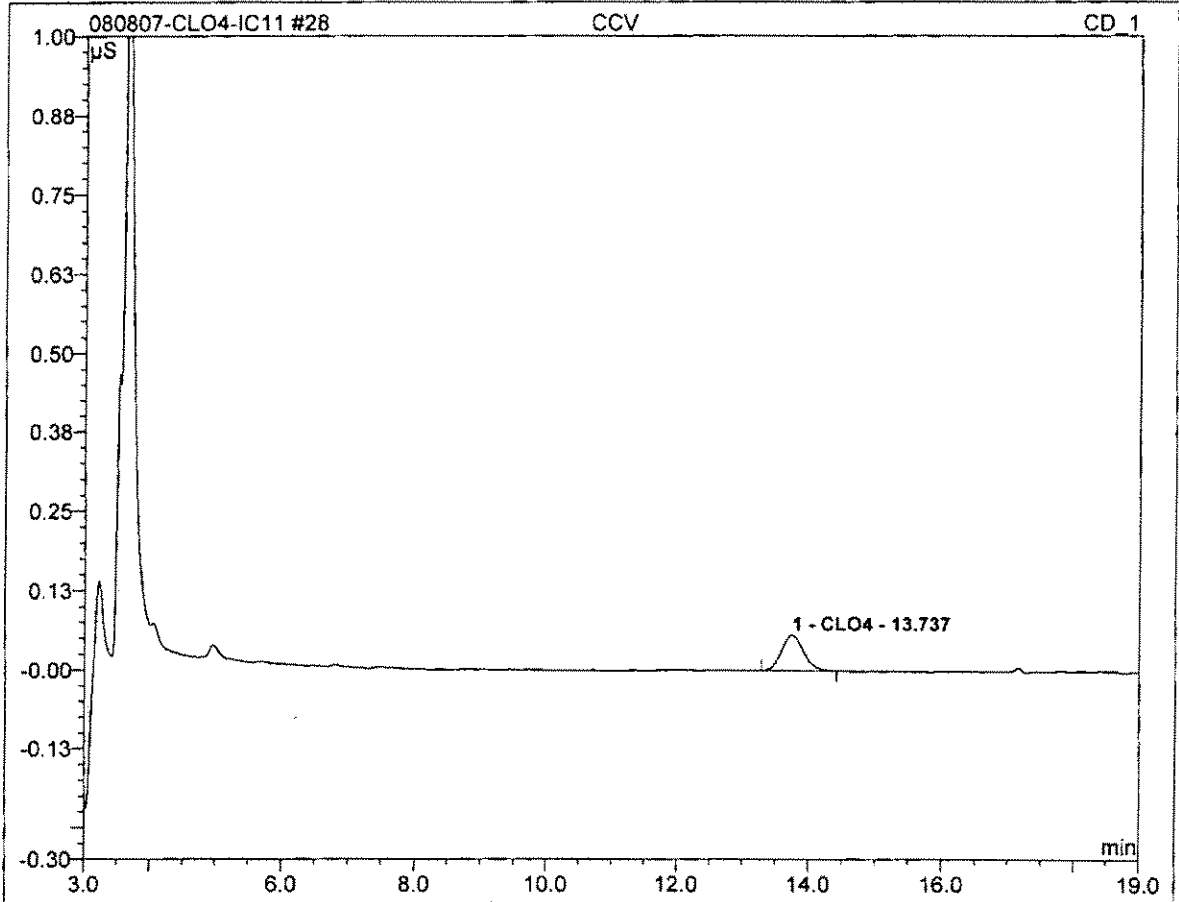
27 2708010223-MSD**25**

Sample Name:	2708010223-MSD	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 17:53	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	5000.0000



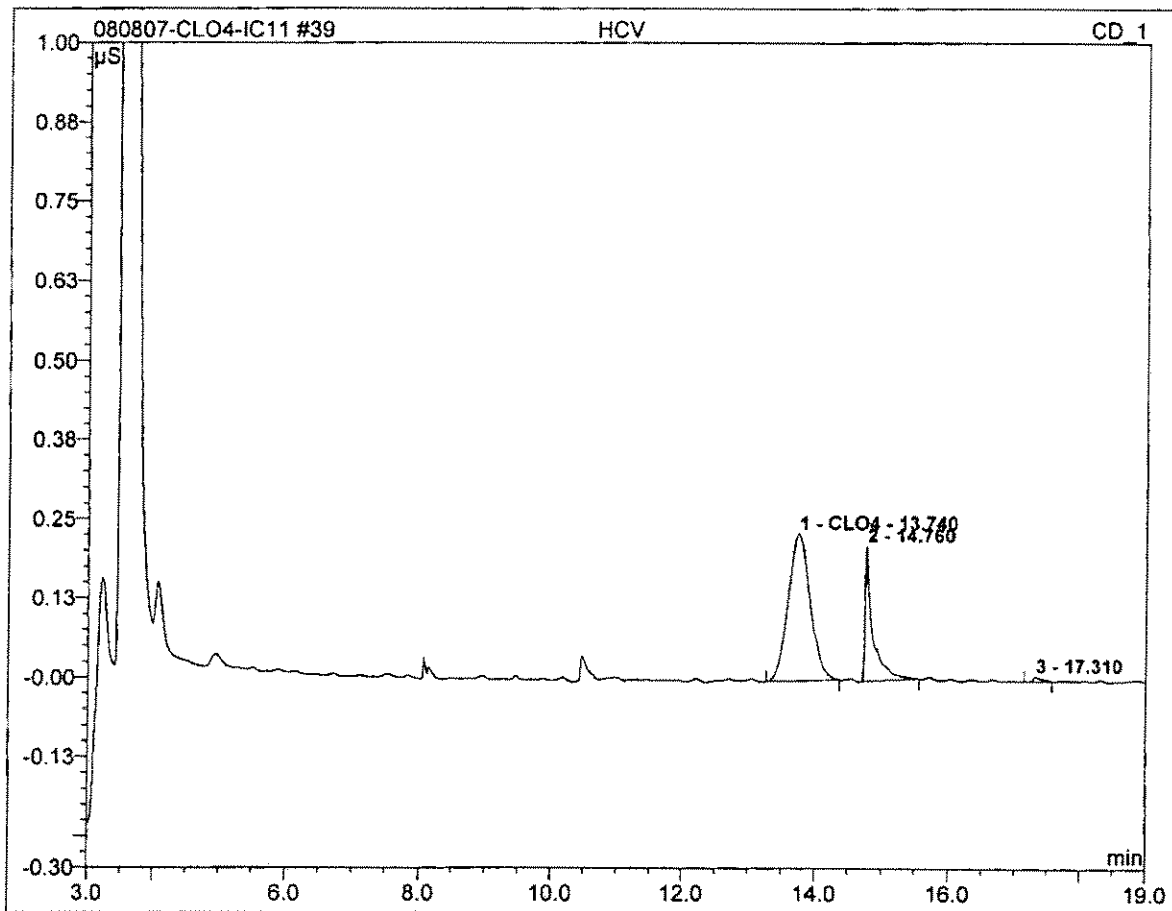
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.73	CLO4	0.117	0.044	65.99	248419.531	BM
Total:			0.117	0.044	65.99	248419.531	

28 CCV			
25			
Sample Name:	CCV	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 18:16	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	clv	Dilution Factor:	1.0000



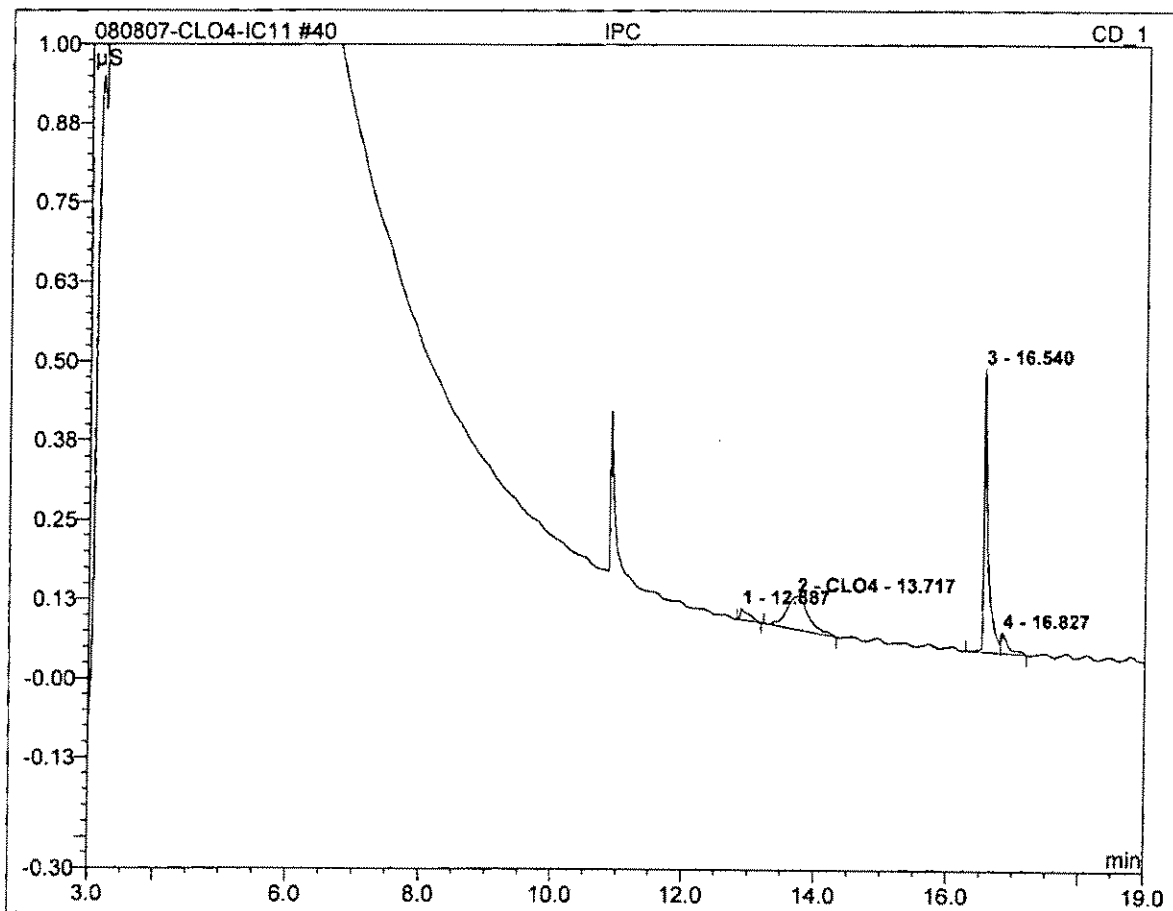
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.74	CLO4	0.056	0.021	100.00	24.400	BMB
Total:			0.056	0.021	100.00	24.400	

39 HCV			
100			
Sample Name:	HCV	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 22:22	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	0.231	0.088	75.10	98.909	BMB
Total:			0.231	0.088	75.10	98.909	

40 IPC			
25			
Sample Name:	IPC	Channel:	CD_1
Sample Type:	unknown	Control Program:	Perchlorate-IC11
Recording Time:	08/08/2007 22:44	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
2	13.72	CLO4	0.053	0.021	35.08	23.696	BMB
Total:			0.053	0.021	35.08	23.696	

**Standard
Preparation
Worksheet
&
Certificate of
Analysis**

Reagent Preparation Documentation

Reagent: DBP LCS Stock Solution
Date Received/Prepped: 082706/100106/110106/111606/122006/010807/020607
Date Expired: 092706/110106/120106/121606/012007/020807/050607
Manufacturer: _____
Storage Condition: _____

MW #: Raja060827-1
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
Chlorite 1000ppm Exp: -03-24-07	1000 mL ? Add 50 mL of EDA (LMR060129-12) the	R 201401	10ppm
Chlorate 1000ppm Exp: -05-31-09	1000 mL dilute to 100 ml with with D.I. water	R 201400	10ppm
Bromide Exp: -10-27-07	500 mL	R 201369	5ppm

Comment: _____

Reagent: DBP LCS Solution
Date Received/Prepped: 082706/100106/110106/111606/122006/010807/020607
Date Expired: 092706/110106/120106/121606/012007/020807/030607
Manufacturer: _____
Storage Condition: _____

MW #: Raja060827-2
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
DBP LCS stock soln	2ml ? Dilute with D.I. water to 100ml	Raja060827-1	ClO ₂ :-200ppb
EDA Solution	50 mL	LMR060129-12	ClO ₂ :-200ppb Br:-100ppb

Comment: Prep: _____
 Expired: _____

Reagent: Perchlorate Calibration Stock Solution
Date Received/Prepped: 091306/101106/115006/012107/022807
Date Expired: 121306/101107/023007/042107/050607/052807
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-1
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
Perchlorate 1000ppm Exp: -072809	100 mL → Dilute with D.I. water to 100ml	R 201449	1000ppb

Comment: MS/MSD
090407/042707/051607/061207/
060407/072707/081607/091207/

Reagent Preparation Documentation

Reagent: ClO₄ Calibration Standard #1
 Date Received/Prepped: 091306/101106/113006/102107/102207/102201
 Date Expired: 121306/101107/102307/104210/105007/105207
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060913-2
 By: Raja
 Matrix: sg
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	200 mL → Dilute to 100ml with D.I. water	Raja060913-1	2.0 ppb

Comment: 030407/042707/081607/061207/060407/072707/081607/091207/

Reagent: ClO₄ Calibration Standard #2
 Date Received/Prepped: 091306/101106/113006/102107/102207/102201
 Date Expired: 121306/101107/102307/104210/105007/105207
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060913-3
 By: Raja
 Matrix: sg
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	400 mL → Dilute to 100ml with D.I. water	Raja060913-1	4.0 ppb

Comment: 030407/042707/081607/061207/060407/072707/081607/091207/

Reagent: ClO₄ Calibration Standard #3
 Date Received/Prepped: 091306/101106/113006/102107/102207/102201
 Date Expired: 121306/101107/102307/104210/105007/105207
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060913-4
 By: Raja
 Matrix: sg
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	1ml → Dilute to 100ml with D.I. water	Raja060913-1	10.0 ppb

Comment: 030407/042707/081607/061207/060407/072707/081607/091207/

Reagent Preparation Documentation

Reagent: ClO₄ Calibration Standard #4
Date Received/Prepped: 091306/101106 / 113006/101210 / 102207/103040 / 103040/103040
Date Expired: 121306/101107 / 102300/104210 / 105280/106040
Manufacturer: 023007
Storage Condition: _____

MW #: Raja060913-5
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	2.5 ml → Dilute to 100ml with D.I. water	Raja060913-1	25.0 ppb

Comment: 042707/051607/061207 / 072707/081607/091207

Reagent: ClO₄ Calibration Standard #5
Date Received/Prepped: 091306/101106 / 113006/101210 / 102207/103040
Date Expired: 121306/101107 / 102300/104210 / 105280/106040
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-6
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	5.0 ml → Dilute to 100ml with D.I. water	Raja060913-1	50.0 ppb

Comment: 042707/051607 / 072707/081607

Reagent: ClO₄ Calibration Standard #6
Date Received/Prepped: 091306/101106 / 113006/101210 / 102207/103040
Date Expired: 121306/101107 / 102300/104210 / 105280/106040
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-7
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	10.0 ml → Dilute to 100ml with D.I. water	Raja060913-1	100 ppb

Comment: 042707/051607/061207 / 072707/081607/091207

CERTIFIED WEIGHT REPORT

Part Number: 57001
 Lot Number: 072806
 Description: Perchlorate
 Expiration Date: 072809

Lot #
 Solvent(s): 072806
 ASTM Type 1 Water

R201449

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

Formulated By:	Lawrence Barry	072806
Reviewed By:	Pedro L. Rentas	072806

Compound	Lot #	Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Assay Purity (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pd.)	NIST	
1. Sodium Perchlorate (ClO4)	IN119	AR067301C	1000.0	99.0	0.10	81.2	1.2319	1.23216	1000.2	0.00203	OSHA PEL (TWA) LD50	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 (DAD), Sig=360,20 REF=266,10). Analyst: Pedro Rentas.

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

