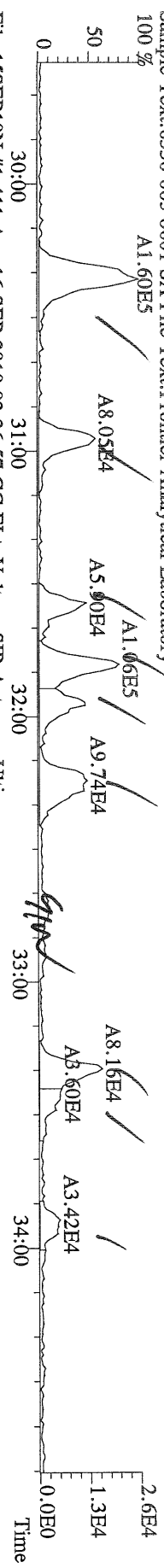
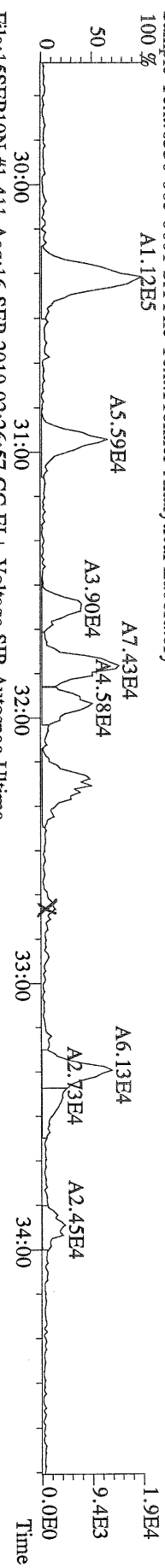


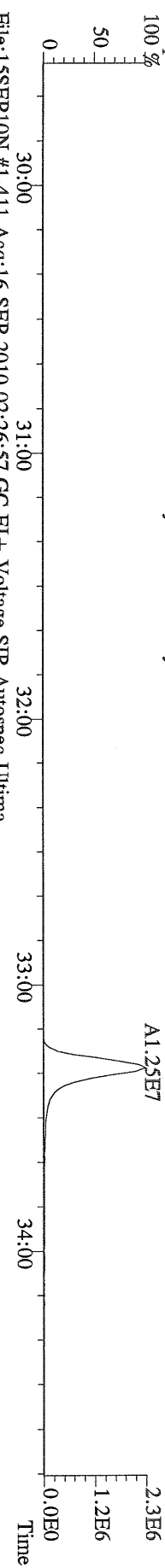
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 355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text: 6330-005-0001-SA File Text: Frontier Analytical Laboratory



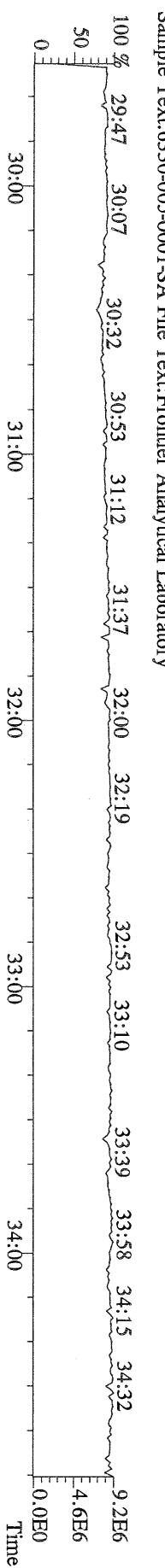
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 357.8517 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text: 6330-005-0001-SA File Text: Frontier Analytical Laboratory



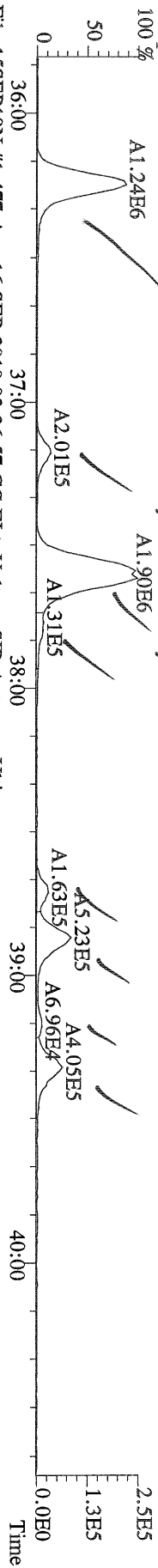
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 369.8919 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text: 6330-005-0001-SA File Text: Frontier Analytical Laboratory



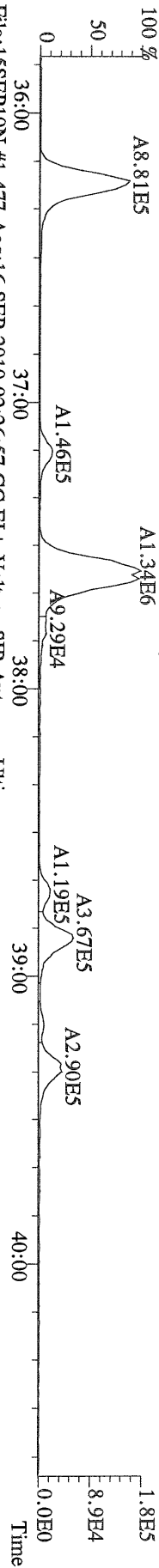
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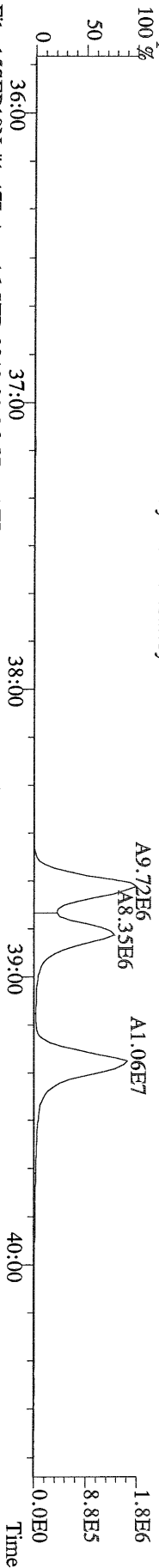
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 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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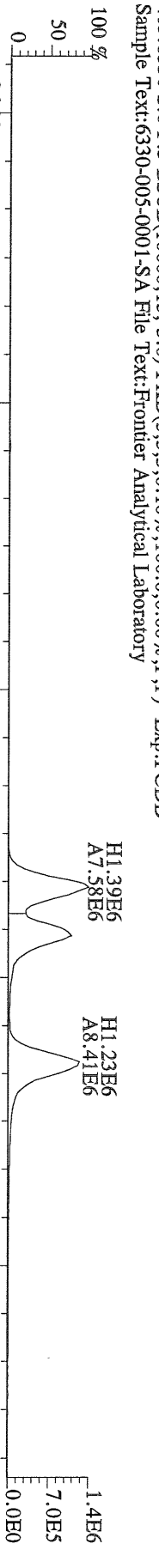
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



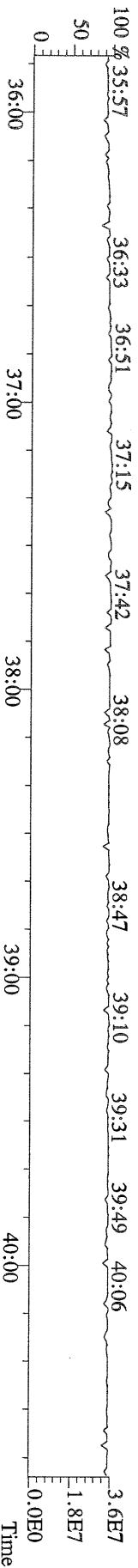
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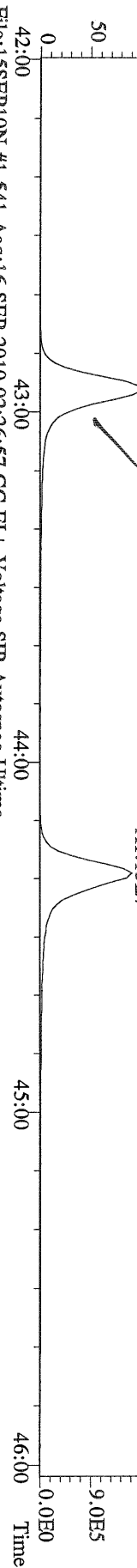
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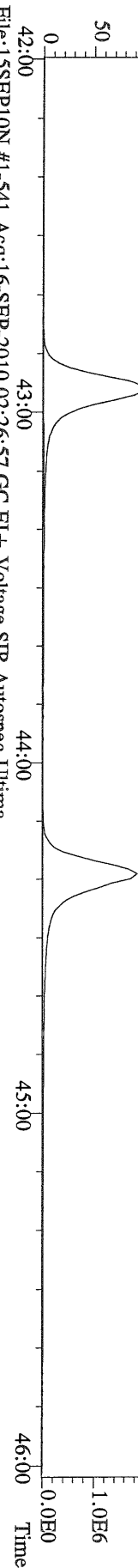
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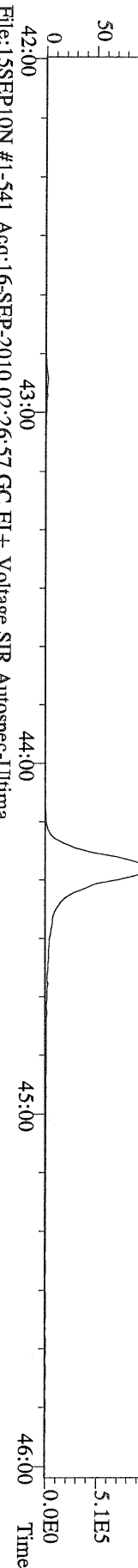
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423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



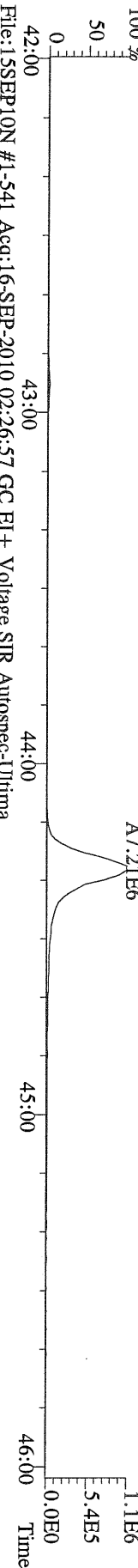
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Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



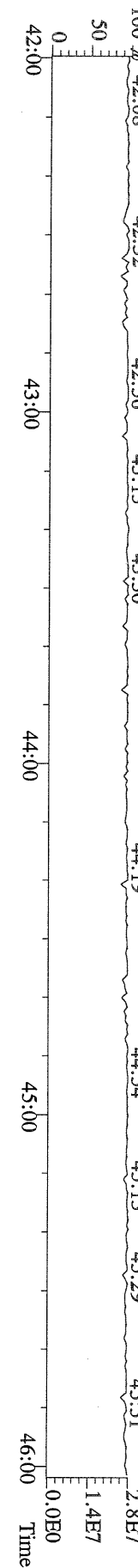
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435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



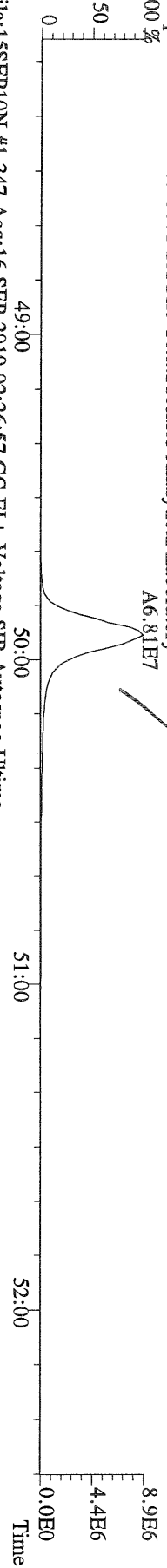
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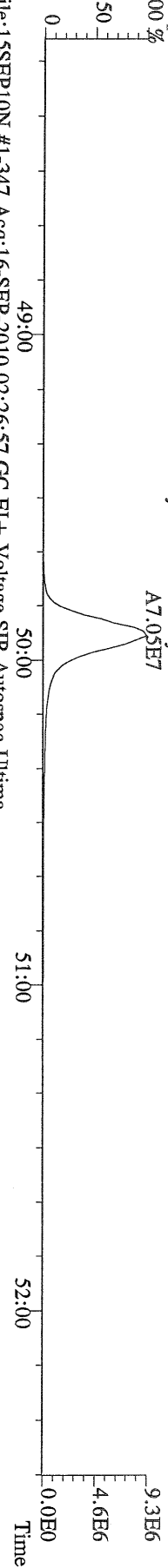
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Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



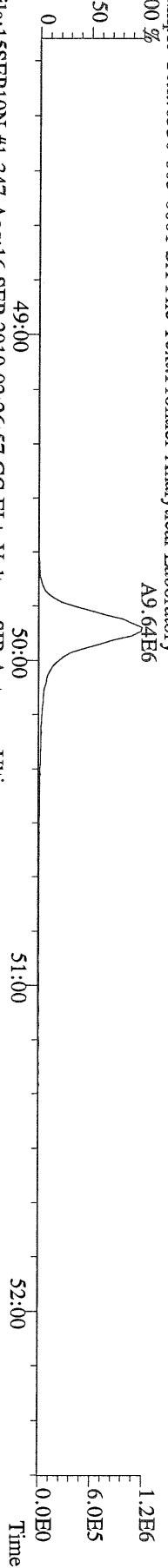
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 457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



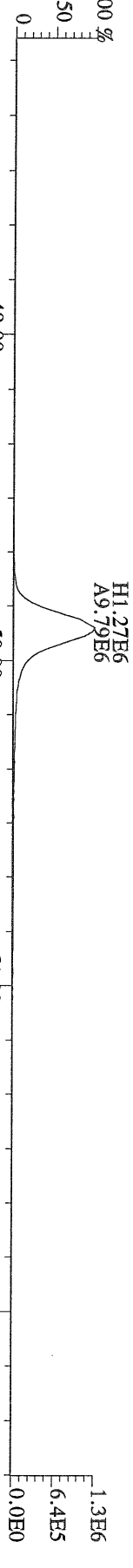
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



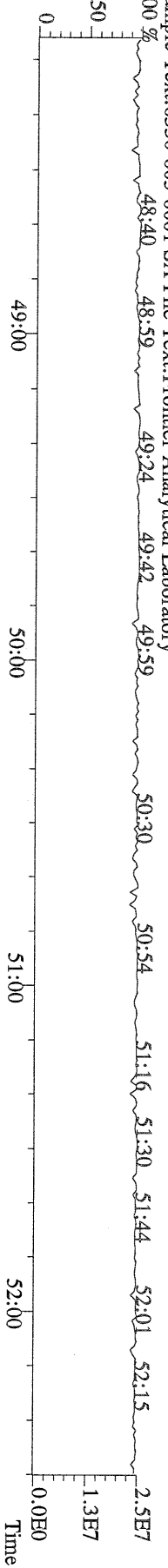
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



File:15SEP10N #1-347 Acq:16-SEP-2010 02:26:57 GC EI+ Voltage SIR Autospec-Utima  
 471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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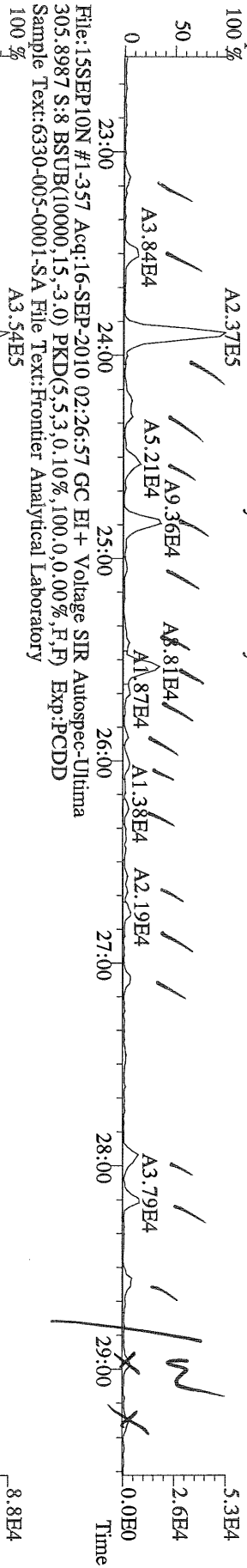


File:15SEP10N #1-347 Acq:16-SEP-2010 02:26:57 GC EI+ Voltage SIR Autospec-Utima  
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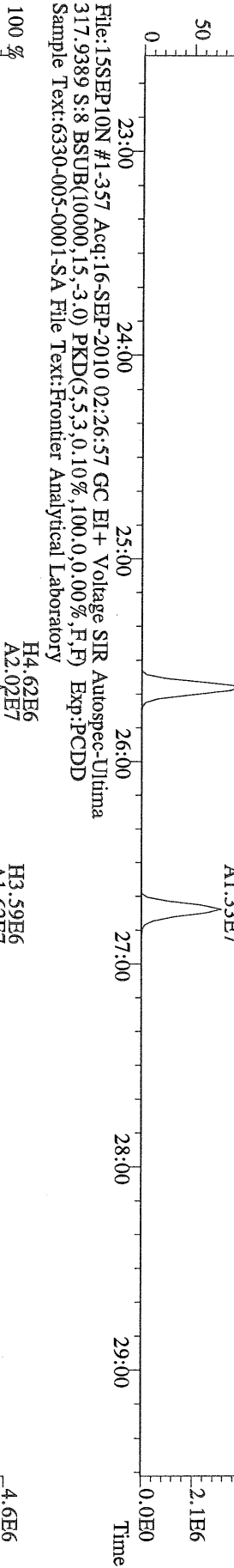




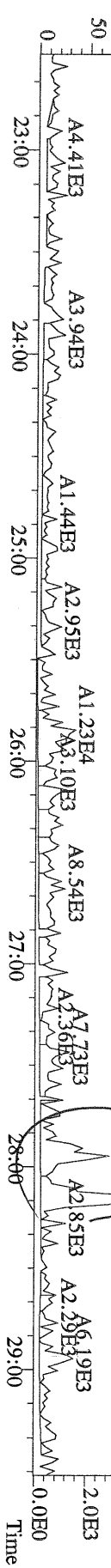
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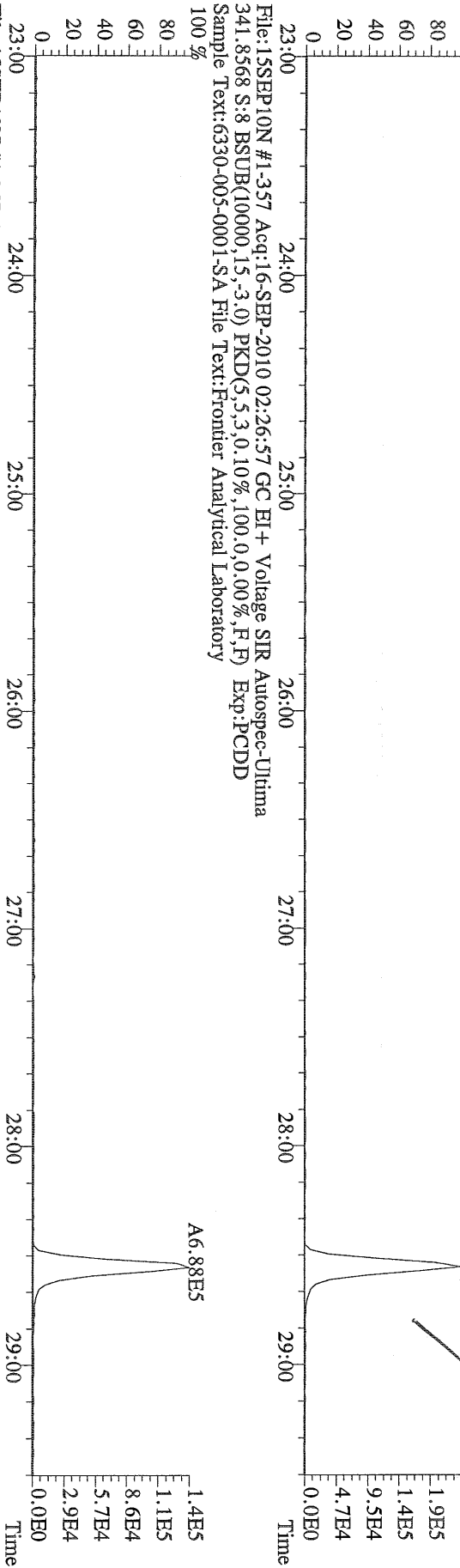
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



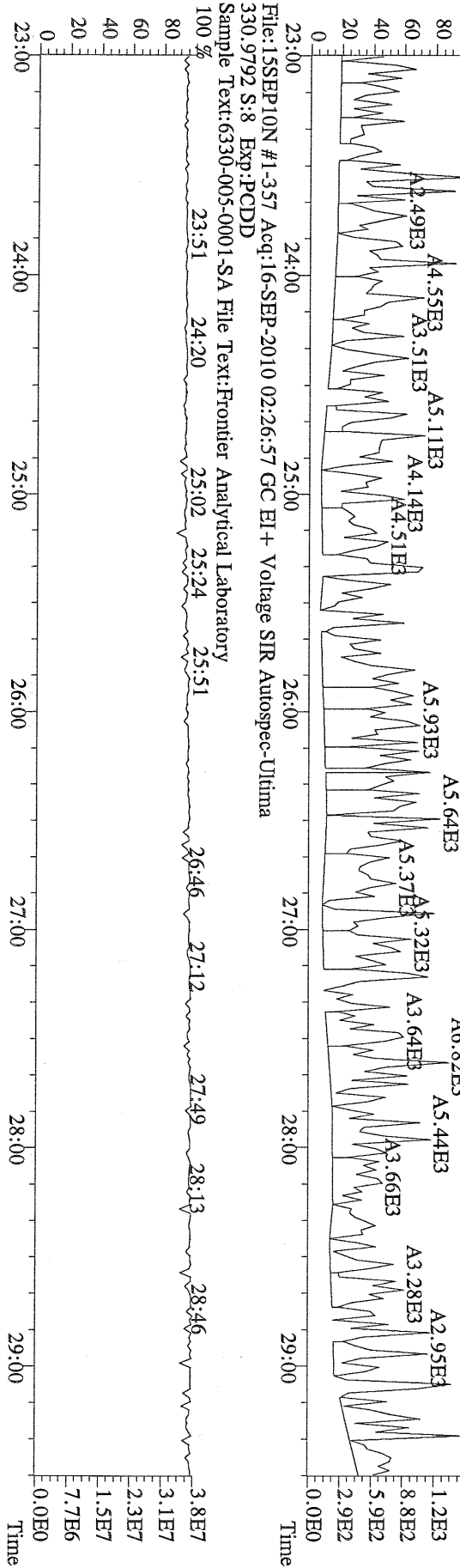
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



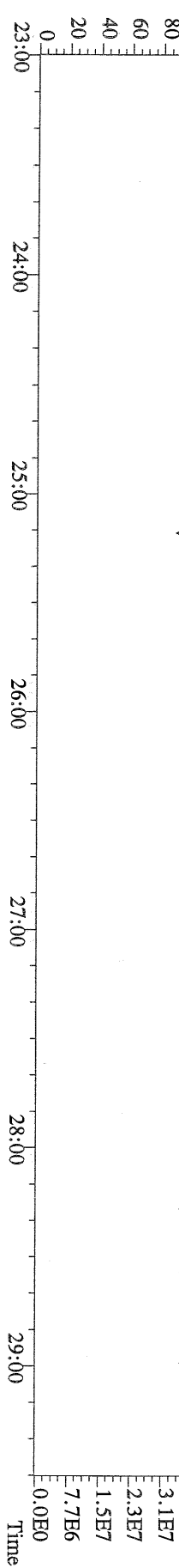
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 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



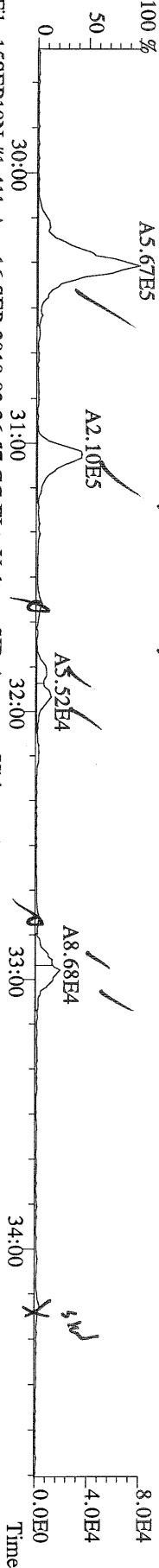
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 409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



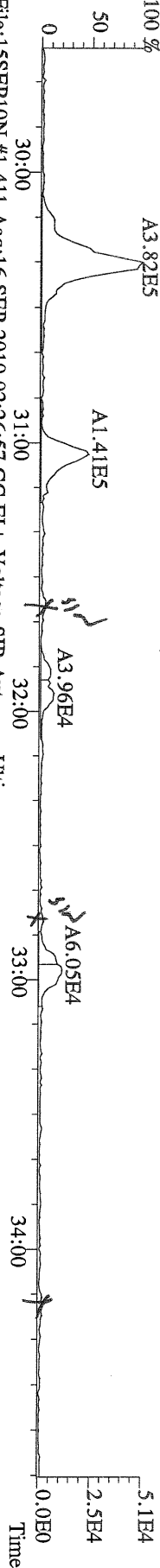
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 330.9792 S:8 Exp:PCDD  
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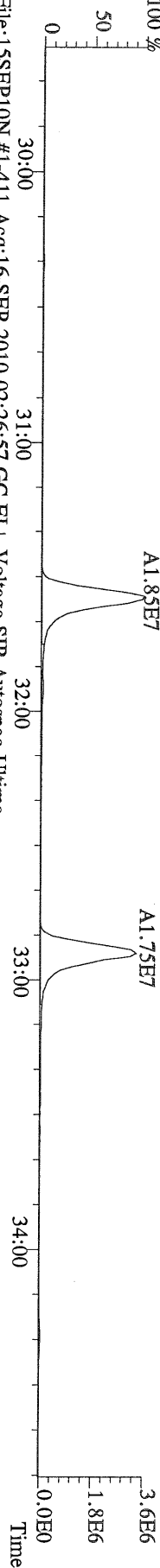
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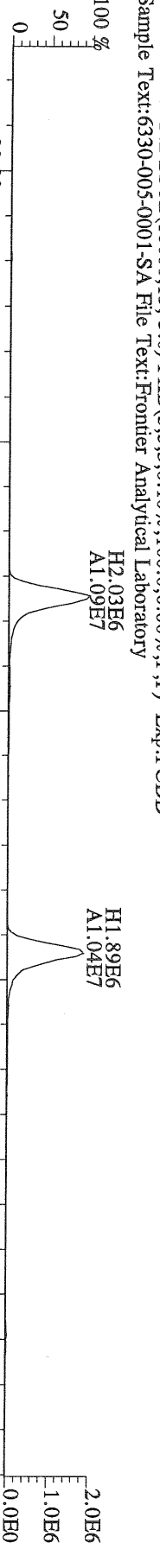
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



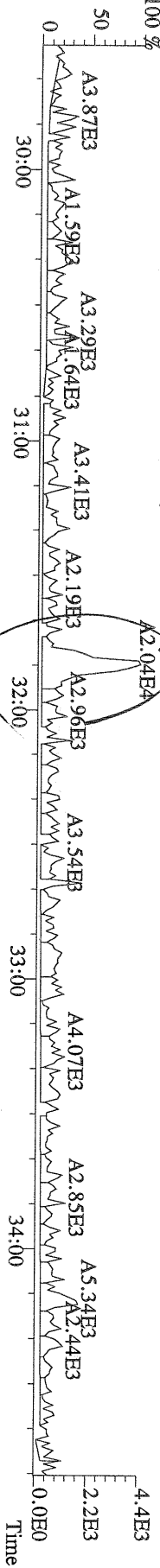
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 351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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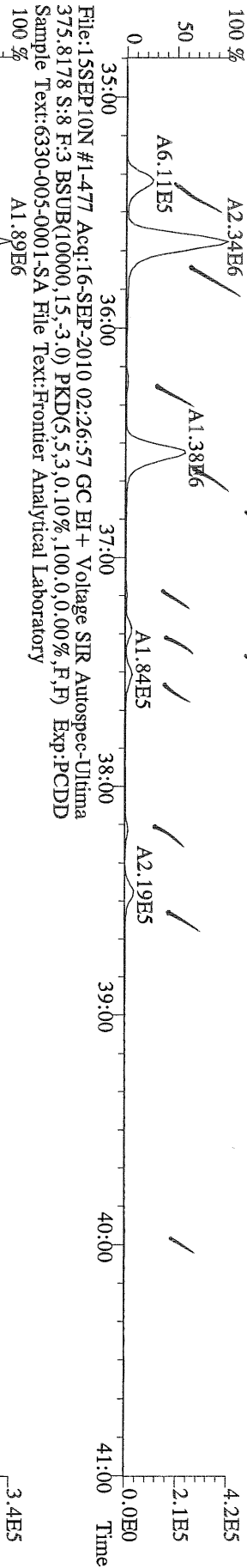
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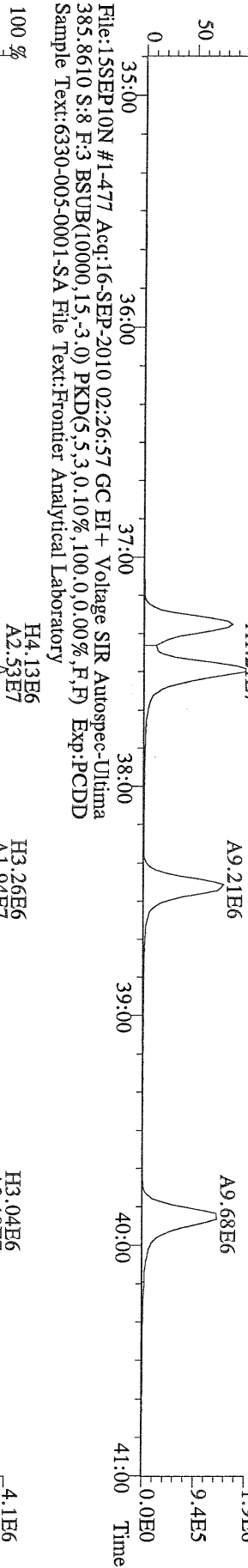
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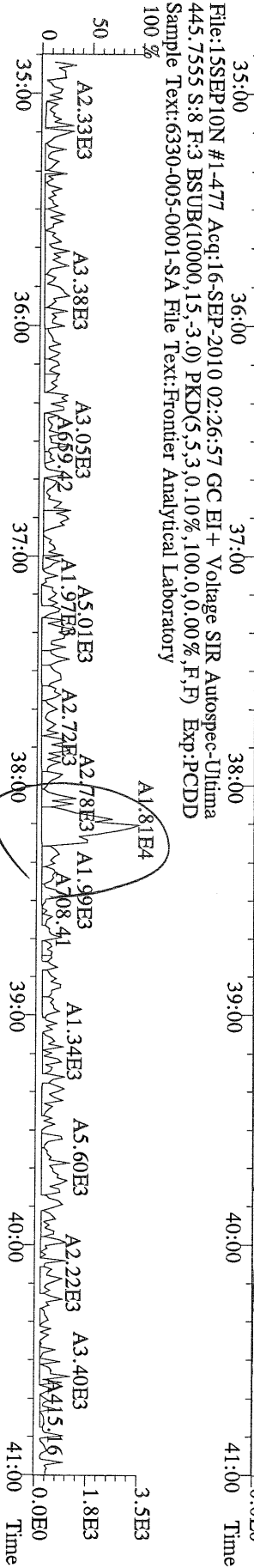
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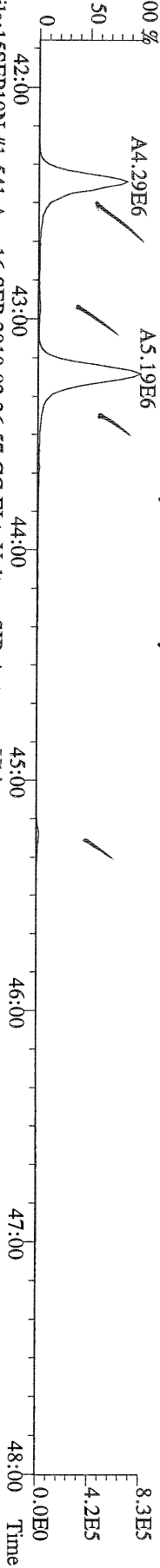
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 383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



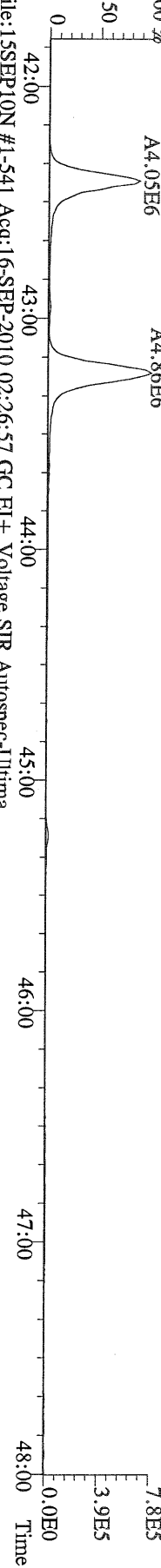
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 445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
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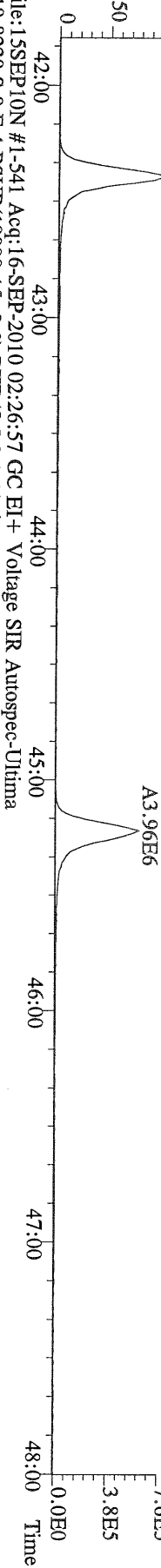
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 407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
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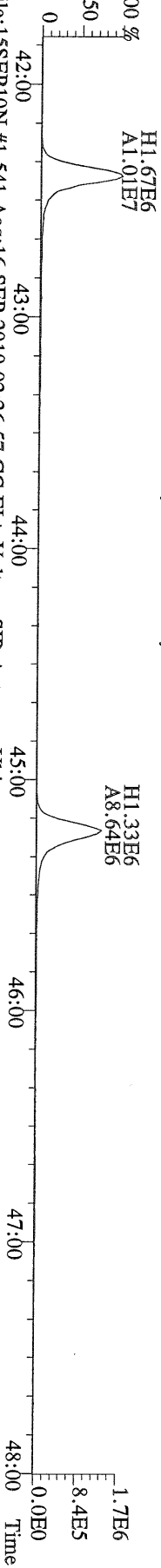
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 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



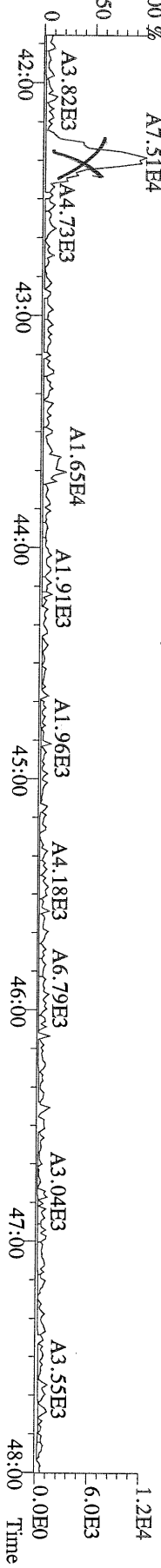
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 417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
 Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



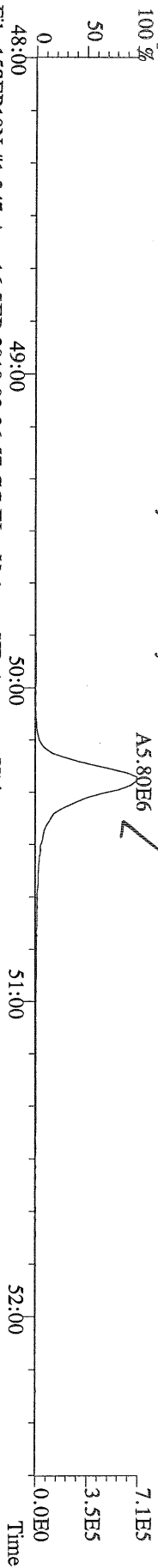
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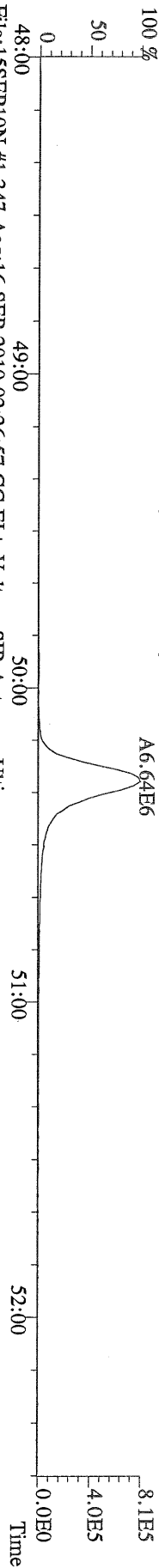
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 479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
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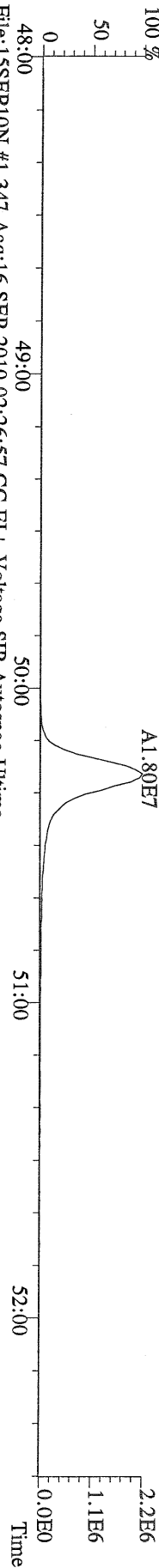
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441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



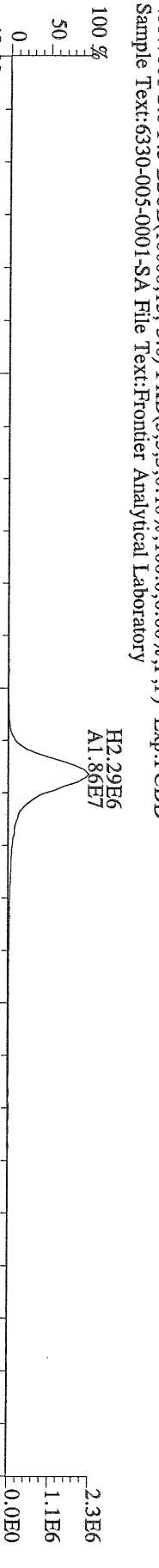
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443.7398 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



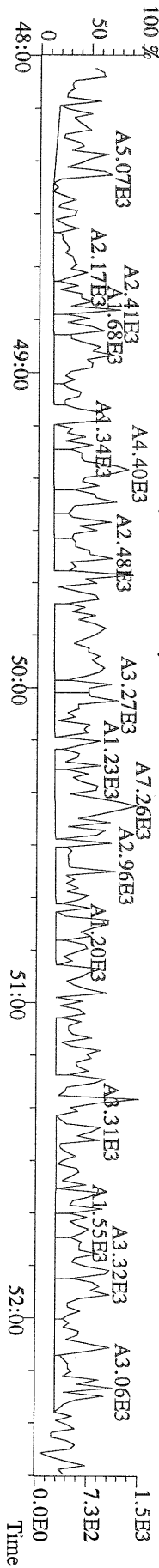
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453.7831 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-347 Acq:16-SEP-2010 02:26:57 GC EI+ Voltage SIR Autospec-Utima  
455.7801 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-347 Acq:16-SEP-2010 02:26:57 GC EI+ Voltage SIR Autospec-Utima  
513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-005-0001-SA File Text:Frontier Analytical Laboratory



NATO 1989 Tox: 2.31  
 WHO 1998 Tox: 2.01      WHO 2005 Tox: 2.07  
 Conc      Qual      Fac Noise-1      Noise-2      DL

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	Rec	#Hom
2,3,7,8-TCDD	*	* n	NotFnd	1.11	*		2.50	562	566	0.205	
1,2,3,7,8-PeCDD	2.44e+04	1.37 y	33:20	1.10	0.395	J	2.50	-	-	*	
1,2,3,4,7,8-HxCDD	3.81e+04	1.21 y	38:43	1.37	0.579	J	2.50	-	-	*	
1,2,3,6,7,8-HxCDD	1.28e+05	1.34 y	38:52	1.37	2.08	J	2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.02e+05	1.30 y	39:19	1.36	1.63	J	2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	3.28e+06	0.92 y	44:19	1.45	59.5		2.50	-	-	*	
OCDD	1.67e+07	0.99 y	49:56	1.43	506		2.50	-	-	*	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	613	990	0.131	
1,2,3,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	508	509	0.171	
2,3,4,7,8-PeCDF	1.86e+04	1.50 y	32:56	0.94	0.253	J	2.50	-	-	*	
1,2,3,4,7,8-HxCDF	5.76e+04	1.25 y	37:18	0.93	0.759	J	2.50	-	-	*	
1,2,3,6,7,8-HxCDF	5.18e+04	1.41 y	37:31	0.82	0.591	J	2.50	-	-	*	
2,3,4,6,7,8-HxCDF	5.29e+04	1.39 y	38:28	0.92	0.702	J	2.50	-	-	*	
1,2,3,7,8,9-HxCDF	*	* n	NotFnd	1.00	*		2.50	818	745	0.298	
1,2,3,4,6,7,8-HpCDF	1.06e+06	1.08 y	42:25	1.39	19.1		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	4.04e+04	1.05 y	45:16	1.36	0.885	J	2.50	-	-	*	
OCDF	1.77e+06	0.82 y	50:17	0.79	48.3		2.50	-	-	*	
13C-2,3,7,8-TCDD	2.23e+07	0.83 y	27:29	1.02	329					81.9	
13C-1,2,3,7,8-PeCDD	2.25e+07	1.75 y	33:18	0.84	405					101	
13C-1,2,3,4,7,8-HxCDD	1.92e+07	1.29 y	38:41	1.07	341					84.8	
13C-1,2,3,6,7,8-HxCDD	1.79e+07	1.28 y	38:51	1.01	336					83.8	
13C-1,2,3,4,6,7,8-HpCDD	1.53e+07	0.94 y	44:18	0.86	339					84.4	
13C-OCDD	1.85e+07	0.98 y	49:54	0.55	645					80.2	
13C-2,3,7,8-TCDF	3.55e+07	0.85 y	26:44	0.99	330					82.2	
13C-1,2,3,7,8-PeCDF	3.30e+07	1.76 y	31:34	0.84	364					90.7	
13C-2,3,4,7,8-PeCDF	3.16e+07	1.78 y	32:54	0.81	359					89.5	
13C-1,2,3,4,7,8-HxCDF	3.29e+07	0.46 y	37:18	1.85	337					84.0	
13C-1,2,3,6,7,8-HxCDF	4.29e+07	0.46 y	37:29	2.54	322					80.1	
13C-2,3,4,6,7,8-HxCDF	3.30e+07	0.46 y	38:26	2.01	311					77.5	
13C-1,2,3,7,8,9-HxCDF	3.54e+07	0.47 y	39:53	2.03	331					82.4	
13C-1,2,3,4,6,7,8-HpCDF	1.60e+07	0.46 y	42:23	1.11	274					68.2	
13C-1,2,3,4,7,8,9-HpCDF	1.35e+07	0.46 y	45:13	0.80	320					79.7	
13C-OCDF	3.74e+07	0.93 y	50:16	1.08	656					81.7	
37Cl-2,3,7,8-TCDD	5.98e+06		27:30	0.69	132					82.1	
13C-1,2,3,4-TCDD	2.66e+07	0.85 y	26:54	-	11.9						
13C-1,2,3,4-TCDF	4.35e+07	0.86 y	25:38	-	12.1						
13C-1,2,3,7,8,9-HxCDD	2.11e+07	1.30 y	39:18	-	15.4						
Total Tetra-Dioxins	6.35e+04		25:43	1.11	1.03		2.50	-	-	*	1
Total Penta-Dioxins	2.33e+05		30:22	1.10	3.77	J	2.50	-	-	*	7
Total Hexa-Dioxins	1.22e+06		36:15	1.37	19.2		2.50	-	-	*	8
Total Hepta-Dioxins	6.72e+06		42:56	1.45	122		2.50	-	-	*	2
Total Tetra-Furans	2.55e+05		23:31	1.50	1.92		2.50	-	-	*	5
1st Fn. Tot Penta-Furans	2.64e+05		28:33	0.94	3.49		2.50	-	-	*	PeCDF 1
Total Penta-Furans	2.66e+05		30:13	0.94	3.52		2.50	-	-	*	7.01/ 5
Total Hexa-Furans	1.19e+06		35:21	0.91	14.6		2.50	-	-	*	6
Total Hepta-Furans	2.56e+06		42:25	1.38	49.0		2.50	-	-	*	3

Analyst: 

Date: 9/16/10

Totals class: Total Tetra-Dioxins

Entry #: 38

Run: 16

File: 15SEP10N

S: 9 I: 1 F: 1

Acquired: 16-SEP-10 03:22:16

Total Concentration: 1.03

Unnamed Concentration: 1.031

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
25:43	2.96e+04	3.40e+04	0.87 y	6.35e+04	1.03	



Totals class: Total Penta-Dioxins

Entry #: 39

Run: 16

File: 15SEP10N

S: 9 I: 1 F: 2

Acquired: 16-SEP-10 03:22:16

Total Concentration: 3.77

Unnamed Concentration: 3.372

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
30:22	3.07e+04	2.06e+04	1.49 y	5.13e+04	0.829	
30:57	2.49e+04	1.63e+04	1.53 y	4.12e+04	0.666	
31:35	1.55e+04	9.66e+03	1.60 y	2.51e+04	0.406	
31:48	1.88e+04	1.42e+04	1.32 y	3.30e+04	0.534	
31:58	1.29e+04	8.65e+03	1.49 y	2.15e+04	0.348	
32:14	2.08e+04	1.56e+04	1.34 y	3.64e+04	0.588	
33:20	1.41e+04	1.03e+04	1.37 y	2.44e+04	0.395	1,2,3,7,8-PeCDD

Totals class: Total Hexa-Dioxins

Entry #: 40

Run: 16 File: 15SEP10N S: 9 I: 1 F: 3  
Acquired: 16-SEP-10 03:22:16

Total Concentration: 19.2

Unnamed Concentration: 14.956

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
36:15	1.81e+05	1.28e+05	1.42 y	3.09e+05	4.88	
37:11	4.03e+04	2.96e+04	1.36 y	6.99e+04	1.10	
37:35	2.89e+05	2.03e+05	1.42 y	4.92e+05	7.77	
37:46	2.27e+04	1.66e+04	1.37 y	3.93e+04	0.621	
38:43	2.08e+04	1.73e+04	1.21 y	3.81e+04	0.579	1,2,3,4,7,8-HxCDD
38:52	7.31e+04	5.45e+04	1.34 y	1.28e+05	2.08	1,2,3,6,7,8-HxCDD
39:10	2.06e+04	1.60e+04	1.29 y	3.66e+04	0.578	
39:19	5.79e+04	4.44e+04	1.30 y	1.02e+05	1.63	1,2,3,7,8,9-HxCDD

Totals class: Total Hepta-Dioxins

Entry #: 41

Run: 16 File: 15SEP10N S: 9 I: 1 F: 4  
Acquired: 16-SEP-10 03:22:16

Total Concentration: 122

Unnamed Concentration: 62.305

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
42:56	1.62e+06	1.81e+06	0.89 y	3.44e+06	62.3	
44:19	1.57e+06	1.71e+06	0.92 y	3.28e+06	59.5	1,2,3,4,6,7,8-HpCDD

Totals class: Total Tetra-Furans

Entry #: 42

Run: 16 File: 15SEP10N S: 9 I: 1 F: 1  
Acquired: 16-SEP-10 03:22:16

Total Concentration: 1.92

Unnamed Concentration: 1.922

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
23:31	9.57e+03	1.24e+04	0.77 y	2.20e+04	0.165	
23:54	3.90e+04	5.76e+04	0.68 y	9.65e+04	0.727	
24:32	1.70e+04	1.93e+04	0.88 y	3.62e+04	0.272	
24:49	2.36e+04	3.08e+04	0.77 y	5.44e+04	0.410	
25:32	1.91e+04	2.71e+04	0.70 y	4.62e+04	0.348	

Totals class: 1st Fn. Tot Penta-Furans      Entry #: 43

Run: 16      File: 15SEP10N      S: 9 I: 1 F: 1  
Acquired: 16-SEP-10 03:22:16

Total Concentration: 3.49      Unnamed Concentration: 3.491

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
28:33	1.63e+05	1.01e+05	1.62 y	2.64e+05	3.49	

Totals class: Total Penta-Furans

Entry #: 44

Run: 16

File: 15SEP10N

S: 9 I: 1 F: 2

Acquired: 16-SEP-10 03:22:16

Total Concentration: 3.52

Unnamed Concentration: 3.270

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
30:13	1.44e+04	8.77e+03	1.65 y	2.32e+04	0.307	
30:20	8.07e+04	5.35e+04	1.51 y	1.34e+05	1.78	
31:02	3.57e+04	2.48e+04	1.44 y	6.06e+04	0.801	
32:56	1.12e+04	7.47e+03	1.50 y	1.86e+04	0.253	2,3,4,7,8-PeCDF
33:00	1.75e+04	1.16e+04	1.51 y	2.91e+04	0.385	

Totals class: Total Hexa-Furans

Entry #: 45

Run: 16

File: 15SEP10N

S: 9 I: 1 F: 3

Acquired: 16-SEP-10 03:22:16

Total Concentration: 14.6

Unnamed Concentration: 12.559

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
35:21	7.97e+04	6.25e+04	1.27 y	1.42e+05	1.74	
35:38	2.83e+05	2.31e+05	1.23 y	5.14e+05	6.30	
36:32	2.01e+05	1.68e+05	1.20 y	3.69e+05	4.52	
37:18	3.20e+04	2.56e+04	1.25 y	5.76e+04	0.759	1,2,3,4,7,8-HxCDF
37:31	3.03e+04	2.15e+04	1.41 y	5.18e+04	0.591	1,2,3,6,7,8-HxCDF
38:28	3.08e+04	2.21e+04	1.39 y	5.29e+04	0.702	2,3,4,6,7,8-HxCDF

Totals class: Total Hepta-Furans

Entry #: 46

Run: 16 File: 15SEP10N S: 9 I: 1 F: 4  
Acquired: 16-SEP-10 03:22:16

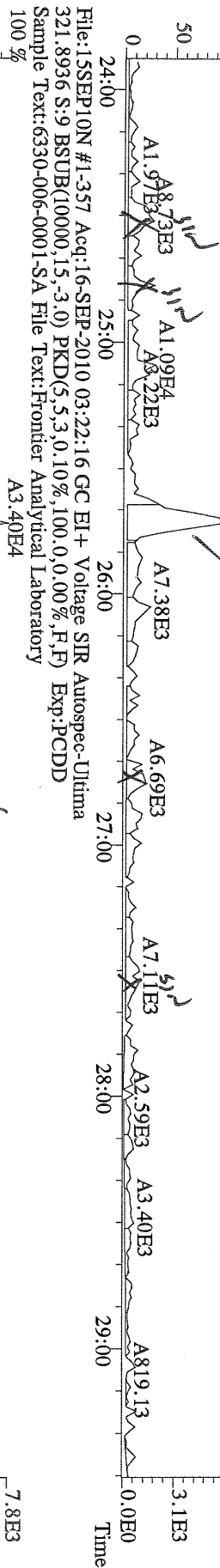
Total Concentration: 49.0

Unnamed Concentration: 28.975

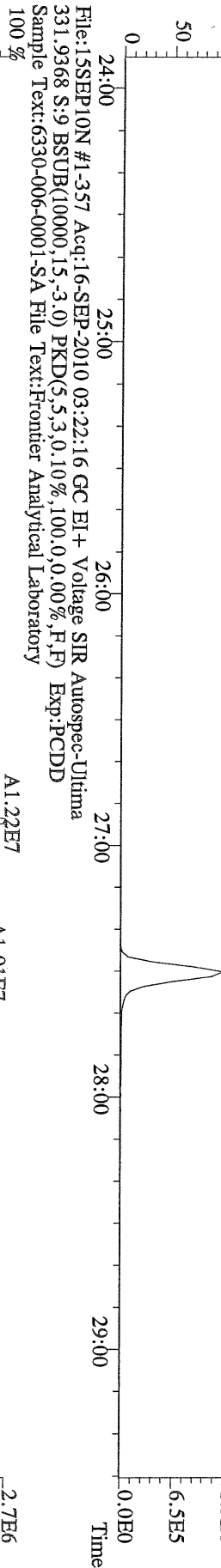
RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
42:25	5.48e+05	5.09e+05	1.08 y	1.06e+06	19.1	1,2,3,4,6,7,8-HpCDF
43:14	7.58e+05	7.07e+05	1.07 y	1.47e+06	29.0	
45:16	2.07e+04	1.97e+04	1.05 y	4.04e+04	0.885	1,2,3,4,7,8,9-HpCDF



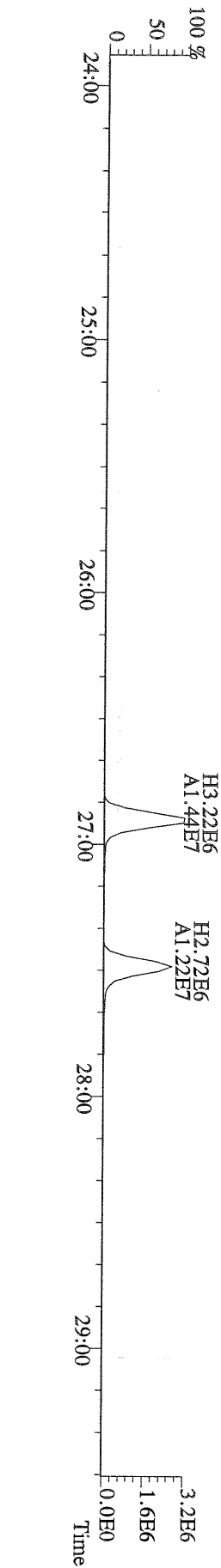
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 319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



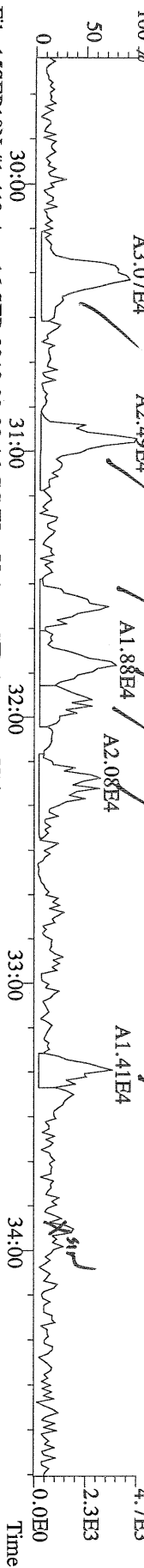
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 321.8936 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



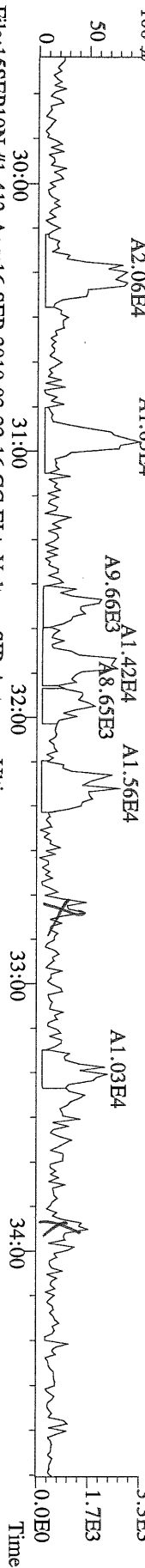
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 331.9368 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory  
 100 %



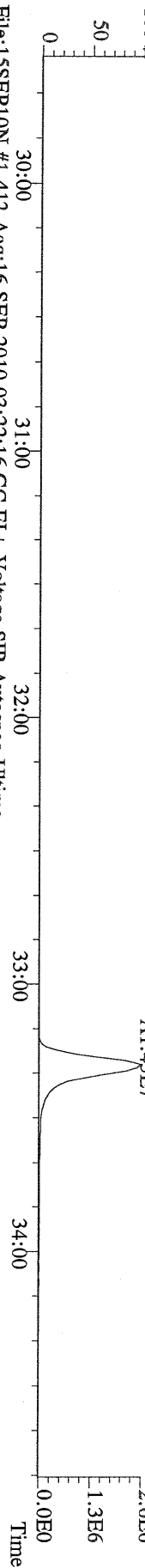
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 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



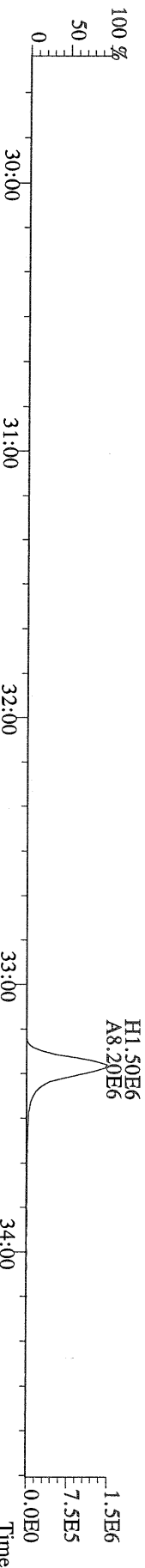
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 357.8517 S:9 F:2.BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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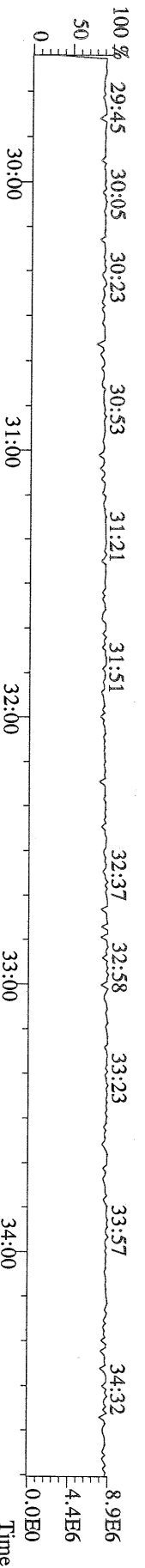
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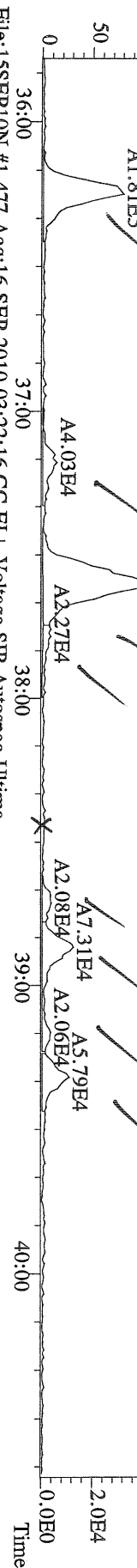
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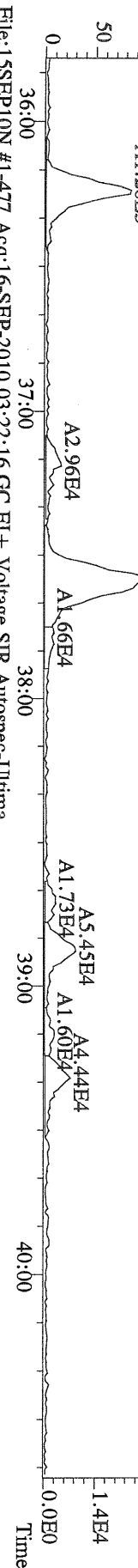
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 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



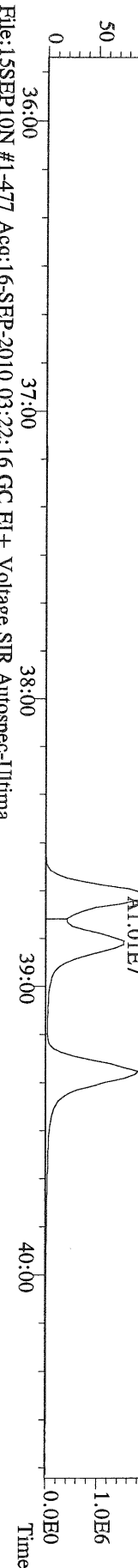
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 389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



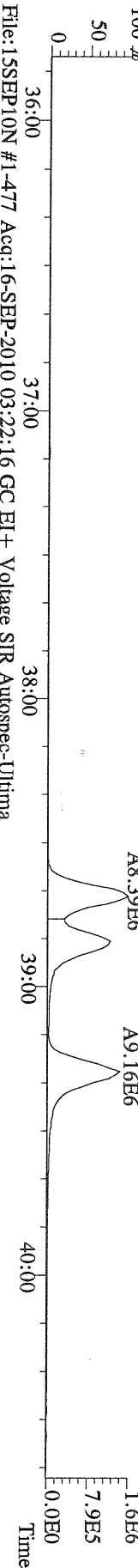
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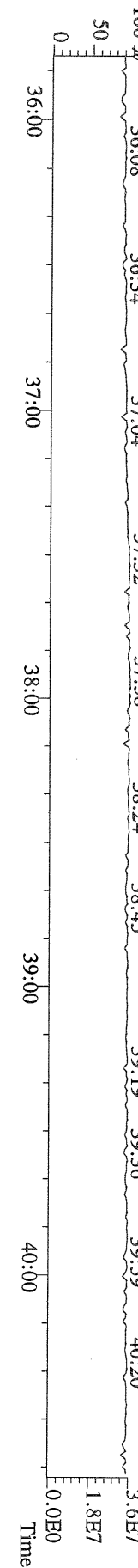
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 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



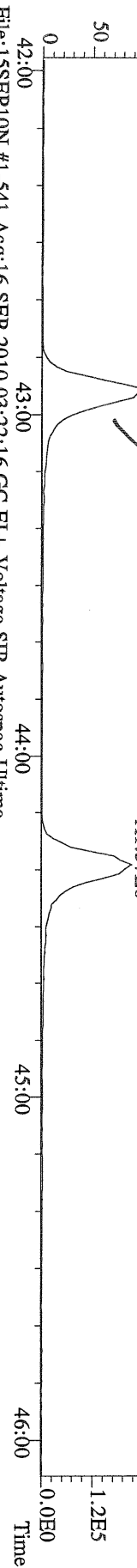
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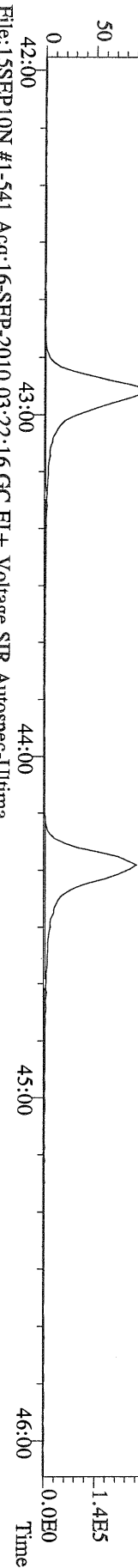
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 380.9760 S:9 F:3 Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



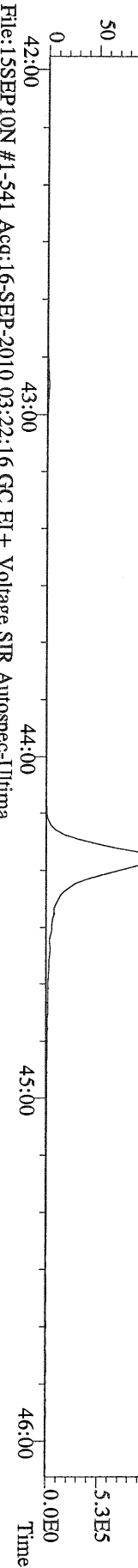
File:15SEP10N #1-541 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



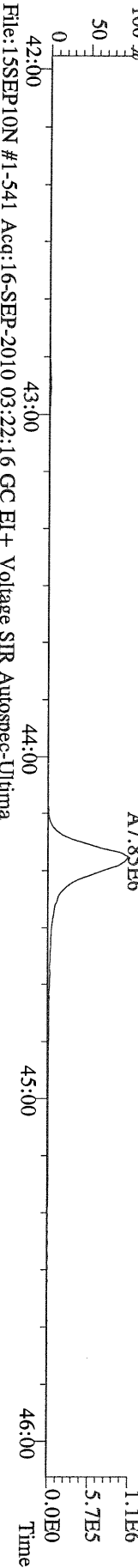
File:15SEP10N #1-541 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Ultima  
425.7737 S:9 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



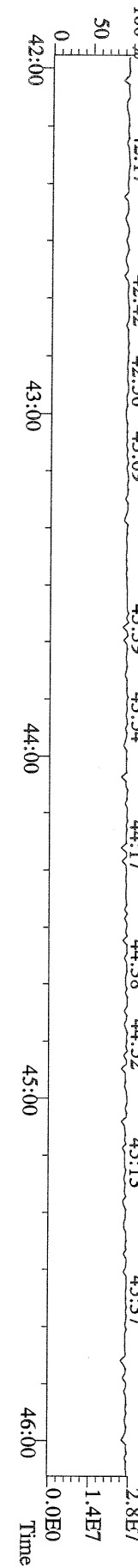
File:15SEP10N #1-541 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:9 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



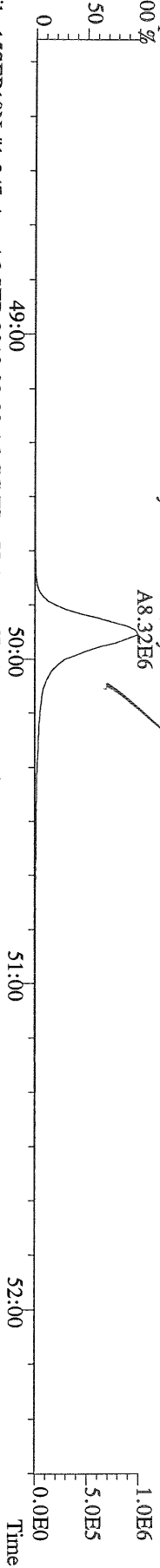
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437.8140 S:9 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



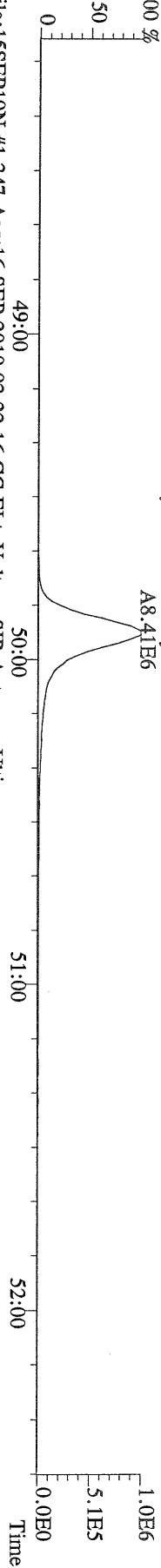
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430.9728 S:9 F:4 Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



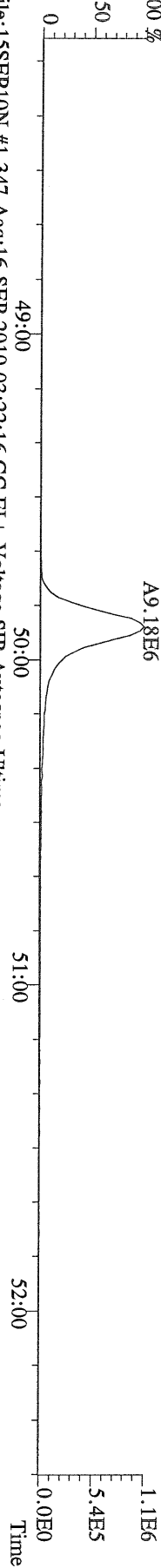
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457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



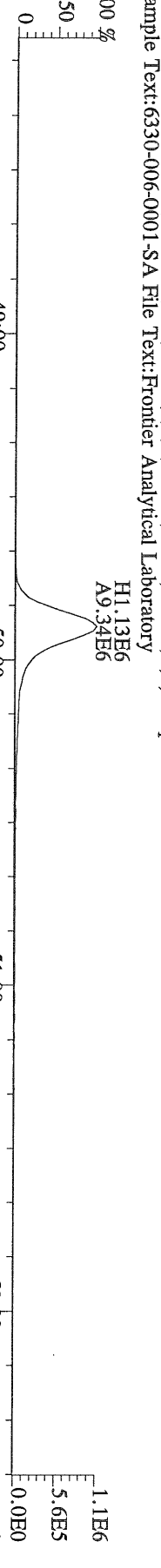
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459.7348 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



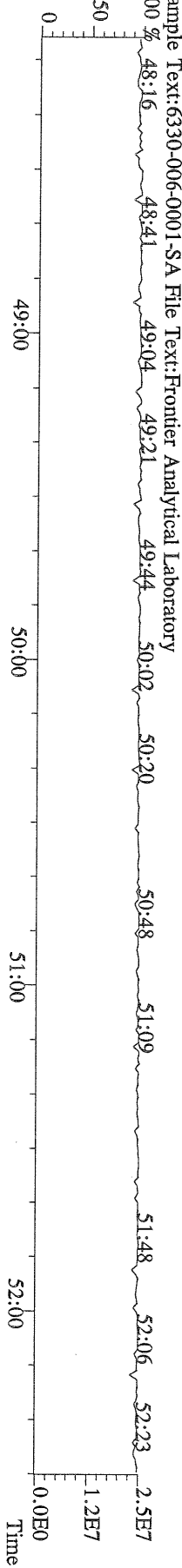
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469.7780 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



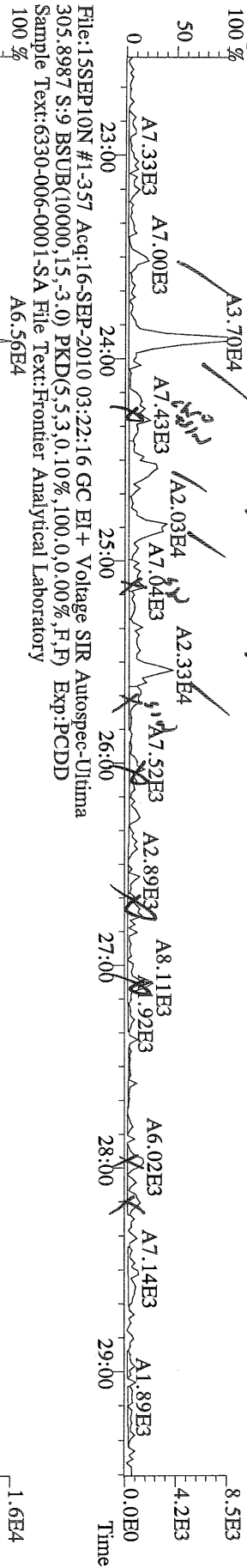
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471.7750 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



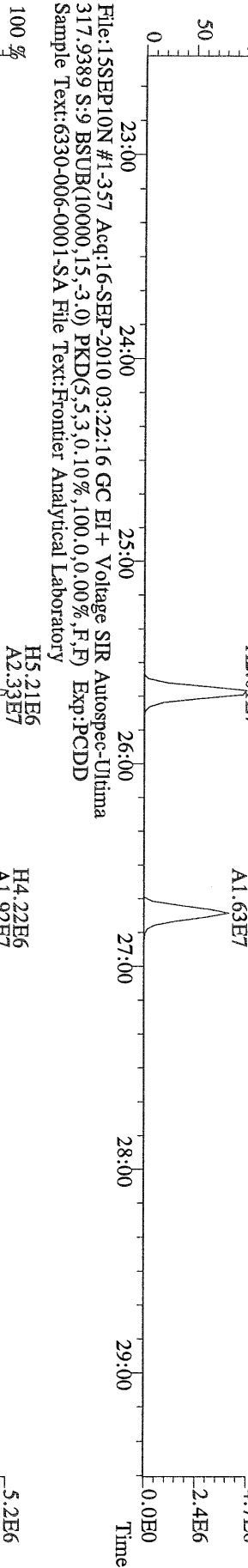
File:15SEP10N #1-347 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Ultima  
454.9728 S:9 F:5 Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



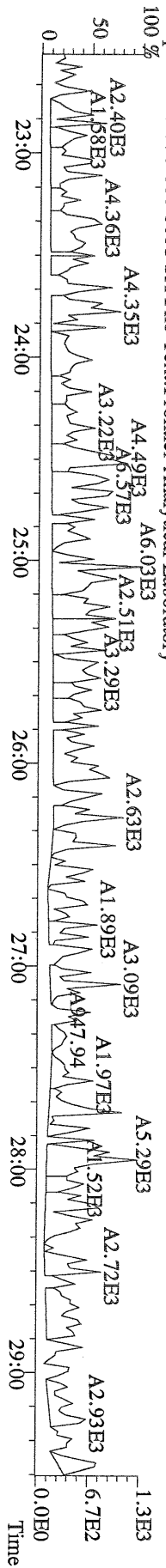
File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



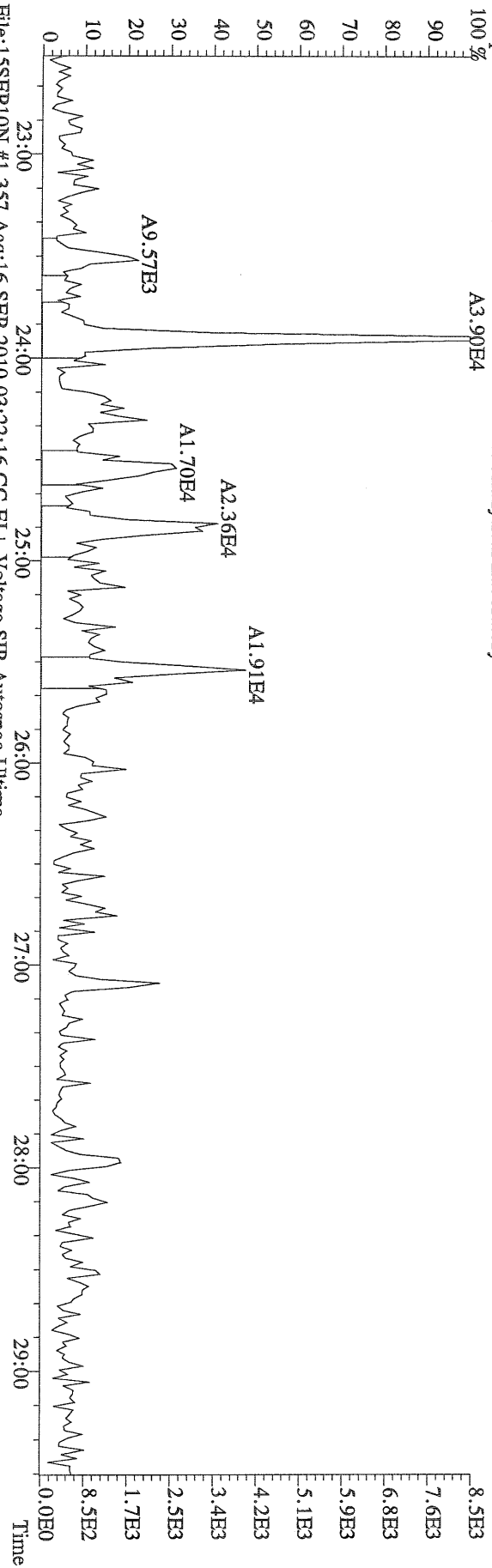
File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 315.9419 S:9 BSUB(10000,15,200.0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



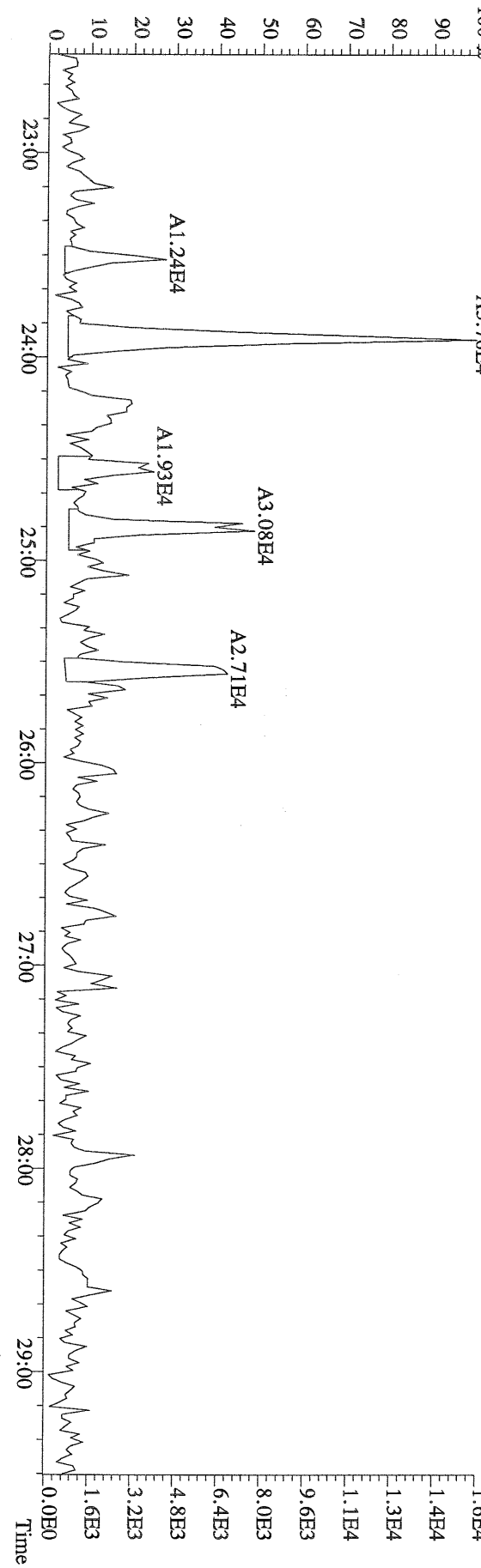
File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 375.8364 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



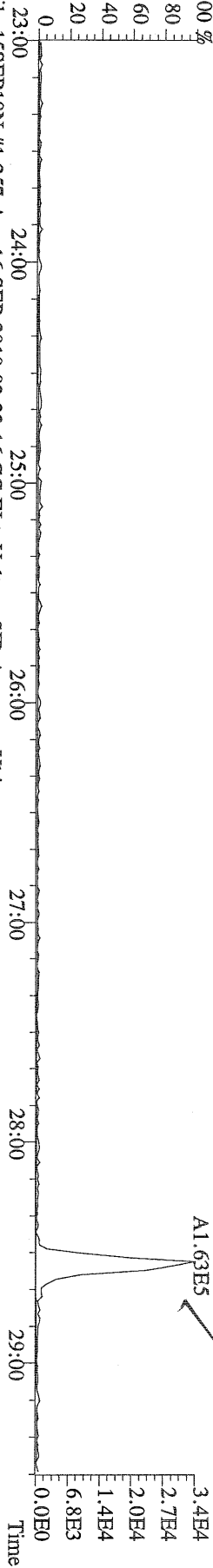
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303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Utima  
305.8987 S:9 BSUB(10000,15,-3.0) PKD(5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



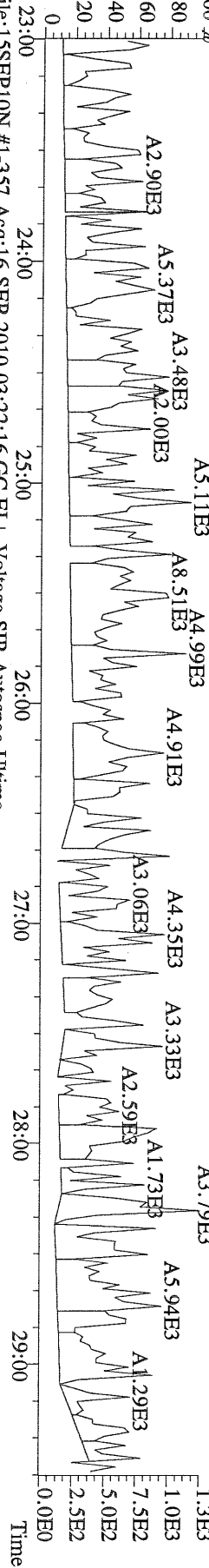
File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 339.8597 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



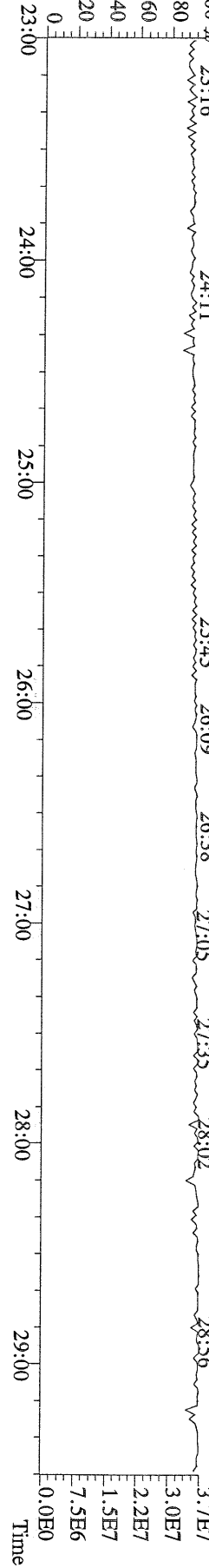
File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 341.8568 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-357 Acq:16-SEP-2010 03:22:16 GC EI+ Voltage SIR Autospec-Utima  
 409.7974 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory

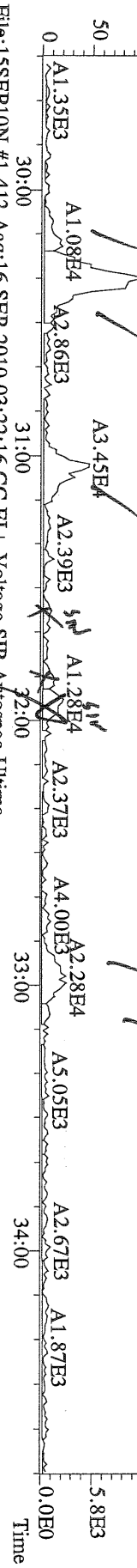


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 330.9792 S:9 Exp:PCDD  
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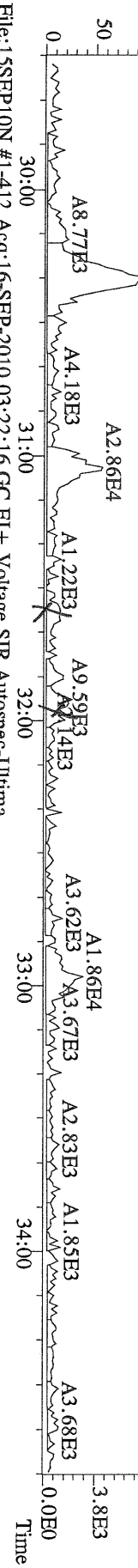




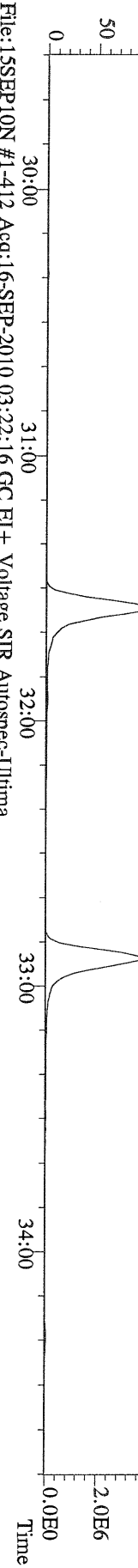
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339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



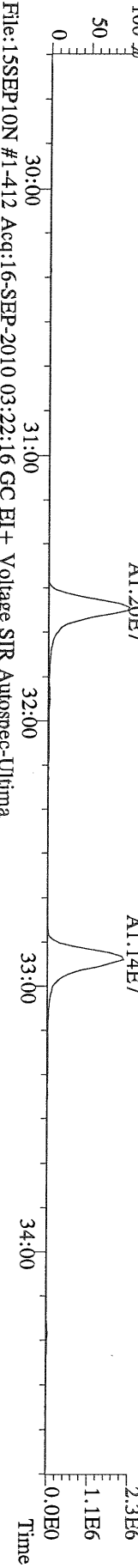
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341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



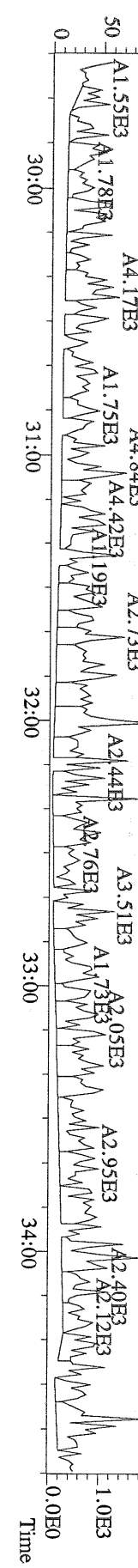
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Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



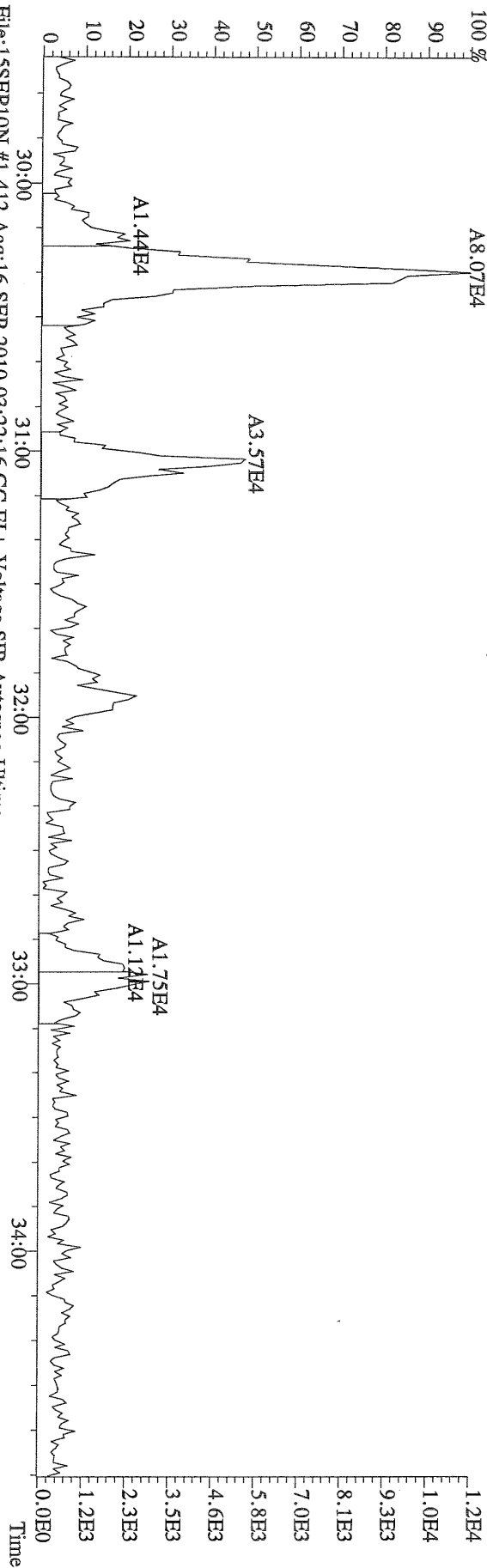
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409.7974 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



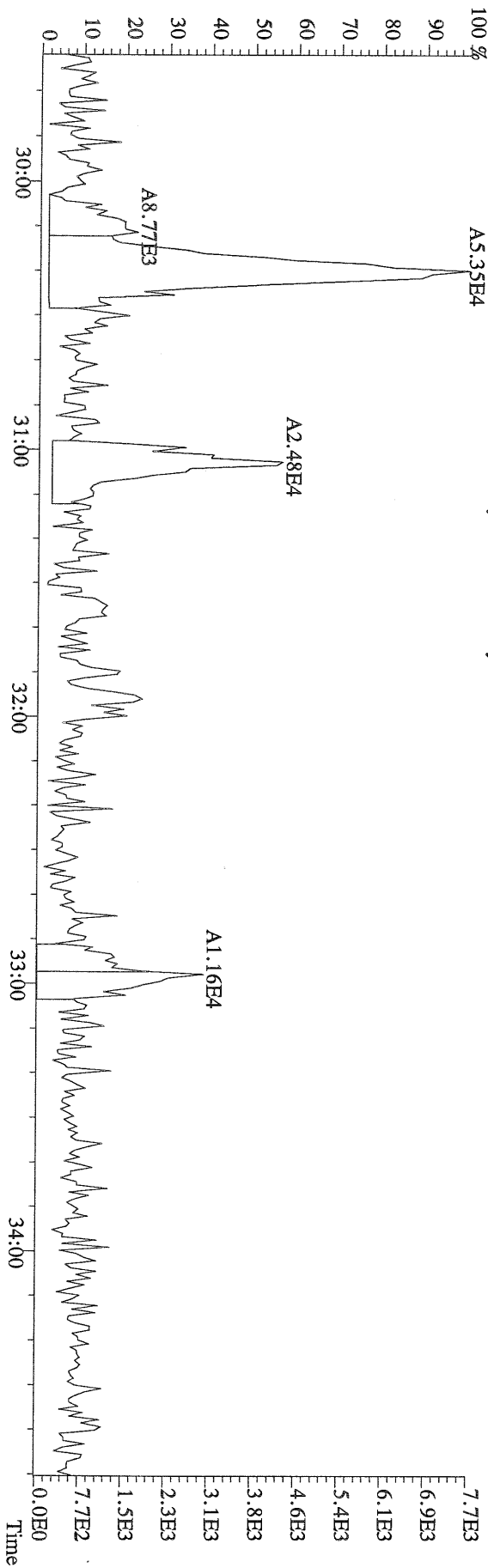
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Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



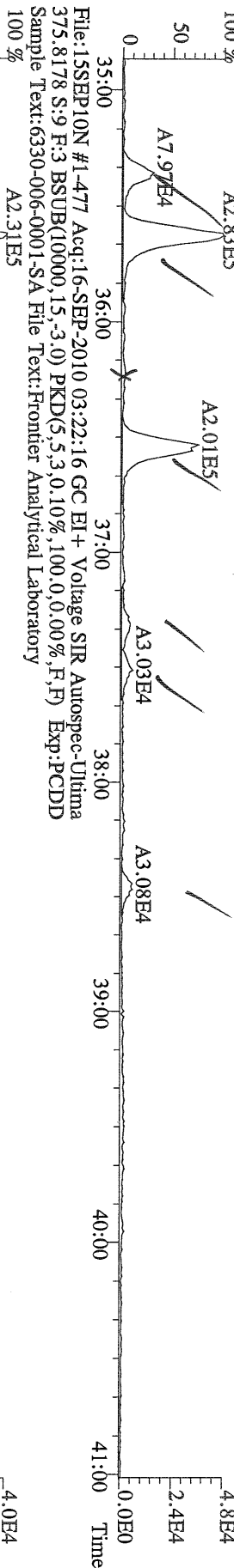
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339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



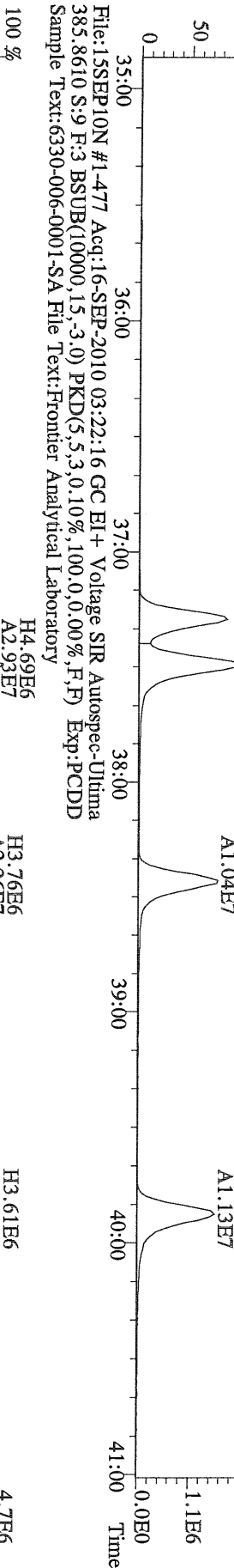
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341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



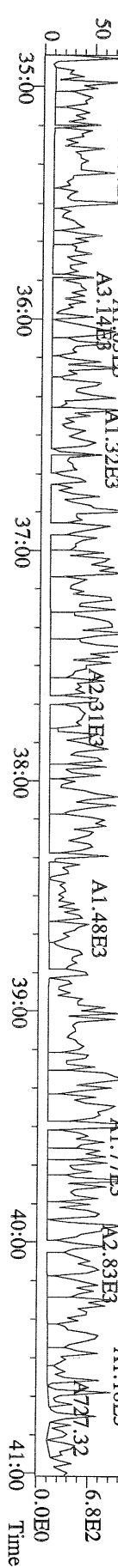
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373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



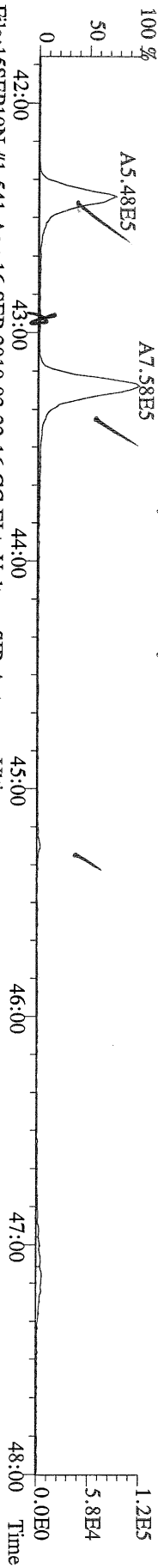
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383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



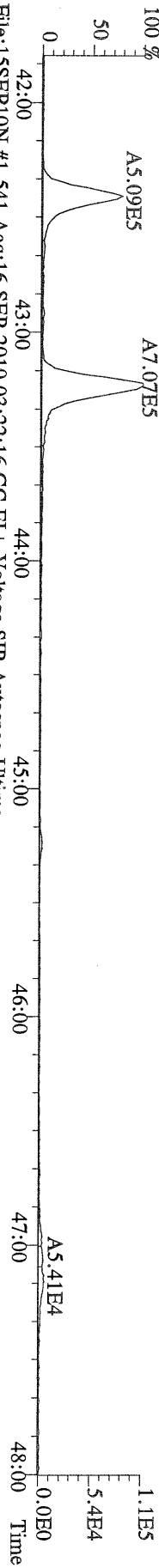
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445.7555 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



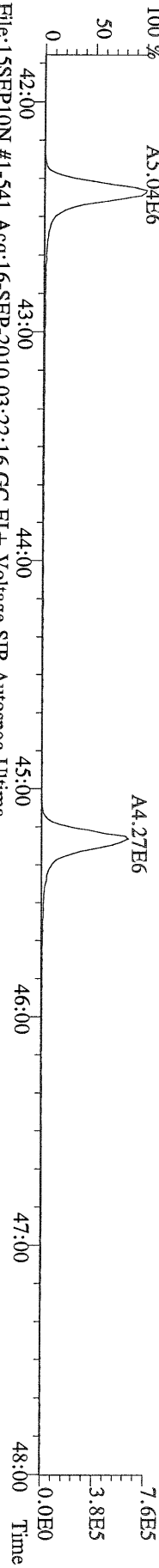
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 407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
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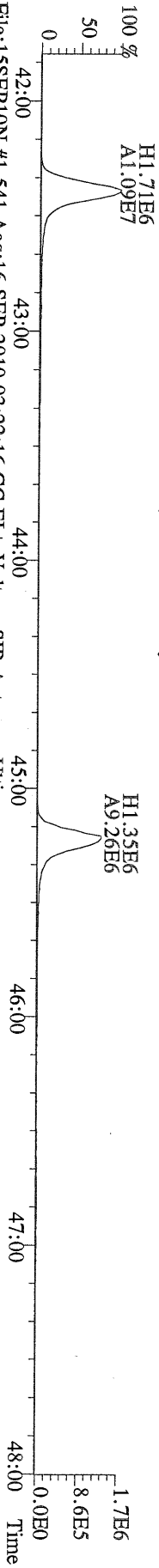
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 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



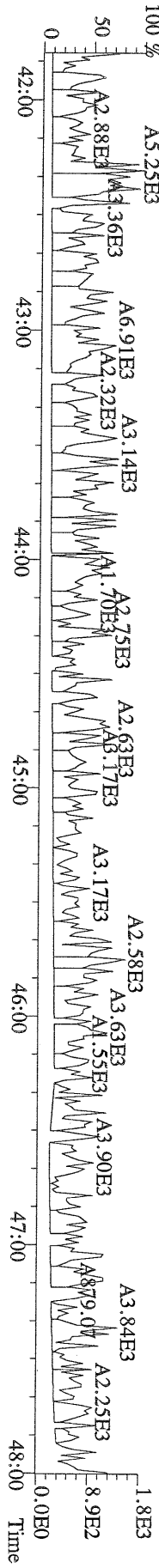
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 417.8253 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



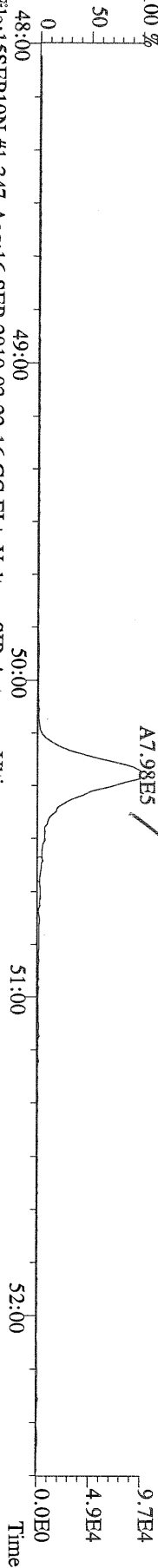
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 419.8220 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



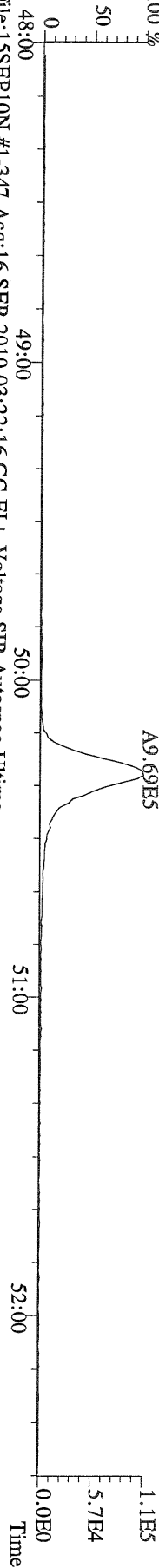
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 479.7165 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
 Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



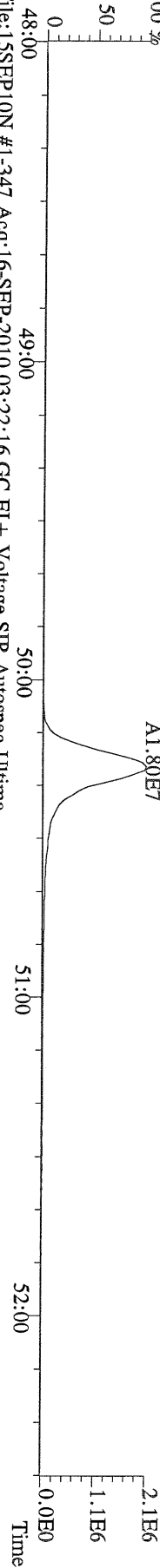
File:15SEP10N #1-347 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Utima  
441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



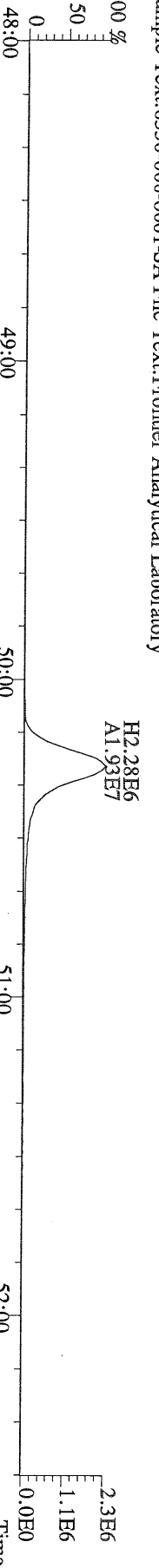
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443.7398 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



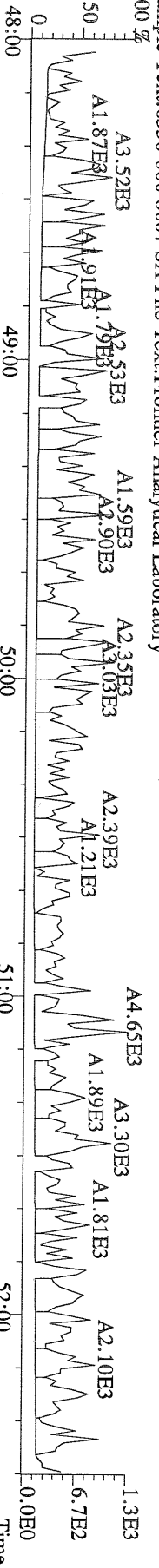
File:15SEP10N #1-347 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Utima  
453.7831 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-347 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Utima  
455.7801 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory



File:15SEP10N #1-347 Acq:16-SEP-2010 03:22:16 GC EI + Voltage SIR Autospec-Utima  
513.6775 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:6330-006-0001-SA File Text:Frontier Analytical Laboratory




Frontier Analytical Laboratory

Data Filename: 23AUG10M

Analyte:

Cal: PCDDFAL3-8-23-10

	Name	RRF	S. D.	%RSD	S3 RRF#1	S4 RRF#2	S5 RRF#3	S1 RRF#4	S6 RRF#5	S7 RRF#6
	2,3,7,8-TCDD	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
	1,2,3,7,8-PeCDD	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
	1,2,3,4,7,8-HxCDD	1.37	0.0589	4.29 %	1.40	1.30	1.31	1.36	1.44	1.42
	1,2,3,6,7,8-HxCDD	1.37	0.0522	3.80 %	1.30	1.38	1.39	1.32	1.43	1.42
	1,2,3,7,8,9-HxCDD	1.36	0.0713	5.24 %	1.29	1.31	1.37	1.30	1.45	1.45
	1,2,3,4,6,7,8-HpCDD	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
	OCDD	1.43	0.0834	5.81 %	1.37	1.37	1.42	1.44	1.42	1.59
	2,3,7,8-TCDF	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
	1,2,3,7,8-PeCDF	0.94	0.0427	4.53 %	0.92	0.88	0.92	0.96	0.99	0.99
	2,3,4,7,8-PeCDF	0.94	0.0501	5.35 %	0.88	0.90	0.91	0.93	0.99	1.00
	1,2,3,4,7,8-HxCDF	0.93	0.0529	5.70 %	0.90	0.88	0.90	0.91	0.99	1.00
	1,2,3,6,7,8-HxCDF	0.82	0.0486	5.91 %	0.75	0.79	0.82	0.83	0.87	0.88
	2,3,4,6,7,8-HxCDF	0.92	0.0553	6.02 %	0.87	0.86	0.92	0.89	0.98	0.99
	1,2,3,7,8,9-HxCDF	1.00	0.0728	7.30 %	0.90	0.94	0.99	1.00	1.08	1.08
	1,2,3,4,6,7,8-HpCDF	1.39	0.0804	5.78 %	1.28	1.33	1.37	1.39	1.49	1.47
	1,2,3,4,7,8,9-HpCDF	1.36	0.108	7.94 %	1.30	1.20	1.33	1.35	1.45	1.50
	OCDF	0.79	0.0651	8.29 %	0.73	0.72	0.75	0.79	0.86	0.87
	13C-2,3,7,8-TCDD	1.02	0.0764	7.46 %	0.98	0.98	0.97	0.98	1.15	1.08
	13C-1,2,3,7,8-PeCDD	0.84	0.0798	9.48 %	0.79	0.79	0.79	0.79	0.95	0.93
	13C-1,2,3,4,7,8-HxCDD	1.07	0.0580	5.40 %	1.06	1.03	1.06	1.01	1.12	1.16
	13C-1,2,3,6,7,8-HxCDD	1.01	0.0164	1.62 %	1.00	1.00	1.00	1.02	1.03	1.03
	13C-1,2,3,4,6,7,8-HpCDD	0.86	0.0467	5.45 %	0.82	0.82	0.84	0.83	0.90	0.93
	13C-OCDD	0.55	0.0456	8.36 %	0.52	0.51	0.52	0.52	0.58	0.63
	13C-2,3,7,8-TCDF	0.99	0.0775	7.79 %	0.97	0.92	0.93	0.96	1.12	1.05
	13C-1,2,3,7,8-PeCDF	0.84	0.0816	9.74 %	0.78	0.78	0.79	0.79	0.95	0.93
	13C-2,3,4,7,8-PeCDF	0.81	0.0728	8.97 %	0.77	0.75	0.76	0.78	0.91	0.90
	13C-1,2,3,4,7,8-HxCDF	1.85	0.0371	2.00 %	1.82	1.85	1.85	1.81	1.91	1.88
	13C-1,2,3,6,7,8-HxCDF	2.54	0.0434	1.71 %	2.55	2.51	2.52	2.51	2.62	2.51
	13C-2,3,4,6,7,8-HxCDF	2.01	0.0361	1.79 %	2.00	2.00	1.98	2.00	2.08	2.03
	13C-1,2,3,7,8,9-HxCDF	2.03	0.110	5.42 %	1.97	1.94	1.96	1.98	2.14	2.20
	13C-1,2,3,4,6,7,8-HpCDF	1.11	0.0532	4.80 %	1.08	1.05	1.12	1.07	1.16	1.18
	13C-1,2,3,4,7,8,9-HpCDF	0.80	0.0576	7.16 %	0.78	0.76	0.78	0.77	0.83	0.91
	13C-OCDF	1.08	0.0934	8.63 %	1.00	1.00	1.05	1.05	1.16	1.23
	37Cl-2,3,7,8-TCDD	0.69	0.0526	7.67 %	0.67	0.70	0.63	0.63	0.76	0.73
	13C-1,2,3,4-TCDD	-	-	- %	-	-	-	-	-	-
	13C-1,2,3,4-TCDF	-	-	- %	-	-	-	-	-	-
	13C-1,2,3,7,8,9-HxCDD	-	-	- %	-	-	-	-	-	-
	Total Tetra-Dioxins	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
	Total Penta-Dioxins	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
	Total Hexa-Dioxins	1.37	0.0513	3.75 %	1.33	1.33	1.36	1.33	1.44	1.43
	Total Hepta-Dioxins	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
	Total Tetra-Furans	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
1st Fn.	Tot Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
	Total Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
	Total Hexa-Furans	0.91	0.0562	6.18 %	0.84	0.86	0.90	0.90	0.97	0.98
	Total Hepta-Furans	1.38	0.0885	6.43 %	1.29	1.28	1.36	1.37	1.47	1.48

Analyst: 

Date: 8/24/10

Run #1      Filename 23AUG10M  
Client ID: ST082310MO

S: 3      Acquired: 23-AUG-10 16:16:35      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CSO 100511G

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.25	1.20e+05	0.73 y	27:27	-	1.07 y
2	Unk      1,2,3,7,8-PeCDD	1.25	4.64e+05	1.70 y	33:15	-	1.03 y
3	Unk      1,2,3,4,7,8-HxCDD	1.25	4.89e+05	1.42 y	38:38	-	1.40 y
4	Unk      1,2,3,6,7,8-HxCDD	1.25	4.28e+05	1.40 y	38:48	-	1.30 y
5	Unk      1,2,3,7,8,9-HxCDD	1.25	4.38e+05	1.41 y	39:14	-	1.29 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1.25	3.88e+05	1.02 y	44:13	-	1.43 y
7	Unk      OCDD	2.50	4.72e+05	1.00 y	49:47	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.25	2.81e+05	0.67 y	26:41	-	1.57 y
9	Unk      1,2,3,7,8-PeCDF	1.25	6.57e+05	1.49 y	31:31	-	0.916 y
10	Unk      2,3,4,7,8-PeCDF	1.25	6.24e+05	1.48 y	32:50	-	0.883 y
11	Unk      1,2,3,4,7,8-HxCDF	1.25	5.37e+05	1.22 y	37:14	-	0.897 y
12	Unk      1,2,3,6,7,8-HxCDF	1.25	6.28e+05	1.31 y	37:25	-	0.747 y
13	Unk      2,3,4,6,7,8-HxCDF	1.25	5.72e+05	1.25 y	38:22	-	0.870 y
14	Unk      1,2,3,7,8,9-HxCDF	1.25	5.81e+05	1.15 y	39:48	-	0.897 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1.25	4.57e+05	1.04 y	42:19	-	1.28 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1.25	3.34e+05	0.99 y	45:09	-	1.30 y
17	Unk      OCDF	2.50	4.80e+05	0.93 y	50:10	-	0.727 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.47e+07	0.85 y	27:24	-	0.976 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.60e+07	1.77 y	33:14	-	0.786 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.78e+07	1.26 y	38:36	-	1.06 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.63e+07	1.26 y	38:46	-	0.998 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.17e+07	1.00 y	44:13	-	0.825 y
23	IS      13C-OCDD	200.00	2.76e+07	1.00 y	49:46	-	0.523 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.17e+07	0.88 y	26:40	-	0.975 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.74e+07	1.74 y	31:30	-	0.780 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.65e+07	1.74 y	32:49	-	0.769 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.79e+07	0.55 y	37:12	-	1.82 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.72e+07	0.56 y	37:24	-	2.55 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.26e+07	0.58 y	38:20	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.54 y	39:47	-	1.97 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.84e+07	0.42 y	42:18	-	1.08 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.05e+07	0.43 y	45:08	-	0.778 y
33	IS      13C-OCDF	200.00	5.28e+07	0.95 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.25	7.69e+04		27:26	-	0.671 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.58e+07	0.85 y	26:50	4.58e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.35e+07	0.87 y	25:35	7.35e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.64e+07	1.27 y	39:12	2.64e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.07 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.03 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.43 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.57 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.899 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.899 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.845 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.29 y

Analyst: 

Date: 8/24/10

Run #2      Filename 23AUG10M  
Client ID: ST082310M1

S: 4      Acquired: 23-AUG-10 17:12:02      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS1 100511H

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.50	2.50e+05	0.74 y	27:27	-	1.09 y
2	Unk      1,2,3,7,8-PeCDD	2.50	9.93e+05	1.61 y	33:16	-	1.08 y
3	Unk      1,2,3,4,7,8-HxCDD	2.50	8.89e+05	1.42 y	38:37	-	1.30 y
4	Unk      1,2,3,6,7,8-HxCDD	2.50	9.16e+05	1.42 y	38:48	-	1.38 y
5	Unk      1,2,3,7,8,9-HxCDD	2.50	8.82e+05	1.39 y	39:14	-	1.31 y
6	Unk      1,2,3,4,6,7,8-HpCDD	2.50	8.00e+05	1.07 y	44:14	-	1.47 y
7	Unk      OCDD	5.00	9.24e+05	0.99 y	49:48	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.50	5.65e+05	0.69 y	26:41	-	1.60 y
9	Unk      1,2,3,7,8-PeCDF	2.50	1.31e+06	1.45 y	31:32	-	0.885 y
10	Unk      2,3,4,7,8-PeCDF	2.50	1.29e+06	1.43 y	32:51	-	0.896 y
11	Unk      1,2,3,4,7,8-HxCDF	2.50	1.08e+06	1.27 y	37:14	-	0.877 y
12	Unk      1,2,3,6,7,8-HxCDF	2.50	1.32e+06	1.22 y	37:26	-	0.790 y
13	Unk      2,3,4,6,7,8-HxCDF	2.50	1.14e+06	1.31 y	38:23	-	0.858 y
14	Unk      1,2,3,7,8,9-HxCDF	2.50	1.21e+06	1.23 y	39:48	-	0.938 y
15	Unk      1,2,3,4,6,7,8-HpCDF	2.50	9.30e+05	1.05 y	42:20	-	1.33 y
16	Unk      1,2,3,4,7,8,9-HpCDF	2.50	6.04e+05	1.06 y	45:09	-	1.20 y
17	Unk      OCDF	5.00	9.66e+05	0.89 y	50:10	-	0.721 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.56e+07	0.84 y	27:25	-	0.980 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.790 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.74e+07	1.32 y	38:36	-	1.03 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.22 y	38:46	-	0.996 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.18e+07	1.02 y	44:13	-	0.818 y
23	IS      13C-OCDD	200.00	2.71e+07	0.99 y	49:47	-	0.507 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.06e+07	0.86 y	26:40	-	0.923 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.94e+07	1.73 y	31:30	-	0.777 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.75e+07	1.68 y	32:49	-	0.752 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.93e+07	0.55 y	37:13	-	1.85 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:24	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.33e+07	0.57 y	38:21	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.55 y	39:48	-	1.94 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.79e+07	0.44 y	42:18	-	1.05 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.02e+07	0.42 y	45:09	-	0.756 y
33	IS      13C-OCDF	200.00	5.36e+07	0.96 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.50	1.62e+05		27:26	-	0.696 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.66e+07	0.83 y	26:51	4.66e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.65e+07	0.88 y	25:34	7.65e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.67e+07	1.27 y	39:13	2.67e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.09 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.08 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.47 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.60 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.890 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.890 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.860 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.28 y

Analyst: 

Date: 8/24/10



Run #3 Filename 23AUG10M  
Client ID: ST082310M2

S: 5

Acquired: 23-AUG-10 18:07:23

Cal: PCDDFAL3-8-23-10

Analyte:

FAL ID: 1613 CS2 100511I

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk 2,3,7,8-TCDD	2.00	9.56e+05	0.76 y	27:26	-	1.06 y
2	Unk 1,2,3,7,8-PeCDD	10.00	3.99e+06	1.62 y	33:15	-	1.09 y
3	Unk 1,2,3,4,7,8-HxCDD	10.00	3.69e+06	1.40 y	38:38	-	1.31 y
4	Unk 1,2,3,6,7,8-HxCDD	10.00	3.71e+06	1.40 y	38:47	-	1.39 y
5	Unk 1,2,3,7,8,9-HxCDD	10.00	3.75e+06	1.40 y	39:14	-	1.37 y
6	Unk 1,2,3,4,6,7,8-HpCDD	10.00	3.22e+06	1.04 y	44:14	-	1.45 y
7	Unk OCDD	20.00	3.97e+06	0.89 y	49:47	-	1.42 y
8	Unk 2,3,7,8-TCDF	2.00	2.12e+06	0.69 y	26:41	-	1.50 y
9	Unk 1,2,3,7,8-PeCDF	10.00	5.47e+06	1.50 y	31:32	-	0.916 y
10	Unk 2,3,4,7,8-PeCDF	10.00	5.23e+06	1.51 y	32:51	-	0.913 y
11	Unk 1,2,3,4,7,8-HxCDF	10.00	4.43e+06	1.30 y	37:14	-	0.900 y
12	Unk 1,2,3,6,7,8-HxCDF	10.00	5.48e+06	1.24 y	37:26	-	0.819 y
13	Unk 2,3,4,6,7,8-HxCDF	10.00	4.88e+06	1.33 y	38:22	-	0.924 y
14	Unk 1,2,3,7,8,9-HxCDF	10.00	5.17e+06	1.28 y	39:49	-	0.990 y
15	Unk 1,2,3,4,6,7,8-HpCDF	10.00	4.10e+06	1.03 y	42:19	-	1.37 y
16	Unk 1,2,3,4,7,8,9-HpCDF	10.00	2.76e+06	1.01 y	45:09	-	1.33 y
17	Unk OCDF	20.00	4.20e+06	0.92 y	50:11	-	0.753 y
18	IS/RT 13C-2,3,7,8-TCDD	100.00	4.51e+07	0.83 y	27:25	-	0.970 y
19	IS 13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.792 y
20	IS 13C-1,2,3,4,7,8-HxCDD	100.00	2.81e+07	1.27 y	38:36	-	1.06 y
21	IS 13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.28 y	38:46	-	1.00 y
22	IS 13C-1,2,3,4,6,7,8-HpCDD	100.00	2.22e+07	1.02 y	44:13	-	0.835 y
23	IS 13C-OCDD	200.00	2.79e+07	0.95 y	49:47	-	0.524 y
24	IS 13C-2,3,7,8-TCDF	100.00	7.06e+07	0.88 y	26:40	-	0.935 y
25	IS 13C-1,2,3,7,8-PeCDF	100.00	5.98e+07	1.74 y	31:30	-	0.791 y
26	IS 13C-2,3,4,7,8-PeCDF	100.00	5.73e+07	1.71 y	32:50	-	0.759 y
27	IS 13C-1,2,3,4,7,8-HxCDF	100.00	4.92e+07	0.55 y	37:13	-	1.85 y
28	IS 13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:25	-	2.52 y
29	IS 13C-2,3,4,6,7,8-HxCDF	100.00	5.28e+07	0.56 y	38:21	-	1.98 y
30	IS 13C-1,2,3,7,8,9-HxCDF	100.00	5.23e+07	0.56 y	39:47	-	1.96 y
31	IS 13C-1,2,3,4,6,7,8-HpCDF	100.00	2.98e+07	0.43 y	42:18	-	1.12 y
32	IS 13C-1,2,3,4,7,8,9-HpCDF	100.00	2.07e+07	0.41 y	45:08	-	0.777 y
33	IS 13C-OCDF	200.00	5.58e+07	1.00 y	50:09	-	1.05 y
34	C/Up 37Cl-2,3,7,8-TCDD	2.00	5.87e+05		27:27	-	0.632 y
35	RS 13C-1,2,3,4-TCDD	100.00	4.65e+07	0.85 y	26:50	4.65e+05	- n
36	RS 13C-1,2,3,4-TCDF	100.00	7.56e+07	0.87 y	25:35	7.56e+05	- n
37	RS/RT 13C-1,2,3,7,8,9-HxCDD	100.00	2.66e+07	1.26 y	39:13	2.66e+05	- n
38	Tot Total Tetra-Dioxins	0.00	-	- n	-	-	1.06 y
39	Tot Total Penta-Dioxins	0.00	-	- n	-	-	1.09 y
40	Tot Total Hexa-Dioxins	0.00	-	- n	-	-	1.36 y
41	Tot Total Hepta-Dioxins	0.00	-	- n	-	-	1.45 y
42	Tot Total Tetra-Furans	0.00	-	- n	-	-	1.50 y
43	Tot 1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.914 y
44	Tot Total Penta-Furans	0.00	-	- n	-	-	0.914 y
45	Tot Total Hexa-Furans	0.00	-	- n	-	-	0.902 y
46	Tot Total Hepta-Furans	0.00	-	- n	-	-	1.36 y

Analyst: 

Date: 8/24/10






Run #6      Filename 23AUG10M  
Client ID: ST082310M5

S: 7      Acquired: 23-AUG-10 19:58:08      Cal: PCDDFAL3-8-23-10  
Analyte: PCDDFAL3-8-23-10      FAL ID: 1613 CS5 100511L

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	200.00	1.06e+08	0.76 y	27:26	-	1.14 y
2	Unk      1,2,3,7,8-PeCDD	1000.00	4.58e+08	1.63 y	33:15	-	1.15 y
3	Unk      1,2,3,4,7,8-HxCDD	1000.00	4.92e+08	1.39 y	38:38	-	1.42 y
4	Unk      1,2,3,6,7,8-HxCDD	1000.00	4.34e+08	1.40 y	38:48	-	1.42 y
5	Unk      1,2,3,7,8,9-HxCDD	1000.00	4.72e+08	1.38 y	39:14	-	1.45 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1000.00	4.12e+08	1.03 y	44:14	-	1.48 y
7	Unk      OCDD	2000.00	5.93e+08	0.92 y	49:50	-	1.59 y
8	Unk      2,3,7,8-TCDF	200.00	2.14e+08	0.66 y	26:41	-	1.48 y
9	Unk      1,2,3,7,8-PeCDF	1000.00	6.33e+08	1.52 y	31:32	-	0.985 y
10	Unk      2,3,4,7,8-PeCDF	1000.00	6.21e+08	1.52 y	32:51	-	1.00 y
11	Unk      1,2,3,4,7,8-HxCDF	1000.00	5.58e+08	1.28 y	37:14	-	0.996 y
12	Unk      1,2,3,6,7,8-HxCDF	1000.00	6.54e+08	1.27 y	37:26	-	0.876 y
13	Unk      2,3,4,6,7,8-HxCDF	1000.00	5.98e+08	1.27 y	38:22	-	0.989 y
14	Unk      1,2,3,7,8,9-HxCDF	1000.00	7.04e+08	1.28 y	39:49	-	1.08 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1000.00	5.19e+08	1.05 y	42:20	-	1.47 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1000.00	4.06e+08	1.08 y	45:09	-	1.50 y
17	Unk      OCDF	2000.00	6.38e+08	0.93 y	50:12	-	0.869 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.62e+07	0.84 y	27:25	-	1.08 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	4.00e+07	1.76 y	33:15	-	0.933 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	3.46e+07	1.27 y	38:37	-	1.16 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	3.07e+07	1.25 y	38:46	-	1.03 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.78e+07	1.04 y	44:13	-	0.932 y
23	IS      13C-OCDD	200.00	3.72e+07	0.93 y	49:49	-	0.625 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.26e+07	0.87 y	26:40	-	1.05 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.43e+07	1.73 y	31:30	-	0.931 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	6.19e+07	1.73 y	32:49	-	0.896 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	5.60e+07	0.55 y	37:13	-	1.88 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+07	0.56 y	37:25	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	6.05e+07	0.56 y	38:21	-	2.03 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	6.55e+07	0.54 y	39:47	-	2.20 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.52e+07	0.44 y	42:18	-	1.18 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.71e+07	0.42 y	45:08	-	0.909 y
33	IS      13C-OCDF	200.00	7.35e+07	0.99 y	50:11	-	1.23 y
34	C/Up      37Cl-2,3,7,8-TCDD	200.00	6.26e+07		27:26	-	0.731 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.28e+07	0.84 y	26:50	4.28e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.91e+07	0.87 y	25:34	6.91e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.98e+07	1.25 y	39:13	2.98e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.14 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.15 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.43 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.48 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.48 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.994 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.994 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.980 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.48 y

Analyst: 

Date: 8/24/10

USEPA - ITD

FORM 3A

PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3 GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
NATIVE ANALYTES								
2,3,7,8-TCDD	1.07	1.09	1.06	1.16	1.13	1.14	1.11	3.63
1,2,3,7,8-PeCDD	1.03	1.08	1.09	1.11	1.15	1.15	1.10	4.14
1,2,3,4,7,8-HxCDD	1.40	1.30	1.31	1.36	1.44	1.42	1.37	4.29
1,2,3,6,7,8-HxCDD	1.30	1.38	1.39	1.32	1.43	1.42	1.37	3.80
1,2,3,7,8,9-HxCDD	1.29	1.31	1.37	1.30	1.45	1.45	1.36	5.24
1,2,3,4,6,7,8-HpCDD	1.43	1.47	1.45	1.44	1.45	1.48	1.45	1.37
OCDD	1.37	1.37	1.42	1.44	1.42	1.59	1.43	5.81
2,3,7,8-TCDF	1.57	1.60	1.50	1.40	1.47	1.48	1.50	4.91
1,2,3,7,8-PeCDF	0.92	0.88	0.92	0.96	0.99	0.99	0.94	4.53
2,3,4,7,8-PeCDF	0.88	0.90	0.91	0.93	0.99	1.00	0.94	5.35
1,2,3,4,7,8-HxCDF	0.90	0.88	0.90	0.91	0.99	1.00	0.93	5.70
1,2,3,6,7,8-HxCDF	0.75	0.79	0.82	0.83	0.87	0.88	0.82	5.91
2,3,4,6,7,8-HxCDF	0.87	0.86	0.92	0.89	0.98	0.99	0.92	6.02
1,2,3,7,8,9-HxCDF	0.90	0.94	0.99	1.00	1.08	1.08	1.00	7.30
1,2,3,4,6,7,8-HpCDF	1.28	1.33	1.37	1.39	1.49	1.47	1.39	5.78
1,2,3,4,7,8,9-HpCDF	1.30	1.20	1.33	1.35	1.45	1.50	1.36	7.94
OCDF	0.73	0.72	0.75	0.79	0.86	0.87	0.79	8.29

Analyst: 

Date: 8/24/10

## USEPA - ITD

## FORM 3B

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3 GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS4 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

Labeled Compounds	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
13C-2,3,7,8-TCDD	0.98	0.98	0.97	0.98	1.15	1.08	1.02	7.46
13C-1,2,3,7,8-PeCDD	0.79	0.79	0.79	0.79	0.95	0.93	0.84	9.48
13C-1,2,3,4,7,8-HxCDD	1.06	1.03	1.06	1.01	1.12	1.16	1.07	5.40
13C-1,2,3,6,7,8-HxCDD	1.00	1.00	1.00	1.02	1.03	1.03	1.01	1.62
13C-1,2,3,4,6,7,8-HpCDD	0.82	0.82	0.84	0.83	0.90	0.93	0.86	5.45
13C-OCDD	0.52	0.51	0.52	0.52	0.58	0.63	0.55	8.36
13C-2,3,7,8-TCDF	0.97	0.92	0.93	0.96	1.12	1.05	0.99	7.79
13C-1,2,3,7,8-PeCDF	0.78	0.78	0.79	0.79	0.95	0.93	0.84	9.74
13C-2,3,4,7,8-PeCDF	0.77	0.75	0.76	0.78	0.91	0.90	0.81	8.97
13C-1,2,3,4,7,8-HxCDF	1.82	1.85	1.85	1.81	1.91	1.88	1.85	2.00
13C-1,2,3,6,7,8-HxCDF	2.55	2.51	2.52	2.51	2.62	2.51	2.54	1.71
13C-2,3,4,6,7,8-HxCDF	2.00	2.00	1.98	2.00	2.08	2.03	2.01	1.79
13C-1,2,3,7,8,9-HxCDF	1.97	1.94	1.96	1.98	2.14	2.20	2.03	5.42
13C-1,2,3,4,6,7,8-HpCDF	1.08	1.05	1.12	1.07	1.16	1.18	1.11	4.80
13C-1,2,3,4,7,8,9-HpCDF	0.78	0.76	0.78	0.77	0.83	0.91	0.80	7.16
13C-OCDF	1.00	1.00	1.05	1.05	1.16	1.23	1.08	8.63
CLEANUP STANDARD								
37Cl-2,3,7,8-TCDD	0.67	0.70	0.63	0.63	0.76	0.73	0.69	7.67

Analyst: Date: 8/24/10

## USEPA - ITD

## FORM 3C

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
2,3,7,8-TCDD	M/M+2	0.73	0.74	0.76	0.73	0.76	0.76	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.70	1.61	1.62	1.64	1.62	1.63	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.42	1.42	1.40	1.41	1.40	1.39	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.40	1.42	1.40	1.39	1.41	1.40	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.39	1.40	1.41	1.41	1.38	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	1.07	1.04	1.04	1.03	1.03	0.88-1.20
OCDD	M+2/M+4	1.00	0.99	0.89	0.95	1.00	0.92	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.67	0.69	0.69	0.67	0.67	0.66	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.49	1.45	1.50	1.53	1.55	1.52	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.43	1.51	1.52	1.52	1.52	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.27	1.30	1.29	1.27	1.28	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.22	1.24	1.26	1.28	1.27	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.31	1.33	1.24	1.26	1.27	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.15	1.23	1.28	1.28	1.30	1.28	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	1.05	1.03	1.04	1.03	1.05	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	1.06	1.01	1.04	1.05	1.08	0.88-1.20
OCDF	M+2/M+4	0.93	0.89	0.92	0.93	0.92	0.93	0.76-1.02

Analyst: Date: 8/24/10

## FORM 3D

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

Labeled Compounds	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
13C-2,3,7,8-TCDD	M/M+2	0.85	0.84	0.83	0.86	0.85	0.84	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.77	1.77	1.77	1.76	1.76	1.32-1.78
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.32	1.27	1.26	1.27	1.27	1.05-1.43
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.22	1.28	1.27	1.28	1.25	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	1.02	1.02	1.04	1.01	1.04	0.88-1.20
13C-OCDD	M+2/M+4	1.00	0.99	0.95	0.93	0.94	0.93	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.88	0.86	0.88	0.86	0.88	0.87	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.74	1.73	1.74	1.78	1.75	1.73	1.32-1.78
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.68	1.71	1.74	1.73	1.73	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.55	0.55	0.56	0.55	0.55	0.43-0.59
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.56	0.55	0.55	0.55	0.55	0.56	0.43-0.59
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.58	0.57	0.56	0.54	0.54	0.56	0.43-0.59
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.55	0.56	0.55	0.54	0.54	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.44	0.43	0.42	0.43	0.44	0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.42	0.41	0.42	0.43	0.42	0.37-0.51
13C-OCDF	M+2/M+4	0.95	0.96	1.00	0.98	0.99	0.99	0.76-1.02

Analyst: Date: 8/24/10



## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1

Analysis Date: 23-AUG-10 14:25:46

NATIVE ANALYTES	M/Z'S	ION	QC	ACCEPT	CONC.	CONC.
	FORMING	ABUND.	LIMITS		FOUND	RANGE
	RATIO (1)	RATIO	(2)			(ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	10.4	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	y	50.6	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.41	1.05-1.43	y	49.6	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.39	1.05-1.43	y	48.0	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.05-1.43	y	47.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	49.5	43.0 - 58.0
OCDD	M+2/M+4	0.95	0.76-1.02	y	100	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.67	0.65-0.89	y	9.30	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	50.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	49.8	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	48.8	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	50.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	48.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05-1.43	y	50.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.9	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.8	43.0 - 58.0
OCDF	M+2/M+4	0.93	0.76-1.02	y	99.9	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 8/24/10

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1

Analysis Date: 23-AUG-10 14:25:46

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.86	0.65-0.89	y	95.9	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.32-1.78	y	94.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	94.5	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	100	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	97.0	72.0 - 138
13C-OCDD	M+2/M+4	0.93	0.76-1.02	y	191	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.86	0.65-0.89	y	96.5	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.78	1.32-1.78	y	94.8	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.32-1.78	y	96.5	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43-0.59	y	97.7	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43-0.59	y	99.0	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	99.4	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43-0.59	y	97.2	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37-0.51	y	96.4	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	y	96.0	77.0 - 129
13C-OCDF	M+2/M+4	0.98	0.76-1.02	y	194	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.14	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 8/23/10  
RT Window Data Filename: 23AUG10M Sam:1 Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-5 IS Data Filename: 23AUG10M Sam:1 Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:24	1,3,6,8-TCDF (F)	23:04
1,2,8,9-TCDD (L)	28:21	1,2,8,9-TCDF (L)	28:34
1,2,4,7,9-PeCDD (F)	30:15	1,3,4,6,8-PeCDF (F)	28:25
1,2,3,8,9-PeCDD (L)	33:48	1,2,3,8,9-PeCDF (L)	34:14
1,2,4,6,7,9-HxCDD (F)	36:08	1,2,3,4,6,8-HxCDF (F)	35:15
1,2,3,7,8,9-HxCDD (L)	39:13	1,2,3,7,8,9-HxCDF (L)	39:47
1,2,3,4,6,7,9-HpCDD (F)	42:49	1,2,3,4,6,7,8-HpCDF (F)	42:18
1,2,3,4,6,7,8-HpCDD (L)	44:13	1,2,3,4,7,8,9-HpCDF (L)	45:08

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

(1) To meet contract requirement, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: 

Date: 8/24/10

## USEPA - ITD

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD		1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF		1.001	0.999-1.003
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD		1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF		1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF		1.001	0.999-1.002
LABELED COMPOUNDS				
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.022	0.989-1.052
13C-2,3,7,8-TCDD			1.021	0.976-1.043
13C-2,3,7,8-TCDF			0.993	0.923-1.103
13C-1,2,3,7,8-PeCDD			1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF			1.174	0.923-1.203
13C-2,3,4,7,8-PeCDF			1.223	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 8/24/10

## USEPA - ITD

FORM 6B  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.128	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154
13C-OCDD		1.270	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 8/24/10

WHO 1998 Tox: 125      WHO 2005 Tox: 114  
 Conc      Qual      Fac Noise-1      Noise-2      DL

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	DL
2,3,7,8-TCDD	5.04e+06	0.73 y	27:24	1.11	10.4		2.50	-	-	*
1,2,3,7,8-PeCDD	1.95e+07	1.64 y	33:14	1.10	50.6		2.50	-	-	*
1,2,3,4,7,8-HxCDD	1.81e+07	1.41 y	38:36	1.37	49.6		2.50	-	-	*
1,2,3,6,7,8-HxCDD	1.75e+07	1.39 y	38:46	1.37	48.0		2.50	-	-	*
1,2,3,7,8,9-HxCDD	1.74e+07	1.41 y	39:13	1.36	47.9		2.50	-	-	*
1,2,3,4,6,7,8-HpCDD	1.56e+07	1.04 y	44:13	1.45	49.5		2.50	-	-	*
OCDD	1.96e+07	0.95 y	49:47	1.43	100		2.50	-	-	*
2,3,7,8-TCDF	9.40e+06	0.67 y	26:39	1.50	9.30		2.50	-	-	*
1,2,3,7,8-PeCDF	2.67e+07	1.53 y	31:30	0.94	50.9		2.50	-	-	*
2,3,4,7,8-PeCDF	2.56e+07	1.52 y	32:49	0.94	49.8		2.50	-	-	*
1,2,3,4,7,8-HxCDF	2.15e+07	1.29 y	37:12	0.93	48.8		2.50	-	-	*
1,2,3,6,7,8-HxCDF	2.72e+07	1.26 y	37:24	0.82	50.3		2.50	-	-	*
2,3,4,6,7,8-HxCDF	2.34e+07	1.24 y	38:21	0.92	48.5		2.50	-	-	*
1,2,3,7,8,9-HxCDF	2.60e+07	1.28 y	39:47	1.00	50.3		2.50	-	-	*
1,2,3,4,6,7,8-HpCDF	1.95e+07	1.04 y	42:18	1.39	49.9		2.50	-	-	*
1,2,3,4,7,8,9-HpCDF	1.37e+07	1.04 y	45:08	1.36	49.8		2.50	-	-	*
OCDF	2.16e+07	0.93 y	50:09	0.79	99.9		2.50	-	-	*
Rec										
13C-2,3,7,8-TCDD	4.35e+07	0.86 y	27:23	1.02	95.9					95.9
13C-1,2,3,7,8-PeCDD	3.51e+07	1.77 y	33:13	0.84	94.2					94.2
13C-1,2,3,4,7,8-HxCDD	2.66e+07	1.26 y	38:35	1.07	94.5					94.5
13C-1,2,3,6,7,8-HxCDD	2.66e+07	1.27 y	38:45	1.01	100					100
13C-1,2,3,4,6,7,8-HpCDD	2.18e+07	1.04 y	44:11	0.86	97.0					97.0
13C-OCDD	2.73e+07	0.93 y	49:45	0.55	191					95.3
13C-2,3,7,8-TCDF	6.73e+07	0.86 y	26:38	0.99	96.5					96.5
13C-1,2,3,7,8-PeCDF	5.57e+07	1.78 y	31:28	0.84	94.8					94.8
13C-2,3,4,7,8-PeCDF	5.49e+07	1.74 y	32:48	0.81	96.5					96.5
13C-1,2,3,4,7,8-HxCDF	4.74e+07	0.56 y	37:11	1.85	97.7					97.7
13C-1,2,3,6,7,8-HxCDF	6.58e+07	0.55 y	37:23	2.54	99.0					99.0
13C-2,3,4,6,7,8-HxCDF	5.25e+07	0.54 y	38:19	2.01	99.4					99.4
13C-1,2,3,7,8,9-HxCDF	5.18e+07	0.55 y	39:45	2.03	97.2					97.2
13C-1,2,3,4,6,7,8-HpCDF	2.80e+07	0.42 y	42:17	1.11	96.4					96.4
13C-1,2,3,4,7,8,9-HpCDF	2.02e+07	0.42 y	45:06	0.80	96.0					96.0
13C-OCDF	5.49e+07	0.98 y	50:08	1.08	194					96.8
37Cl-2,3,7,8-TCDD	2.77e+06		27:24	0.69	9.14					91.4
13C-1,2,3,4-TCDD	4.42e+07	0.84 y	26:49	-	98.4					
13C-1,2,3,4-TCDF	7.01e+07	0.87 y	25:33	-	97.0					
13C-1,2,3,7,8,9-HxCDD	2.62e+07	1.28 y	39:11	-	95.1					
Fac Noise-1      Noise-2      DL      #Hom										
Total Tetra-Dioxins	2.58e+07		24:24	1.11	53.5	2.50	-	-	*	19
Total Penta-Dioxins	4.23e+07		30:15	1.10	109	2.50	-	-	*	7
Total Hexa-Dioxins	6.03e+07		36:08	1.37	165	2.50	-	-	*	11
Total Hepta-Dioxins	3.51e+07		42:49	1.45	111	2.50	-	-	*	20
Total Tetra-Furans	4.14e+07		23:04	1.50	41.0	2.50	-	-	*	9
1st Fn. Tot Penta-Furans	3.21e+07		28:25	0.94	61.7	2.50	-	-	*	PeCDF 1
Total Penta-Furans	7.50e+07		30:12	0.94	144	2.50	-	-	*	206 15
Total Hexa-Furans	1.14e+08		35:15	0.91	230	2.50	-	-	*	8
Total Hepta-Furans	3.43e+07		42:18	1.38	103	2.50	-	-	*	14

Analyst: 

Date: 8/24/10

Frontier Analytical Laboratory - Acquisition Log

Run Name:23AUG10M

Instrument: FAL3

GC: DB5

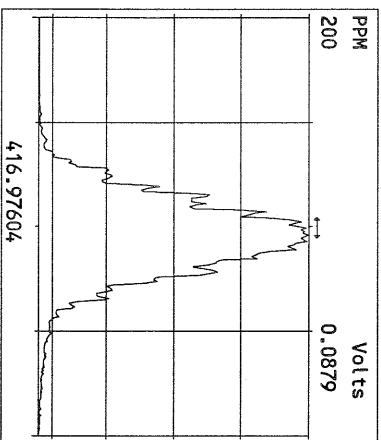
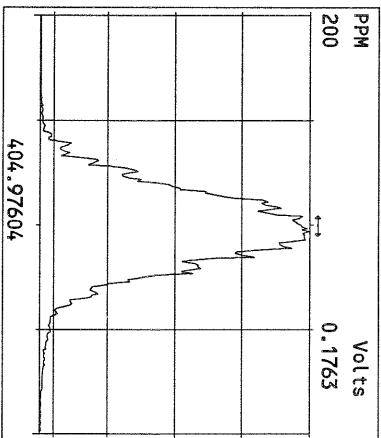
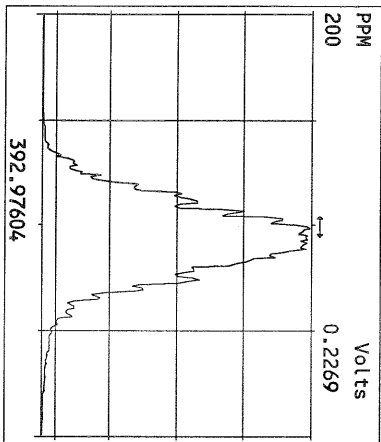
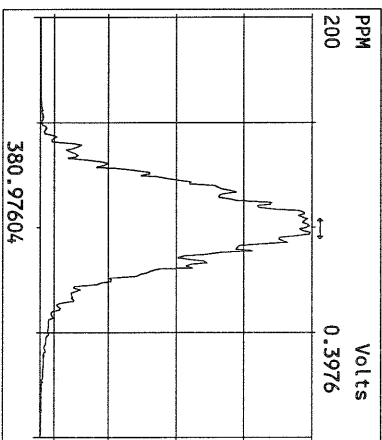
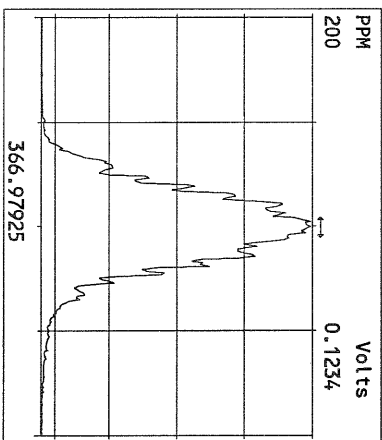
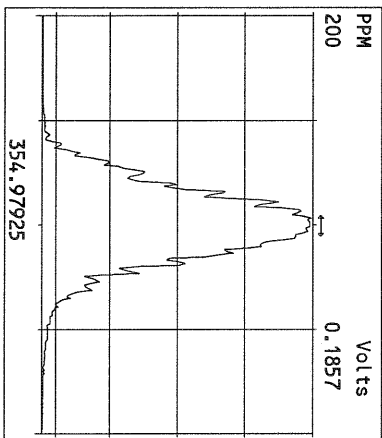
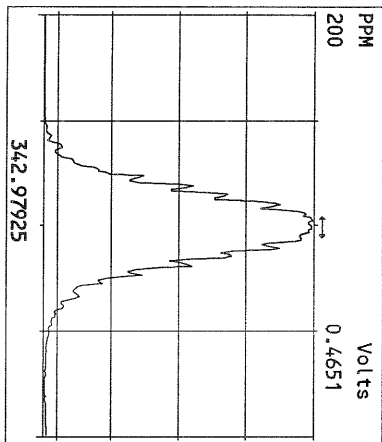
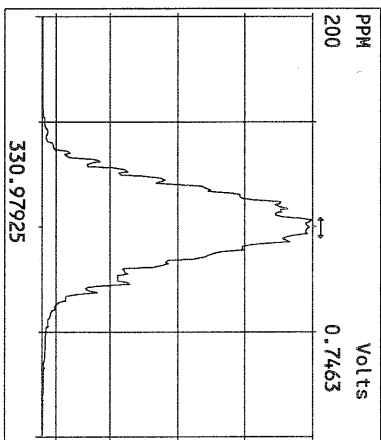
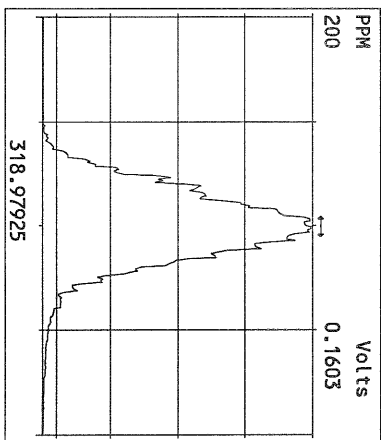
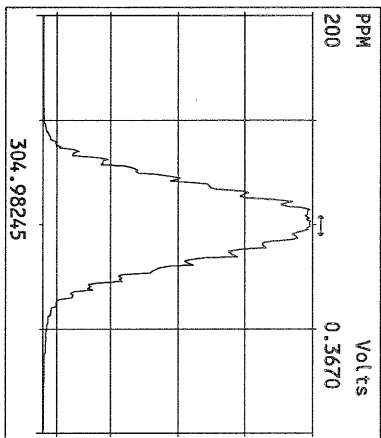
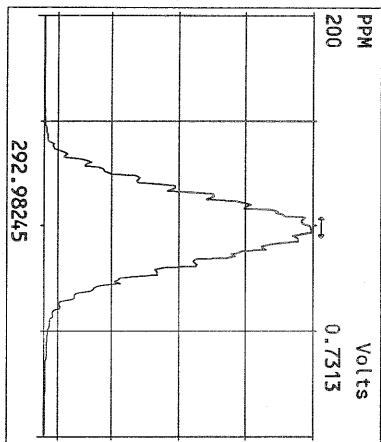
Experiment:PCDD

Data File S	FAL ID	Client ID	Acquired	ConCal	EndCal	Analyst
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23AUG10M 2	ST082310M-1	1613 CS-1	23-AUG-10 15:21:08	NA	NA	BS
23AUG10M 3	ST082310M0	1613 CS0 100511G	23-AUG-10 16:16:35	NA	NA	BS
23AUG10M 4	ST082310M1	1613 CS1 100511H	23-AUG-10 17:12:02	NA	NA	BS
23AUG10M 5	ST082310M2	1613 CS2 100511I	23-AUG-10 18:07:23	NA	NA	BS
23AUG10M 6	ST082310M4	1613 CS4 100511K	23-AUG-10 19:02:46	NA	NA	BS
23AUG10M 7	ST082310M5	1613 CS5 100511L	23-AUG-10 19:58:08	NA	NA	BS
23AUG10M 8	SB082310M1	Solvent Blank	23-AUG-10 20:53:27	NA	NA	BS
23AUG10M 9	6114-001-0001-SA	LPTP10-S2	23-AUG-10 21:48:46	ST082310M3	ST082310M6	BS
23AUG10M 10	ST082310M6	1613 CS3 100511J	23-AUG-10 22:44:05	ST082310M3	ST082310M6	BS
23AUG10M 11	ST082310M7	8280 CS3 071227J	23-AUG-10 23:39:28	ST082310M7	ST082310M8	BS
23AUG10M 12	SB082310M2	Solvent Blank	24-AUG-10 00:34:46	ST082310M7	ST082310M8	BS
23AUG10M 13	2088-001-0001-MB	Method Blank	24-AUG-10 01:30:01	ST082310M7	ST082310M8	BS
23AUG10M 14	6263-001-0001-SA	MDL 1	24-AUG-10 02:25:23	ST082310M7	ST082310M8	BS
23AUG10M 15	6263-002-0001-SA	MDL 2	24-AUG-10 03:20:43	ST082310M7	ST082310M8	BS
23AUG10M 16	6263-003-0001-SA	MDL 3	24-AUG-10 04:16:04	ST082310M7	ST082310M8	BS
23AUG10M 17	6263-004-0001-SA	MDL 4	24-AUG-10 05:11:22	ST082310M7	ST082310M8	BS
23AUG10M 18	6263-005-0001-SA	MDL 5	24-AUG-10 06:06:41	ST082310M7	ST082310M8	BS
23AUG10M 19	6263-006-0001-SA	MDL 6	24-AUG-10 07:02:01	ST082310M7	ST082310M8	BS
23AUG10M 20	6263-007-0001-SA	MDL 7	24-AUG-10 07:57:23	ST082310M7	ST082310M8	BS
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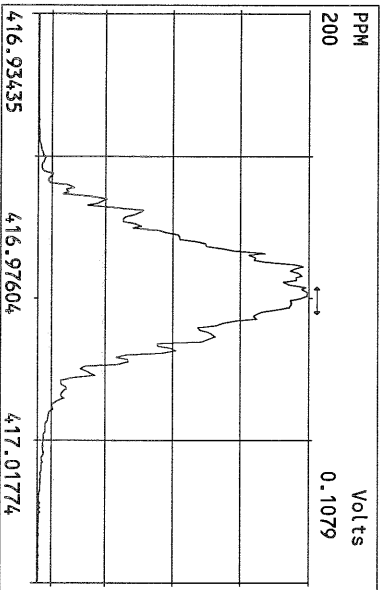
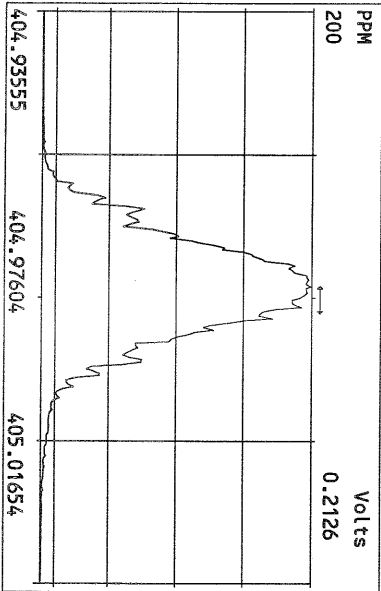
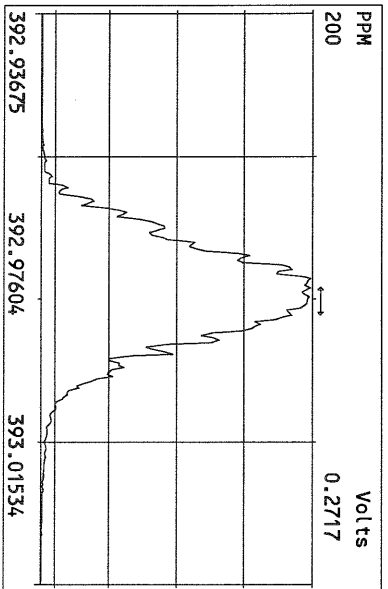
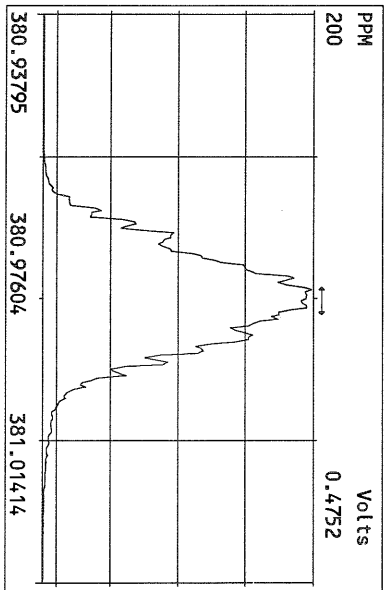
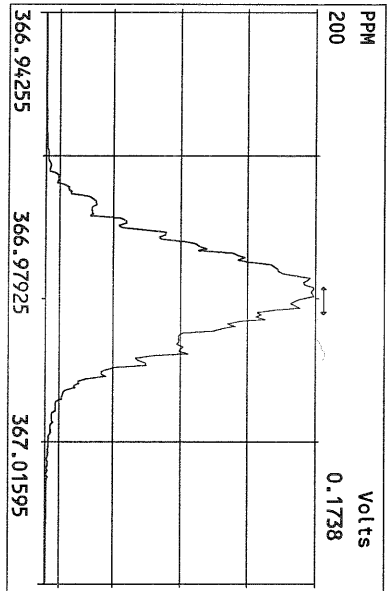
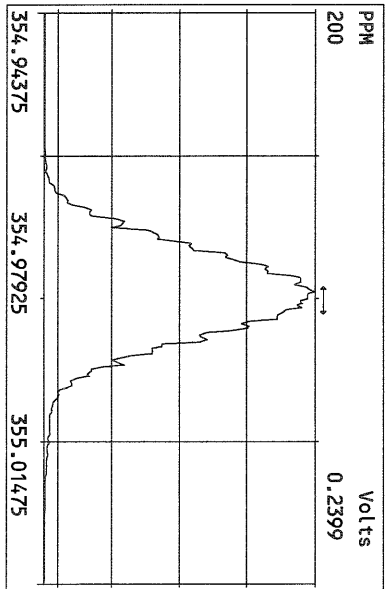
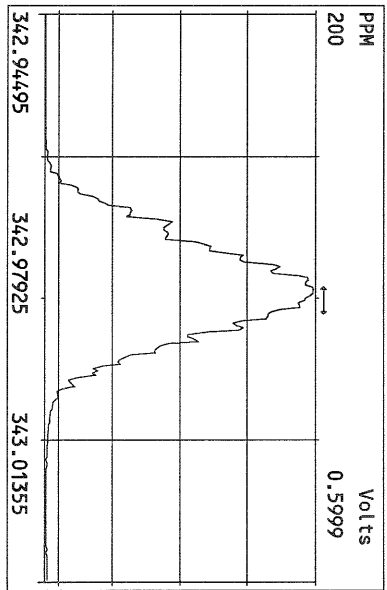
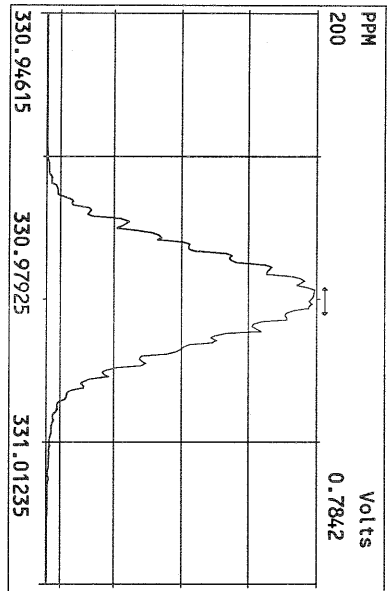
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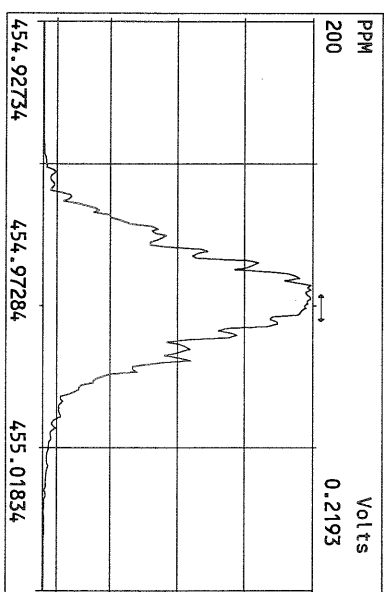
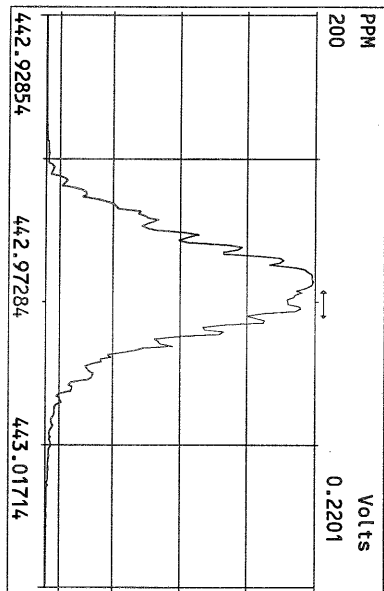
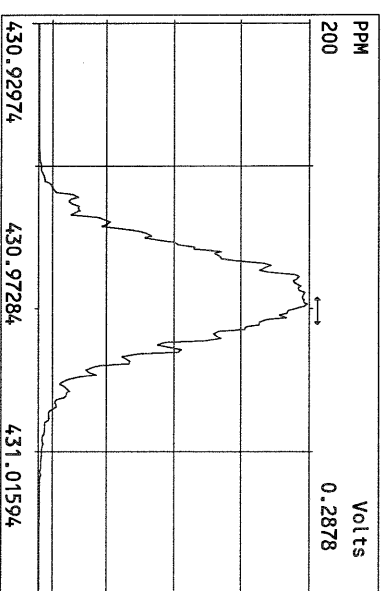
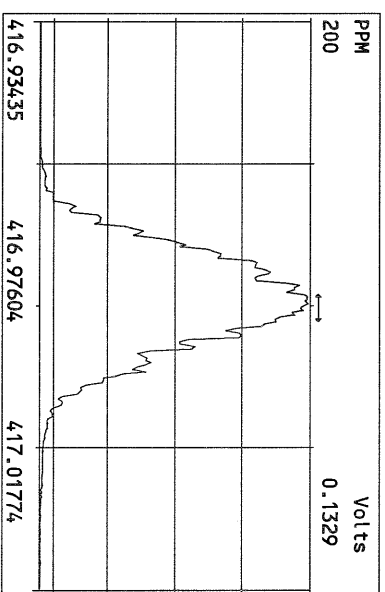
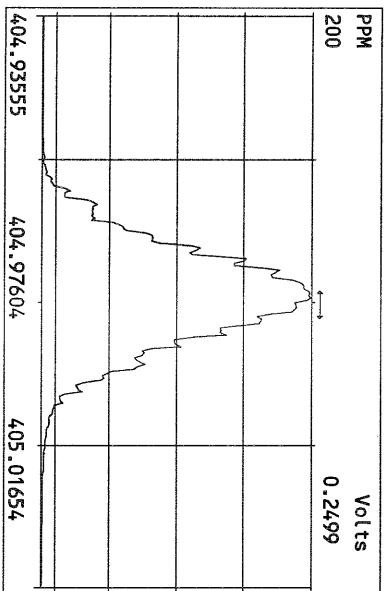
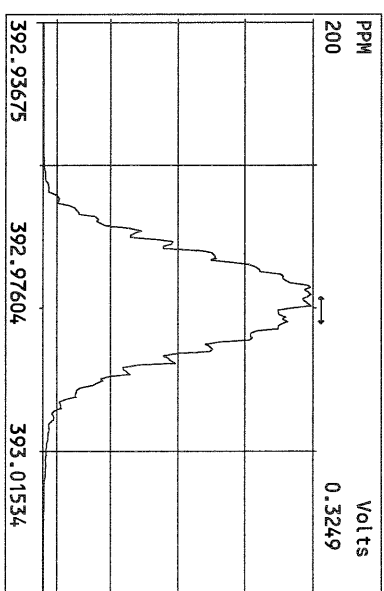
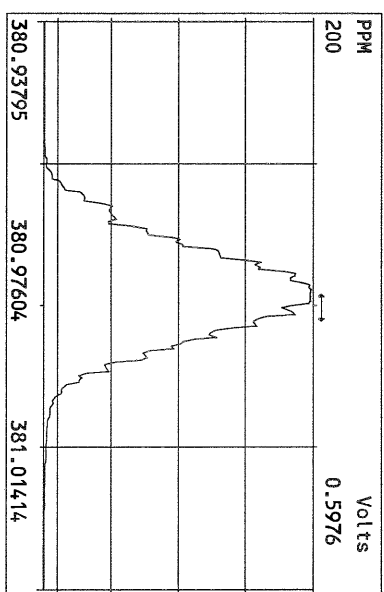
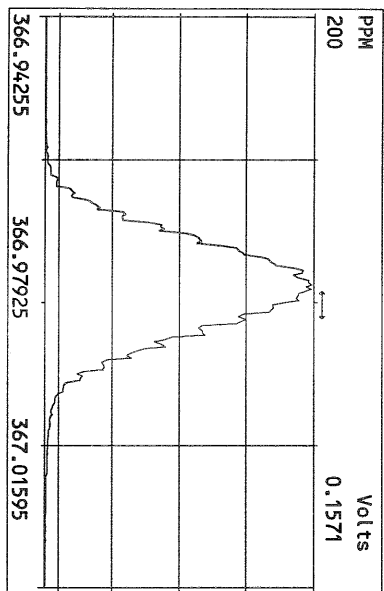
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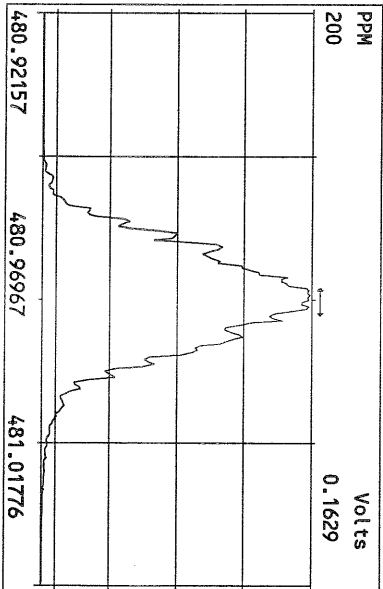
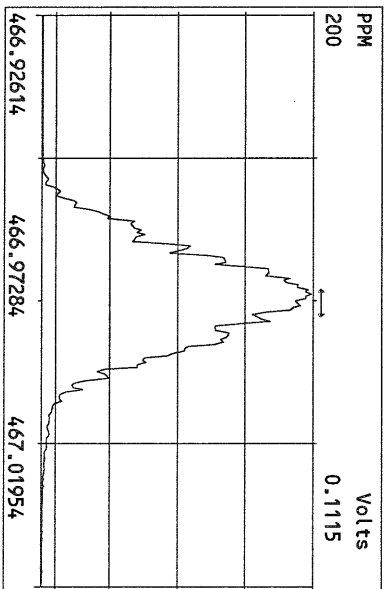
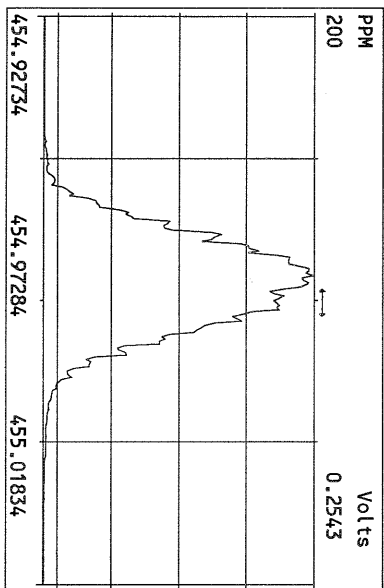
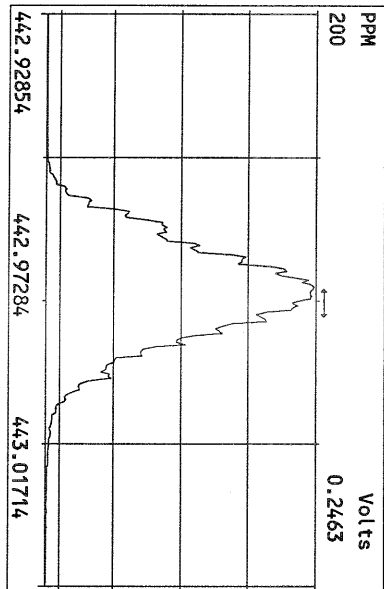
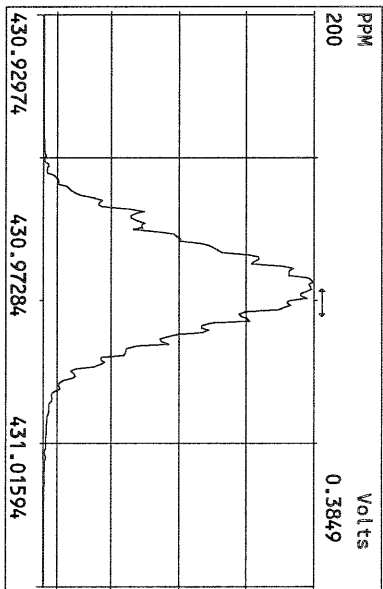
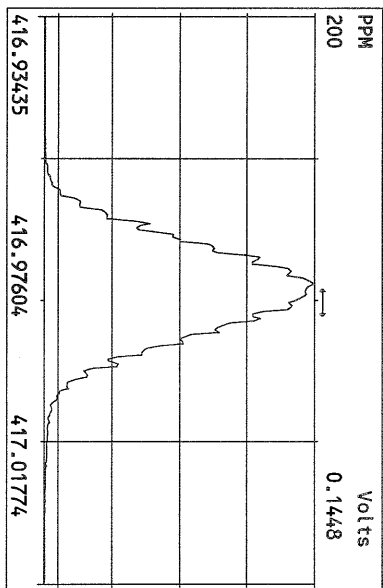
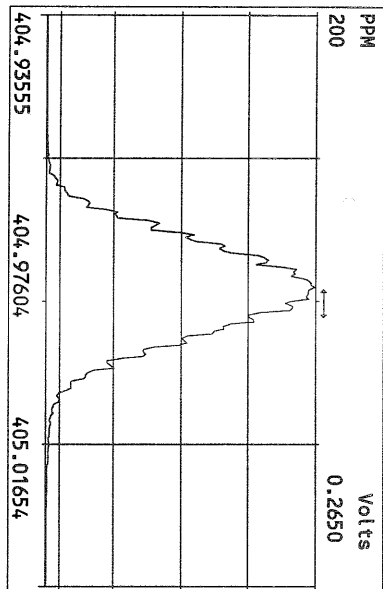
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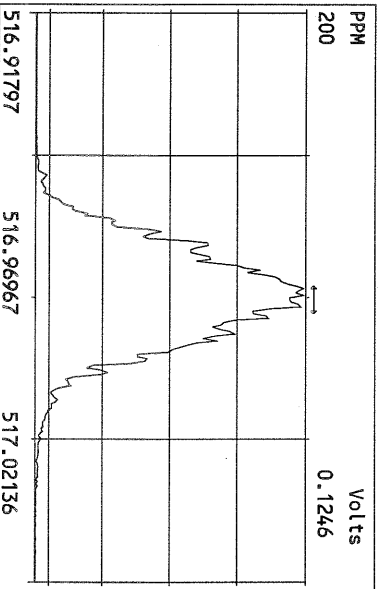
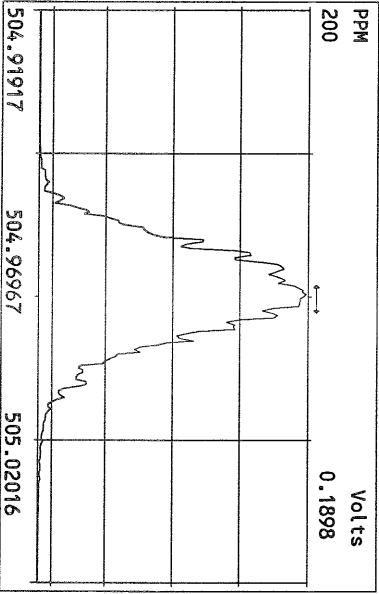
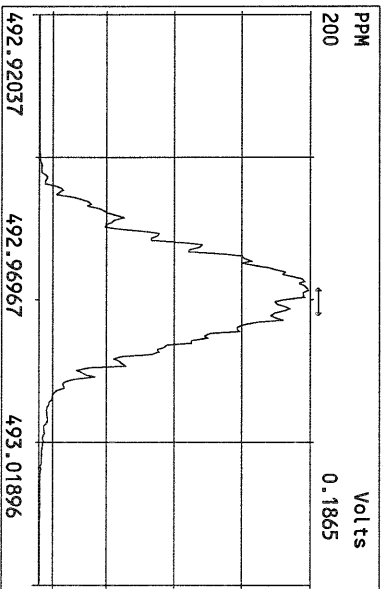
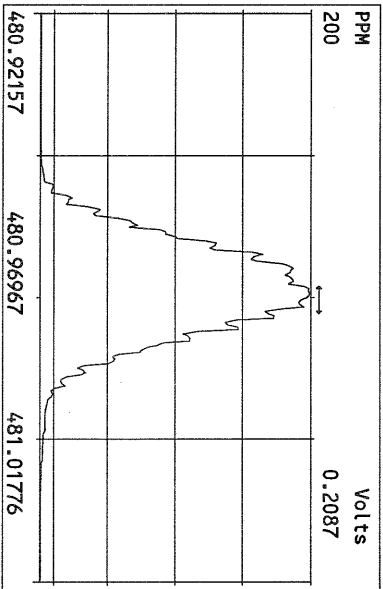
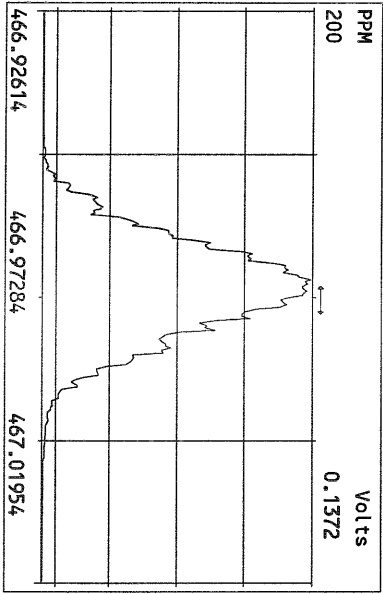
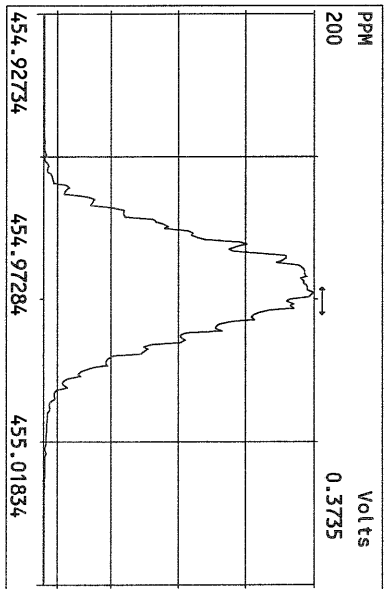
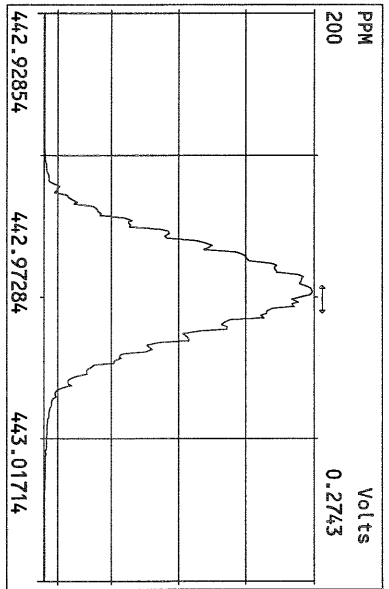
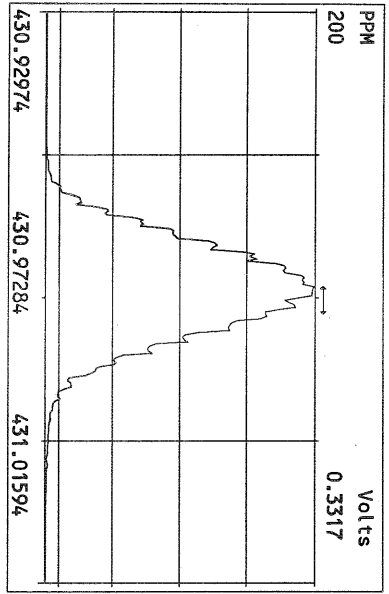




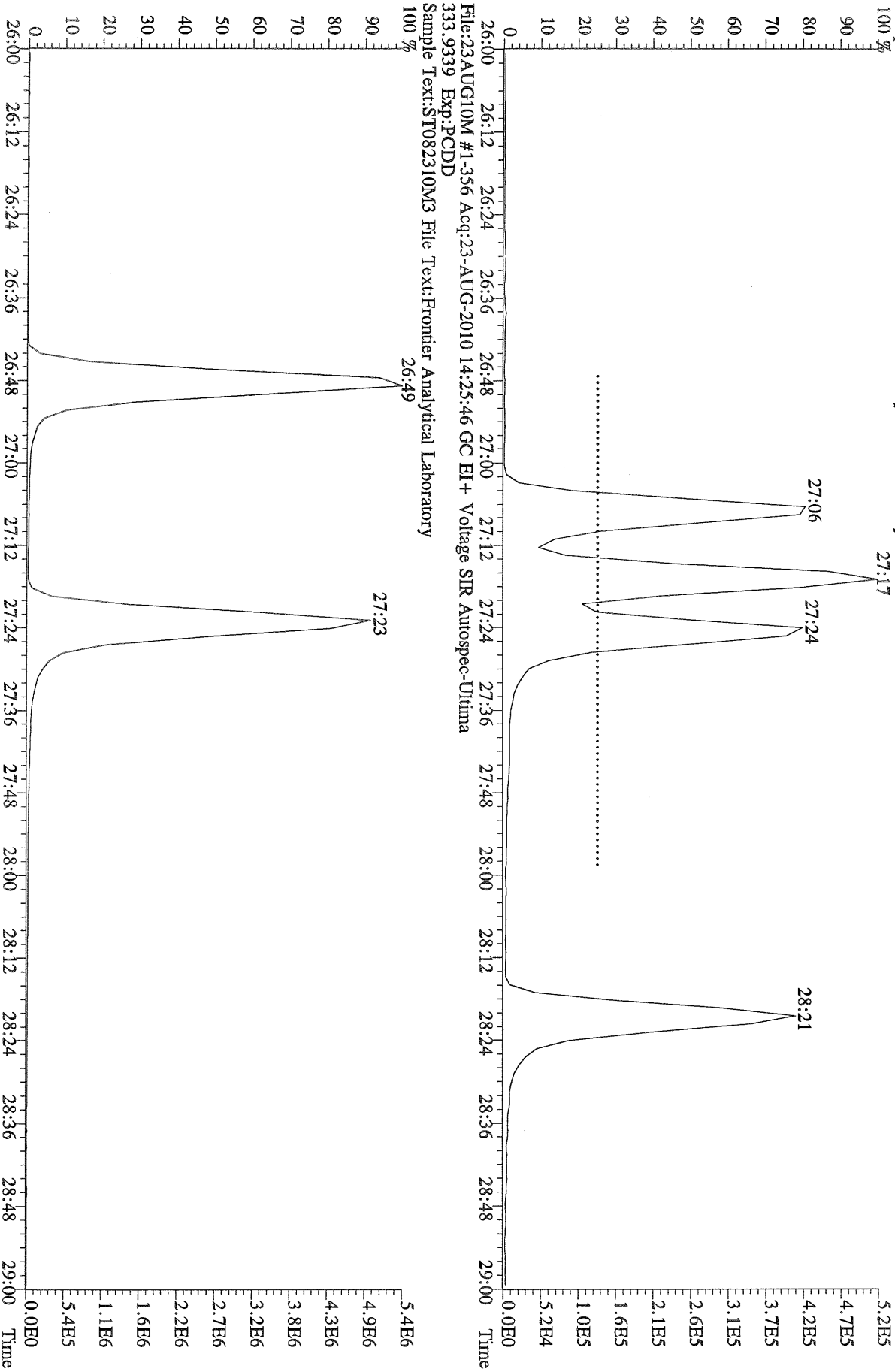






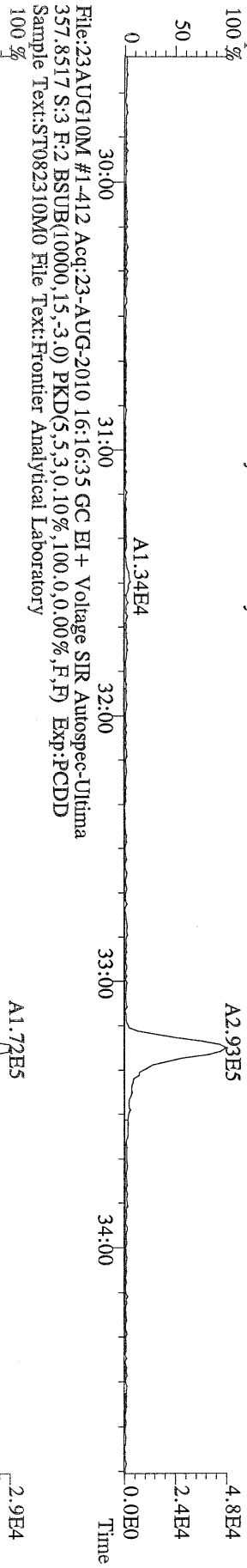


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319.8965 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

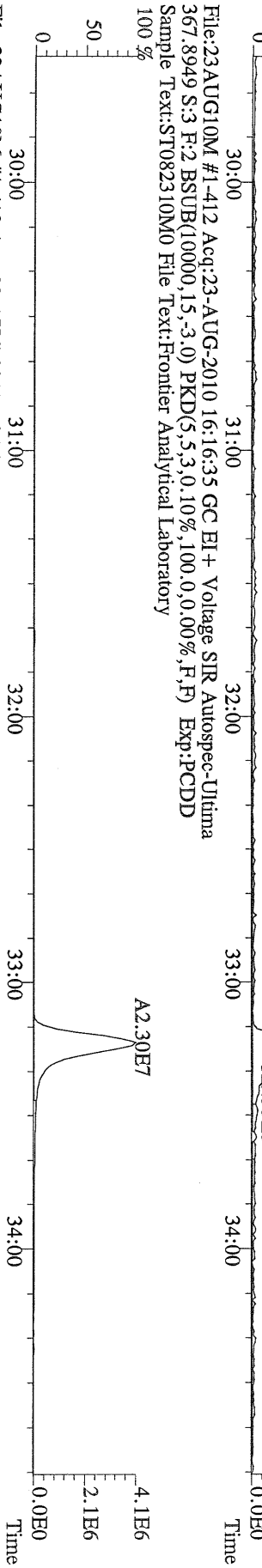




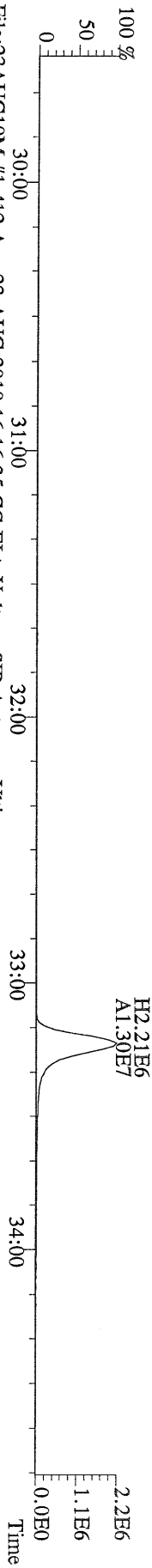
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 355.8546 S:3 F:2 BSub(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



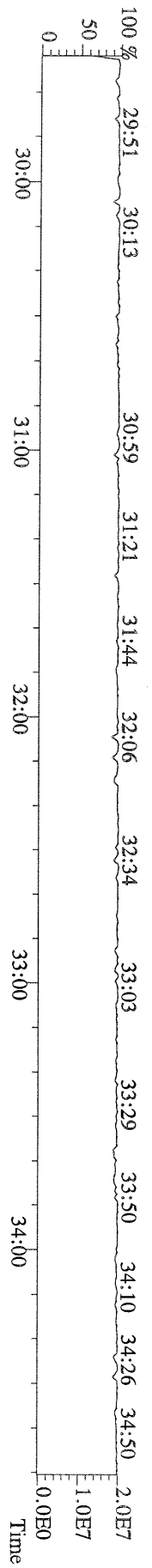
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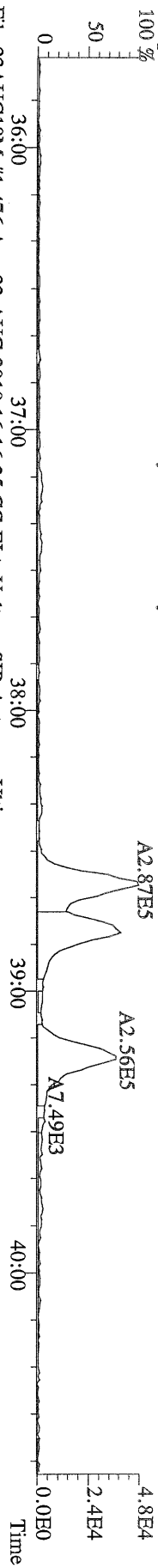
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 369.8919 S:3 F:2 BSub(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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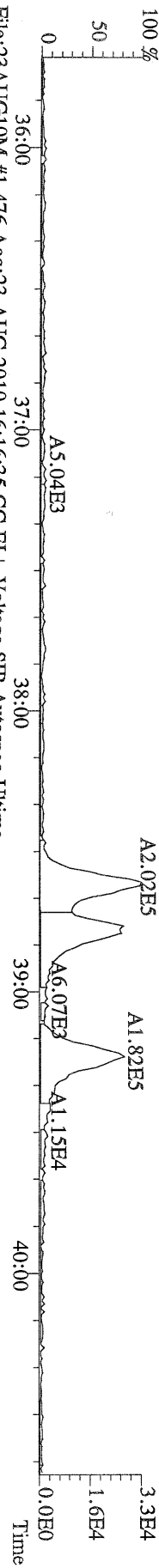
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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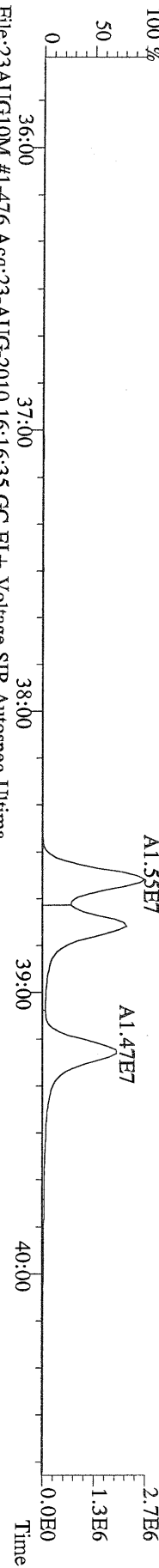
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 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



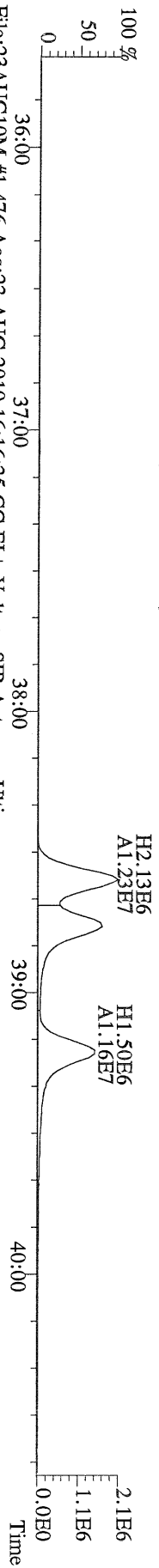
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 Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



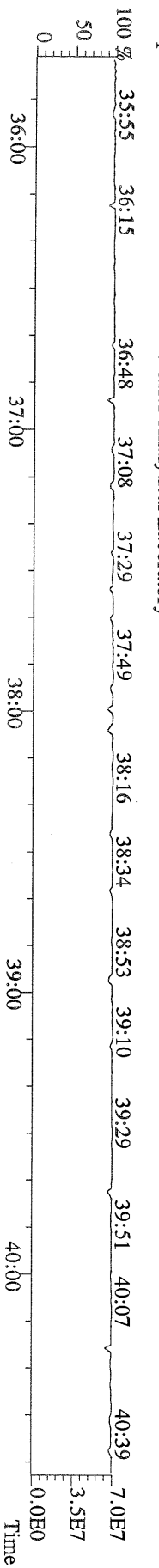
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 401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory

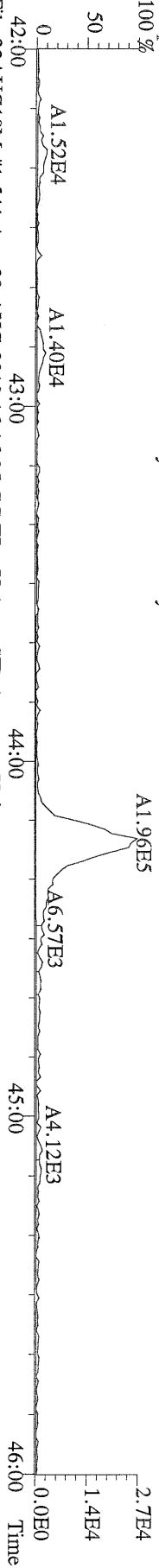


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 380.9760 S:3 F:3 Exp:PCDD  
 Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory

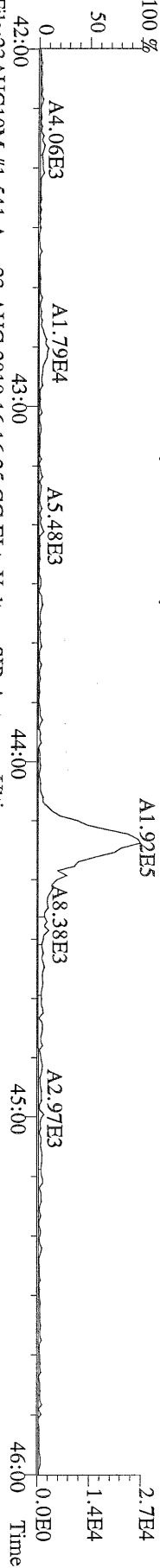




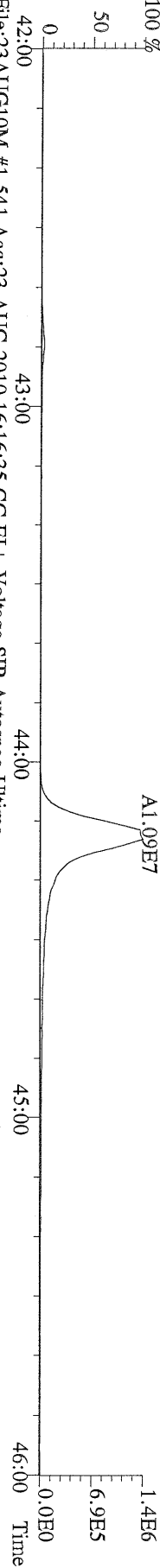
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 423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



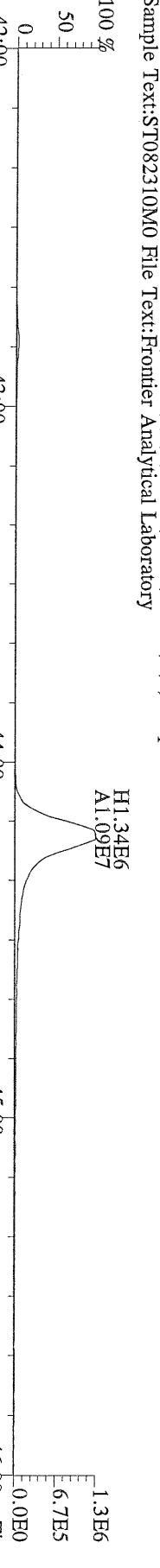
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



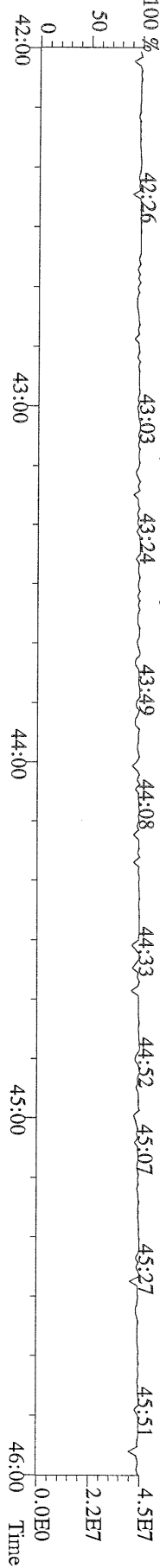
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



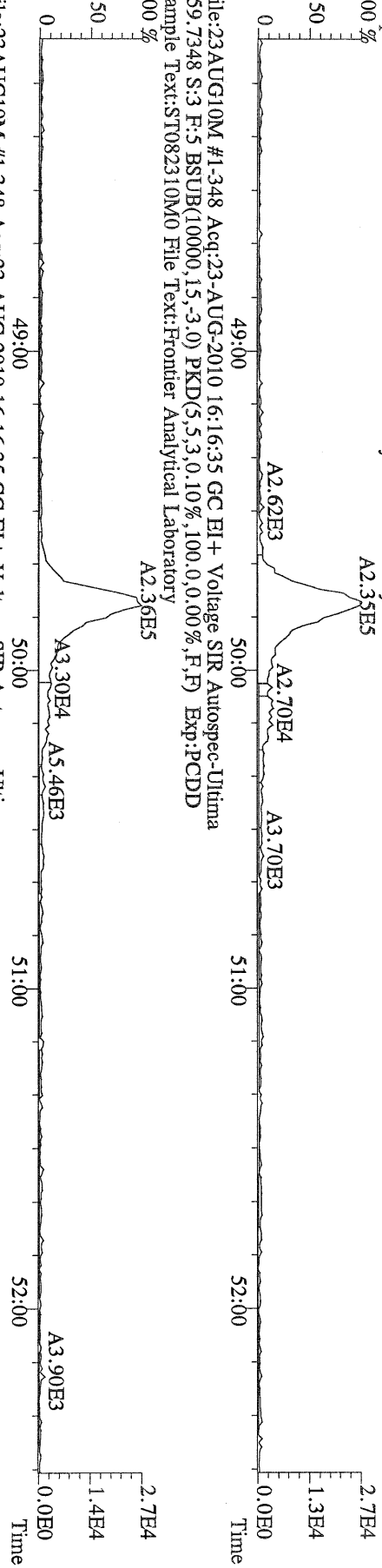
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



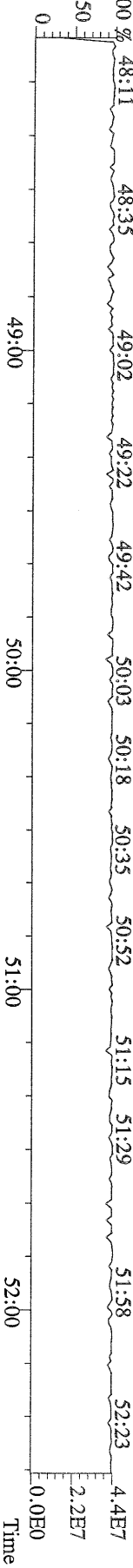
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



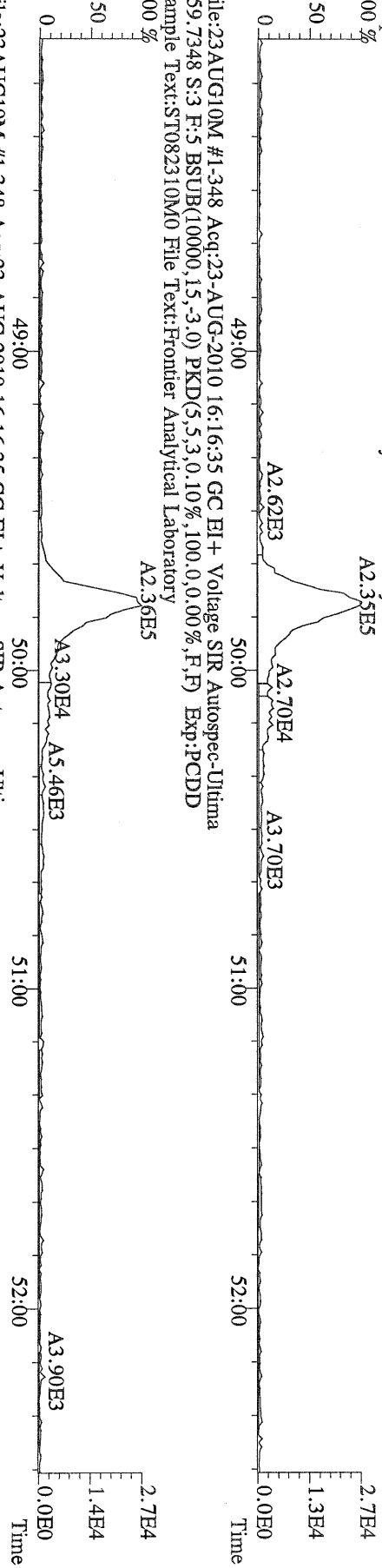
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



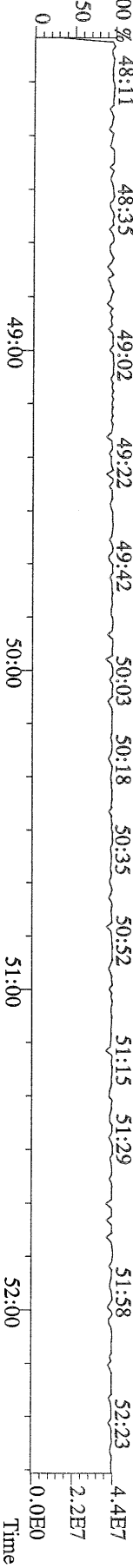
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Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



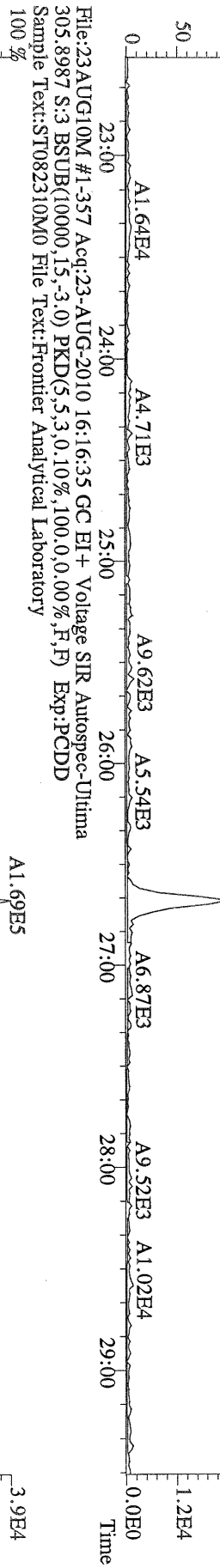
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Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



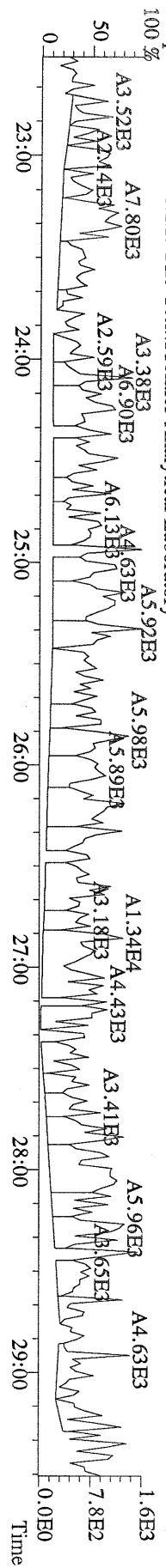
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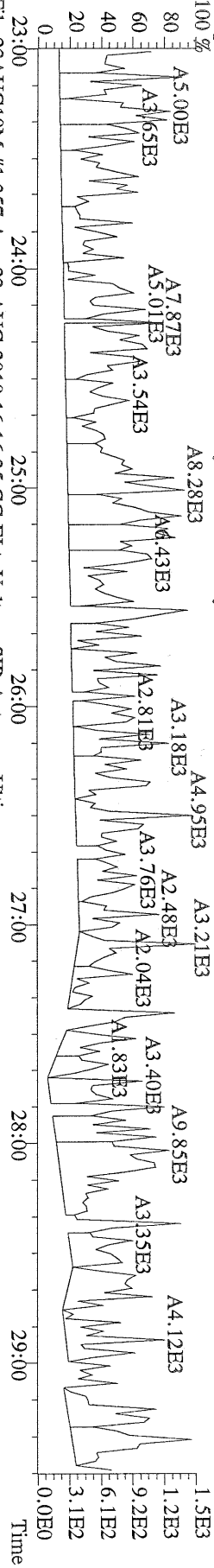
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 315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



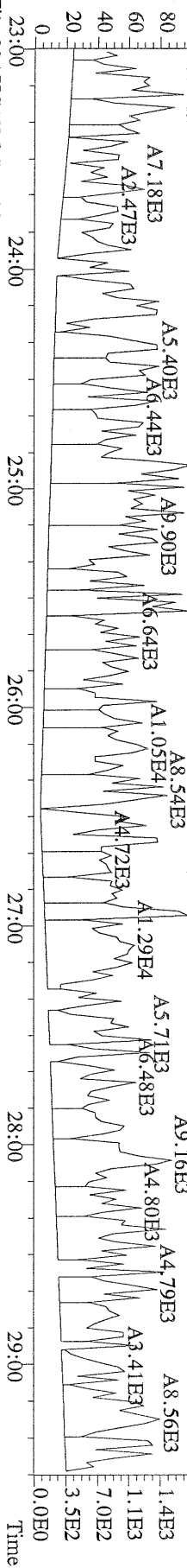
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
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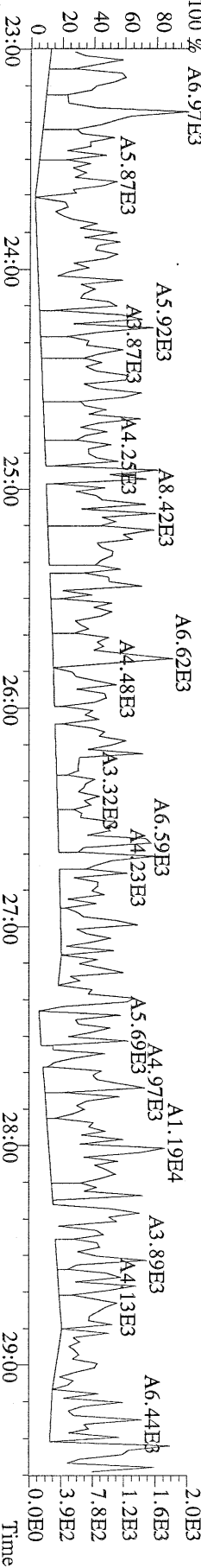
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S.3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



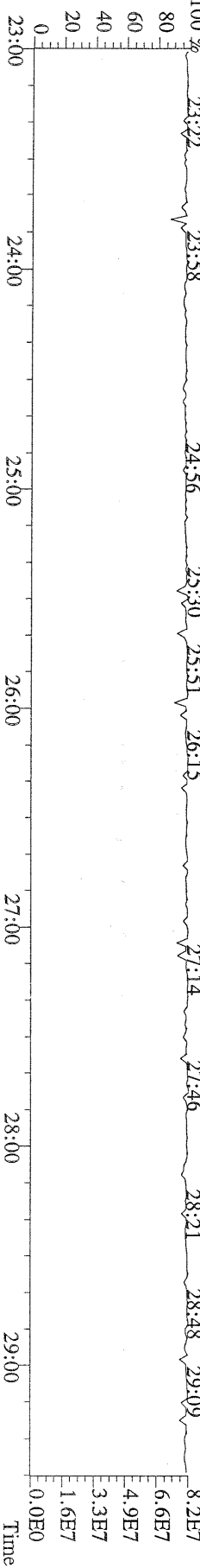
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S.3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



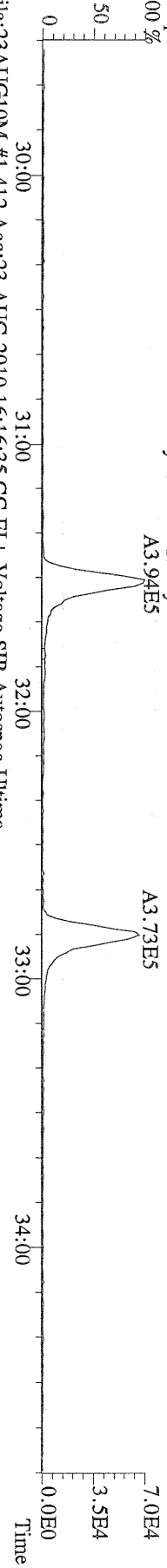
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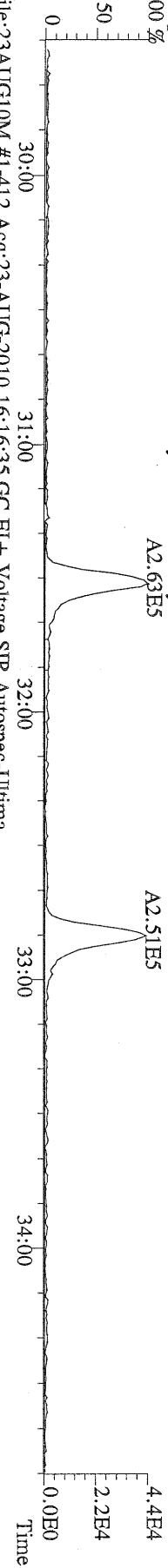
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



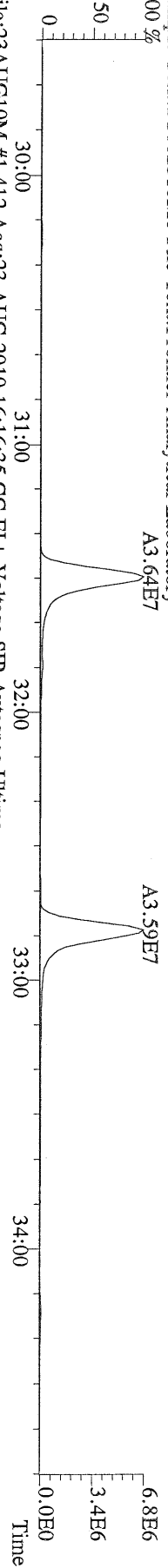
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 339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
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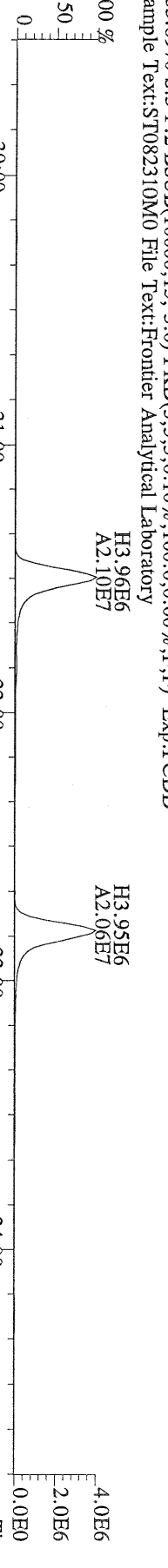
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



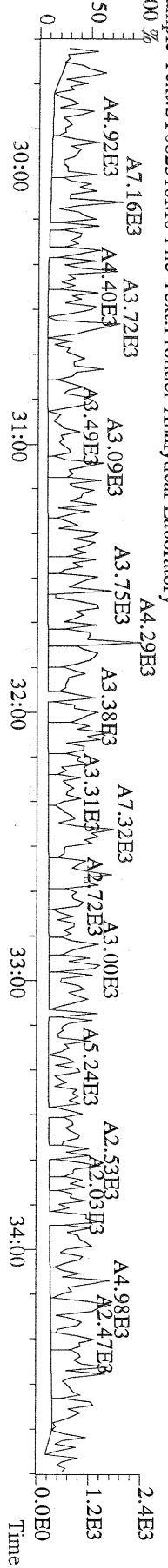
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File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
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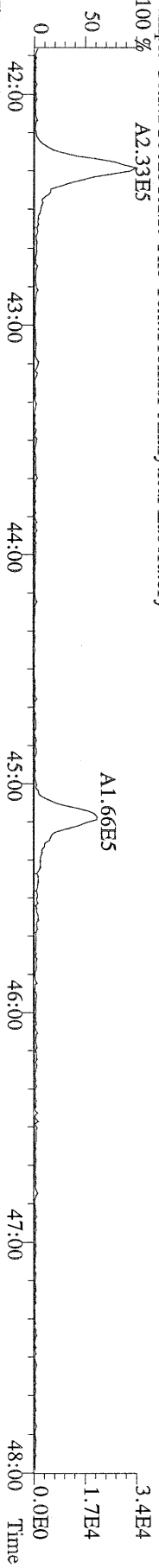


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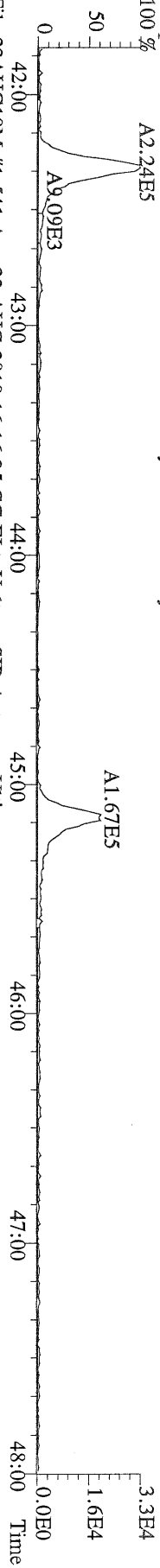




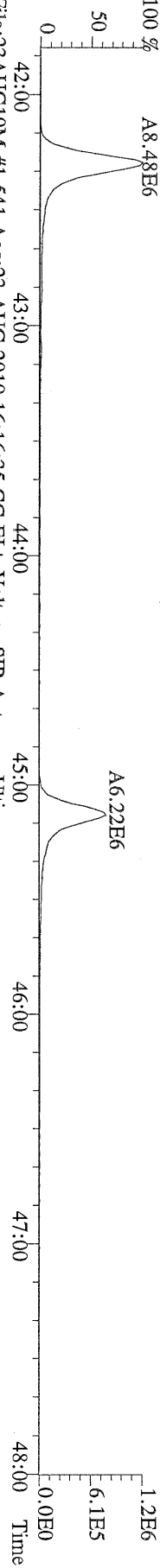
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 100 % A2.33E5



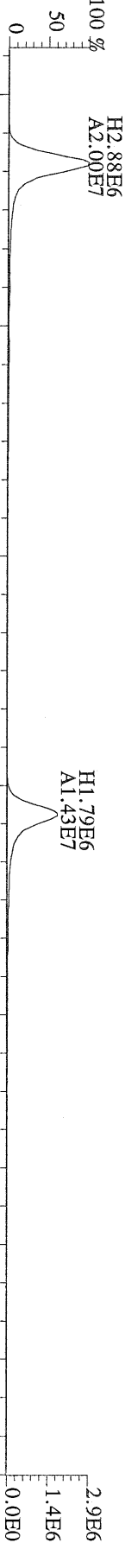
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 100 % A2.24E5



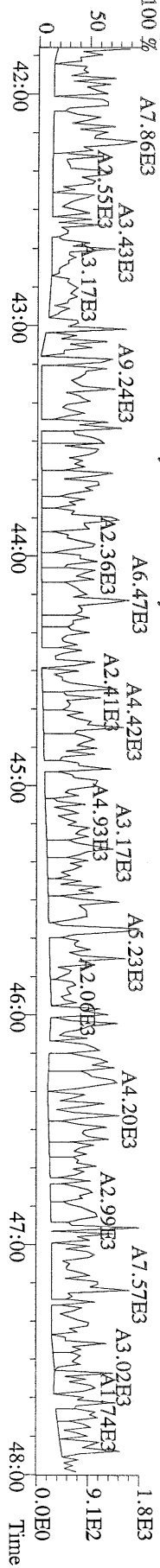
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 100 % A8.48E6



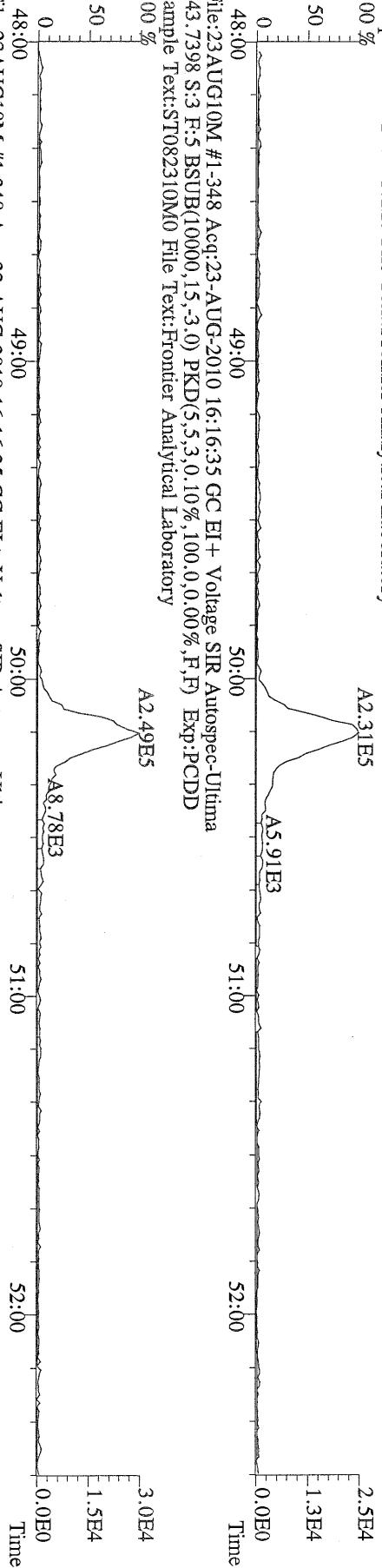
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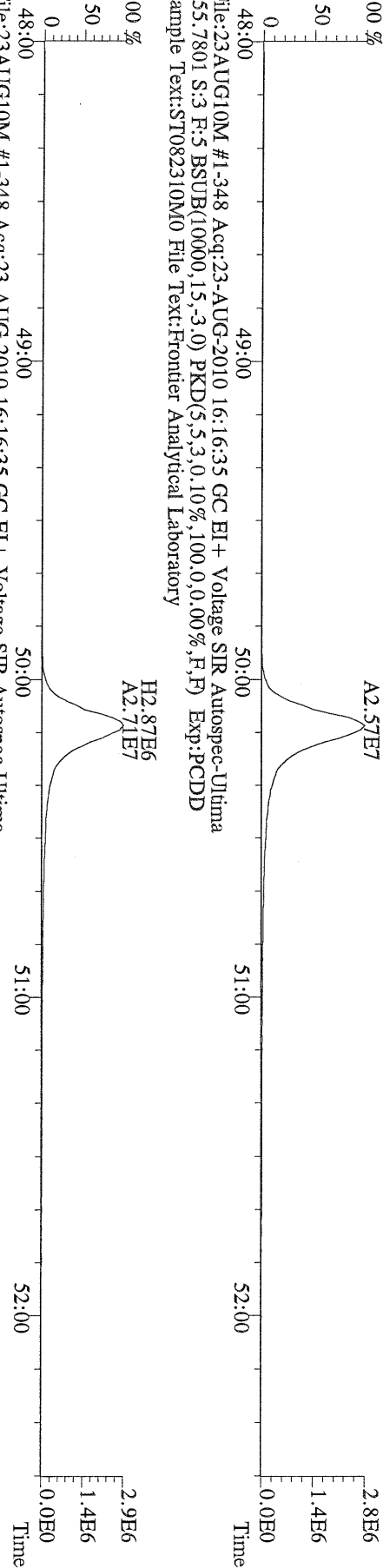
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %

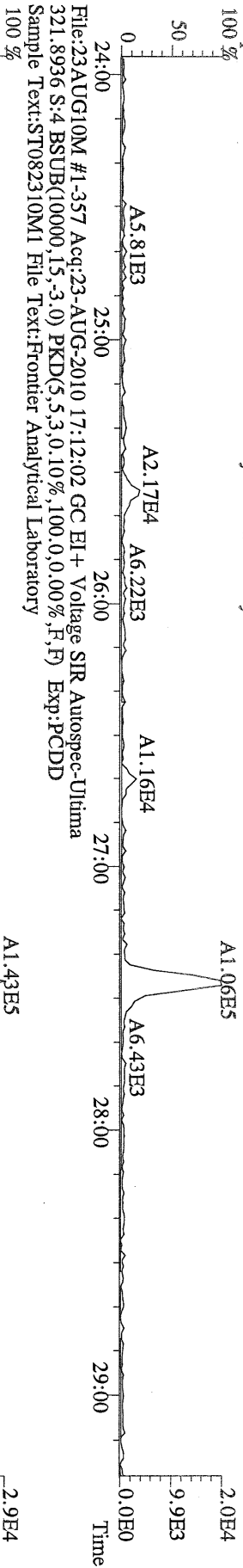


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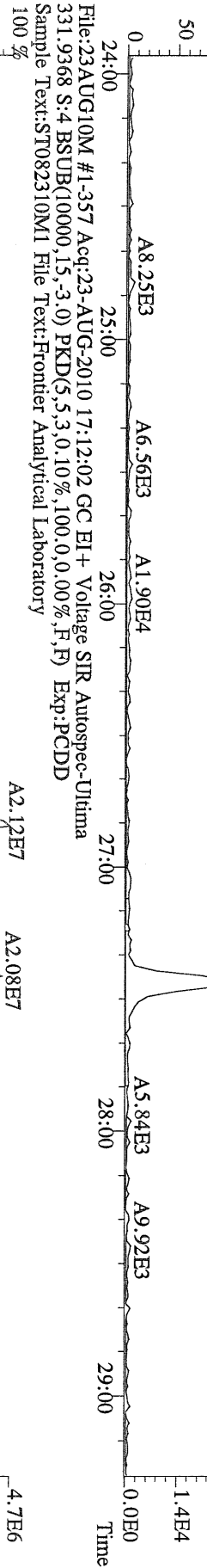




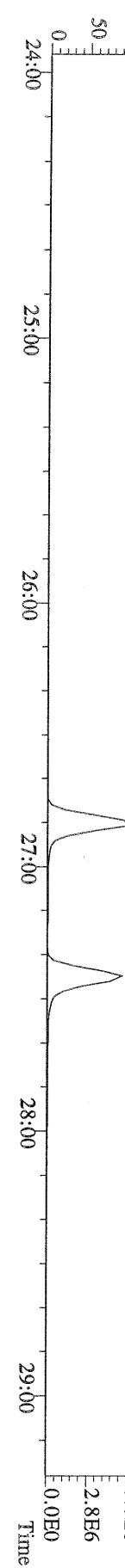
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319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



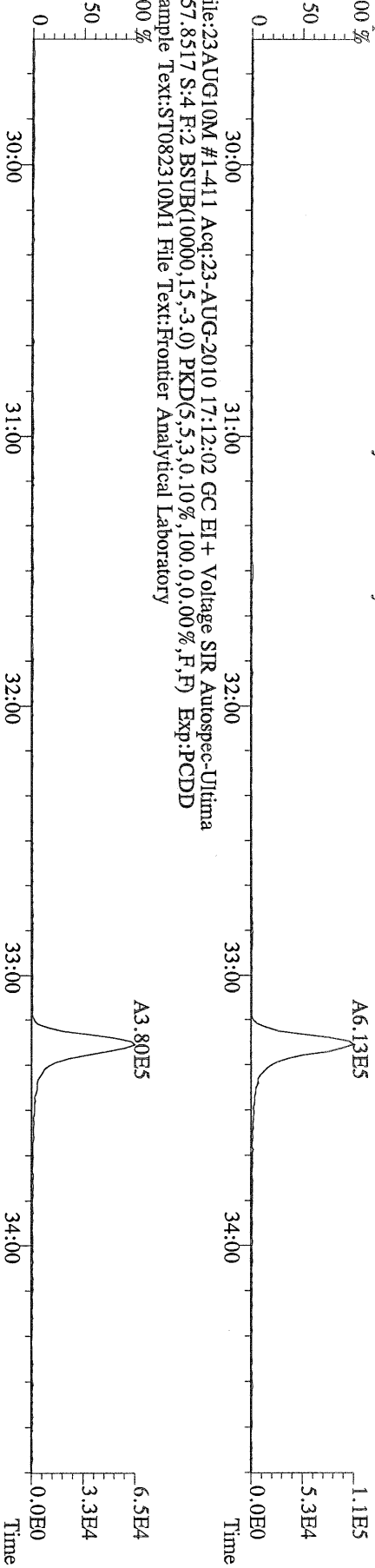
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327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



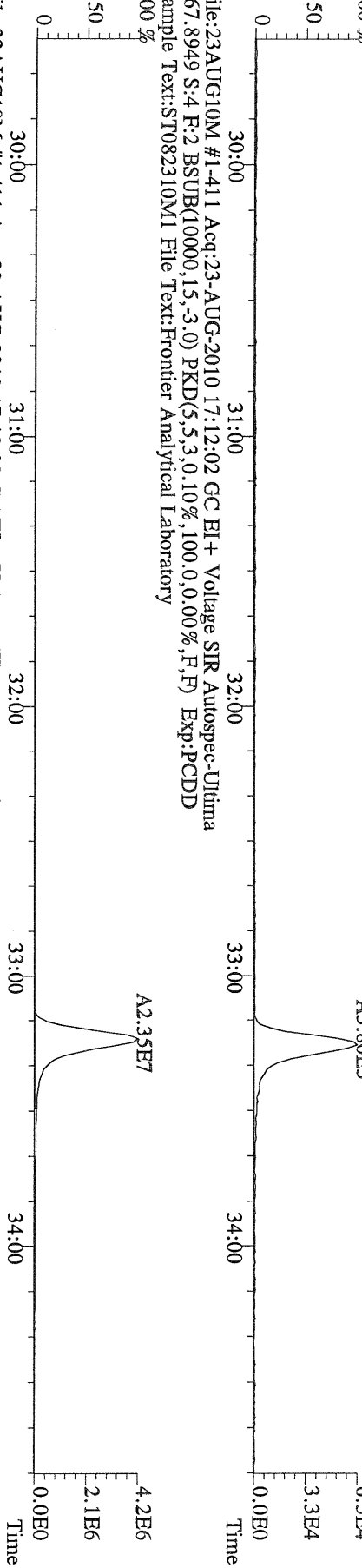
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333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



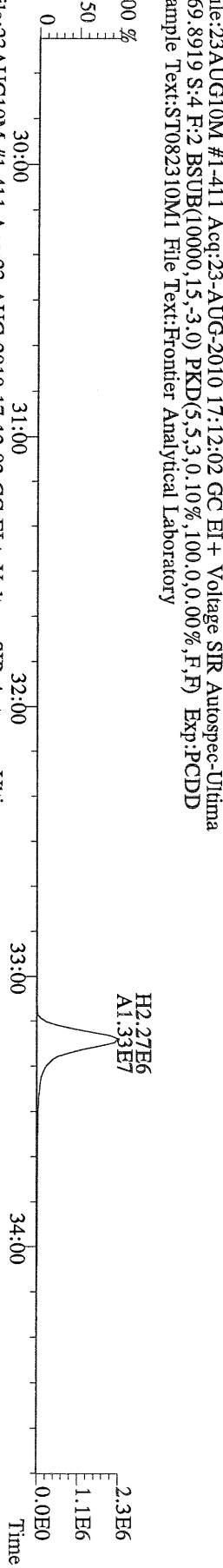
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355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



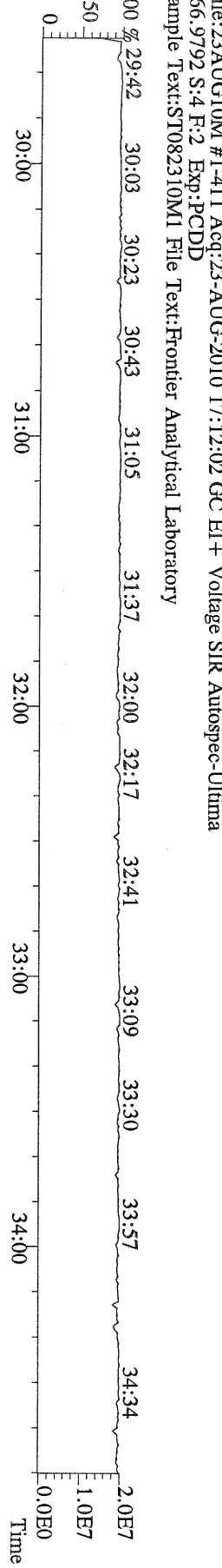
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357.8517 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



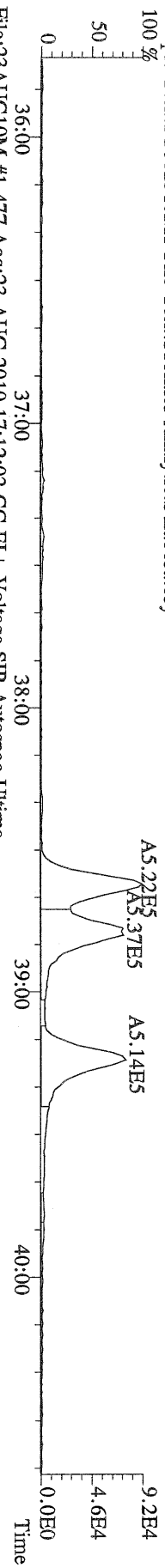
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367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



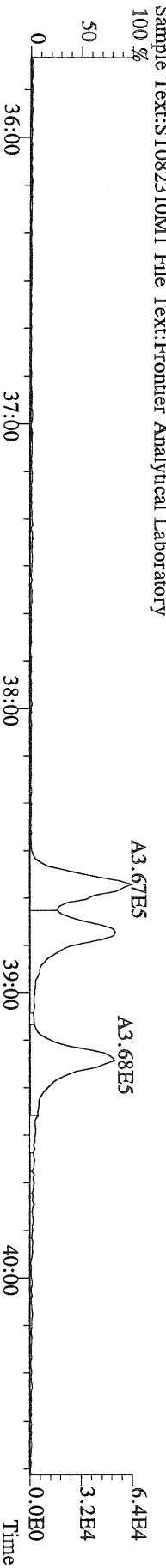
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369.8919 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



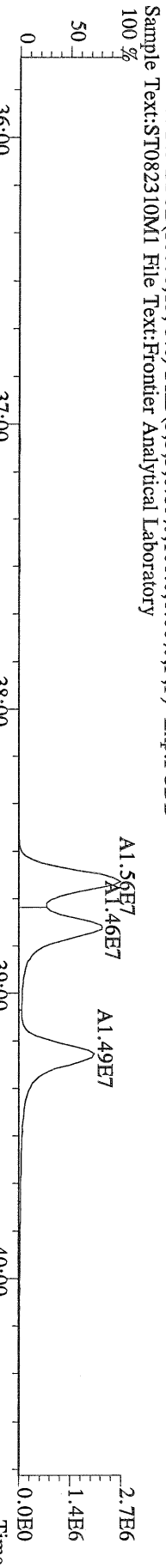
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 389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



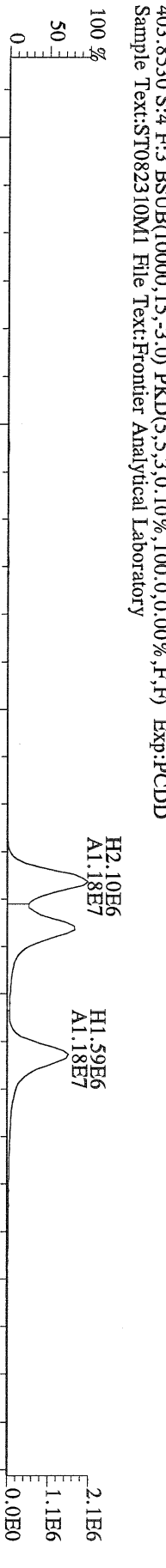
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 391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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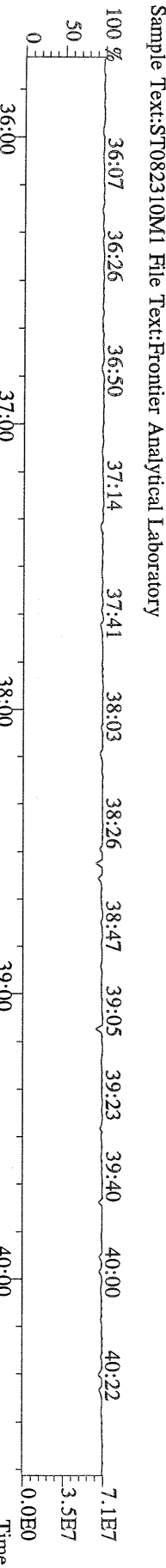
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 401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



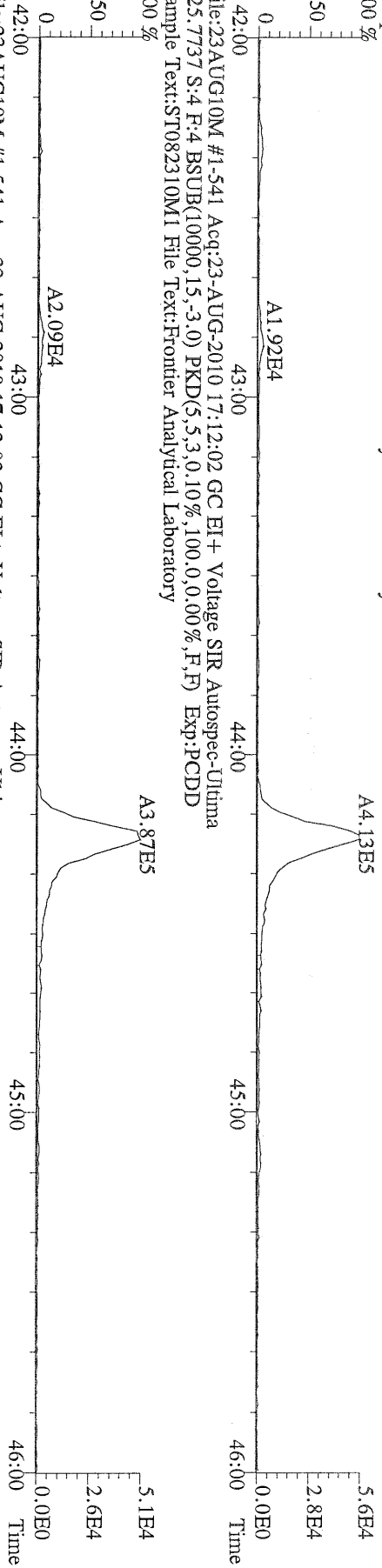
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 403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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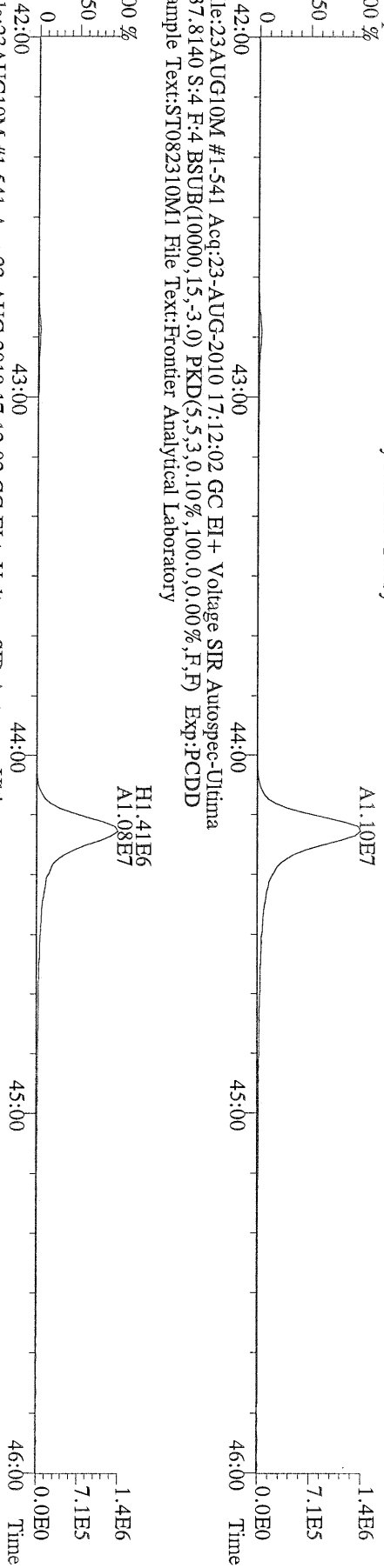
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 380.9760 S:4 F:3 Exp:PCDD  
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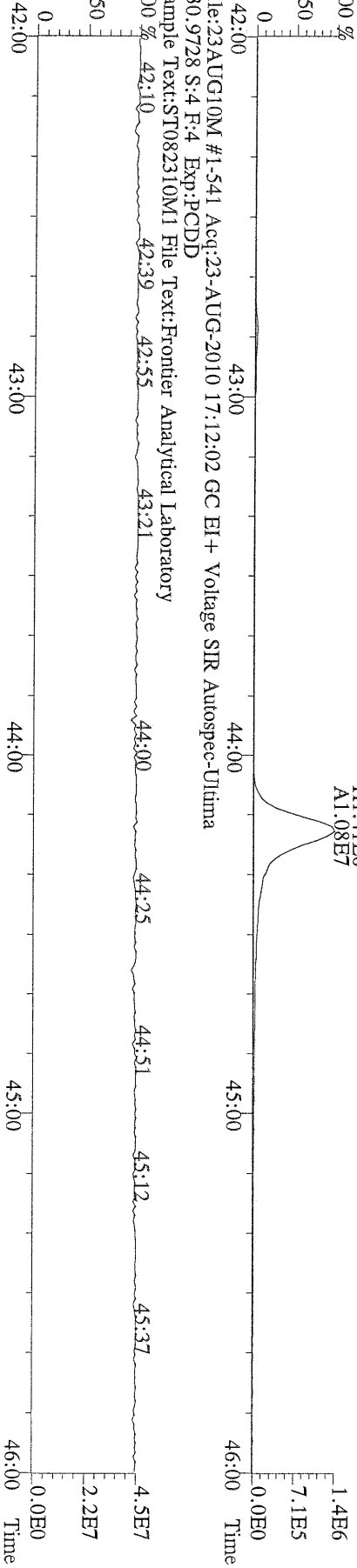
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423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



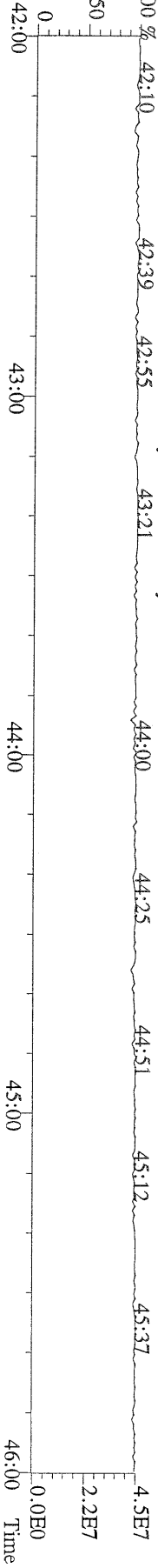
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435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
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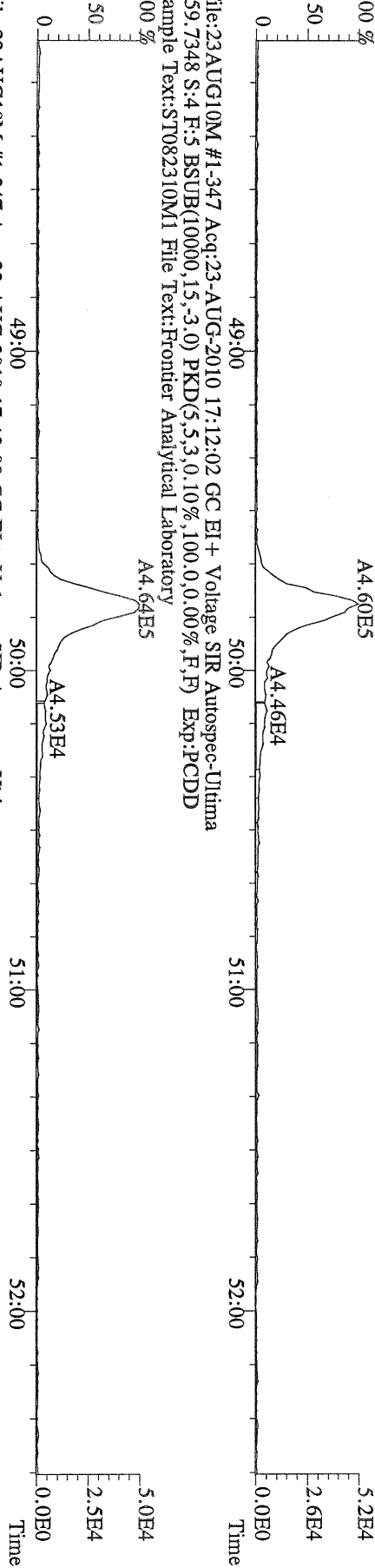
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437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
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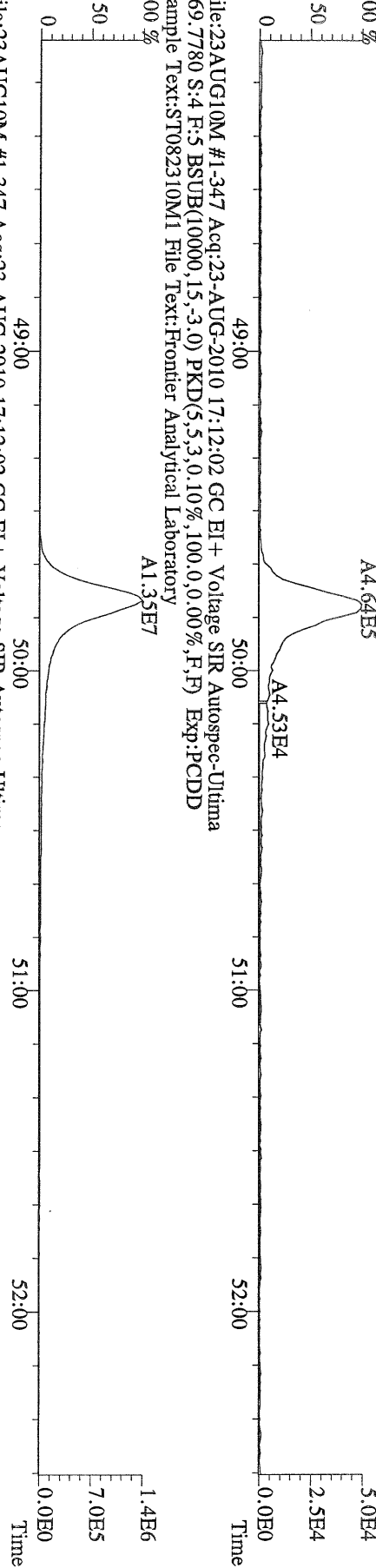
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100 %



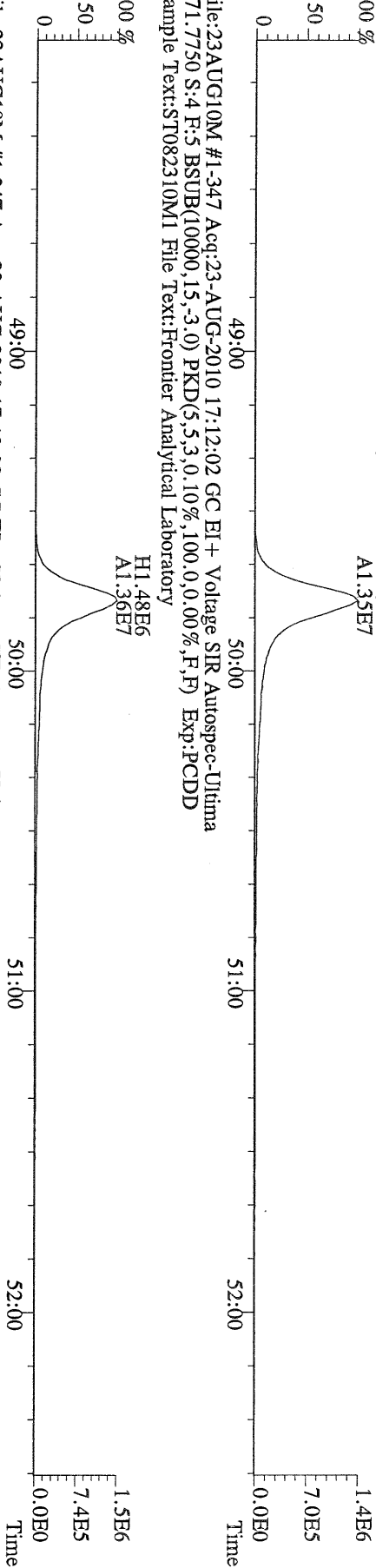
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Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
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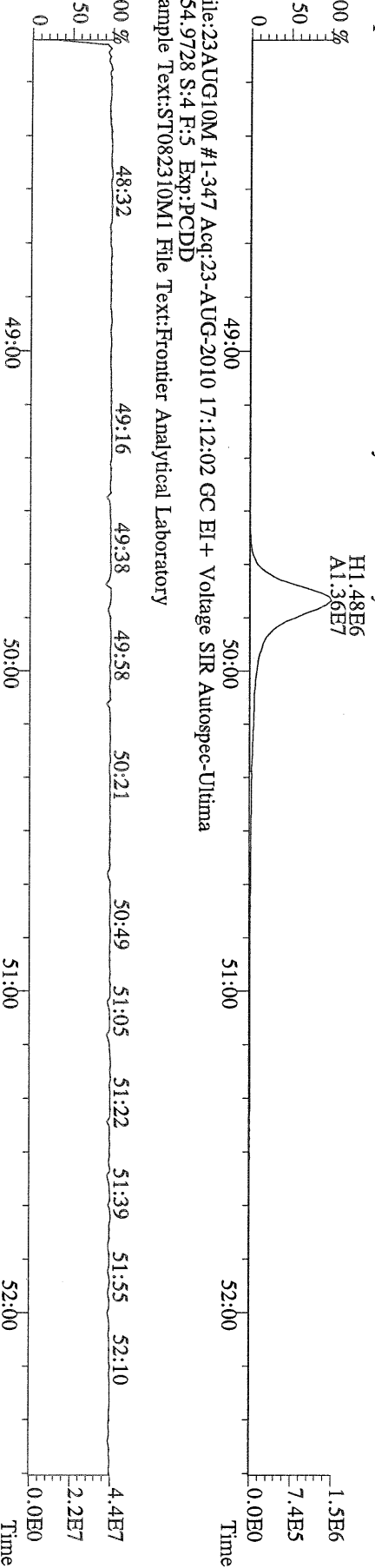
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459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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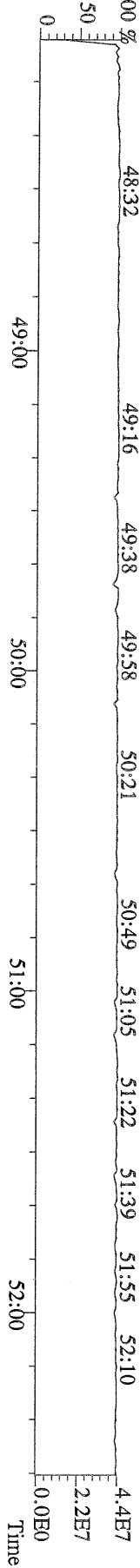
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469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
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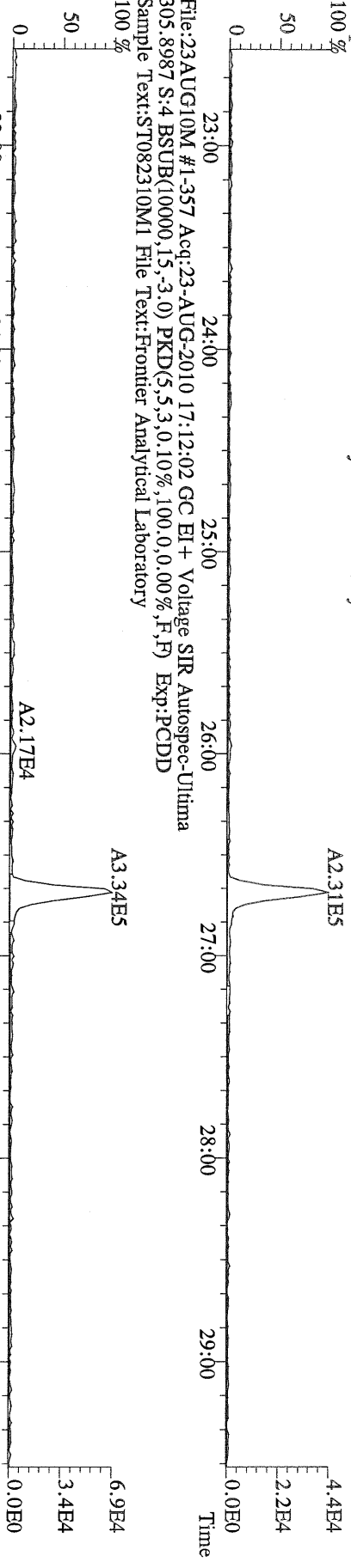
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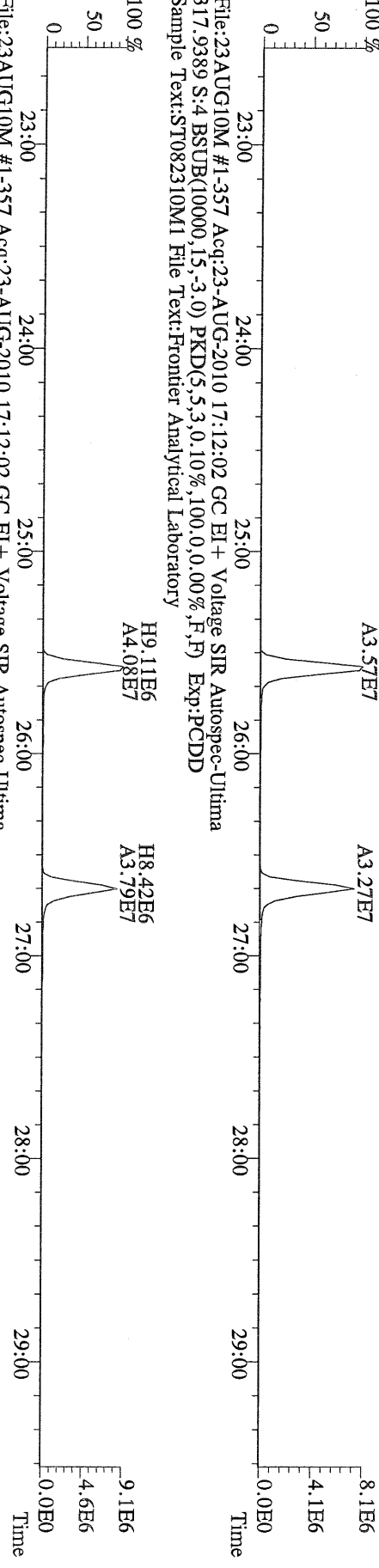
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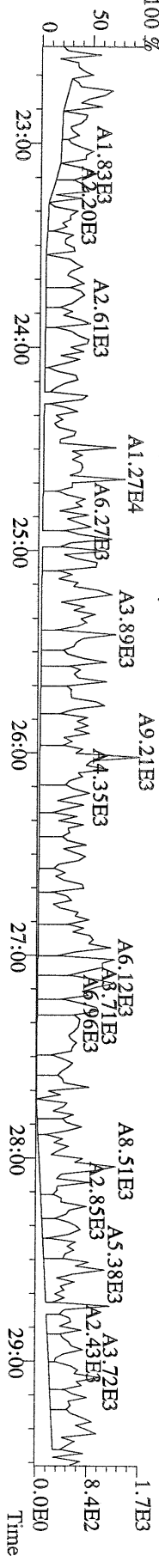
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303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI + Voltage SIR Autospec-Ultima  
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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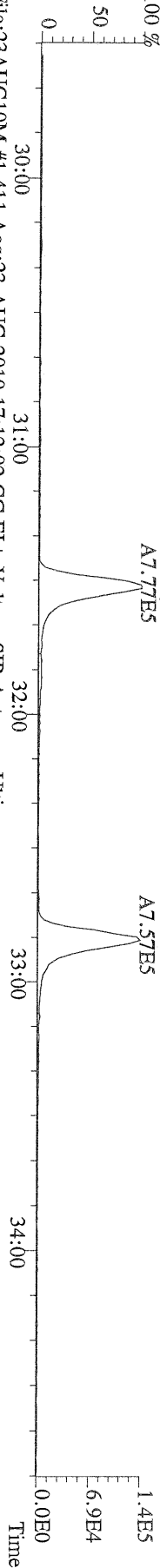


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317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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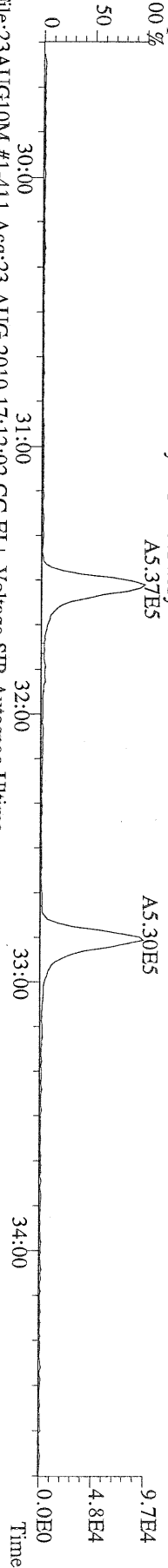




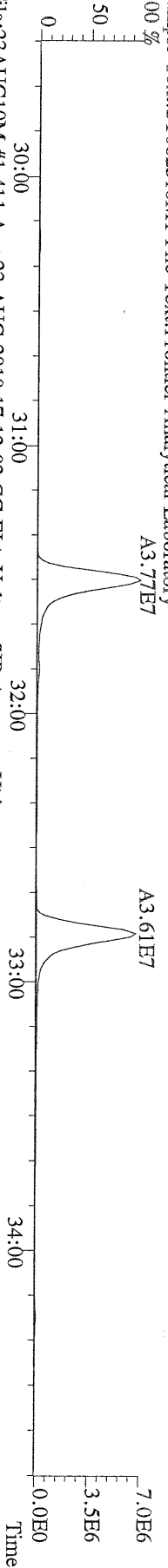
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 339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



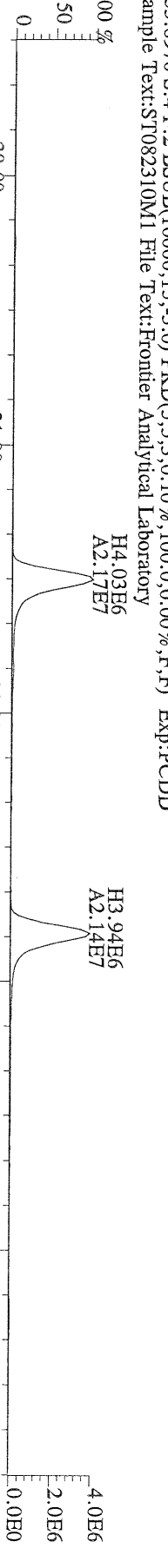
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 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



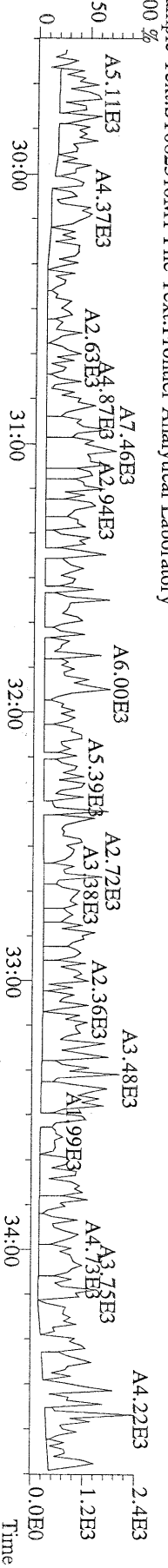
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 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



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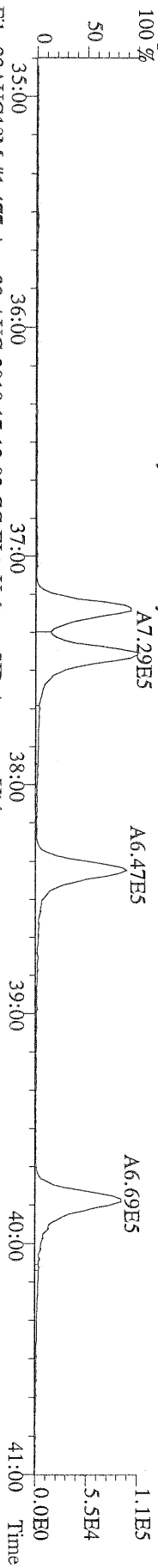


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 409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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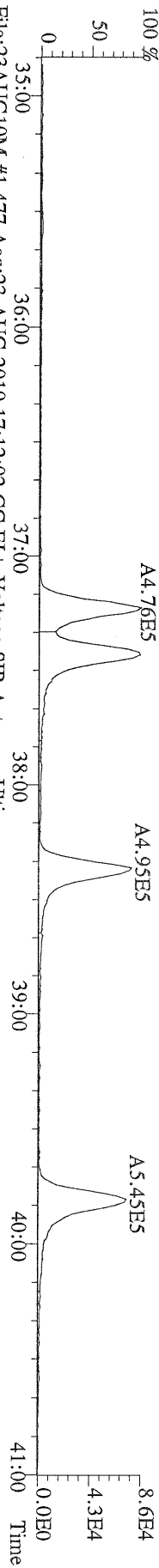




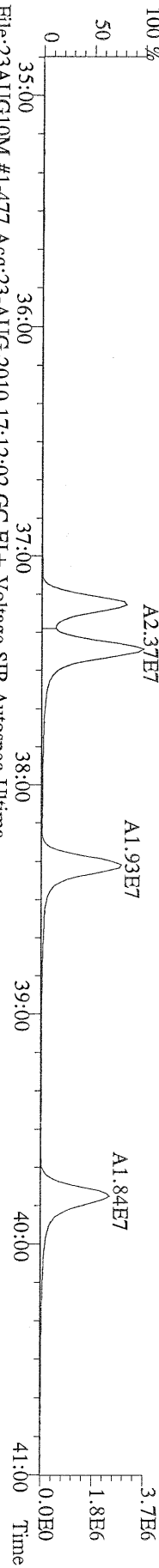
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 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



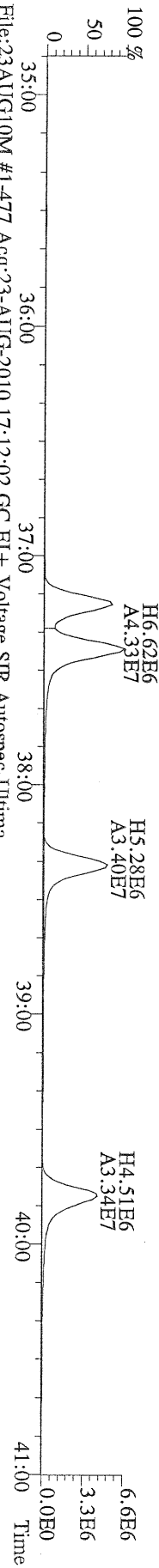
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 375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



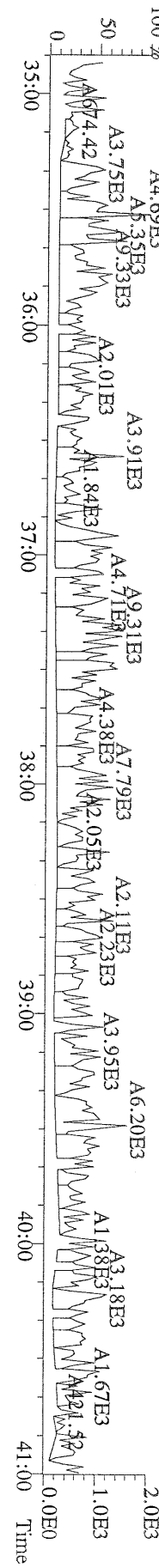
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 383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



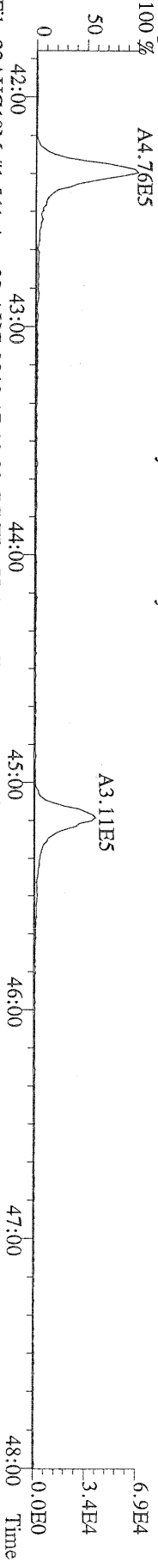
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 385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



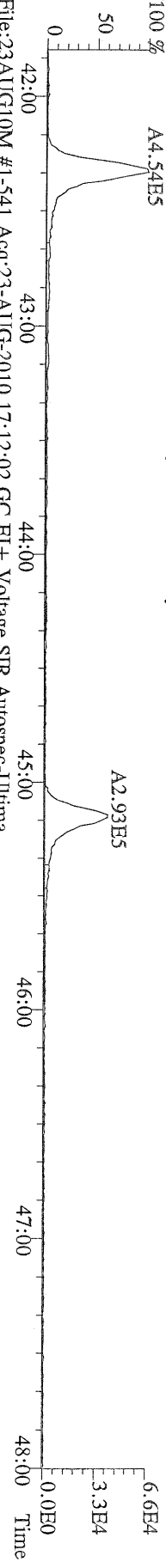
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 445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



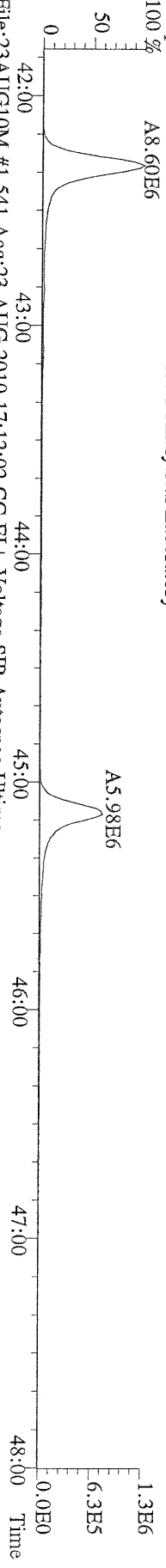
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



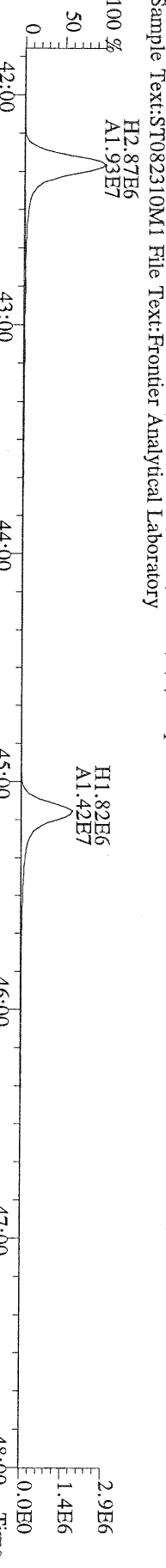
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



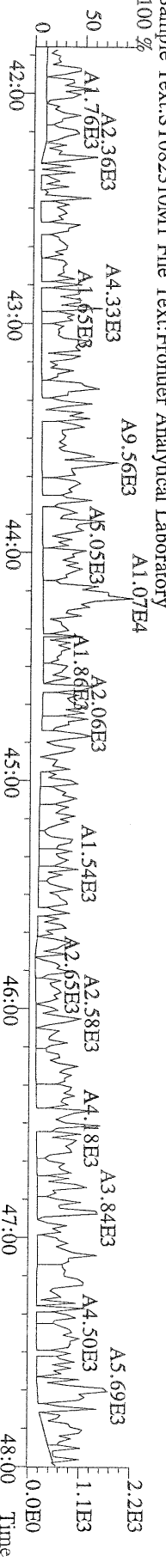
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



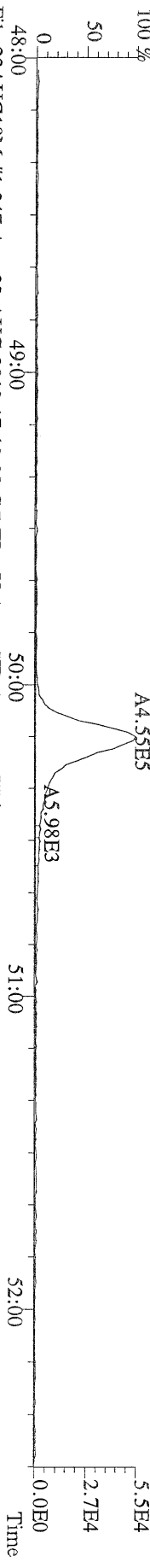
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419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



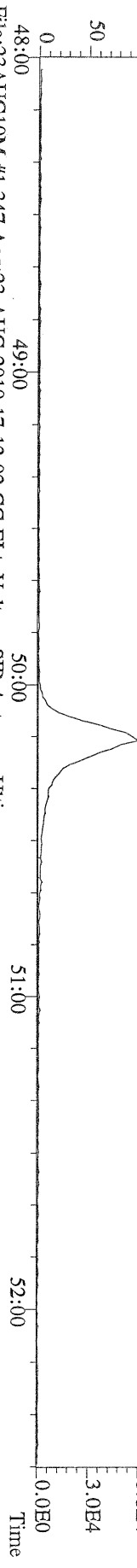
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479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



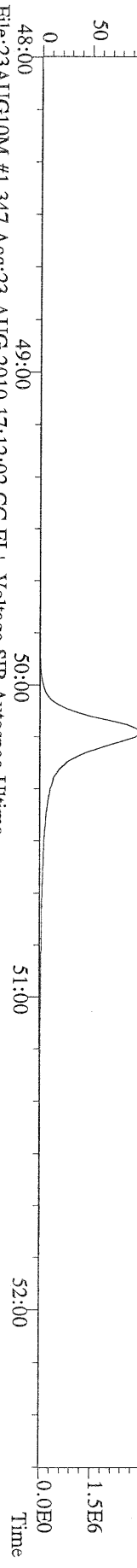
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441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



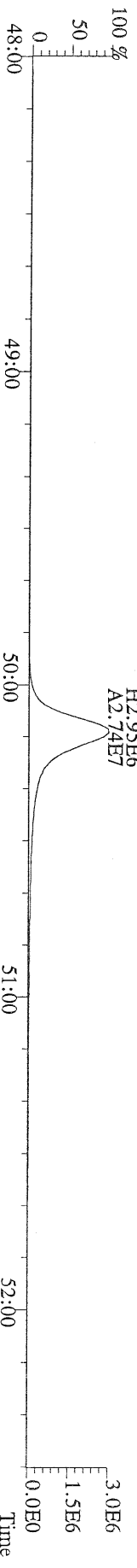
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443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



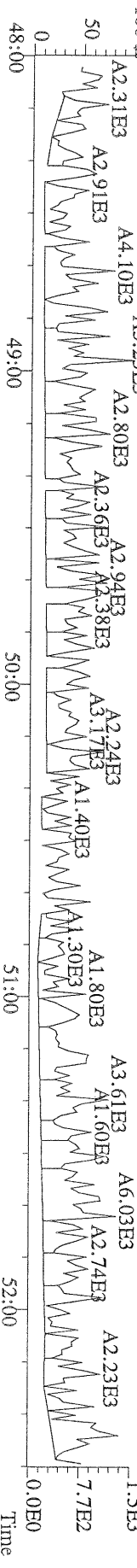
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453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



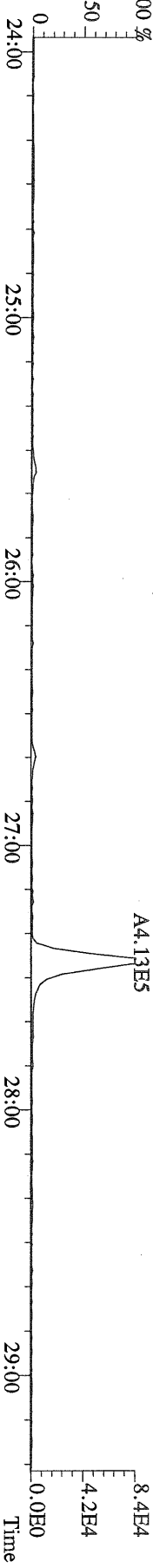
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455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



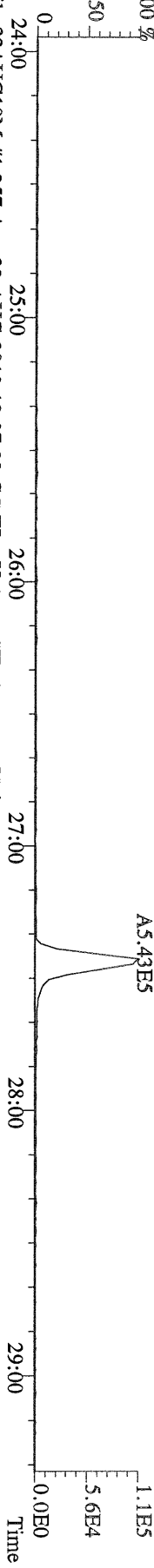
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513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



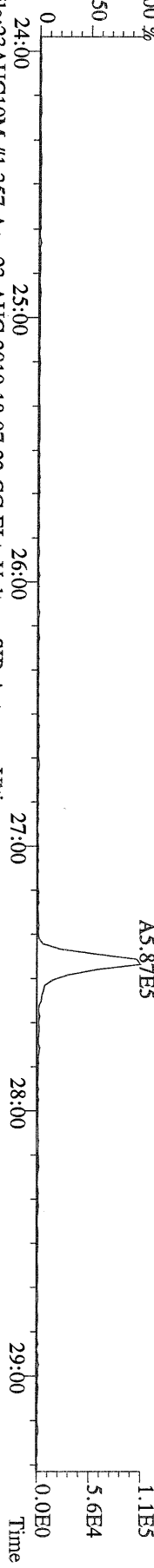
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



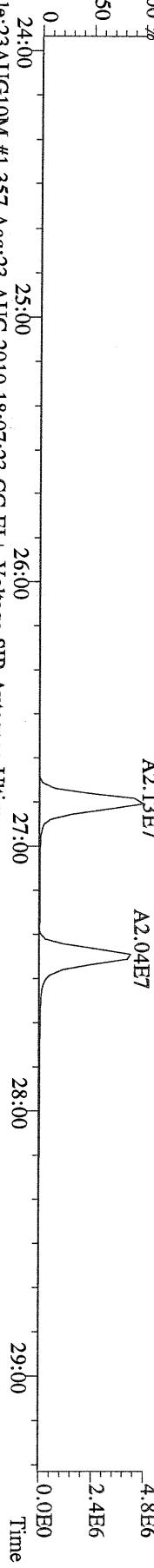
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321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



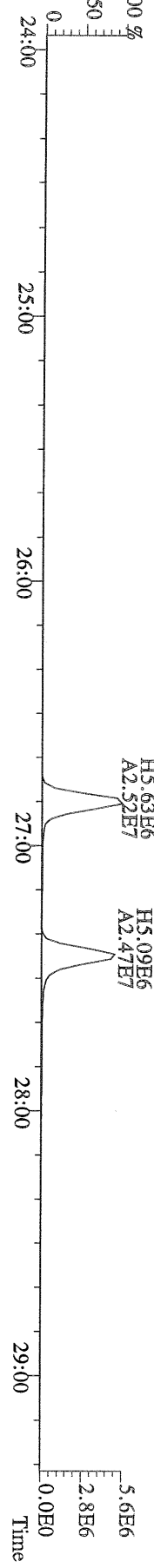
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327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



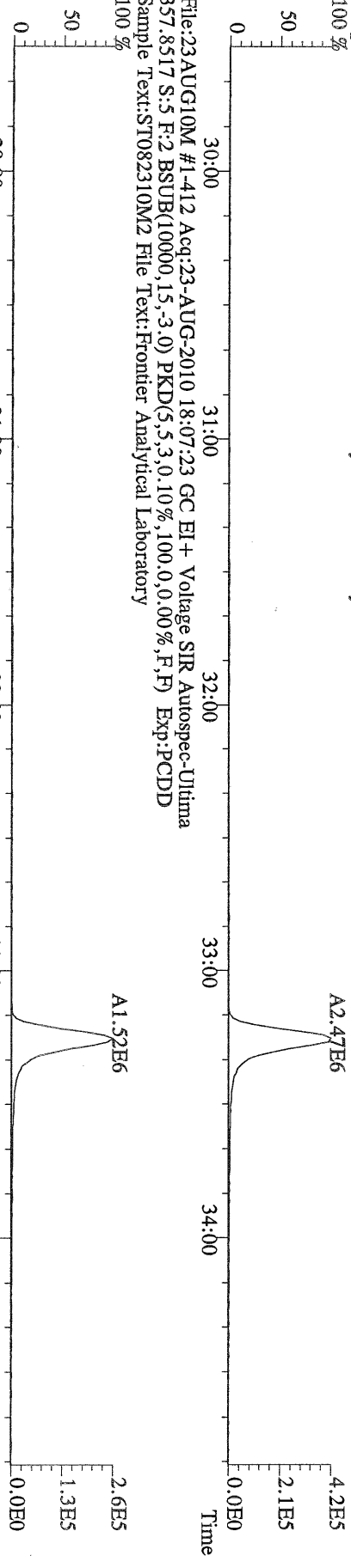
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331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



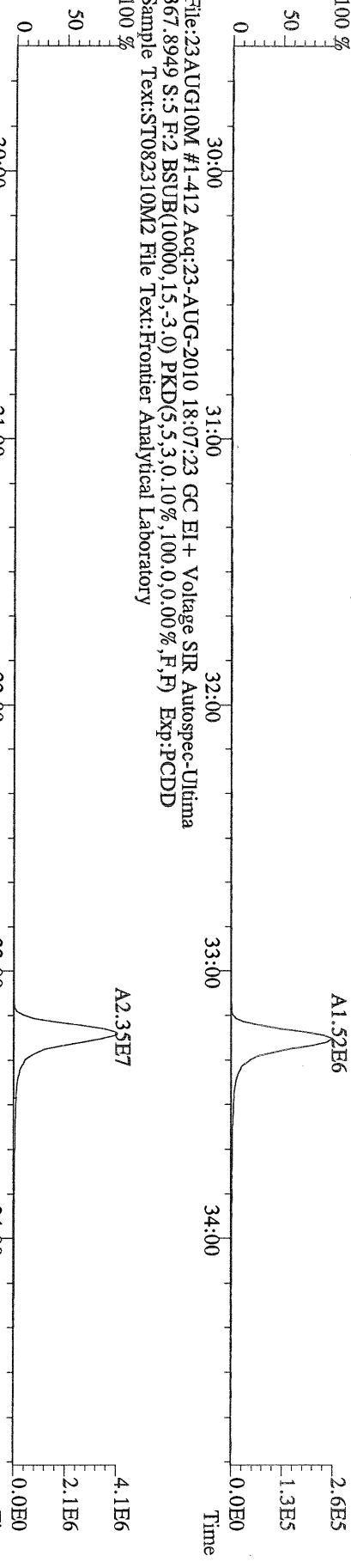
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333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



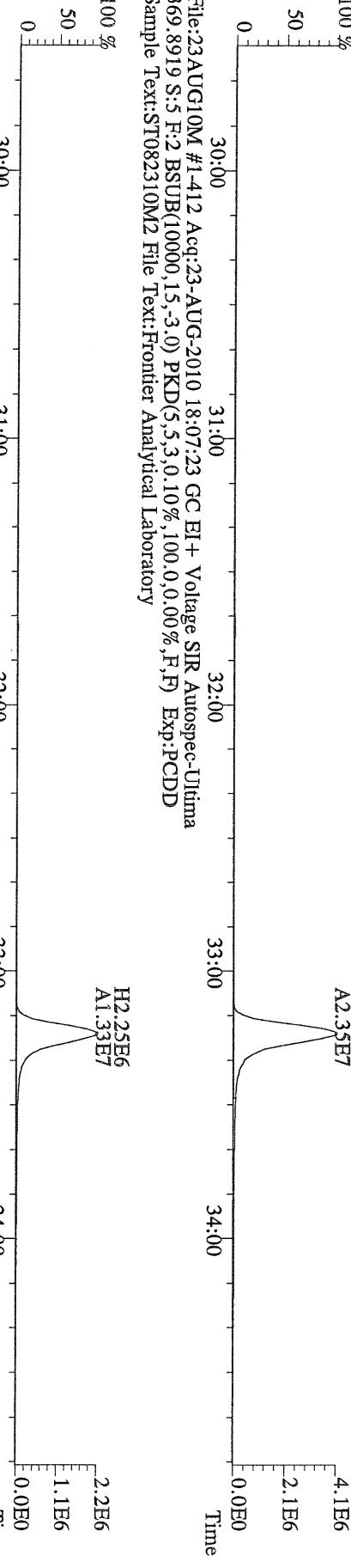
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:5 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



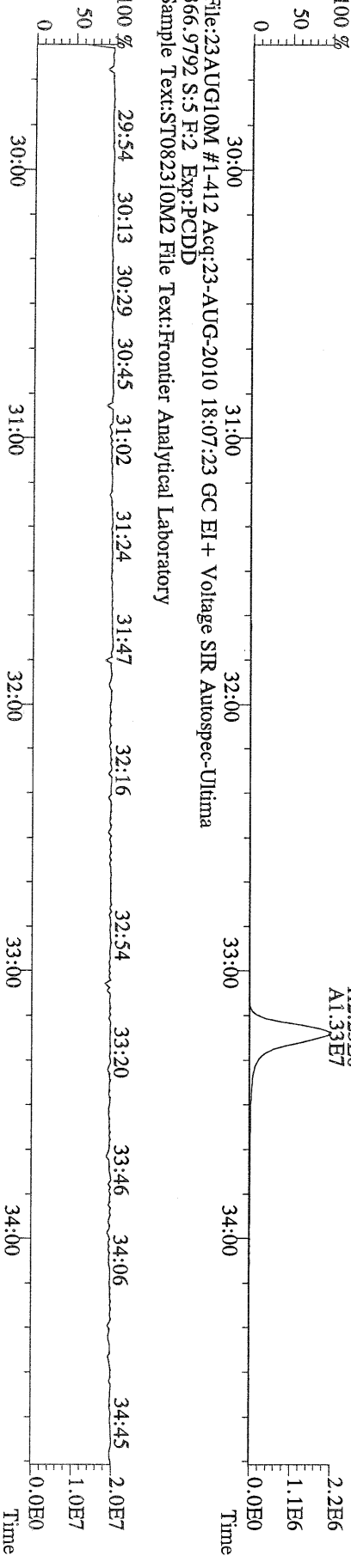
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357.8517 S:5 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
367.8949 S:5 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

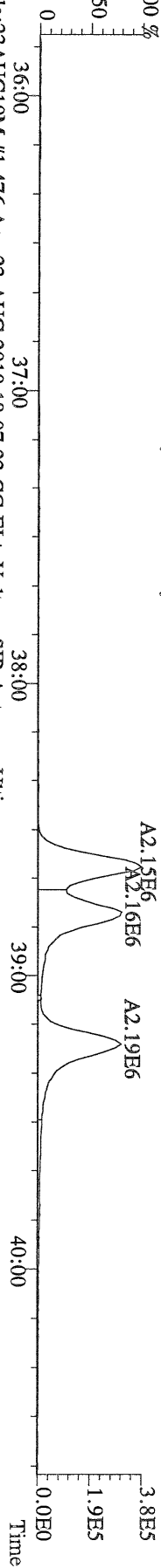


File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
369.8919 S:5 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

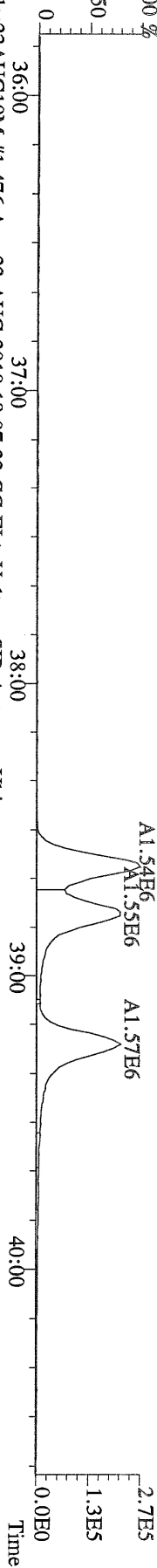


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366.9792 S:5 F:2 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

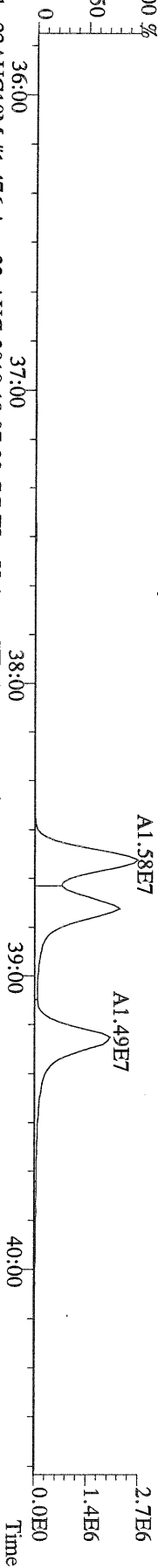
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



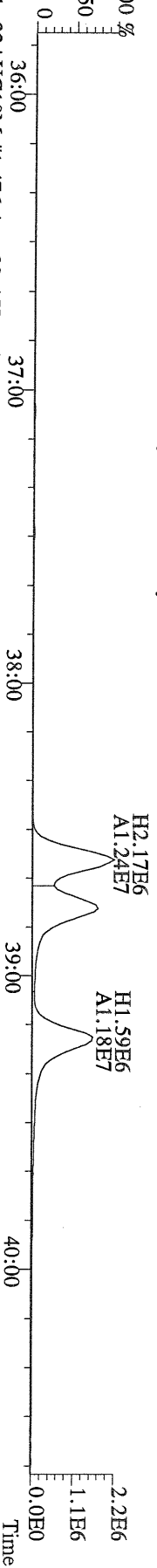
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 391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



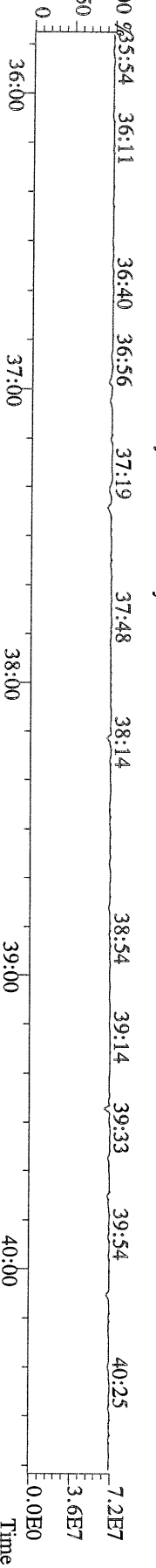
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 401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



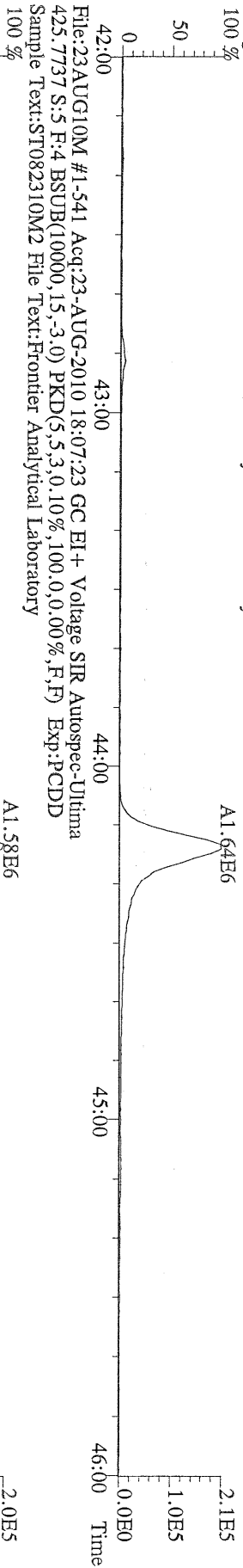
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 403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
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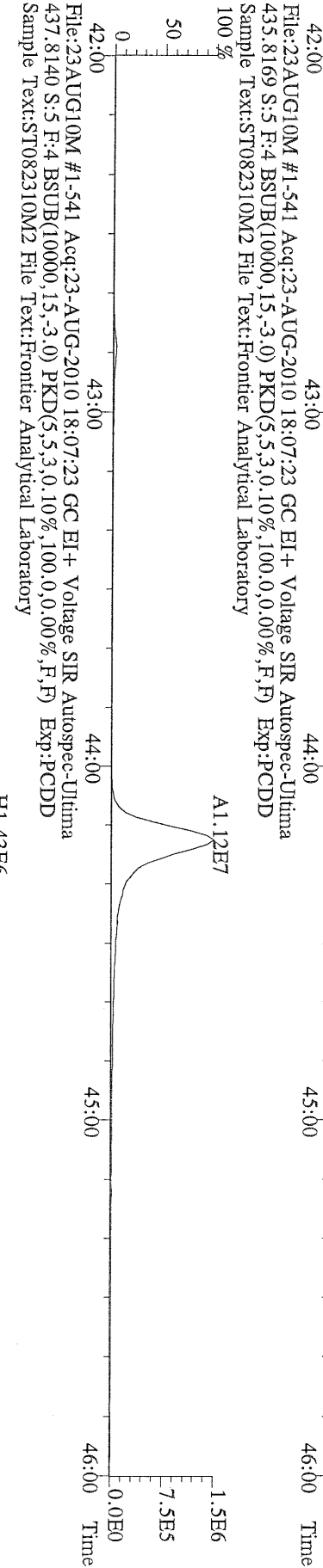
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 380.9760 S:5 F:3 Exp.:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



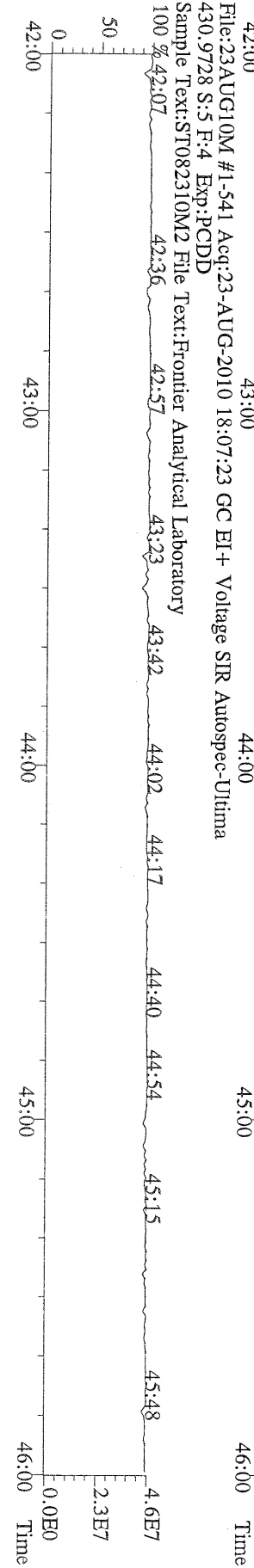
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



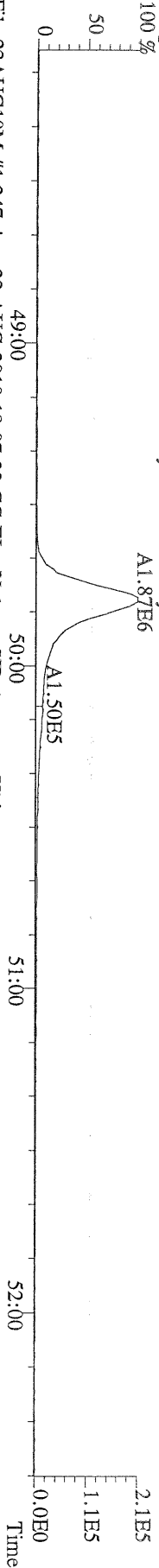
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435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
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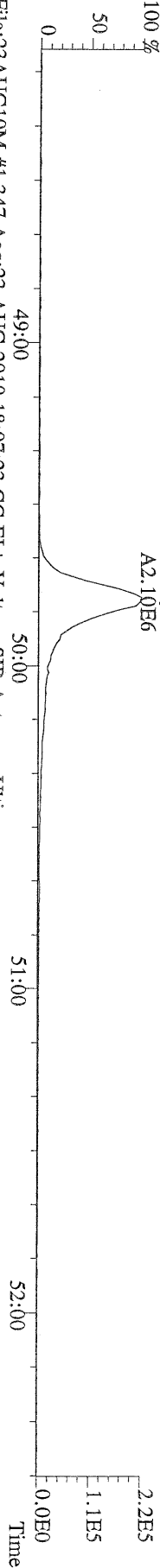
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430.9728 S:5 F:4 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



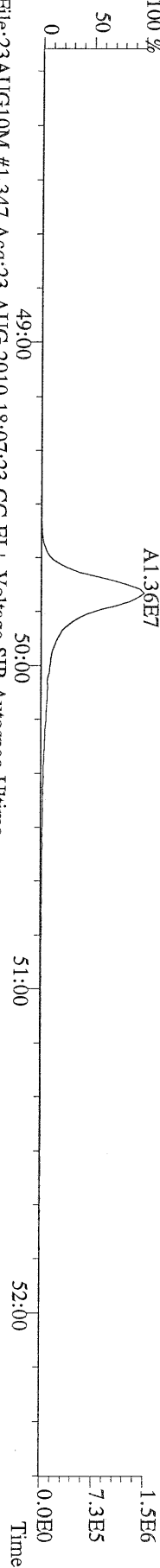
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
 457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



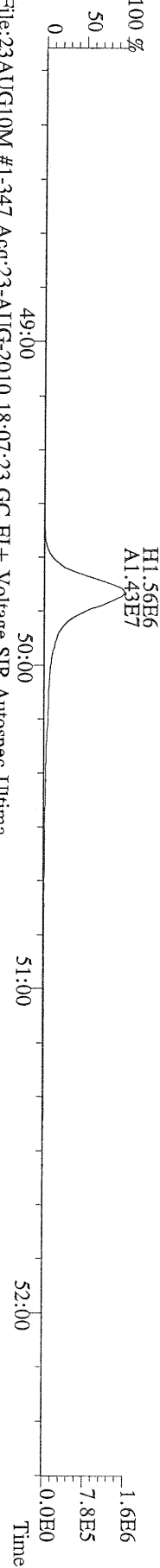
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 459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



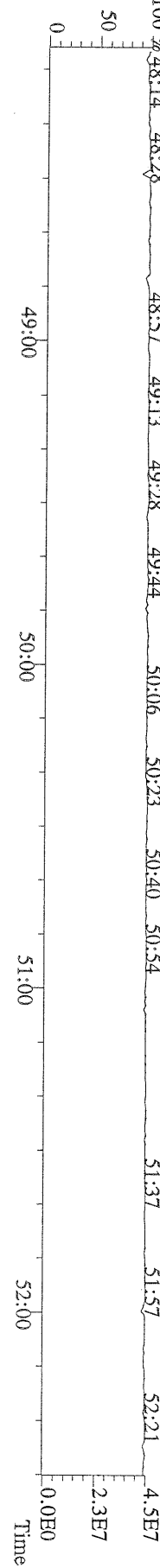
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 469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
 471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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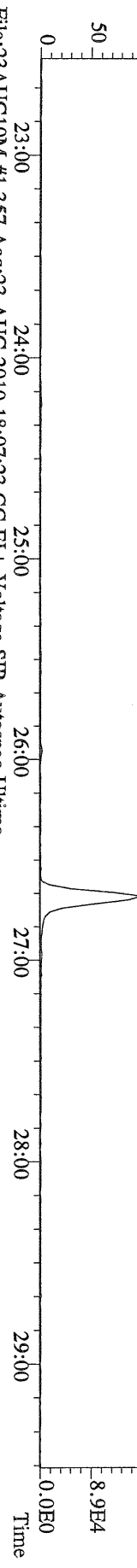


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 454.9728 S:5 F:5 Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

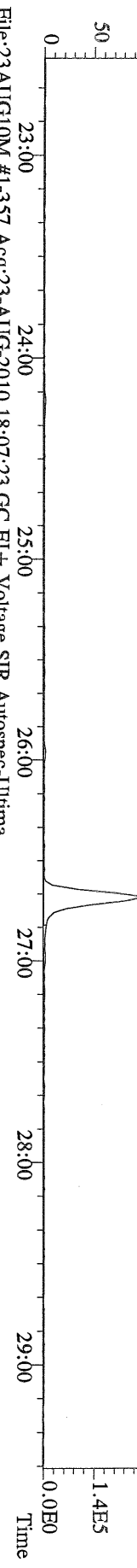




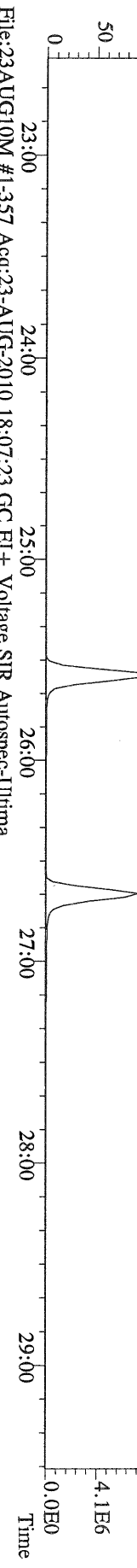
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



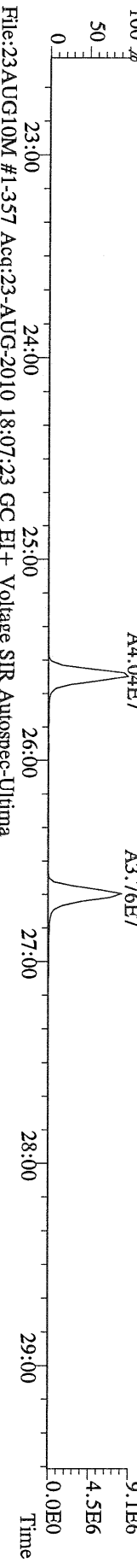
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 305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



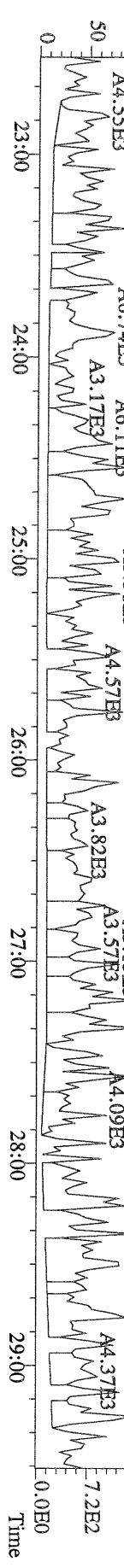
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 315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



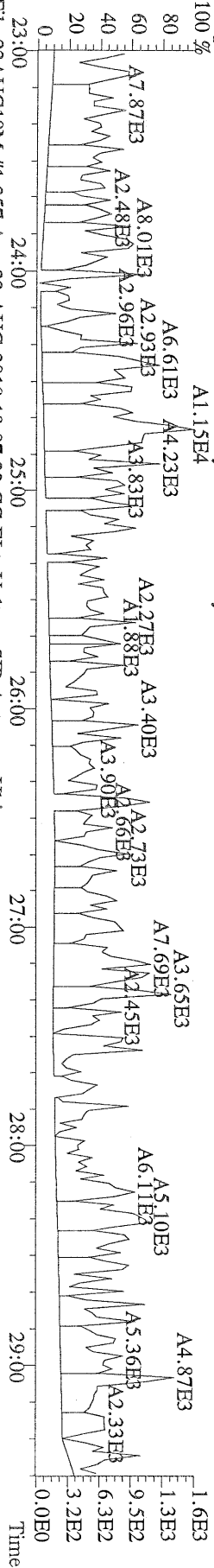
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 317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



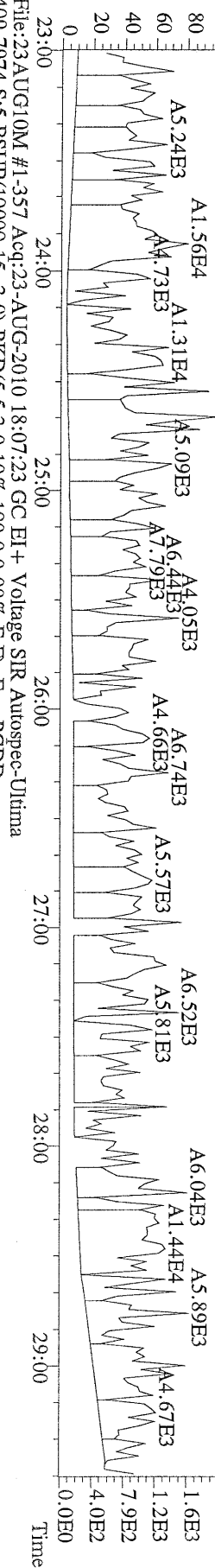
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



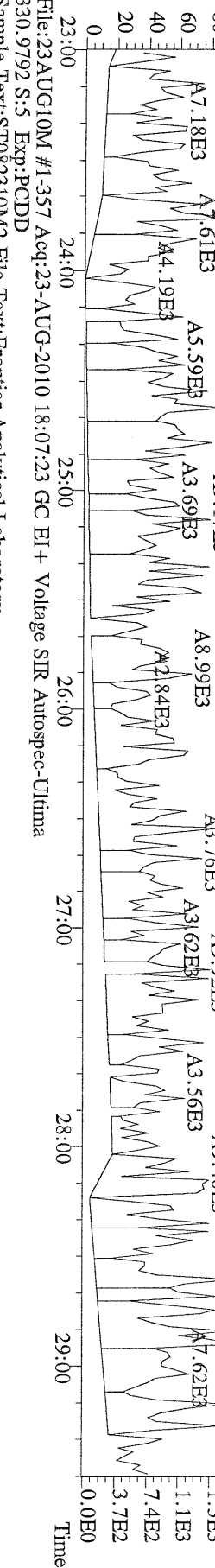
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 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



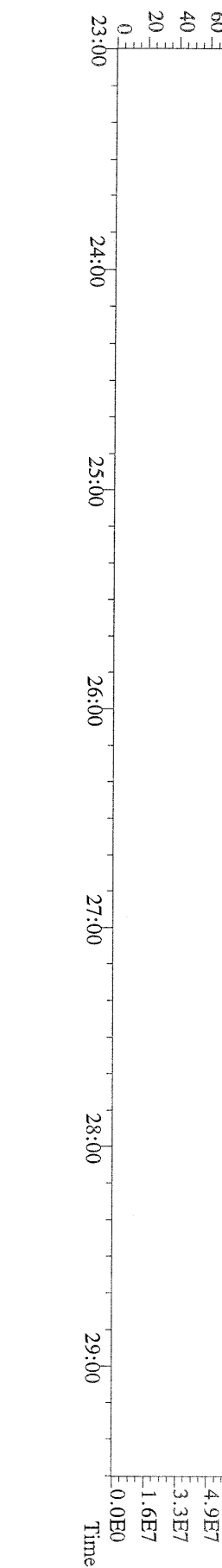
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 341.8568 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



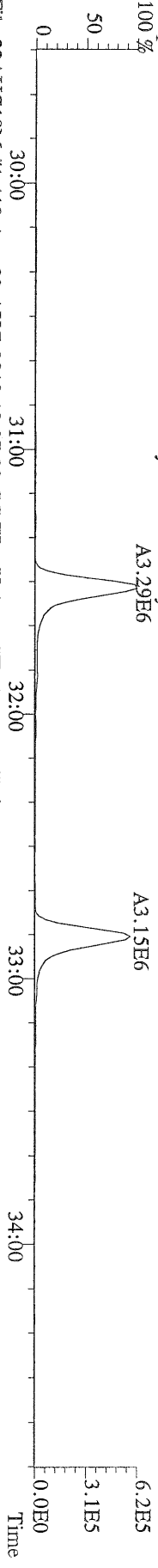
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



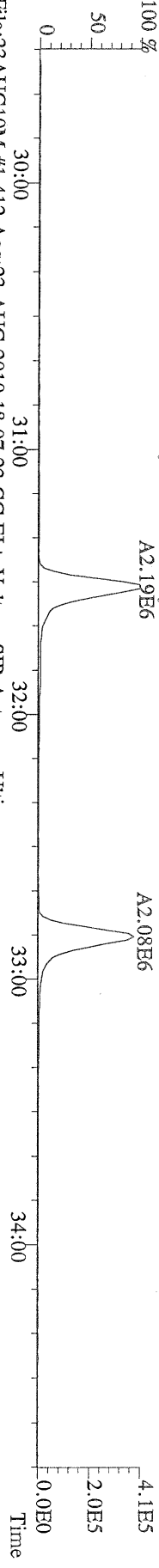
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 330.9792 S:5 Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



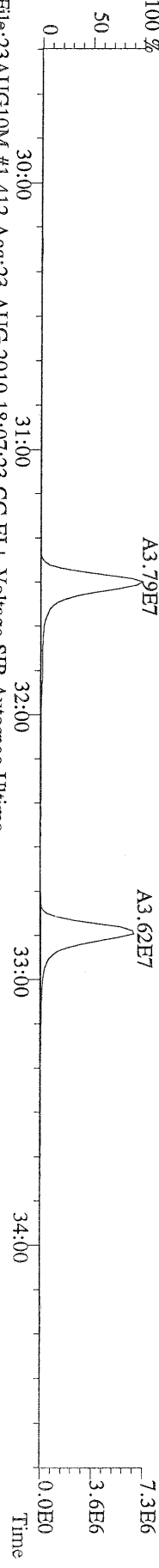
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 339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



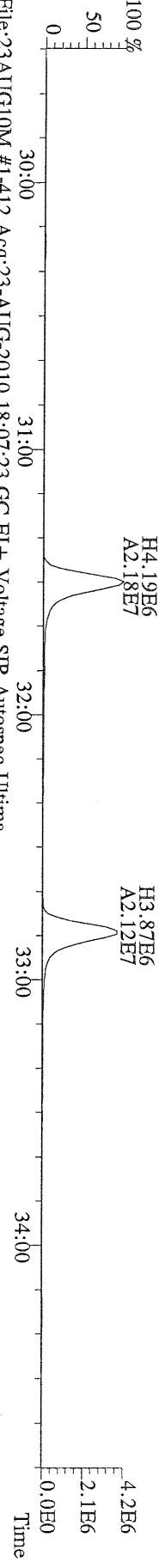
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 341.8568 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



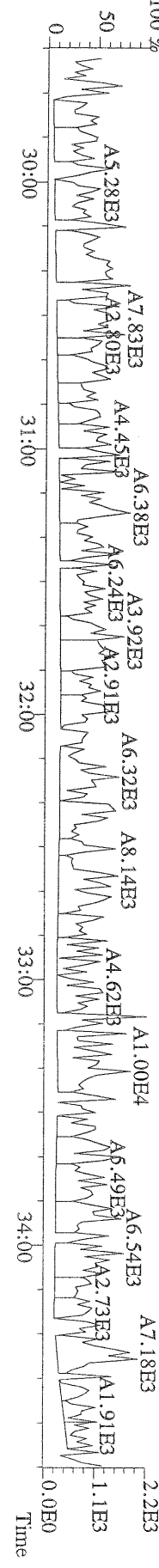
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 351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



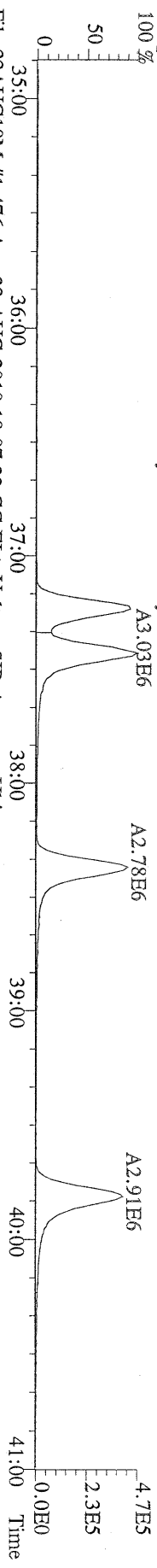
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
 353.8970 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



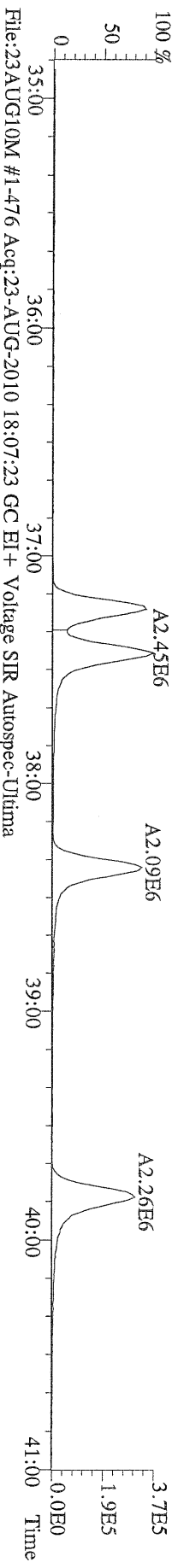
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



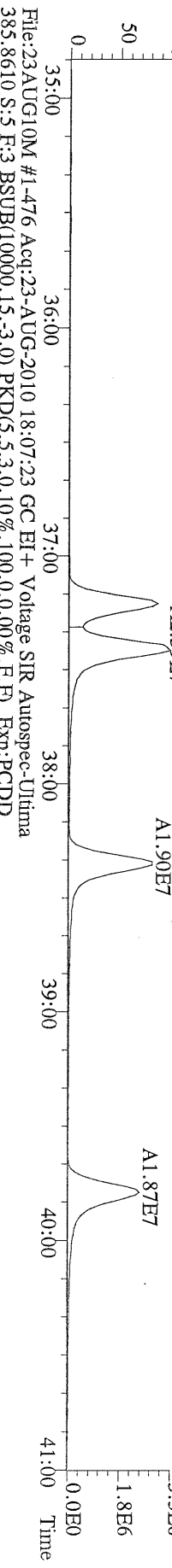
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



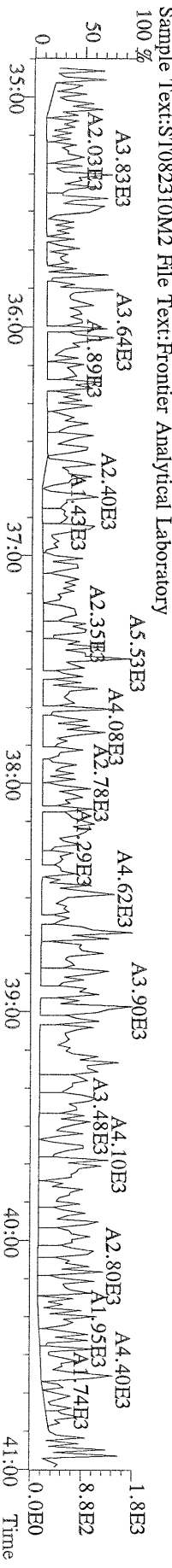
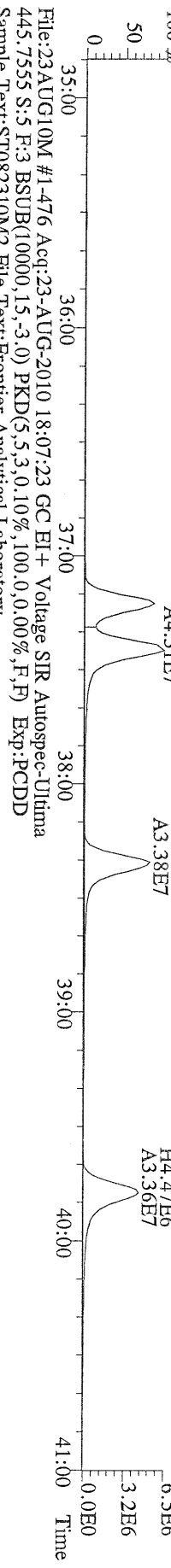
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



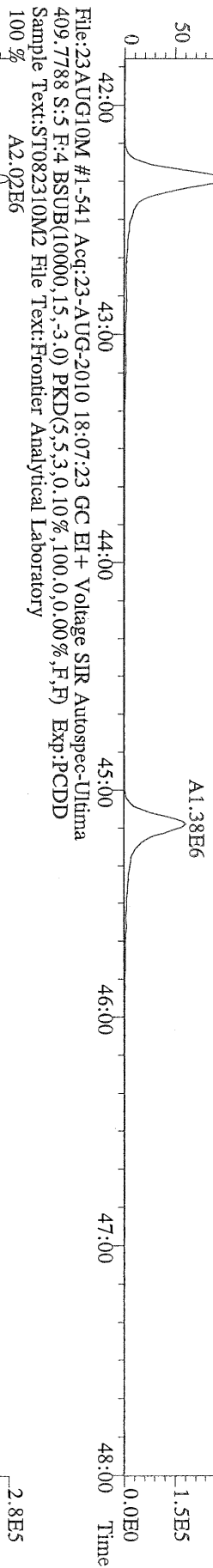
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



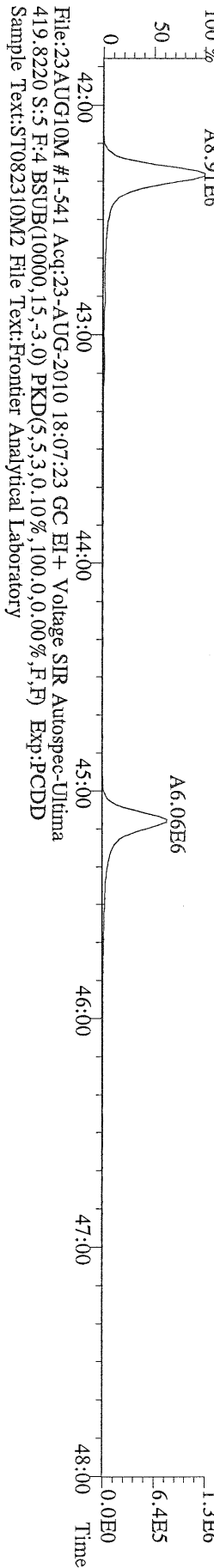
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



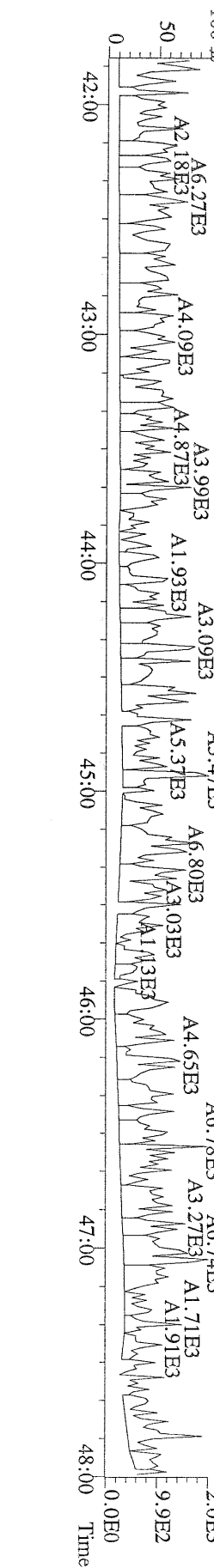
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Fronter Analytical Laboratory



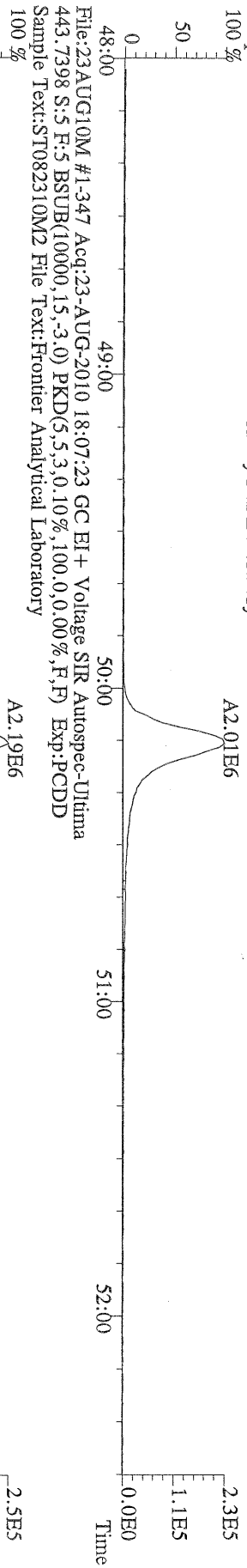
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Fronter Analytical Laboratory



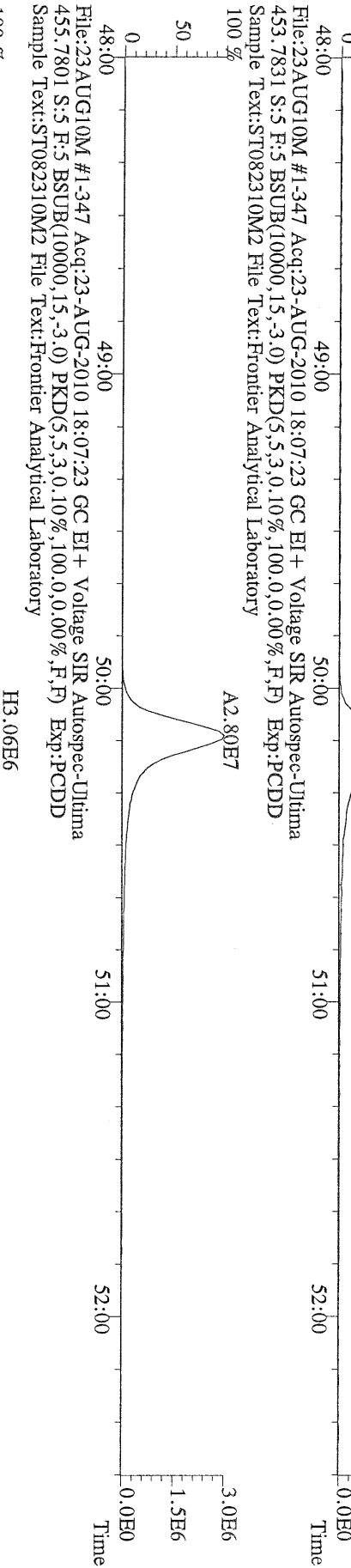
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
 419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Fronter Analytical Laboratory



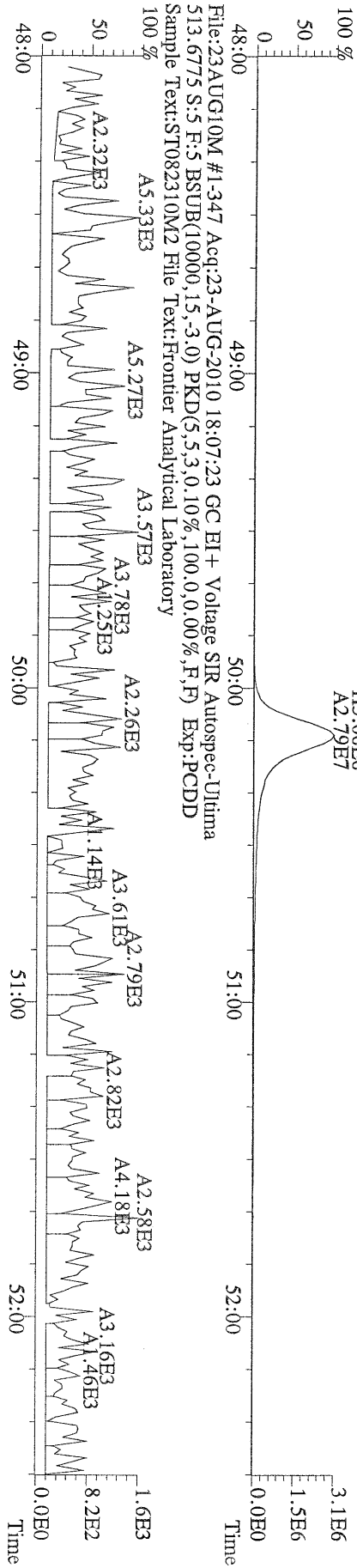
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441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

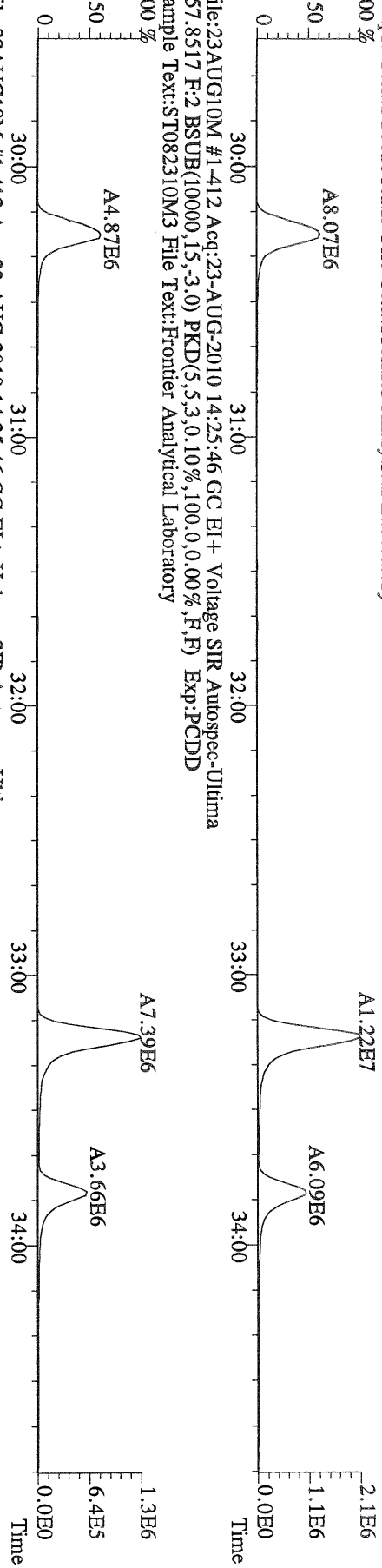


File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

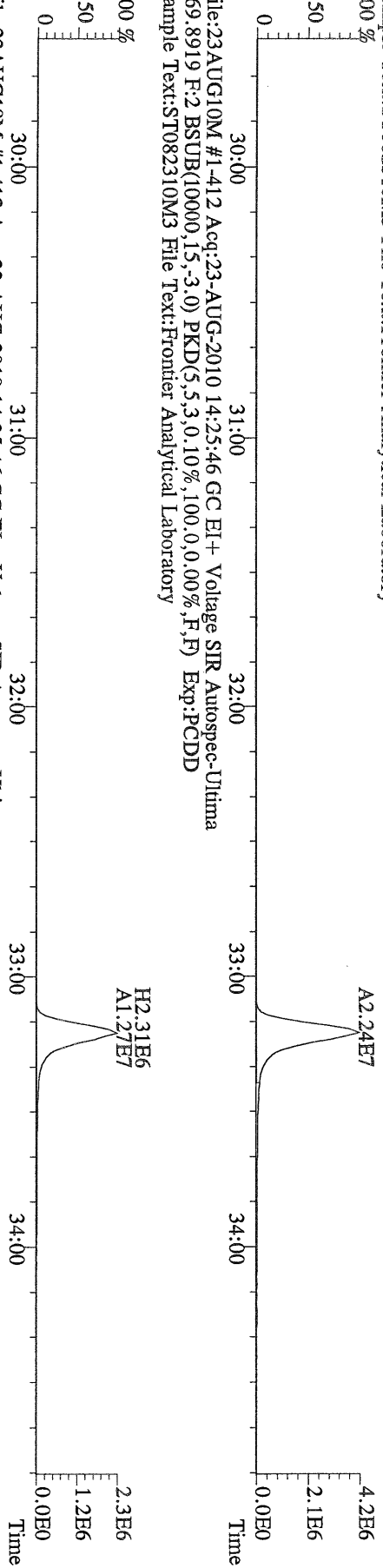




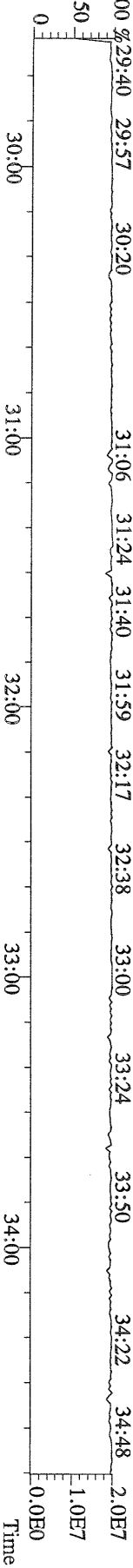
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory  
 100 %



File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory  
 100 %

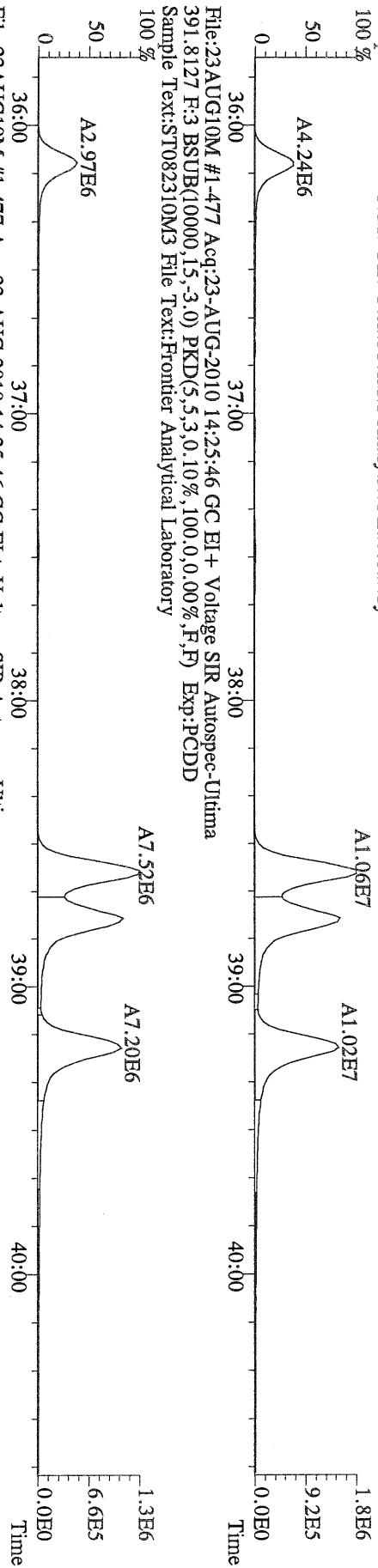


File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 366.9792 F:2 Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

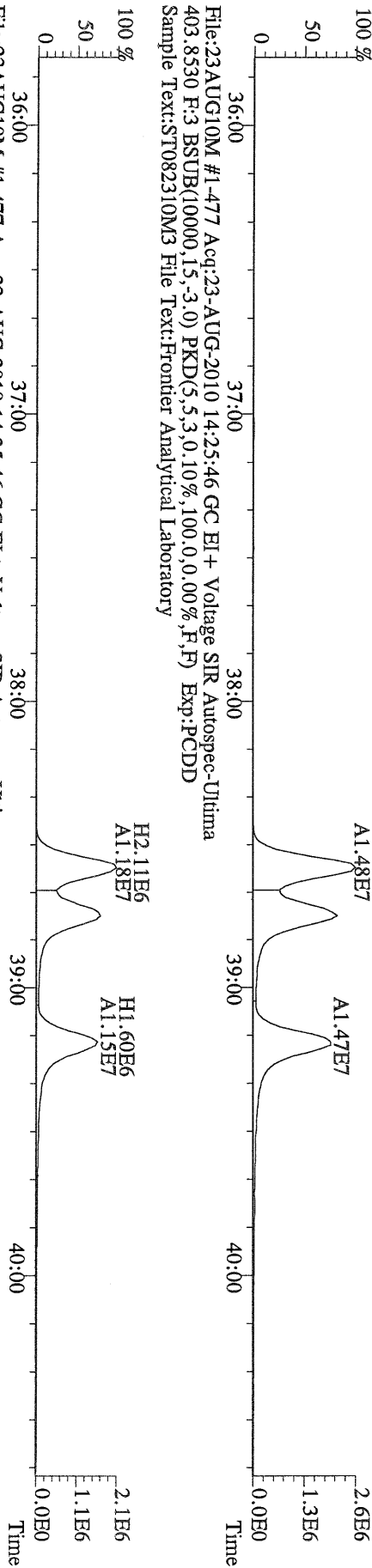




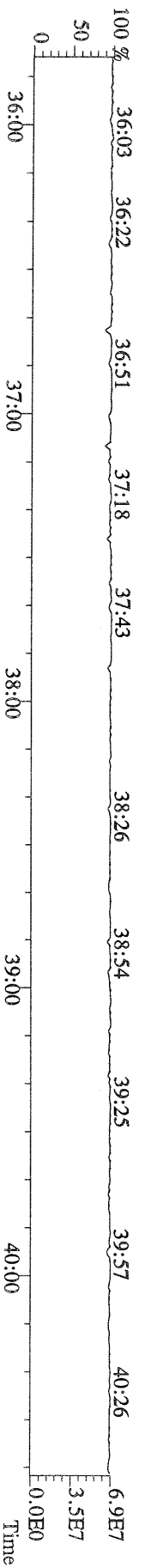
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 F.3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronter Analytical Laboratory



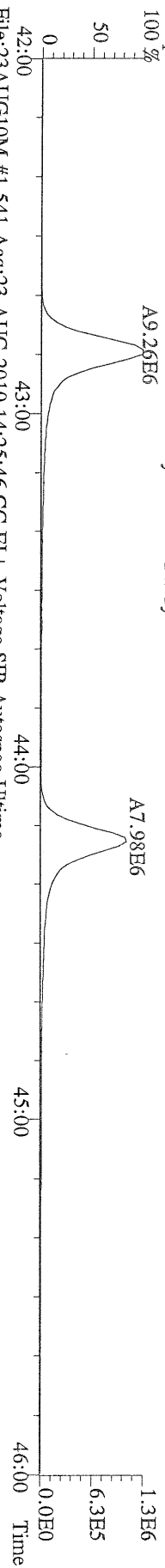
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 401.8559 F.3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronter Analytical Laboratory



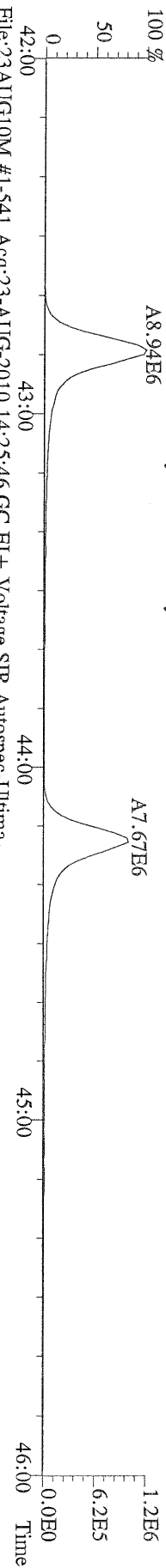
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 F.3 Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronter Analytical Laboratory



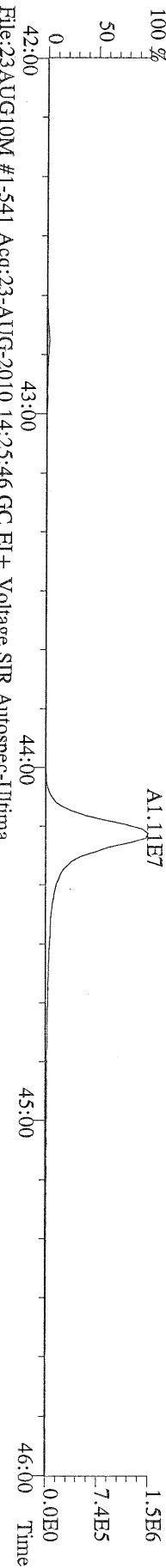
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



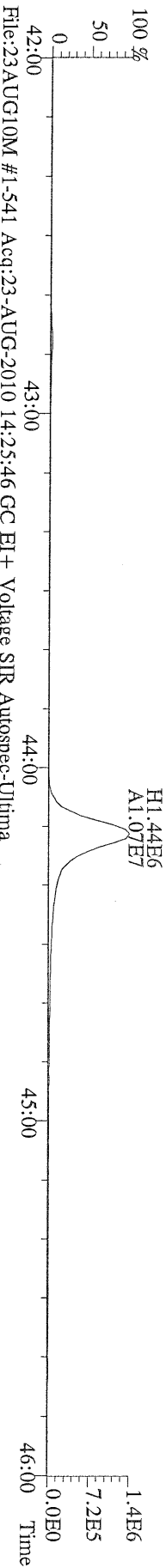
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



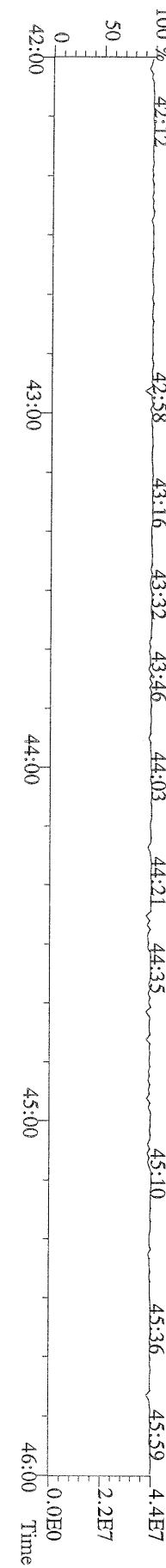
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



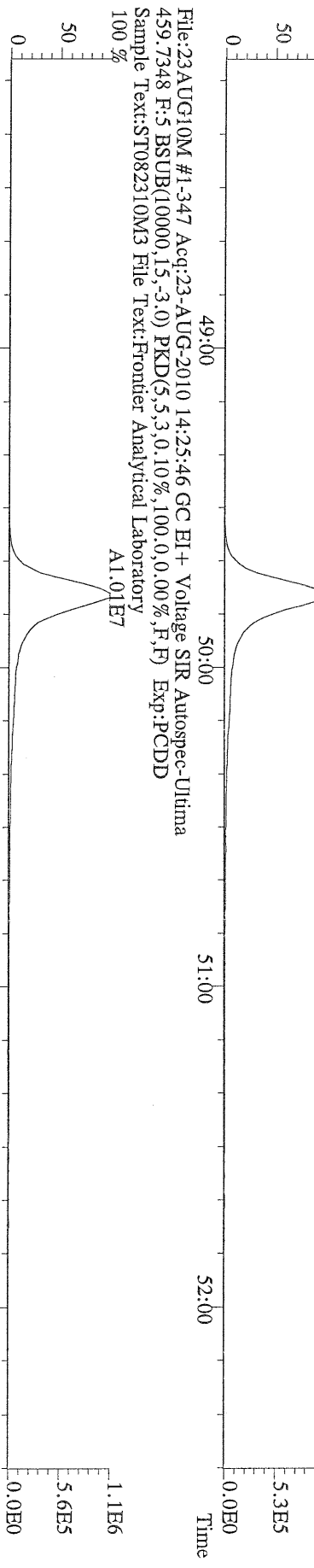
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437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



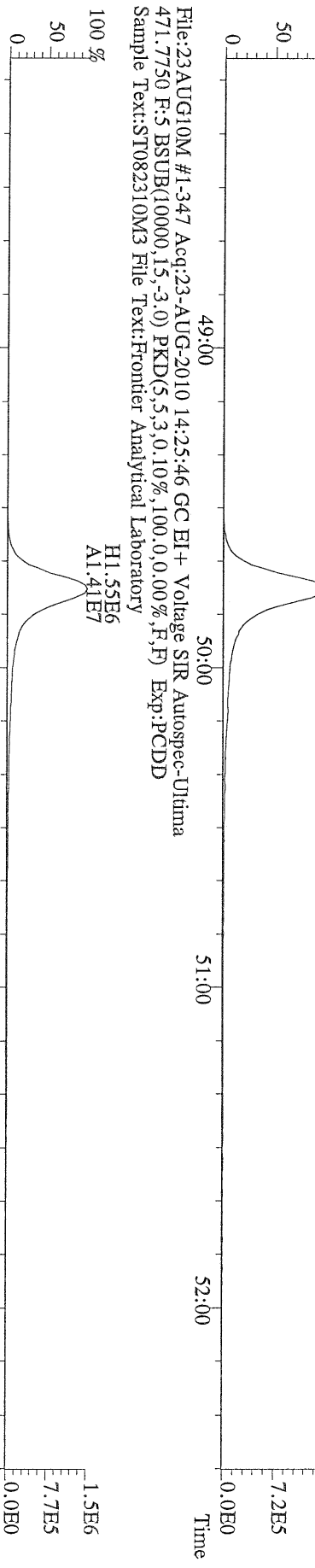
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 F:4 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



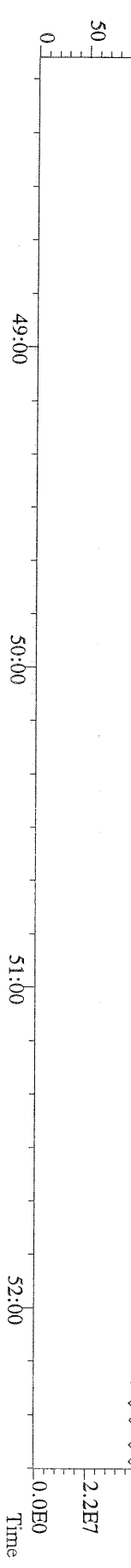
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



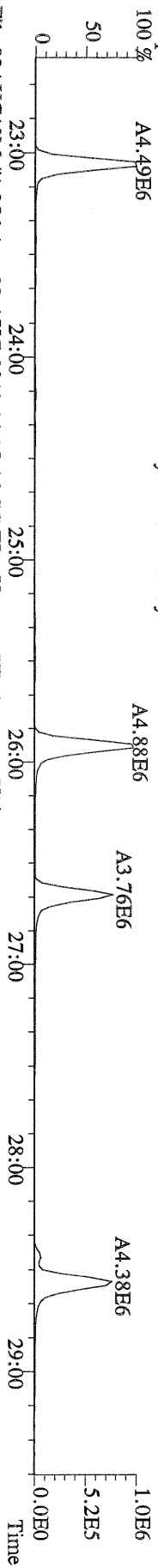
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471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



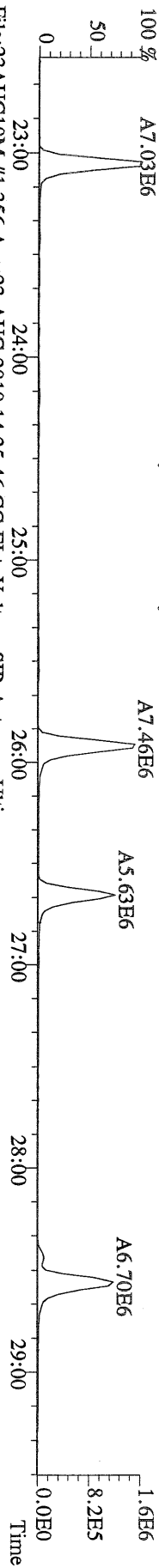
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 F:5 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



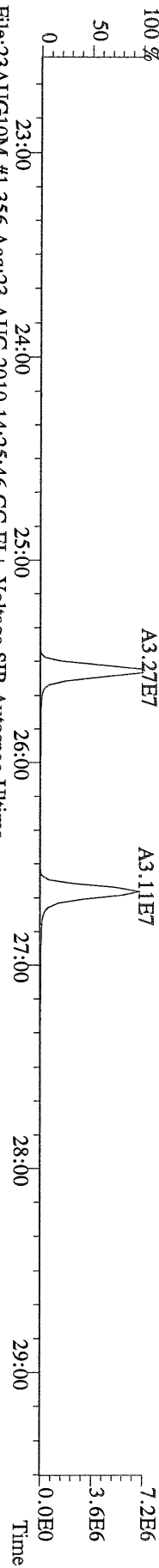
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



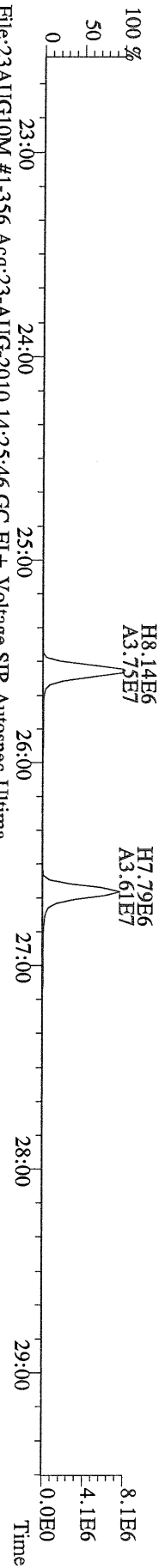
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



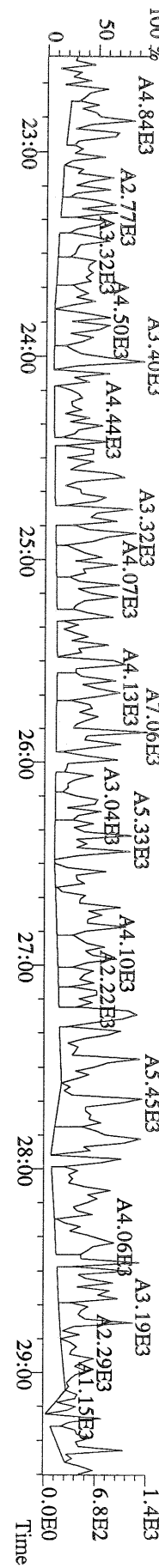
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 315.9419 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



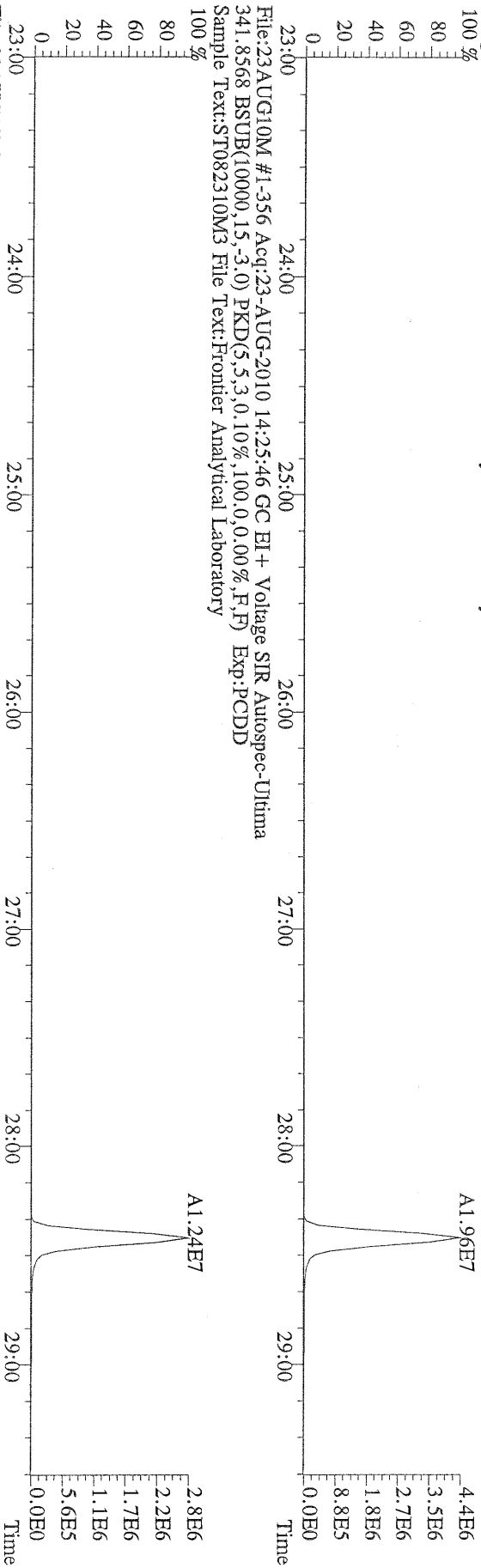
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 317.9389 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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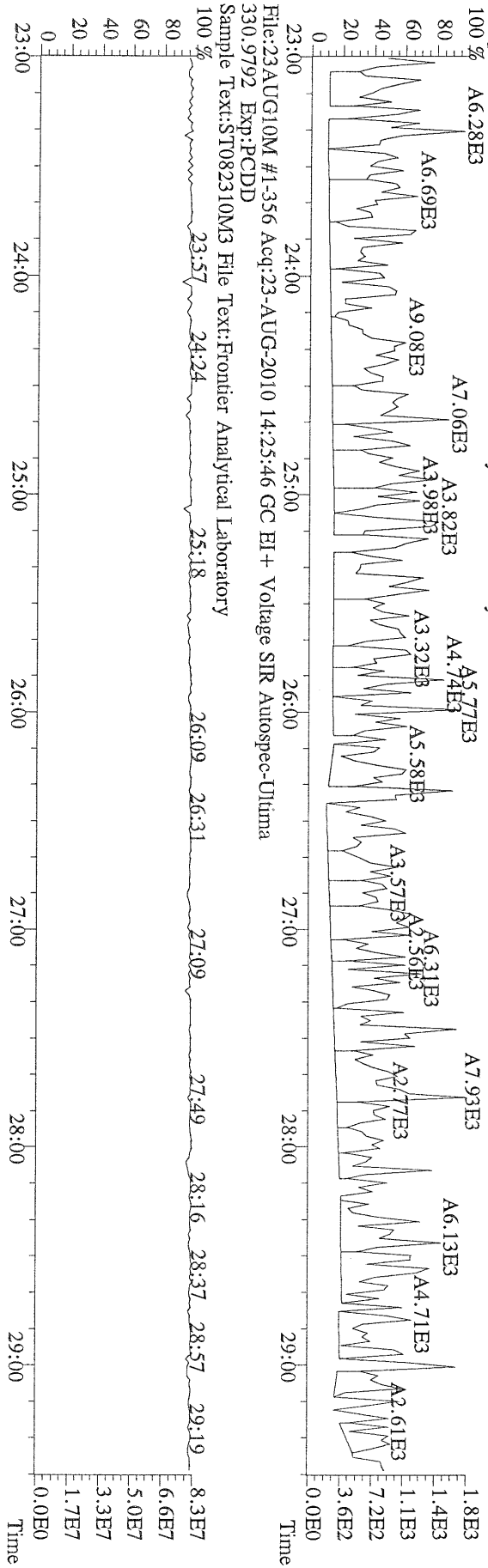
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 375.8364 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



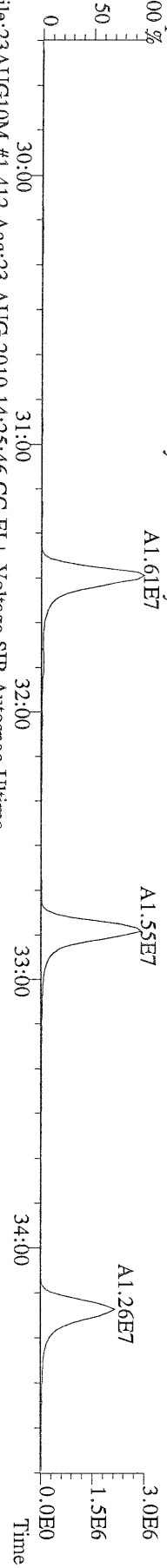
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



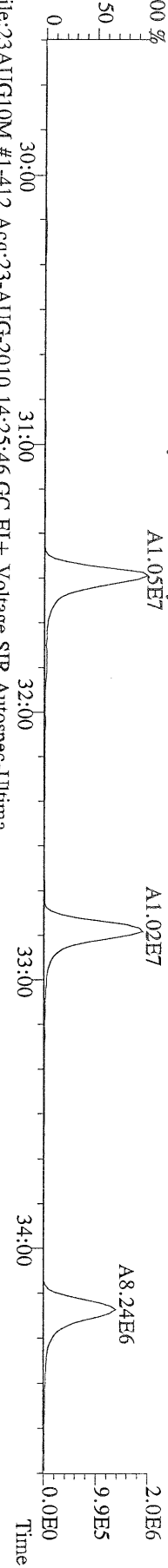
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



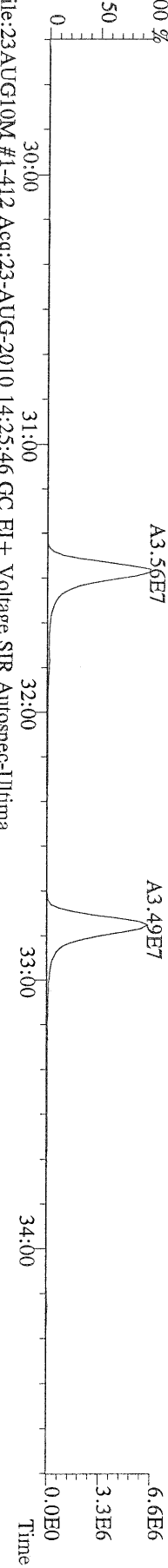
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 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



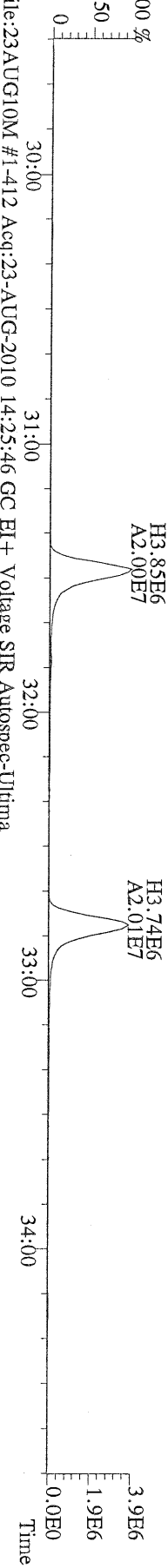
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 341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



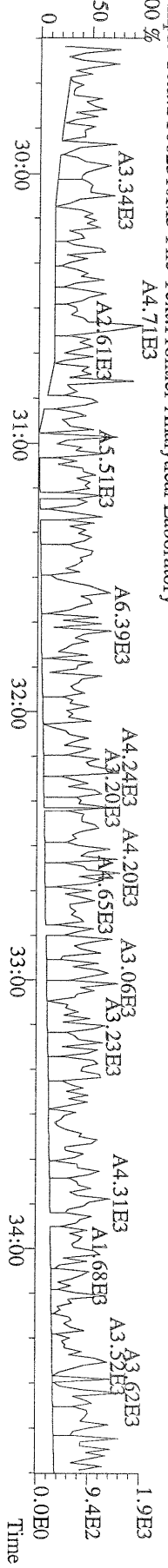
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 351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



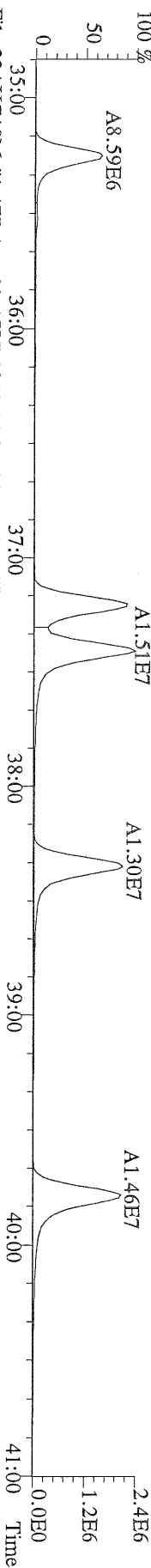
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 353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



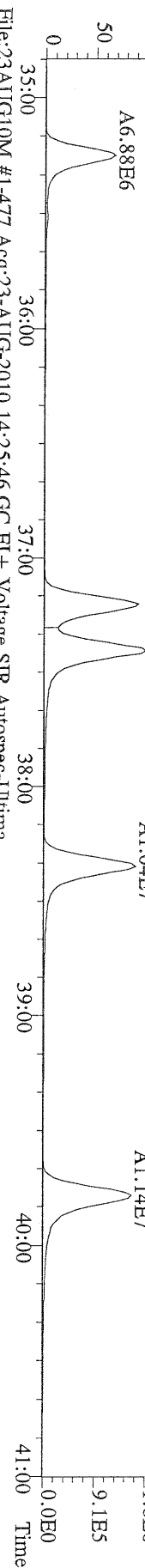
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 409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



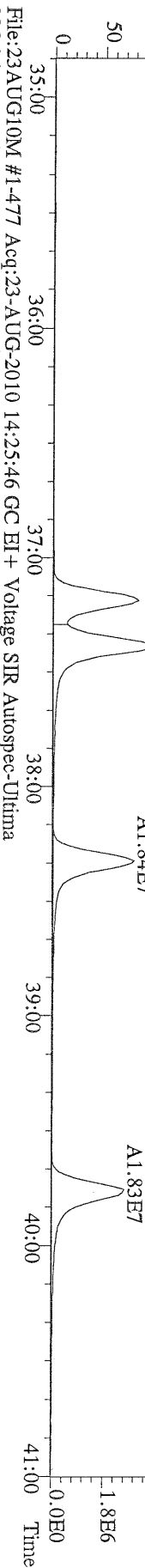
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373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



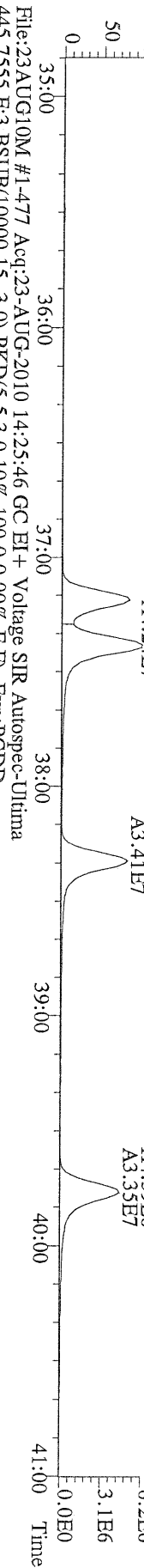
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375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



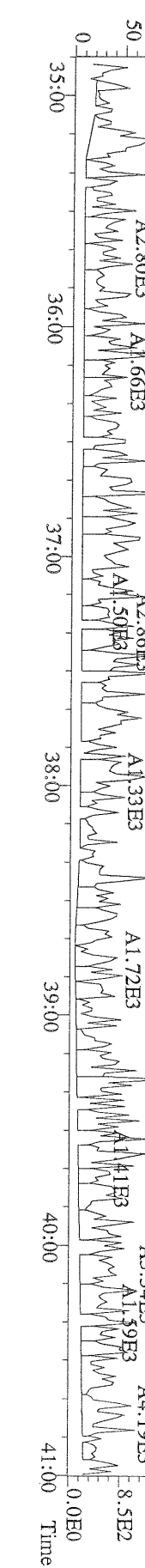
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383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



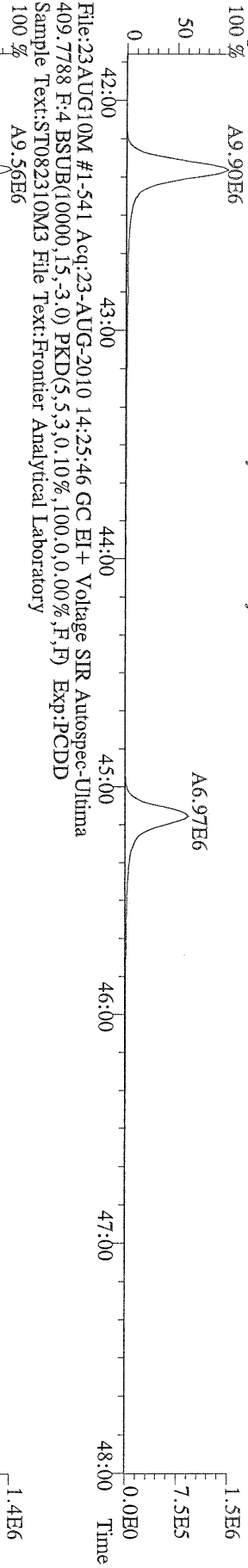
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385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



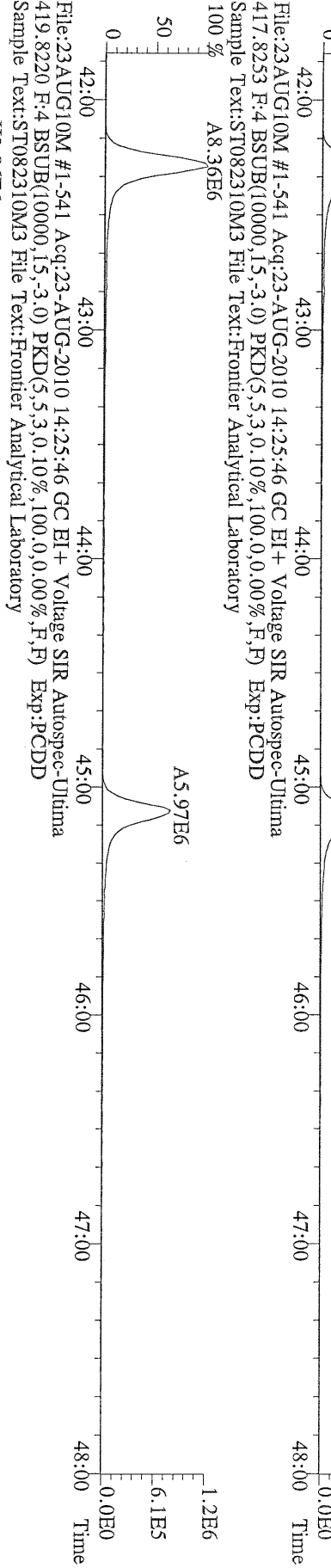
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445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



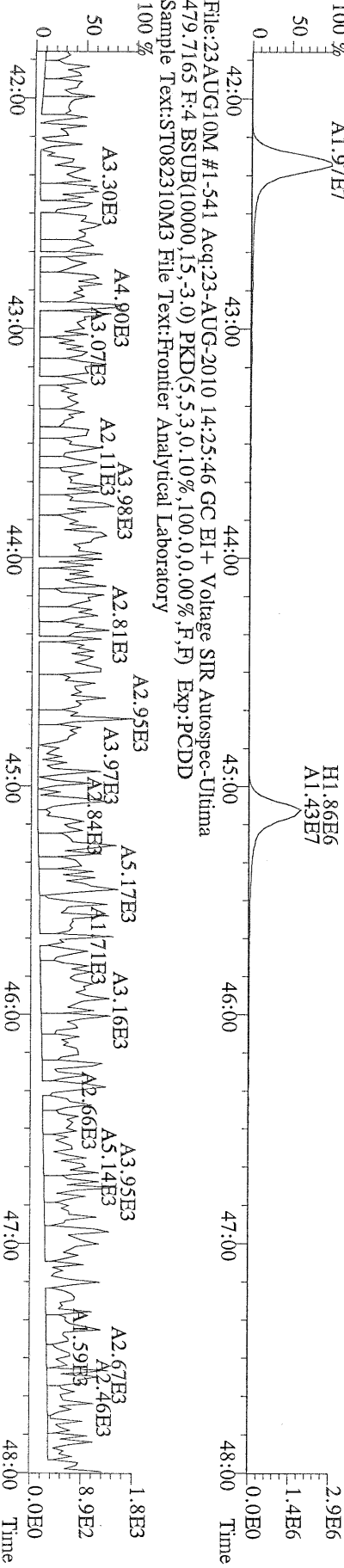
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

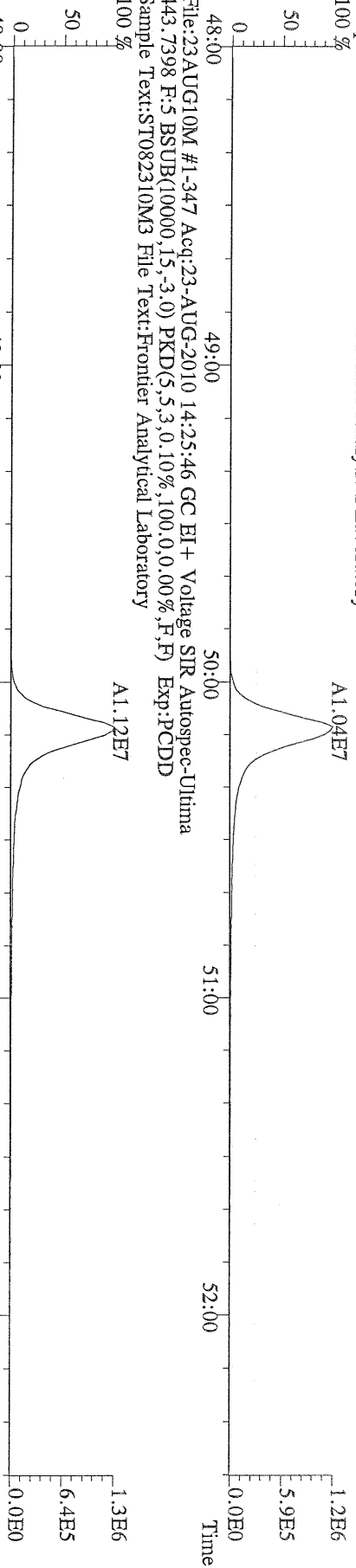


File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

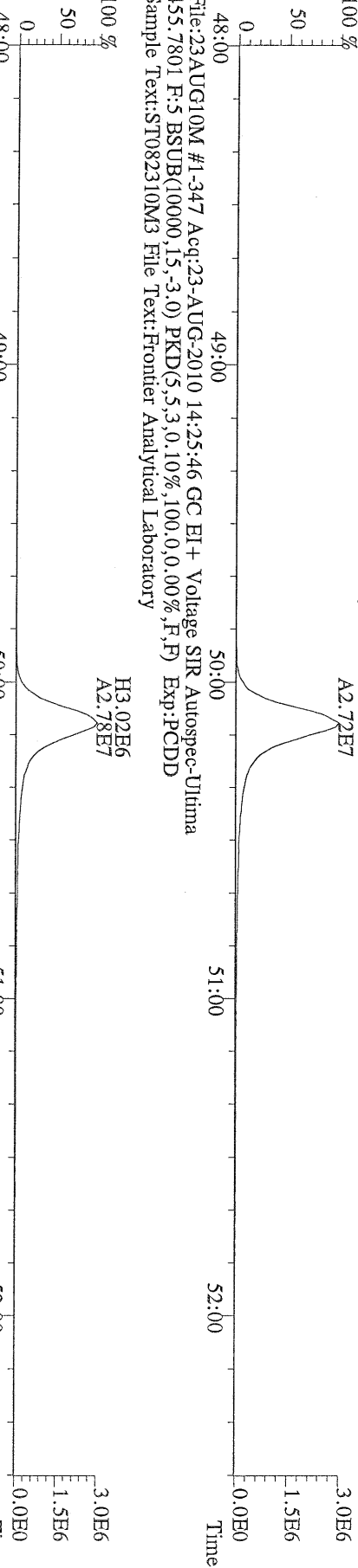




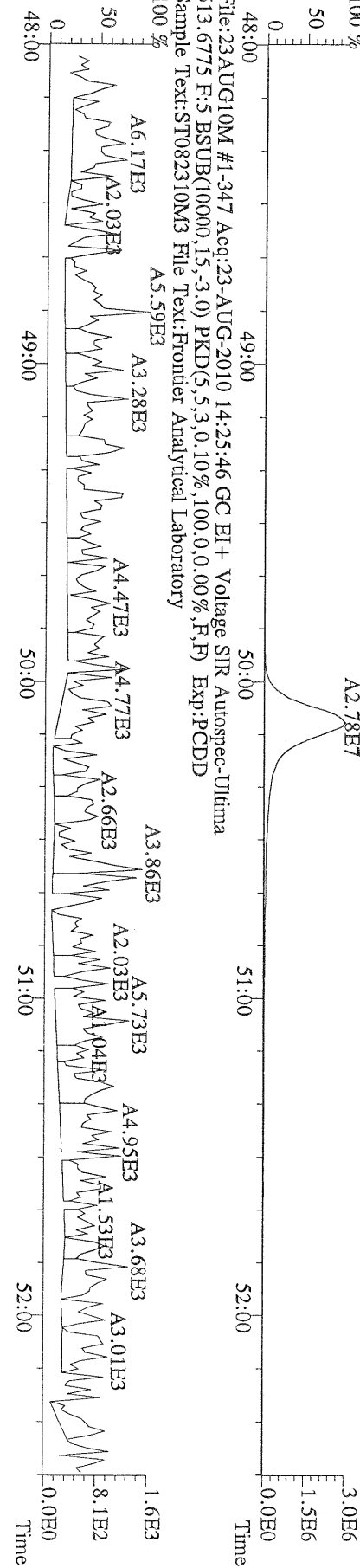
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441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



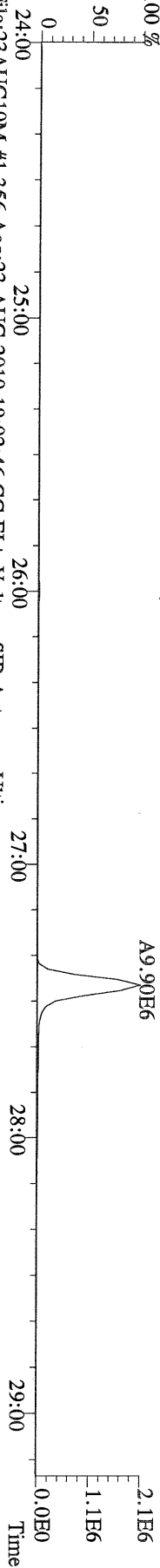
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



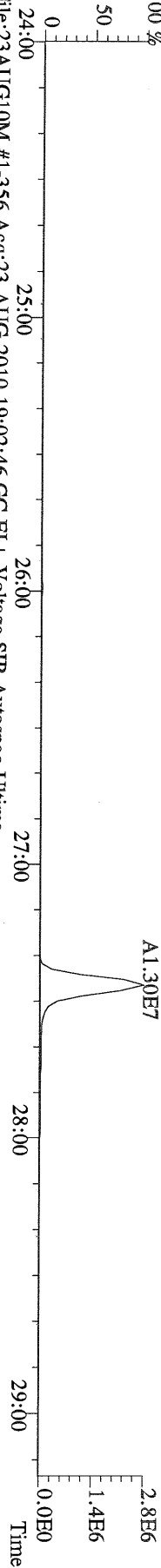
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455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



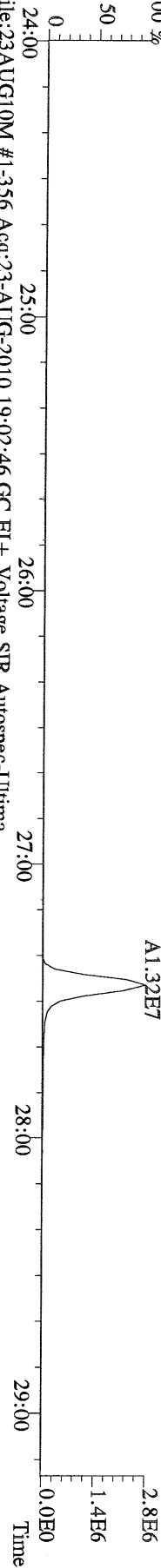
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319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



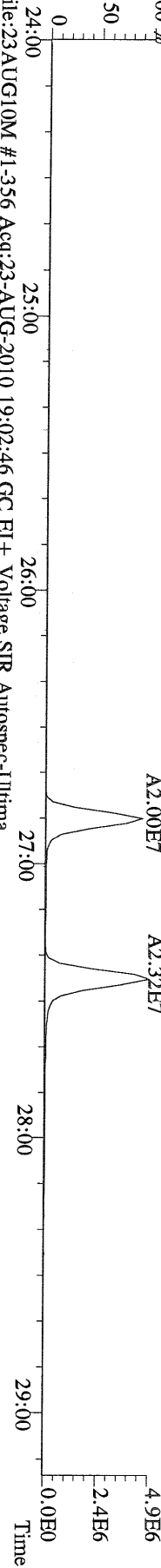
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321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



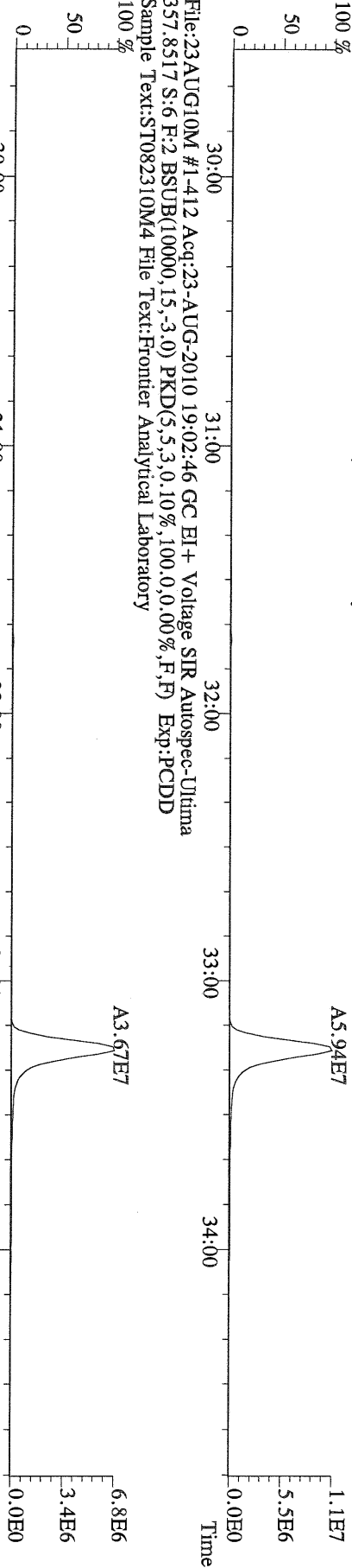
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331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



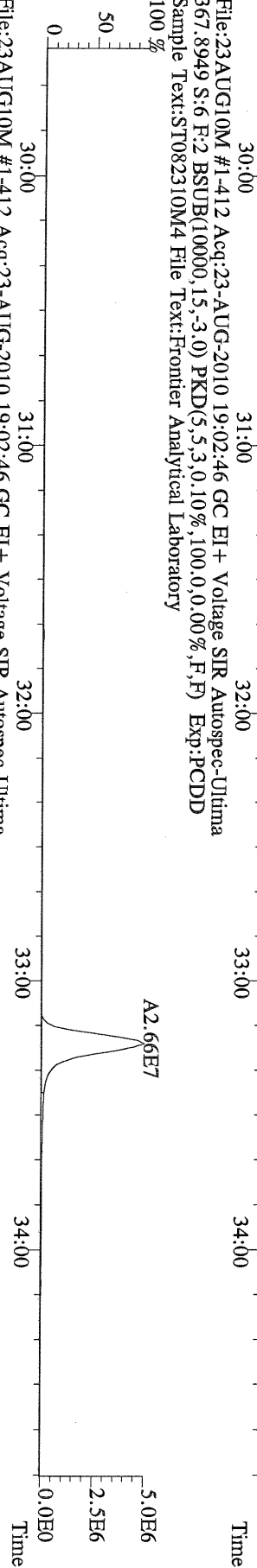
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333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



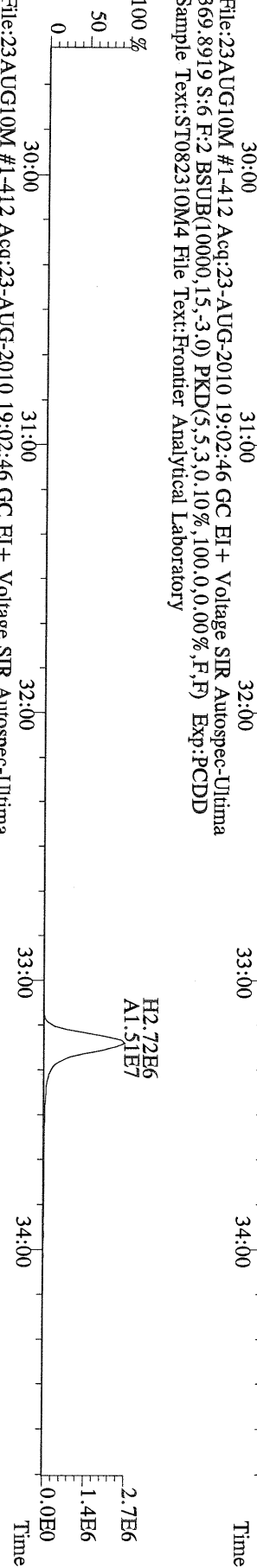
File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



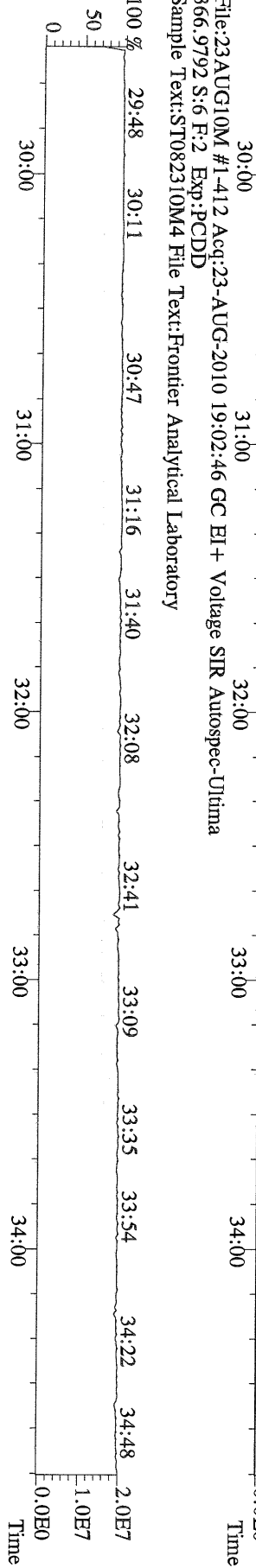
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357.8517 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



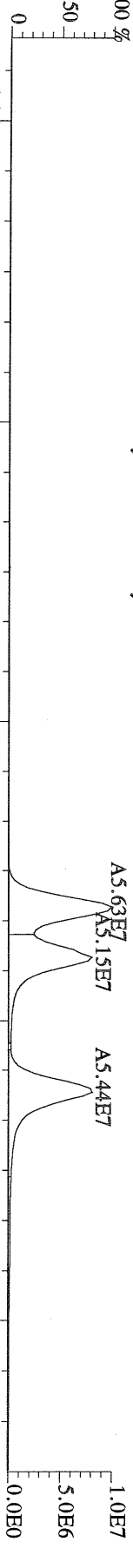
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367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



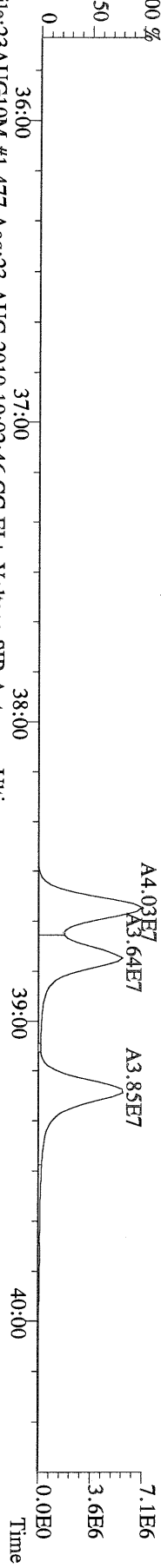
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366.9792 S:6 F:2 Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



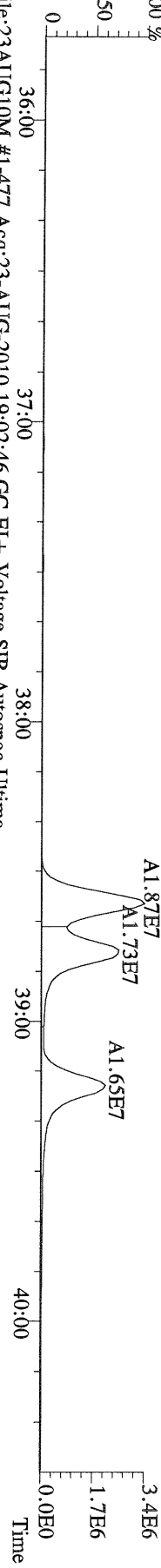
File:23AUG10M #1-477 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



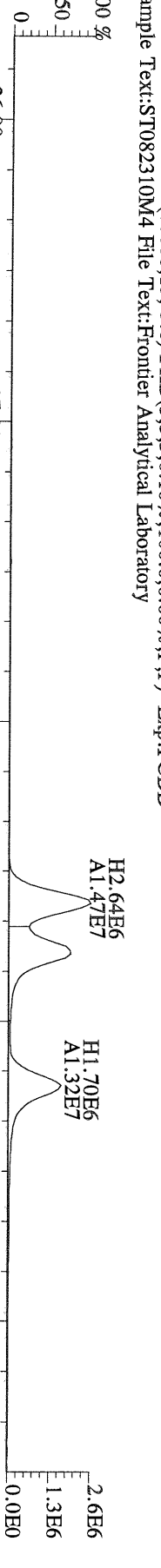
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 391.8127 S:6 F:3 BSUB(10000,15,-3.0) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



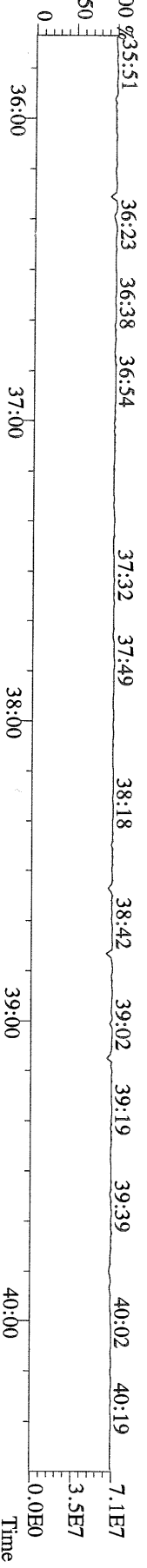
File:23AUG10M #1-477 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



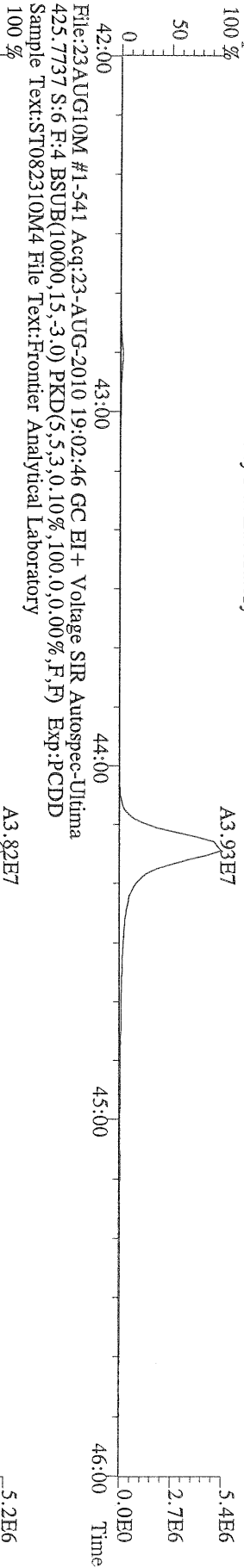
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 403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



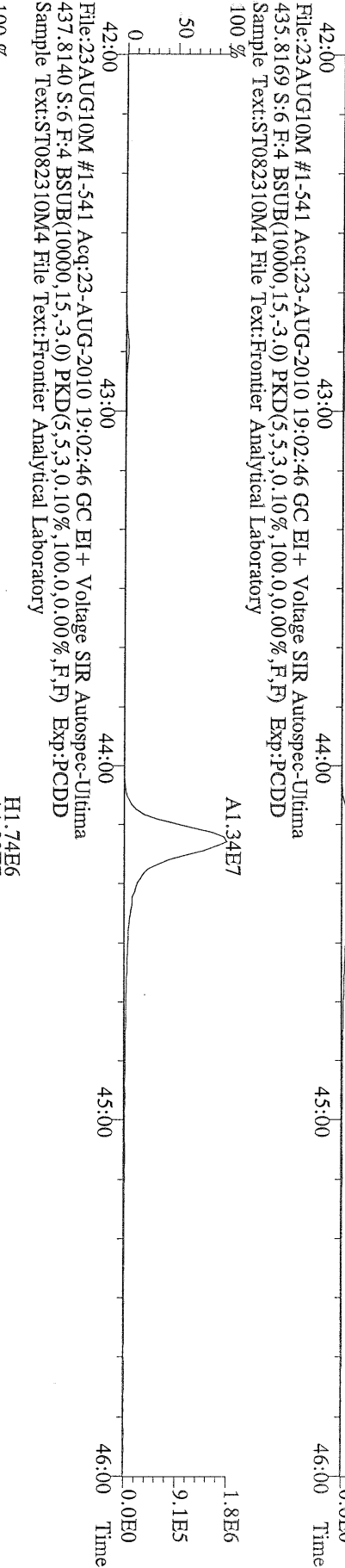
File:23AUG10M #1-477 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 S:6 F:3 Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



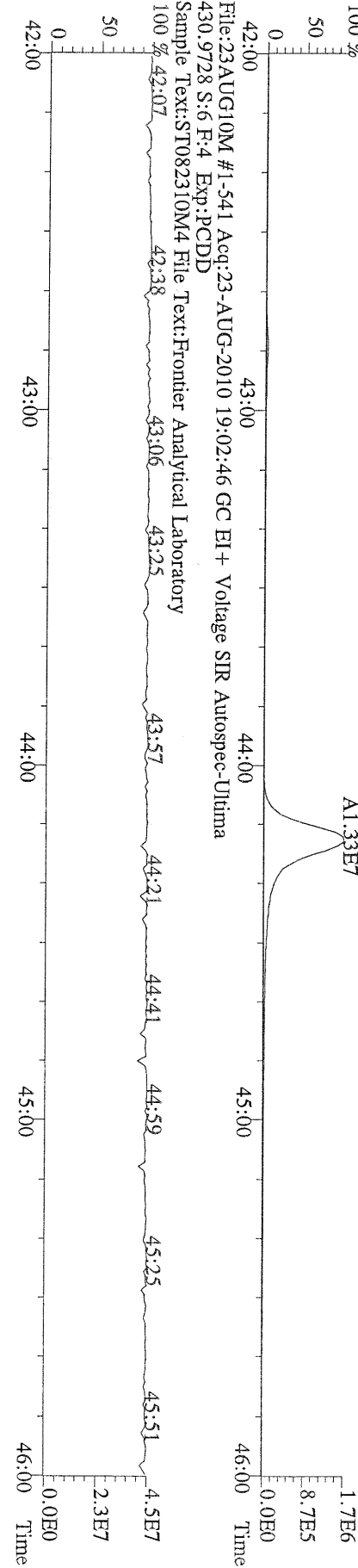
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423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



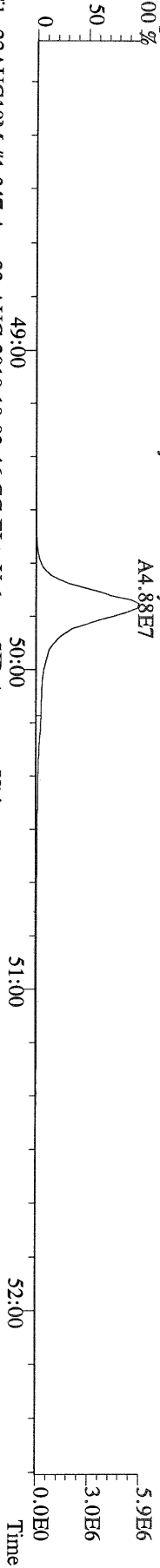
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



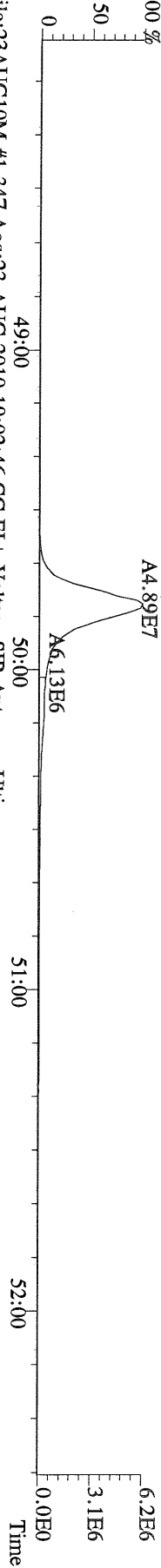
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:6 F:4 Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



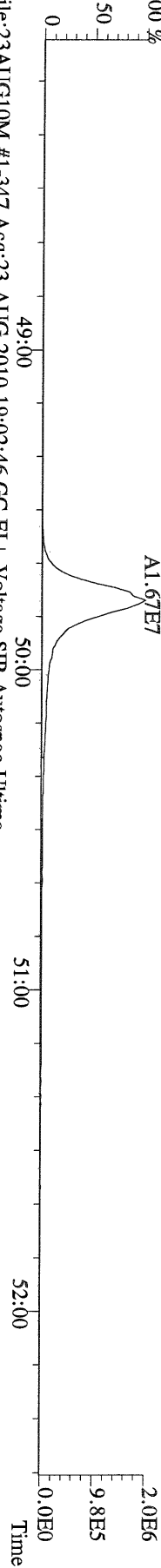
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



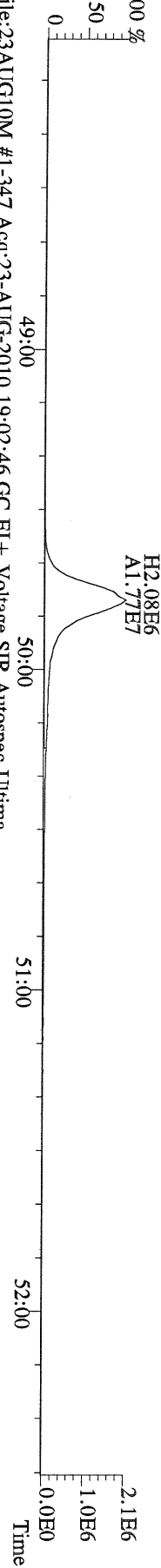
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459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



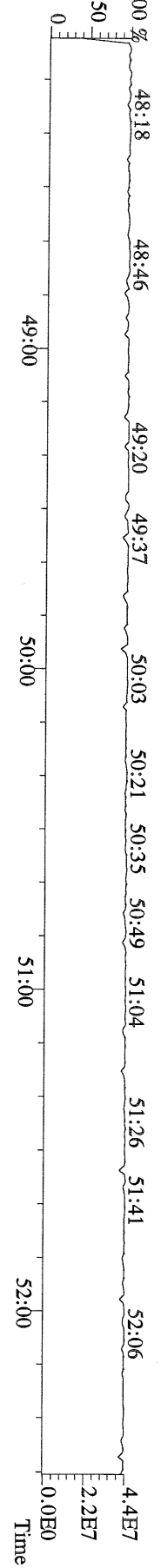
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469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



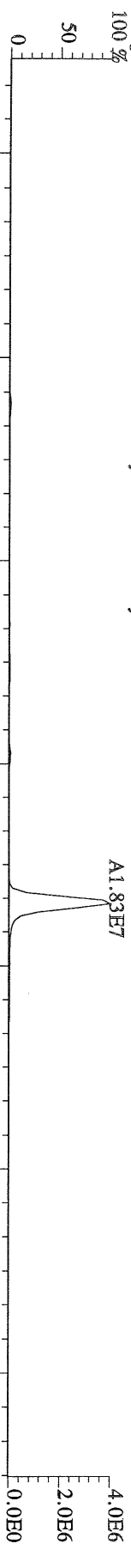
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471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



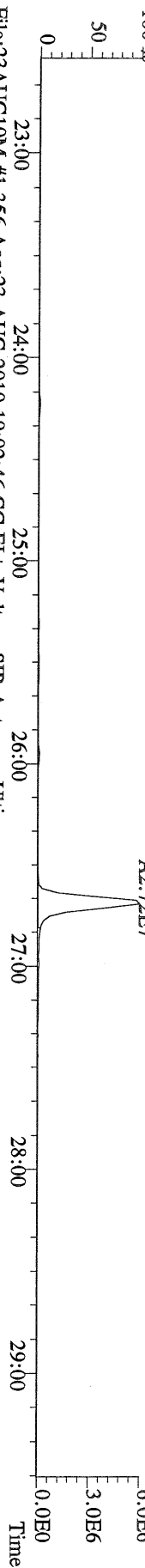
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454.9728 S:6 F:5 Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



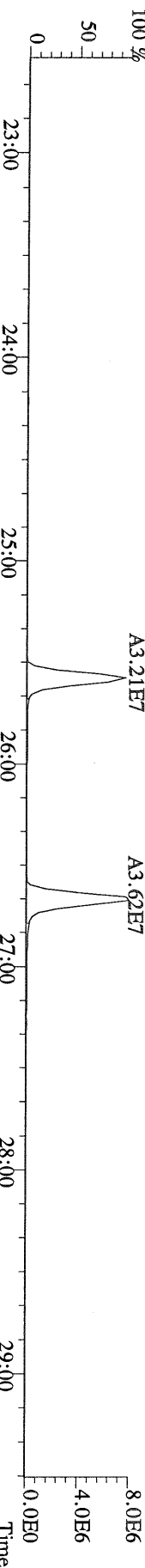
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 303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



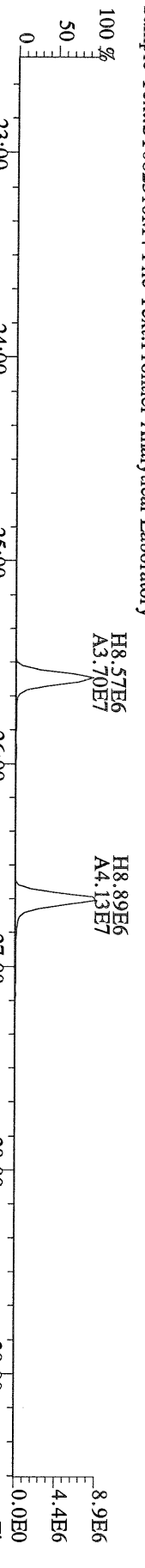
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 305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



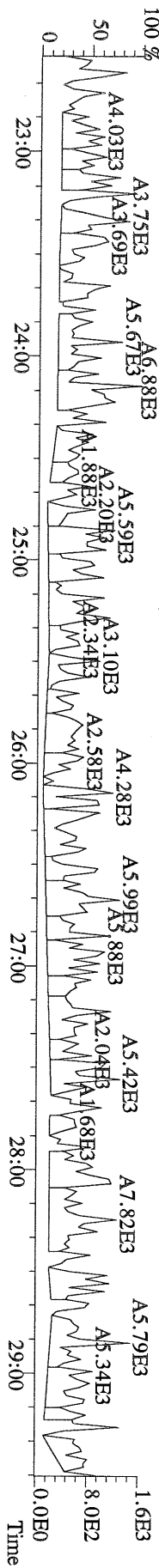
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



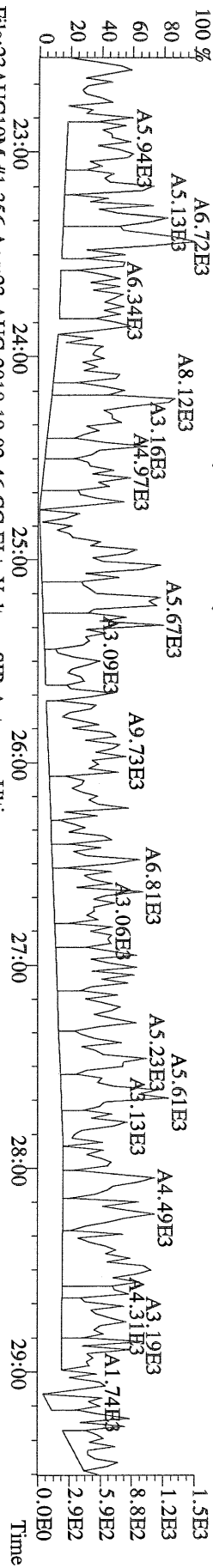
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



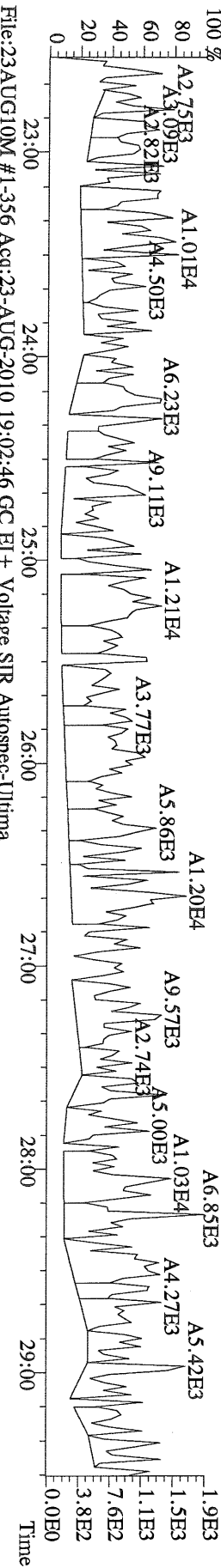
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



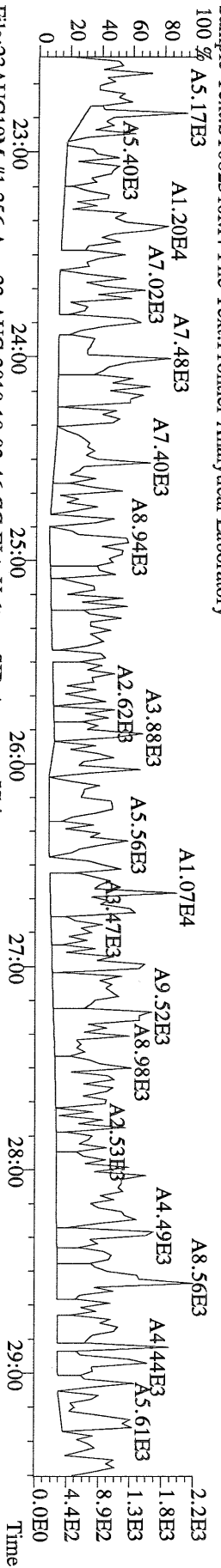
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



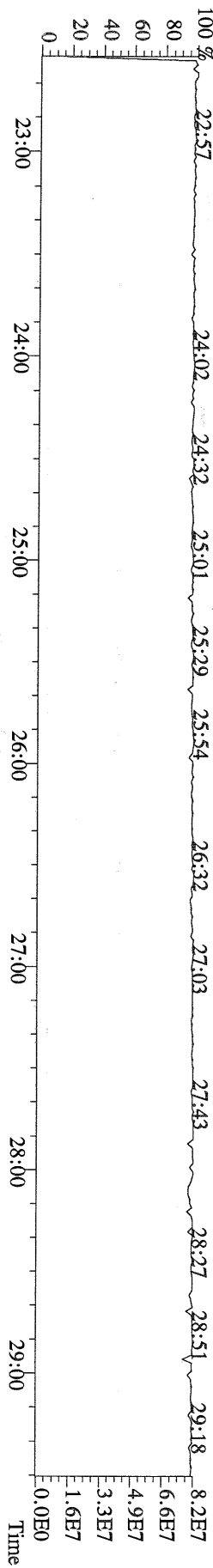
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

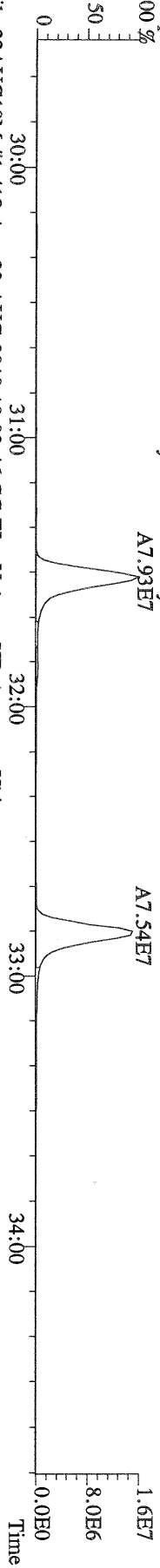


File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 LOCK MASS CHECK S:6 Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

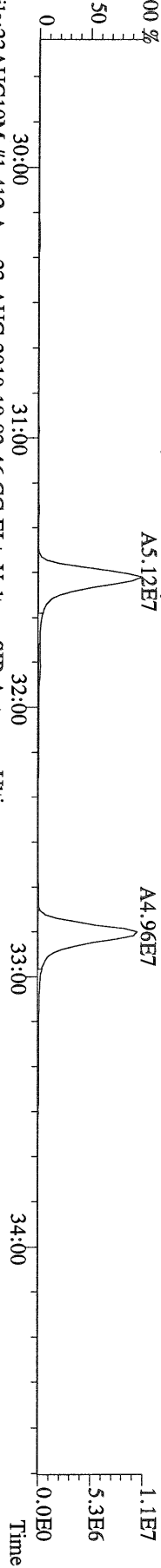




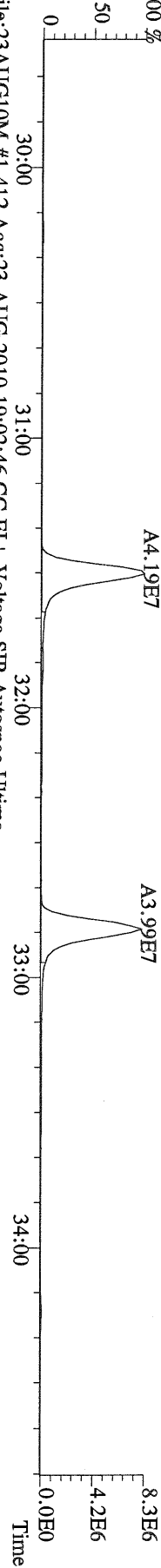
File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



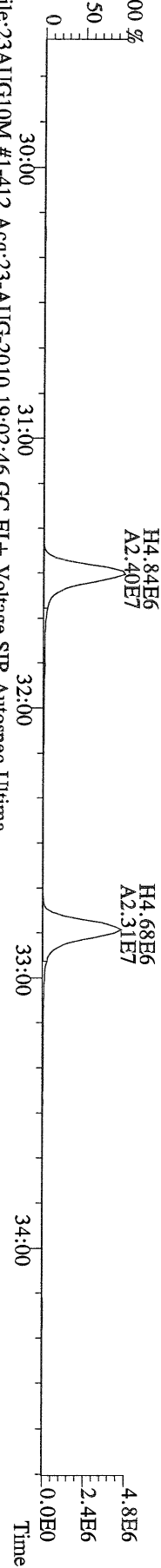
File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



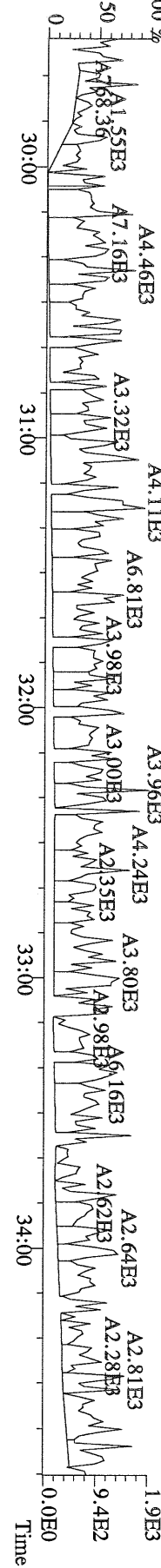
File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

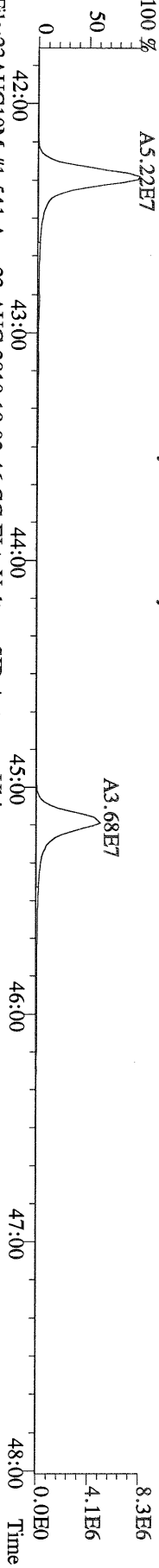


File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

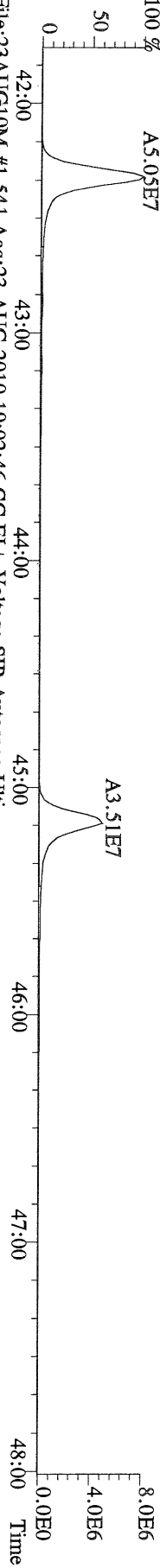




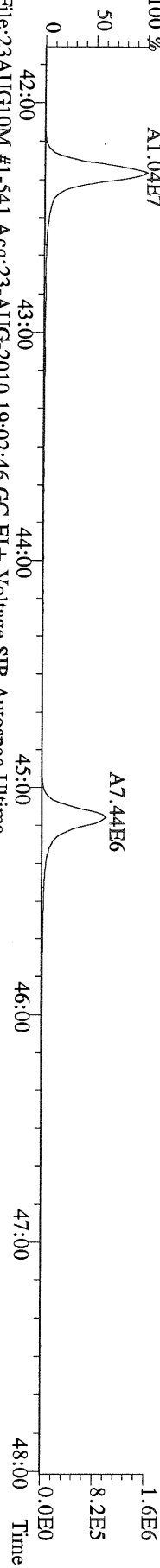
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



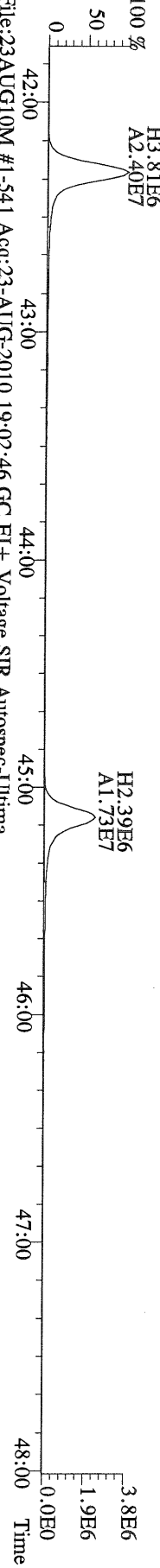
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



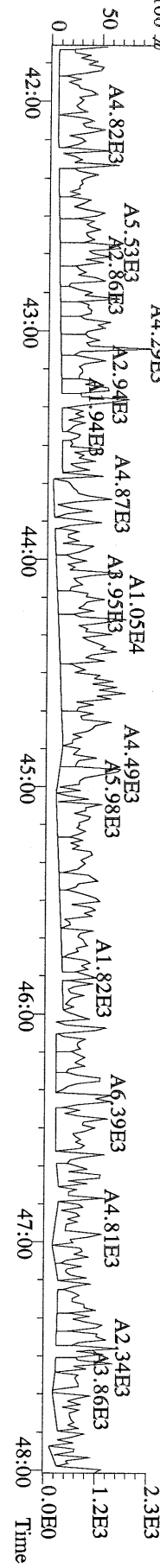
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



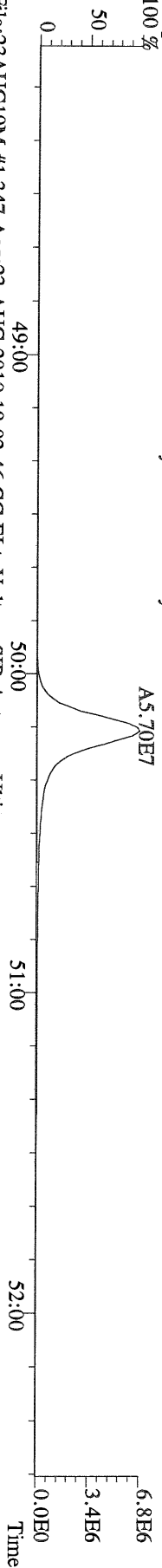
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



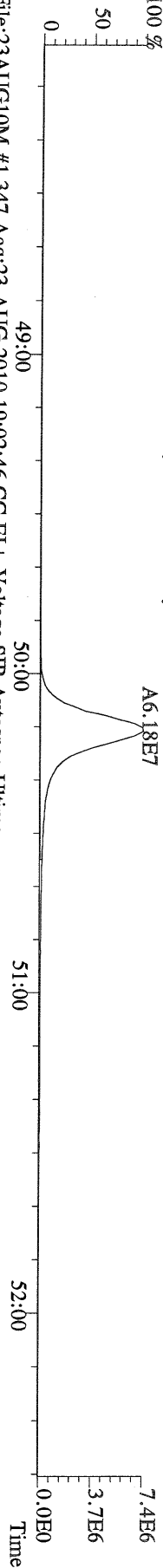
File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp.:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



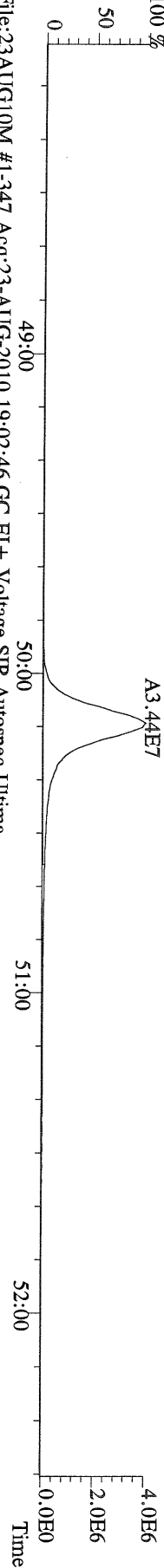
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



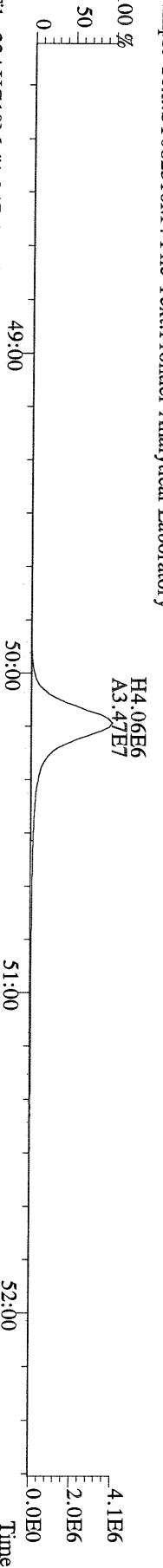
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



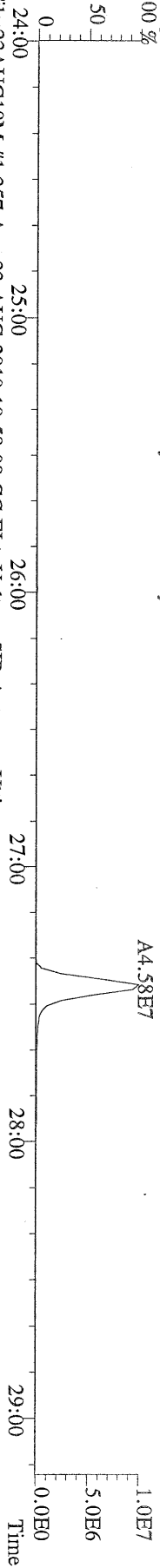
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



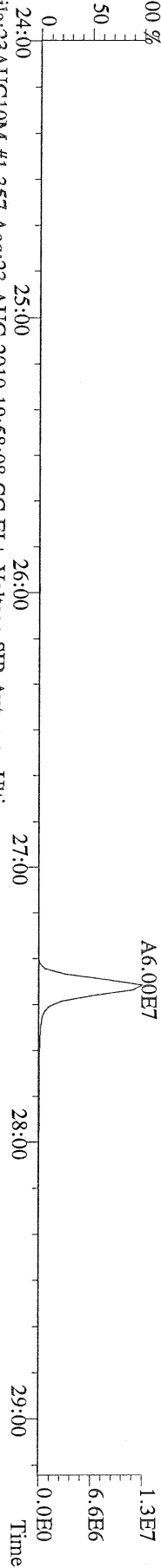
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



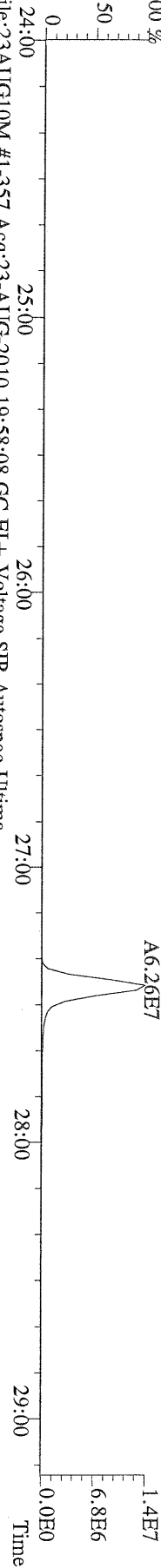
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
319.8965 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



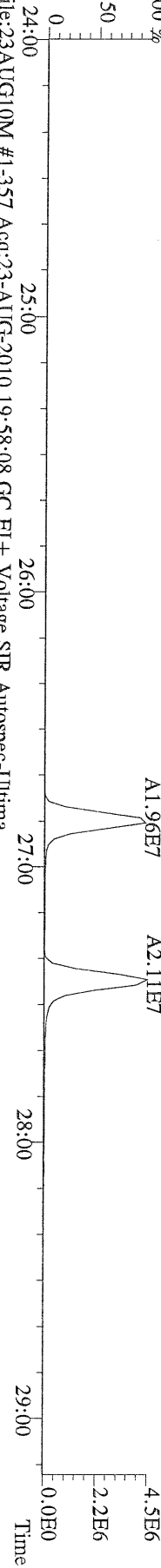
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
321.8936 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



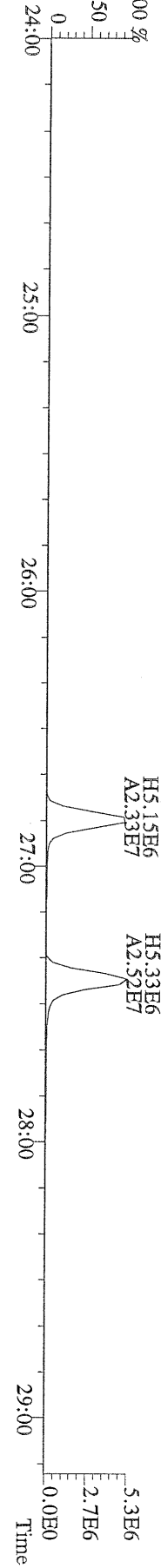
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
327.8847 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



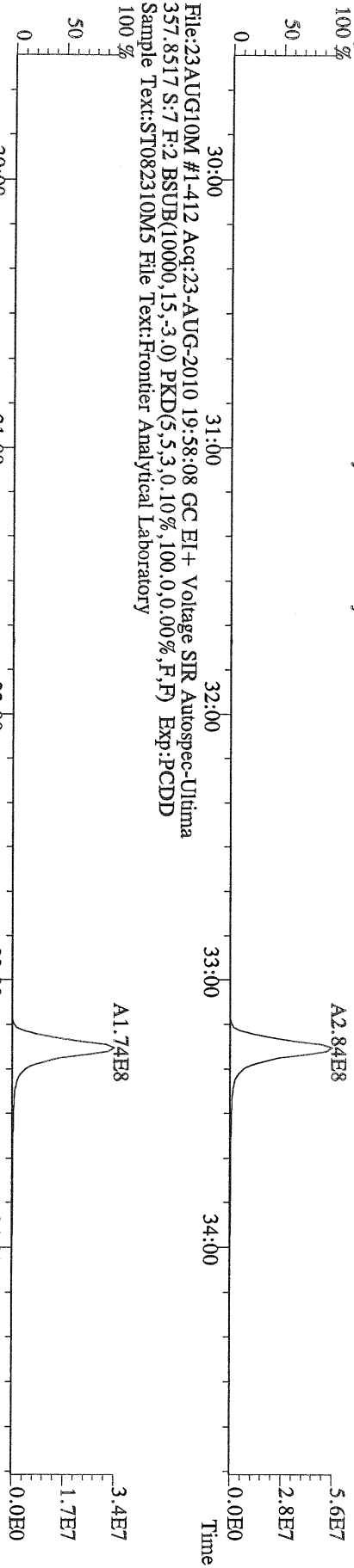
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



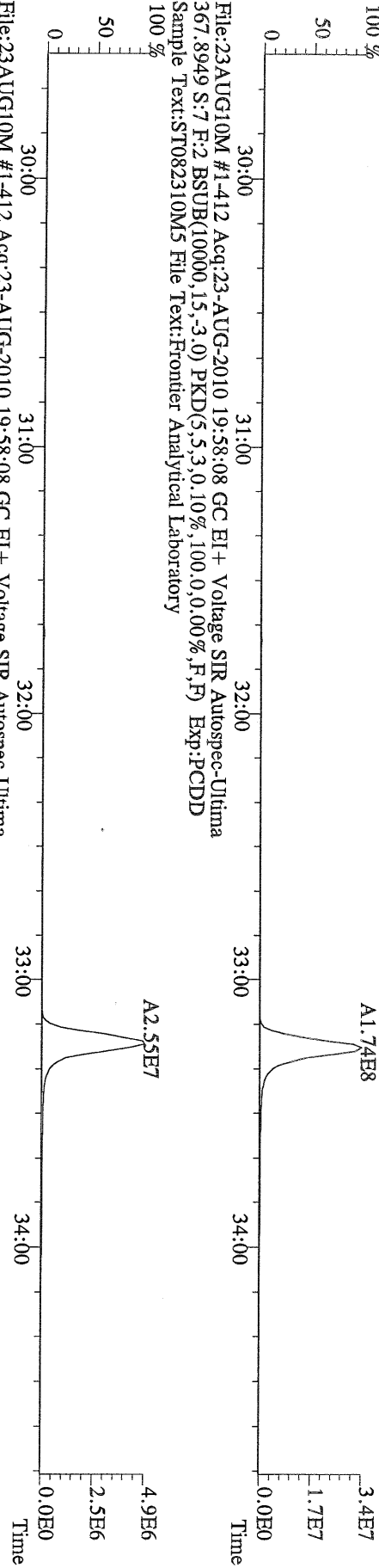
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
333.9339 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



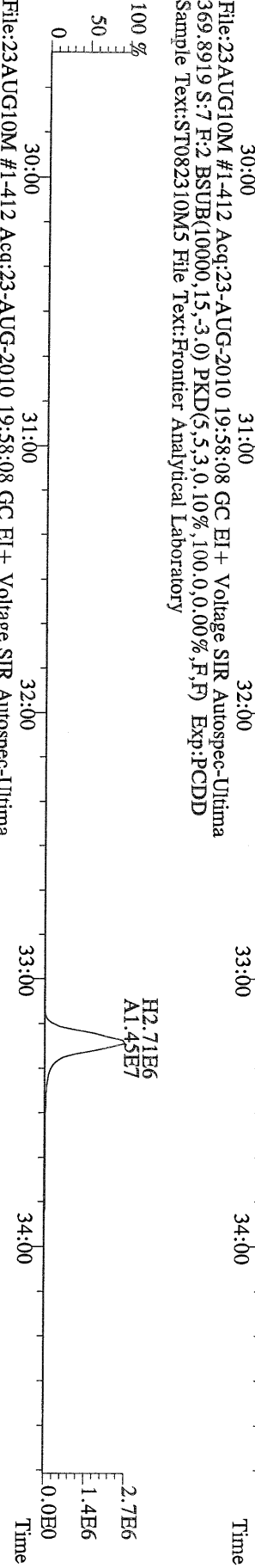
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Fronter Analytical Laboratory



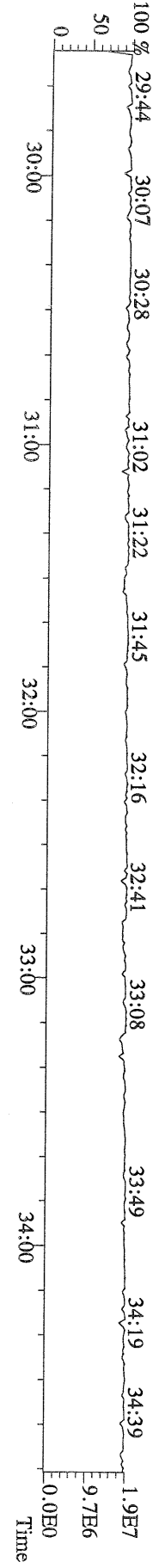
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357.8517 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Fronter Analytical Laboratory



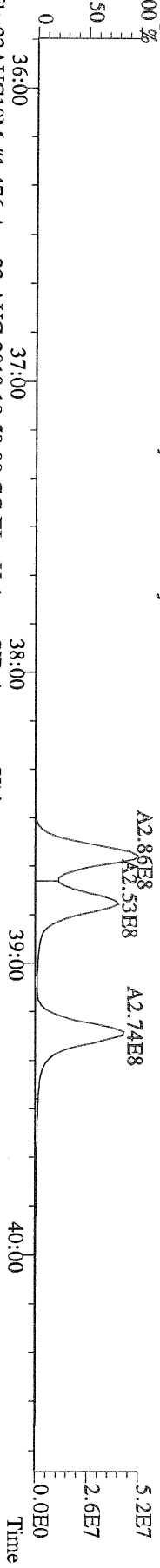
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Fronter Analytical Laboratory



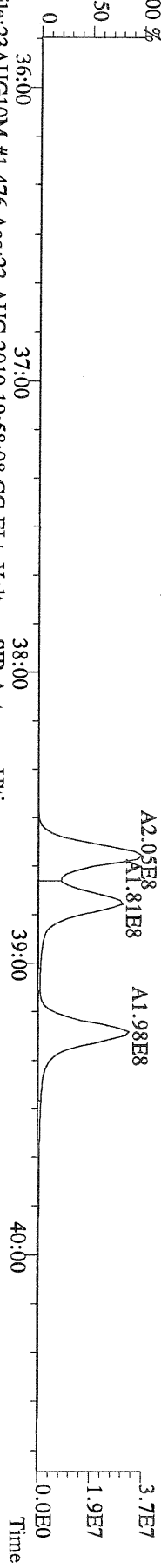
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
366.9792 S:7 F:2 Exp:PCDD  
Sample Text:ST082310M5 File Text:Fronter Analytical Laboratory



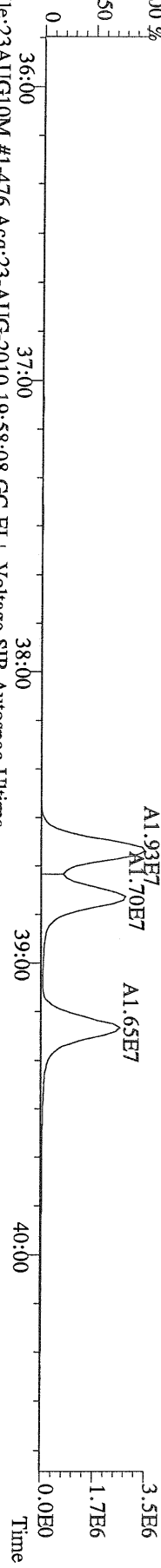
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



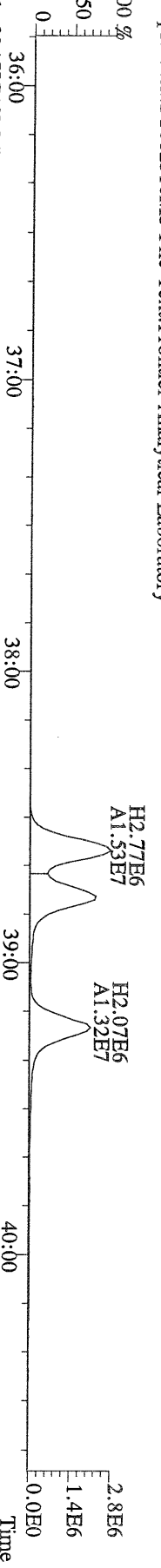
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 391.8127 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



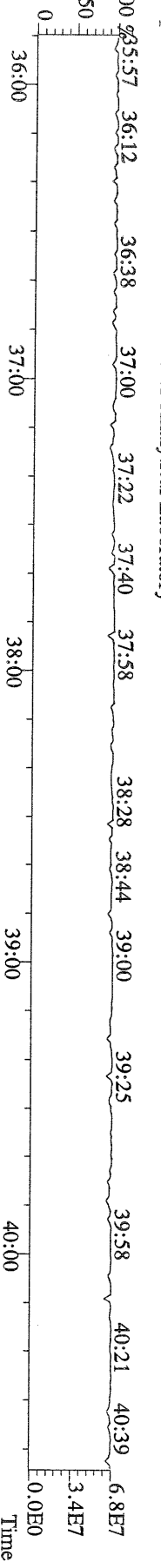
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



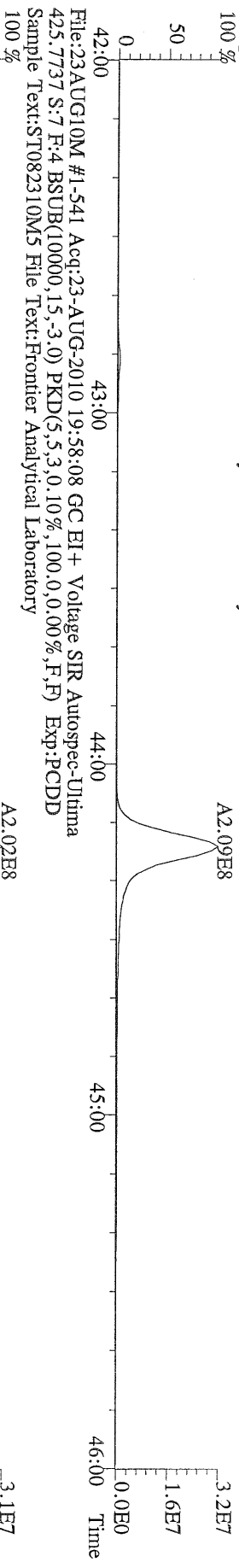
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



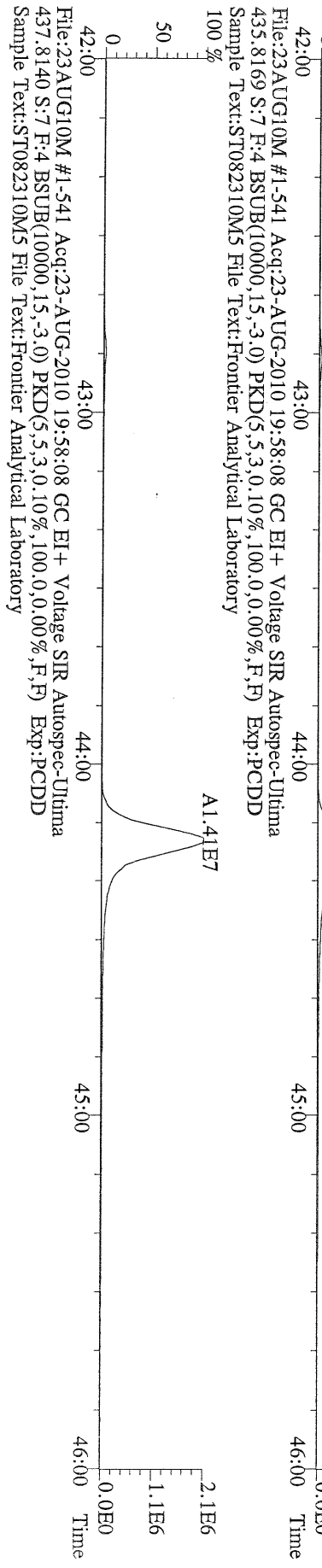
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 S:7 F:3 Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



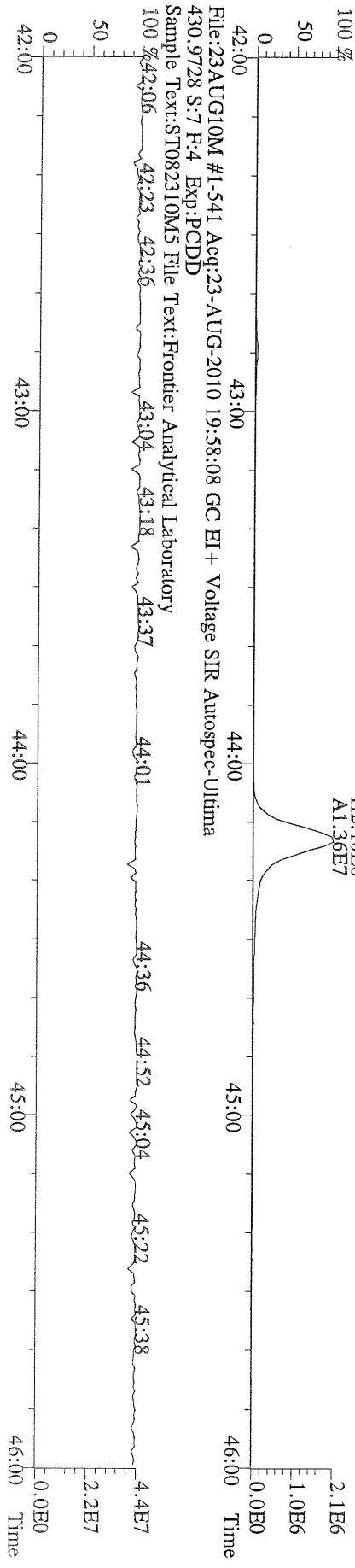
File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

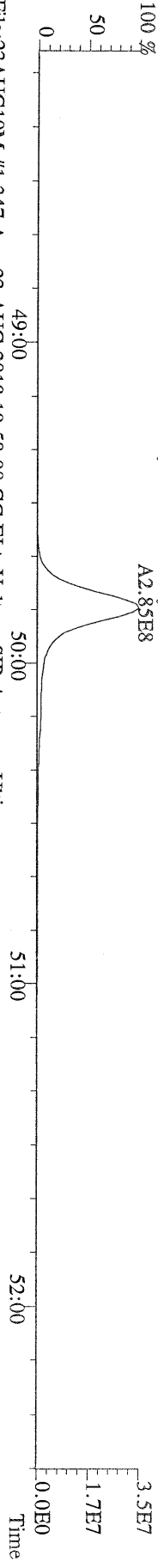


File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:7 F:4 Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

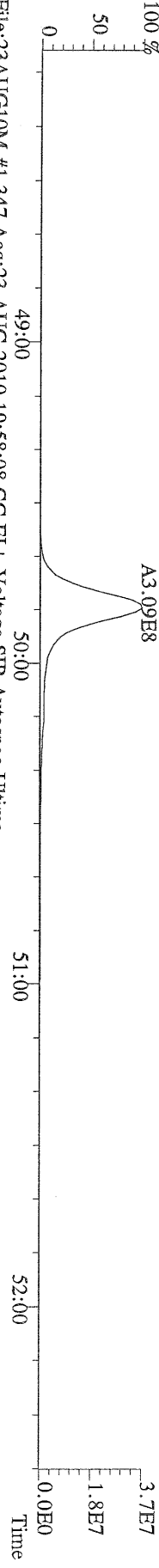




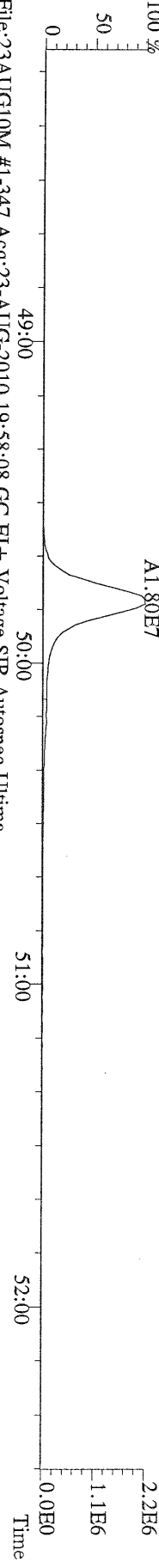
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



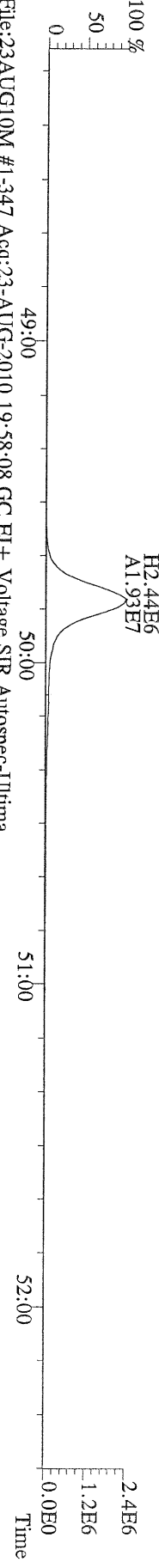
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459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



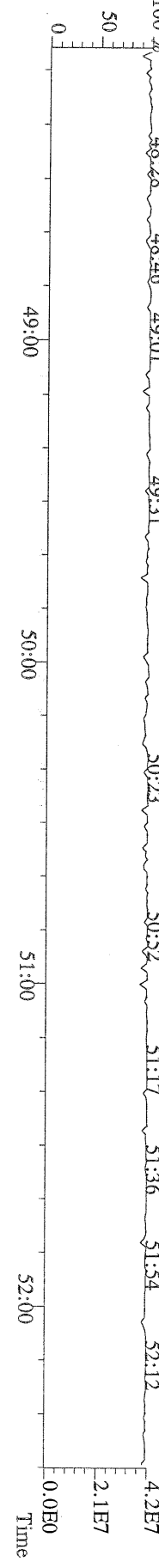
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469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



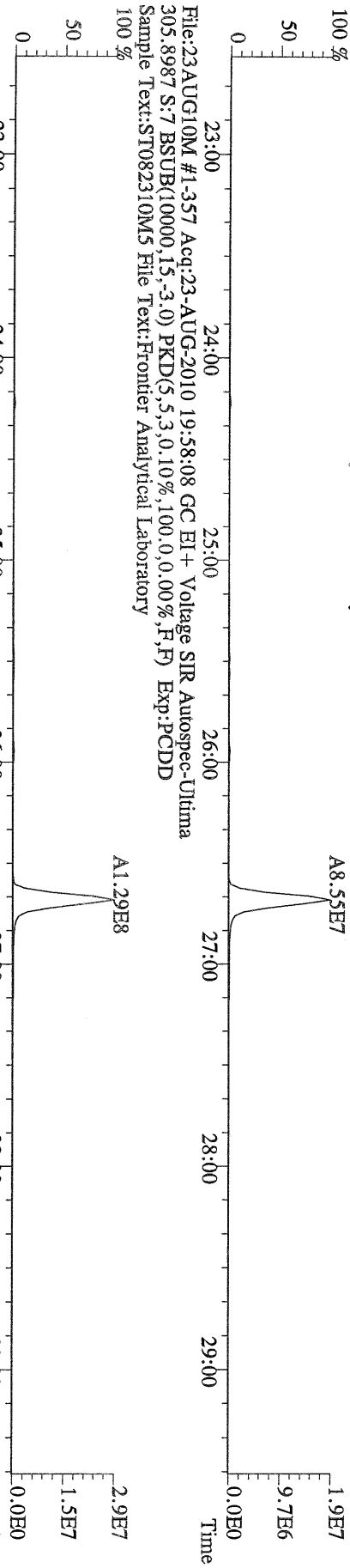
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
471.7750 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



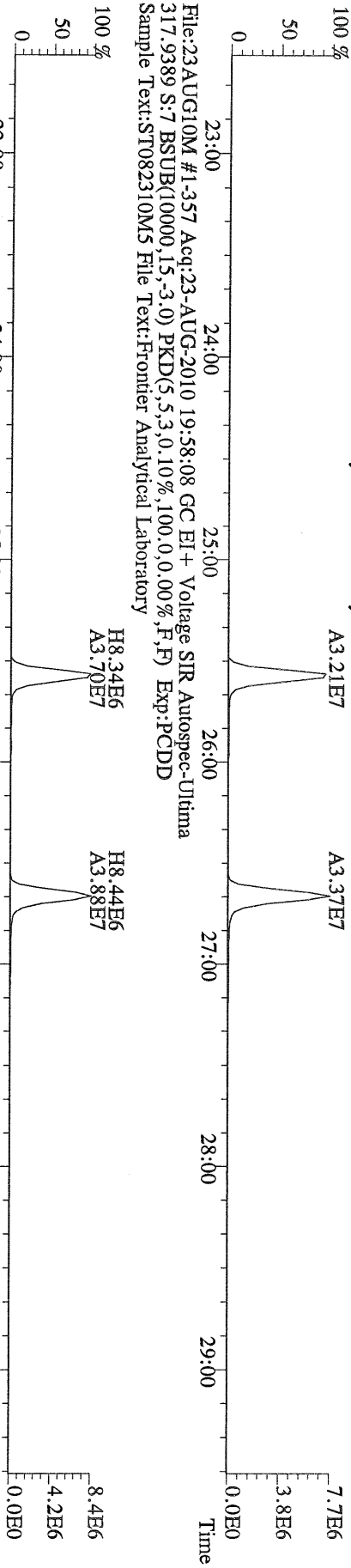
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:7 F:5 Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



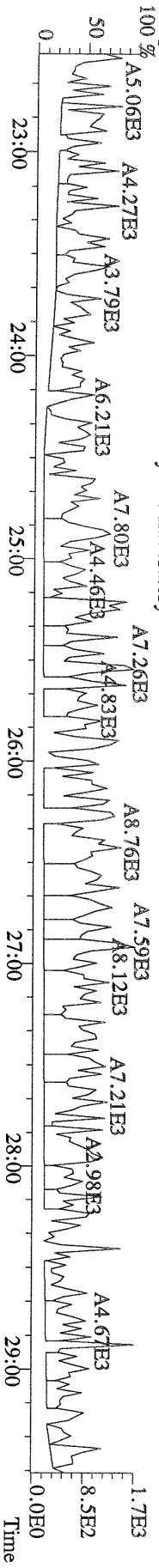
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 303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



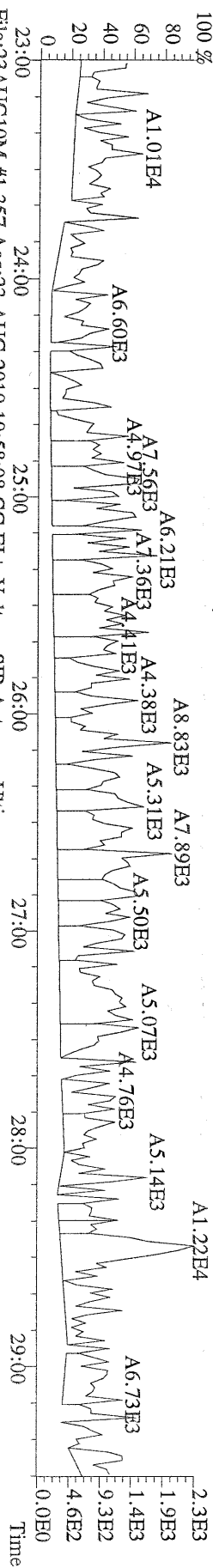
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 315.9419 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



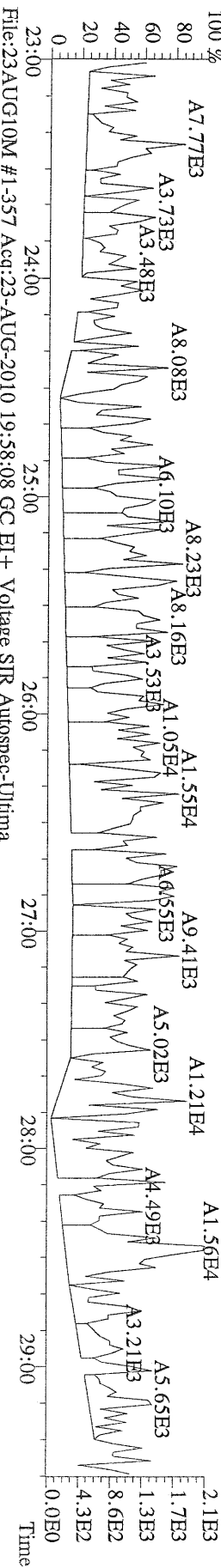
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 375.8364 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



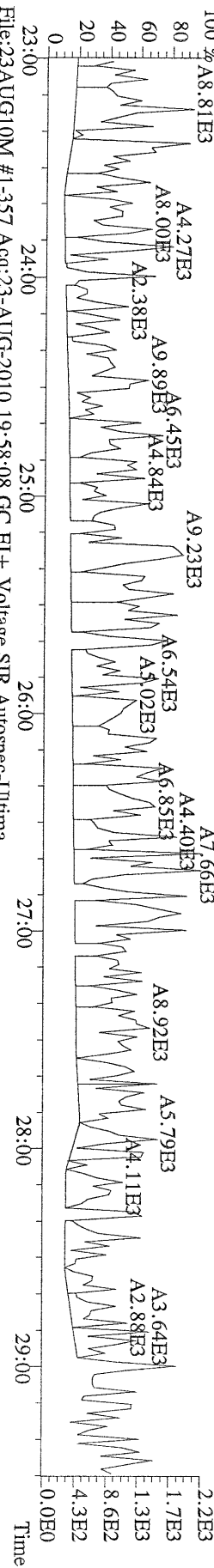
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



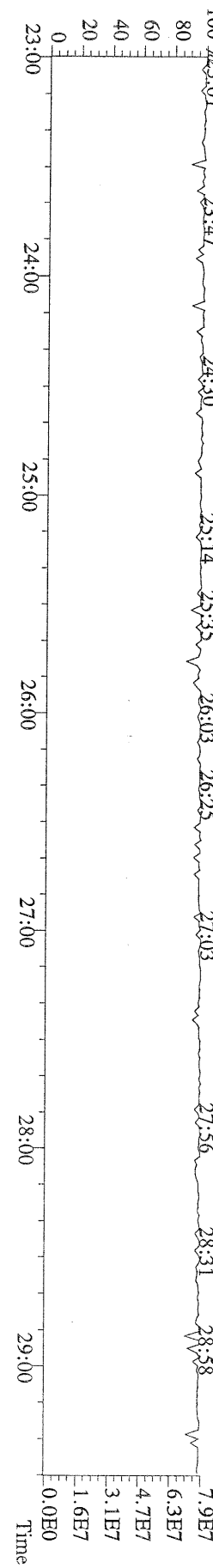
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 341.8568 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



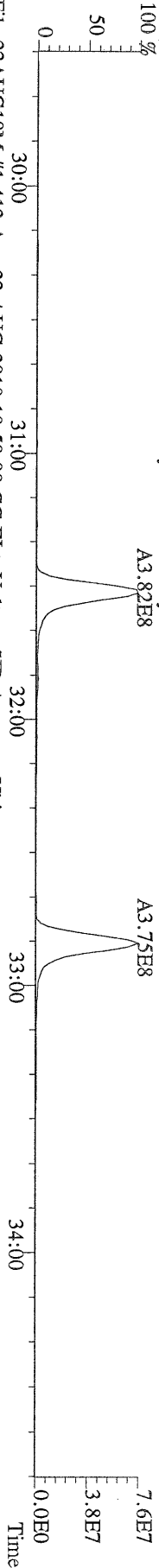
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



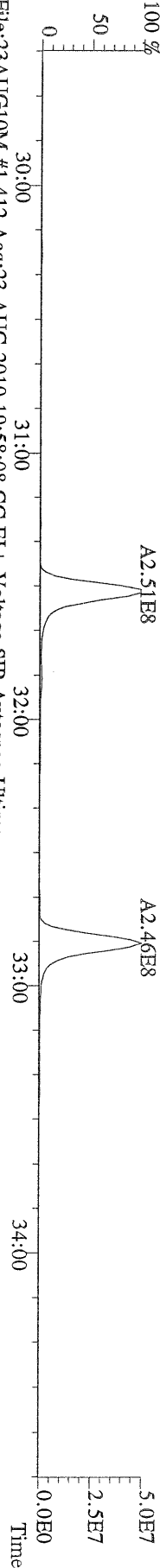
File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 330.9792 S:7 Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



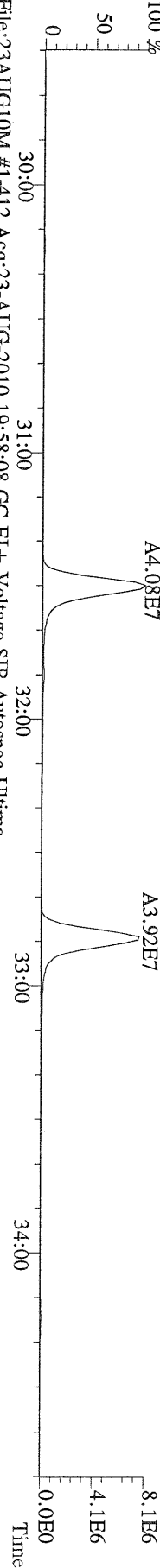
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 339.8597 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



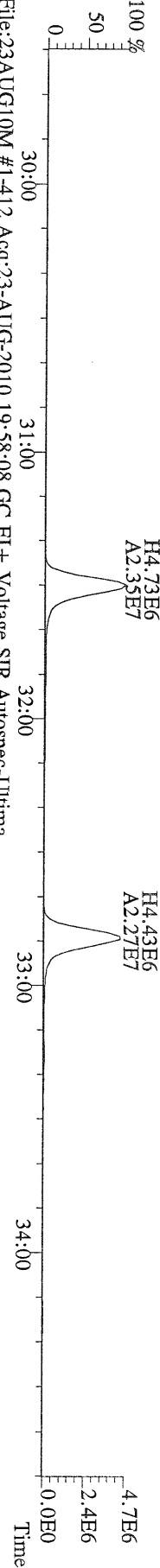
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



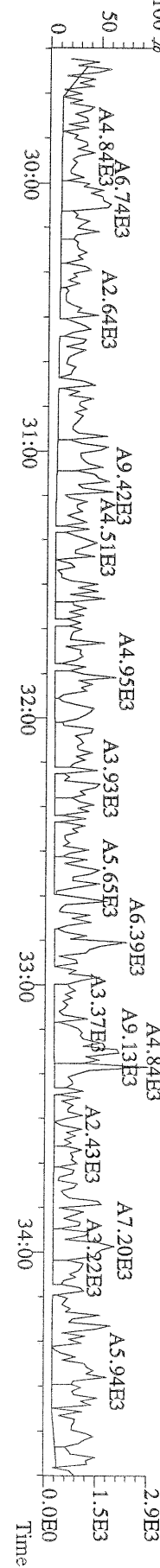
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 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



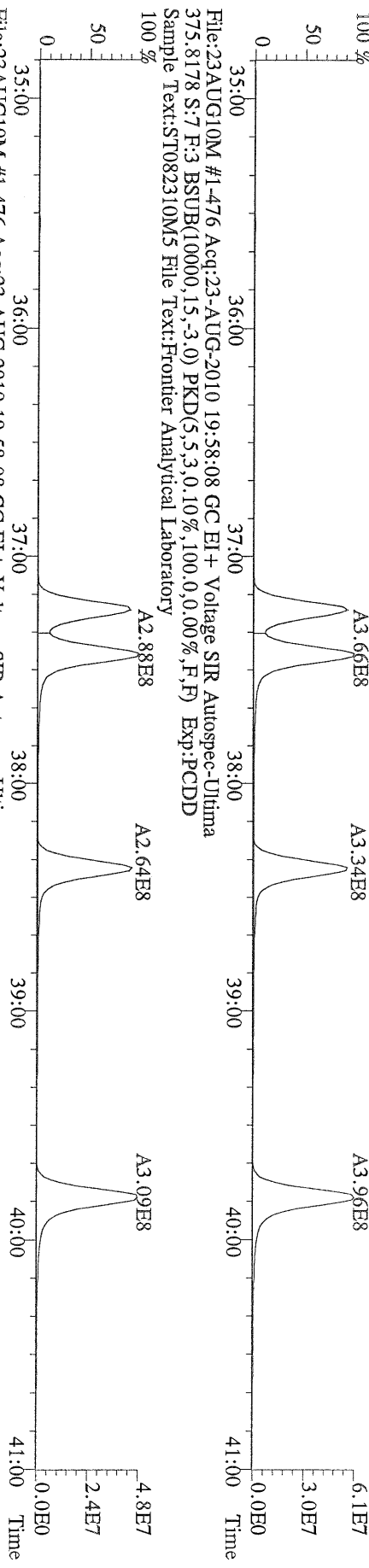
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
 353.8970 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



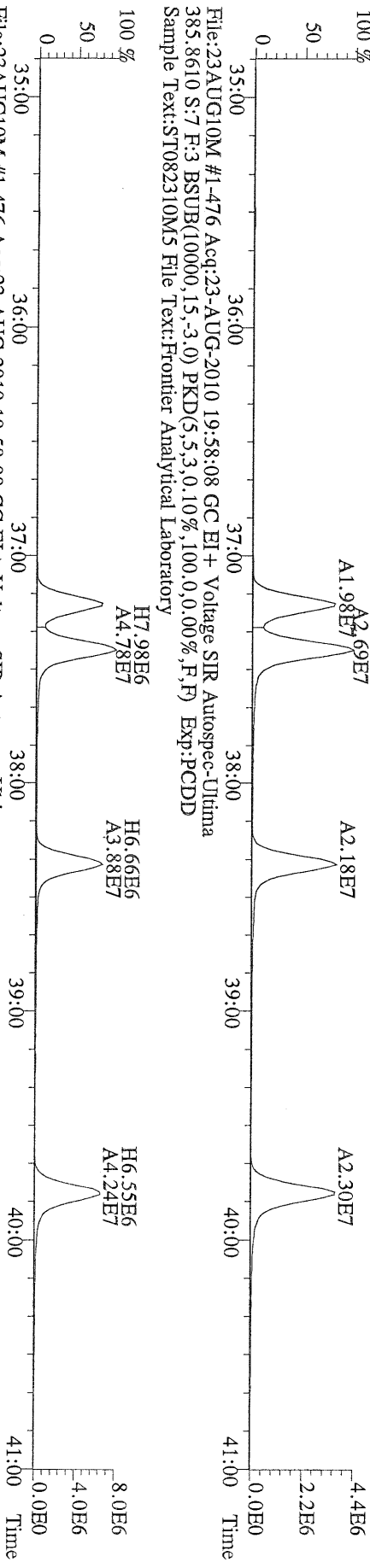
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 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



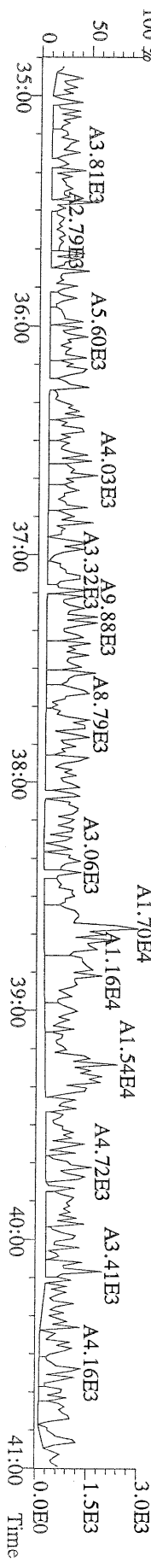
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
373.8207 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



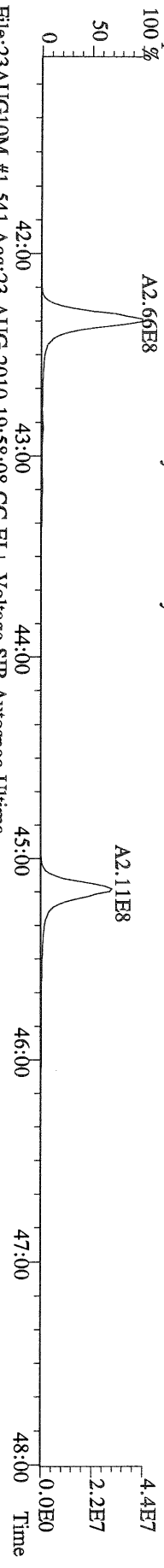
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



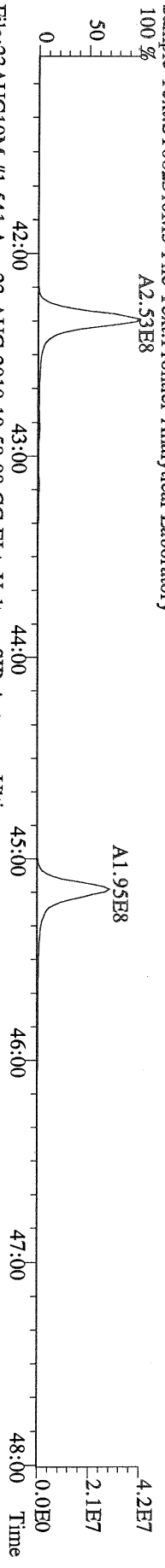
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



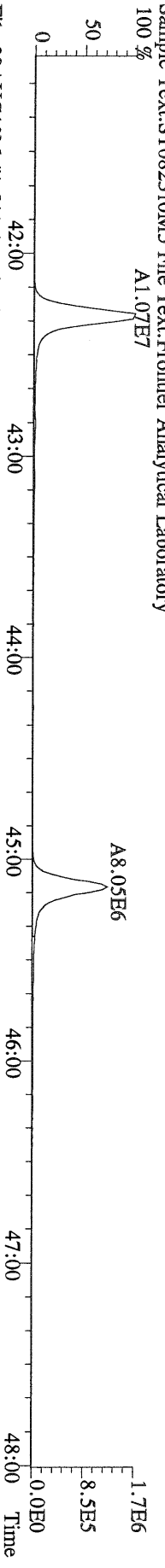
File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



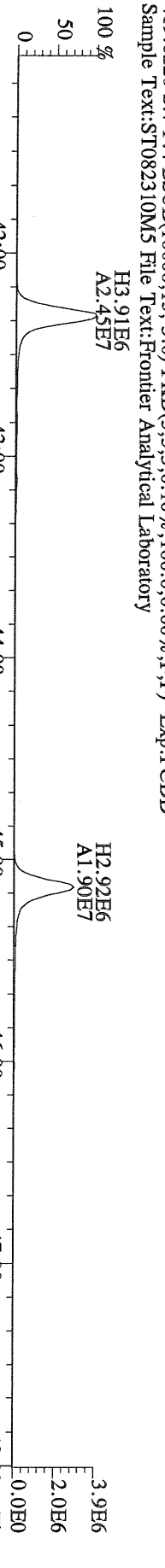
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409.7788 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



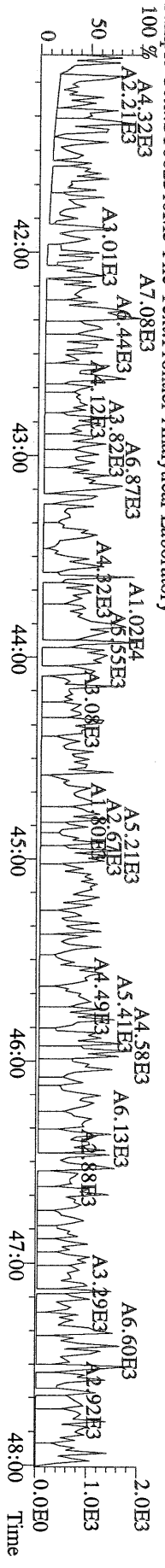
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417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



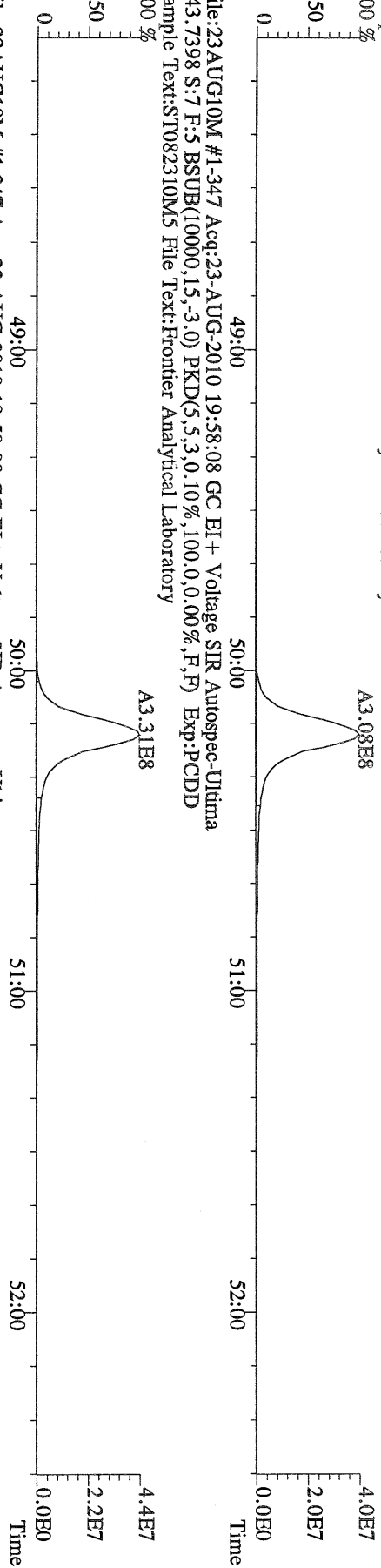
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419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



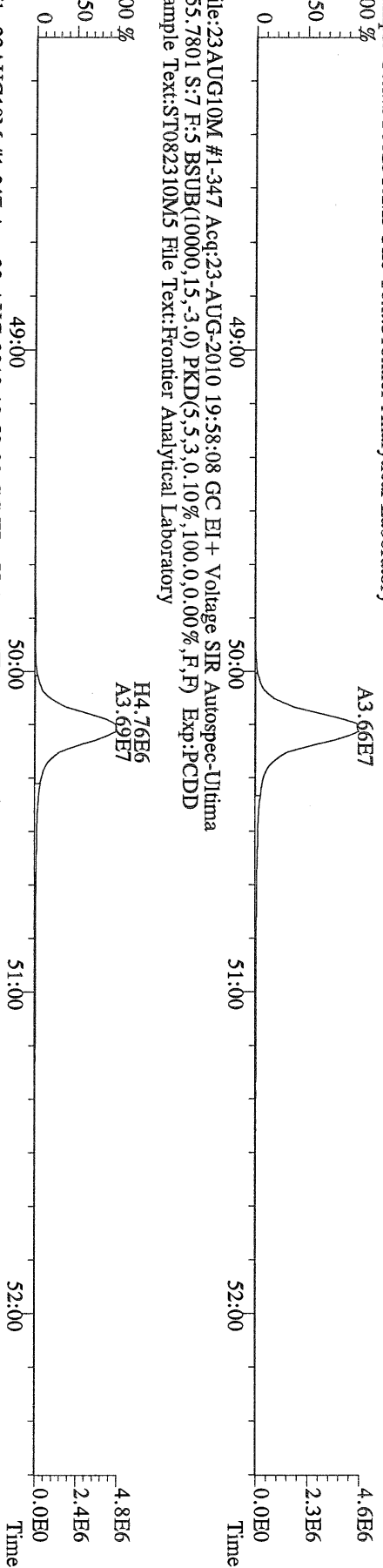
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419.7165 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



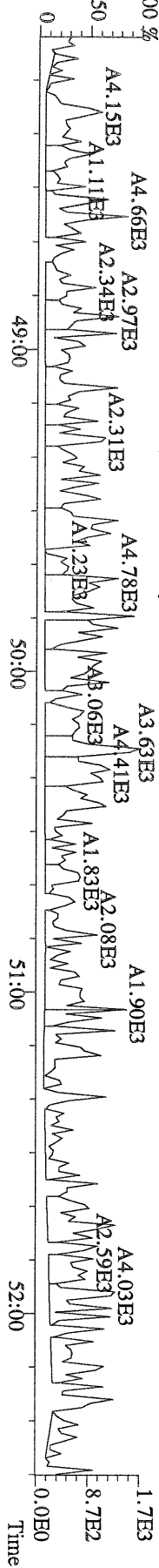
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441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %

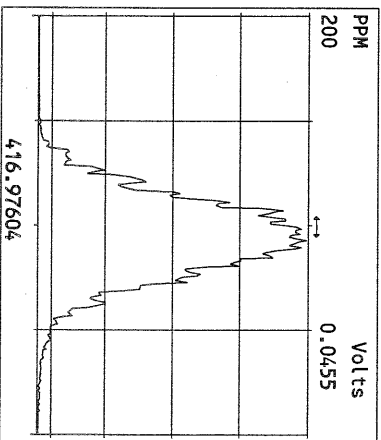
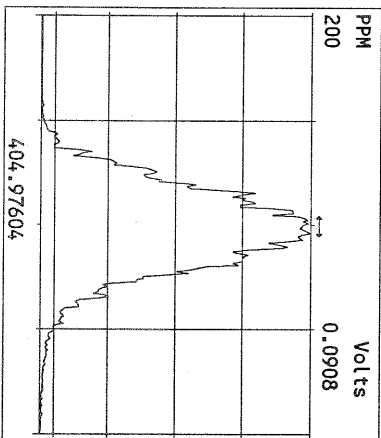
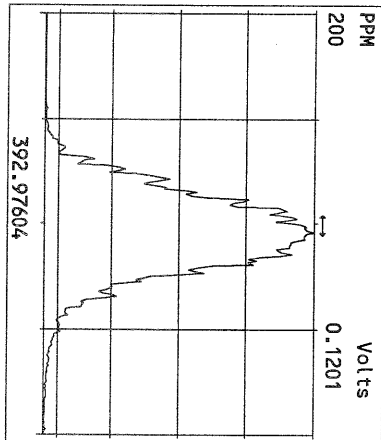
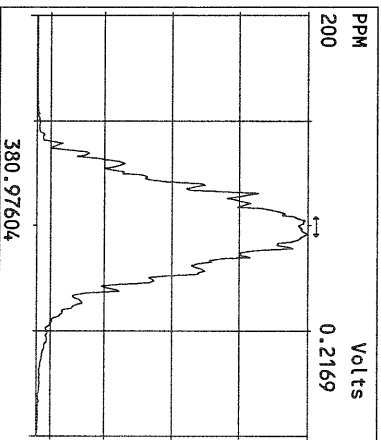
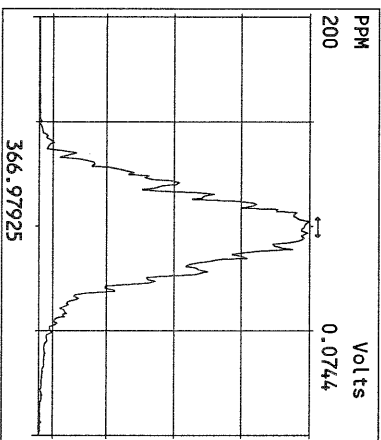
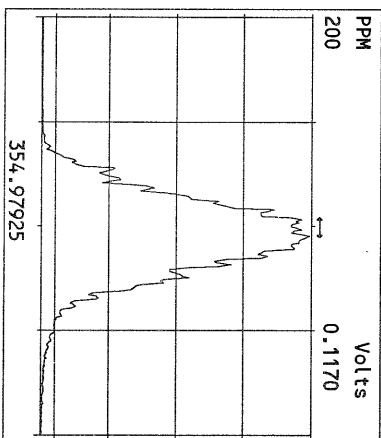
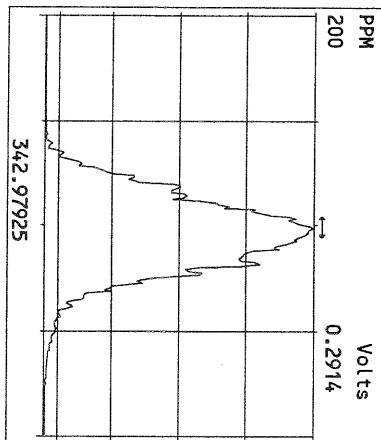
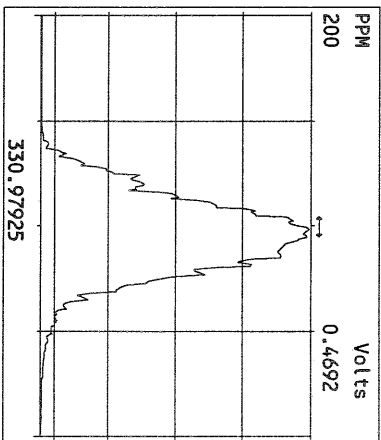
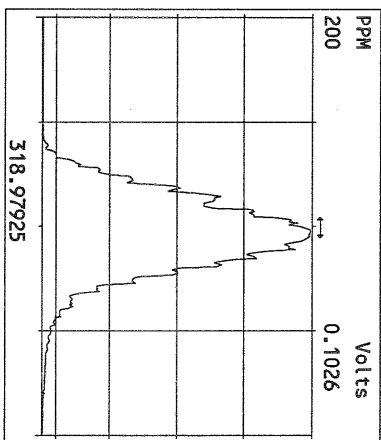
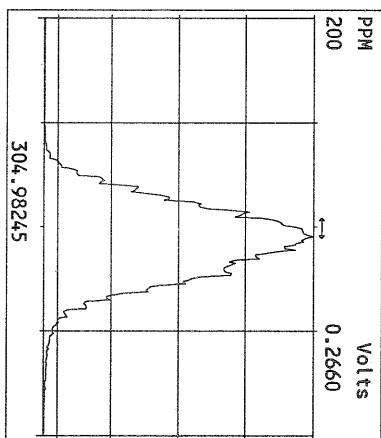
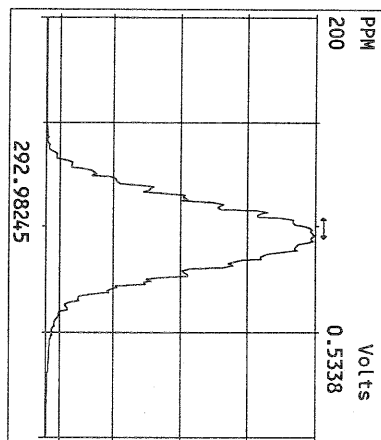


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453.7831 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %

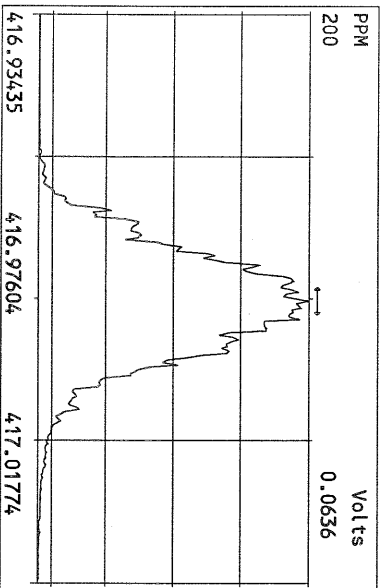
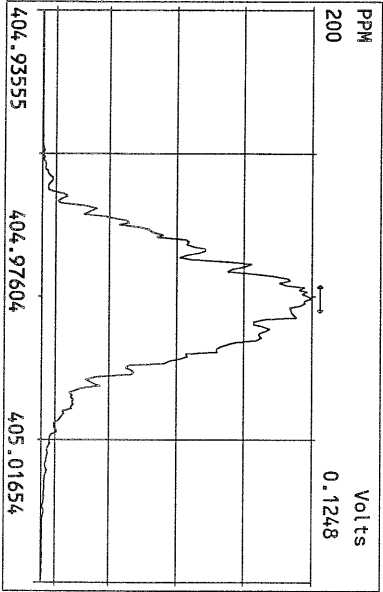
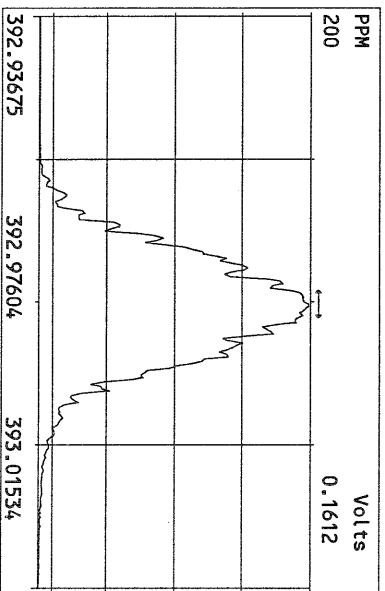
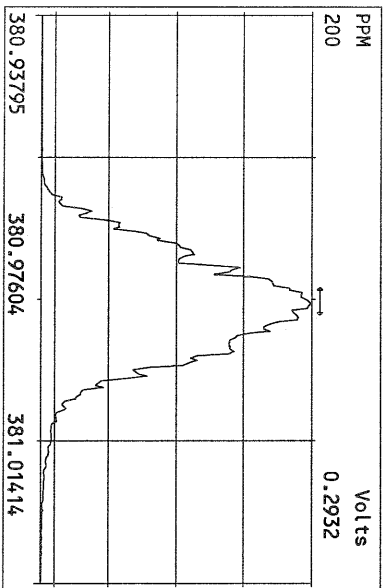
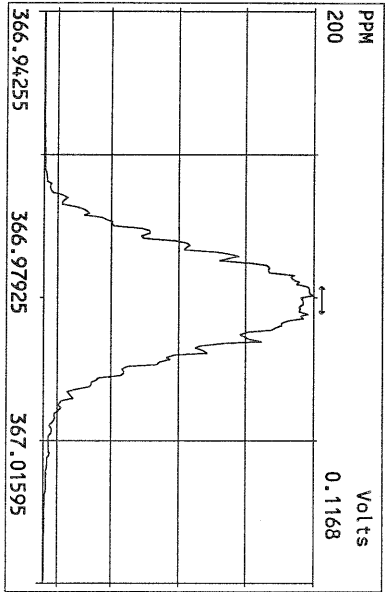
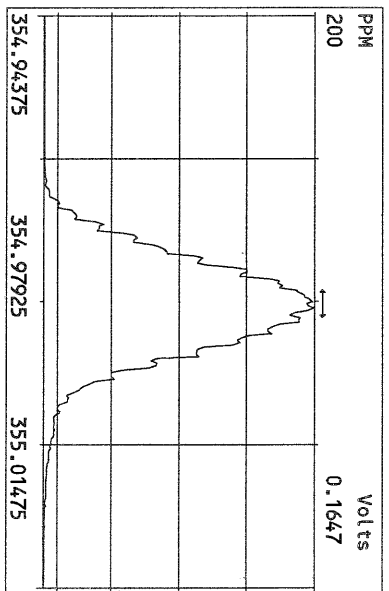
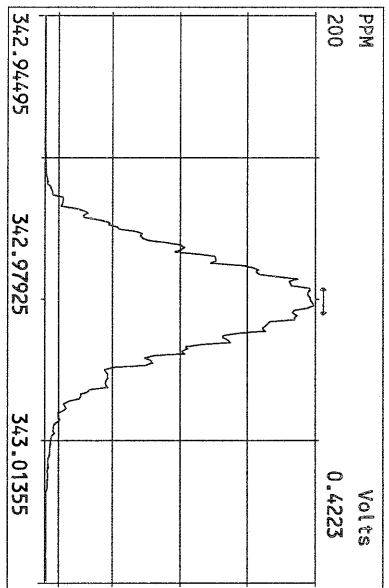
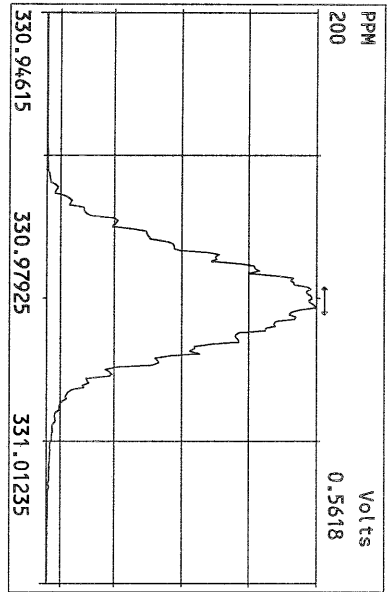


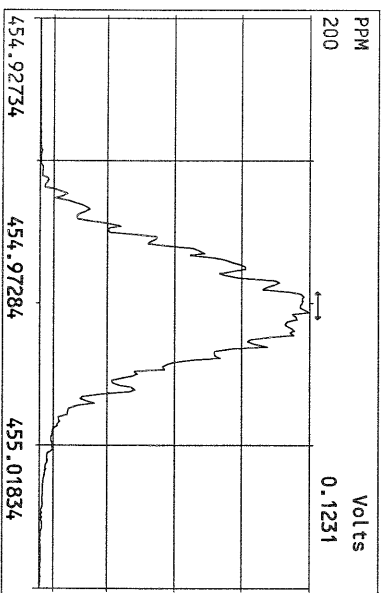
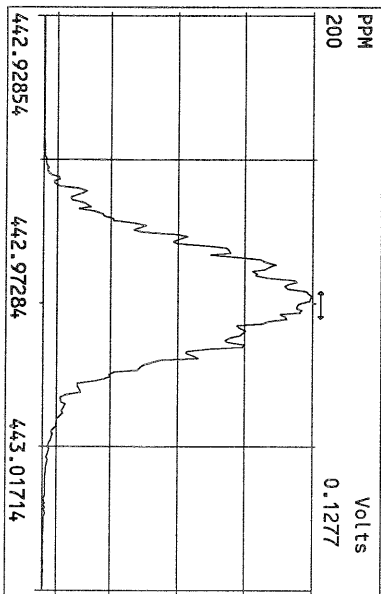
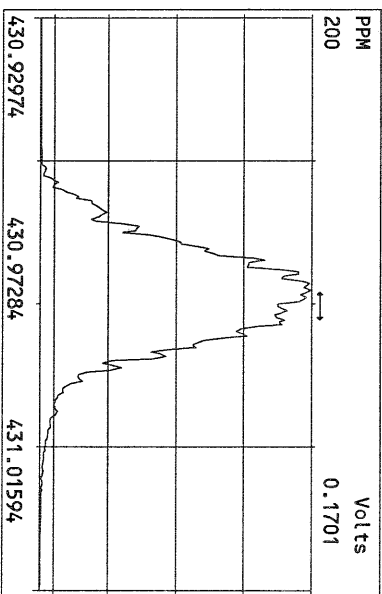
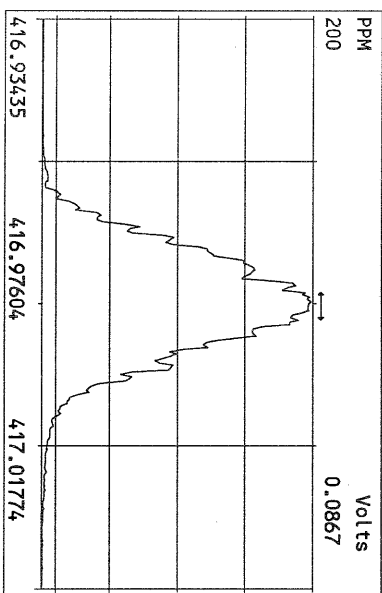
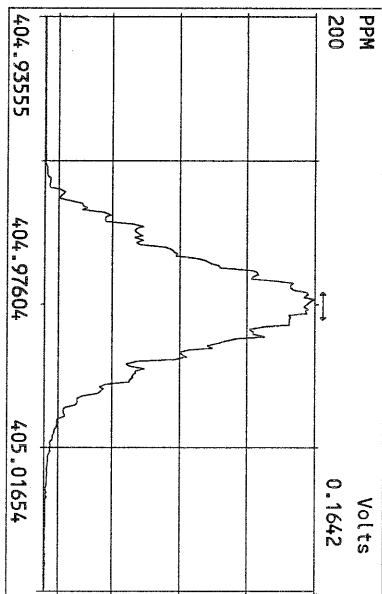
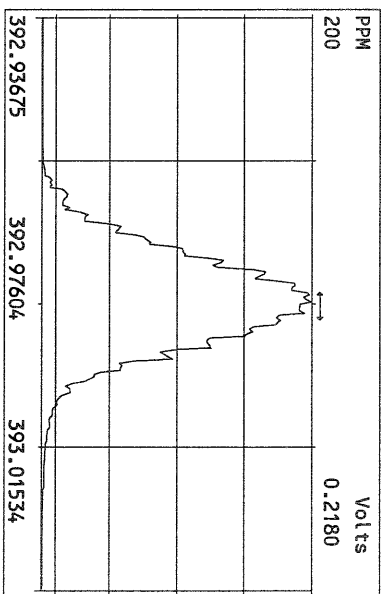
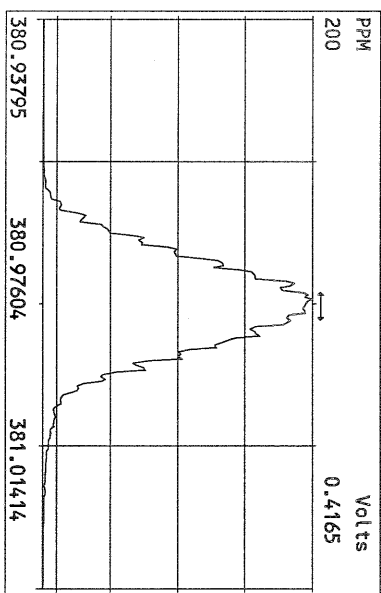
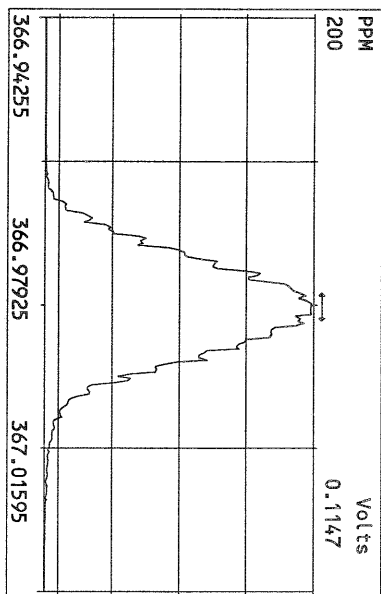
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %

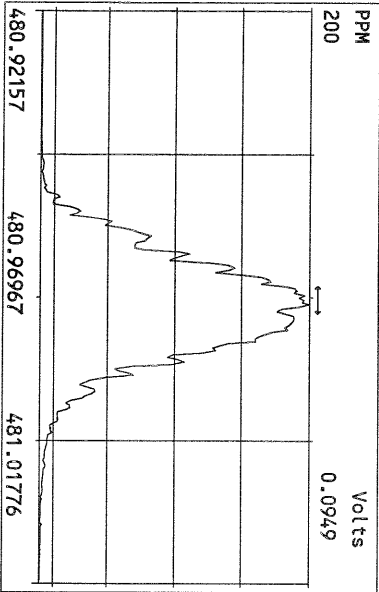
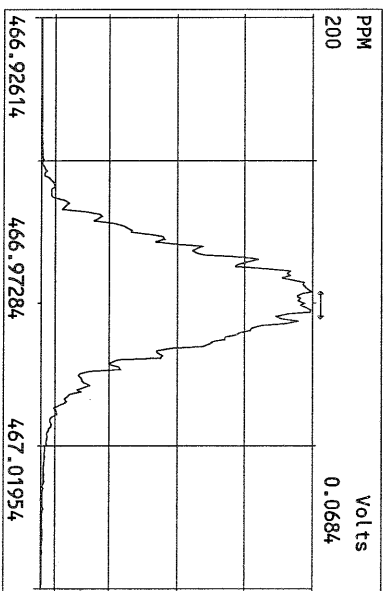
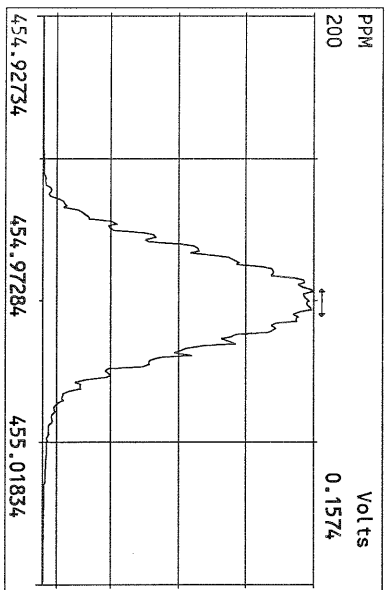
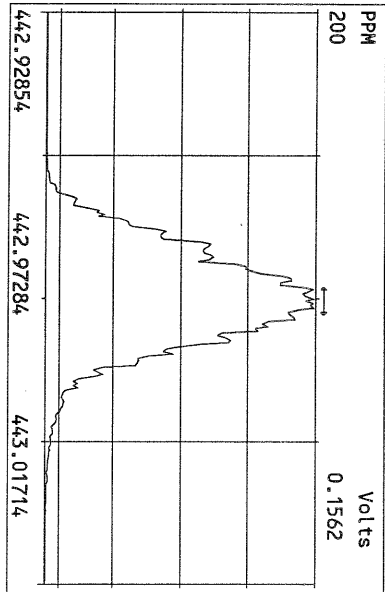
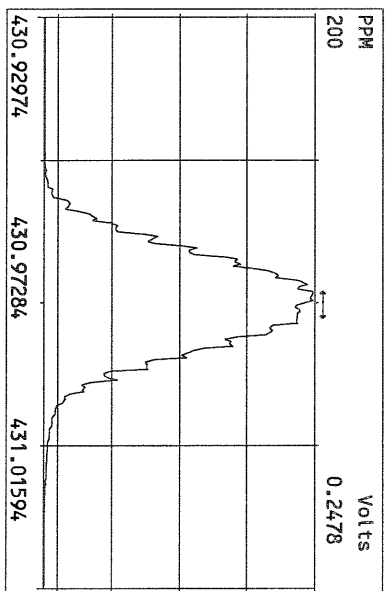
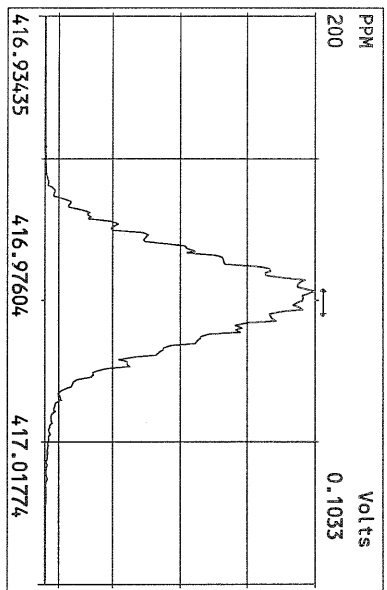
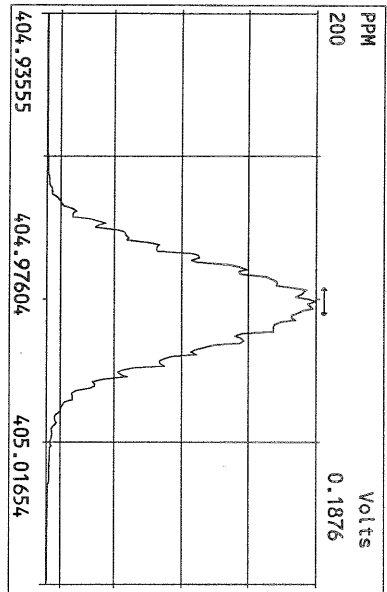


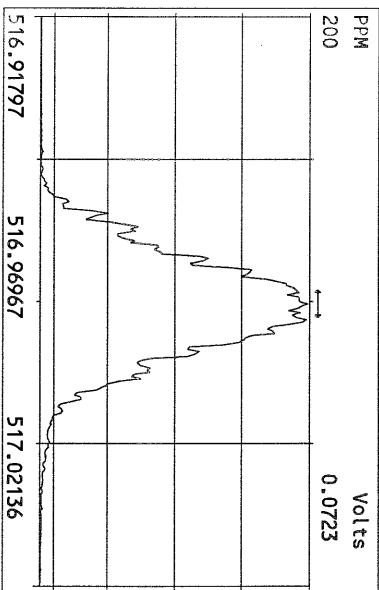
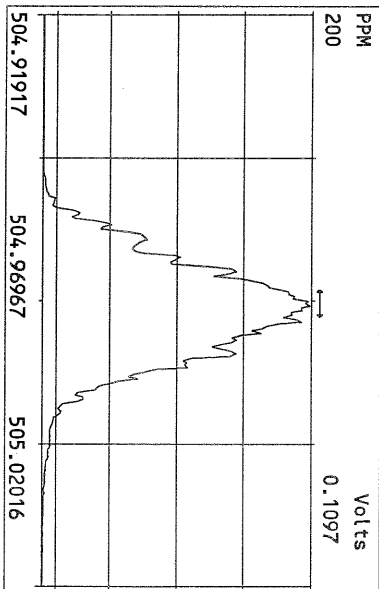
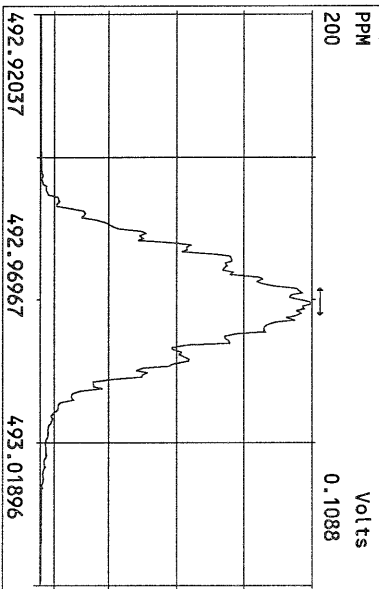
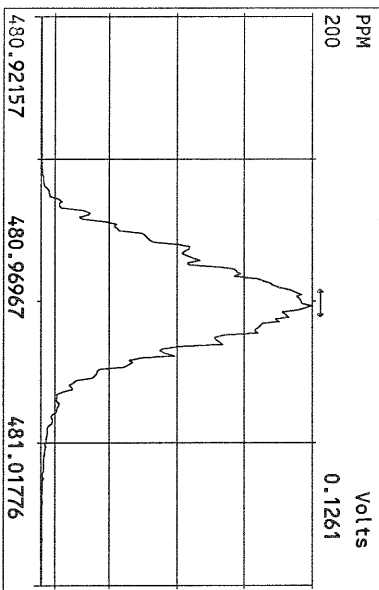
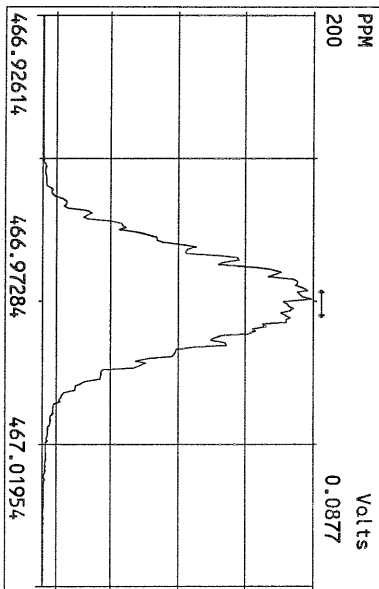
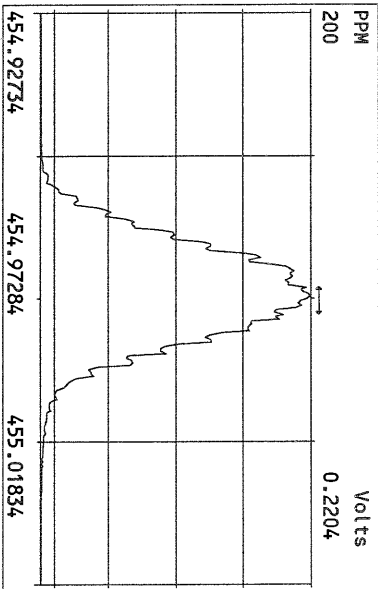
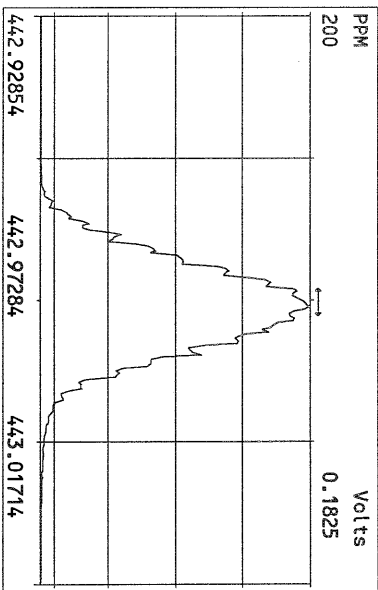
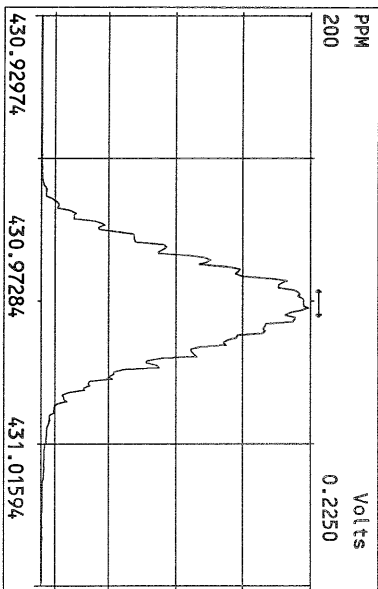












## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 15SEP10N Sam:1

Analysis Date: 15-SEP-10 19:59:42

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.84	0.65-0.89	y	11.4	7.80 - 12.9 ✓
1,2,3,7,8-PeCDD	M+2/M+4	1.48	1.32-1.78	y	50.4	39.0 - 65.0 ✓
1,2,3,4,7,8-HxCDD	M+2/M+4	1.41	1.05-1.43	y	50.4	39.0 - 64.0 ✓
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.05-1.43	y	48.9	39.0 - 64.0 ✓
1,2,3,7,8,9-HxCDD	M+2/M+4	1.42	1.05-1.43	y	53.1	41.0 - 61.0 ✓
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.90	0.88-1.20	y	50.8	43.0 - 58.0 ✓
OCDD	M+2/M+4	0.99	0.76-1.02	y	102	79.0 - 126 ✓
2,3,7,8-TCDF	M/M+2	0.67	0.65-0.89	y	9.25	8.40 - 12.0 ✓
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	47.5	41.0 - 60.0 ✓
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	47.1	41.0 - 60.0 ✓
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	45.4	45.0 - 56.0 ✓
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	45.4	44.0 - 57.0 ✓
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	46.4	44.0 - 57.0 ✓
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	46.9	45.0 - 56.0 ✓
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	y	47.9	45.0 - 55.0 ✓
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.08	0.88-1.20	y	48.0	43.0 - 58.0 ✓
OCDF	M+2/M+4	0.88	0.76-1.02	y	89.8	63.0 - 159 ✓

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: 

Date: 9/16/10

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 15SEP10N Sam:1

Analysis Date: 15-SEP-10 19:59:42

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.86	0.65-0.89	y	93.9	82.0 - 121 ✓
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.76	1.32-1.78	y	112	62.0 - 160 ✓
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	94.0	85.0 - 117 ✓
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	y	102	85.0 - 118 ✓
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.96	0.88-1.20	y	103	72.0 - 138 ✓
13C-OCDD	M+2/M+4	0.97	0.76-1.02	y	228	96.0 - 415 ✓
13C-2,3,7,8-TCDF	M/M+2	0.87	0.65-0.89	y	92.9	71.0 - 140 ✓
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.70	1.32-1.78	y	101	76.0 - 130 ✓
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.73	1.32-1.78	y	103	77.0 - 130 ✓
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.46	0.43-0.59	y	94.8	76.0 - 131 ✓
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.46	0.43-0.59	y	96.8	70.0 - 143 ✓
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.47	0.43-0.59	y	94.5	73.0 - 137 ✓
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.46	0.43-0.59	y	95.3	74.0 - 135 ✓
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	y	84.2	78.0 - 129 ✓
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	y	89.9	77.0 - 129 ✓
13C-OCDF	M+2/M+4	0.94	0.76-1.02	y	229	96.0 - 415 ✓
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.55	7.80 - 12.8 ✓

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: 

Date: 9/16/10



## USEPA - ITD

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 15-SEP-10 19:59:42

CS3 or VER Data Filename: 15SEP10N

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002 ✓
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003 ✓
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002 ✓
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002 ✓
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002 ✓
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052 ✓
13C-2,3,7,8-TCDD		1.022	0.976-1.043 ✓
13C-2,3,7,8-TCDF		0.993	0.923-1.103 ✓
13C-1,2,3,7,8-PeCDD		1.238	1.000-1.567 ✓
13C-1,2,3,7,8-PeCDF		1.174	0.923-1.203 ✓
13C-2,3,4,7,8-PeCDF		1.223	0.923-1.303 ✓

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 9/16/10



## USEPA - ITD

FORM 6B

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 15-SEP-10 19:59:42

CS3 or VER Data Filename: 15SEP10N

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001✓
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004✓
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019✓
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001✓
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005✓
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001✓
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001✓
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001✓
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001✓
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001✓
OCDD	13C-OCDD	1.000	0.999-1.001✓
OCDF	13C-OCDF	1.001	0.999-1.001✓
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.984	0.977-1.000 ✓
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003 ✓
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970 ✓
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975 ✓
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021 ✓
13C-1,2,3,7,8,9-HxCDF		1.015	0.977-1.047 ✓
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.086-1.130 ✓
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085 ✓
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154 ✓
13C-OCDD		1.270	1.032-1.311 ✓
13C-OCDF		1.279	1.000-1.311 ✓

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 9/16/10

FAL ID: ST091510N1      Filename: 15SEP10N    Sam:1    Acquired: 15-SEP-10 19:59:42    ICal: PCDDFAL3-8-23-10  
 Client ID: 1613 CS3 100511J      ConCal: ST091510N1    EndCal: ST091510N2  
 Results: 6330      GC Column: DB5      Amount: 1.000    NATO 1989 Tox: 98.7

WHO 1998 Tox: 124    WHO 2005 Tox: 113  
 Fac Noise-1    Noise-2    DL

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	Rec	#Hom
2,3,7,8-TCDD	3.44e+06	0.84 y	27:30	1.11	11.4		2.50	-	-	*	
1,2,3,7,8-PeCDD	1.48e+07	1.48 y	33:19	1.10	50.4		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	1.48e+07	1.41 y	38:41	1.37	50.4		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	1.46e+07	1.37 y	38:51	1.37	48.9		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.56e+07	1.42 y	39:18	1.36	53.1		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	1.38e+07	0.90 y	44:18	1.45	50.8		2.50	-	-	*	
OCDD	1.93e+07	0.99 y	49:54	1.43	102		2.50	-	-	*	
2,3,7,8-TCDF	5.95e+06	0.67 y	26:44	1.50	9.25		2.50	-	-	*	
1,2,3,7,8-PeCDF	1.76e+07	1.57 y	31:35	0.94	47.5		2.50	-	-	*	
2,3,4,7,8-PeCDF	1.71e+07	1.58 y	32:54	0.94	47.1		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	1.57e+07	1.22 y	37:18	0.93	45.4		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	1.94e+07	1.22 y	37:30	0.82	45.4		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	1.72e+07	1.23 y	38:27	0.92	46.4		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	1.92e+07	1.22 y	39:53	1.00	46.9		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	1.32e+07	1.04 y	42:24	1.39	47.9		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	9.97e+06	1.08 y	45:14	1.36	48.0		2.50	-	-	*	
OCDF	1.85e+07	0.88 y	50:17	0.79	89.8		2.50	-	-	*	
13C-2,3,7,8-TCDD	2.72e+07	0.86 y	27:29	1.02	93.9					93.9	
13C-1,2,3,7,8-PeCDD	2.66e+07	1.76 y	33:18	0.84	112					112	
13C-1,2,3,4,7,8-HxCDD	2.14e+07	1.29 y	38:40	1.07	94.0					94.0	
13C-1,2,3,6,7,8-HxCDD	2.18e+07	1.30 y	38:50	1.01	102					102	
13C-1,2,3,4,6,7,8-HpCDD	1.87e+07	0.96 y	44:17	0.86	103					103	
13C-OCDD	2.64e+07	0.97 y	49:53	0.55	228					114	
13C-2,3,7,8-TCDF	4.28e+07	0.87 y	26:43	0.99	92.9					92.9	
13C-1,2,3,7,8-PeCDF	3.93e+07	1.70 y	31:34	0.84	101					101	
13C-2,3,4,7,8-PeCDF	3.87e+07	1.73 y	32:53	0.81	103					103	
13C-1,2,3,4,7,8-HxCDF	3.72e+07	0.46 y	37:17	1.85	94.8					94.8	
13C-1,2,3,6,7,8-HxCDF	5.21e+07	0.46 y	37:28	2.54	96.8					96.8	
13C-2,3,4,6,7,8-HxCDF	4.04e+07	0.47 y	38:25	2.01	94.5					94.5	
13C-1,2,3,7,8,9-HxCDF	4.11e+07	0.46 y	39:53	2.03	95.3					95.3	
13C-1,2,3,4,6,7,8-HpCDF	1.98e+07	0.46 y	42:23	1.11	84.2					84.2	
13C-1,2,3,4,7,8,9-HpCDF	1.53e+07	0.47 y	45:13	0.80	89.9					89.9	
13C-OCDF	5.26e+07	0.94 y	50:16	1.08	229					114	
37Cl-2,3,7,8-TCDD	1.85e+06		27:30	0.69	9.55					95.5	
13C-1,2,3,4-TCDD	2.83e+07	0.84 y	26:54	-	63.0						
13C-1,2,3,4-TCDF	4.64e+07	0.88 y	25:38	-	64.1						
13C-1,2,3,7,8,9-HxCDD	2.12e+07	1.28 y	39:17	-	76.9						
Total Tetra-Dioxins	1.69e+07		23:36	1.11	55.9		2.50	-	-	*	22
Total Penta-Dioxins	3.16e+07		30:20	1.10	108		2.50	-	-	*	11
Total Hexa-Dioxins	5.19e+07		36:13	1.37	175		2.50	-	-	*	14
Total Hepta-Dioxins	2.70e+07		42:56	1.45	99.6		2.50	-	-	*	21
Total Tetra-Furans	2.50e+07		23:09	1.50	38.9		2.50	-	-	*	11
1st Fn. Tot Penta-Furans	2.04e+07		28:30	0.94	55.6		2.50	-	-	*	PeCDF 2
Total Penta-Furans	5.11e+07		30:17	0.94	139		2.50	-	-	*	195 15
Total Hexa-Furans	8.30e+07		35:21	0.91	214		2.50	-	-	*	6
Total Hepta-Furans	2.43e+07		42:24	1.38	101		2.50	-	-	*	27

Analyst: 

Date: 9/16/10

Frontier Analytical Laboratory - Acquisition Log

Run Name:15SEP10N

Instrument: FAL3

GC: DB5

Experiment:PCDD

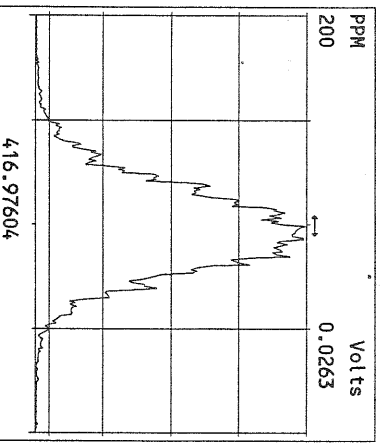
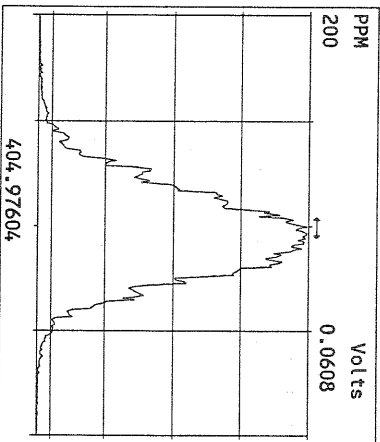
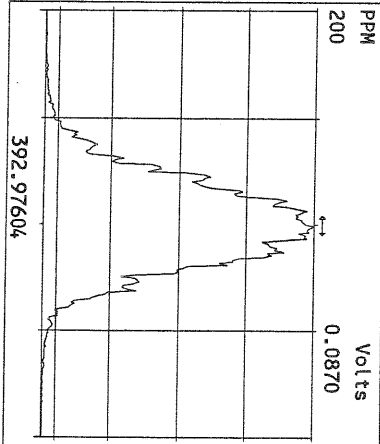
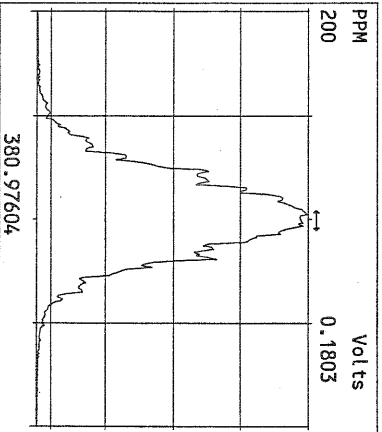
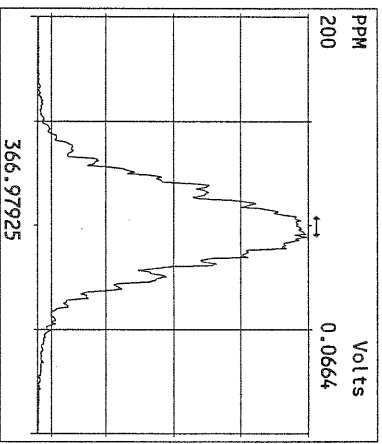
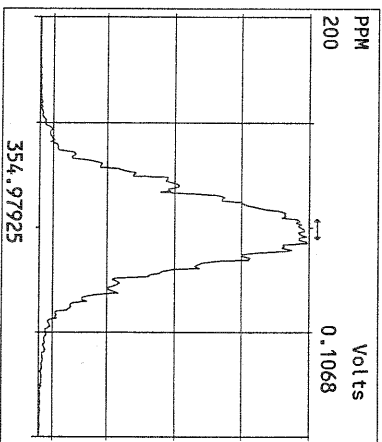
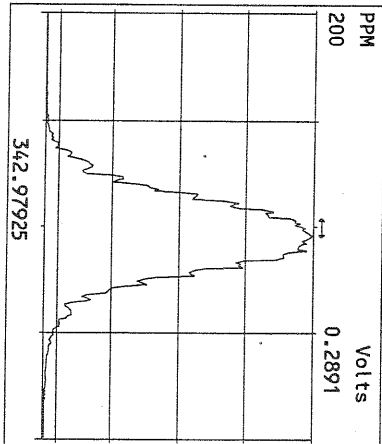
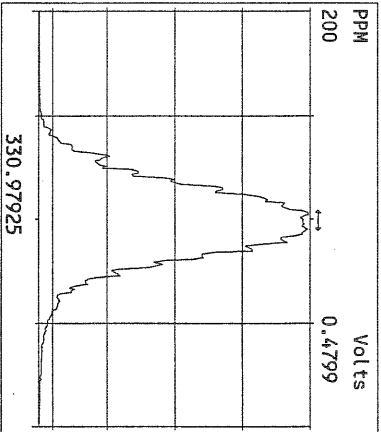
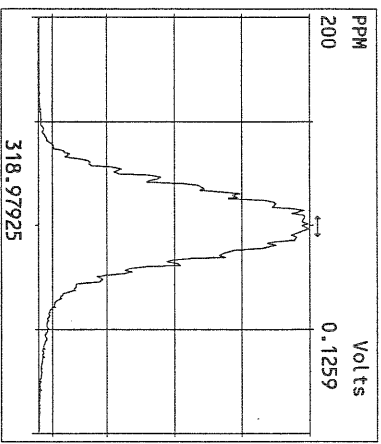
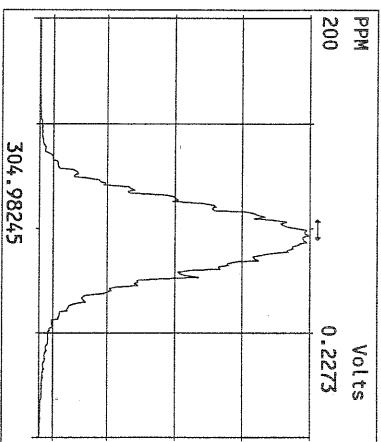
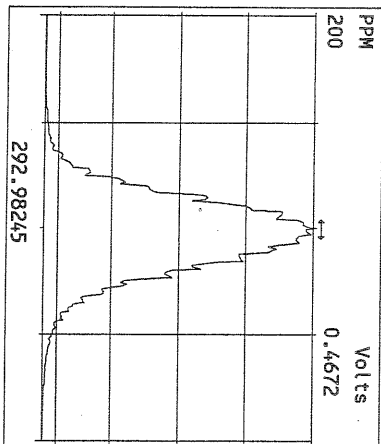
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15SEP10N 2	2107-001-0001-OPR	OPR	15-SEP-10 20:55:00	ST091510N1	ST091510N2	TC
15SEP10N 3	2107-001-0001-MB	Method Blank	15-SEP-10 21:50:19	ST091510N1	ST091510N2	TC
15SEP10N 4	6330-001-0001-SA	PSB21-0-0.5-082510	15-SEP-10 22:45:34	ST091510N1	ST091510N2	TC
15SEP10N 5	6330-002-0001-SA	PSB21-1.5-2-082510	15-SEP-10 23:40:52	ST091510N1	ST091510N2	TC
15SEP10N 6	6330-003-0001-SA	PSB21-2-4-082510	16-SEP-10 00:36:15	ST091510N1	ST091510N2	TC
15SEP10N 7	6330-004-0001-SA	PSB19-0-1-082510	16-SEP-10 01:31:38	ST091510N1	ST091510N2	TC
15SEP10N 8	6330-005-0001-SA	PSB19-1-2-082510	16-SEP-10 02:26:57	ST091510N1	ST091510N2	TC
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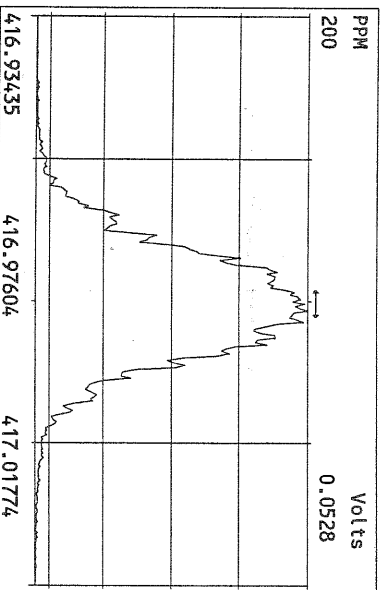
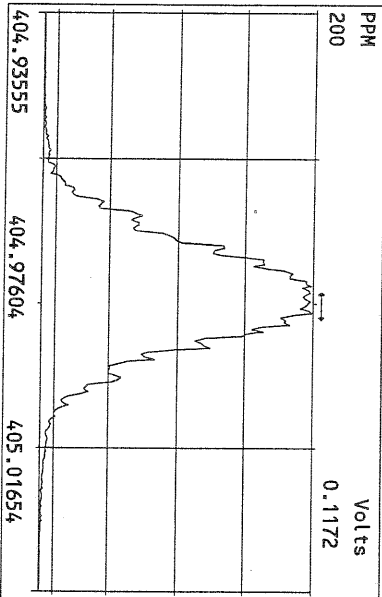
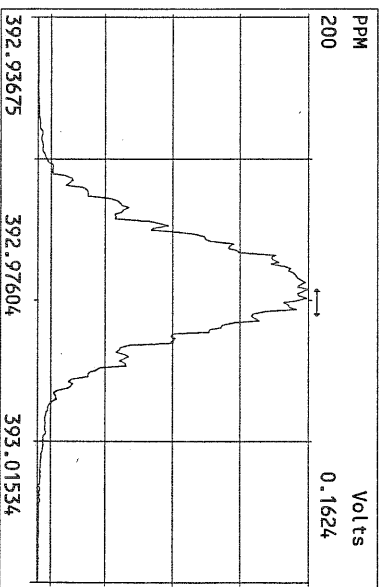
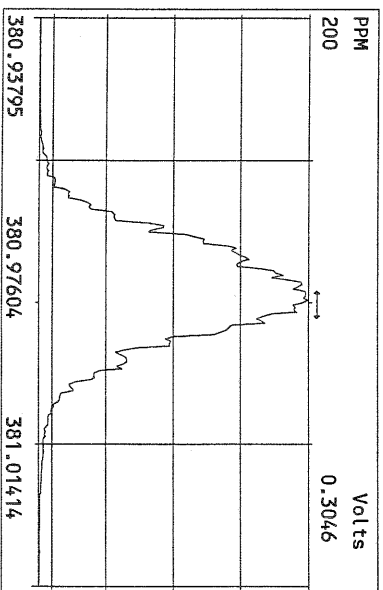
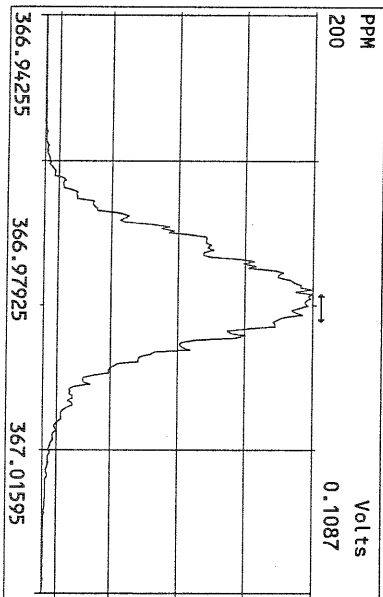
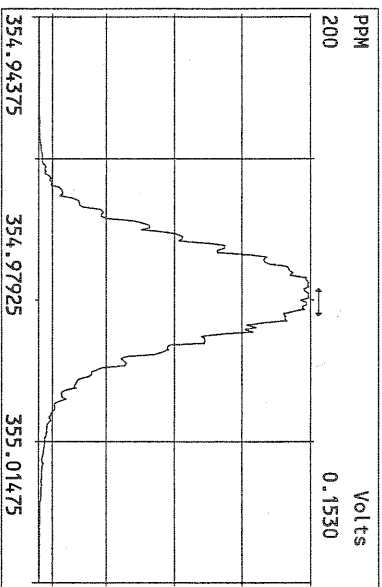
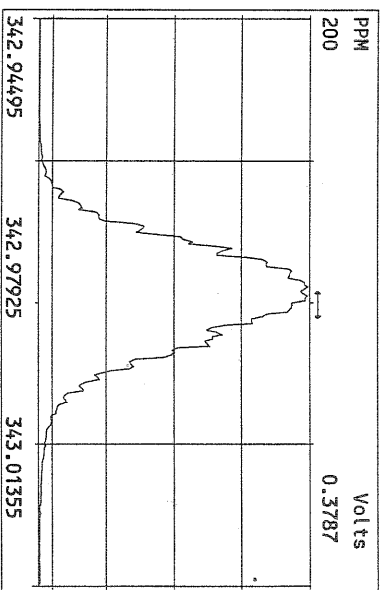
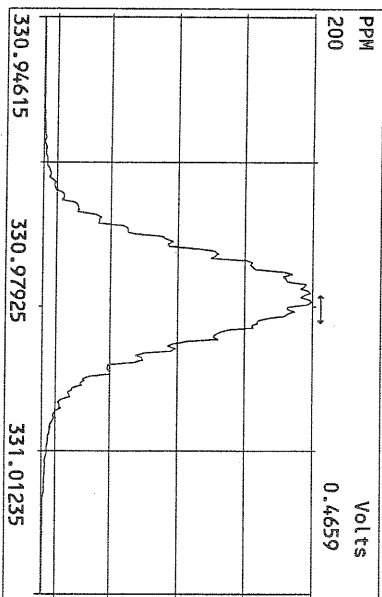


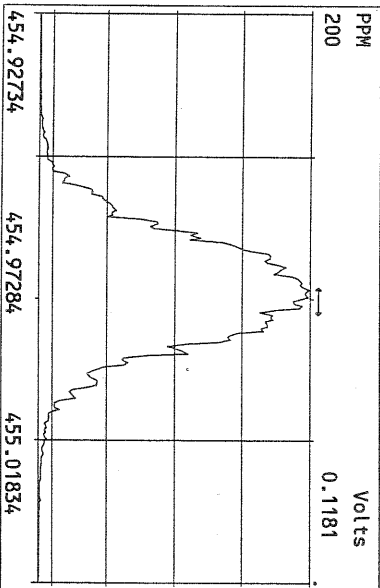
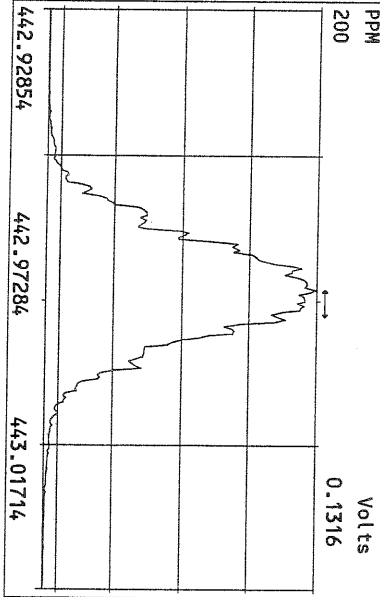
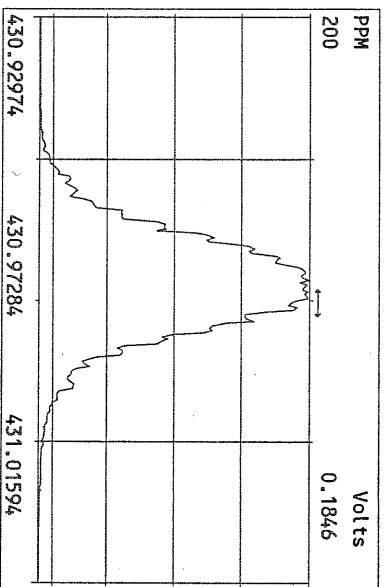
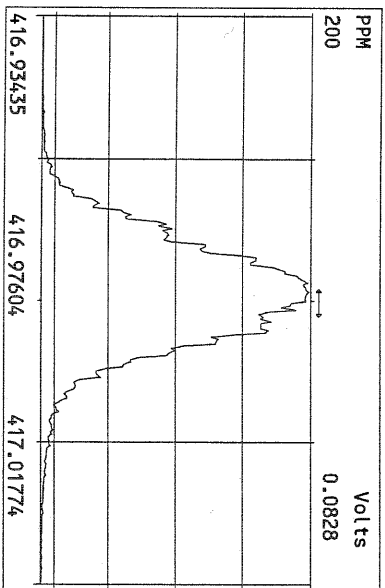
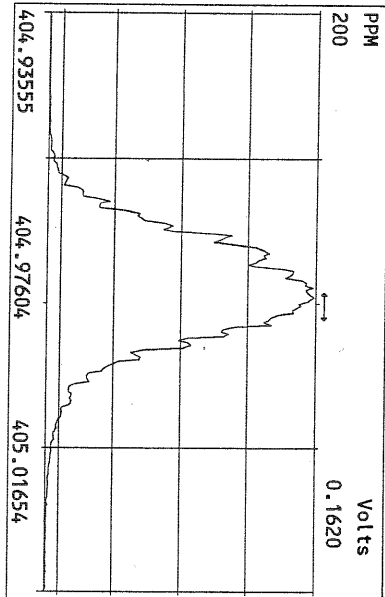
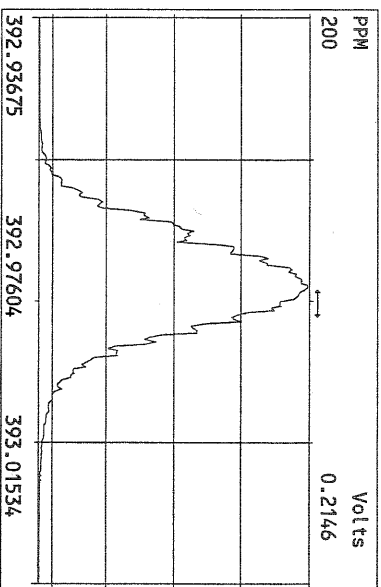
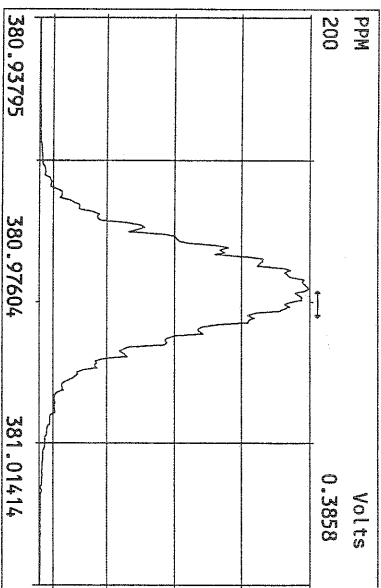
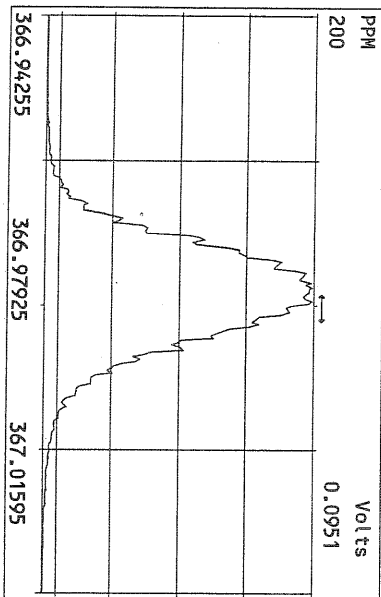
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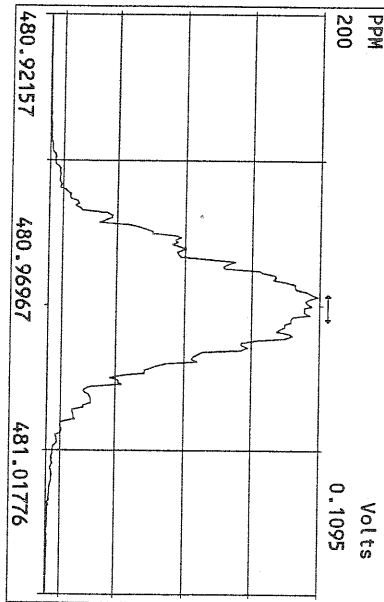
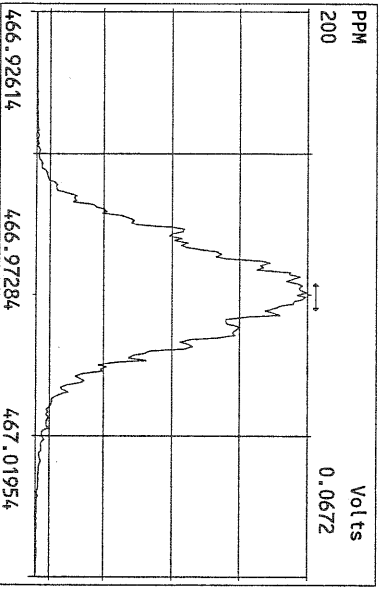
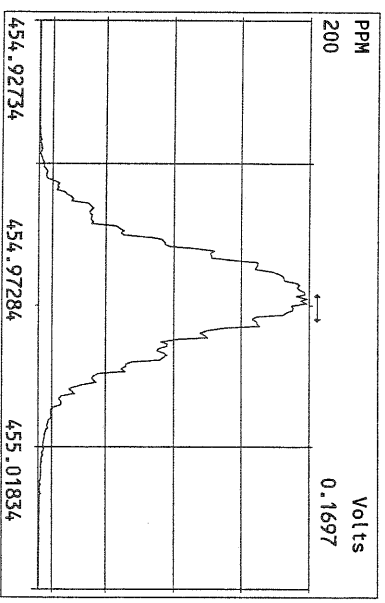
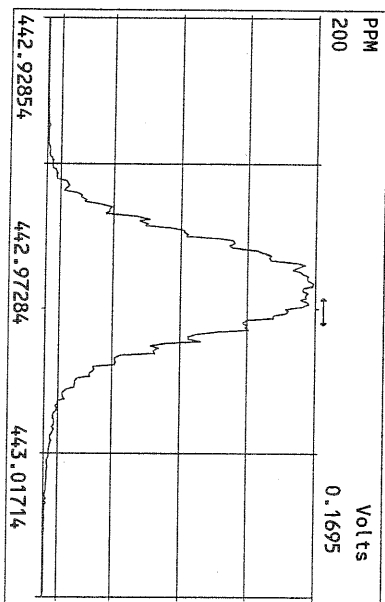
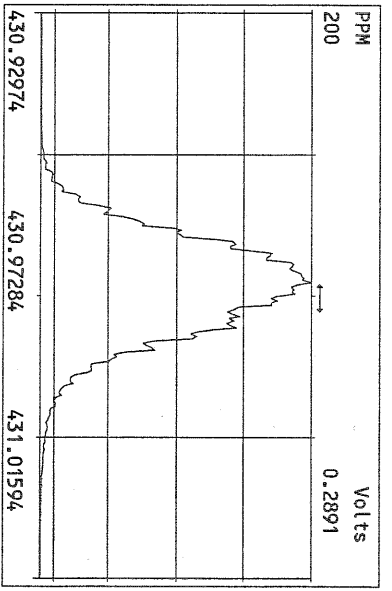
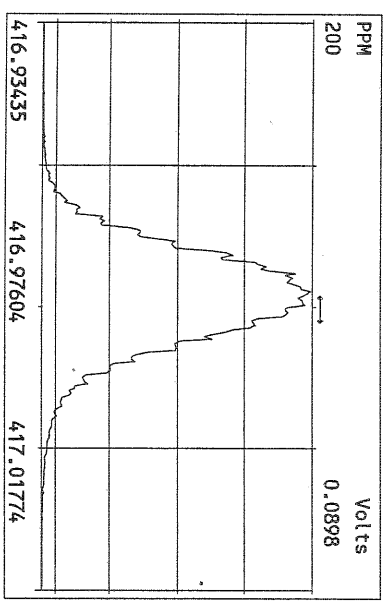
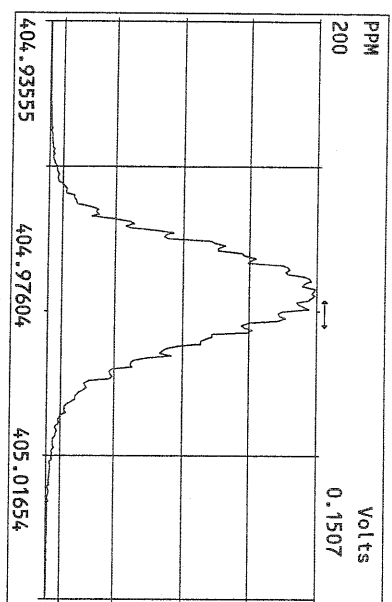
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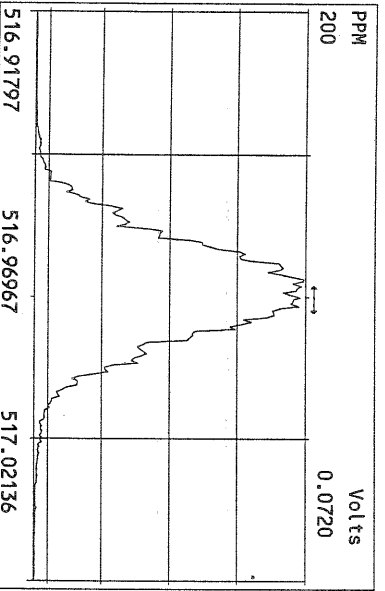
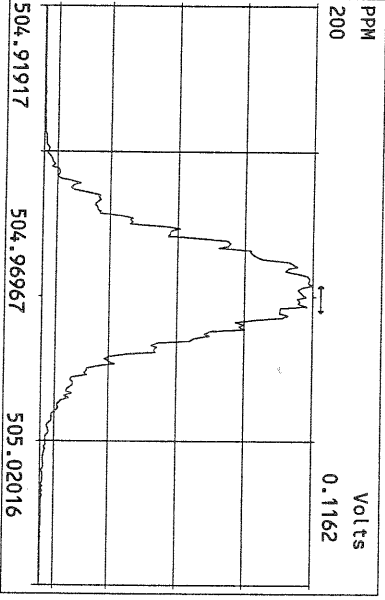
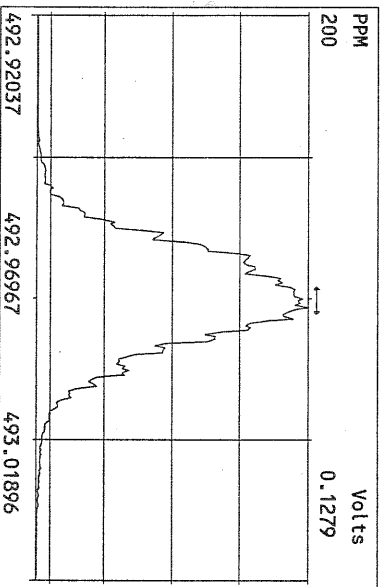
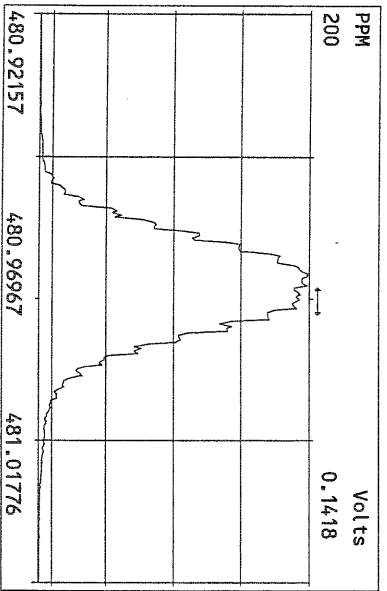
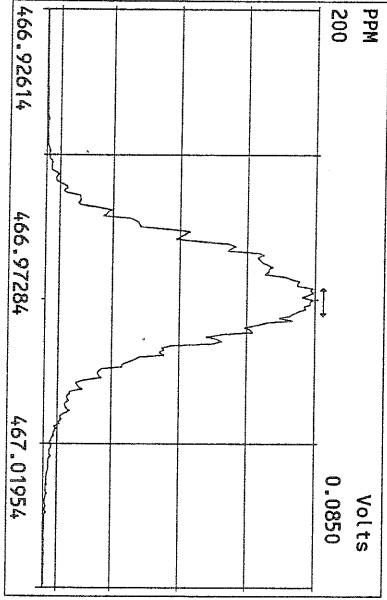
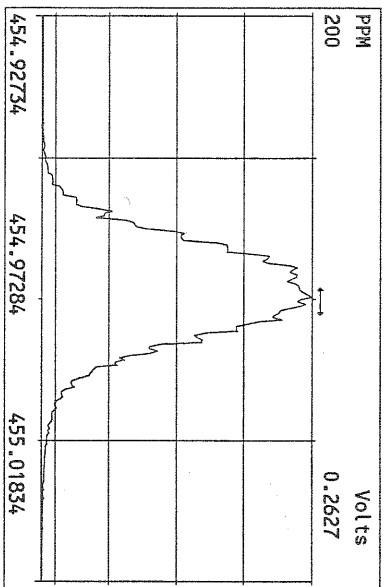
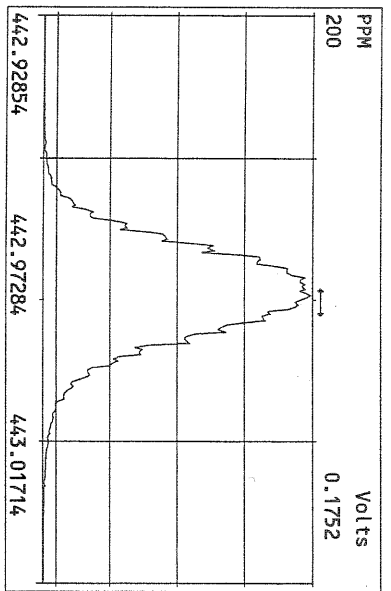
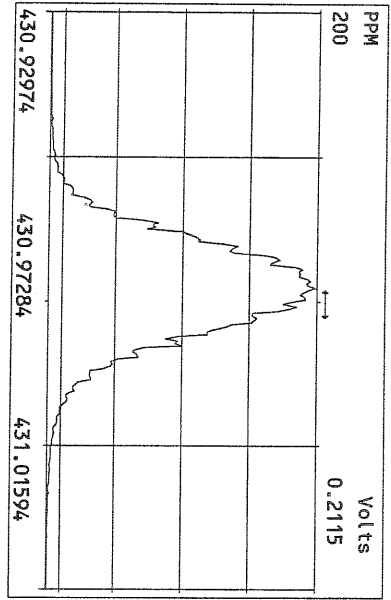
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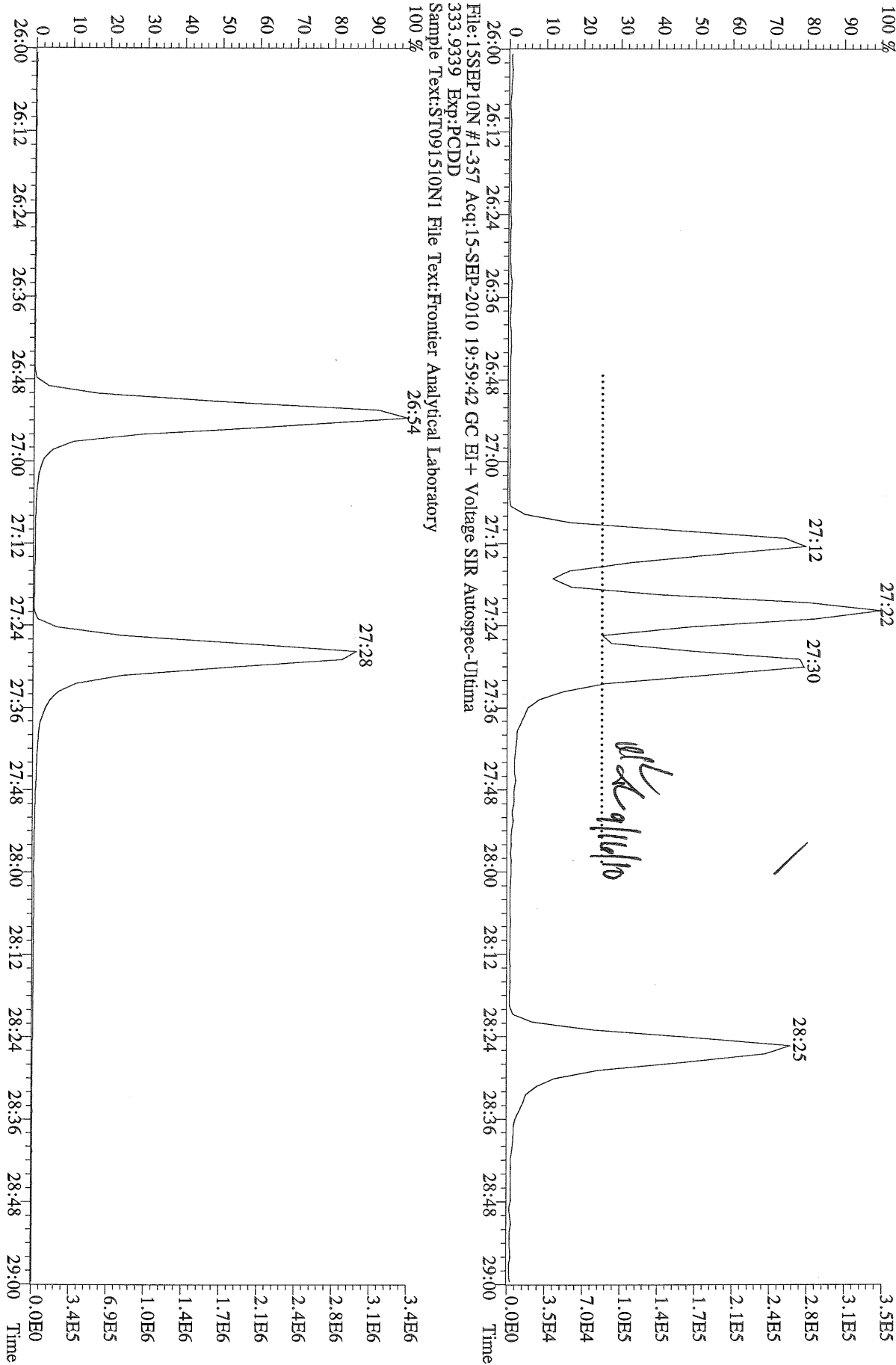




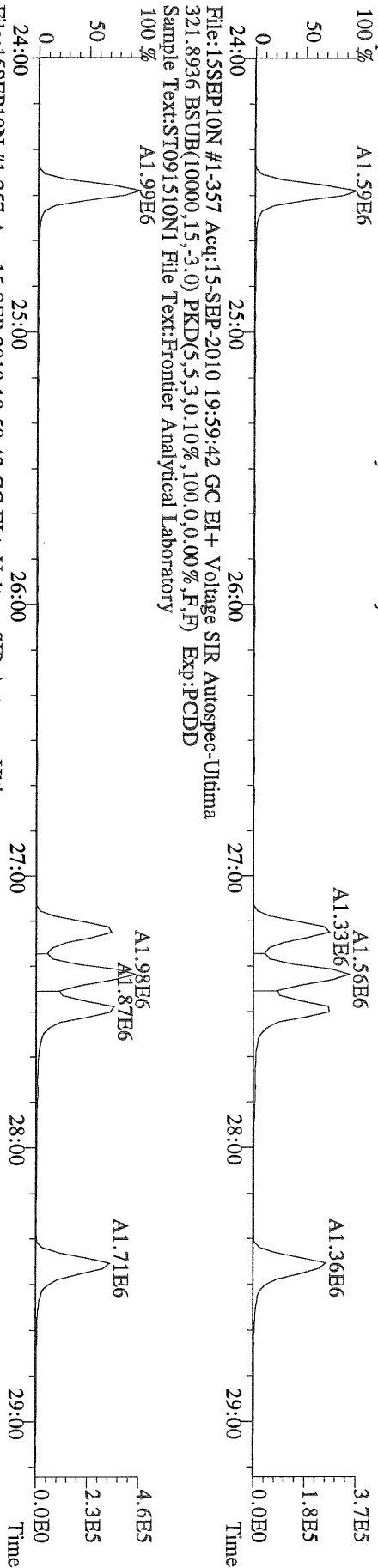




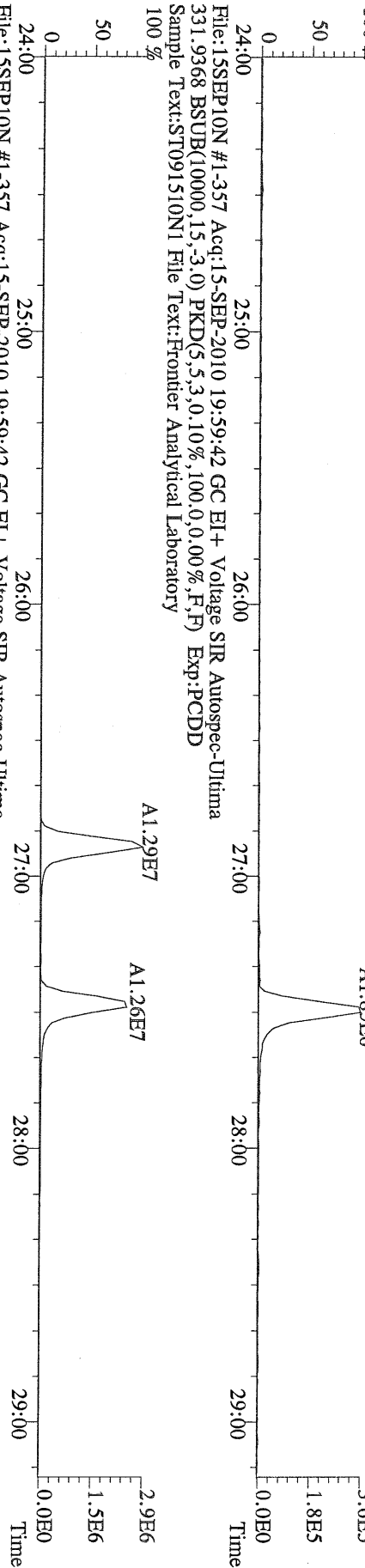
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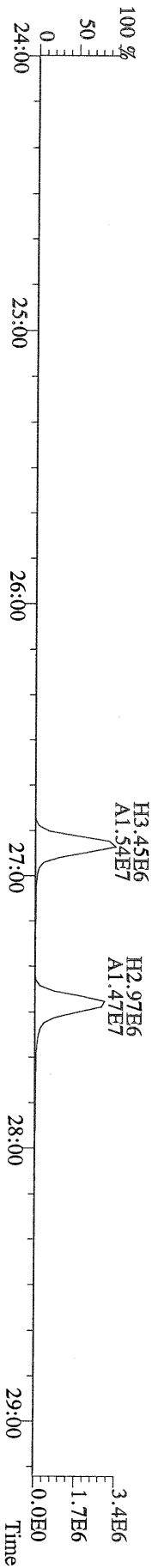
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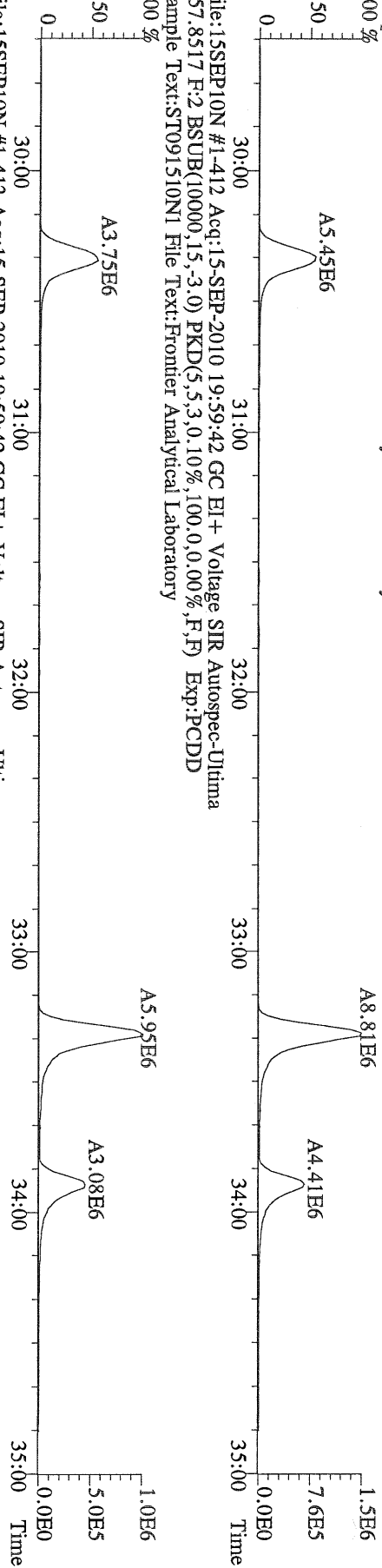
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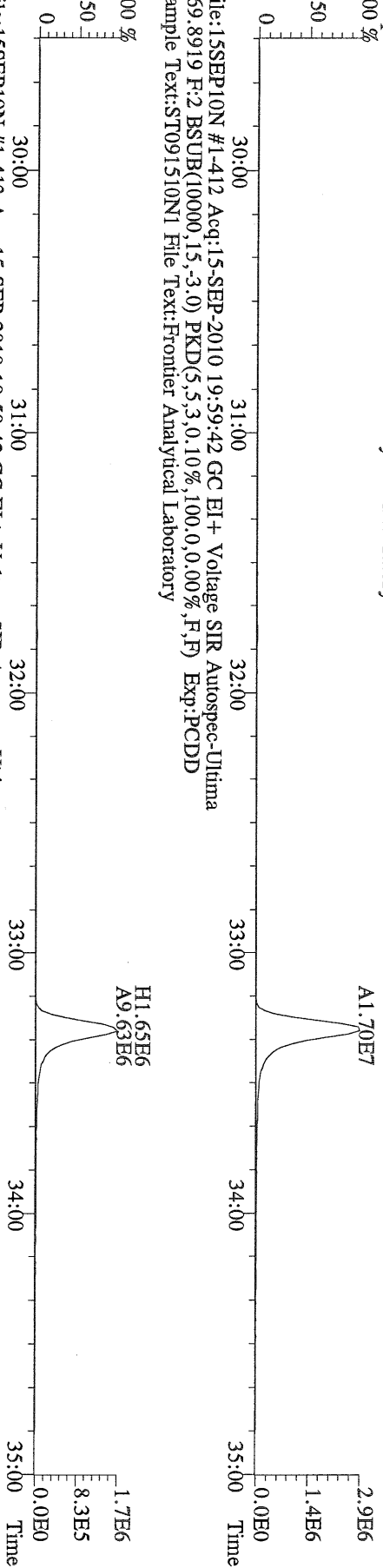
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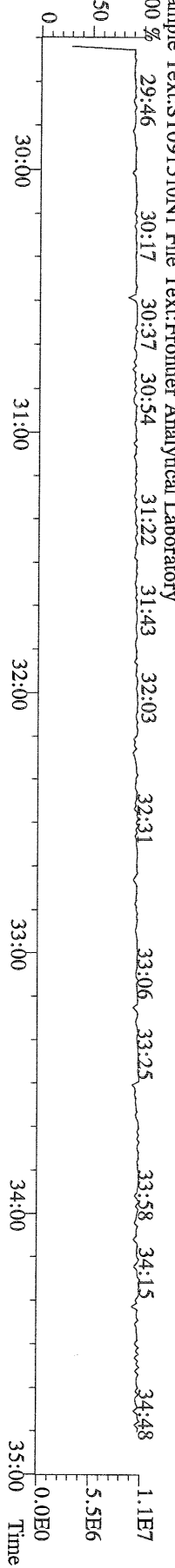
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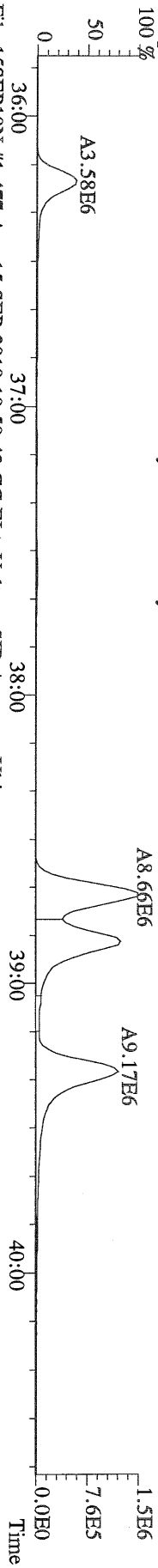
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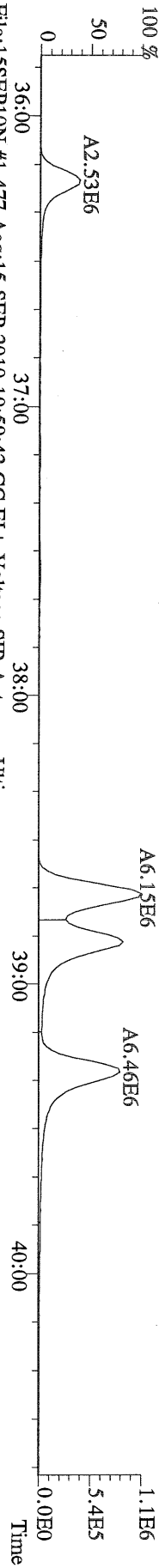
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File:15SEP10N #1-477 Acq:15-SEP-2010 19:59:42 GC EI+ Voltage SIR Autospec-Ultima  
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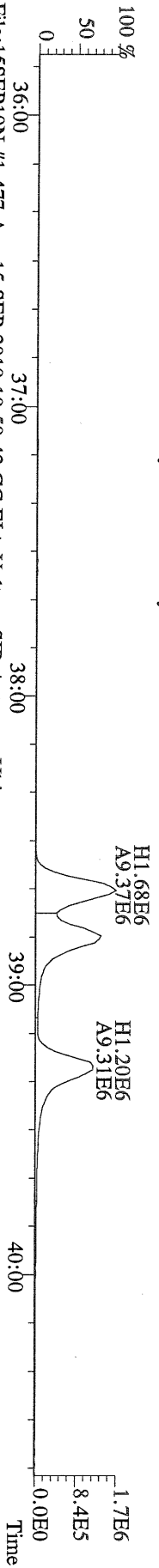
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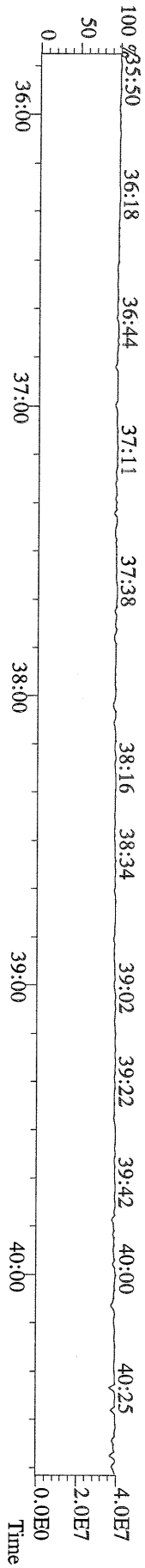
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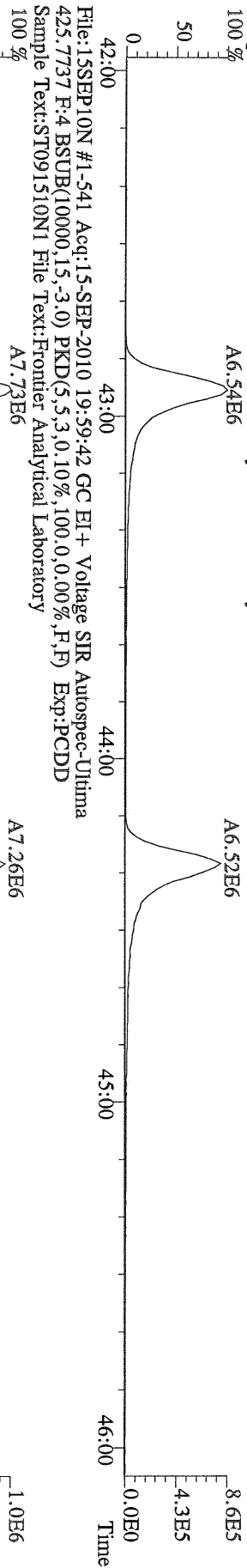
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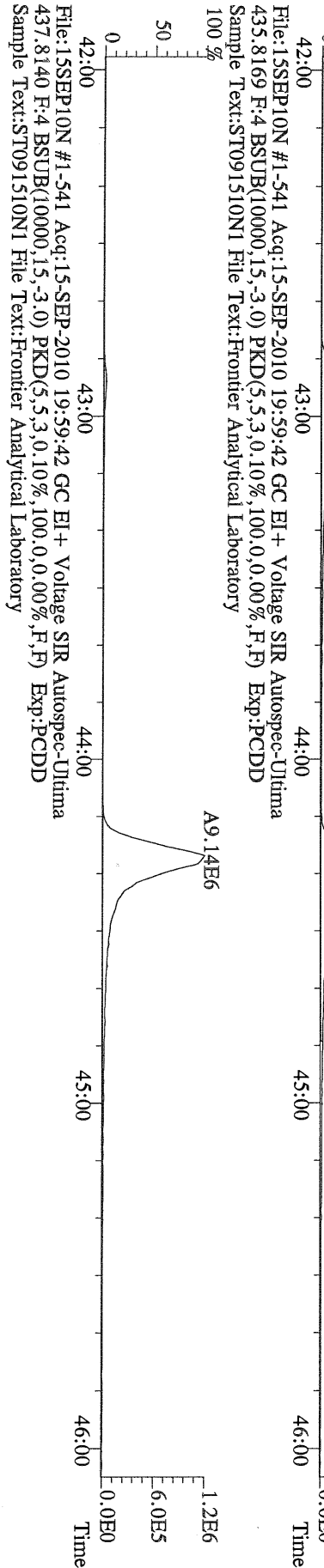
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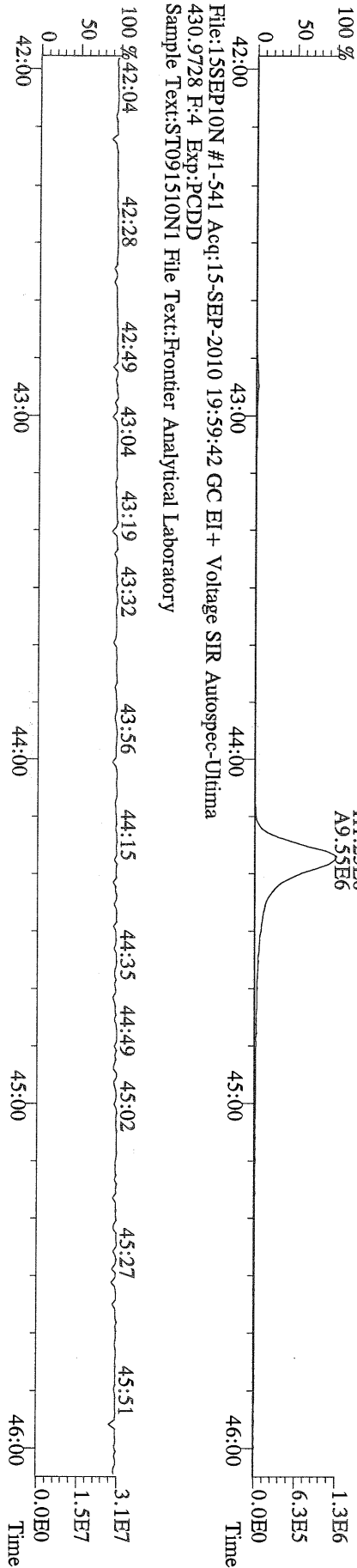
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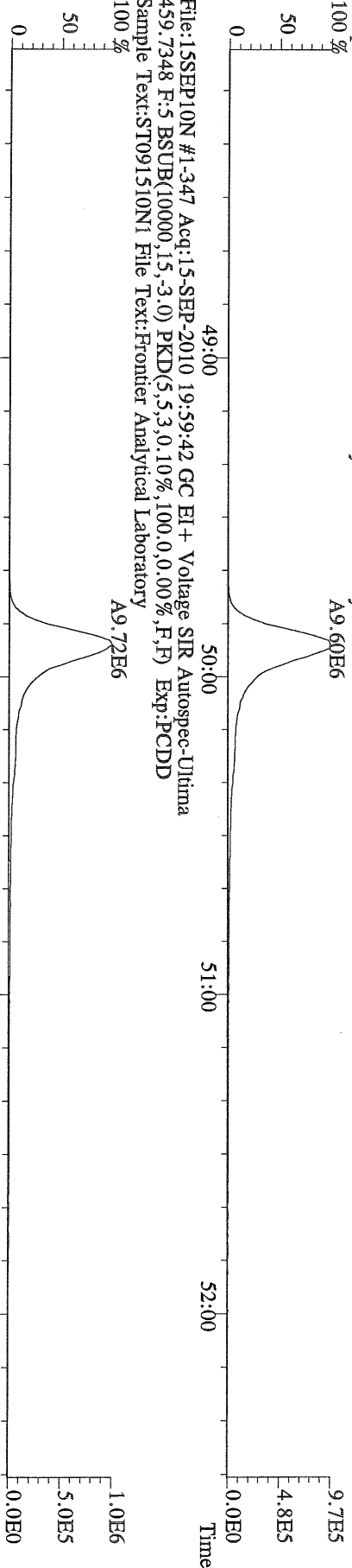
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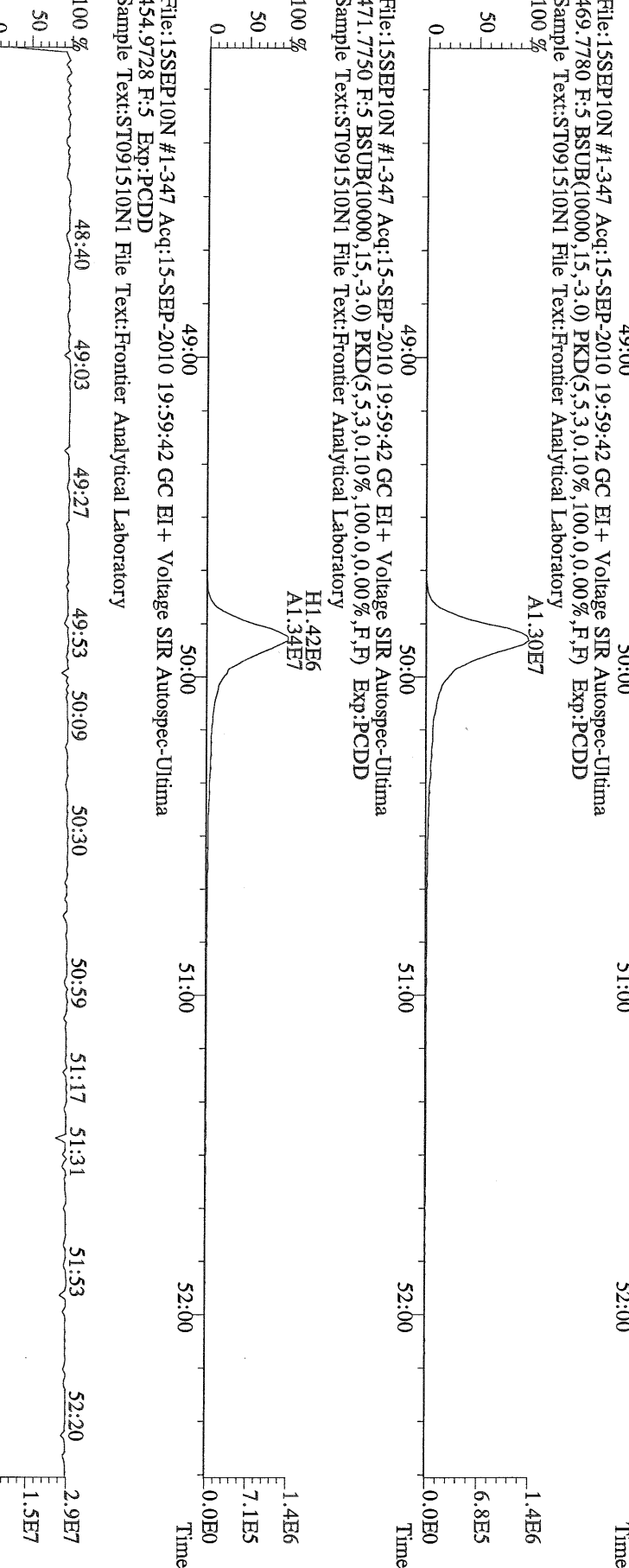
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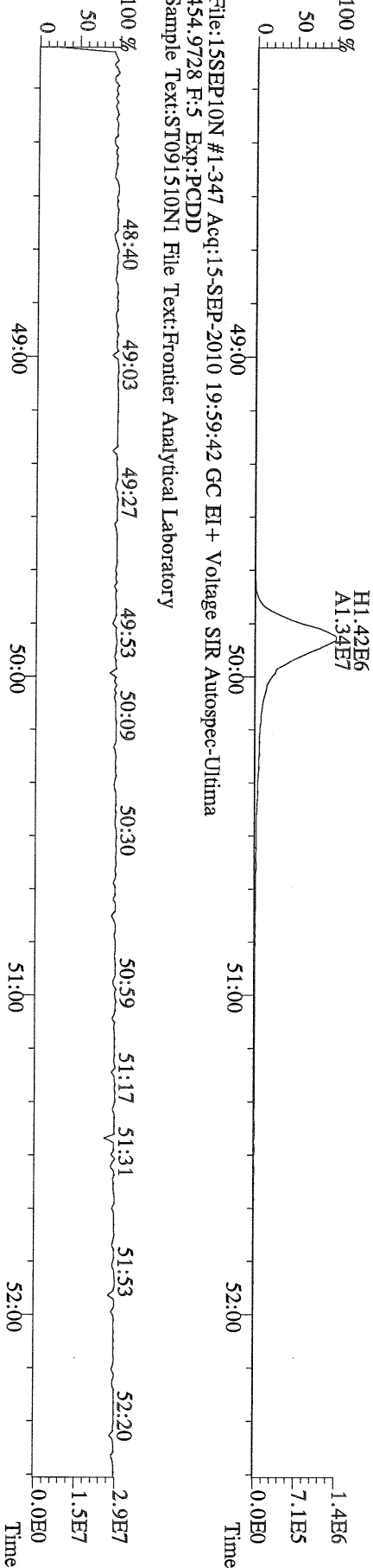
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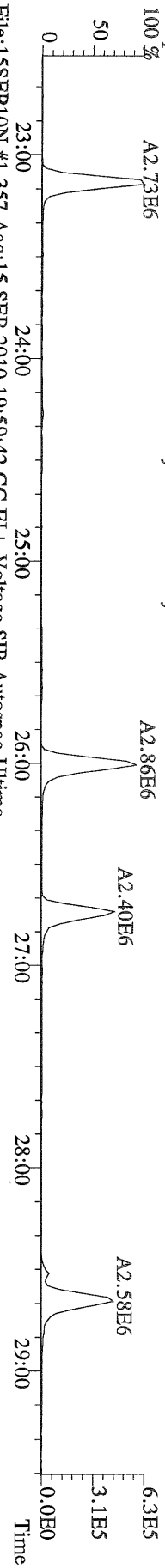
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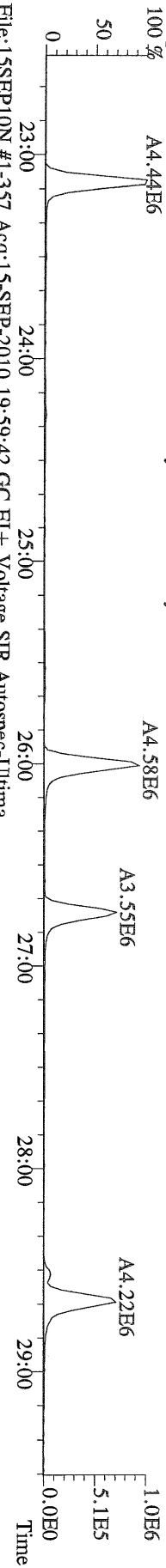
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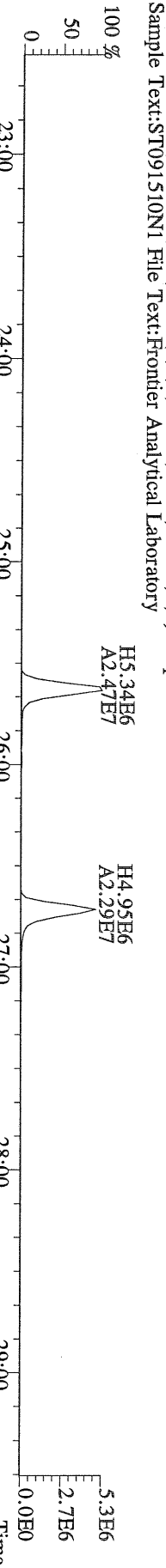
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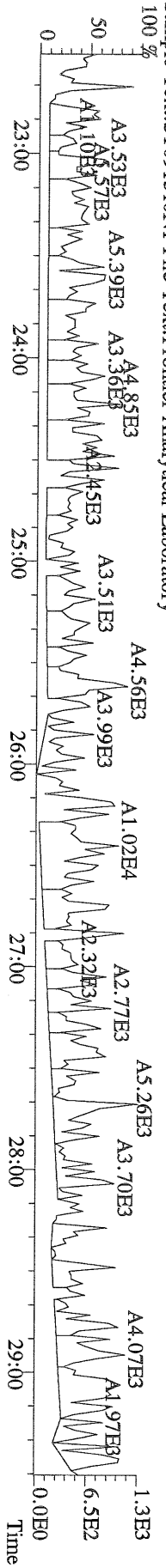
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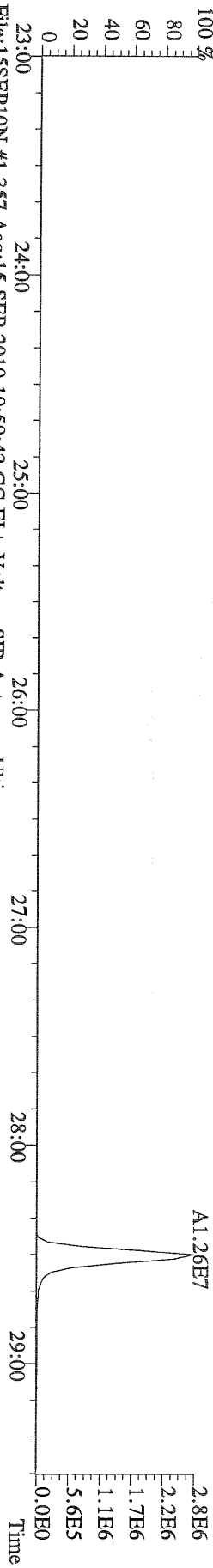
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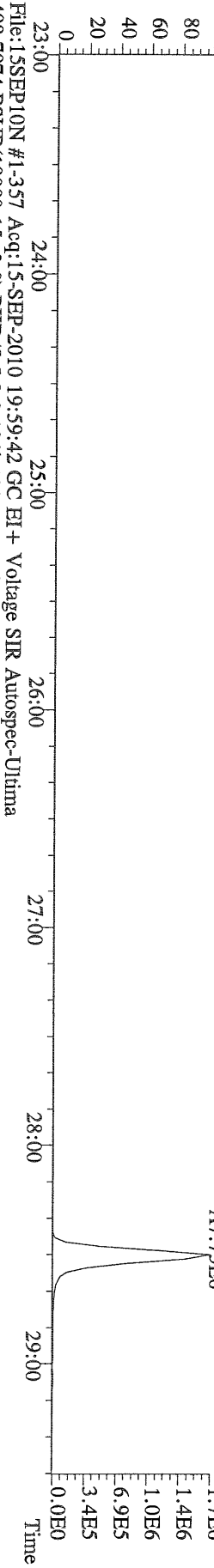
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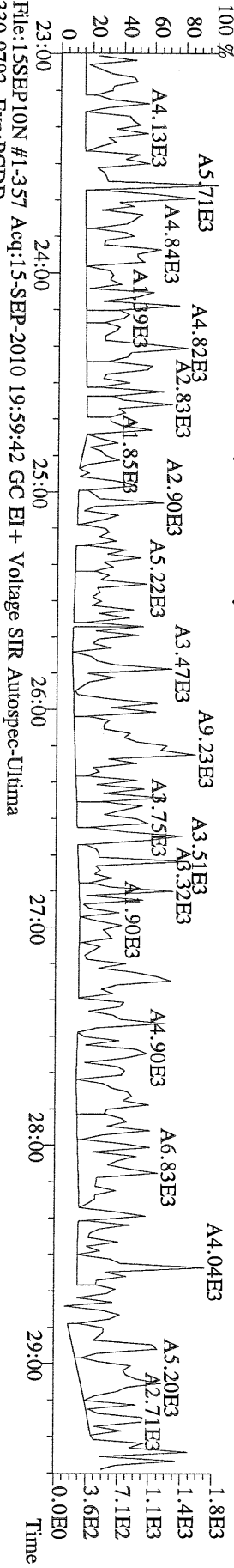
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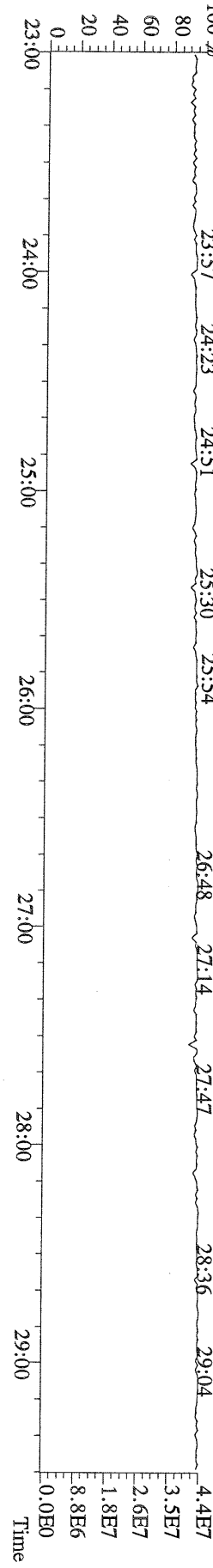
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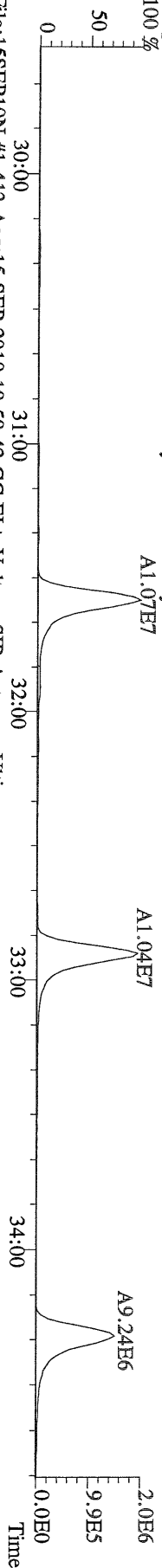


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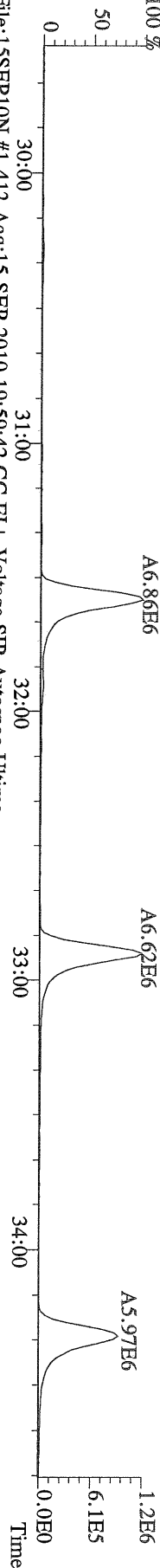




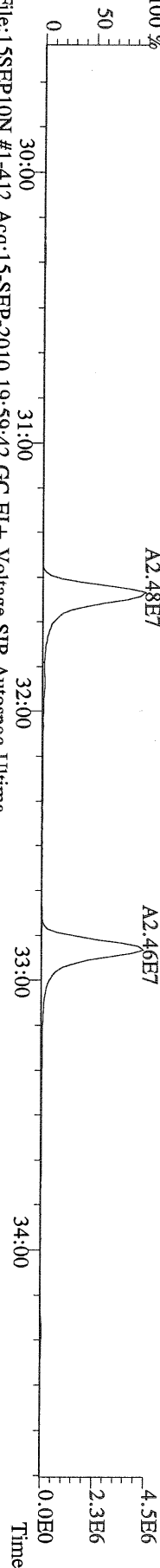
File:15SEP10N #1-412 Acq:15-SEP-2010 19:59:42 GC EI+ Voltage SIR Autospec-Utima  
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



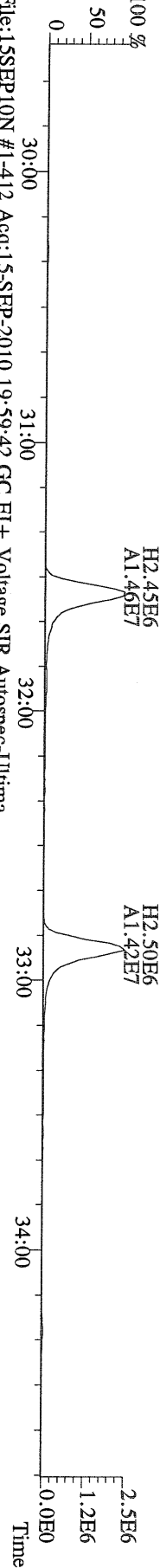
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 341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



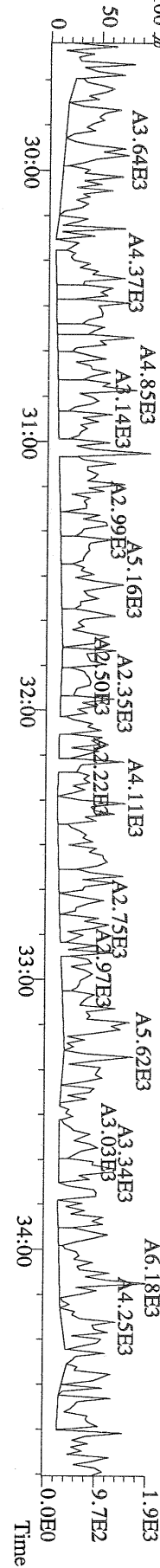
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 351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
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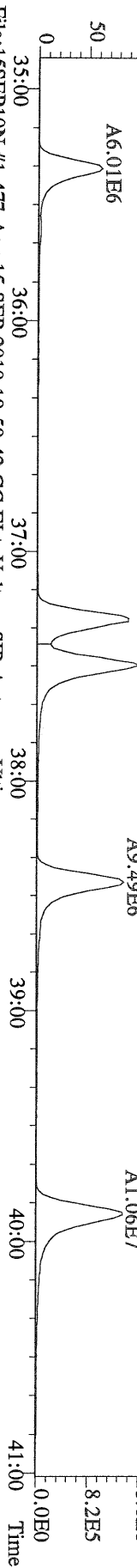
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 353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
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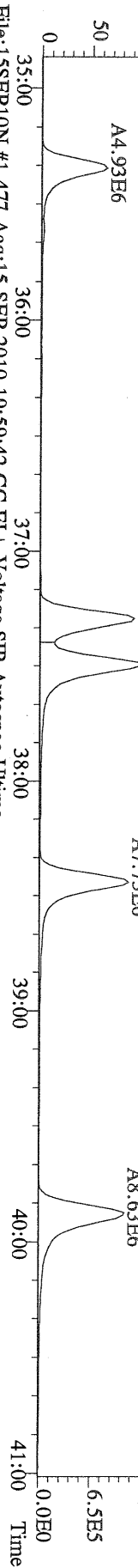
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 409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



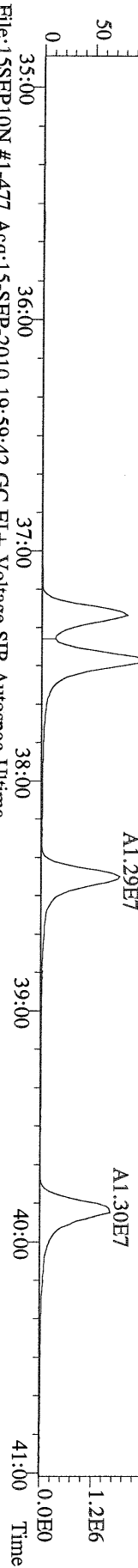
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 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



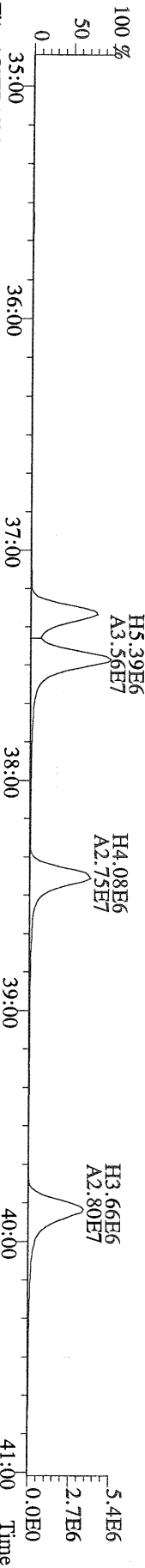
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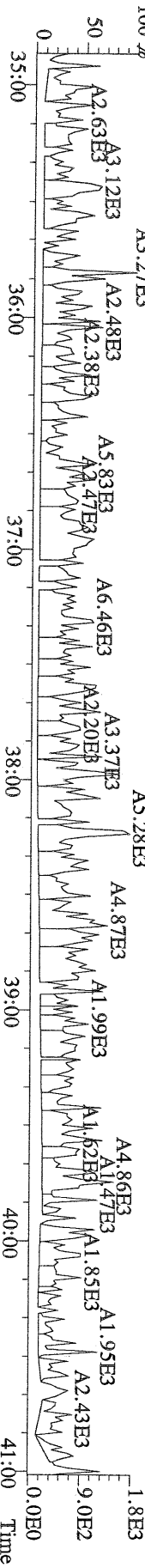
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 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



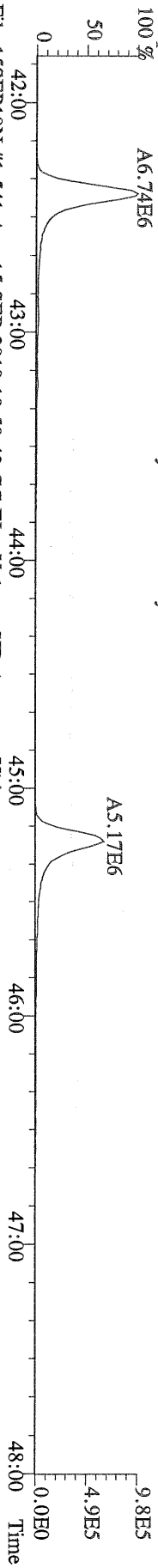
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 385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



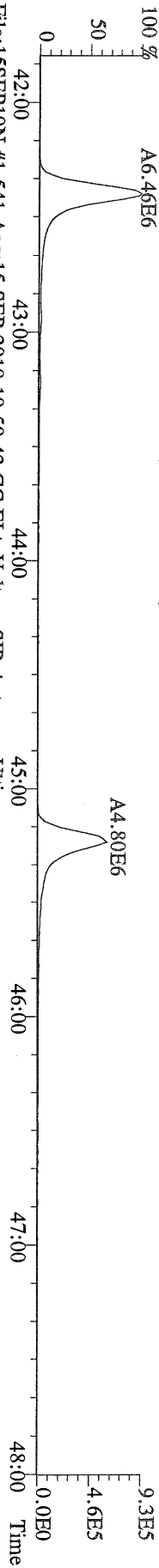
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 445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



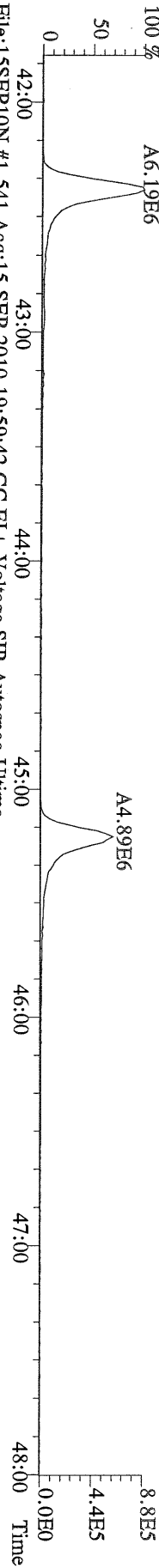
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407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



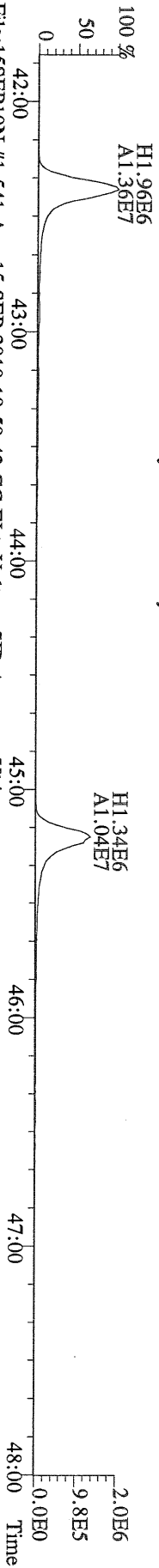
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409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



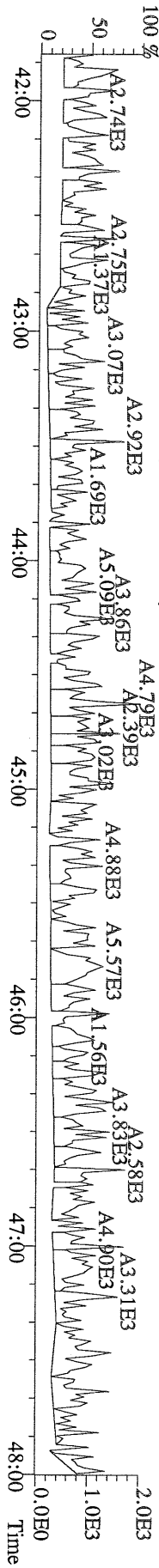
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Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory



File:15SEP10N #1-541 Acq:15-SEP-2010 19:59:42 GC EI+ Voltage SIR Autospec-Utima  
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory

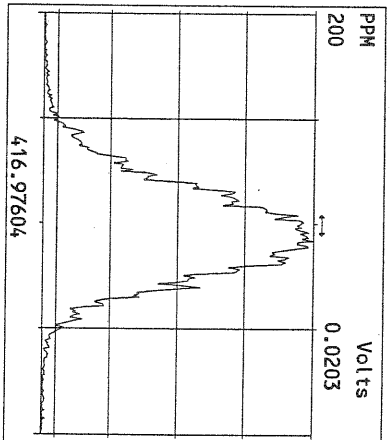
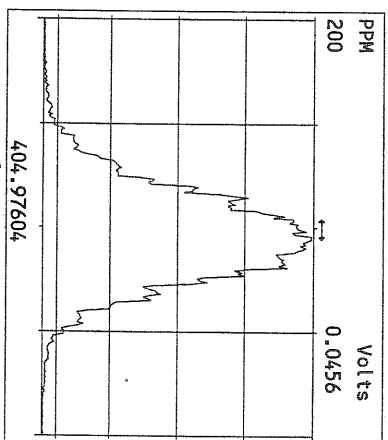
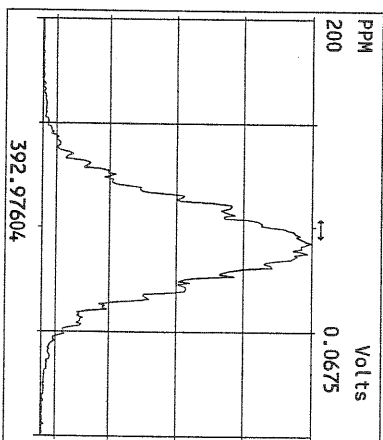
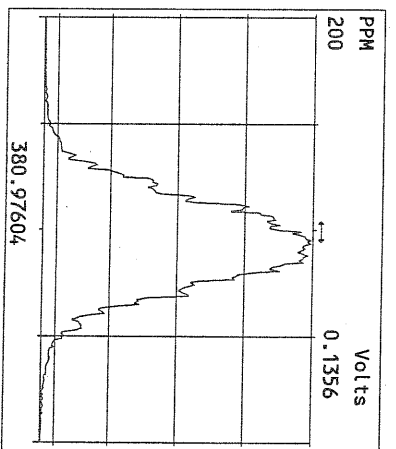
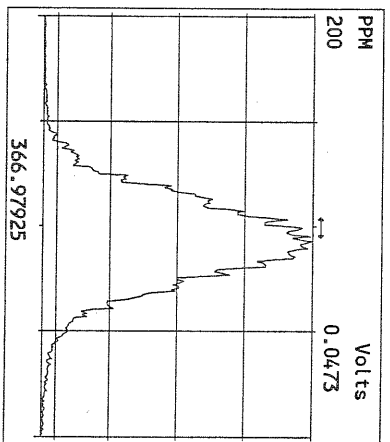
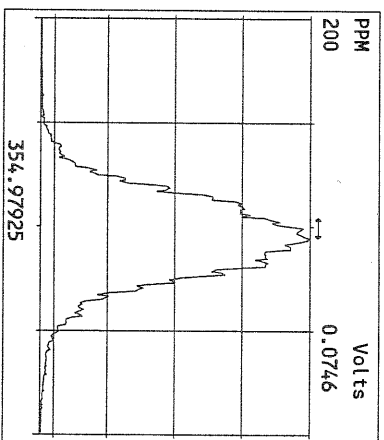
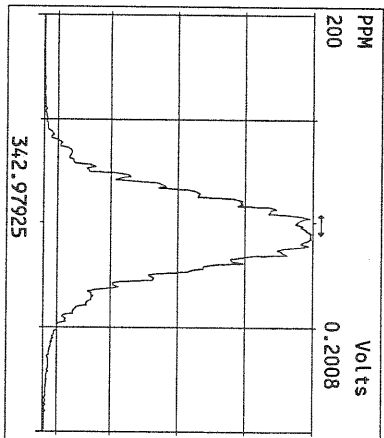
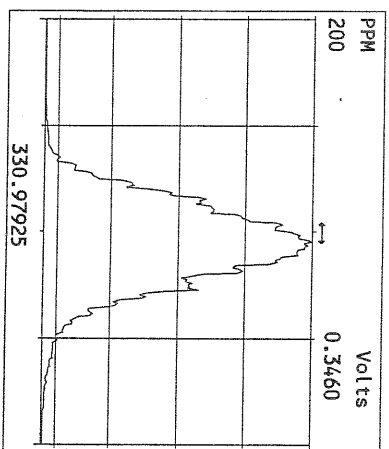
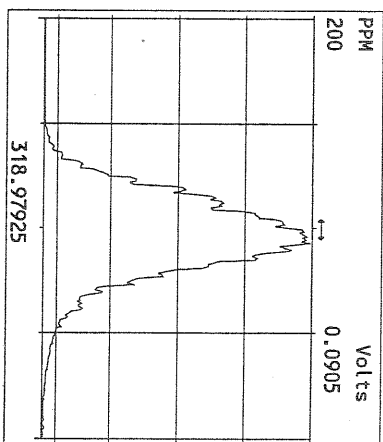
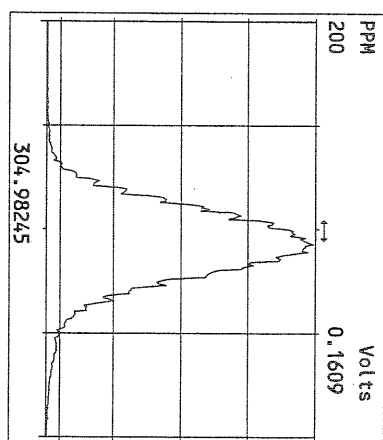
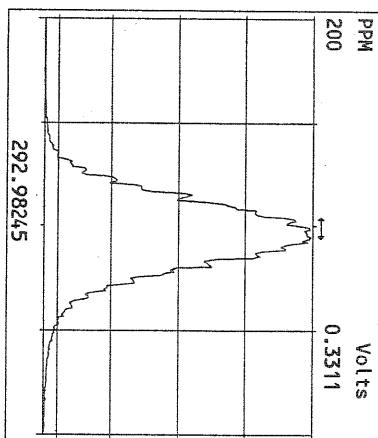


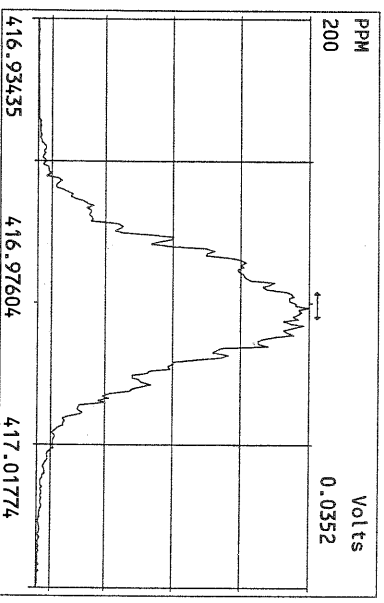
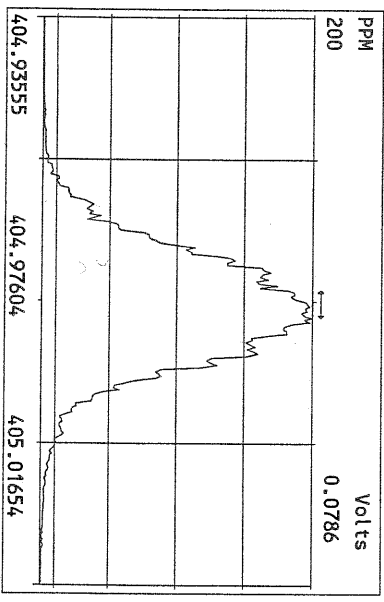
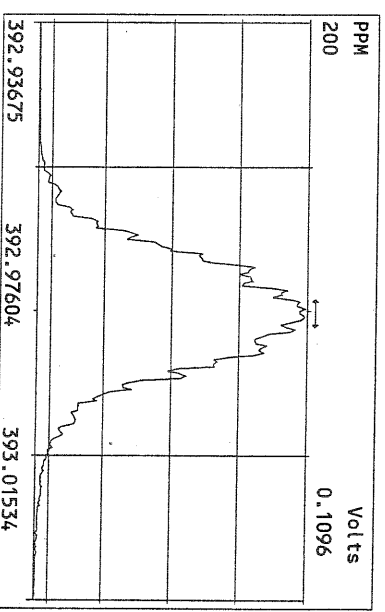
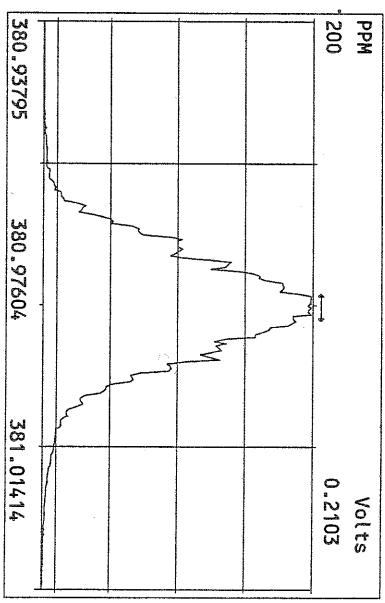
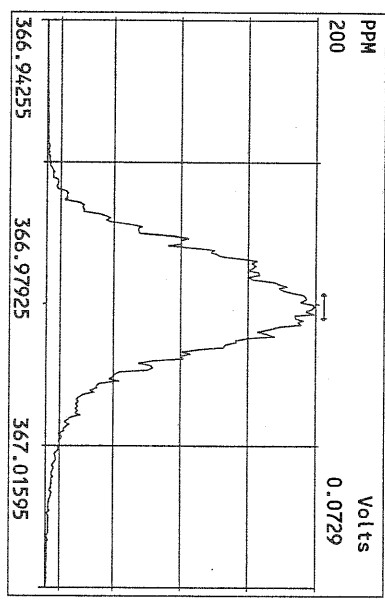
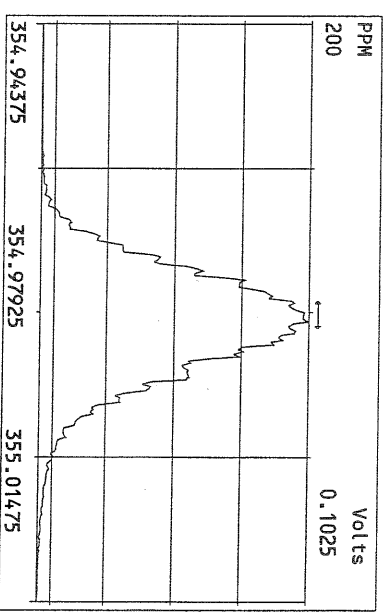
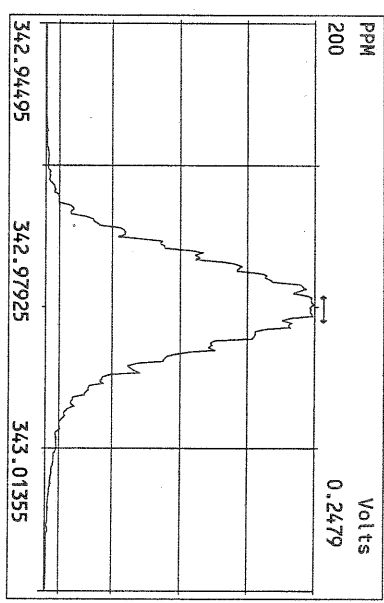
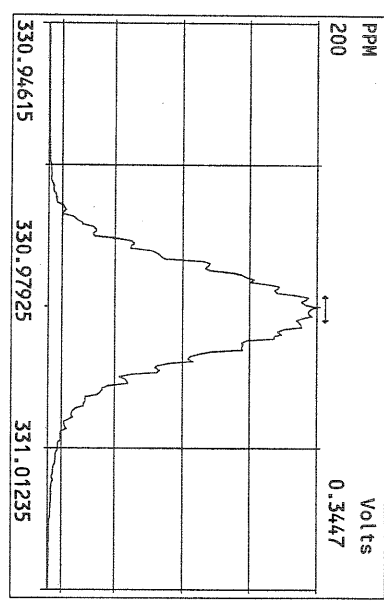
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Sample Text:ST091510N1 File Text:Frontier Analytical Laboratory

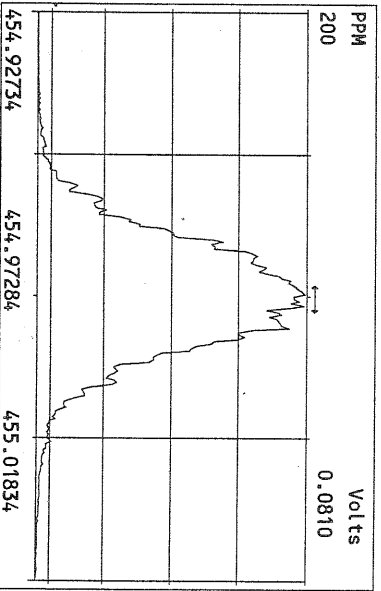
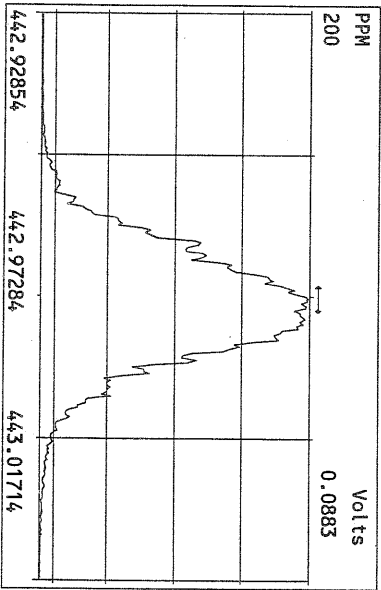
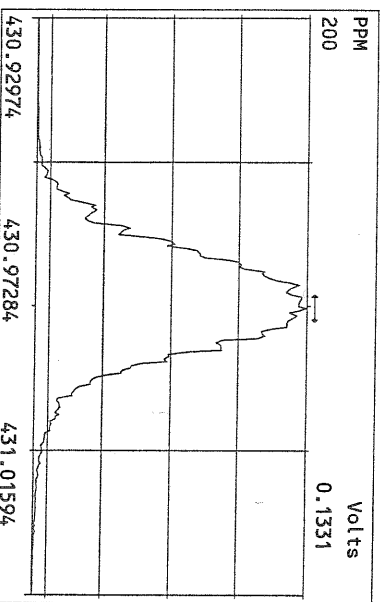
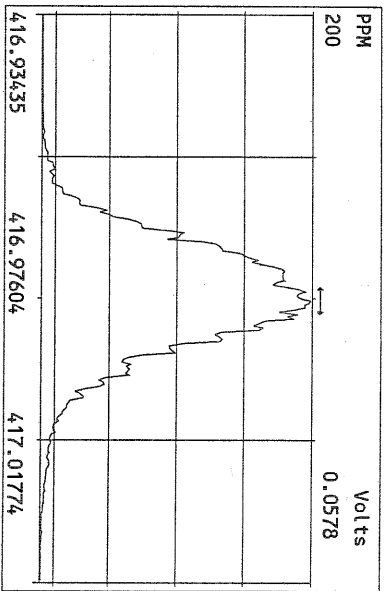
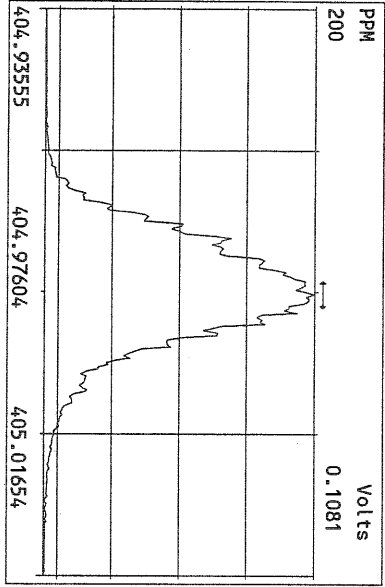
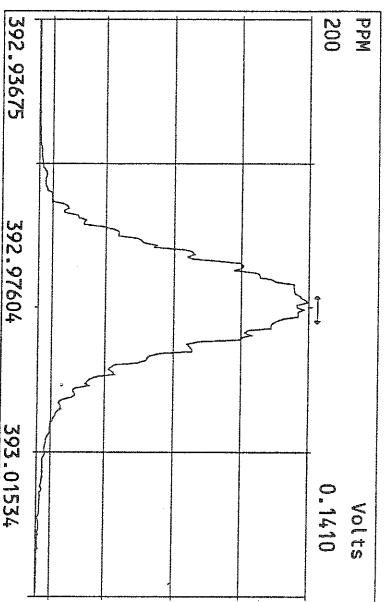
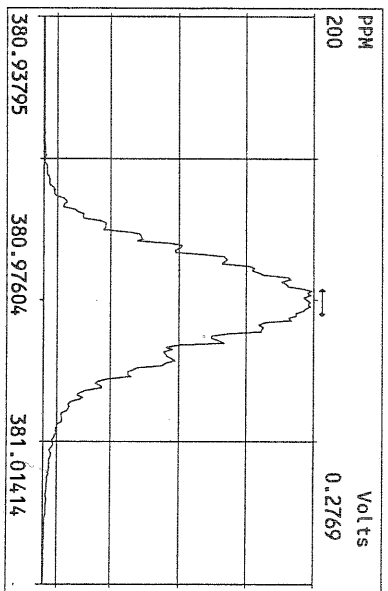
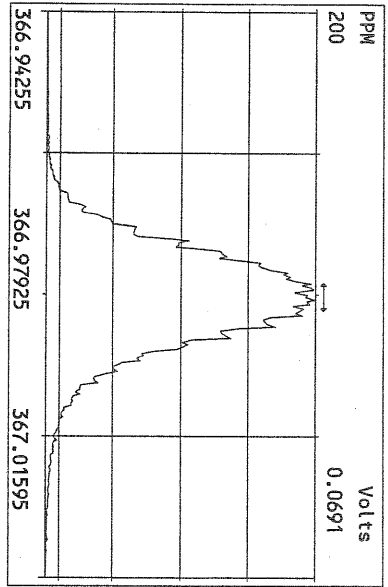


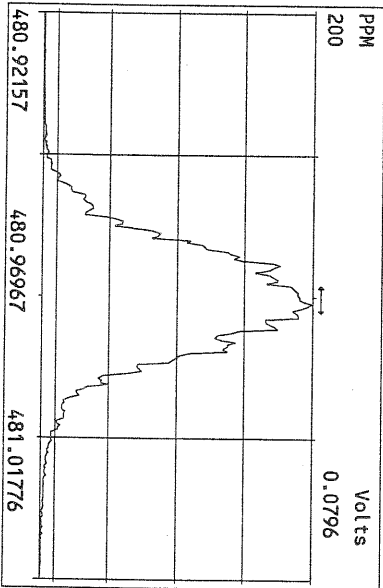
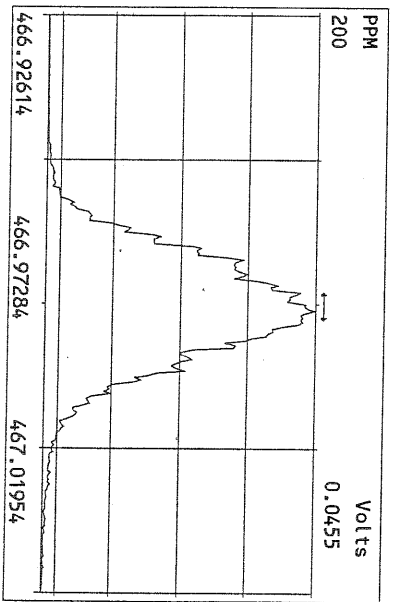
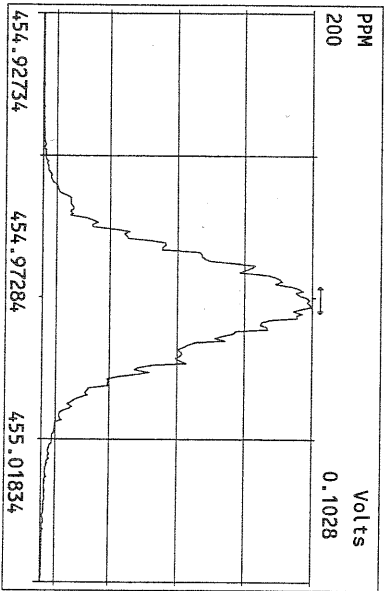
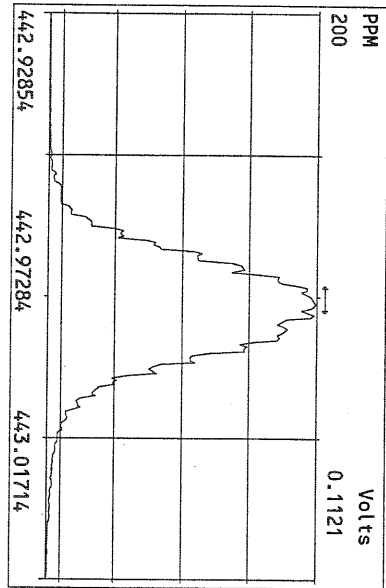
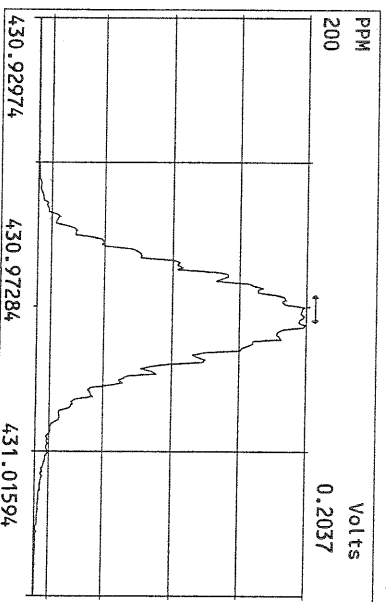
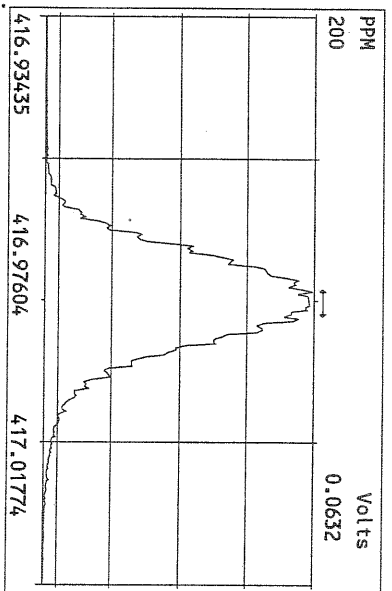
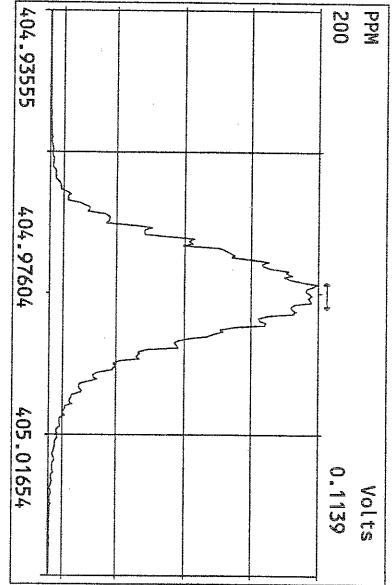


Peak Locate Examination:16-SEP-2010:08:56 File:15SEP10N\_RES\_CHECK  
Experiment:PCDD Function:1 Reference:PEK

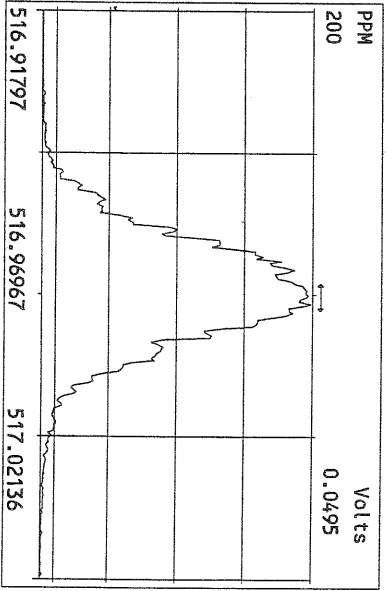
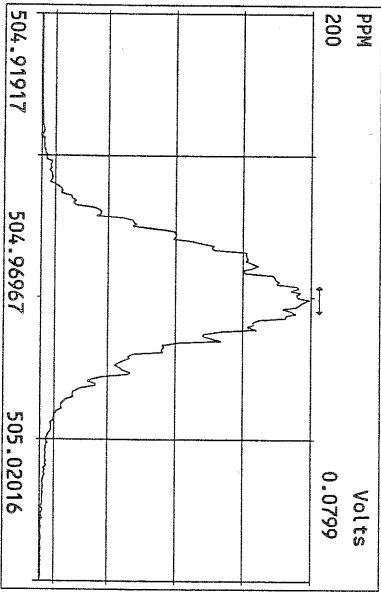
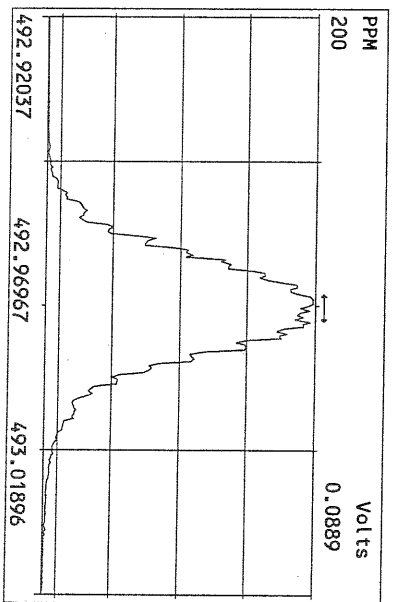
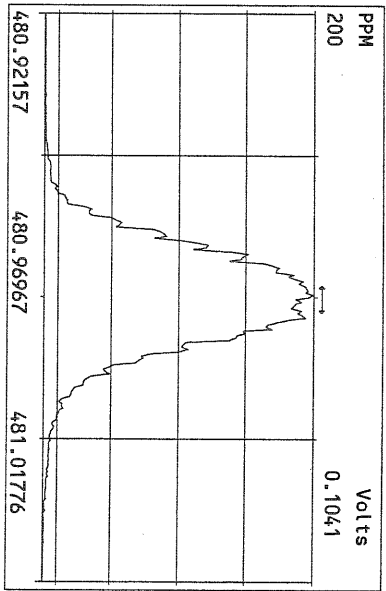
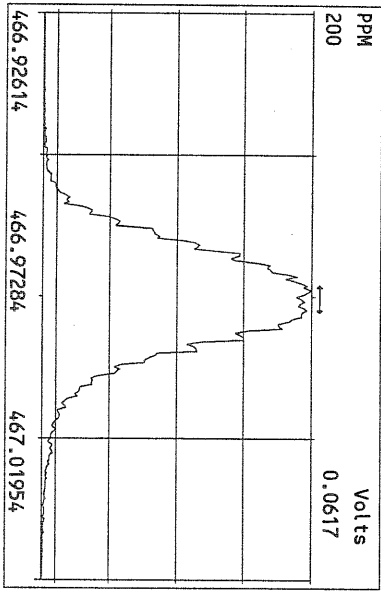
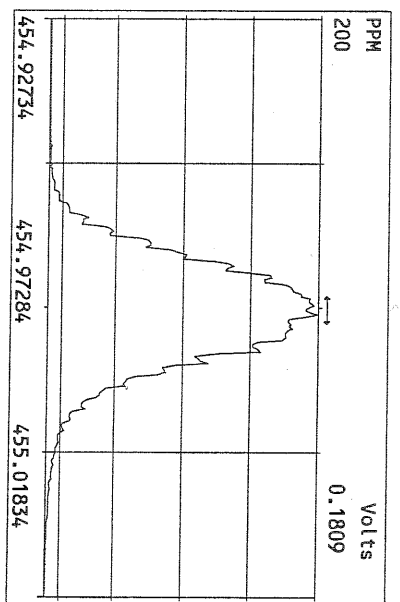
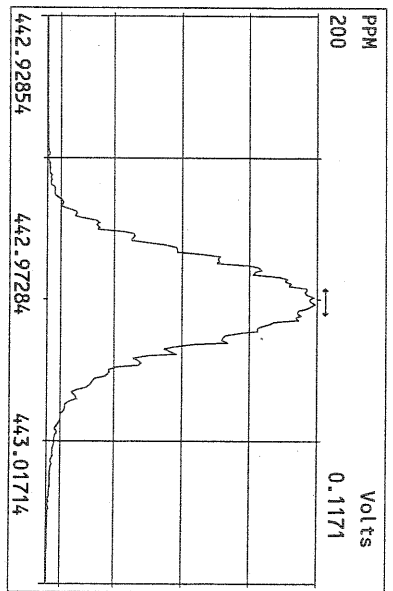
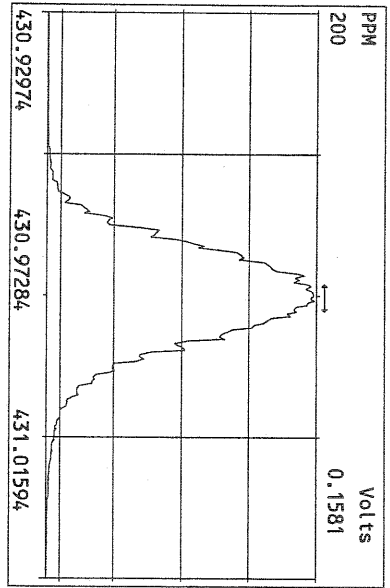












## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 15SEP10N Sam:14


Analysis Date: 16-SEP-10 07:58:57

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	y	11.0	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.49	1.32-1.78	y	50.1	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.42	1.05-1.43	y	51.4	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.05-1.43	y	48.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05-1.43	y	51.2	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.89	0.88-1.20	y	50.1	43.0 - 58.0
OCDD	M+2/M+4	0.97	0.76-1.02	y	105	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.67	0.65-0.89	y	9.06	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	48.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	47.4	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	45.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	46.4	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	46.1	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	46.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	y	47.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88-1.20	y	47.6	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	90.9	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 9/16/10

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 15SEP10N Sam:14

Analysis Date: 16-SEP-10 07:58:57


LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	94.6	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.74	1.32-1.78	y	109	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	98.5	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	103	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	0.88-1.20	y	101	72.0 - 138
13C-OCDD	M+2/M+4	0.93	0.76-1.02	y	229	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.87	0.65-0.89	y	96.5	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.77	1.32-1.78	y	102	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.70	1.32-1.78	y	105	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.47	0.43-0.59	y	94.0	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.47	0.43-0.59	y	91.7	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.46	0.43-0.59	y	95.7	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.46	0.43-0.59	y	95.9	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	y	89.2	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	y	88.8	77.0 - 129
13C-OCDF	M+2/M+4	0.97	0.76-1.02	y	229	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.30	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 9/16/10



USEPA - ITD

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 16-SEP-10 07:58:57

CS3 or VER Data Filename: 15SEP10N

Sam:14

NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD		1.001	0.999-1.002 ✓
2,3,7,8-TCDF	13C-2,3,7,8-TCDF		1.001	0.999-1.003 ✓
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD		1.000	0.999-1.002 ✓
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF		1.001	0.999-1.002 ✓
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF		1.001	0.999-1.002 ✓
LABELED COMPOUNDS				
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.023	0.989-1.052 ✓
13C-2,3,7,8-TCDD			1.021	0.976-1.043 ✓
13C-2,3,7,8-TCDF			0.994	0.923-1.103 ✓
13C-1,2,3,7,8-PeCDD			1.238	1.000-1.567 ✓
13C-1,2,3,7,8-PeCDF			1.174	0.923-1.203 ✓
13C-2,3,4,7,8-PeCDF			1.223	0.923-1.303 ✓

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: 

Date: 9/16/10

## USEPA - ITD

FORM 6B  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 16-SEP-10 07:58:57

CS3 or VER Data Filename: 15SEP10N

Sam:14

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001 ✓
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004 ✓
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019 ✓
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001 ✓
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005 ✓
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001 ✓
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001 ✓
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001 ✓
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001 ✓
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001 ✓
OCDD	13C-OCDD	1.001	0.999-1.001 ✓
OCDF	13C-OCDF	1.001	0.999-1.001 ✓
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000 ✓
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003 ✓
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970 ✓
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975 ✓
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021 ✓
13C-1,2,3,7,8,9-HxCDF		1.015	0.977-1.047 ✓
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.086-1.130 ✓
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085 ✓
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154 ✓
13C-OCDD		1.270	1.032-1.311 ✓
13C-OCDF		1.279	1.000-1.311 ✓

(1) Contract-required limits for Relative Retention Times (RRT) as specified  
in Table 2, Method 1613.

Analyst: Date: 9/16/10



Frontier Analytical Laboratory - Acquisition Log

Run Name:15SEP10N

Instrument: FAL3

GC: DB5

Experiment:PCDD

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15SEP10N 3	2107-001-0001-MB	Method Blank	15-SEP-10 21:50:19	ST091510N1	ST091510N2	TC
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15SEP10N 5	6330-002-0001-SA	PSB21-1.5-2-082510	15-SEP-10 23:40:52	ST091510N1	ST091510N2	TC
15SEP10N 6	6330-003-0001-SA	PSB21-2-4-082510	16-SEP-10 00:36:15	ST091510N1	ST091510N2	TC
15SEP10N 7	6330-004-0001-SA	PSB19-0-1-082510	16-SEP-10 01:31:38	ST091510N1	ST091510N2	TC
15SEP10N 8	6330-005-0001-SA	PSB19-1-2-082510	16-SEP-10 02:26:57	ST091510N1	ST091510N2	TC
15SEP10N 9	6330-006-0001-SA	PSB19-2-4-082510	16-SEP-10 03:22:16	ST091510N1	ST091510N2	TC
15SEP10N 10	6332-001-0001-SA	PSB18-2-4-082610	16-SEP-10 04:17:36	ST091510N1	ST091510N2	TC
15SEP10N 11	6332-002-0001-SA	PSB18-1.5-2-082610	16-SEP-10 05:12:58	ST091510N1	ST091510N2	TC
15SEP10N 12	6332-003-0001-SA	PSB18-0-0.5-082610	16-SEP-10 06:08:21	ST091510N1	ST091510N2	TC
15SEP10N 13	SB091510N1	Solvent Blank	16-SEP-10 07:03:39	ST091510N1	ST091510N2	TC
15SEP10N 14	ST091510N2	1613 CS3 100511J	16-SEP-10 07:58:57	ST091510N1	ST091510N2	TC

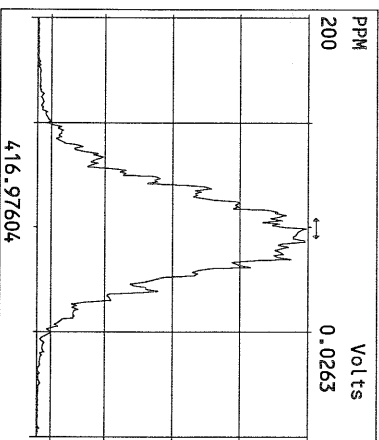
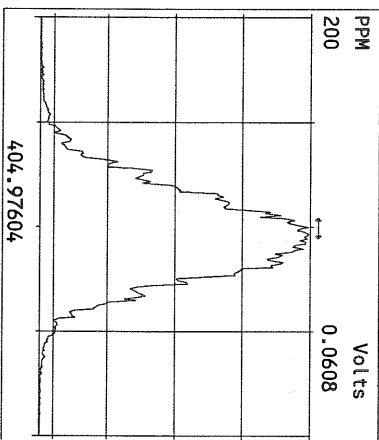
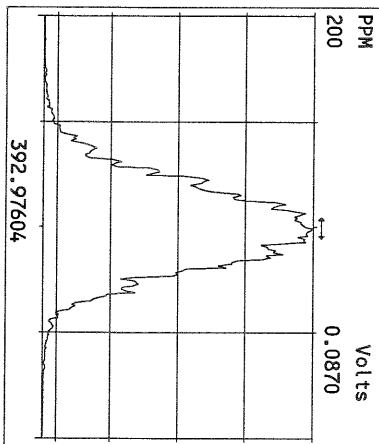
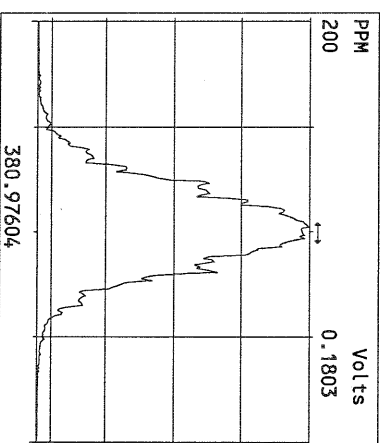
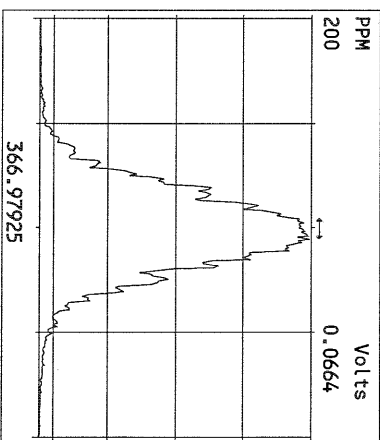
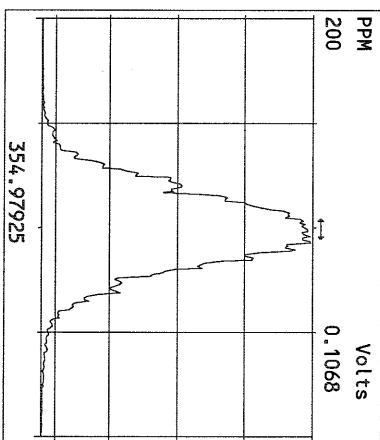
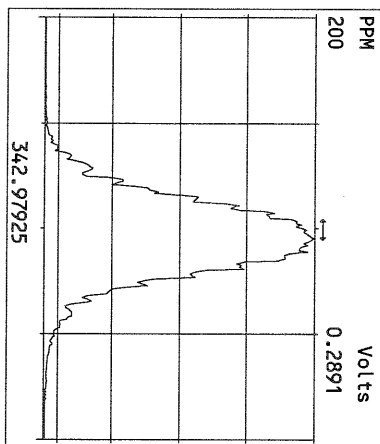
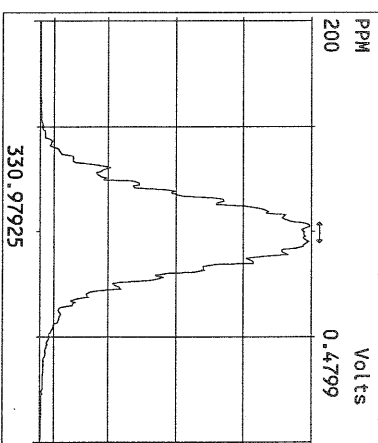
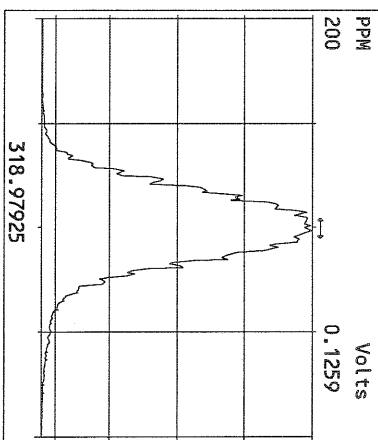
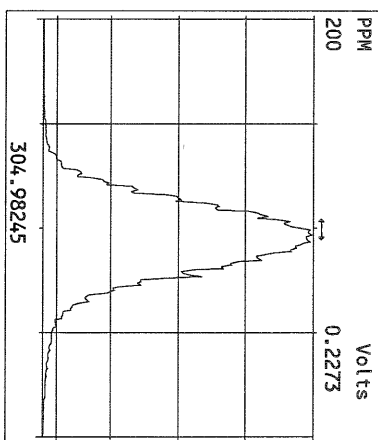
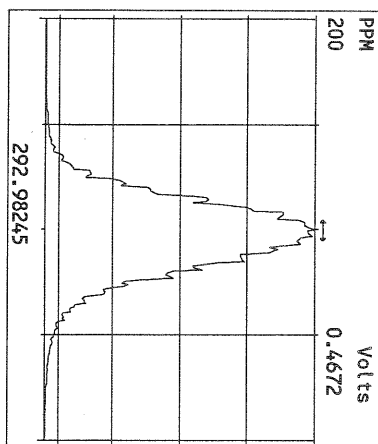


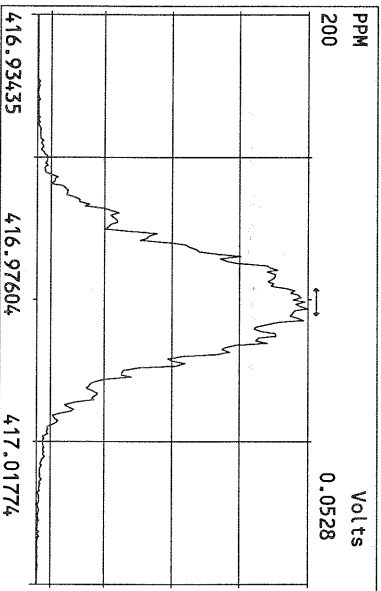
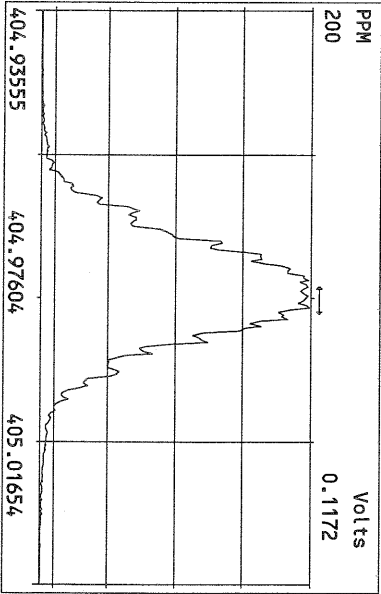
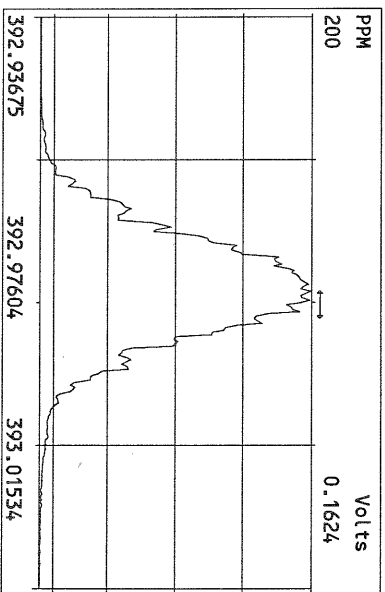
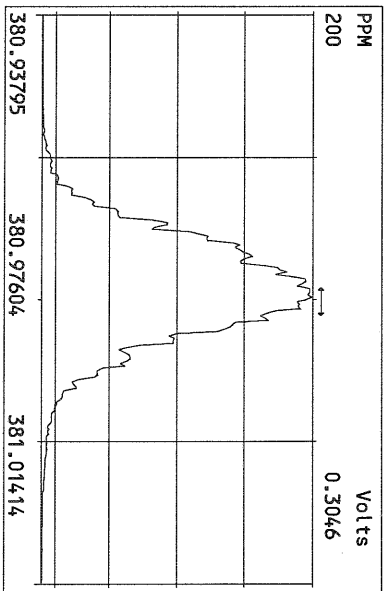
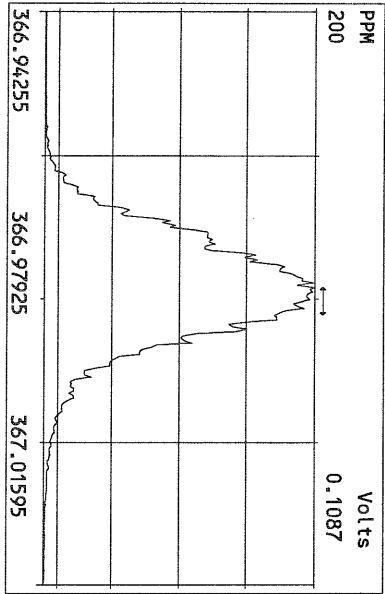
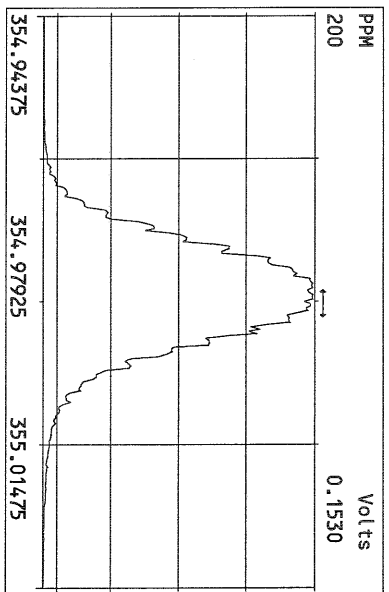
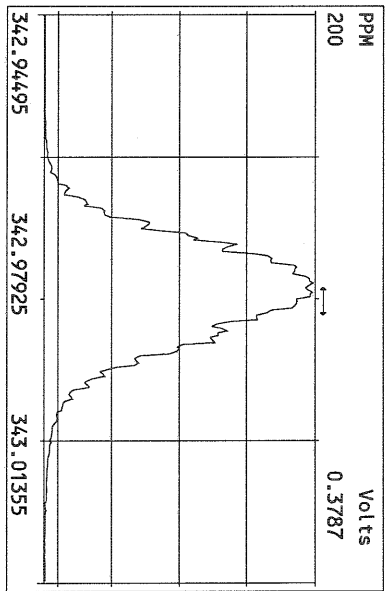
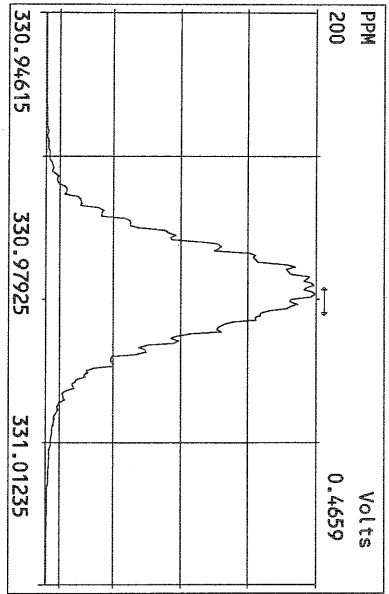
9/16/10

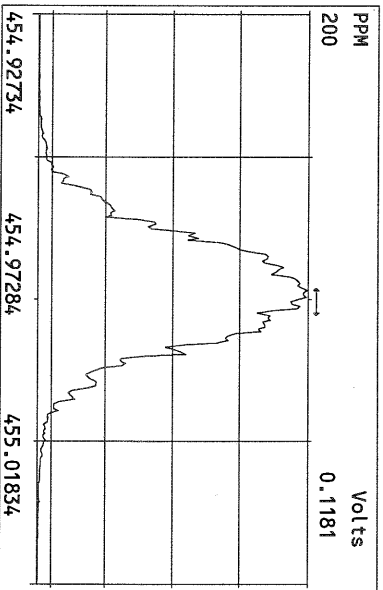
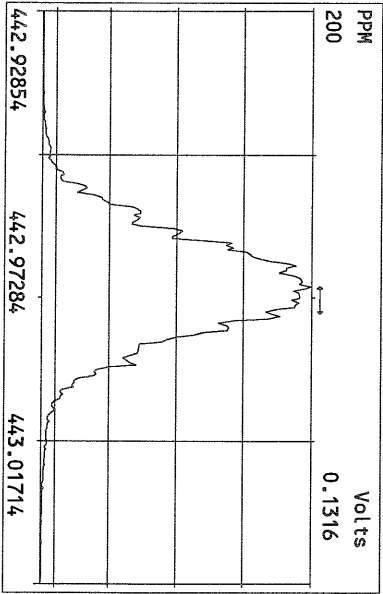
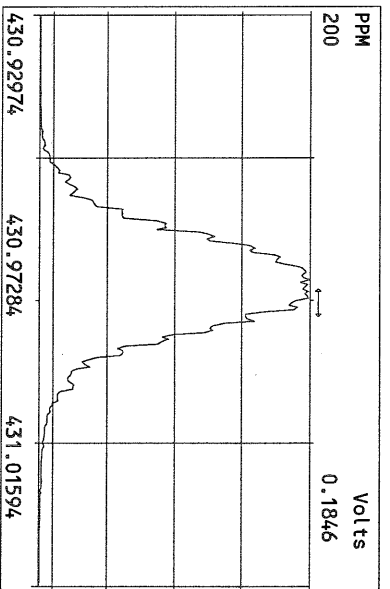
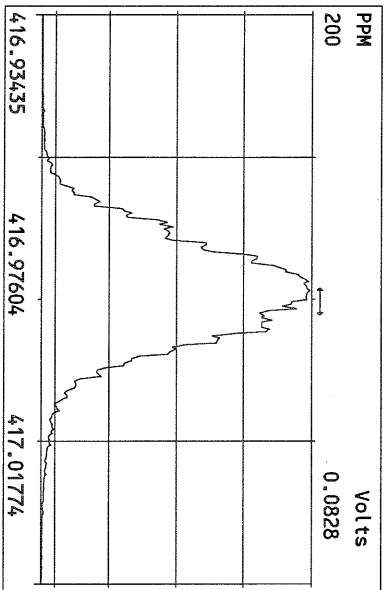
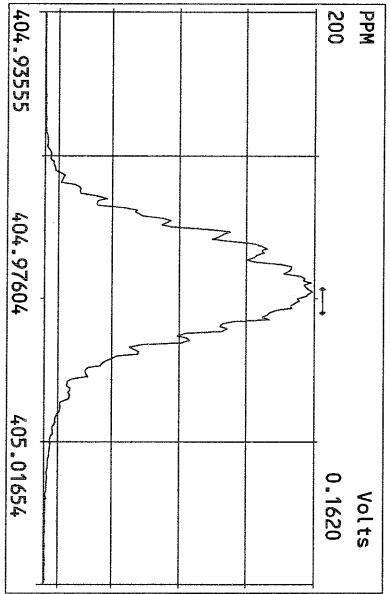
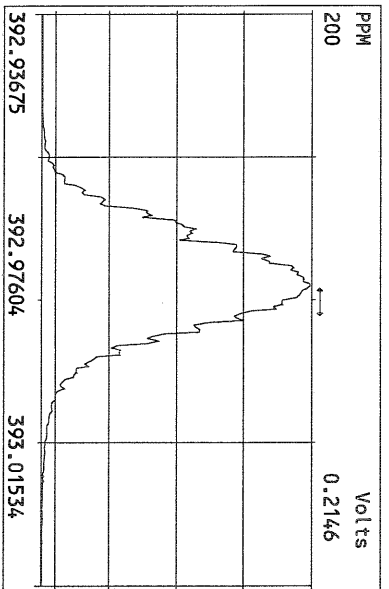
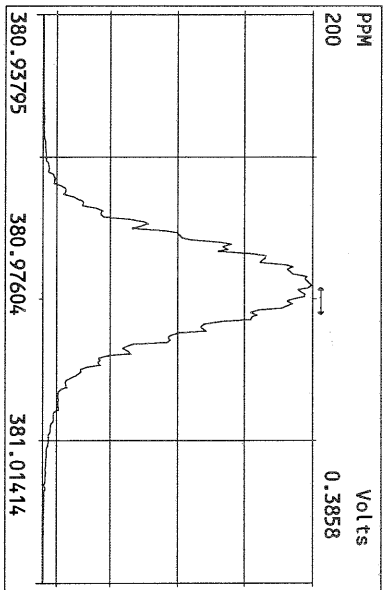
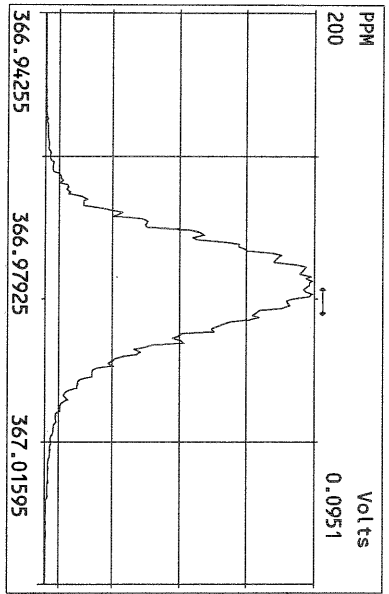
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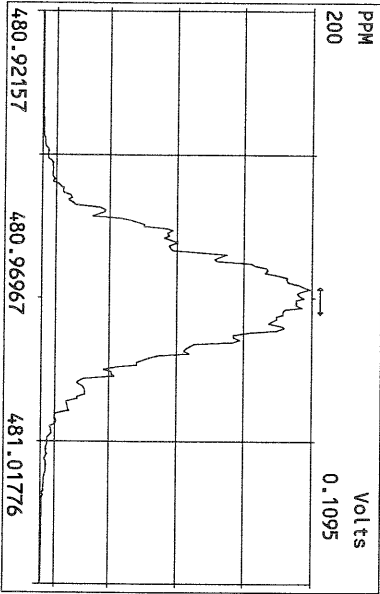
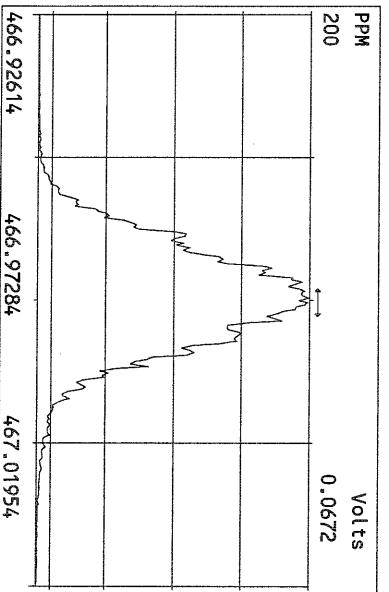
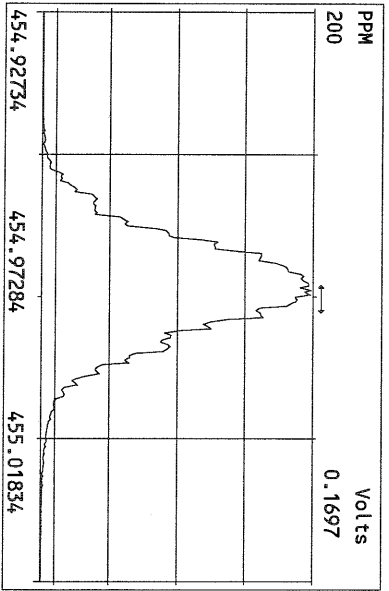
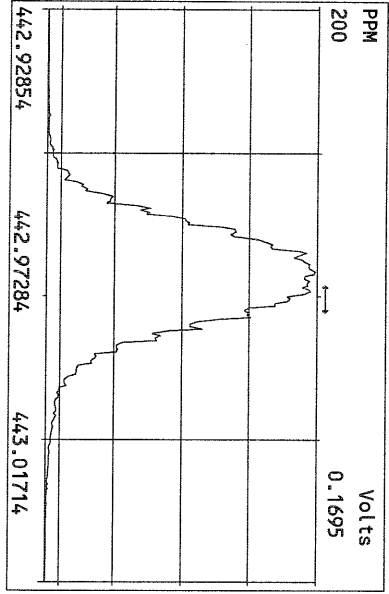
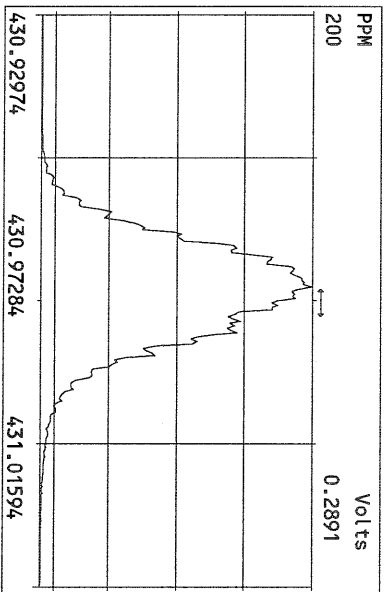
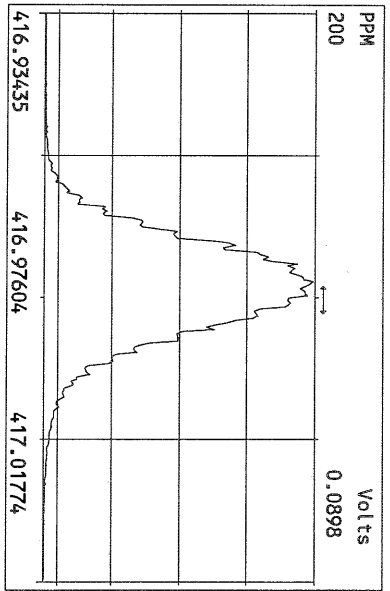
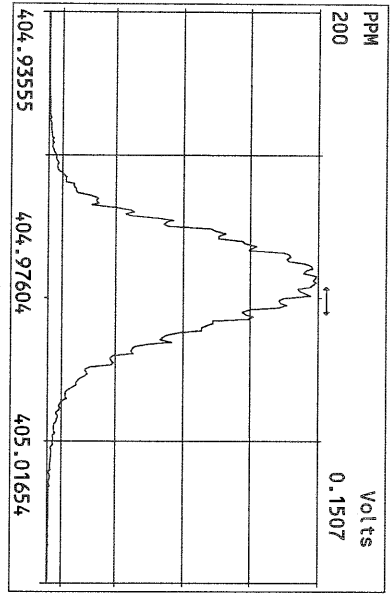
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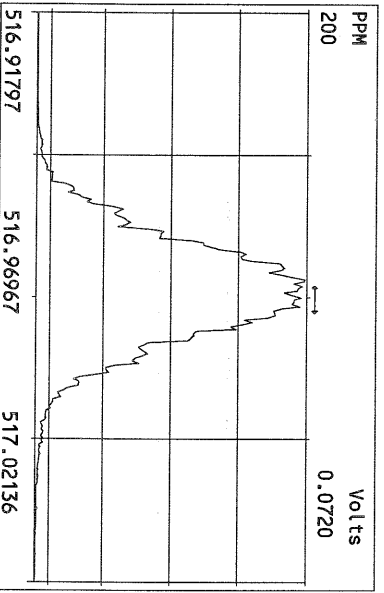
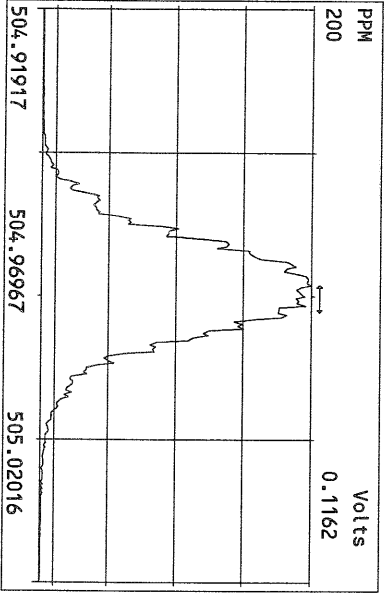
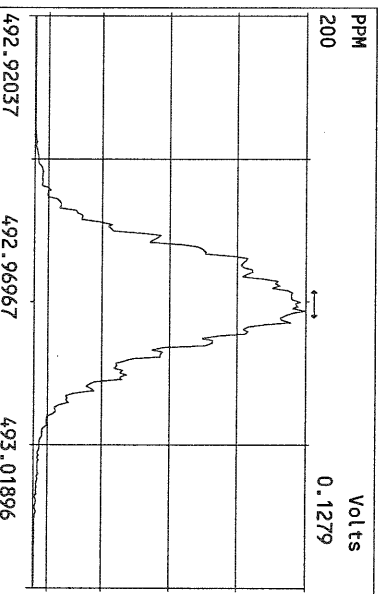
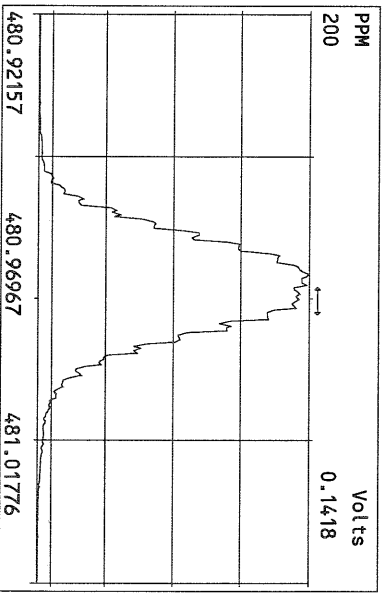
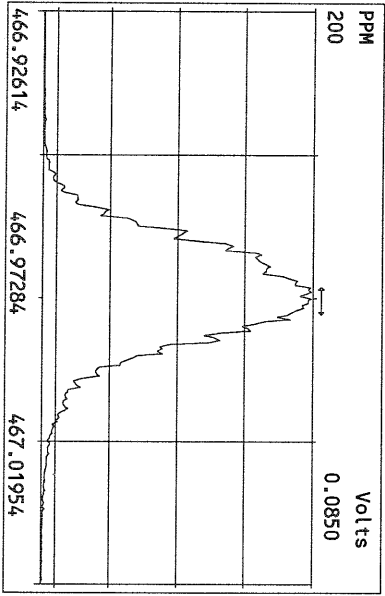
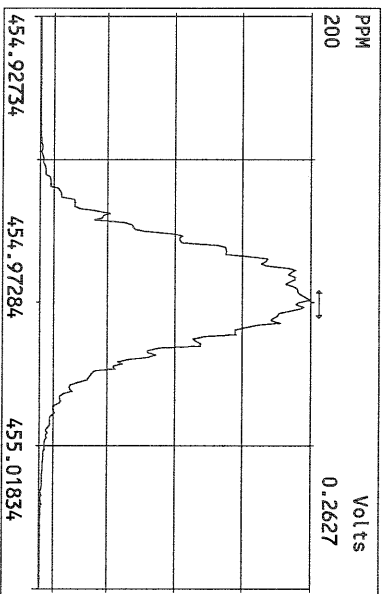
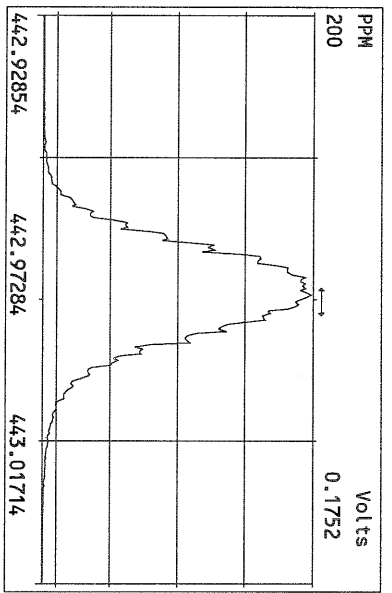
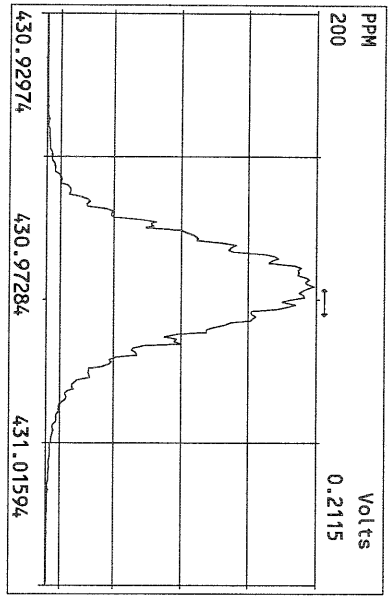




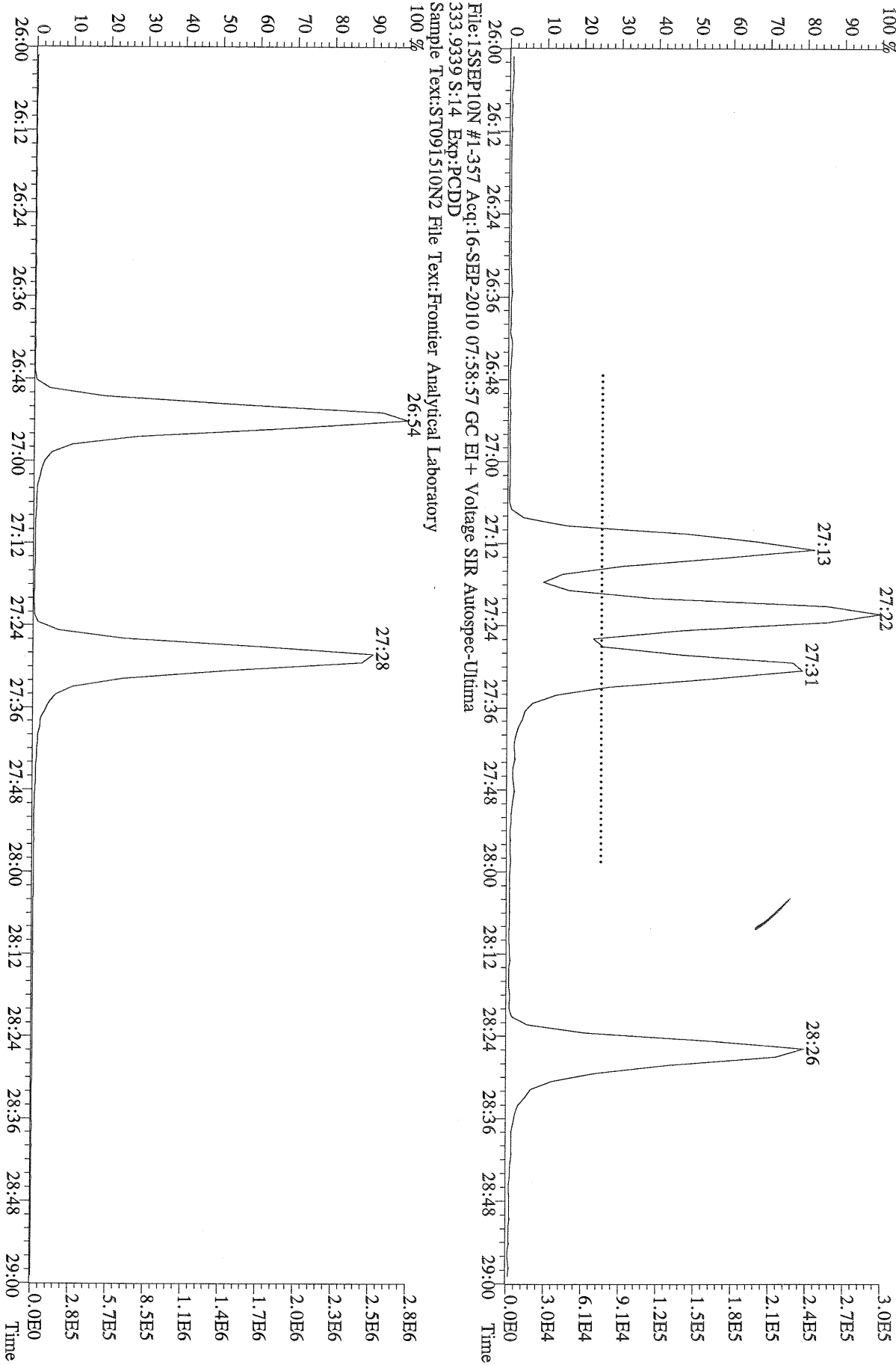






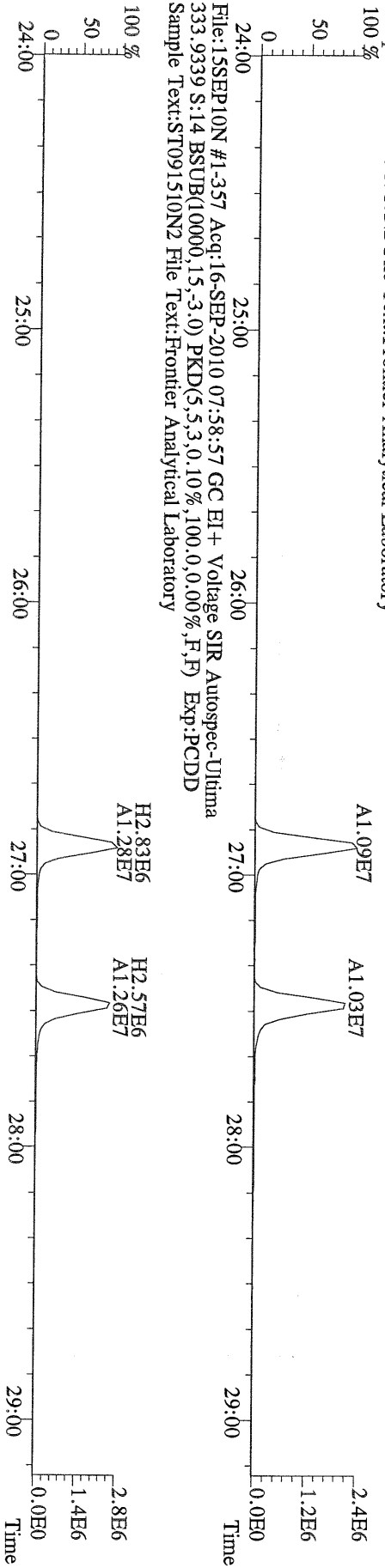
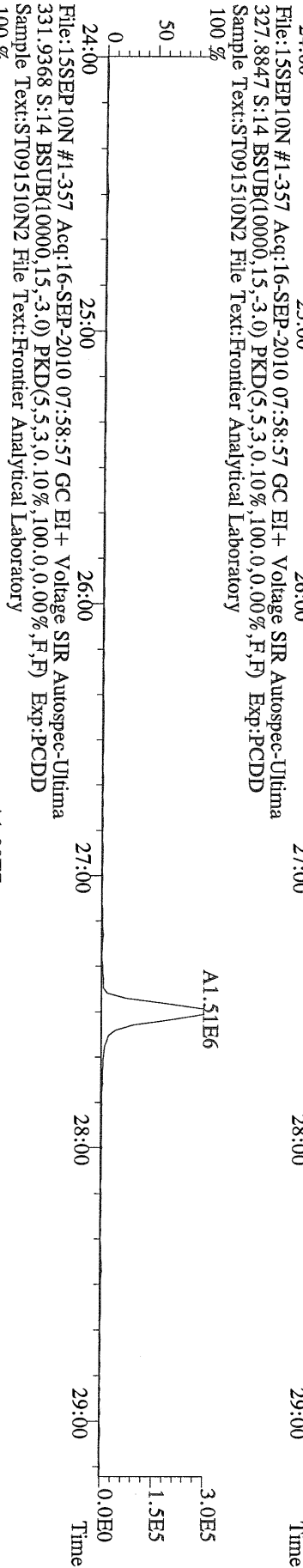
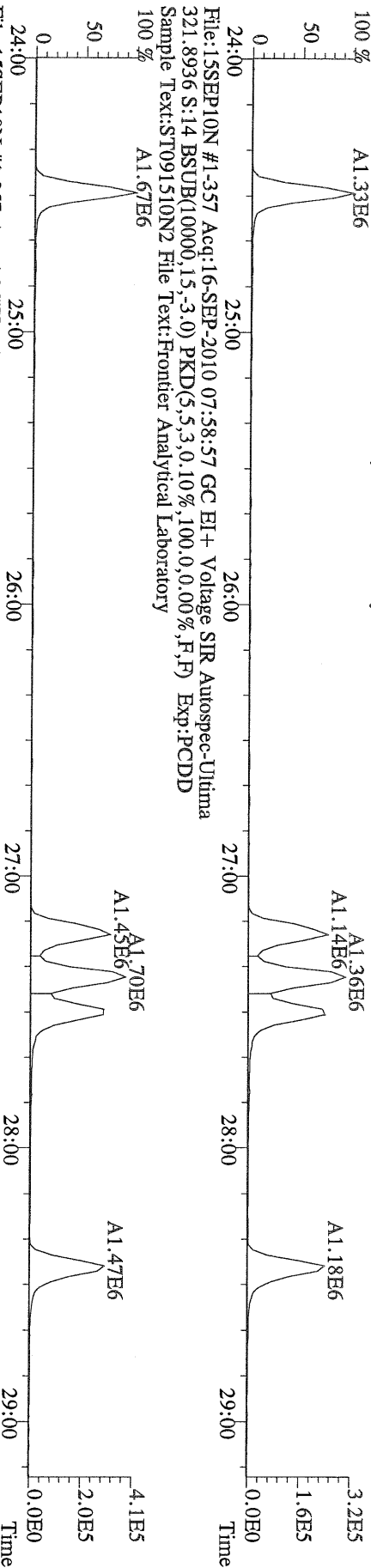


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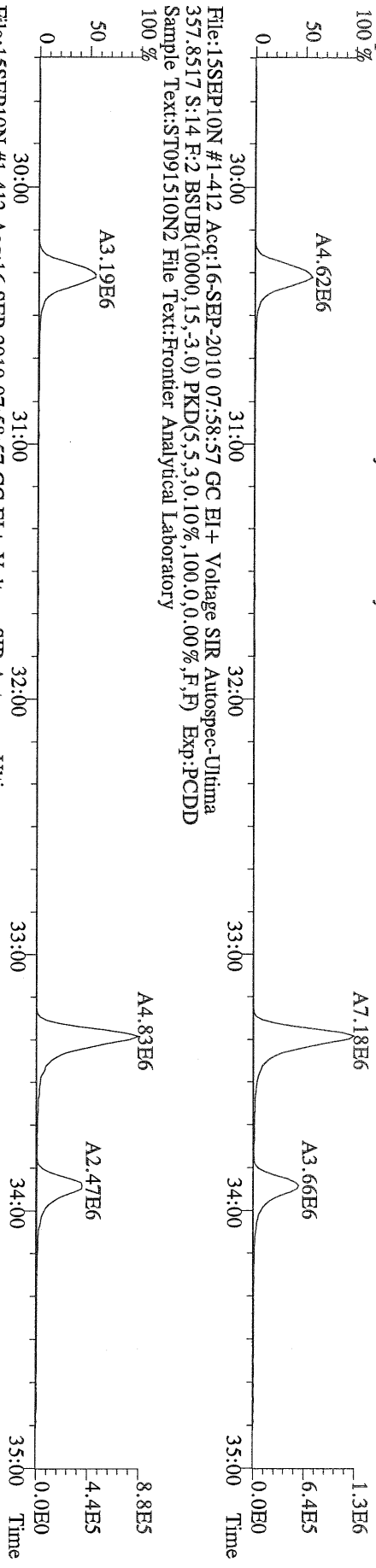


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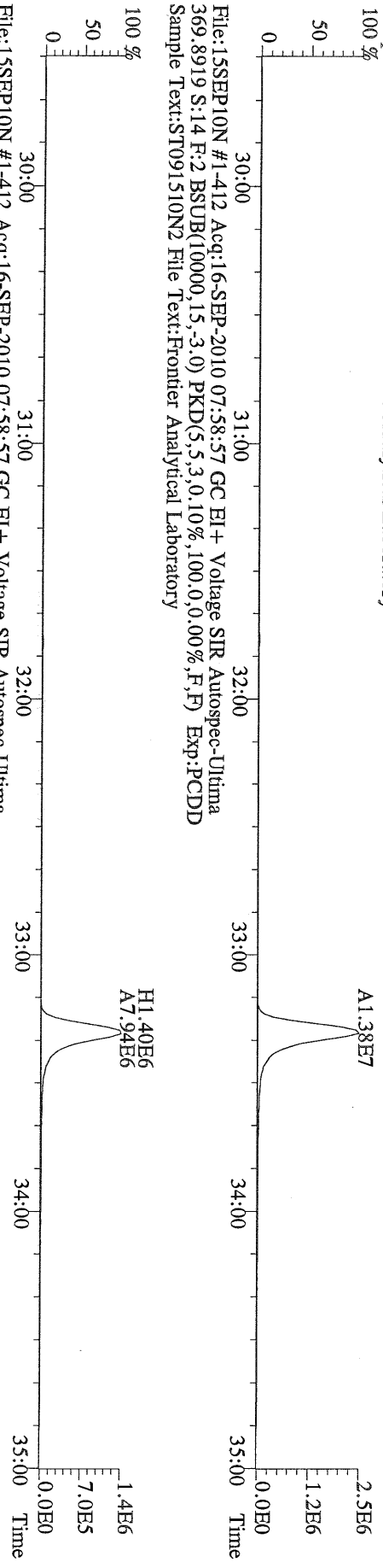
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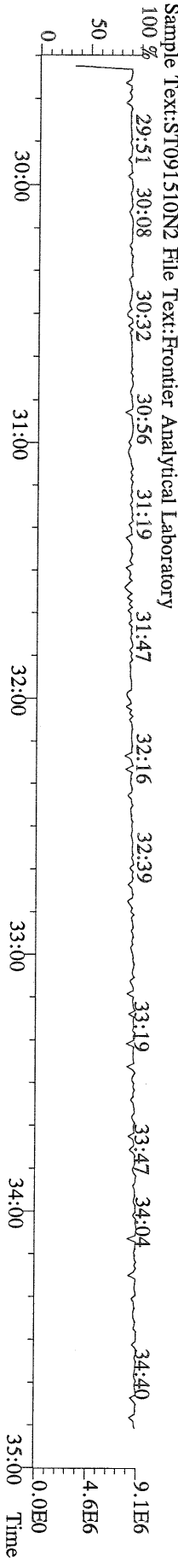
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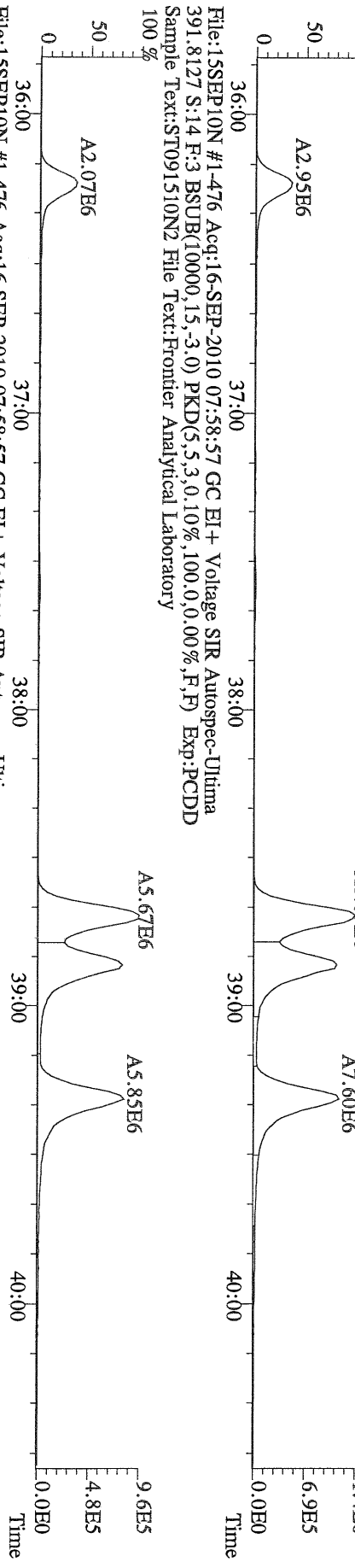
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369.8919 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



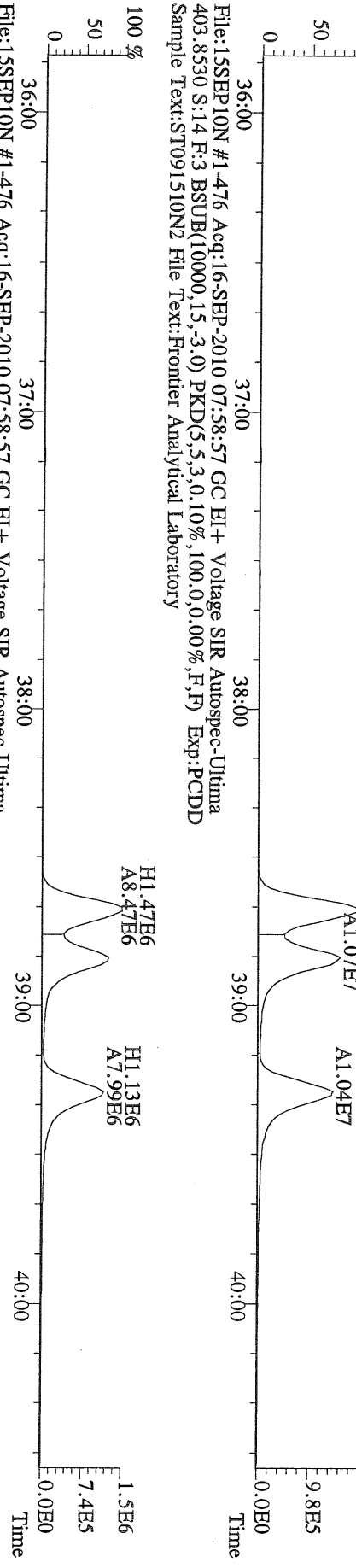
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366.9792 S:14 F:2 Exp:PCDD  
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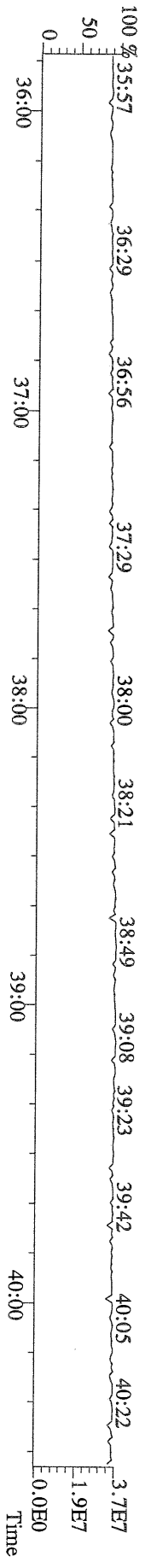
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389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



File:15SEP10N #1-476 Acq:16-SEP-2010 07:58:57 GC EI + Voltage SIR Autospec-Utima  
401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
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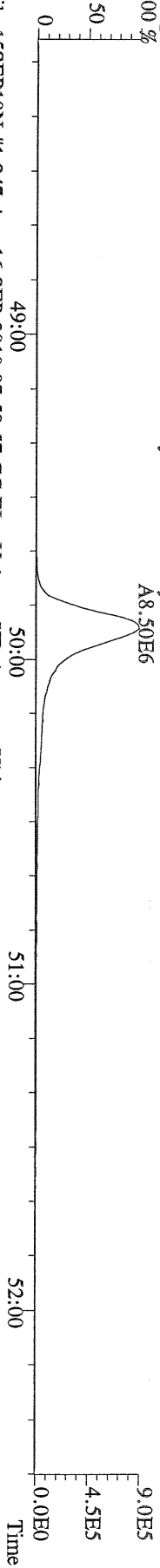


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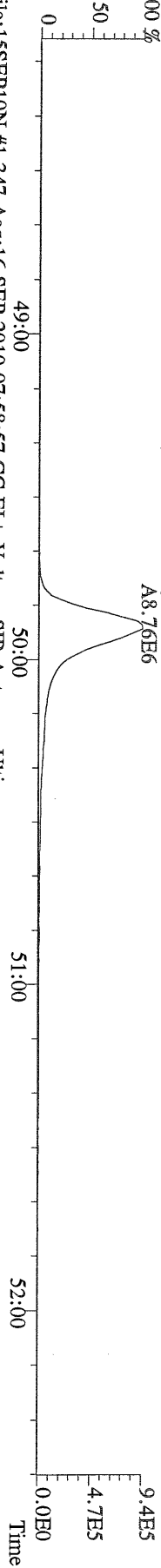




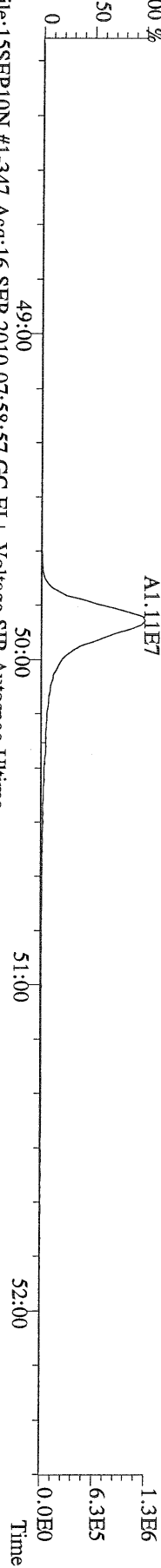
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457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



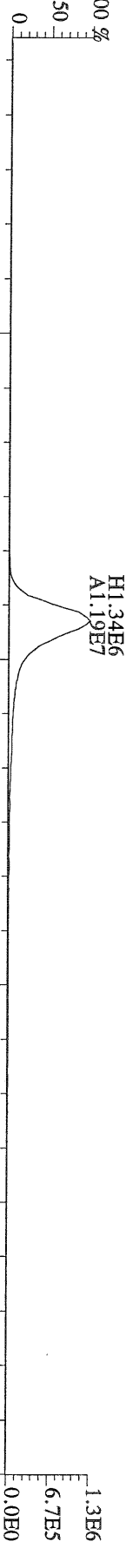
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Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



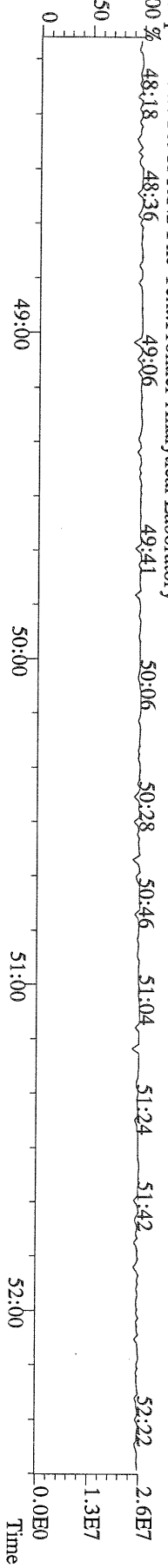
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Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



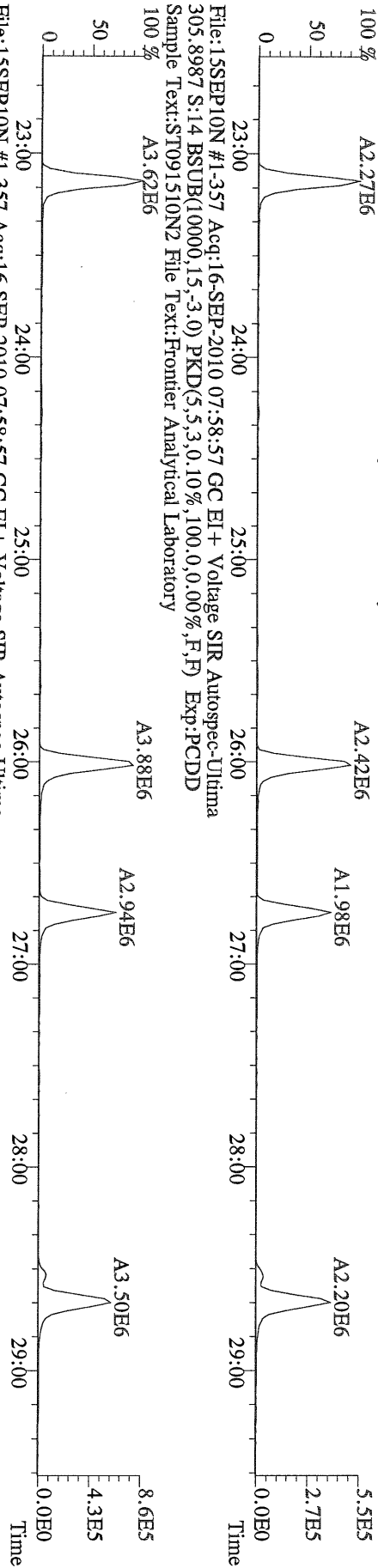
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Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



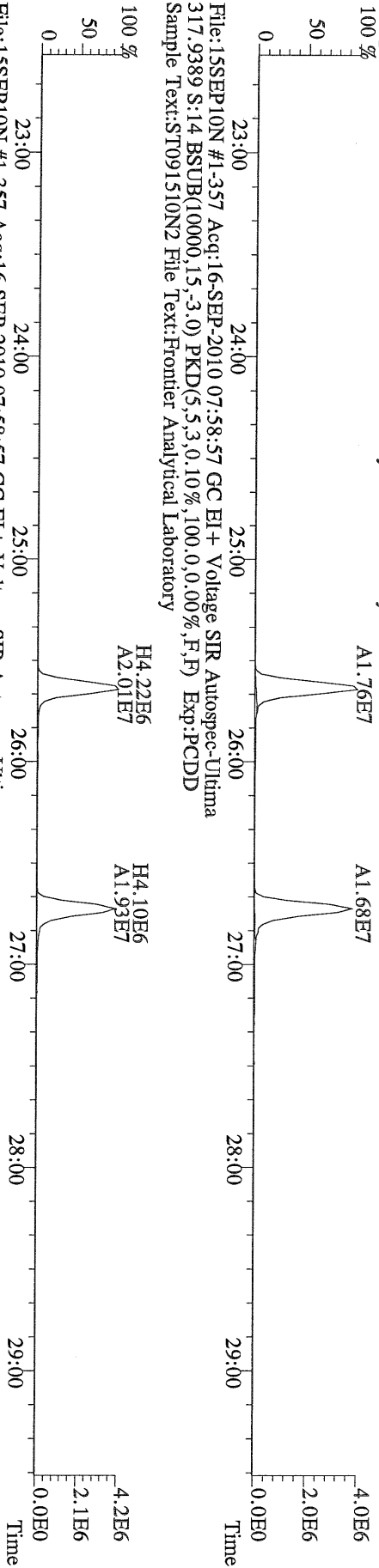
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454.9728 S:14 F:5 Exp:PCDD  
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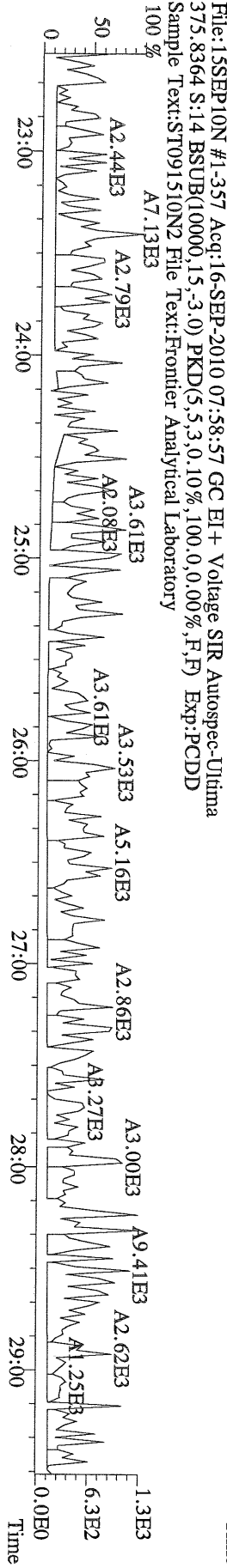
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 303.9016 S:1.4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



File:15SEP10N #1-357 Acq:16-SEP-2010 07:58:57 GC EI + Voltage SIR Autospec-Ultima  
 315.9419 S:1.4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
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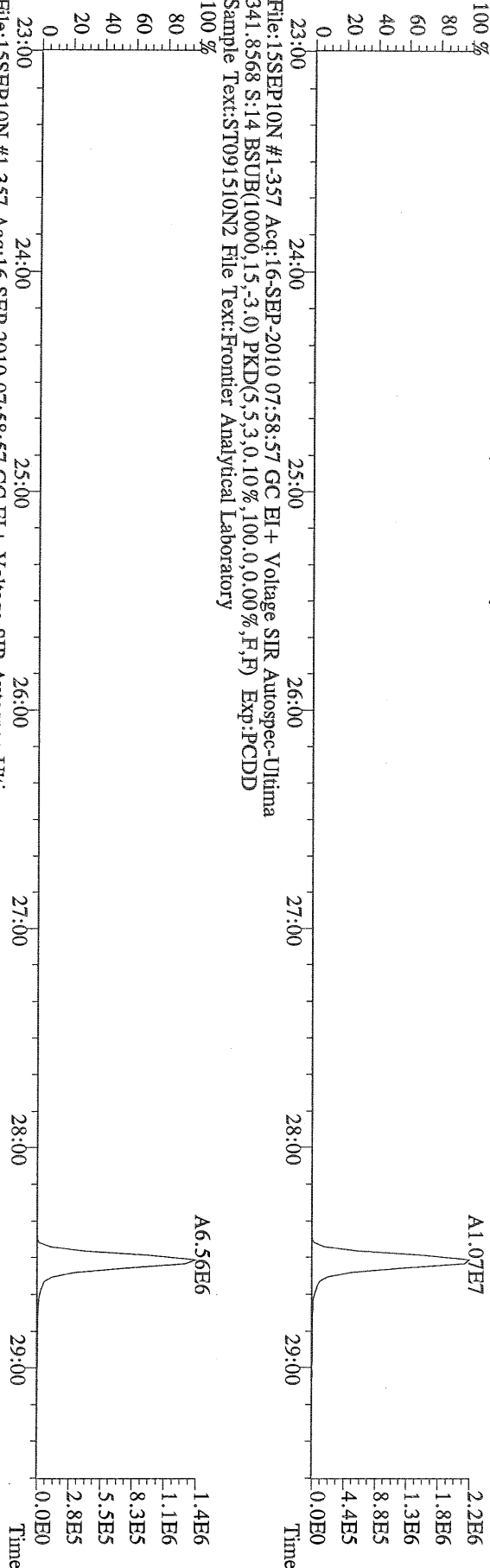


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 317.9389 S:1.4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

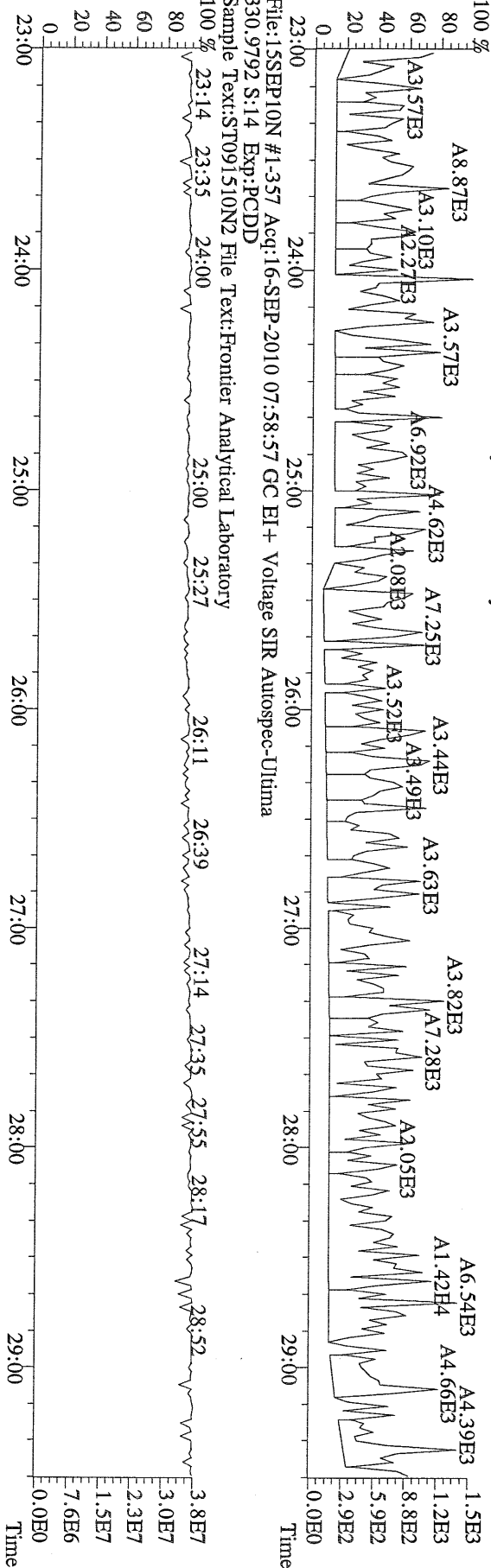


File:15SEP10N #1-357 Acq:16-SEP-2010 07:58:57 GC EI + Voltage SIR Autospec-Ultima  
 375.8364 S:1.4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

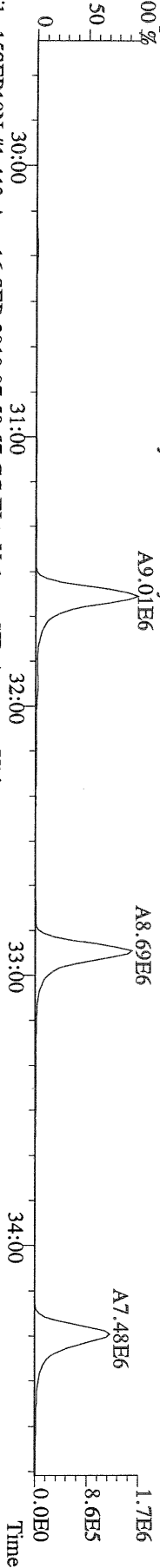
File:15SEP10N #1-357 Acq:16-SEP-2010 07:58:57 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



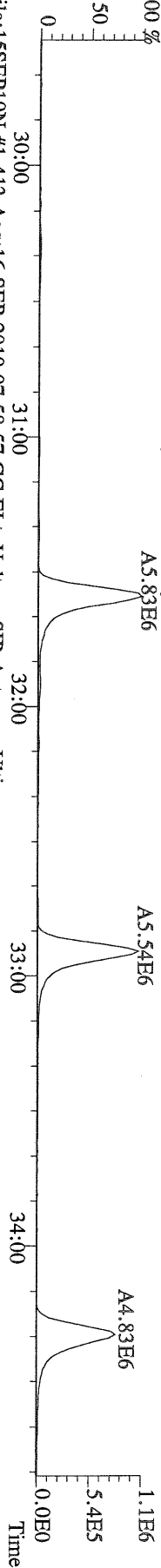
File:15SEP10N #1-357 Acq:16-SEP-2010 07:58:57 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



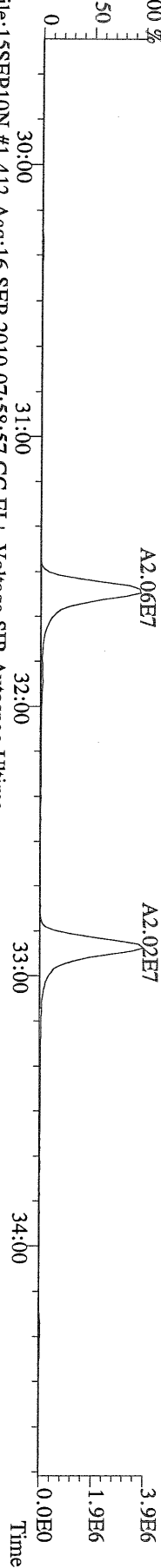
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 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



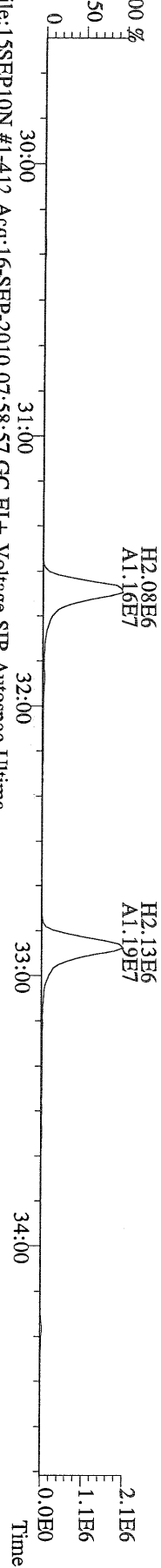
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 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



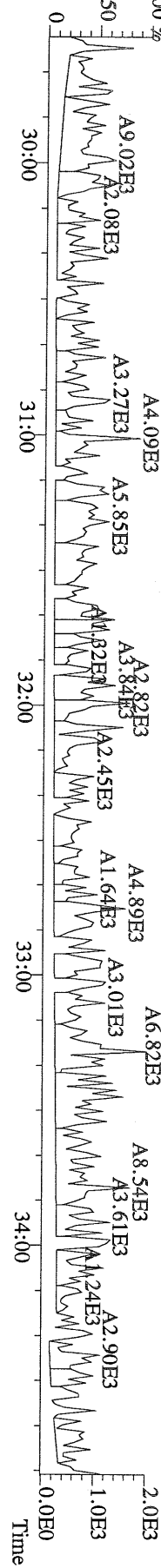
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 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



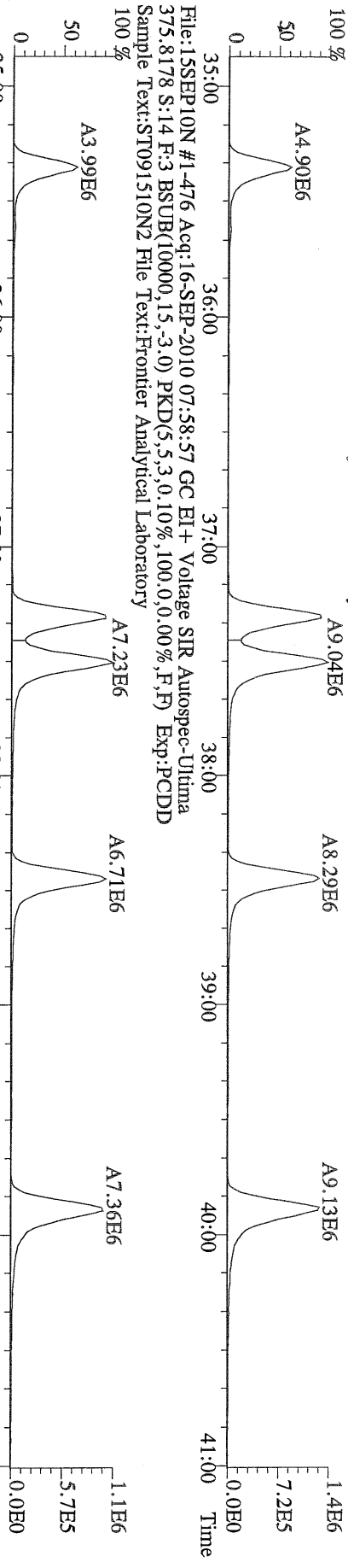
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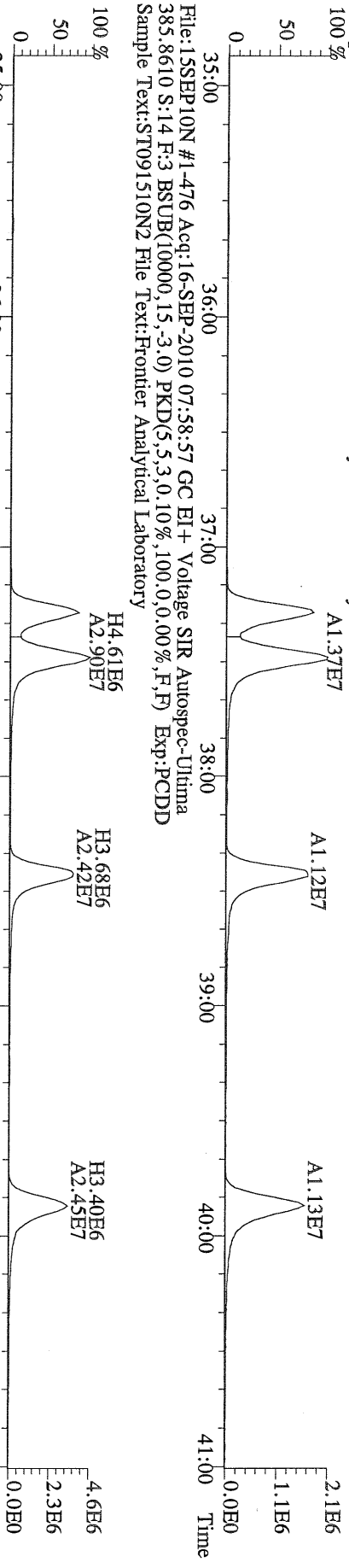
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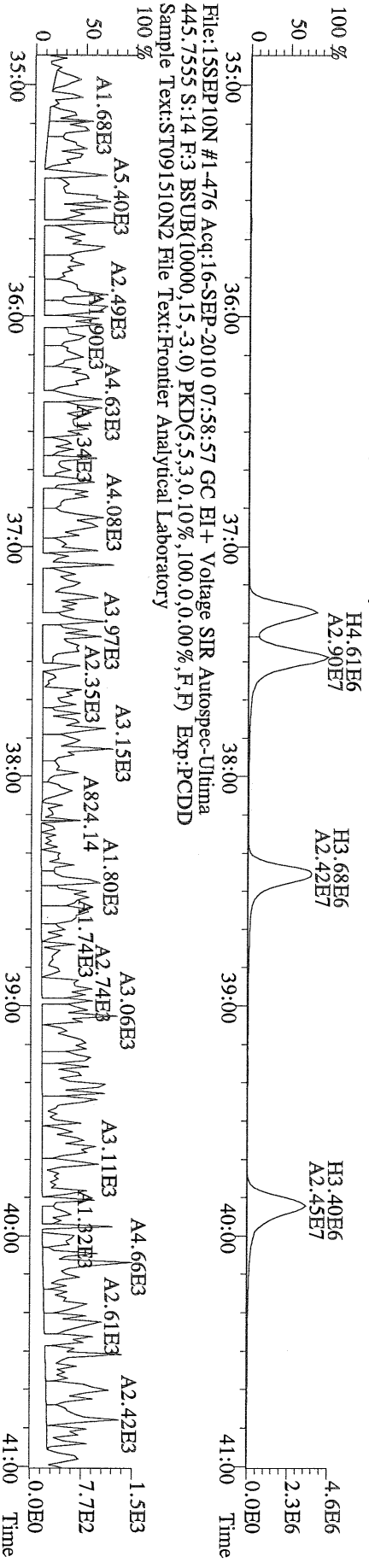
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373.8207 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



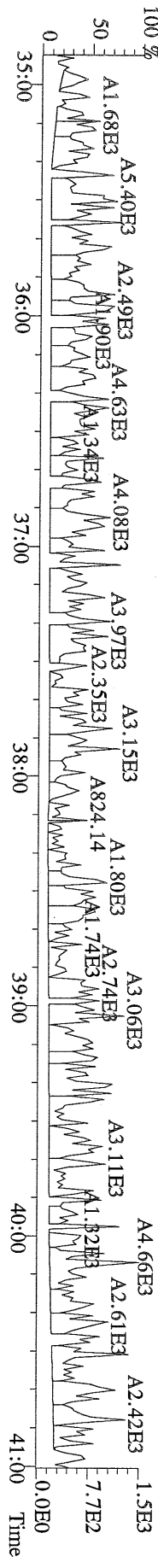
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383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
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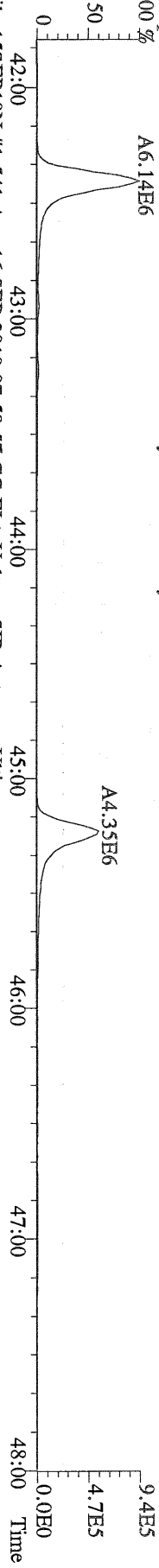
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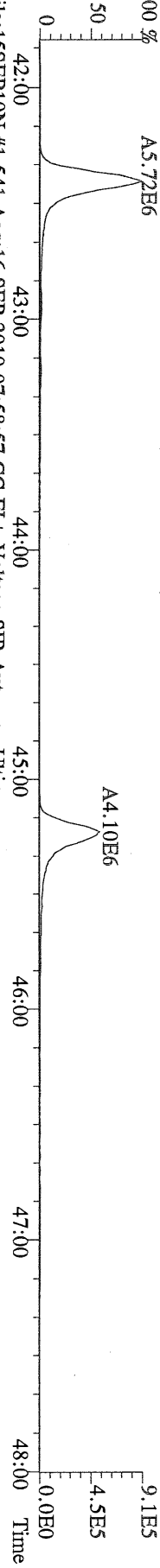
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445.7555 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



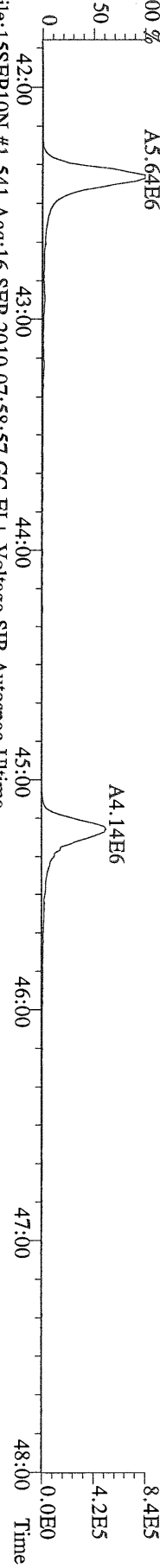
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407.7818 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



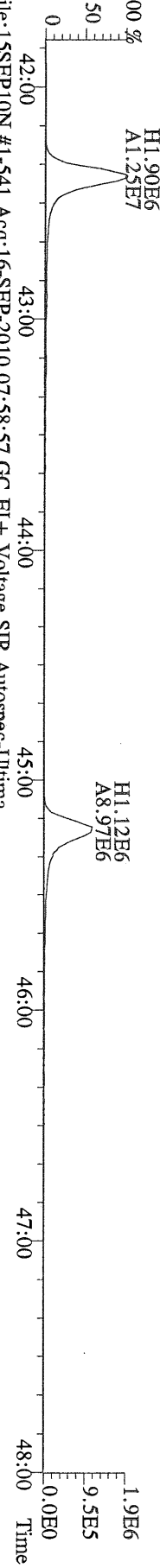
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Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



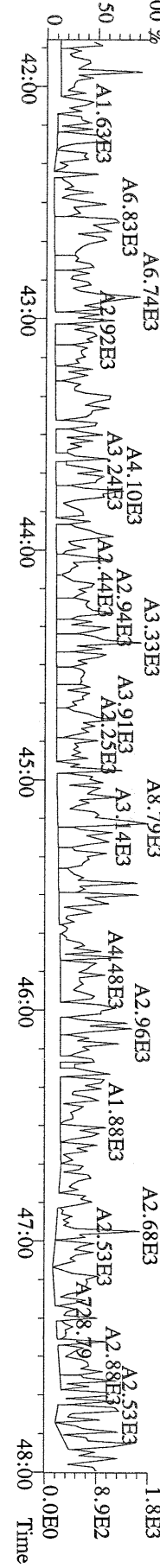
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417.8253 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory



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419.8220 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

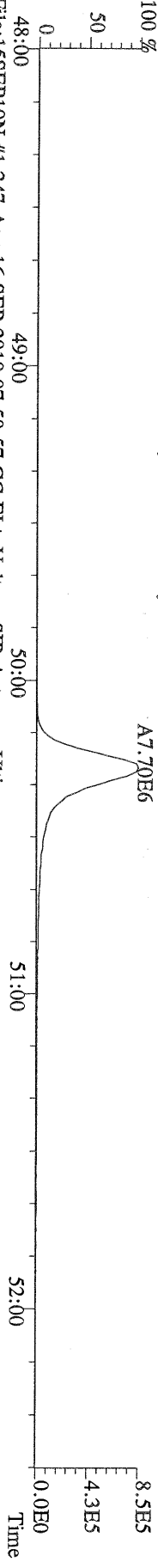


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479.7165 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

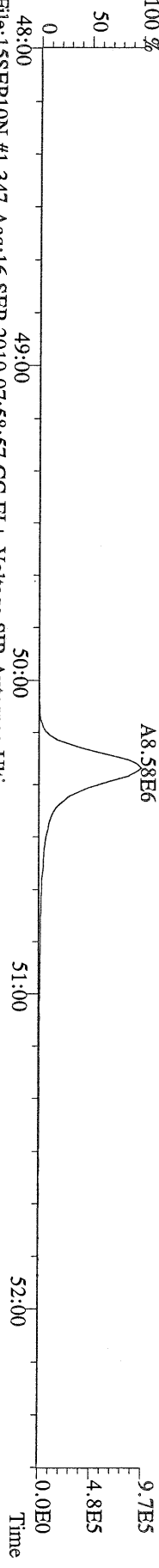




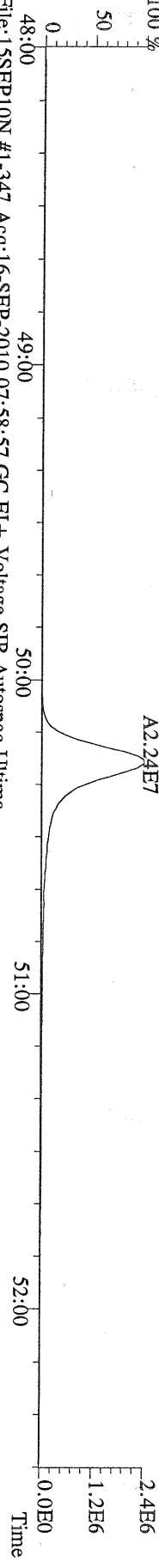
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 441.7428 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
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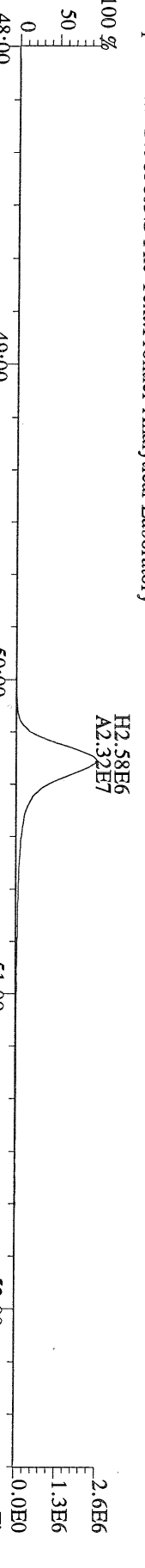
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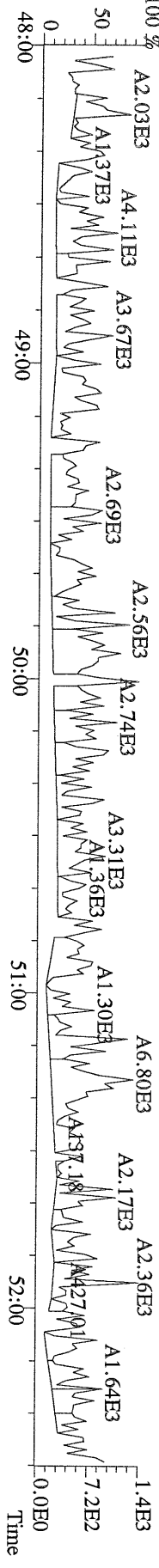
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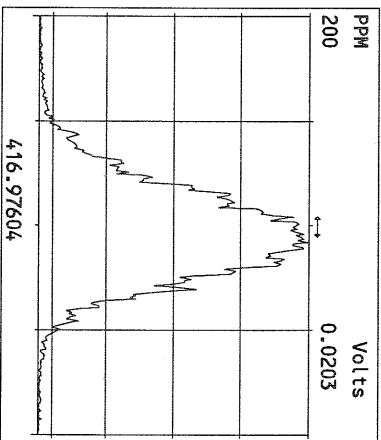
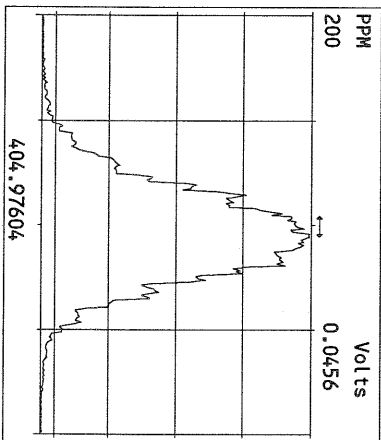
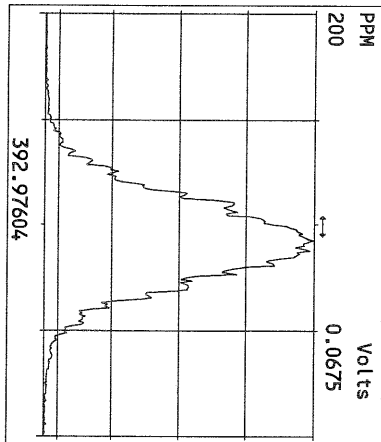
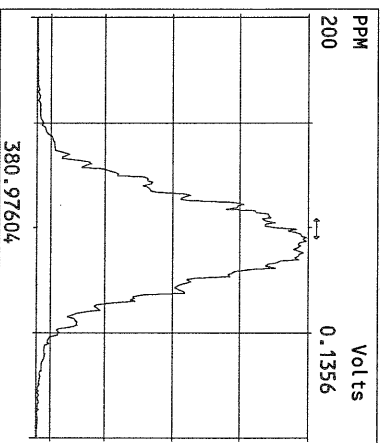
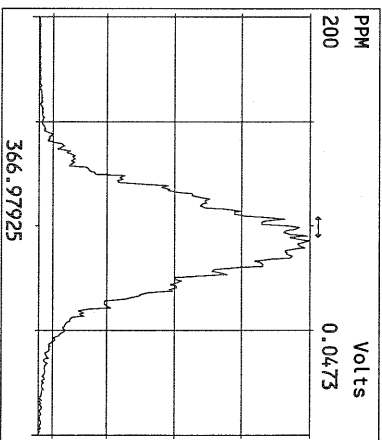
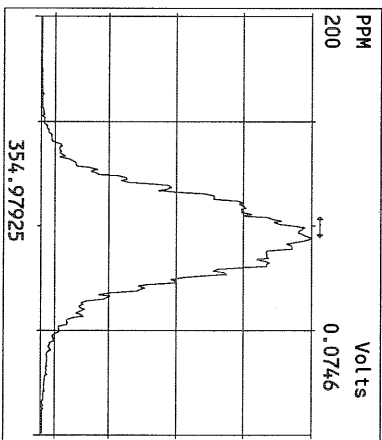
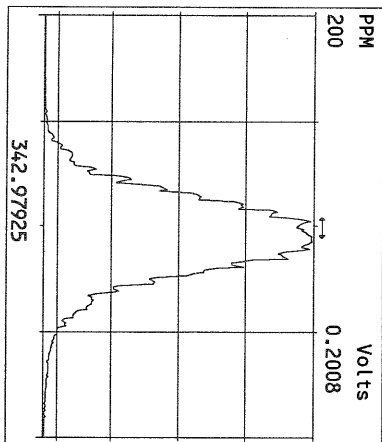
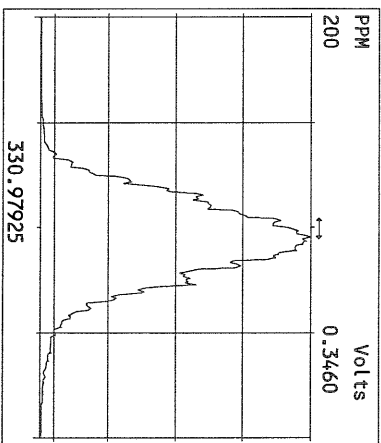
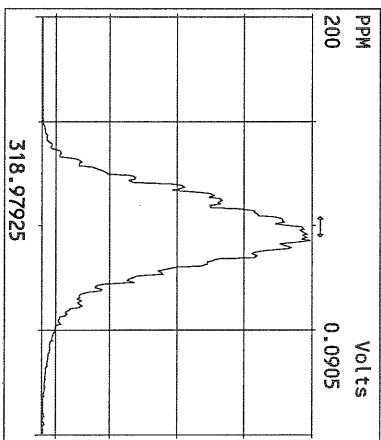
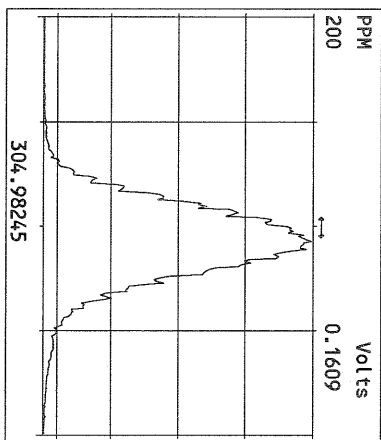
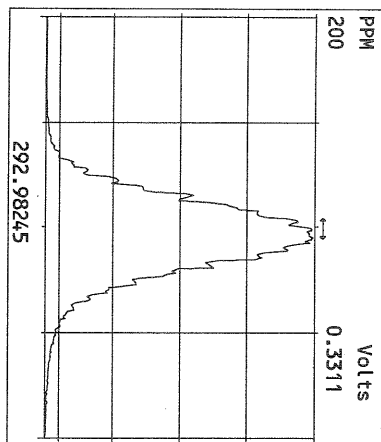


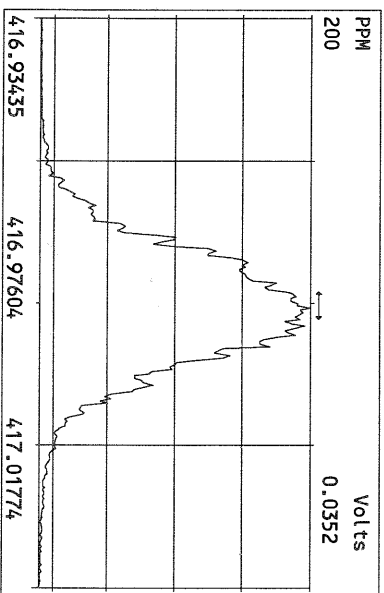
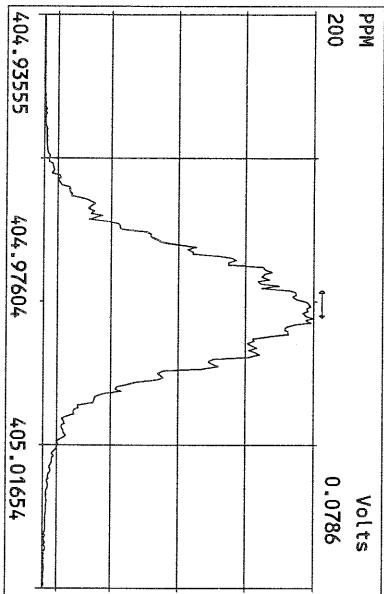
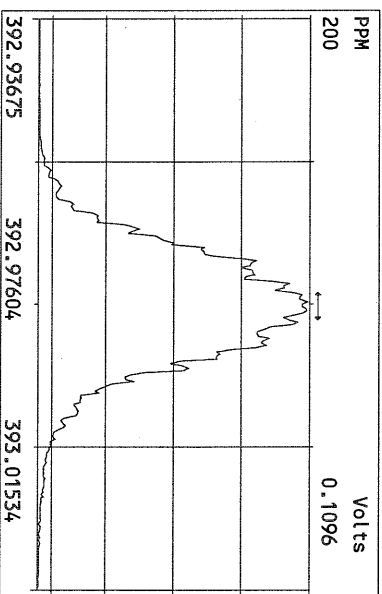
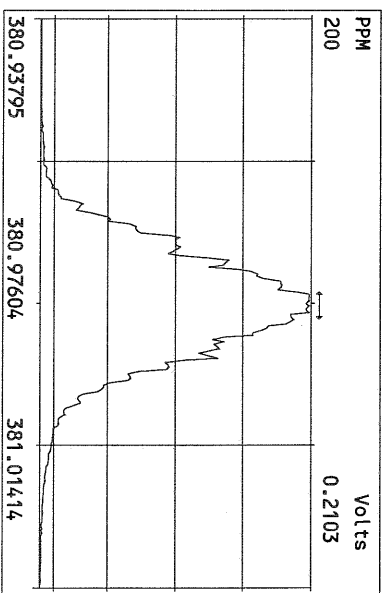
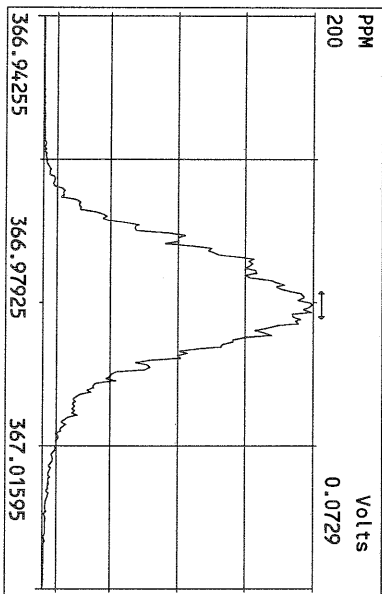
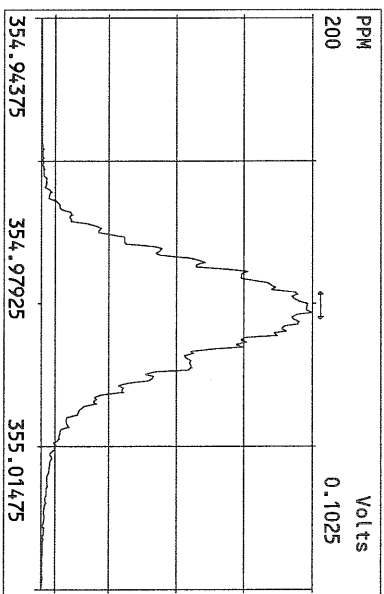
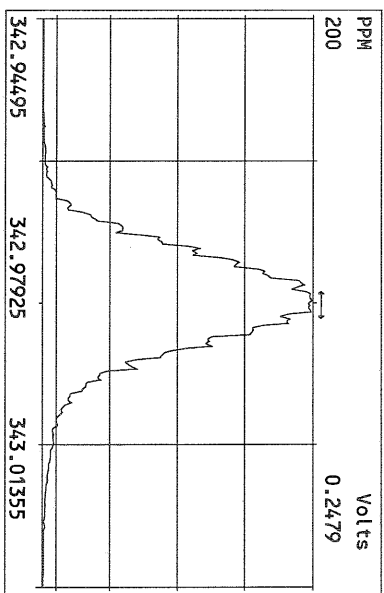
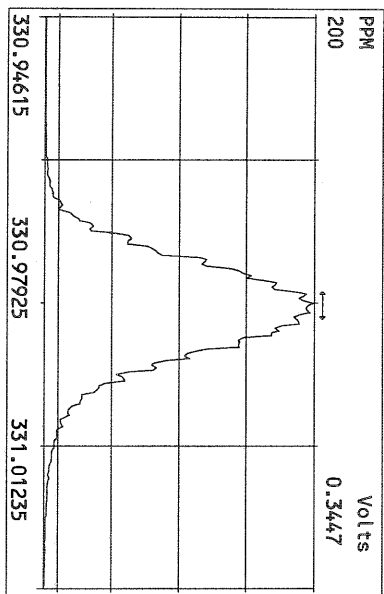
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 455.7801 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

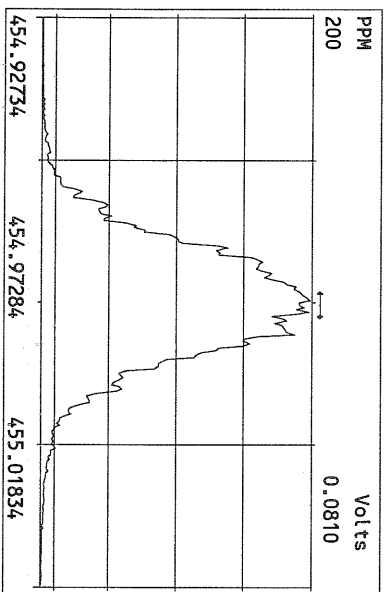
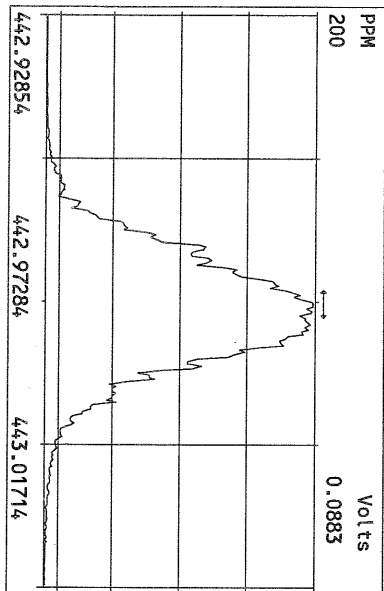
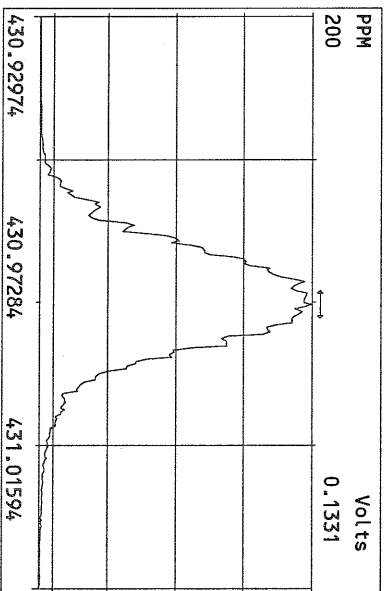
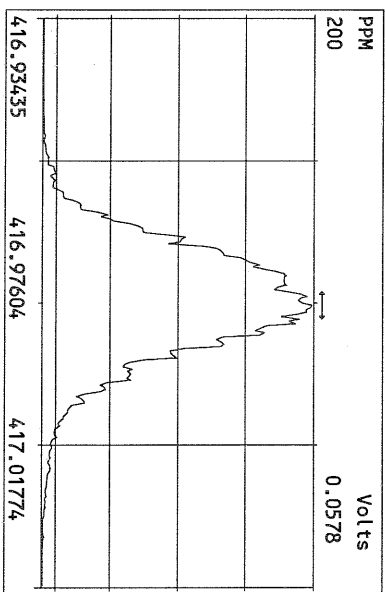
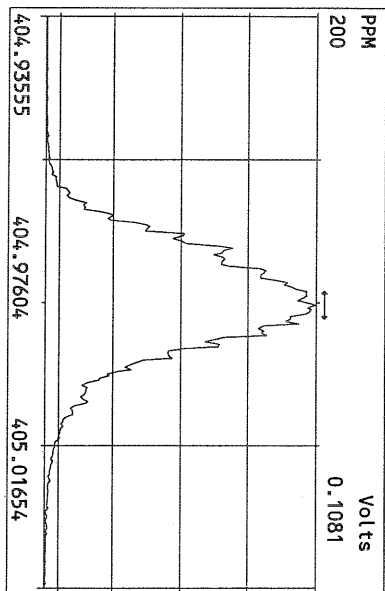
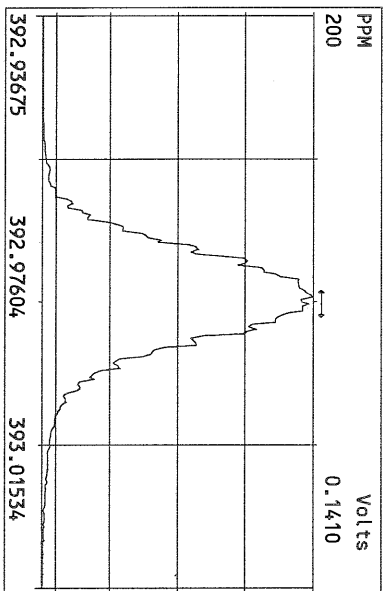
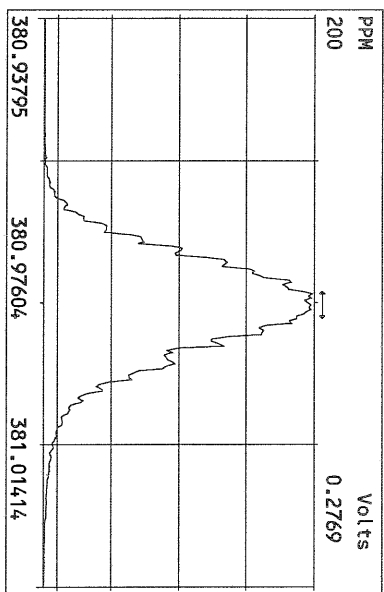
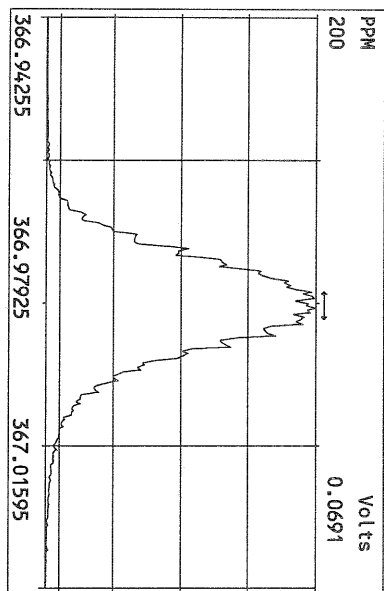


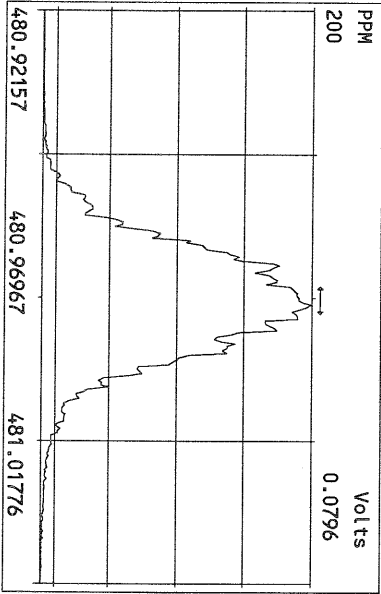
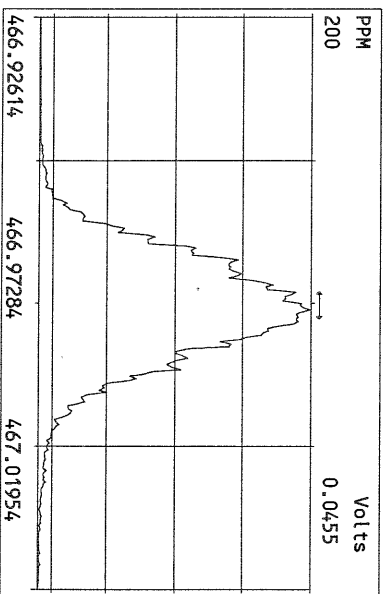
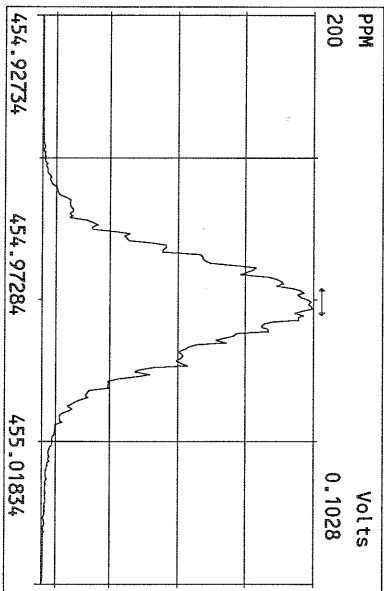
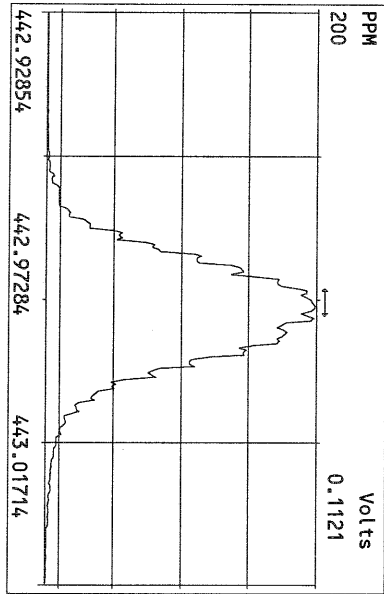
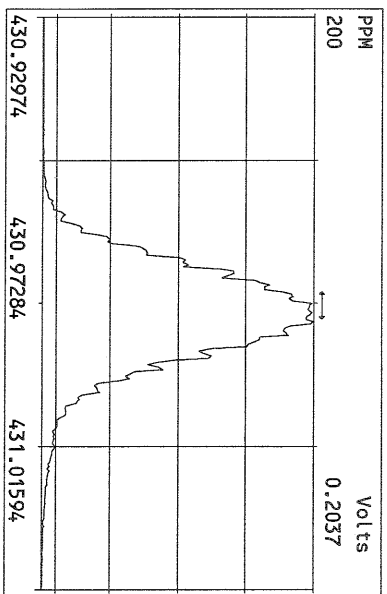
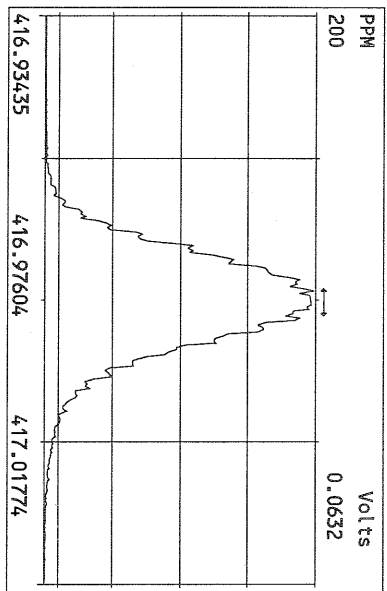
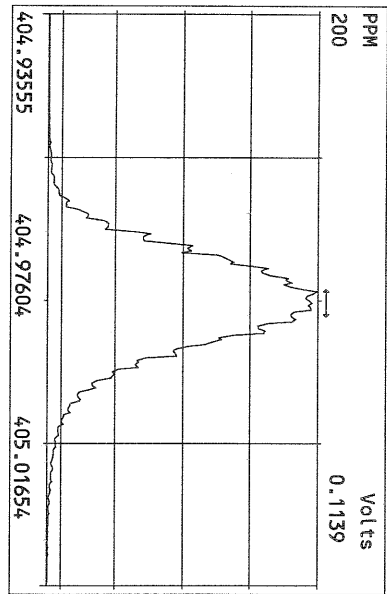
File:15SEP10N #1-347 Acq:16-SEP-2010 07:58:57 GC EI+ Voltage SIR Autospec-Utima  
 513.6775 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST091510N2 File Text:Frontier Analytical Laboratory

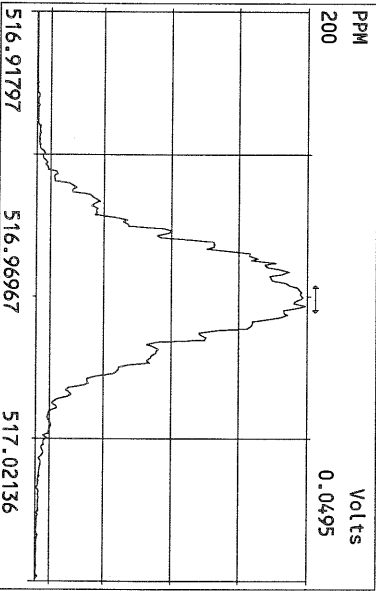
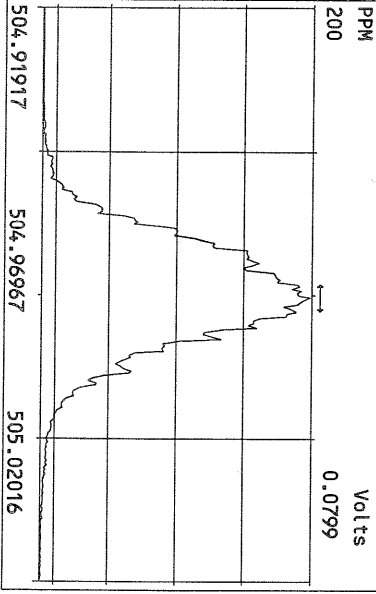
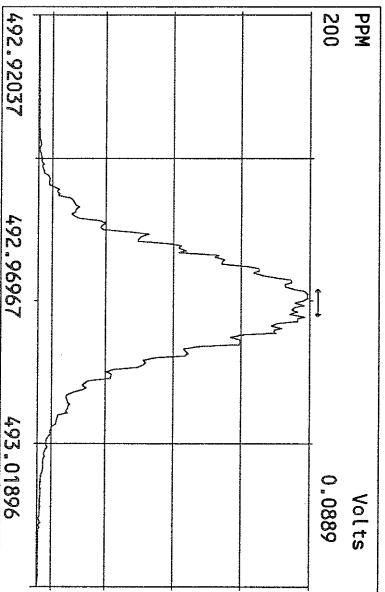
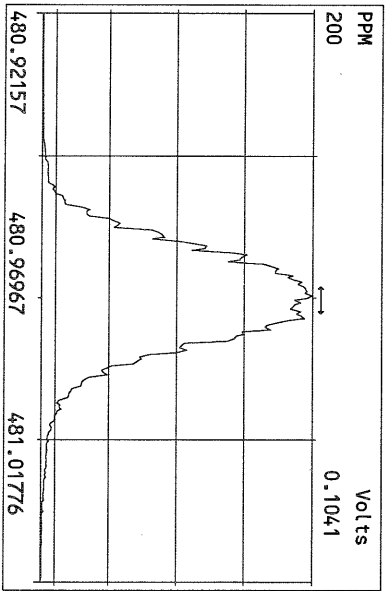
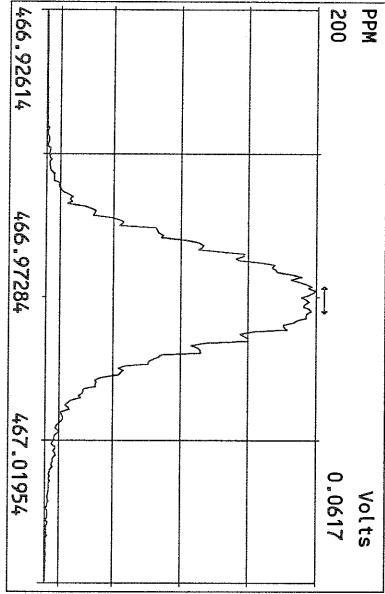
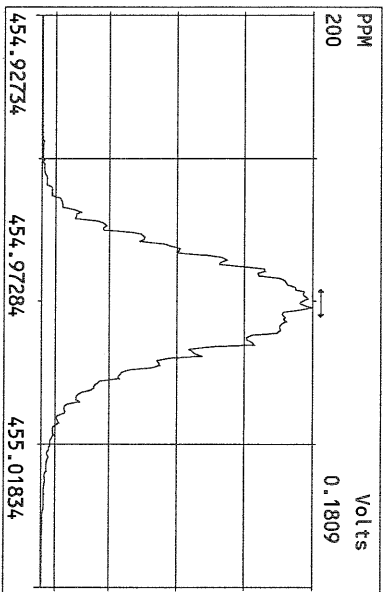
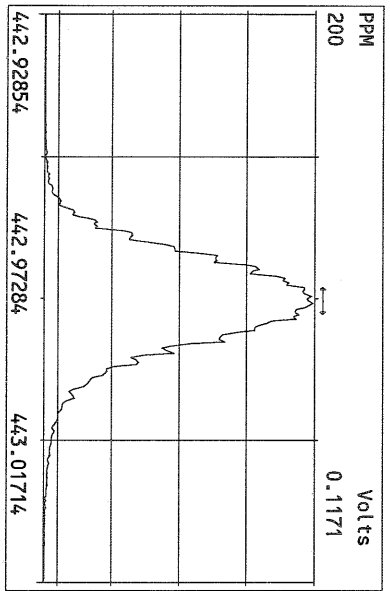
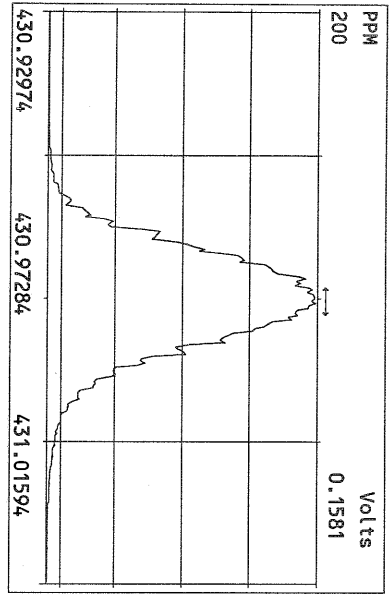












September 21, 2010

**FAL Project: 6332**

Ms. Sue Dunnihoo  
Analytical Resources Incorporated  
4611 South 134<sup>th</sup> Place  
Tukwila, WA 98168-3240

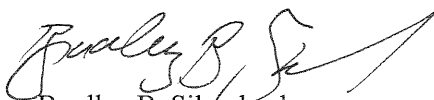
Dear Ms. Dunnihoo,

Enclosed are the results for Frontier Analytical Laboratory project **6332**. This corresponds to your **Lora Lakes Apts RI** project under ARI project number **RK86**. Three soil samples were received on 8/31/2010 in good condition. These samples were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. The 2005 World Health Organizations toxic equivalency factors were used to calculate the toxic equivalency (TEQs) on your report. Analytical Resources Incorporated requested a Level IV report and a turnaround time of fifteen business days for project **6332**.

The following Level IV report consists of an Analytical Data section, a Sample Receipt section, a Laboratory Raw Data section, and an Instrument Raw Data section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your original chain of custody, our sample login form and a sample photo. The Laboratory Raw Data section contains our project request sheet, a percent solids sheet, an extraction bench sheet, and the cleanup bench sheet. The Instrument Raw Data section contains three sub-sections; the sample results section, the initial calibration section and the continuing/ending calibration section. The sample results sub-section consists of the quantitation summary forms with chromatograms for all samples and QC. The initial calibration sub-section consists of the individual quantitation summary forms and chromatograms for each point of the initial calibration curve as well as an overall quantitation summary form of the initial calibration curve. The continuing/ending calibration sub-section consists of the quantitation summary forms and chromatograms for all beginning and ending calibration injections associated with the samples and QC. The Level I summary and the Electronic Data Deliverables (EDDs) have been sent to you via email. A compact disk of the Level IV data package has been sent to you via OnTrac overnight delivery. The enclosed results are specifically for the samples referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full.

If you have any questions regarding project **6332**, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,



Bradley B. Silverbush  
Director of Operations

## Frontier Analytical Laboratory

### Sample Tracking Log

FAL Project ID: **6332**

Received on: **08/31/2010**

Project Due: **09/23/2010** Storage: **R1**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
6332-001-SA	0	RK86	PSB18-2-4-082610	EPA 1613 D/F	Soil	08/26/2010	09:50 am	08/26/2011
6332-002-SA	0	RK86	PSB18-1.5-2-082610	EPA 1613 D/F	Soil	08/26/2010	10:05 am	08/26/2011
6332-003-SA	0	RK86	PSB18-0-0.5-082610	EPA 1613 D/F	Soil	08/26/2010	09:45 am	08/26/2011



EPA Method 1613  
PCDD/F



FAL ID: 6332-001-MB  
Client ID: Method Blank  
Matrix: Soil  
Batch No: X2107

Date Extracted: 09-14-2010  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 09-15-2010  
2005 WHO TEQ: 0.00

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.186		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.315		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.386		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.509		-	0.0586	Total TCDD	ND	0.186	
1,2,3,7,8,9-HxCDD	ND	0.450		-	0.0529	Total PeCDD	ND	0.315	
1,2,3,4,6,7,8-HpCDD	ND	0.626		-	0.0954	Total HxCDD	ND	0.509	
OCDD	ND	1.74		-	0.154	Total HpCDD	ND	0.626	
2,3,7,8-TCDF	ND	0.130		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.255		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.266		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.295		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.302		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.334		-	0.0341				
1,2,3,7,8,9-HxCDF	ND	0.331		-	0.0387	Total TCDF	ND	0.130	
1,2,3,4,6,7,8-HpCDF	ND	0.467		-	0.0418	Total PeCDF	ND	0.266	
1,2,3,4,7,8,9-HpCDF	ND	0.565		-	0.0429	Total HxCDF	ND	0.334	
OCDF	ND	1.01		-	0.105	Total HpCDF	ND	0.565	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	80.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	94.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	79.3	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	80.1	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	77.3	23.0 - 140	
13C-OCDD	69.4	17.0 - 157	
13C-2,3,7,8-TCDF	79.3	24.0 - 169	
13C-1,2,3,7,8-PeCDF	87.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	83.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	81.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	77.0	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	73.1	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	78.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	67.1	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	77.5	26.0 - 138	
13C-OCDF	75.4	17.0 - 157	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 82.2 35.0 - 197

Analyst: 

Date: 9/16/10

Reviewed By: DN

Date: 9/20/10

EPA Method 1613  
PCDD/F



FAL ID: 6332-001-OPR  
Client ID: OPR  
Matrix: Soil  
Batch No: X2107

Date Extracted: 09-14-2010  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: ng/ml

Acquired: 09-15-2010  
2005 WHO TEQ: NA

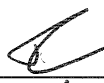
Compound	Conc	QC Limits	Qual
2,3,7,8-TCDD	9.86	6.70 - 15.8	
1,2,3,7,8-PeCDD	51.7	35.0 - 71.0	
1,2,3,4,7,8-HxCDD	49.5	35.0 - 82.0	
1,2,3,6,7,8-HxCDD	50.7	38.0 - 67.0	
1,2,3,7,8,9-HxCDD	51.2	32.0 - 81.0	
1,2,3,4,6,7,8-HpCDD	49.9	35.0 - 70.0	
OCDD	102	78.0 - 144	
2,3,7,8-TCDF	8.82	7.50 - 15.8	
1,2,3,7,8-PeCDF	45.9	40.0 - 67.0	
2,3,4,7,8-PeCDF	46.8	34.0 - 80.0	
1,2,3,4,7,8-HxCDF	44.6	36.0 - 67.0	
1,2,3,6,7,8-HxCDF	45.2	42.0 - 65.0	
2,3,4,6,7,8-HxCDF	44.6	35.0 - 78.0	
1,2,3,7,8,9-HxCDF	45.2	39.0 - 65.0	
1,2,3,4,6,7,8-HpCDF	47.9	41.0 - 61.0	
1,2,3,4,7,8,9-HpCDF	48.6	39.0 - 69.0	
OCDF	89.9	63.0 - 170	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	74.8	20.0 - 175	
13C-1,2,3,7,8-PeCDD	89.5	21.0 - 227	
13C-1,2,3,4,7,8-HxCDD	78.4	21.0 - 193	
13C-1,2,3,6,7,8-HxCDD	76.8	25.0 - 163	
13C-1,2,3,4,6,7,8-HpCDD	74.0	26.0 - 166	
13C-OCDD	64.7	13.0 - 198	
13C-2,3,7,8-TCDF	79.4	22.0 - 152	
13C-1,2,3,7,8-PeCDF	84.2	21.0 - 192	
13C-2,3,4,7,8-PeCDF	83.5	13.0 - 328	
13C-1,2,3,4,7,8-HxCDF	76.4	19.0 - 202	
13C-1,2,3,6,7,8-HxCDF	72.7	21.0 - 159	
13C-2,3,4,6,7,8-HxCDF	70.8	22.0 - 176	
13C-1,2,3,7,8,9-HxCDF	75.9	17.0 - 205	
13C-1,2,3,4,6,7,8-HpCDF	60.8	21.0 - 158	
13C-1,2,3,4,7,8,9-HpCDF	76.8	20.0 - 186	
13C-OCDF	69.1	13.0 - 198	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	77.3	31.0 - 191	
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- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst:   
Date: 9/16/10

Reviewed By: DN  
Date: 9/20/10

EPA Method 1613  
PCDD/F



FAL ID: 6332-001-SA  
Client ID: PSB18-2-4-082610  
Matrix: Soil  
Batch No: X2107

Date Extracted: 09-14-2010  
Date Received: 08-31-2010  
Amount: 4.99 g  
% Solids: 94.36

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 09-16-2010  
2005 WHO TEQ: 0.0349

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.224		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.319		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.358		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.453		-	0.0586	Total TCDD	ND	0.224	
1,2,3,7,8,9-HxCDD	ND	0.406		-	0.0529	Total PeCDD	ND	0.319	
1,2,3,4,6,7,8-HpCDD	2.18	-	J	0.0218	0.0954	Total HxCDD	ND	0.453	
OCDD	19.9	-		0.00597	0.154	Total HpCDD	4.65	-	J
2,3,7,8-TCDF	ND	0.156		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.218		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.233		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.365		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.361		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.387		-	0.0341				
1,2,3,7,8,9-HxCDF	ND	0.347		-	0.0387	Total TCDF	ND	0.156	
1,2,3,4,6,7,8-HpCDF	0.670	-	J	0.00670	0.0418	Total PeCDF	ND	0.233	
1,2,3,4,7,8,9-HpCDF	ND	0.368		-	0.0429	Total HxCDF	ND	0.387	
OCDF	1.57	-	J	0.000471	0.105	Total HpCDF	1.35	-	J

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	91.1	25.0 - 164	
13C-1,2,3,7,8-PeCDD	108	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	92.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	86.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	92.0	23.0 - 140	
13C-OCDD	84.8	17.0 - 157	
13C-2,3,7,8-TCDF	89.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	99.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	86.6	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	80.0	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.7	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	90.9	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	79.2	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	93.1	26.0 - 138	
13C-OCDF	88.8	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 93.7 35.0 - 197

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: [Signature]  
Date: 9/16/10

Reviewed By: DN  
Date: 9/20/10

EPA Method 1613  
PCDD/F



FAL ID: 6332-002-SA  
Client ID: PSB18-1.5-2-082610  
Matrix: Soil  
Batch No: X2107

Date Extracted: 09-14-2010  
Date Received: 08-31-2010  
Amount: 5.05 g  
% Solids: 94.04

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 09-16-2010  
2005 WHO TEQ: 0.0782

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.320		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.328		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.400		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.507		-	0.0586	Total TCDD	ND	0.320	
1,2,3,7,8,9-HxCDD	ND	0.454		-	0.0529	Total PeCDD	ND	0.328	
1,2,3,4,6,7,8-HpCDD	5.09	-		0.0509	0.0954	Total HxCDD	ND	0.726	
OCDD	41.0	-		0.0123	0.154	Total HpCDD	10.7	-	
2,3,7,8-TCDF	ND	0.216		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.306		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.307		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.259		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.261		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.295		-	0.0341				
1,2,3,7,8,9-HxCDF	ND	0.287		-	0.0387	Total TCDF	ND	0.216	
1,2,3,4,6,7,8-HpCDF	1.37	-	J	0.0137	0.0418	Total PeCDF	ND	0.307	
1,2,3,4,7,8,9-HpCDF	ND	0.473		-	0.0429	Total HxCDF	0.882	-	J
OCDF	4.24	-	J	0.00127	0.105	Total HpCDF	3.89	-	J

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	58.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	72.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	62.4	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	58.6	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	60.8	23.0 - 140	
13C-OCDD	55.7	17.0 - 157	
13C-2,3,7,8-TCDF	58.4	24.0 - 169	
13C-1,2,3,7,8-PeCDF	67.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	67.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	61.5	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	57.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	56.0	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	60.9	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	50.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	60.7	26.0 - 138	
13C-OCDF	59.1	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 59.7 35.0 - 197

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst:

Date: 9/16/10

Reviewed By:

Date: 9/20/10



**SUBCONTRACTOR ANALYSIS REQUEST**  
 CUSTODY TRANSFER 08/27/10



ARI Project: RK86

Laboratory: Frontier Analytical Laboratory  
 Lab Contact: BRAD SILVERBUSH  
 Lab Address: 5172 Hillside Circle  
 El Dorado Hills, CA 95762  
 Phone: 916-934-0900  
 Fax: 916-934-0999

*6332  
D.C.*

ARI Client: Floyd-Snider  
 Project ID: Lora Lakes Apts RI  
 ARI PM: Sue Dunnihoo  
 Phone: 206-695-6207  
 Fax: 206-695-6201

Analytical Protocol: In-house  
 Special Instructions:

Requested Turn Around:  
 Email Results (Y/N): **Yes**

**Limits of Liability.** Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses
10-21723-RK86C	PSB18-2-4-082610	08/26/10 09:50	Soil		Dioxin/Furans 1613(Sub)
Special Instructions: None					
10-21724-RK86D	PSB18-1.5-2-082610	08/26/10 10:05	Soil		Dioxin/Furans 1613(Sub)
Special Instructions: None					
10-21725-RK86E	PSB18-0-0.5-082610	08/26/10 09:45	Soil		Dioxin/Furans 1613(Sub)
Special Instructions: None					

Carrier <i>UPS</i>	Airbill <i>128324950149150946</i>	Date <i>8/30/10</i>
Relinquished by <i>[Signature]</i>	Company <i>ARI</i>	Date <i>8/30/10</i>
Received by <i>[Signature]</i>	Company <i>Frontier Analytical</i>	Date <i>8/31/10</i>
		Time <i>1425</i>
		Time <i>951</i>

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 6332

Client:	Analytical Resources Inc. Sue Dunninghoo
Client Project ID:	RK86
Date Received:	08/31/2010
Time Received:	09:51 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	3
Duplicates:	0
Storage Location:	R1

Method of Delivery:	UPS
Tracking Number:	1Z83269S0149150946
Shipping Container Received Intact	Yes
Custody seals(s) present?	Yes
Custody seals(s) intact?	Yes
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	08/26/2011
Adequate Sample Volume	Yes
Anomalies or additional comments:	
L4 DATA PACKAGE & EDD.	

ARI Project: H286



ARI Client: Floyd-Snyder  
Project: 111 Lord Lakes Act's RI  
ARI FMT Sue Rumbhoh  
Phone: 206-895-6207  
Fax: 306-695-6201

Requested Turn Around:  
Initial Results (Y/N): **Yes**

Expected to perform all requested services following Standard Operating Procedures. The total liability of ARI, its officers, agents or employees in connection with the requested services, the agreement entered into or any provision to the contrary in any agreement between ARI and the Subcontractor.

Sampled	Matrix	Batteries	Analyses
08/26/10 09:50	Soil	-	Dioxin/Furans 1613
08/26/10 10:05	Soil	-	Dioxin/Furans 1613
08/26/10 09:45	Soil	-	Dioxin/Furans 1613

Handwritten notes:  
PSB18-1.5-2-082610  
PSB18-0.5-5-082610  
Analysis of 9/30/10  
PSB18-1.5-2-082610  
PSB18-0.5-5-082610  
PSB18-1.5-2-082610  
PSB18-0.5-5-082610

Frontier Analytical Laboratory  
**6332-001-SA**

Client ID: PSB18-1.5-2-082610  
Storage: R1 (01 of 01)

Client: PS  
Sample: PSB18-1.5-2-082610  
Date: 8/26/10 Time: 09:50  
Analysis: Dioxin  
Comments:

Frontier Analytical Laboratory  
**6332-002-SA**

Client ID: PSB18-1.5-2-082610  
Storage: R1 (01 of 01)

Client: PS  
Sample: PSB18-1.5-2-082610  
Date: 8/26/10 Time: 10:05  
Analysis: Dioxin  
Comments:

Frontier Analytical Laboratory  
**6332-003-SA**

Client ID: PSB18-0.5-5-082610  
Storage: R1 (01 of 01)

Client: PS  
Sample: PSB18-0.5-5-082610  
Date: 8/26/10 Time: 09:50  
Analysis: Metals  
Comments:



**Frontier Analytical Laboratory**  
**PROJECT REQUEST SHEET**

Project #: 6332                      Sample #: 1 - 3                      Client Manager: BS  
Client: Analytical Resources Inc. Sue Dunning                      Hold Time: 08/26/2011  
Matrix: Soil                      Extraction Batch: 2107                      Due Date: 09/23/2010  
Method: EPA 1613 D/F                      Storage: R1  
SOP: SOPs: EP2A Rev.7 IP2A Rev.8

**COMMENTS/INSTRUCTIONS:**

L4 2. EDD

Results: 6332  
633203 TDPF  
Extract/s located in box: "NJNP"

Instrument:  
DB5 FA/3  
DB225 \_\_\_\_\_  
DB1 \_\_\_\_\_  
Other \_\_\_\_\_

Standards: 6330  
Conf std's: 6327



# EXTRACTION SHEET

Project #: 6332      Extraction Date: 2010-09-14      Extraction Chemist: BS

Method/Analysis:      EPA 1613 D/F

Procedure:      SOX/SDS

Solvent: Toluene

Sample ID	Wet wt. (g/L)	Dry wt. (g/L)	IS		NS		CSS	
			Amt: 10.0uL ID: 100511A Vial: 2 Chemist/Witness/Date		Amt: 10.0uL ID: 100511B Vial: 2 Chemist/Witness/Date		Amt: 10.0uL ID: 100511C Vial: 2 Chemist/Witness/Date	
2107-001-0001-MB	(5.00g)	(5.00g)	MP	9.14.10	N/A		MP	9.15.10
2107-001-0001-OPR	(5.00g)	(5.00g)			MP	9.14.10		
6332-001-0001-SA	5.29g	4.99g			N/A			
6332-002-0001-SA	5.37g	5.05g						
6332-003-0001-SA	5.25g	5.08g						

6330

AX-21 Charcoal Cleaned	031210	Acetone	50180	Acid Alumina	08623DJ	Hexane	50143
Hydrochloric Acid	B08505	Methanol	101438	Methylene Chloride (DCM)	50132	Silica Gel	TA1593034
Sodium Hydroxide	9265	Sodium Sulfate	49009905	Sulfuric Acid	101570	Tetradecane	081394
Toluene	101346	Water	50193	C-18 Empore Discs	320505	Cyclohexane	48151

Comments:

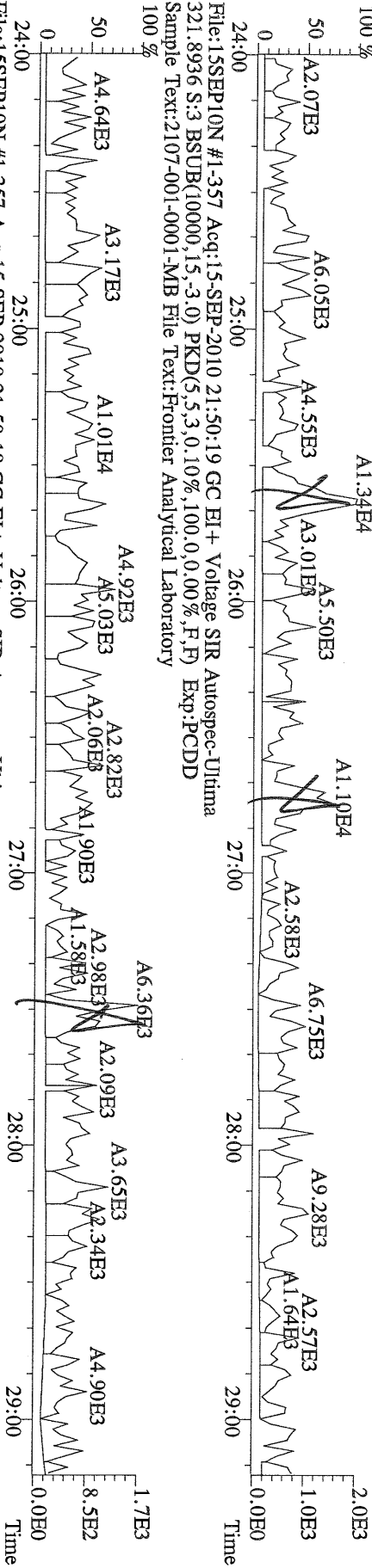


Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	Rec	#Hom
2,3,7,8-TCDD	*	* n	NotFnd	1.11	*		2.50	425	407	0.186	
1,2,3,7,8-PeCDD	*	* n	NotFnd	1.10	*		2.50	569	492	0.315	
1,2,3,4,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	819	596	0.386	
1,2,3,6,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	819	596	0.509	
1,2,3,7,8,9-HxCDD	*	* n	NotFnd	1.36	*		2.50	819	596	0.450	
1,2,3,4,6,7,8-HpCDD	*	* n	NotFnd	1.45	*		2.50	706	689	0.626	
OCDD	*	* n	NotFnd	1.43	*		2.50	846	885	1.74	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	481	796	0.130	
1,2,3,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	535	573	0.255	
2,3,4,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	535	573	0.266	
1,2,3,4,7,8-HxCDF	*	* n	NotFnd	0.93	*		2.50	684	542	0.295	
1,2,3,6,7,8-HxCDF	*	* n	NotFnd	0.82	*		2.50	684	542	0.302	
2,3,4,6,7,8-HxCDF	*	* n	NotFnd	0.92	*		2.50	684	542	0.334	
1,2,3,7,8,9-HxCDF	*	* n	NotFnd	1.00	*		2.50	684	542	0.331	
1,2,3,4,6,7,8-HpCDF	*	* n	NotFnd	1.39	*		2.50	528	689	0.467	
1,2,3,4,7,8,9-HpCDF	*	* n	NotFnd	1.36	*		2.50	528	689	0.565	
OCDF	*	* n	NotFnd	0.79	*		2.50	576	585	1.01	
13C-2,3,7,8-TCDD	1.83e+07	0.84 y	27:29	1.02	323					80.9	
13C-1,2,3,7,8-PeCDD	1.76e+07	1.73 y	33:19	0.84	379					94.8	
13C-1,2,3,4,7,8-HxCDD	1.45e+07	1.28 y	38:41	1.07	317					79.3	
13C-1,2,3,6,7,8-HxCDD	1.38e+07	1.27 y	38:52	1.01	321					80.1	
13C-1,2,3,4,6,7,8-HpCDD	1.12e+07	0.95 y	44:18	0.86	309					77.3	
13C-OCDD	1.29e+07	0.98 y	49:53	0.55	555					69.4	
13C-2,3,7,8-TCDF	2.90e+07	0.84 y	26:44	0.99	317					79.3	
13C-1,2,3,7,8-PeCDF	2.71e+07	1.69 y	31:35	0.84	351					87.8	
13C-2,3,4,7,8-PeCDF	2.50e+07	1.73 y	32:54	0.81	334					83.5	
13C-1,2,3,4,7,8-HxCDF	2.56e+07	0.46 y	37:18	1.85	325					81.2	
13C-1,2,3,6,7,8-HxCDF	3.32e+07	0.46 y	37:29	2.54	308					77.0	
13C-2,3,4,6,7,8-HxCDF	2.50e+07	0.46 y	38:26	2.01	292					73.1	
13C-1,2,3,7,8,9-HxCDF	2.69e+07	0.47 y	39:53	2.03	312					78.0	
13C-1,2,3,4,6,7,8-HpCDF	1.27e+07	0.45 y	42:23	1.11	269					67.1	
13C-1,2,3,4,7,8,9-HpCDF	1.06e+07	0.47 y	45:13	0.80	310					77.5	
13C-OCDF	2.77e+07	0.93 y	50:16	1.08	603					75.4	
37Cl-2,3,7,8-TCDD	4.98e+06		27:30	0.69	131					82.2	
13C-1,2,3,4-TCDD	2.21e+07	0.85 y	26:54	-	9.83						
13C-1,2,3,4-TCDF	3.68e+07	0.86 y	25:39	-	10.2						
13C-1,2,3,7,8,9-HxCDD	1.70e+07	1.24 y	39:18	-	12.3						
Total Tetra-Dioxins	*		NotFnd	1.11	*		2.50	425	407	0.186	0
Total Penta-Dioxins	*		NotFnd	1.10	*		2.50	569	492	0.315	0
Total Hexa-Dioxins	*		NotFnd	1.37	*		2.50	819	596	0.509	0
Total Hepta-Dioxins	*		NotFnd	1.45	*		2.50	706	689	0.626	0
Total Tetra-Furans	*		NotFnd	1.50	*		2.50	481	796	0.130	0
1st Fn. Tot Penta-Furans	*		NotFnd	0.94	*		2.50	535	573	0.266	PeCDF 0
Total Penta-Furans	*		NotFnd	0.94	*		2.50	535	573	0.266	* 0
Total Hexa-Furans	*		NotFnd	0.91	*		2.50	684	542	0.334	0
Total Hepta-Furans	*		NotFnd	1.38	*		2.50	528	689	0.565	0

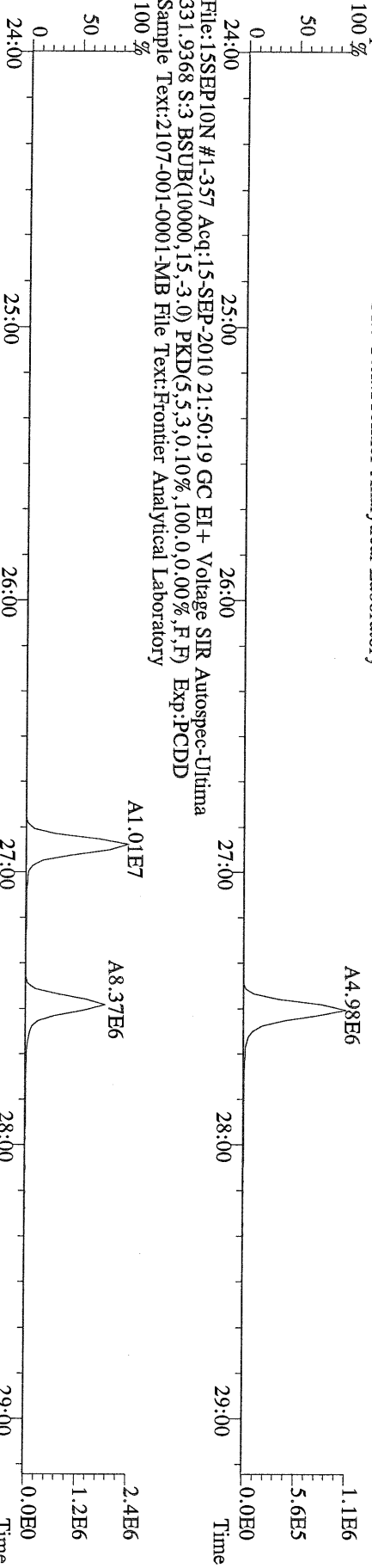
Analyst: 

Date: 9/16/10

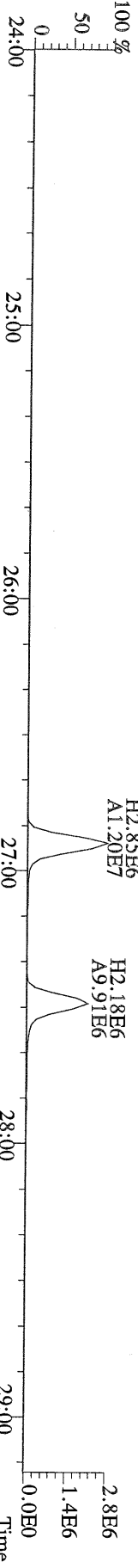
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 319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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 100 %



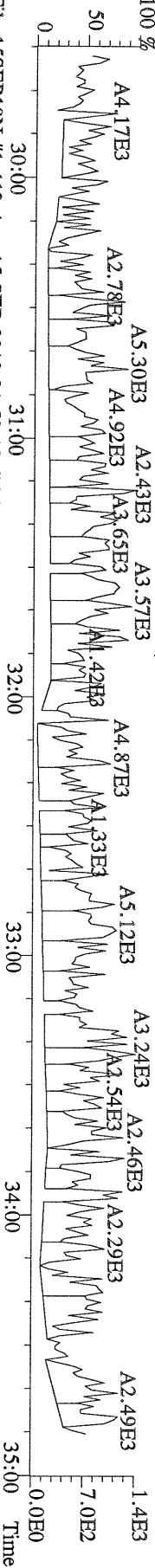
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 327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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 100 %



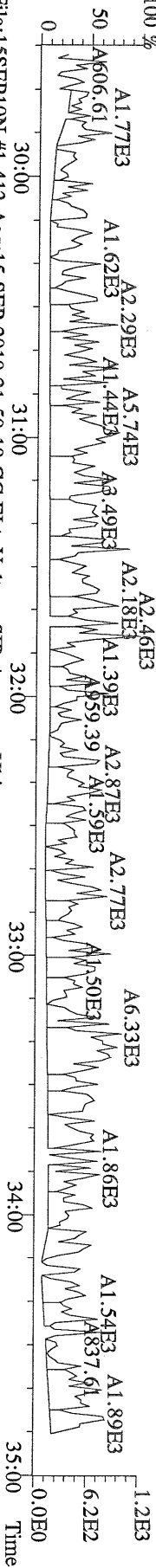
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 333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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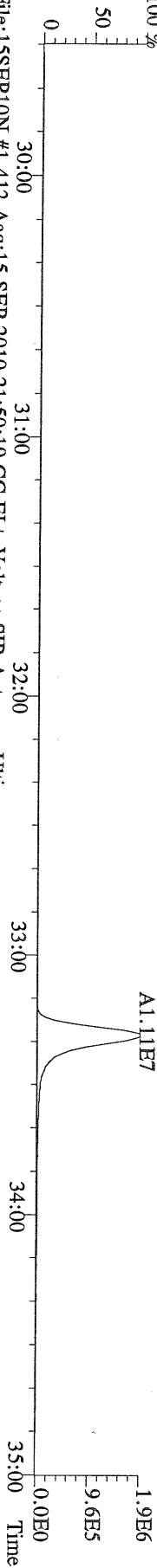
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 355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:PCDD  
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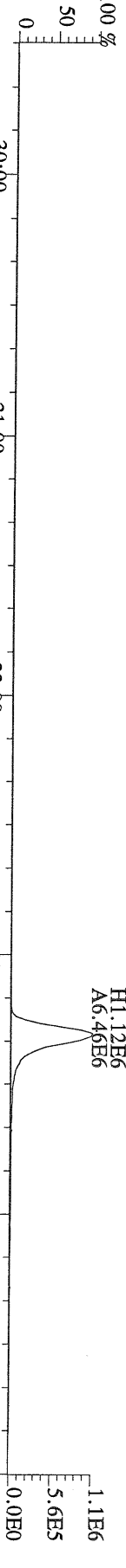
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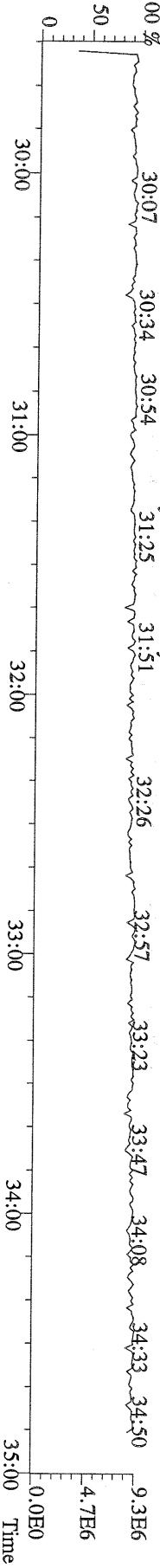
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 367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:PCDD  
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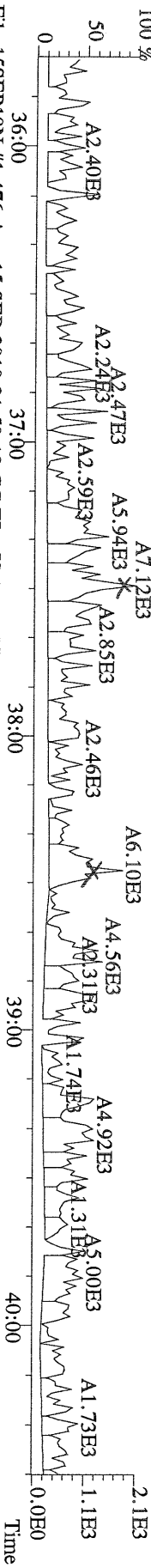
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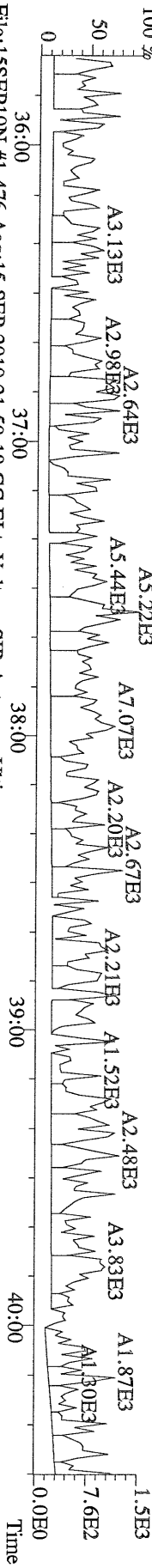
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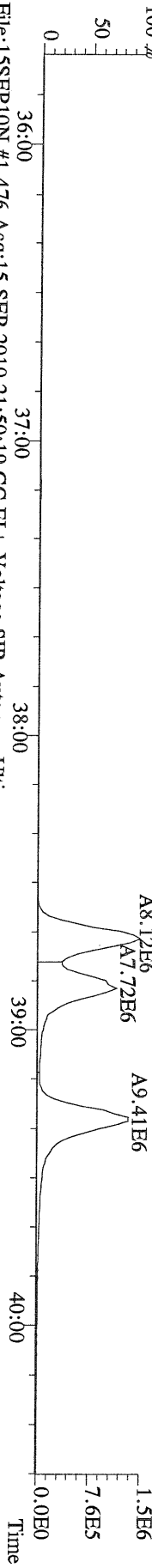
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 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
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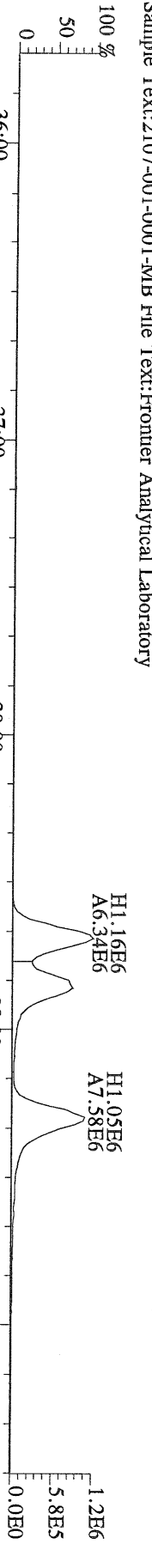
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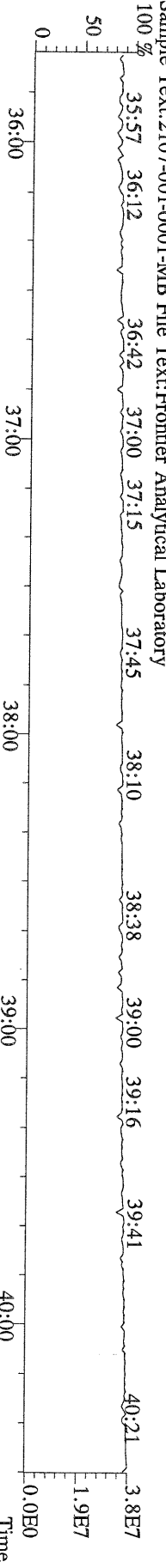
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 401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



File:15SEP10N #1-476 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Ultima  
 403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp.:PCDD  
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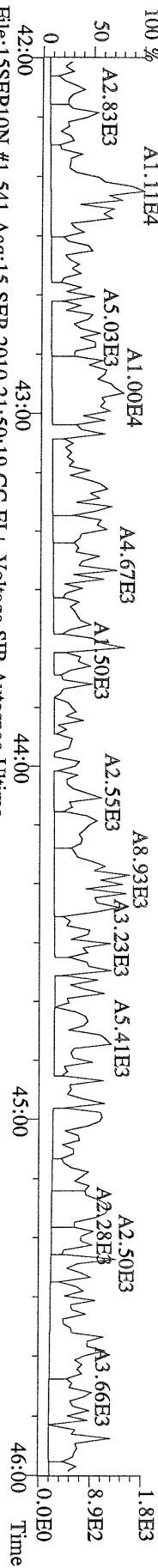


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 380.9760 S:3 F:3 Exp.:PCDD  
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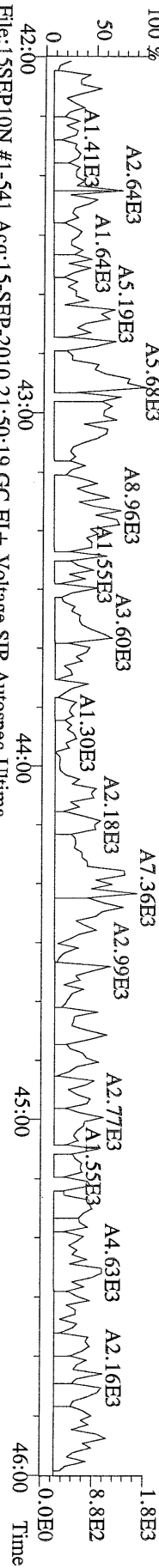




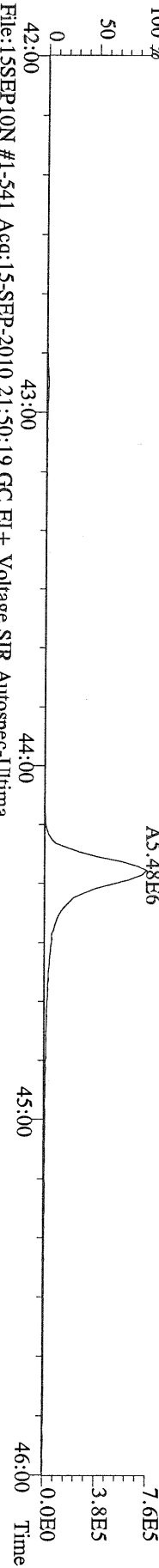
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 423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



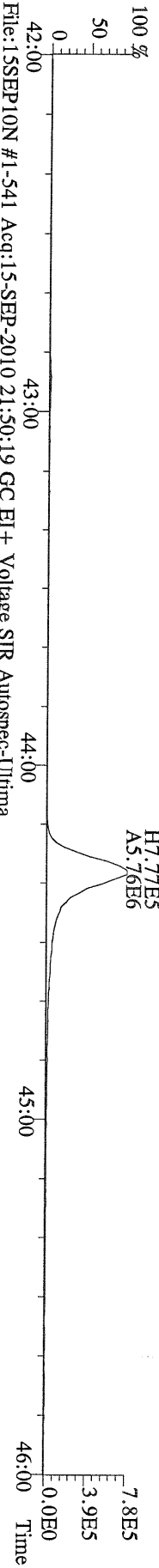
File:15SEBP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
 425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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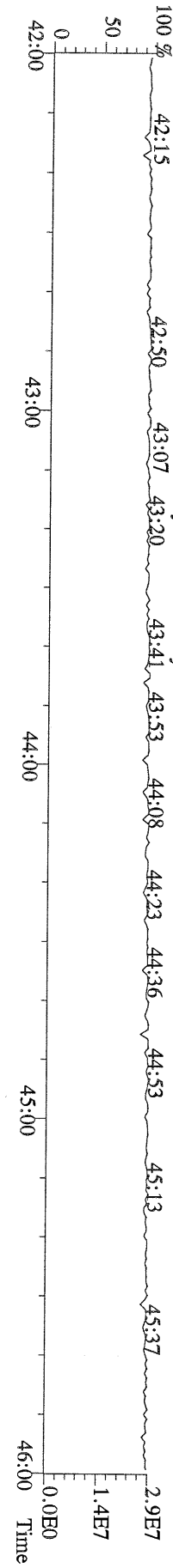
File:15SEBP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
 435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



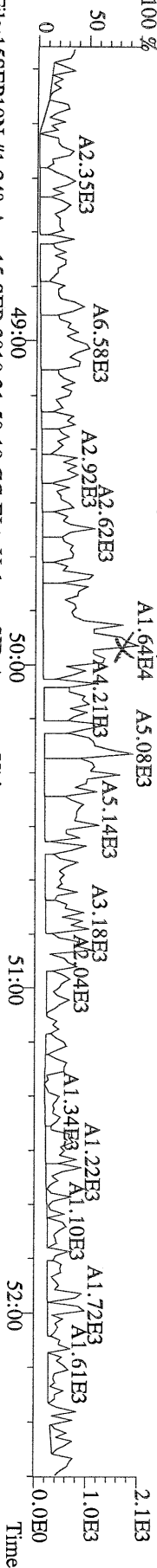
File:15SEBP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
 437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



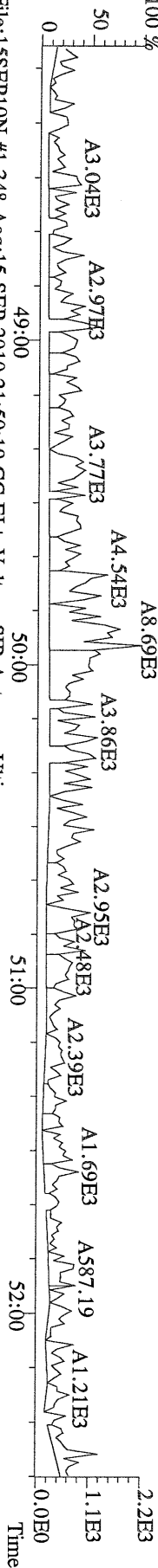
File:15SEBP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
 430.9728 S:3 F:4 Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



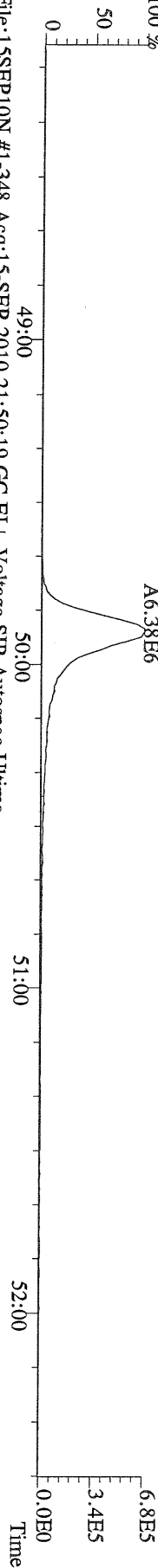
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



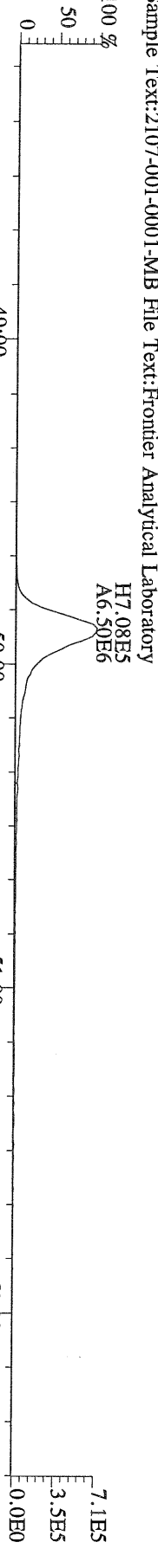
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



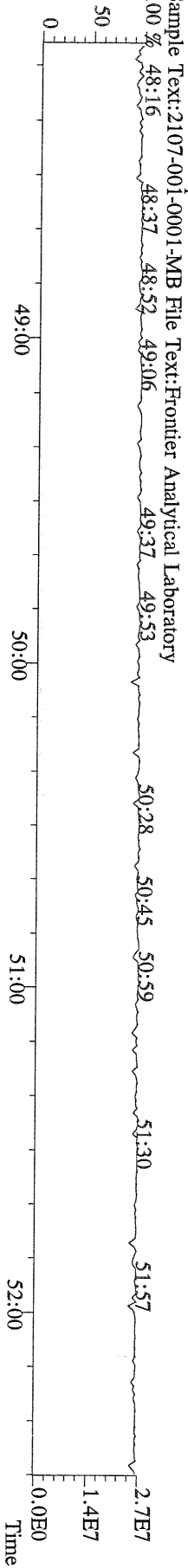
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 469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



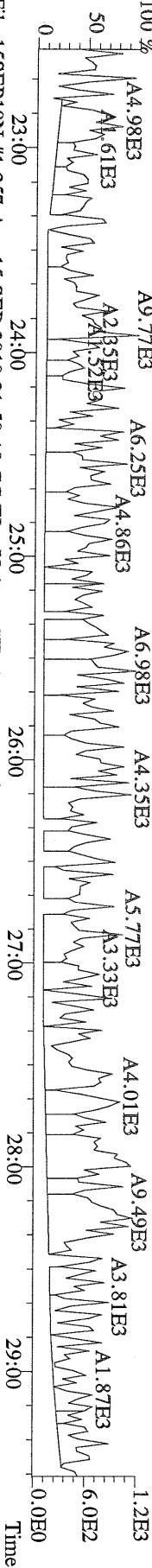
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



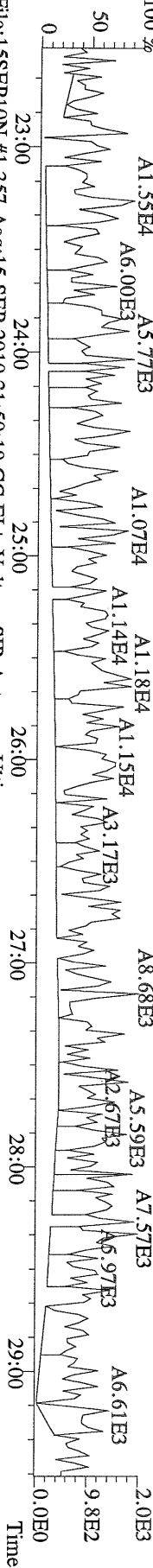
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 454.9728 S:3 F:5 Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



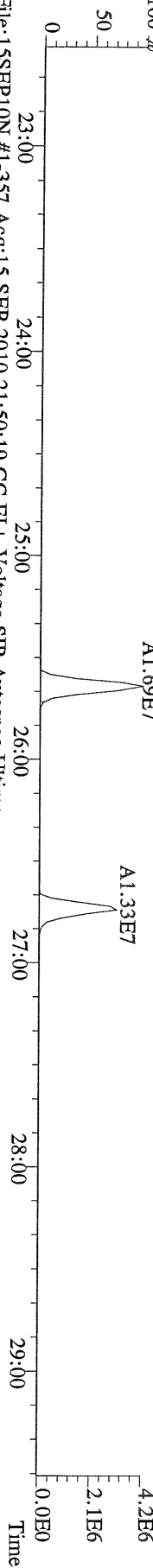
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



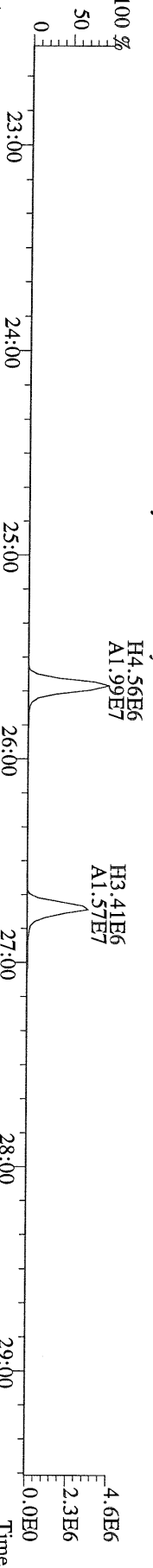
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



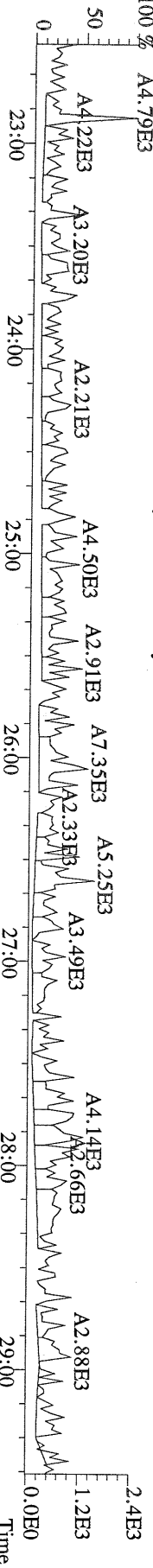
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



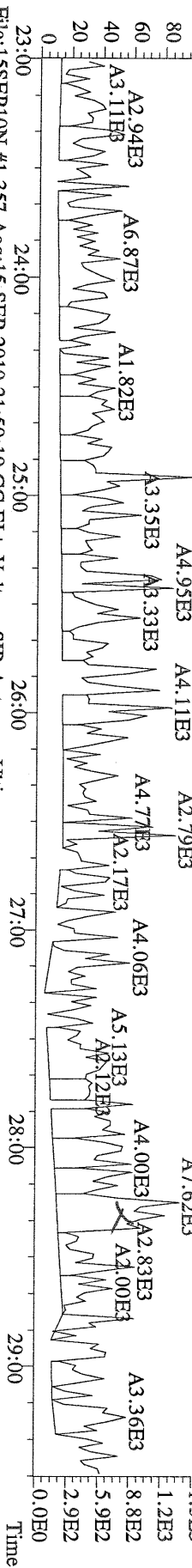
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



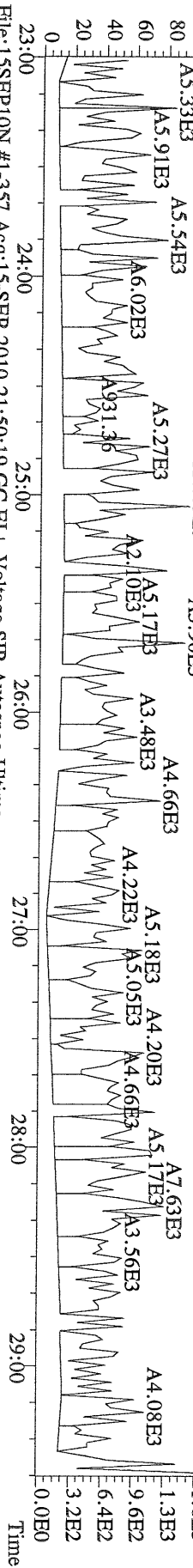
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



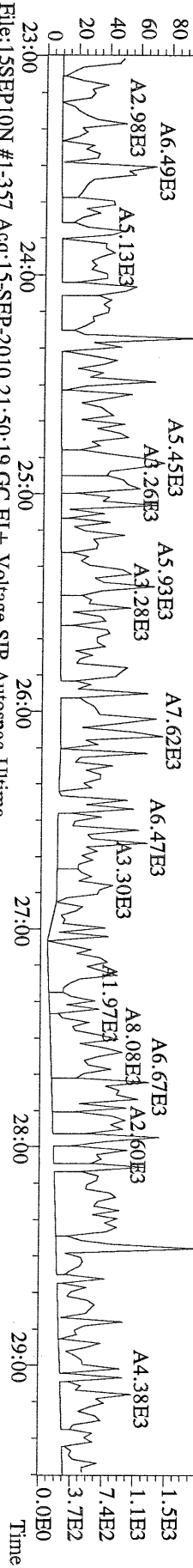
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



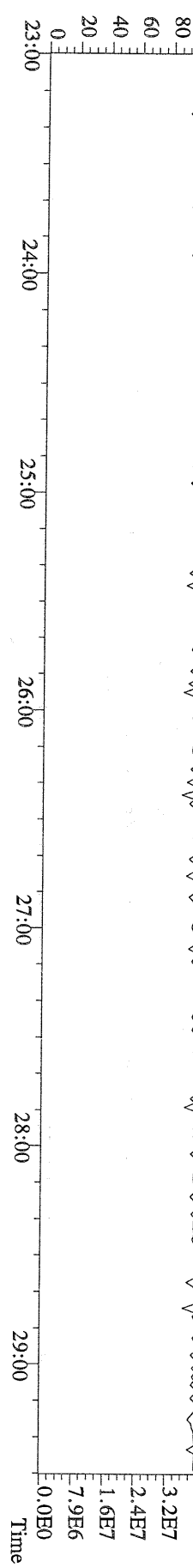
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



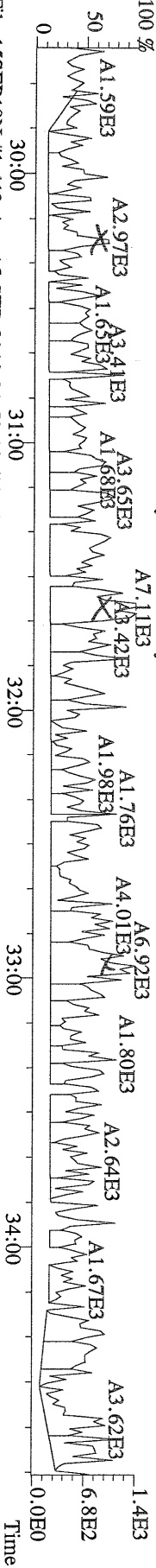
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



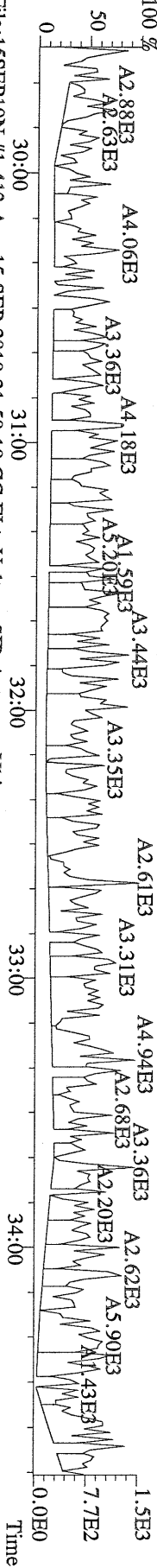
File:15SEP10N #1-357 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 330.9792 S:3 Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



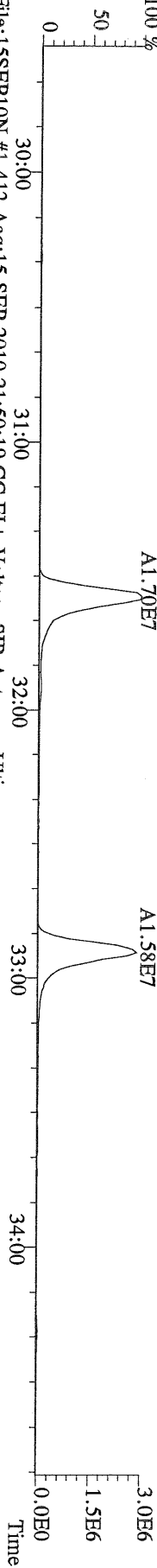
File:15SEP10N #1-412 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



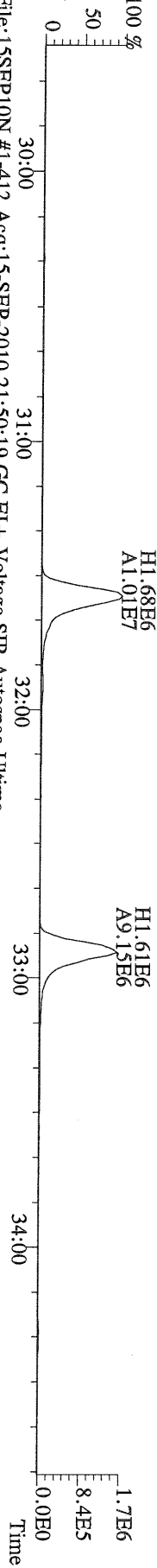
File:15SEP10N #1-412 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



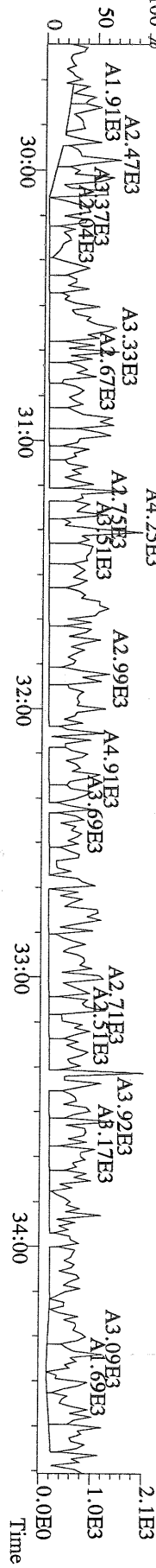
File:15SEP10N #1-412 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



File:15SEP10N #1-412 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory

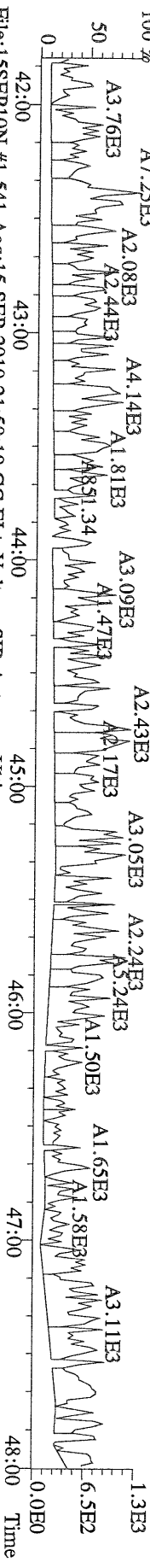


File:15SEP10N #1-412 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory

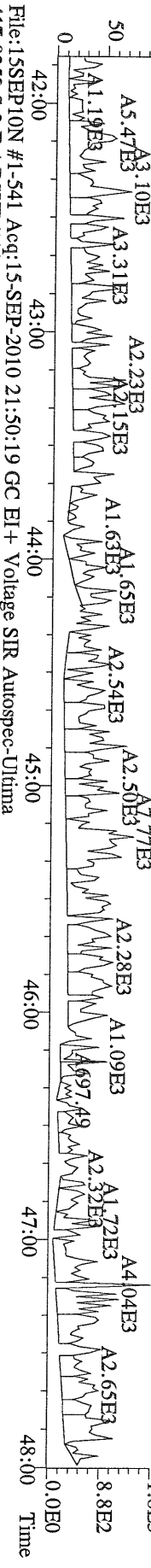




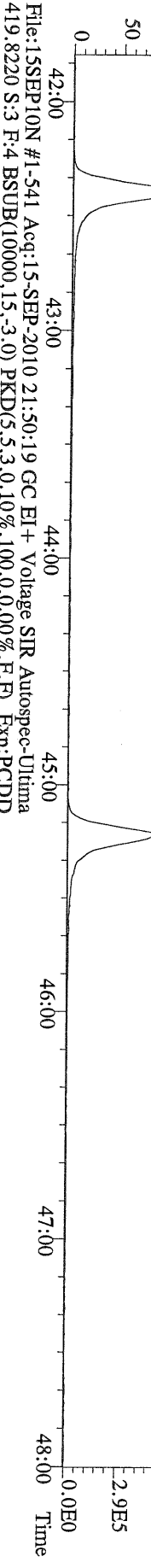
File:15SEP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



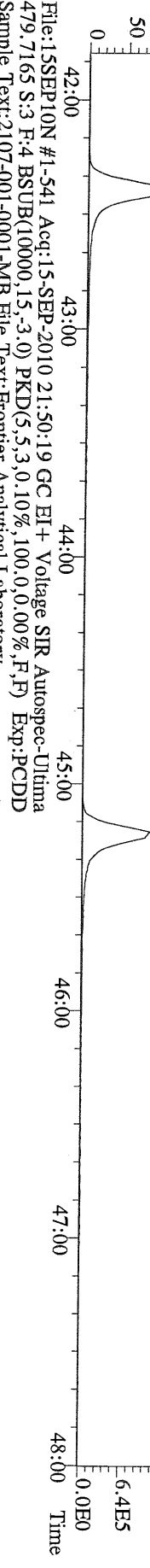
File:15SEP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
409.7788 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



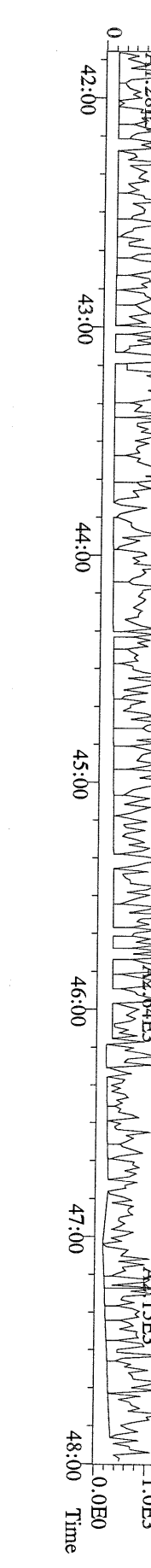
File:15SEP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



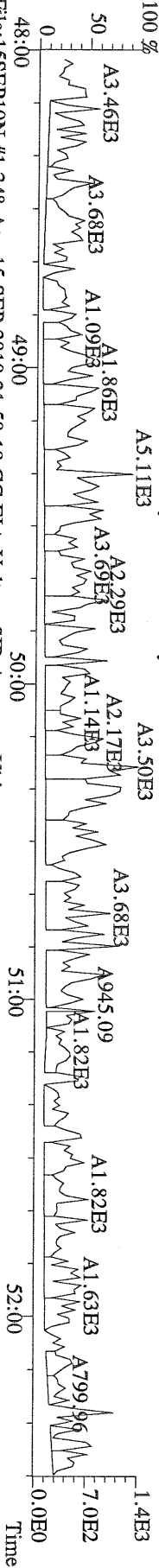
File:15SEP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



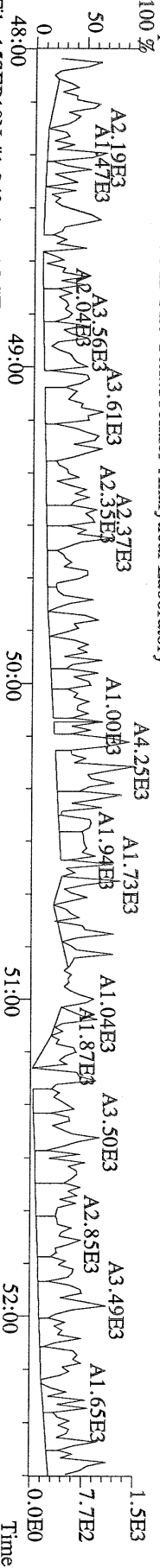
File:15SEP10N #1-541 Acq:15-SEP-2010 21:50:19 GC EI + Voltage SIR Autospec-Utima  
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



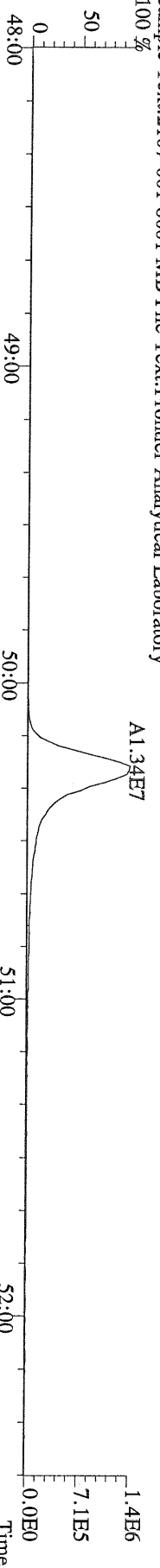
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



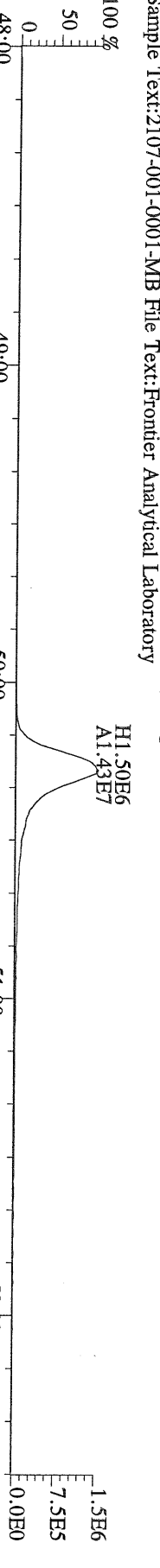
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 443.7398 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



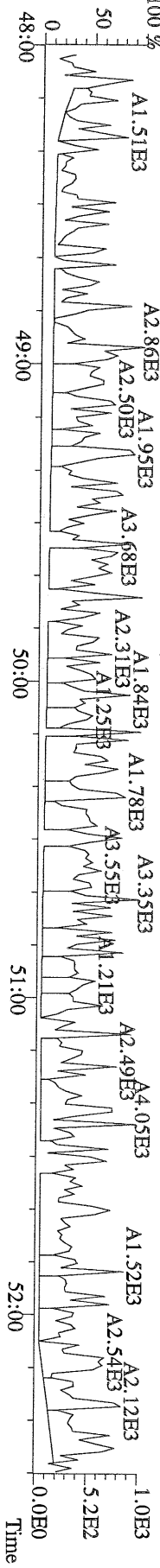
File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 455.7801 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory



File:15SEP10N #1-348 Acq:15-SEP-2010 21:50:19 GC EI+ Voltage SIR Autospec-Utima  
 513.6775 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:2107-001-0001-MB File Text:Frontier Analytical Laboratory





USEPA - ITD

FORM 8A  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:


Matrix (aqueous/solid/leachate): Soil OPR Data Filename: 15SEP10N Sam:2

Ext. Date: 9/14/10 Shift: Day Analysis Date: 15-SEP-10 20:55:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
NATIVE ANALYTES			
2,3,7,8-TCDD	10	9.86	6.70 - 15.8 ✓
1,2,3,7,8-PeCDD	50	51.7	35.0 - 71.0 ✓
1,2,3,4,7,8-HxCDD	50	49.5	35.0 - 82.0 ✓
1,2,3,6,7,8-HxCDD	50	50.7	38.0 - 67.0 ✓
1,2,3,7,8,9-HxCDD	50	51.2	32.0 - 81.0 ✓
1,2,3,4,6,7,8-HpCDD	50	49.9	35.0 - 70.0 ✓
OCDD	100	102	78.0 - 144 ✓
2,3,7,8-TCDF	10	8.82	7.50 - 15.8 ✓
1,2,3,7,8-PeCDF	50	45.9	40.0 - 67.0 ✓
2,3,4,7,8-PeCDF	50	46.8	34.0 - 80.0 ✓
1,2,3,4,7,8-HxCDF	50	44.6	36.0 - 67.0 ✓
1,2,3,6,7,8-HxCDF	50	45.2	42.0 - 65.0 ✓
2,3,4,6,7,8-HxCDF	50	44.6	35.0 - 78.0 ✓
1,2,3,7,8,9-HxCDF	50	45.2	39.0 - 65.0 ✓
1,2,3,4,6,7,8-HpCDF	50	47.9	41.0 - 61.0 ✓
1,2,3,4,7,8,9-HpCDF	50	48.6	39.0 - 69.0 ✓
OCDF	100	89.9	63.0 - 170 ✓

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613

Analyst: 

Date: 9/16/10

## USEPA - ITD

FORM 8B  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:      SAS No.:

Matrix (aqueous/solid/leachate): Soil      OPR Data Filename: 15SEP10N      Sam:2

Ext. Date: 9/14/10      Shift: Day      Analysis Date: 15-SEP-10      20:55:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	100	74.8	20.0 - 175 ✓
13C-1,2,3,7,8-PeCDD	100	89.5	21.0 - 227 ✓
13C-1,2,3,4,7,8-HxCDD	100	78.4	21.0 - 193 ✓
13C-1,2,3,6,7,8-HxCDD	100	76.8	25.0 - 163 ✓
13C-1,2,3,4,6,7,8-HpCDD	100	74.0	26.0 - 166 ✓
13C-OCDD	200	129	26.0 - 397 ✓
13C-2,3,7,8-TCDF	100	79.4	22.0 - 152 ✓
13C-1,2,3,7,8-PeCDF	100	84.2	21.0 - 192 ✓
13C-2,3,4,7,8-PeCDF	100	83.5	13.0 - 328 ✓
13C-1,2,3,4,7,8-HxCDF	100	76.4	19.0 - 202 ✓
13C-1,2,3,6,7,8-HxCDF	100	72.7	21.0 - 159 ✓
13C-2,3,4,6,7,8-HxCDF	100	70.8	22.0 - 176 ✓
13C-1,2,3,7,8,9-HxCDF	100	75.9	17.0 - 205 ✓
13C-1,2,3,4,6,7,8-HpCDF	100	60.8	21.0 - 158 ✓
13C-1,2,3,4,7,8,9-HpCDF	100	76.8	20.0 - 186 ✓
13C-OCDF	200	138	26.0 - 397 ✓
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	30.9	12.4 - 76.4 ✓


(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613  
Labeled compound concentration limits are based on required percent recovery of 25%-150%.

Analyst: 

Date: 9/16/10

FAL ID: 2107-001-0001-OPR      Filename: 15SEP10N      Sam:2      Acquired: 15-SEP-10 20:55:00      ICal: PCDDFAL3-8-23-10  
 Client ID: OPR      ConCal: ST091510N1      EndCal: ST091510N2  
 Results: 2107      GC Column: DB5      Amount: 1.000      NATO 1989 Tox: 97.1

Name	Resp	RA	RT	RRF	WHO 1989 Tox:		WHO 2005 Tox:		112 DL	
					Conc	Qual	123 Fac Noise-1	Noise-2		
2,3,7,8-TCDD	2.32e+06	0.81 y	27:31	1.11	9.86		2.50	-	-	*
1,2,3,7,8-PeCDD	1.19e+07	1.45 y	33:19	1.10	51.7		2.50	-	-	*
1,2,3,4,7,8-HxCDD	1.22e+07	1.40 y	38:42	1.37	49.5		2.50	-	-	*
1,2,3,6,7,8-HxCDD	1.15e+07	1.42 y	38:52	1.37	50.7		2.50	-	-	*
1,2,3,7,8,9-HxCDD	1.20e+07	1.36 y	39:18	1.36	51.2		2.50	-	-	*
1,2,3,4,6,7,8-HpCDD	9.79e+06	0.94 y	44:20	1.45	49.9		2.50	-	-	*
OCDD	1.11e+07	0.98 y	49:55	1.43	102		2.50	-	-	*
2,3,7,8-TCDF	4.57e+06	0.66 y	26:45	1.50	8.82		2.50	-	-	*
1,2,3,7,8-PeCDF	1.33e+07	1.55 y	31:36	0.94	45.9		2.50	-	-	*
2,3,4,7,8-PeCDF	1.30e+07	1.53 y	32:55	0.94	46.8		2.50	-	-	*
1,2,3,4,7,8-HxCDF	1.25e+07	1.23 y	37:19	0.93	44.6		2.50	-	-	*
1,2,3,6,7,8-HxCDF	1.46e+07	1.23 y	37:31	0.82	45.2		2.50	-	-	*
2,3,4,6,7,8-HxCDF	1.24e+07	1.22 y	38:27	0.92	44.6		2.50	-	-	*
1,2,3,7,8,9-HxCDF	1.48e+07	1.21 y	39:54	1.00	45.2		2.50	-	-	*
1,2,3,4,6,7,8-HpCDF	9.56e+06	1.05 y	42:24	1.39	47.9		2.50	-	-	*
1,2,3,4,7,8,9-HpCDF	8.67e+06	1.05 y	45:15	1.36	48.6		2.50	-	-	*
OCDF	1.12e+07	0.89 y	50:18	0.79	89.9		2.50	-	-	*
Rec										
13C-2,3,7,8-TCDD	2.12e+07	0.84 y	27:30	1.02	74.8					74.8
13C-1,2,3,7,8-PeCDD	2.08e+07	1.72 y	33:19	0.84	89.5					89.5
13C-1,2,3,4,7,8-HxCDD	1.79e+07	1.24 y	38:41	1.07	78.4					78.4
13C-1,2,3,6,7,8-HxCDD	1.66e+07	1.33 y	38:51	1.01	76.8					76.8
13C-1,2,3,4,6,7,8-HpCDD	1.35e+07	0.96 y	44:18	0.86	74.0					74.0
13C-OCDD	1.51e+07	1.00 y	49:54	0.55	129					64.7
13C-2,3,7,8-TCDF	3.45e+07	0.88 y	26:44	0.99	79.4					79.4
13C-1,2,3,7,8-PeCDF	3.08e+07	1.69 y	31:34	0.84	84.2					84.2
13C-2,3,4,7,8-PeCDF	2.96e+07	1.70 y	32:54	0.81	83.5					83.5
13C-1,2,3,4,7,8-HxCDF	3.01e+07	0.47 y	37:17	1.85	76.4					76.4
13C-1,2,3,6,7,8-HxCDF	3.92e+07	0.48 y	37:29	2.54	72.7					72.7
13C-2,3,4,6,7,8-HxCDF	3.04e+07	0.47 y	38:26	2.01	70.8					70.8
13C-1,2,3,7,8,9-HxCDF	3.29e+07	0.47 y	39:52	2.03	75.9					75.9
13C-1,2,3,4,6,7,8-HpCDF	1.44e+07	0.46 y	42:24	1.11	60.8					60.8
13C-1,2,3,4,7,8,9-HpCDF	1.32e+07	0.45 y	45:13	0.80	76.8					76.8
13C-OCDF	3.19e+07	0.96 y	50:16	1.08	138					69.1
37Cl-2,3,7,8-TCDD	5.87e+06		27:31	0.69	30.9					77.3
13C-1,2,3,4-TCDD	2.77e+07	0.85 y	26:54	-	61.6					
13C-1,2,3,4-TCDF	4.37e+07	0.86 y	25:39	-	60.4					
13C-1,2,3,7,8,9-HxCDD	2.13e+07	1.28 y	39:17	-	77.3					
Fac Noise-1    Noise-2    DL    #Hom										
Total Tetra-Dioxins	2.52e+06		23:27	1.11	10.7	2.50	-	-	*	26
Total Penta-Dioxins	1.19e+07		33:19	1.10	52.0	2.50	-	-	*	4
Total Hexa-Dioxins	3.58e+07		38:42	1.37	152	2.50	-	-	*	4
Total Hepta-Dioxins	1.02e+07		42:24	1.45	51.9	2.50	-	-	*	20
Total Tetra-Furans	4.74e+06		23:07	1.50	9.15	2.50	-	-	*	14
1st Fn. Tot Penta-Furans	1.49e+05		22:58	0.94	0.524	2.50	-	-	*	PeCDF 24
Total Penta-Furans	2.71e+07		30:20	0.94	95.6	2.50	-	-	*	96.2 14
Total Hexa-Furans	5.46e+07		35:25	0.91	181	2.50	-	-	*	17
Total Hepta-Furans	1.89e+07		42:24	1.38	100	2.50	-	-	*	24

Analyst: 

Date: 9/16/10