



GC Analyst Notes / Corrective Action Log

ARI Project ID: C. Phenols Curve Client ID: ARI

ARI SOP: 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): _____

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8
FID-9 ECD-1 ECD-3 ECD-4 ECD-5 ECD-6 ECD-7

Dates: Curve: 5/4/2011 Analysis Start: 5/4/2011

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	YES / NO
ICal Meets RF & %RSD Criteria?	YES / NO	LCS/LCSD Recovery In Control?	YES / NO
CCal Meets RF & %RSD Criteria?	YES / NO	Surrogate Recovery In Control?	YES / NO
Manual Integrations for ICal?	YES / NO	Manual Integrations for Samples?	YES / NO
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	YES / NO / NA

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

Col 2 Quadratic - forced : 2,4-DCP; 2,3,4-TCP & 2,3,4,5-TTCP
Col 1 Quadratic - forced : 2,4-DCP & 2,4,5-TCP

Additional Details on Reverse: Yes No

Analyst: [Signature] Date: 5/6/2011

Reviewer: [Signature] Date: 5/6/11

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecdl.i/PCP20110504.b/ical-2.b

ARI Job No.: PCPD Method: PCPB.m Instrument: ecdl.i Date: 04-MAY-2011

Time Filename LabID ClientId DF Manually Integrated Compounds

1356 0504A009.d PCPD 1 NO MANUAL INTEGRATION

1432 0504A010.d PCPA 1 NO MANUAL INTEGRATION

1508 0504A011.d PCPB 1 NO MANUAL INTEGRATION

1544 0504A012.d PCPC 1 NO MANUAL INTEGRATION

1621 0504A013.d PCPE 1 NO MANUAL INTEGRATION

1657 0504A014.d PCPF 1 NO MANUAL INTEGRATION

1733 0504A015.d PCP ICV 1 NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/ecdl.i/PCP20110504.b/ical-1.b

ARI Job No.: PCPD Method: PCP.m Instrument: ecdl.i Date: 04-MAY-2011

Time Filename LabID ClientId DF Manually Integrated Compounds

1356 0504A009.d PCPD 1 NO MANUAL INTEGRATION

1432 0504A010.d PCPA 1 2,3,4,5-Tetrachlorophenol,

1508 0504A011.d PCPB 1 NO MANUAL INTEGRATION

1544 0504A012.d PCPC 1 NO MANUAL INTEGRATION

1621 0504A013.d PCPE 1 NO MANUAL INTEGRATION

1657 0504A014.d PCPF 1 NO MANUAL INTEGRATION

1733 0504A015.d PCP ICV 1 NO MANUAL INTEGRATION

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecdl1.i/PCP20110504.b/PCPB.m
Batch File: /chem2/ecdl1.i/PCP20110504.b/ical-2.b
Inst ID: ecd1.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT07			
FILENAME:	0504A009	0504A010	0504A011	0504A012	0504A013	0504A014	0504A015	0504A015			
INJ.DATE:	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011			
INJ.TIME:	13:56	14:32	15:08	15:44	16:21	16:57	17:33	17:33			
Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 2,4-Dichlorophenol	13.820	13.824	13.821	13.821	13.821	13.820	13.822	13.820	13.750-13.890	13.821	0.001
2 2,4,6-Trichlorophenol	14.311	14.314	14.311	14.312	14.312	14.311	14.313	14.311	14.241-14.381	14.312	0.001
3 2,3,6-Trichlorophenol	15.557	15.560	15.557	15.558	15.558	15.559	15.560	15.557	15.487-15.627	15.558	0.001
4 2,4,5-Trichlorophenol	17.474	17.477	17.475	17.474	17.475	17.475	17.476	17.474	17.404-17.544	17.475	0.001
5 2,3,5,6-Tetrachlorophe	18.814	18.816	18.814	18.814	18.814	18.814	18.816	18.814	18.744-18.884	18.814	0.001
6 2,3,4-Trichlorophenol	19.023	19.025	19.024	19.023	19.023	19.023	19.024	19.023	18.953-19.093	19.024	0.001
7 2,4,6-Tribromophenol	20.936	20.937	20.936	20.936	20.937	20.937	20.938	20.936	20.866-21.006	20.937	0.001
8 2,3,4,5-Tetrachlorophe	22.080	22.082	22.081	22.080	22.081	22.081	22.081	22.080	22.010-22.150	22.081	0.001
9 Pentachlorophenol	22.967	22.968	22.967	22.967	22.967	22.968	22.968	22.967	22.897-23.037	22.968	0.001

Reviewer 1 AS Date: 5/6/2011
Reviewer 2 _____ Date: 5/6/11

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ecdl.i/PCP20110504.b/PCP.m
Batch File: /chem2/ecdl.i/PCP20110504.b/ical-1.b
Inst ID: ecdl.i

ID: RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT07	RT07	AVG RT	STD DEV	
FILENAME: 0504A009	0504A010	0504A011	0504A012	0504A013	0504A014	0504A015	0504A015	0504A015			
INJ.DATE: 04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011	04-MAY-2011			
INJ.TIME: 13:56	14:32	15:08	15:44	16:21	16:57	17:33	17:33	17:33			
Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 2,4-Dichlorophenol	12.555	12.560	12.557	12.556	12.556	12.556	12.557	12.555	12.485-12.625	12.557	0.002
2 2,4,6-Trichlorophenol	13.101	13.104	13.101	13.102	13.101	13.102	13.103	13.101	13.031-13.171	13.102	0.001
3 2,3,6-Trichlorophenol	14.097	14.100	14.097	14.097	14.097	14.097	14.099	14.097	14.027-14.167	14.098	0.001
4 2,4,5-Trichlorophenol	15.845	15.849	15.845	15.846	15.845	15.846	15.847	15.845	15.775-15.915	15.846	0.001
5 2,3,4-Trichlorophenol	17.351	17.355	17.352	17.352	17.352	17.351	17.354	17.351	17.281-17.421	17.353	0.001
6 2,3,5,6-Tetrachlorophe	17.153	17.155	17.153	17.153	17.153	17.154	17.155	17.153	17.083-17.223	17.154	0.001
7 2,4,6-Tribromophenol (18.596	18.598	18.596	18.596	18.596	18.596	18.598	18.596	18.526-18.666	18.597	0.001
8 2,3,4,5-Tetrachlorophe	20.155	20.157	20.156	20.155	20.155	20.155	20.157	20.155	20.085-20.225	20.156	0.001
9 Pentachlorophenol	20.997	21.000	20.998	20.998	20.998	20.999	20.999	20.997	20.927-21.067	20.998	0.001

Reviewer 1
Reviewer 2

Date: 5/6/2011
Date: 5/6/11

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-MAY-2011 13:56
 End Cal Date : 04-MAY-2011 16:57
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem2/ecdl.i/PCP20110504.b/PCPB.m
 Cal Date : 06-May-2011 10:29 aron
 Curve Type : Average

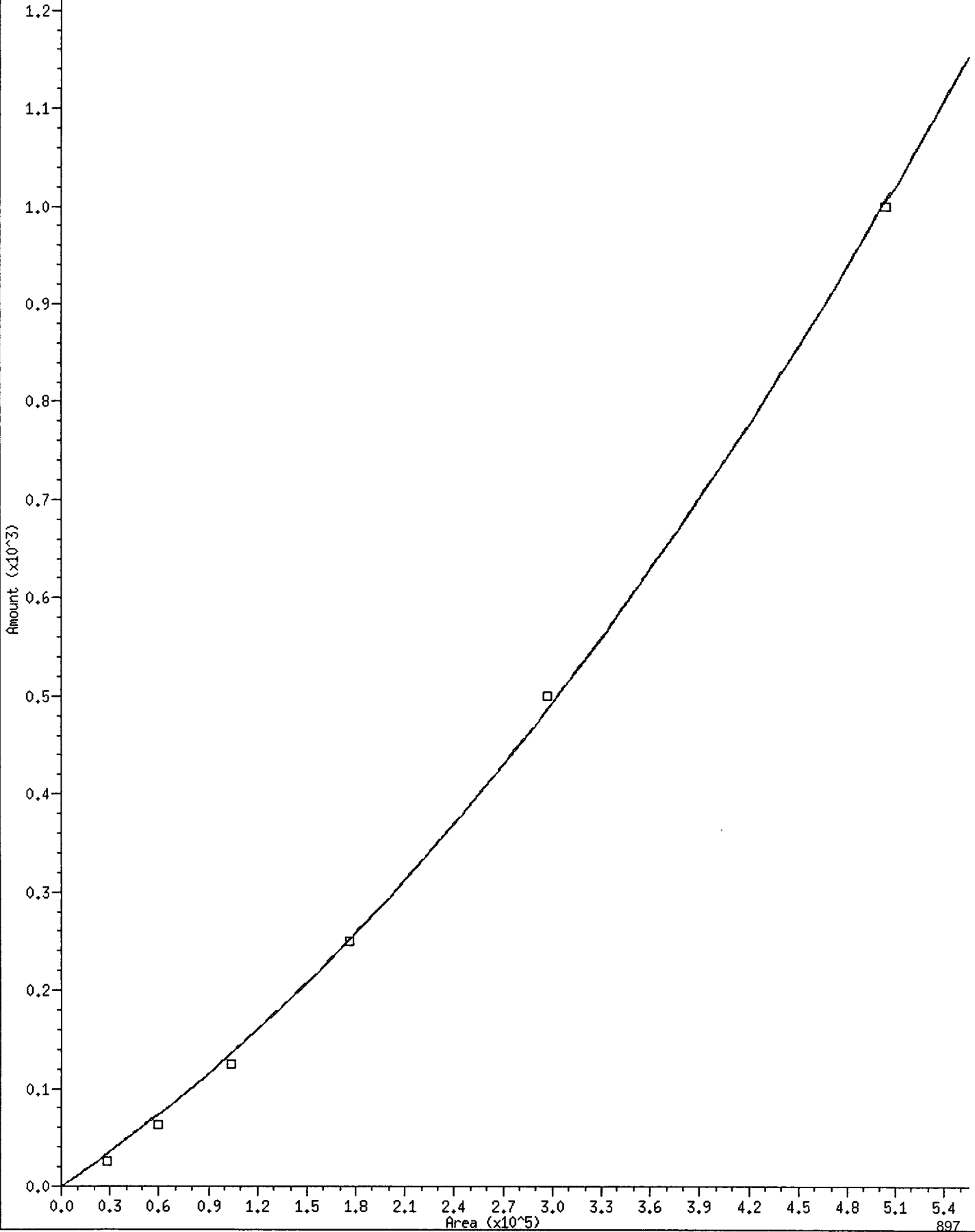
Calibration File Names:

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 Level 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A011.d
 Level 3: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A012.d
 Level 4: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A009.d
 Level 5: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A013.d
 Level 6: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A014.d

Compound	2.500 Level 1	6.250 Level 2	12.500 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	RRF	% RSD
1 2,4-Dichlorophenol ✓	1124	962	835	702	594	505	787	29.552 <-
2 2,4,6-Trichlorophenol	18173	16199	15364	13872	12302	11052	14494	18.054
3 2,3,6-Trichlorophenol	17538	16304	15194	13812	12444	10949	14373	17.093
4 2,4,5-Trichlorophenol	10375	9203	8375	7827	6888	5906	8096	19.784
5 2,3,5,6-Tetrachlorophenol	28198	24060	22545	20410	19063	17352	21938	17.734
6 2,3,4-Trichlorophenol ✓	13793	11382	10368	9080	8182	7194	10000	23.857 <-
8 2,3,4,5-Tetrachlorophenol ✓	21700	18848	16677	15352	13827	12342	16458	20.753 <-
9 Pentachlorophenol	35686	31408	28958	26156	24465	22293	28161	17.390
\$ 7 2,4,6-Tribromophenol (surr)	26776	22121	21311	19850	18746	17341	21024	15.703

1 2,4-Dichlorophenol

Curve Type: Quadratic By-Response
Amt = 0 + 0.001124478*Rsp + 1.715219e-09*Rsp^2
R^2: 0.9994256

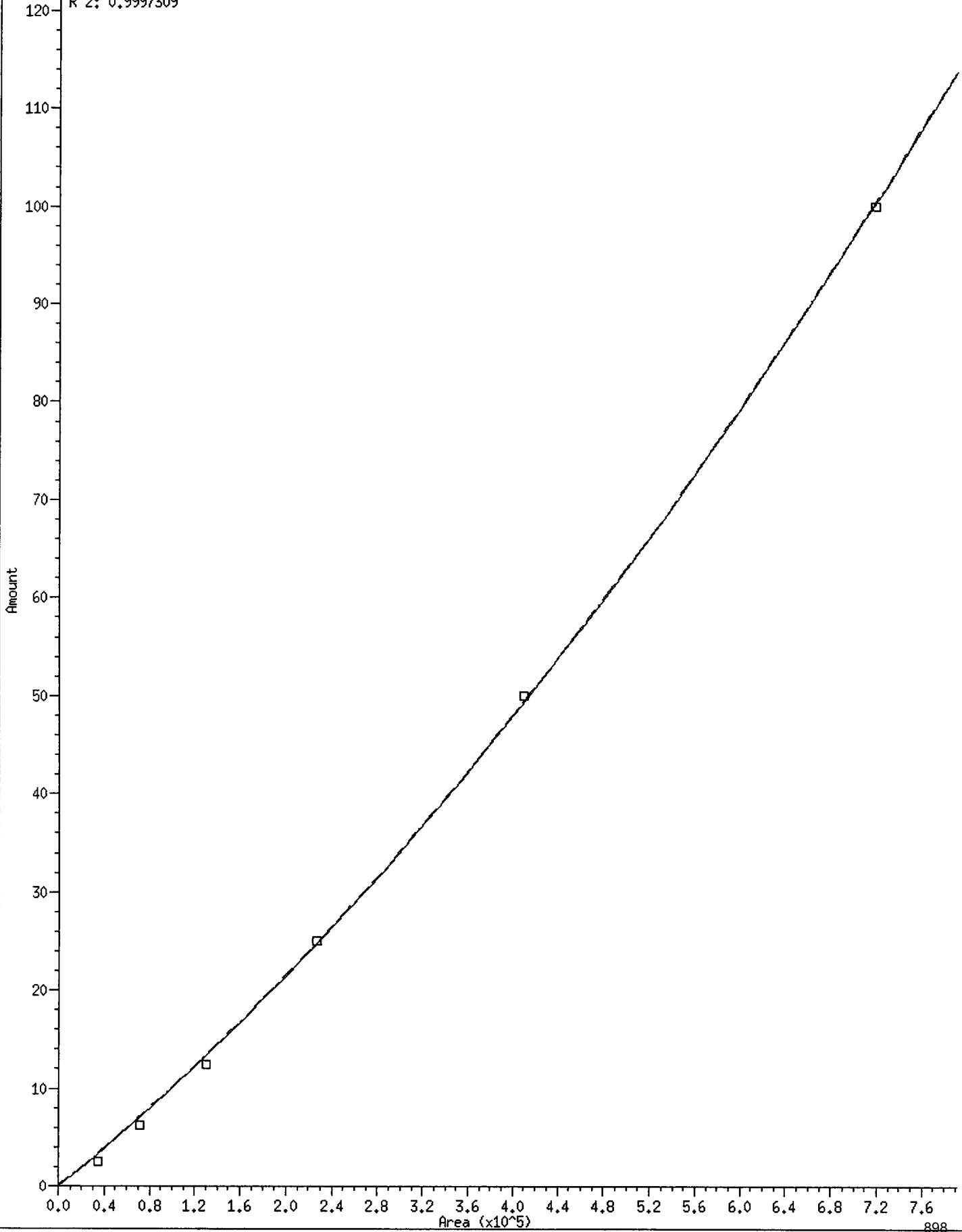


6 2,3,4-Trichlorophenol

Curve Type: Quadratic By-Response

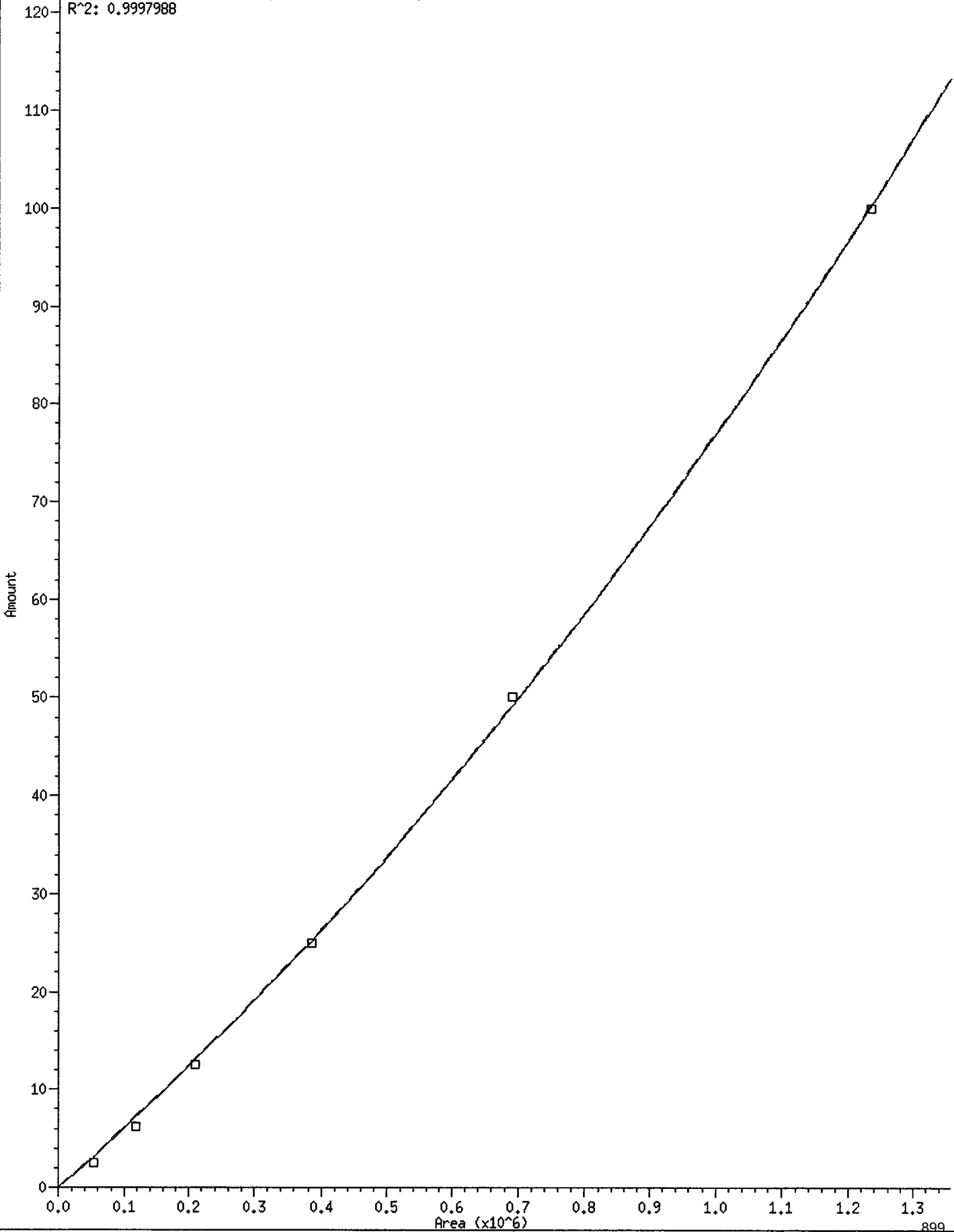
$$\text{Amt} = 0 + 0.00009518633 \times \text{Rsp} + 6.138516 \times 10^{-11} \times \text{Rsp}^2$$

R²: 0.9997309



8 2,3,4,5-Tetrachlorophenol

Curve Type: Quadratic By-Response
Amt = 0 + 0.00005835871*Rsp + 1.850823e-11*Rsp^2
R^2: 0.9997988



Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-MAY-2011 13:56
 End Cal Date : 04-MAY-2011 16:57
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem2/ecdl.i/PCP20110504.b/PCP.m
 Cal Date : 06-May-2011 10:50 aron
 Curve Type : Average

Calibration File Names:

Level 1: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A010.d
 Level 2: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A011.d
 Level 3: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A012.d
 Level 4: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A009.d
 Level 5: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A013.d
 Level 6: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A014.d

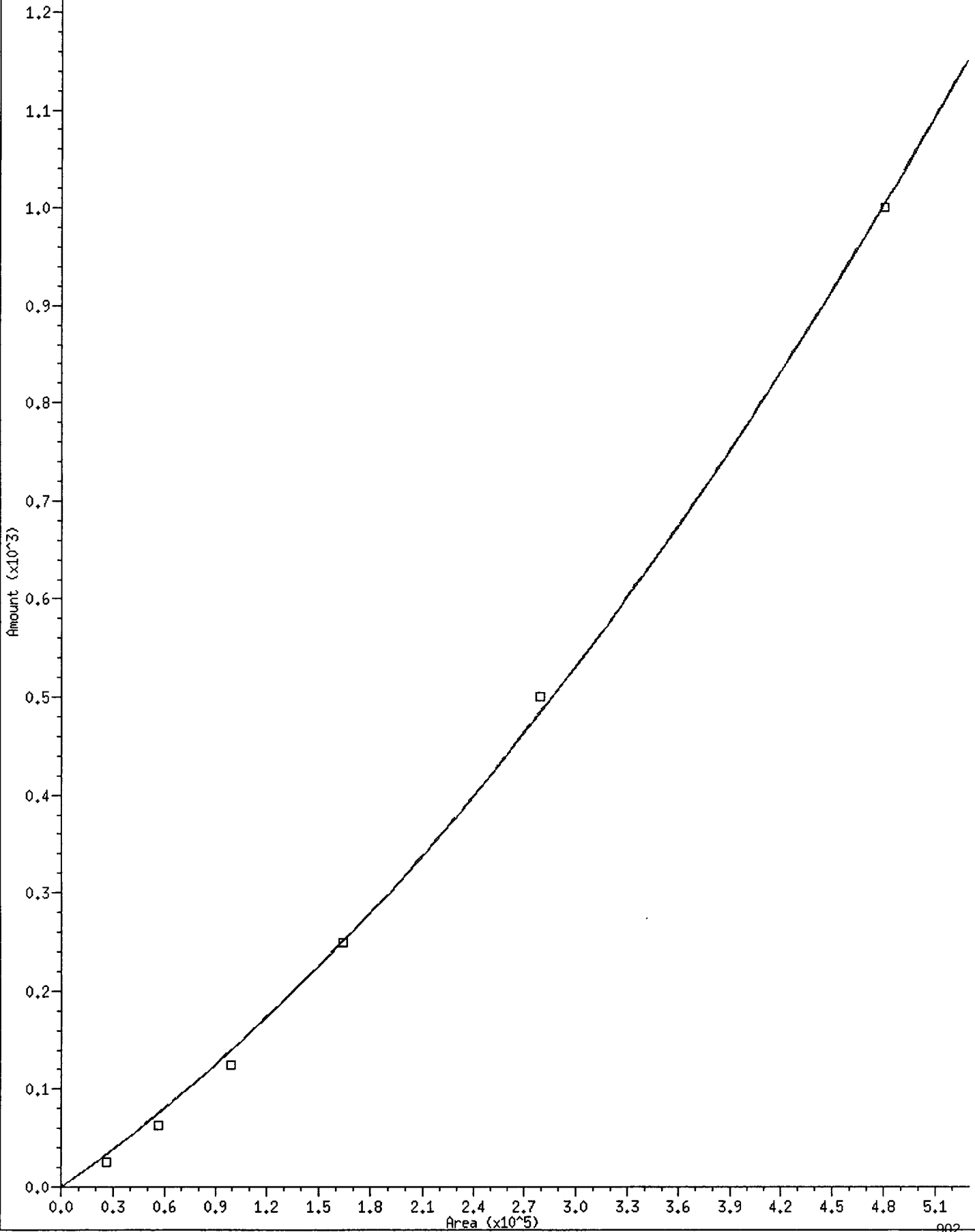
Compound	2.500 Level 1	6.250 Level 2	12.500 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	RRF	% RSD
1 2,4-Dichlorophenol	1040	896	796	655	559	482	738	28.677 <-
2 2,4,6-Trichlorophenol	15281	13835	12795	11181	10412	9532	12173	17.948
3 2,3,6-Trichlorophenol	14259	12818	11863	10765	9925	9085	11453	16.712
4 2,4,5-Trichlorophenol	12140	8082	7421	6534	5905	5130	7535	33.025 <-
5 2,3,4-Trichlorophenol	10565	9519	8778	7811	7138	6322	8355	18.794
6 2,3,5,6-Tetrachlorophenol	20194	18565	17499	16125	15182	13876	16907	13.661
8 2,3,4,5-Tetrachlorophenol	16824	14772	13475	11938	10977	9904	12982	19.728
9 Pentachlorophenol	24557	22356	20781	19124	17785	16292	20149	15.089
\$ 7 2,4,6-Tribromophenol (surr)	18340	16896	15885	15230	14566	13549	15744	10.839

1 2,4-Dichlorophenol

Curve Type: Quadratic By-Response

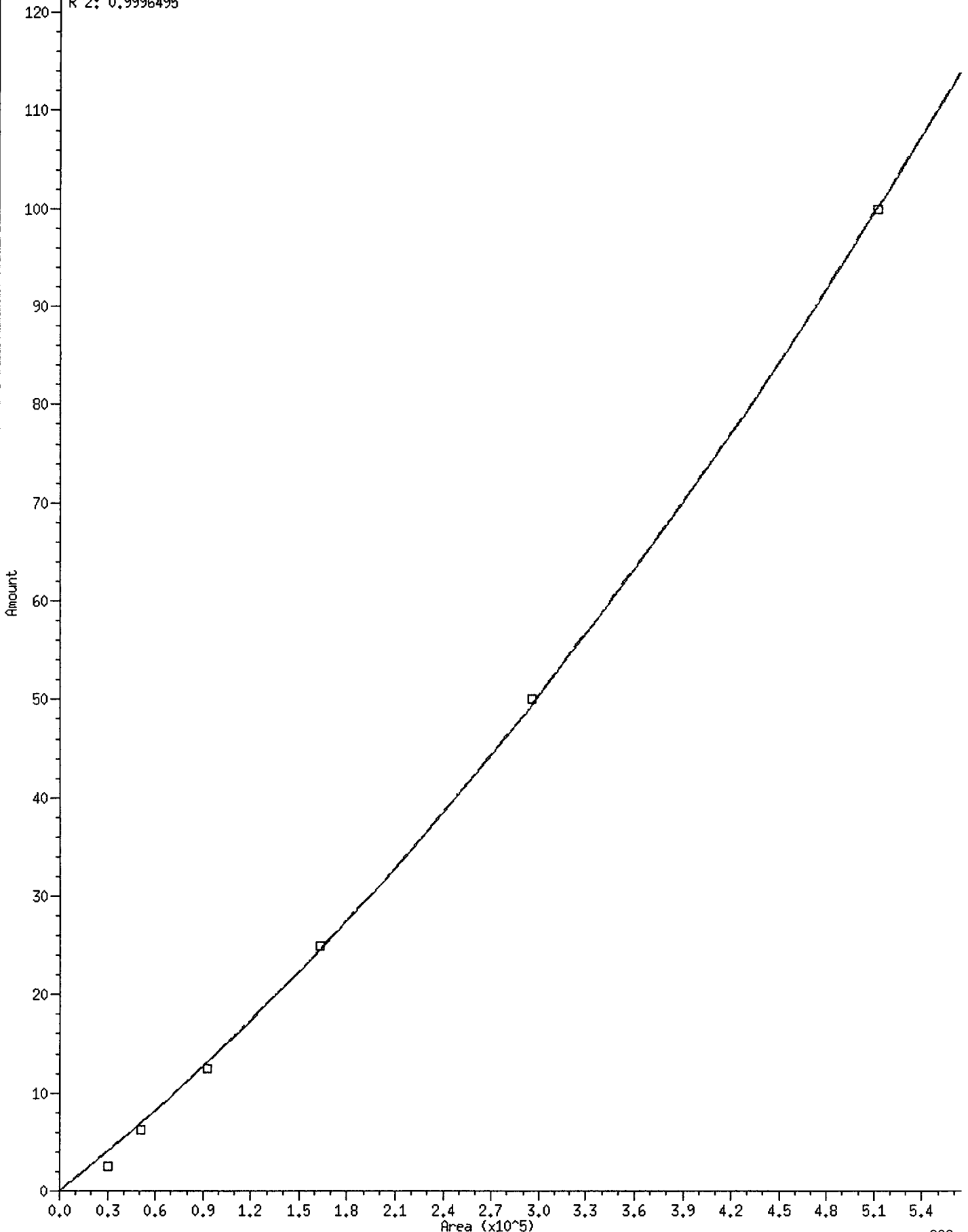
$$\text{Amt} = 0 + 0.001233026 \times \text{Rsp} + 1.771634 \times 10^{-9} \times \text{Rsp}^2$$

R²: 0.9991712



4 2,4,5-Trichlorophenol

Curve Type: Quadratic By-Response
Amt = 0 + 0.0001295173*Rsp + 1.28296e-10*Rsp^2
R^2: 0.9996495



Report Date : 06-May-2011 10:51

Analytical Resources, Inc.
INITIAL CALIBRATION DATA

Start Cal Date : 04-MAY-2011 13:56
 End Cal Date : 04-MAY-2011 16:57
 Quant Method : ESTD
 Origin : Force
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem2/ecdl1.i/PCP20110504.b/PCP.m
 Cal Date : 06-May-2011 10:50 aron

Calibration File Names:
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 Level 2: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A011.d
 Level 3: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A012.d
 Level 4: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A009.d
 Level 5: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A013.d
 Level 6: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A014.d

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	ml	m2	%RSD or R ²
1 2,4-Dichlorophenol	25994	56009	99540	163817	279617	481637	QUAD	0.000e+00	0.00123	1.772e-09	0.99917
2 2,4,6-Trichlorophenol	15281	13835	12795	11181	10412	9532	AVRG		12173		17.94765
3 2,3,6-Trichlorophenol	14259	12818	11863	10765	9925	9085	AVRG		11453		16.71151
4 2,4,5-Trichlorophenol	30350	50514	92760	163352	295231	512989	QUAD	0.000e+00	0.00013	1.283e-10	0.99965
5 2,3,4-Trichlorophenol	10565	9519	8778	7811	7138	6322	AVRG		8355		18.79441
6 2,3,5,6-Tetrachlorophenol	20194	18565	17499	16125	15182	13876	AVRG		16907		13.66148
8 2,3,4,5-Tetrachlorophenol	16824	14772	13475	11938	10977	9904	AVRG		12982		19.72816
9 Pentachlorophenol	24557	22356	20781	19124	17785	16292	AVRG		20149		15.08931
7 2,4,6-Tribromophenol (surr)	18340	16896	15885	15230	14566	13549	AVRG		15744		10.83879

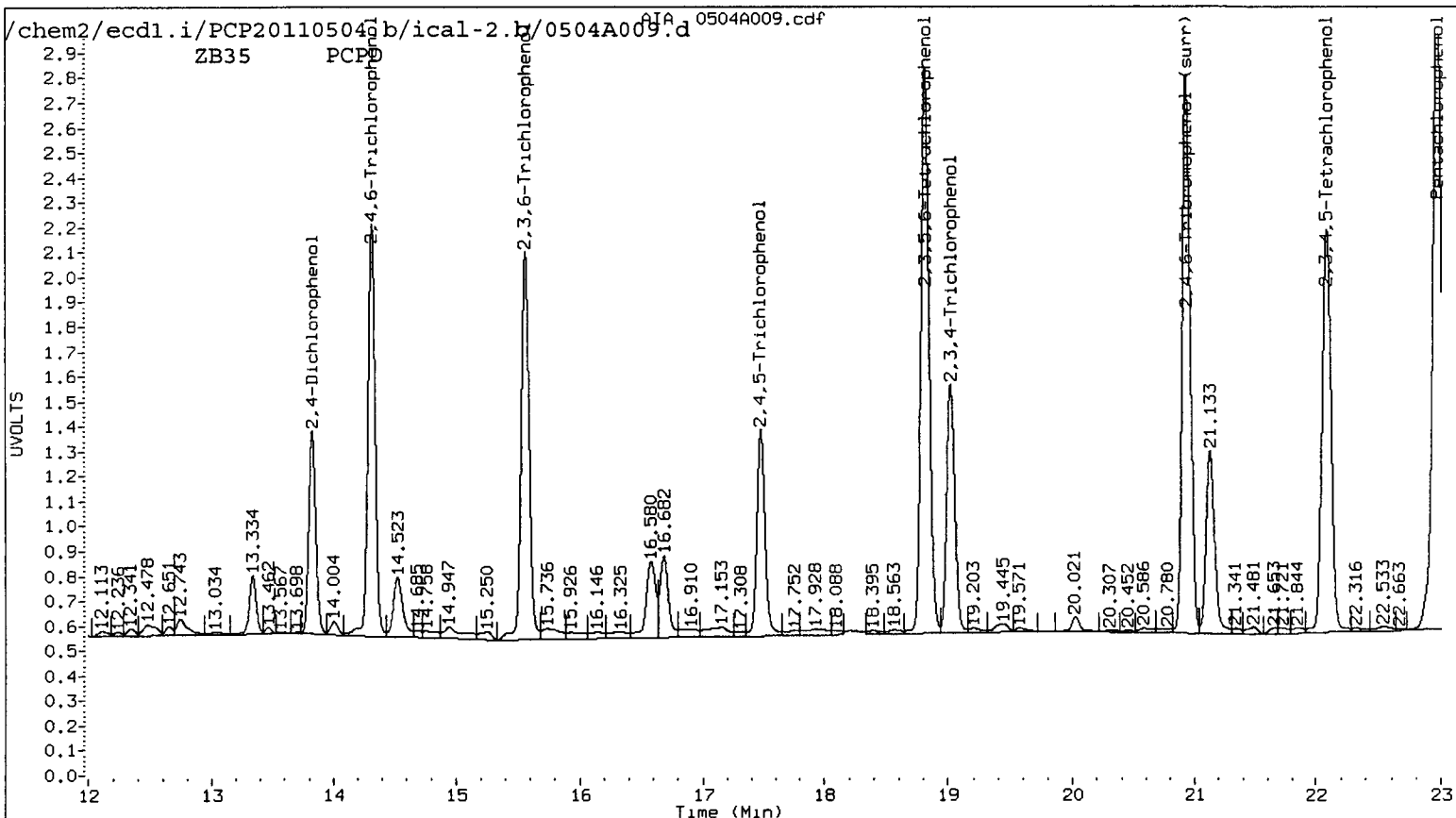
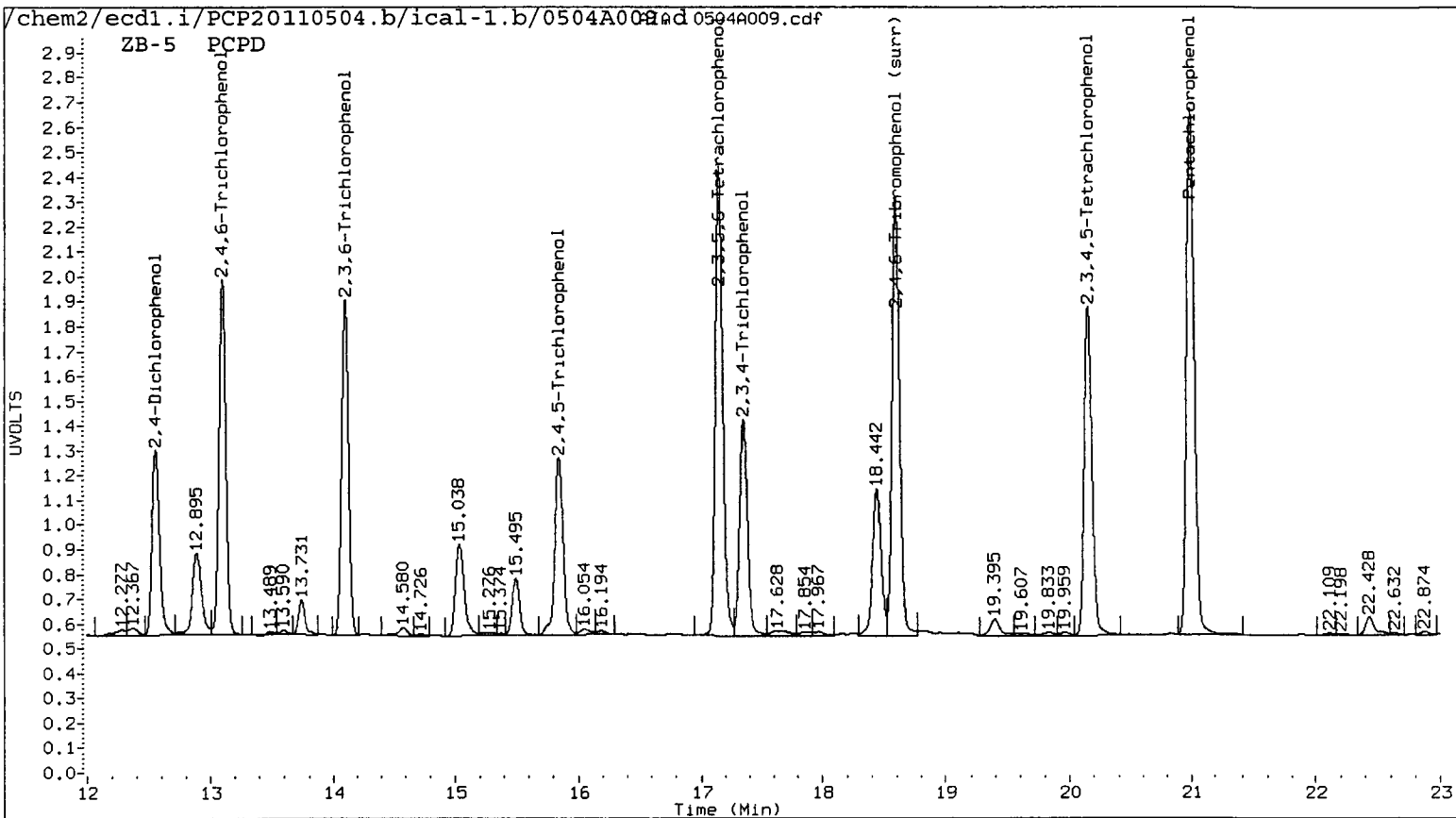
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

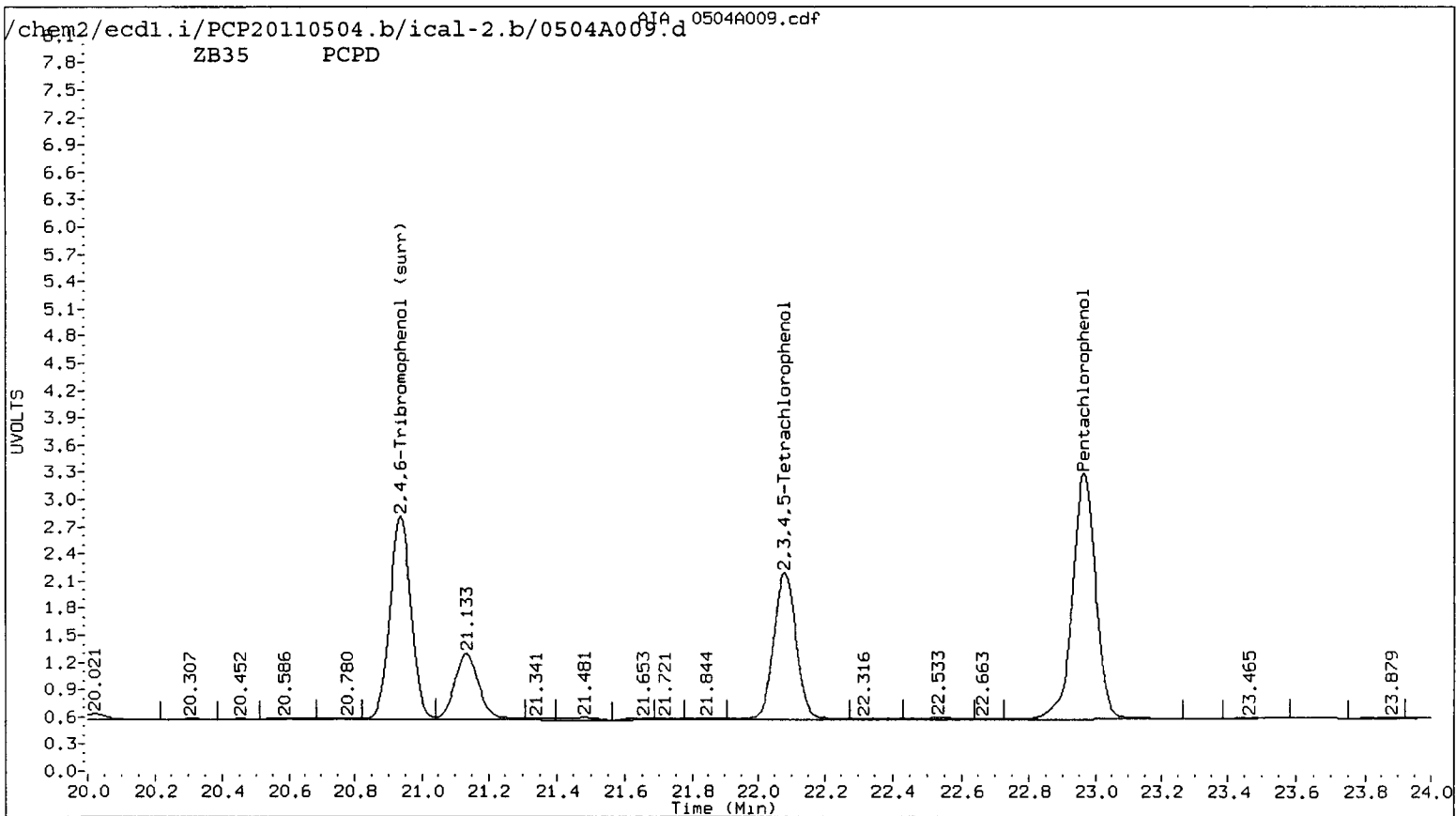
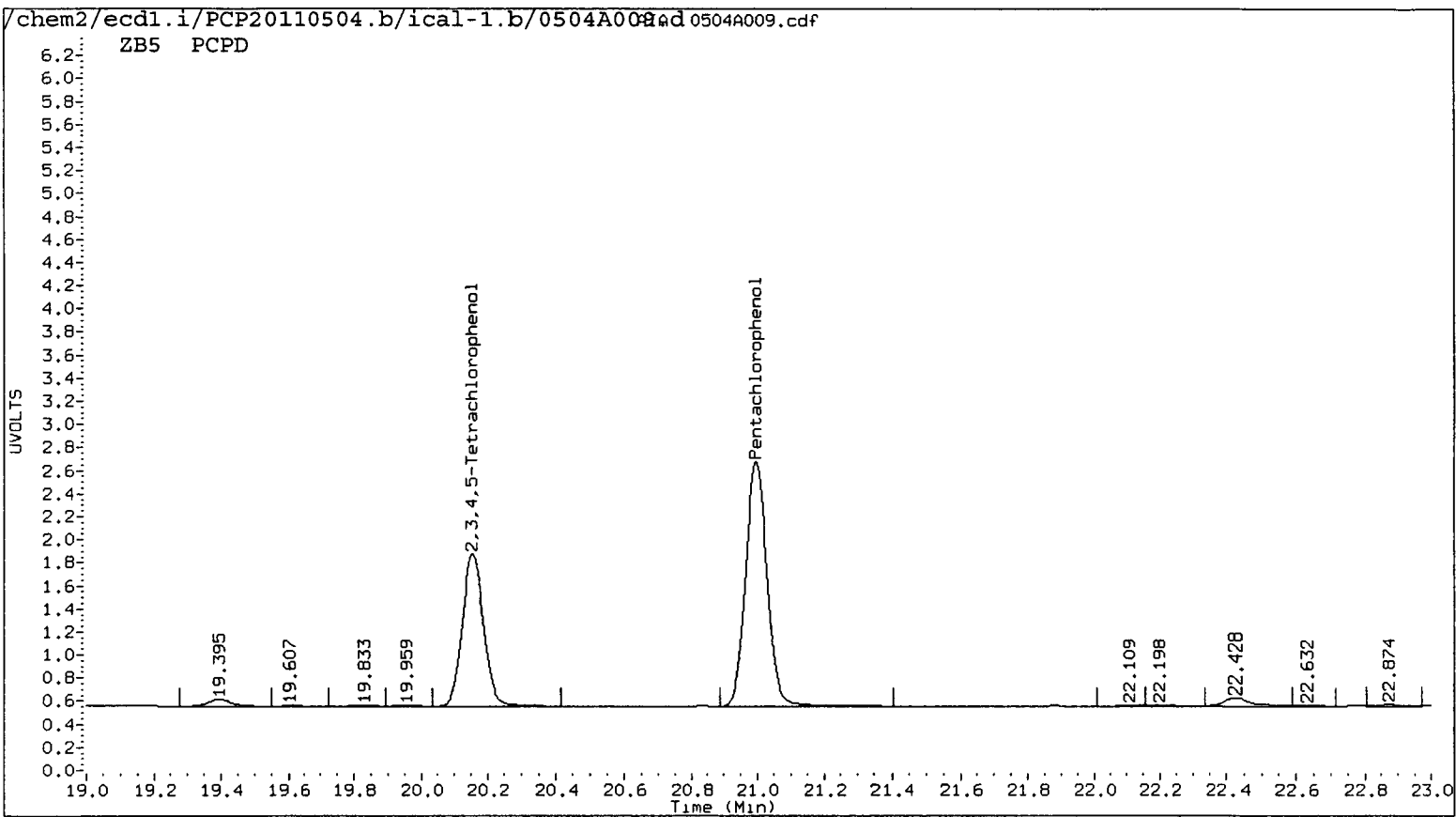
Data file 1: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A009.d ARI ID: PCPD
 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A009.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 13:56
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.997	0.000	478095	22.967	0.000	653905	23.7278	23.2203	2.2	Pentachlorophenol
13.101	0.000	279531	14.311	0.000	346808	22.9636	23.9281	4.1	2,4,6-Trichlorophenol
14.097	0.000	269131	15.557	0.000	345288	23.4995	24.0227	2.2	2,3,6-Trichlorophenol
15.845	0.000	163352	17.474	0.000	195681	24.5803	24.1710	1.7	2,4,5-Trichlorophenol
17.351	0.000	195271	19.023	0.000	227012	23.3708	24.7719	5.8	2,3,4-Trichlorophenol
17.153	0.000	403117	18.814	0.000	510260	23.8436	23.2592	2.5	2,3,5,6-Tetrachlorophenol
20.155	0.000	298448	22.080	0.000	383811	22.9898	25.1252	8.9	2,3,4,5-Tetrachlorophenol
12.555	0.000	163817	13.820	0.000	175491	249.5342	250.1594	0.3	2,4-Dichlorophenol
18.596	0.000	380744	20.936	0.000	496261	24.2	23.6	2.4	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	96.7	94.4





Data File: /chem2/ecdl.i/PCP20110504.b/1cal-1.b/0504A009.d

Date : 04-MAY-2011 13:56

Client ID:

Sample Info: PCPD

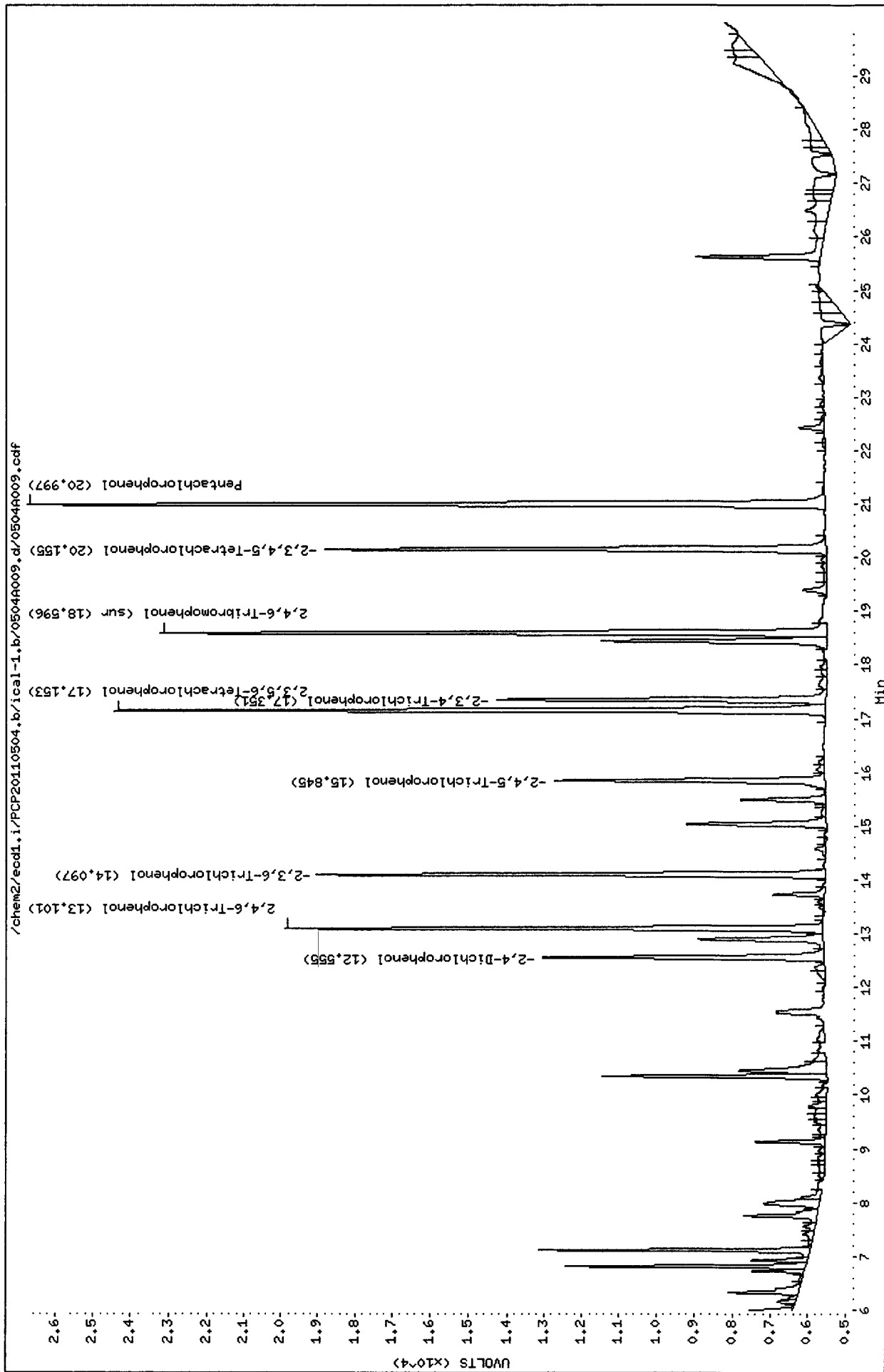
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A009.d

Date : 04-MAY-2011 13:56

Client ID:

Sample Info: PCPD

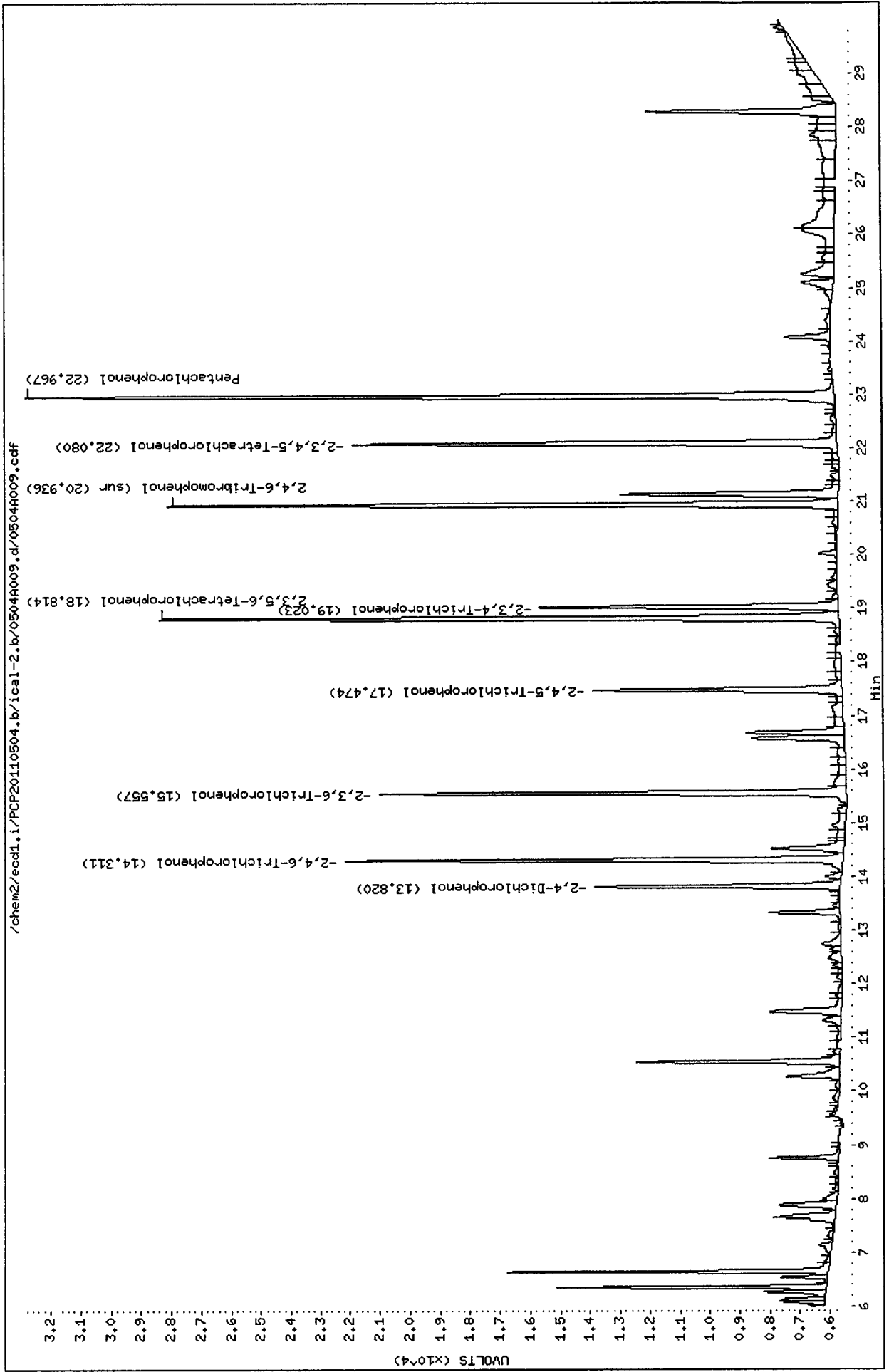
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



99600 : 0855

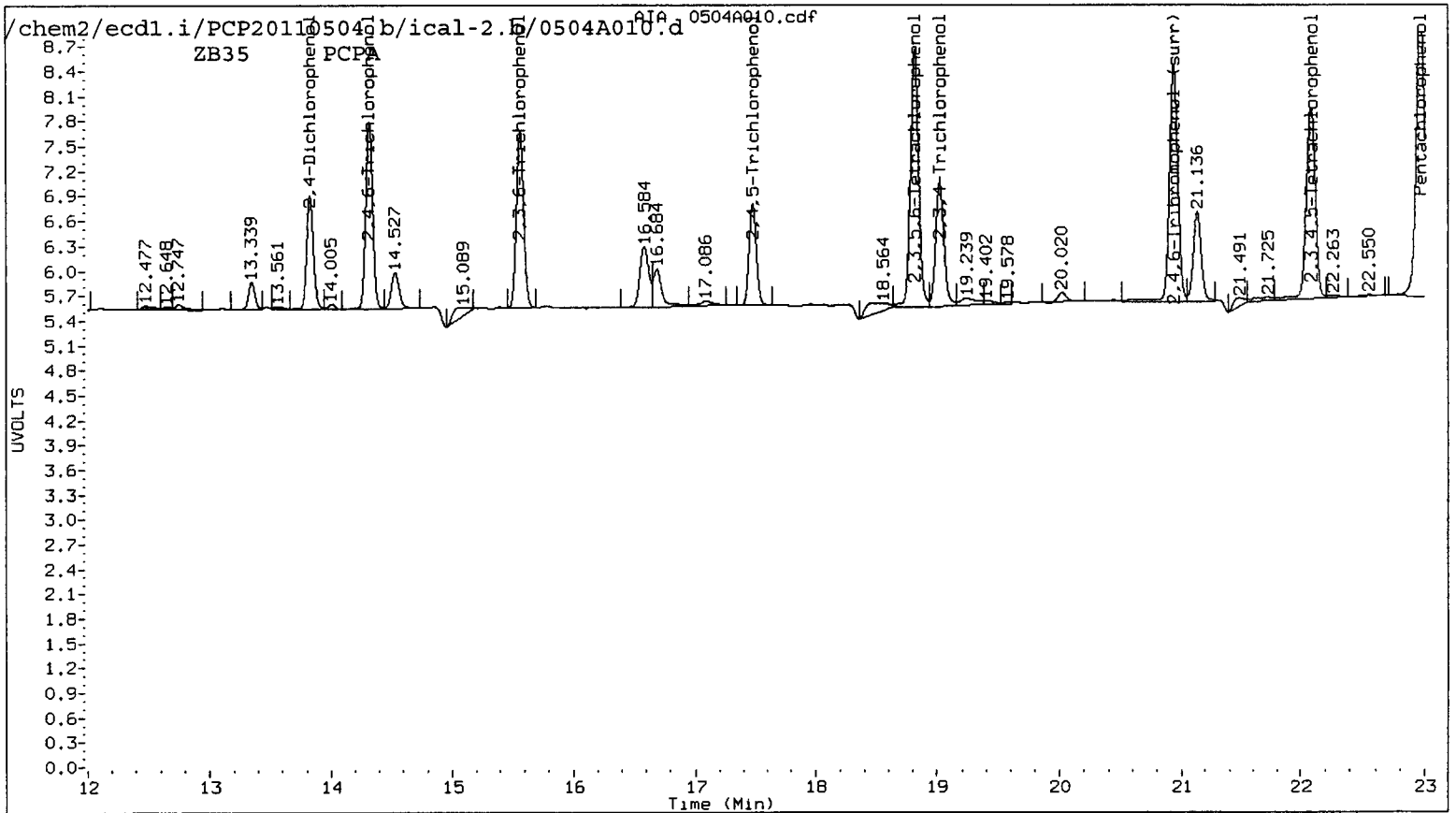
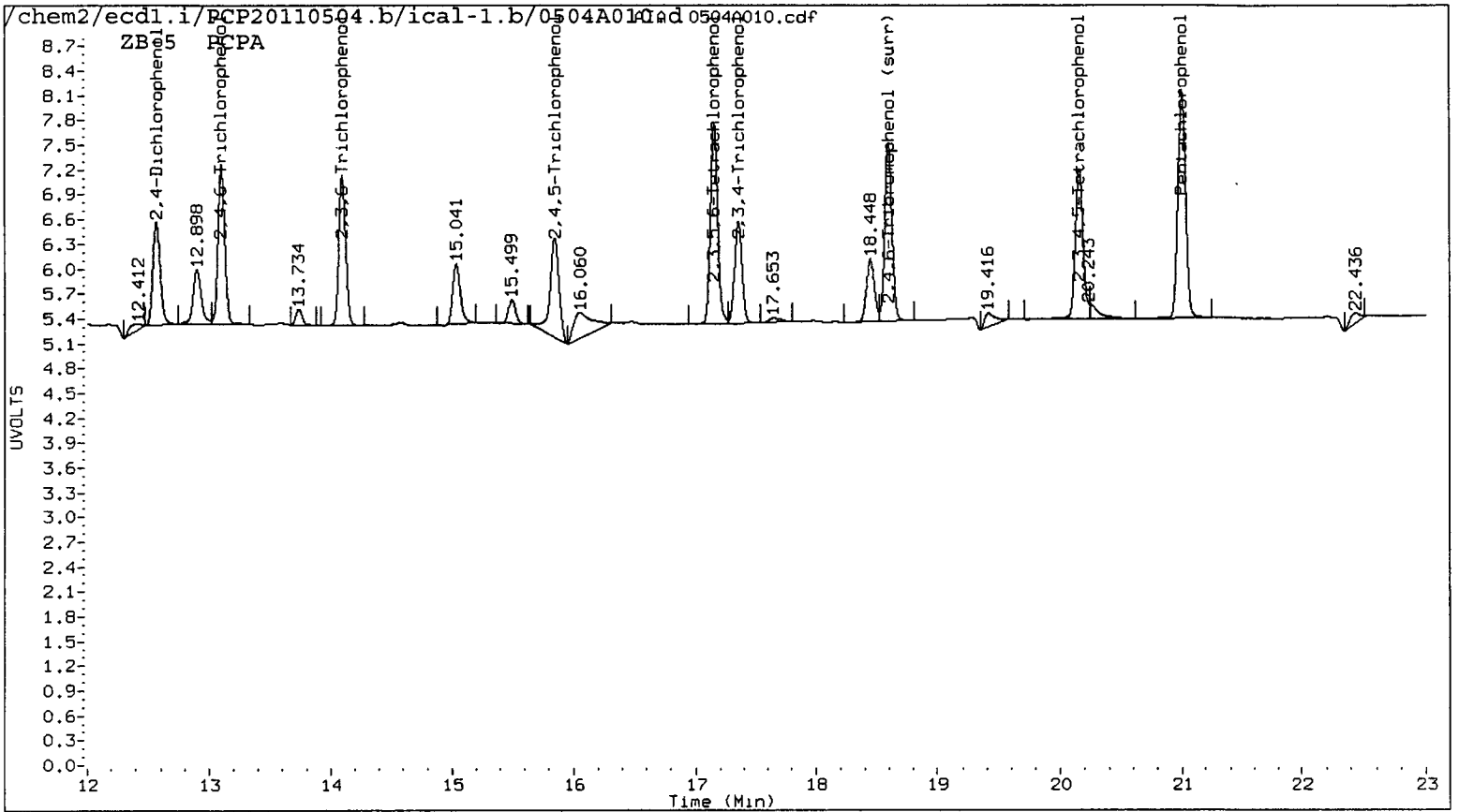
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

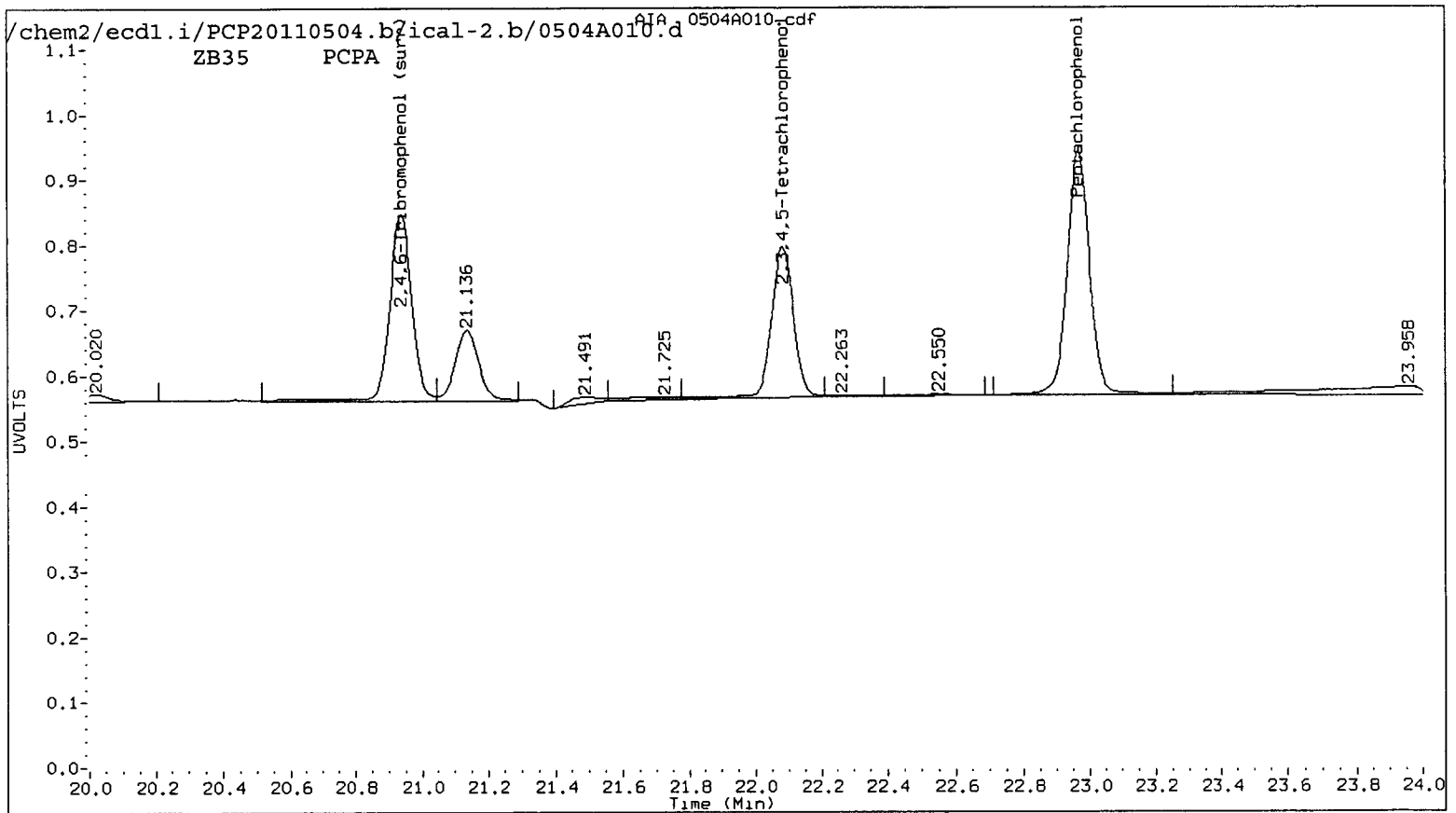
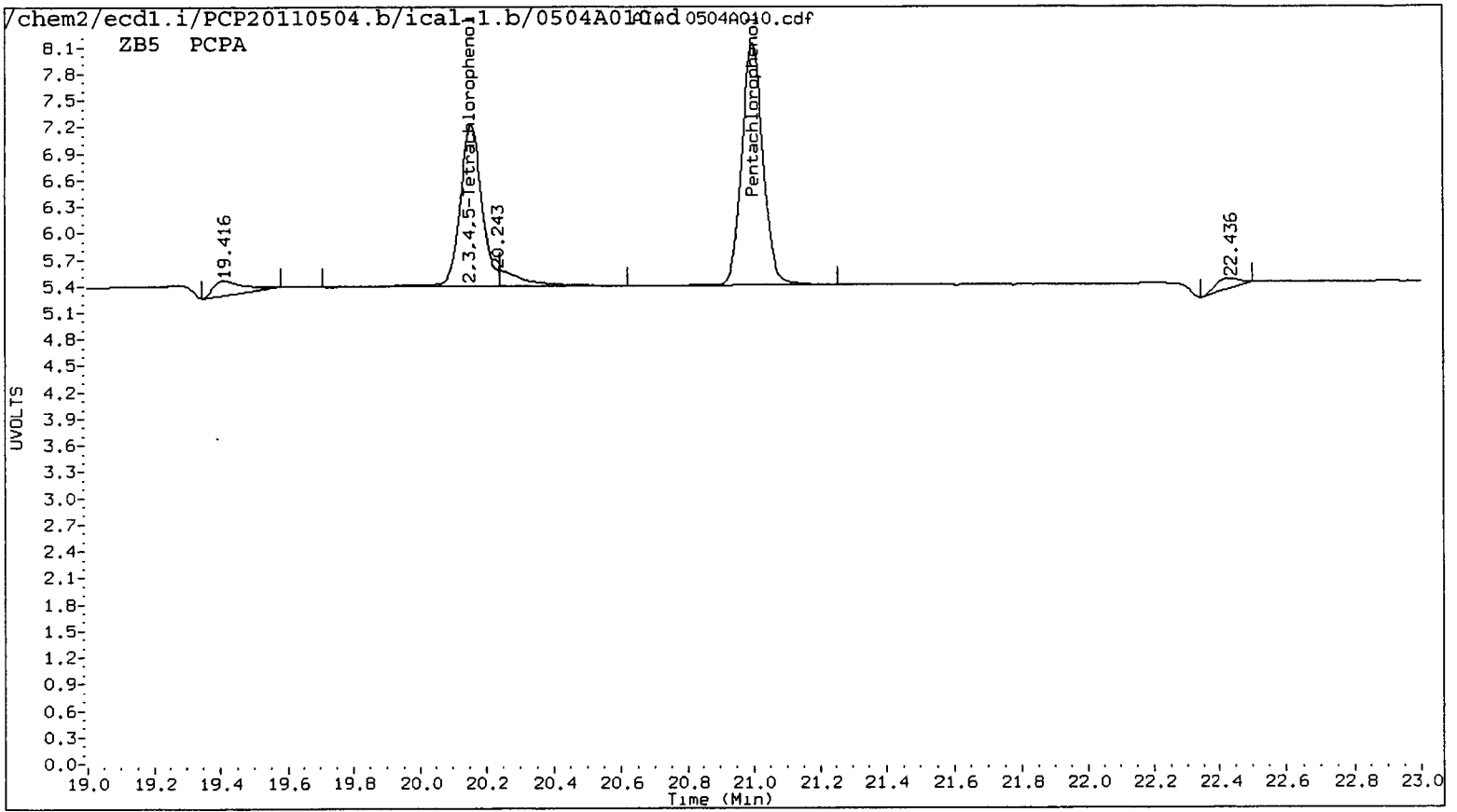
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A010.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 14:32
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

RT	ZB-5 Col Shift	Response	RT	ZB35 Col Shift	Response	ZB-5 on col	ZB35 on col	RPD	Compound
21.000	0.002	61392	22.968	0.001	89214	3.0469	3.1680	3.9	Pentachlorophenol
13.104	0.003	38202	14.314	0.003	45432	3.1383	3.1346	0.1	2,4,6-Trichlorophenol
14.100	0.003	35647	15.560	0.003	43844	3.1126	3.0504	2.0	2,3,6-Trichlorophenol
15.849	0.004	30350	17.477	0.003	25938	4.0490	3.2039	23.3	2,4,5-Trichlorophenol
17.355	0.004	26413	19.025	0.002	34482	3.1612	3.3552	6.0	2,3,4-Trichlorophenol
17.155	0.003	50484	18.816	0.002	70494	2.9860	3.2133	7.3	2,3,5,6-Tetrachlorophenol
20.157	0.002	42060	22.082	0.002	54250	3.2399	3.2204	0.6	2,3,4,5-Tetrachlorophenol
12.560	0.005	25994	13.824	0.004	28101	33.2484	32.9534	0.9	2,4-Dichlorophenol
18.598	0.002	45851	20.937	0.001	66939	2.9	3.2	8.9	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	11.6	12.7





Data File: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504010.d

Date : 04-MAY-2011 14:32

Client ID:

Instrument: ecdl1.i

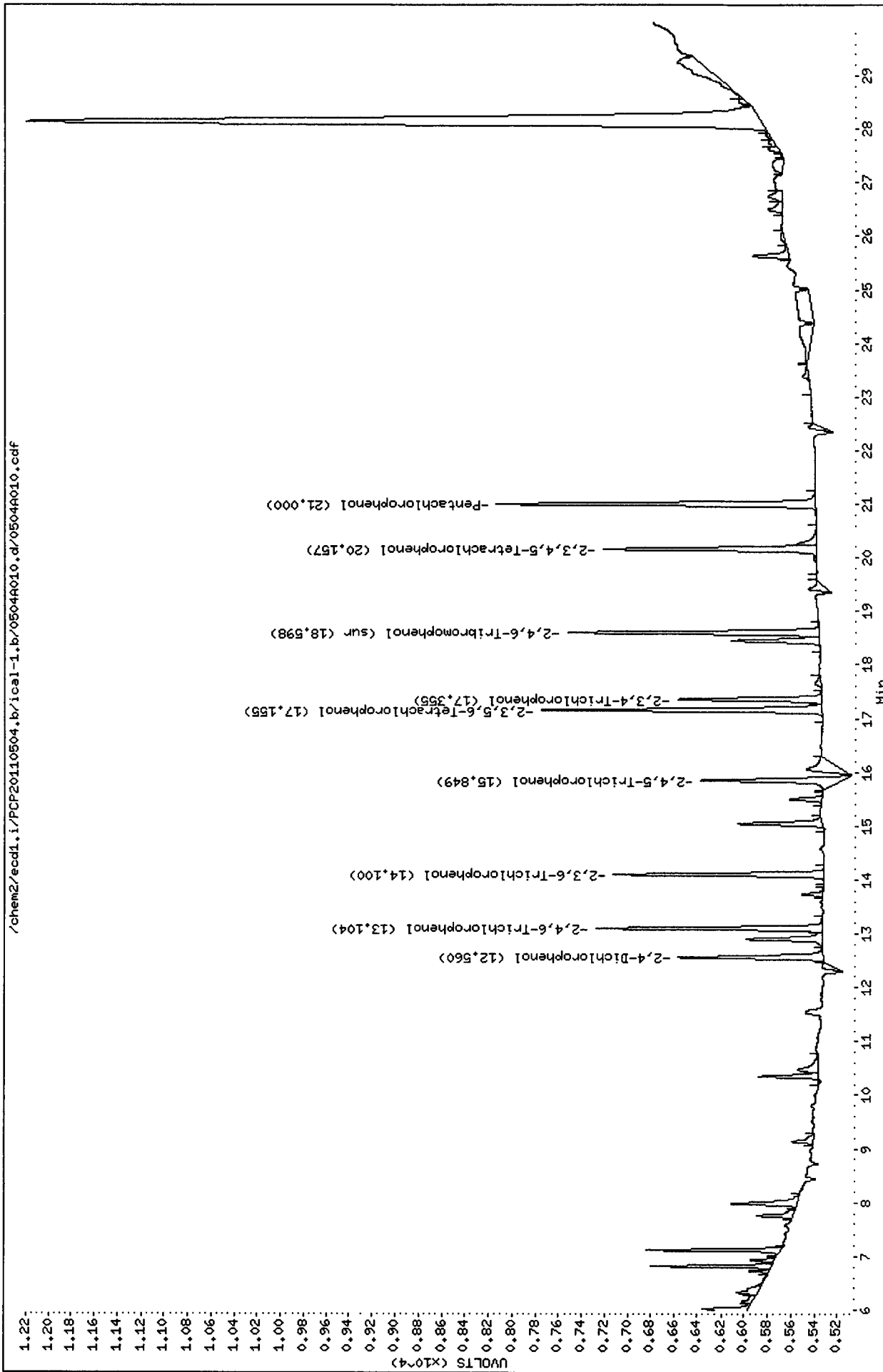
Sample Info: PCPA

Purge Volume: 500.0

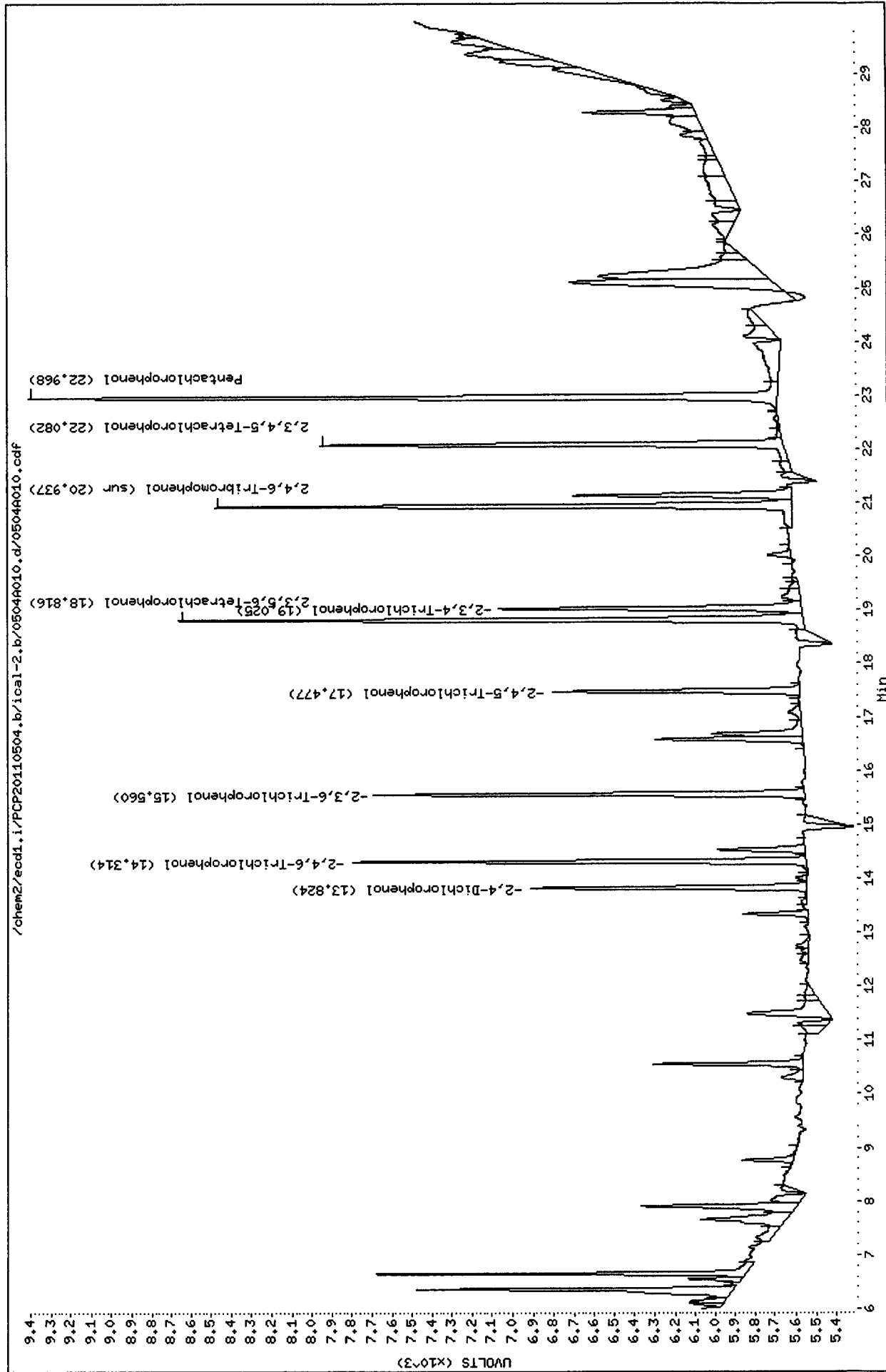
Operator: ar

Column phase: STX CLP1

Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/ical-2.b/0504A010.d
Date : 04-MAY-2011 14:32
Client ID:
Instrument: ecd1.i
Sample Info: PCPA
Operator: ar
Purge Volume: 500.0
Column phase: STX CLP2
Column diameter: 0.53



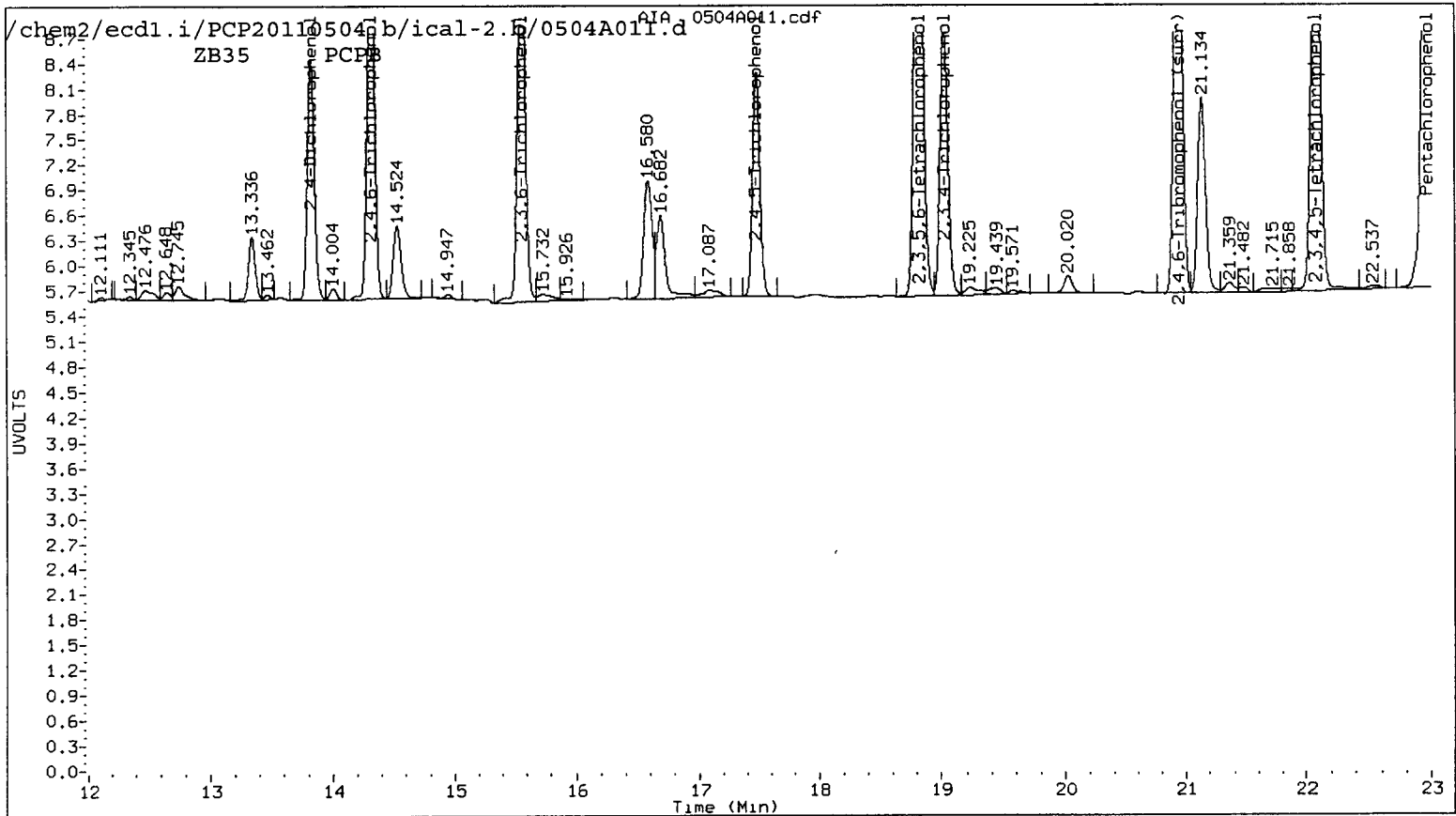
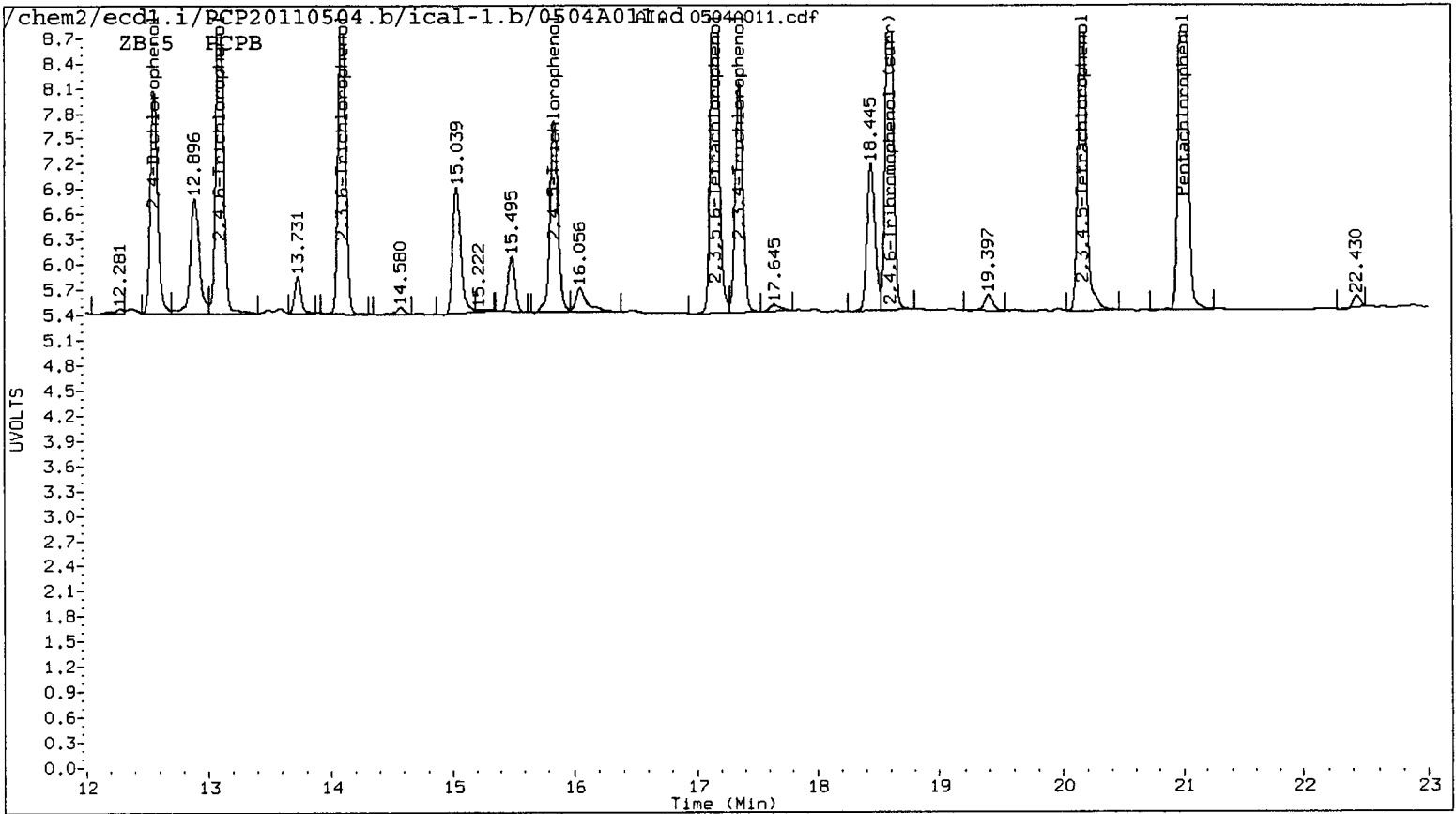
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

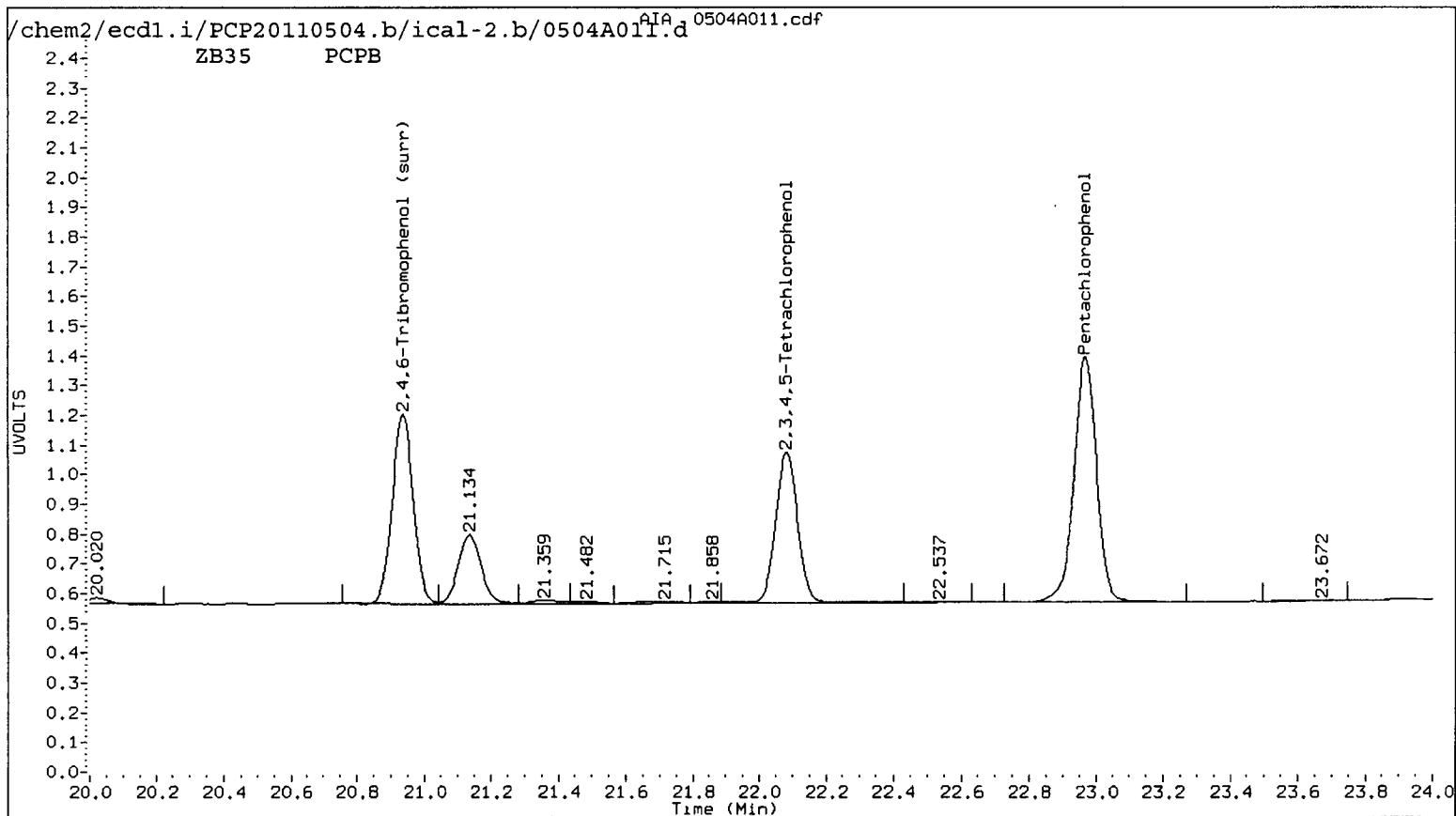
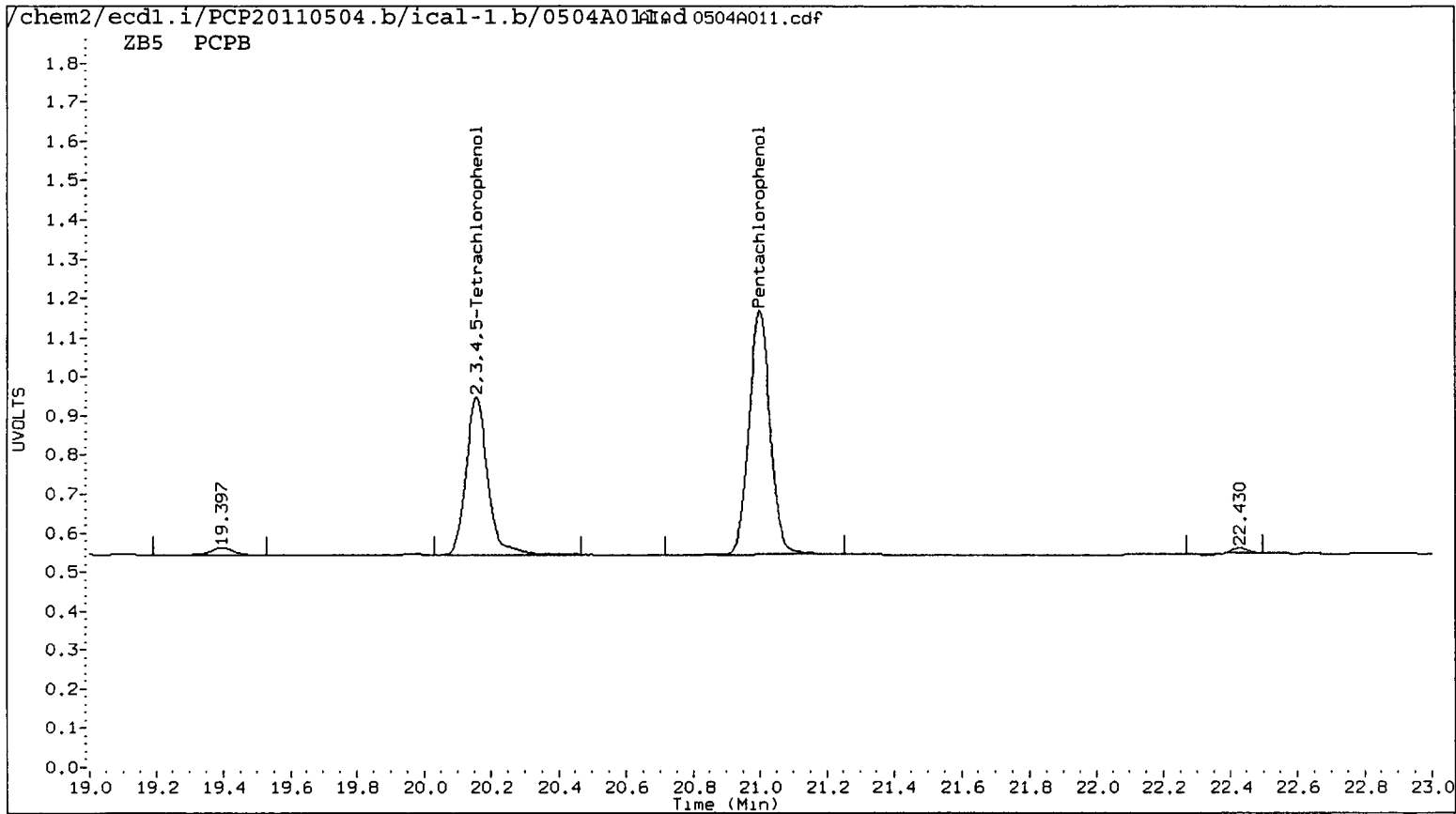
Data file 1: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A011.d ARI ID: PCPB
 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A011.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 15:08
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.998	0.001	139728	22.967	0.000	196299	6.9347	6.9706	0.5	Pentachlorophenol
13.101	0.000	86469	14.311	0.000	101246	7.1035	6.9855	1.7	2,4,6-Trichlorophenol
14.097	0.000	80111	15.557	0.000	101902	6.9950	7.0896	1.3	2,3,6-Trichlorophenol
15.845	0.000	50514	17.475	0.001	57517	6.8698	7.1047	3.4	2,4,5-Trichlorophenol
17.352	0.001	59492	19.024	0.001	71137	7.1202	7.0819	0.5	2,3,4-Trichlorophenol
17.153	0.000	116029	18.814	0.000	150373	6.8629	6.8545	0.1	2,3,5,6-Tetrachlorophenol
20.156	0.001	92328	22.081	0.001	117798	7.1121	7.1314	0.3	2,3,4,5-Tetrachlorophenol
12.557	0.002	56009	13.821	0.001	60102	74.6182	73.7791	1.1	2,4-Dichlorophenol
18.596	0.000	105601	20.936	0.000	138254	6.7	6.6	2.0	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	26.8	26.3





Data File: /chem2/ecdl1.i/PCP20110504.b/ical-1.b/0504A011.d

Date: 04-MAY-2011 15:08

Client ID:

Sample Info: PCPB

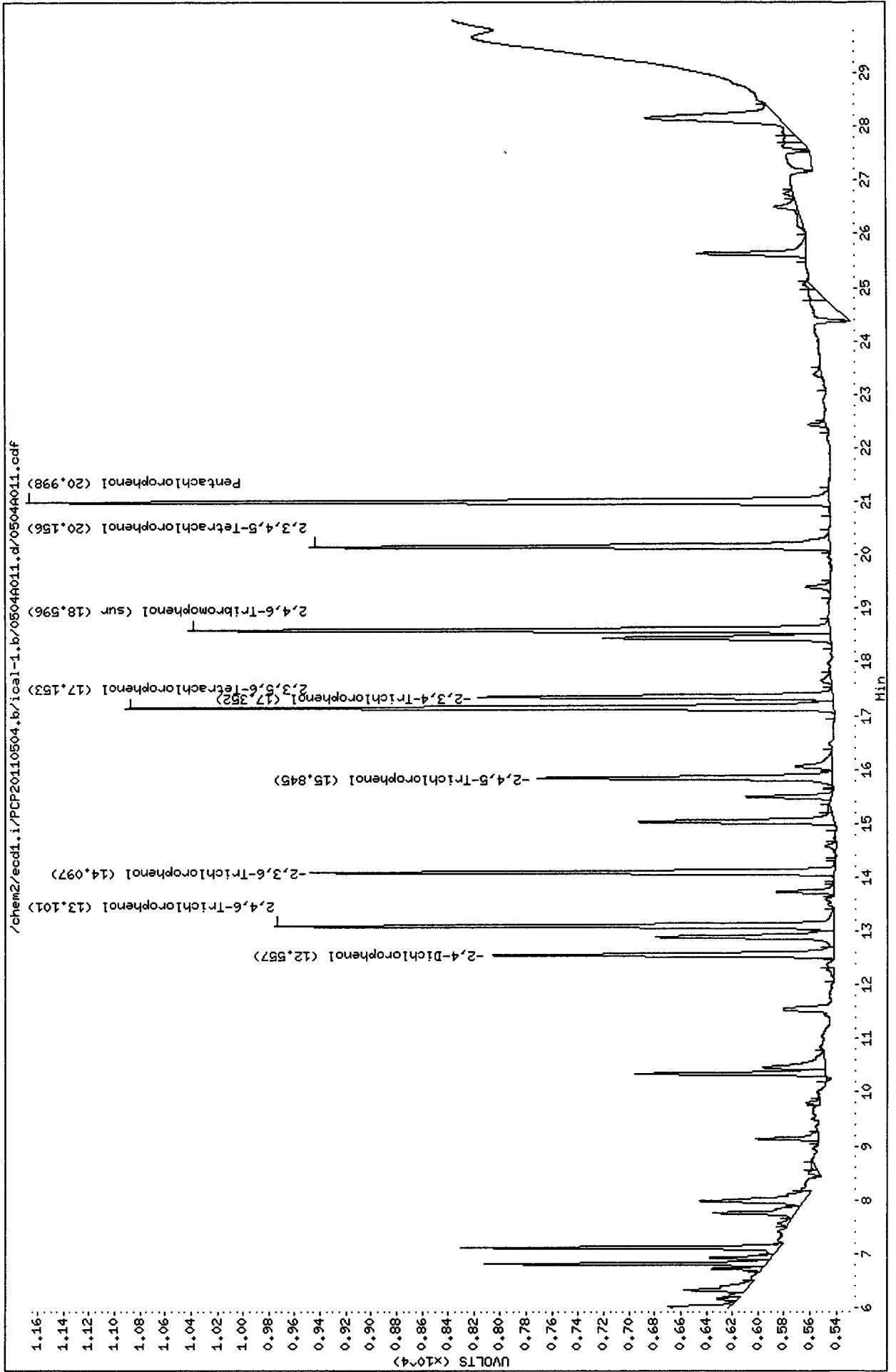
Purge Volume: 500.0

Column phase: STX CLP1

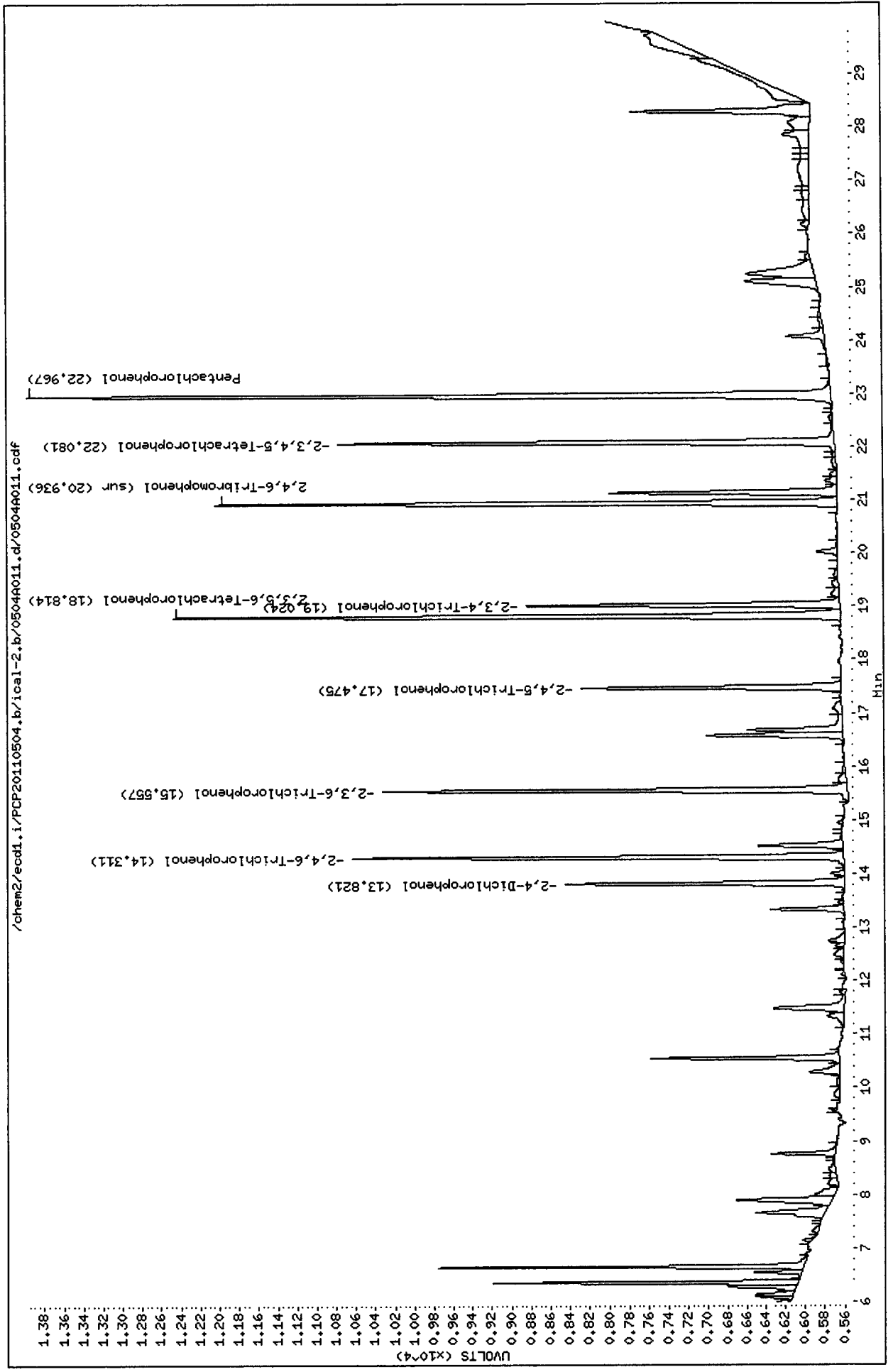
Instrument: ecdl1.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl1.1/PCP20110504.b/ical-2.b/05044011.d
Date : 04-MAY-2011 15:08
Client ID:
Instrument: ecdl1.i
Sample Info: PCPB
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



91600 : 00916

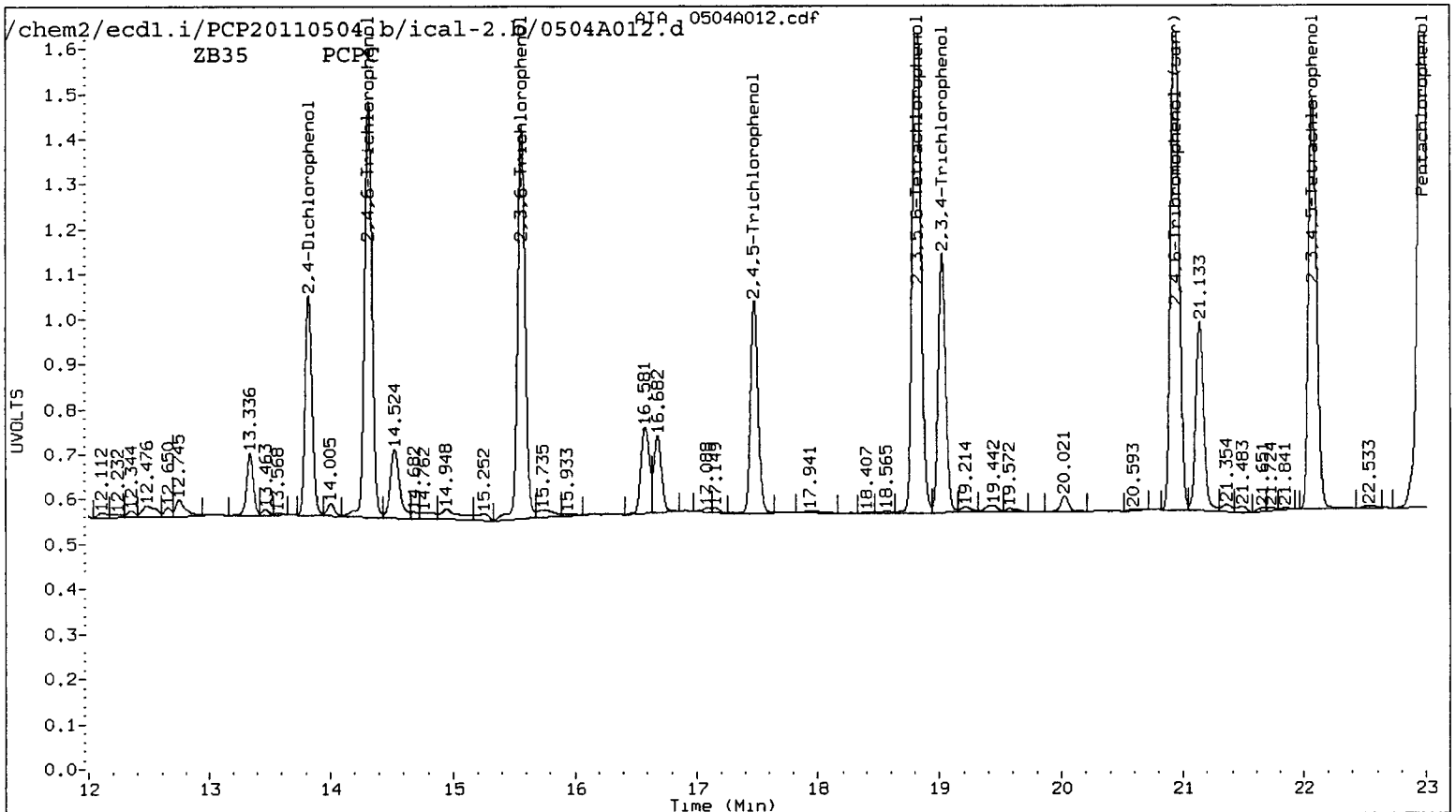
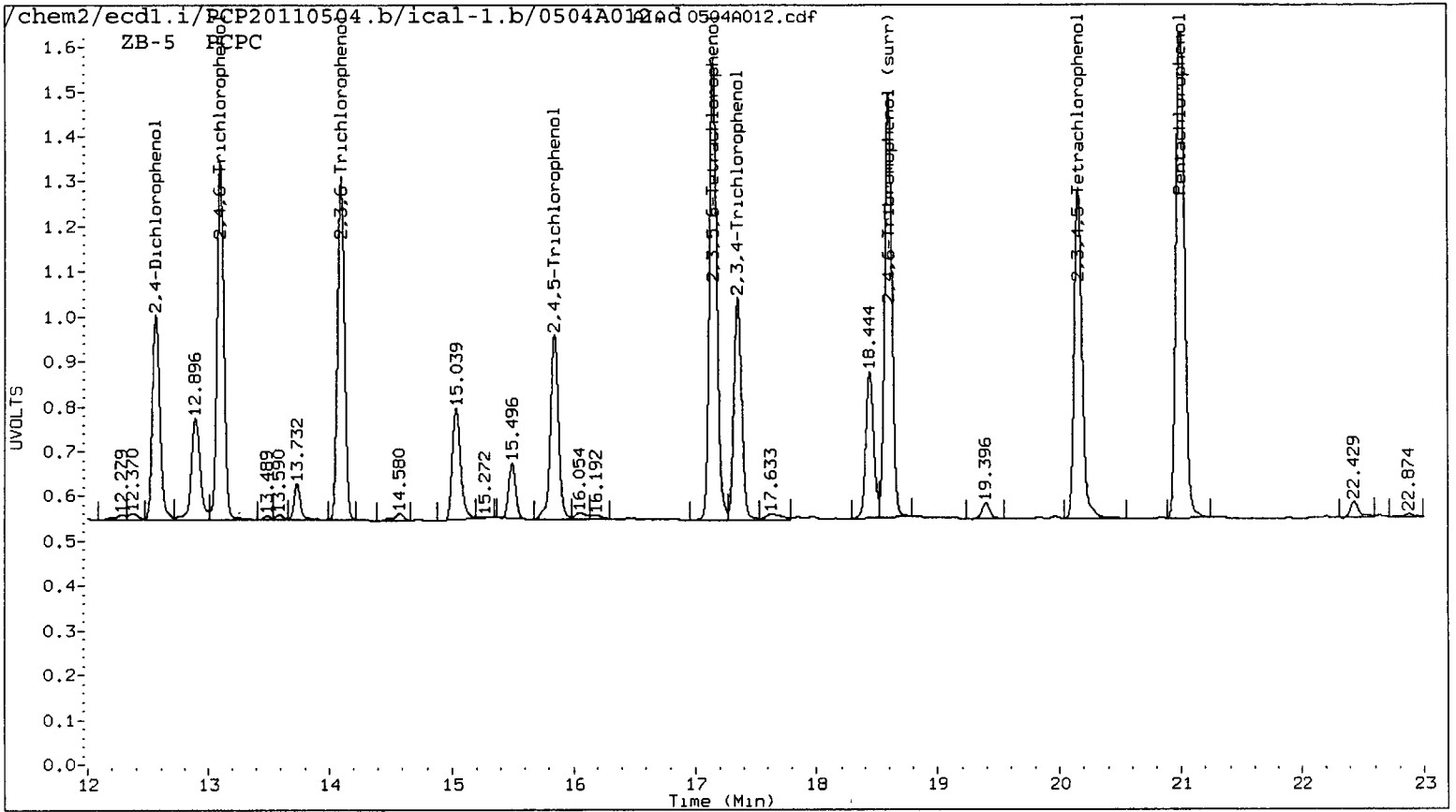
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

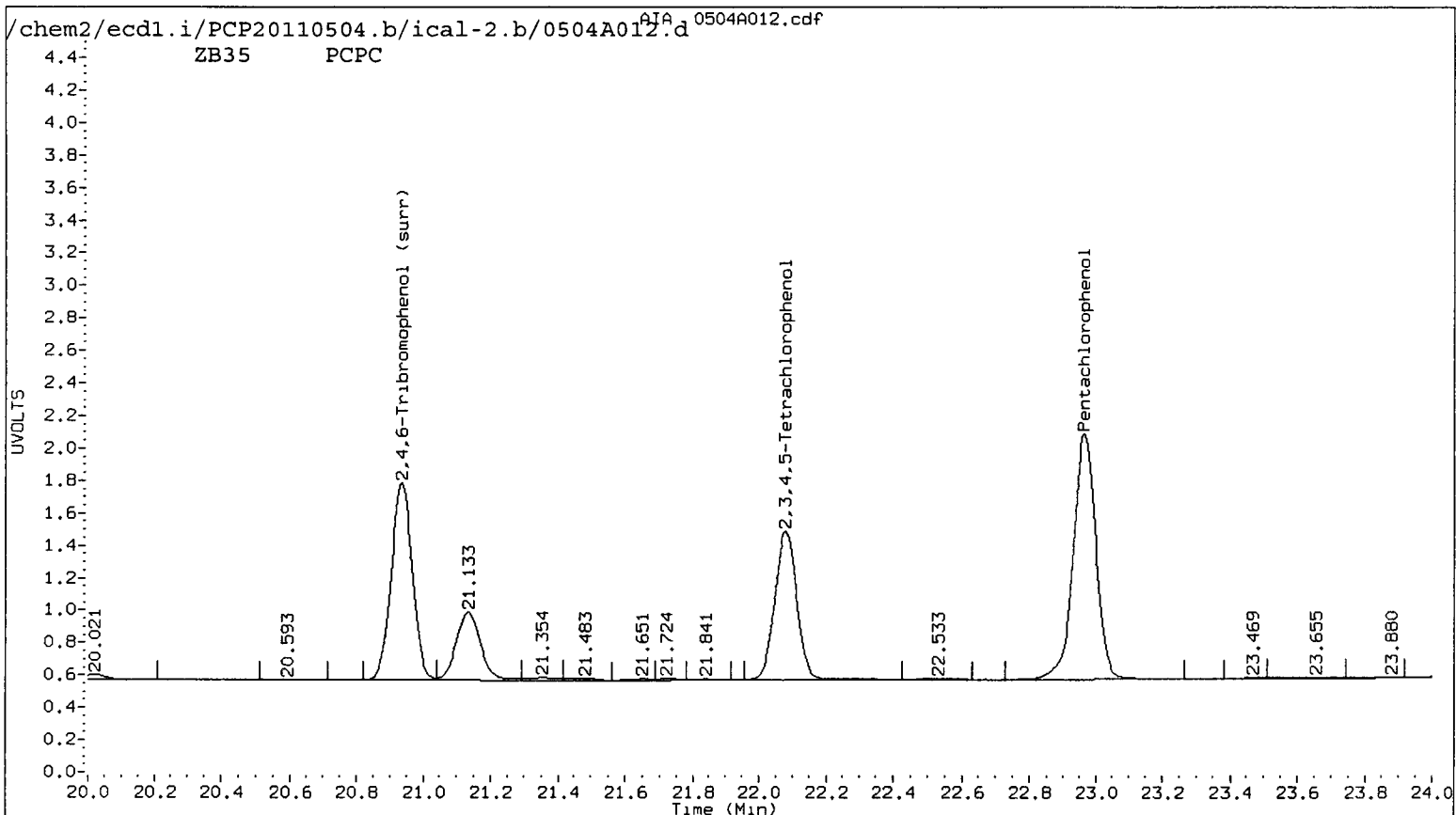
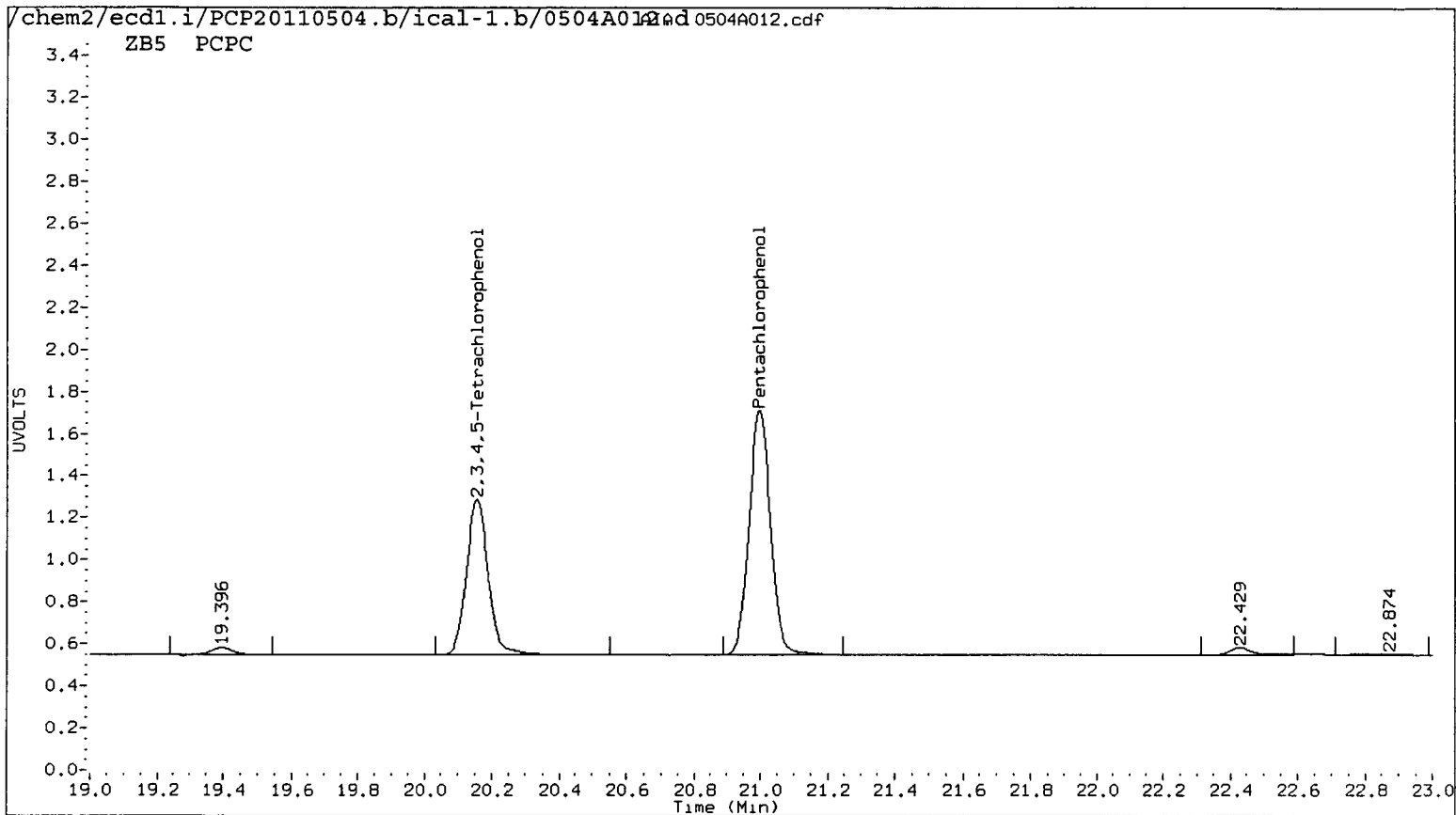
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A012.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 15:44
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.998	0.000	259764	22.967	0.000	361971	12.8921	12.8537	0.3	Pentachlorophenol
13.102	0.001	159940	14.312	0.001	192050	13.1391	13.2505	0.8	2,4,6-Trichlorophenol
14.097	0.000	148290	15.558	0.001	189925	12.9481	13.2136	2.0	2,3,6-Trichlorophenol
15.846	0.001	92760	17.474	0.000	104692	13.1179	12.9318	1.4	2,4,5-Trichlorophenol
17.352	0.001	109723	19.023	0.000	129601	13.1321	13.3673	1.8	2,3,4-Trichlorophenol
17.153	0.001	218741	18.814	0.000	281810	12.9381	12.8458	0.7	2,3,5,6-Tetrachlorophenol
20.155	0.000	168443	22.080	0.000	208459	12.9754	12.9697	0.0	2,3,4,5-Tetrachlorophenol
12.556	0.001	99540	13.821	0.001	104374	140.2891	136.0517	3.1	2,4-Dichlorophenol
18.596	0.000	198567	20.936	0.000	266388	12.6	12.7	0.5	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	50.4	50.7





Data File: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A012.d

Date : 04-MAY-2011 15:44

Client ID:

Sample Info: PCPC

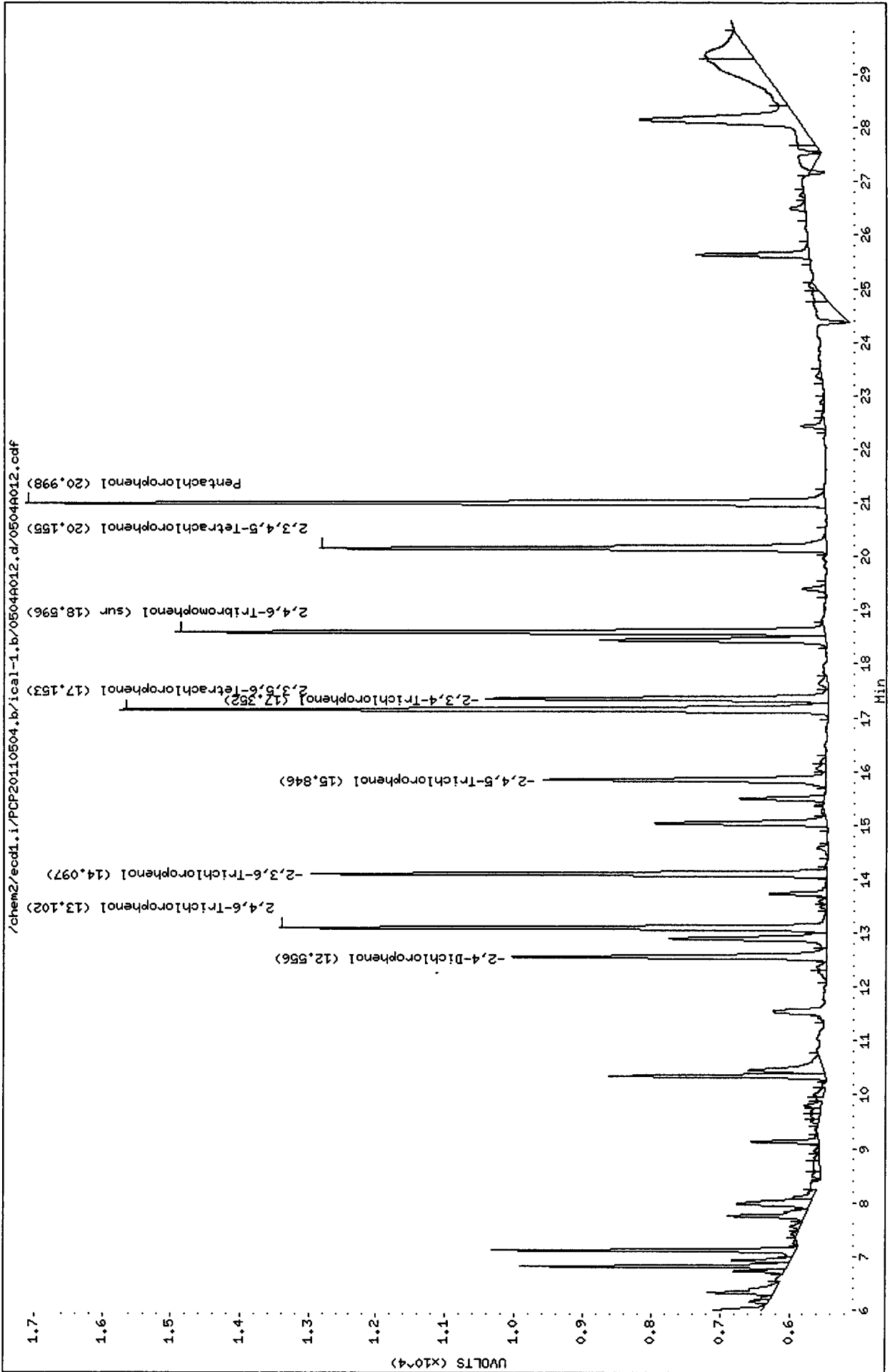
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl1.i/PCP20110504.b/ical-2.b/0504A012.d

Date : 04-MAY-2011 15:44

Client ID:

Sample Info: PCPC

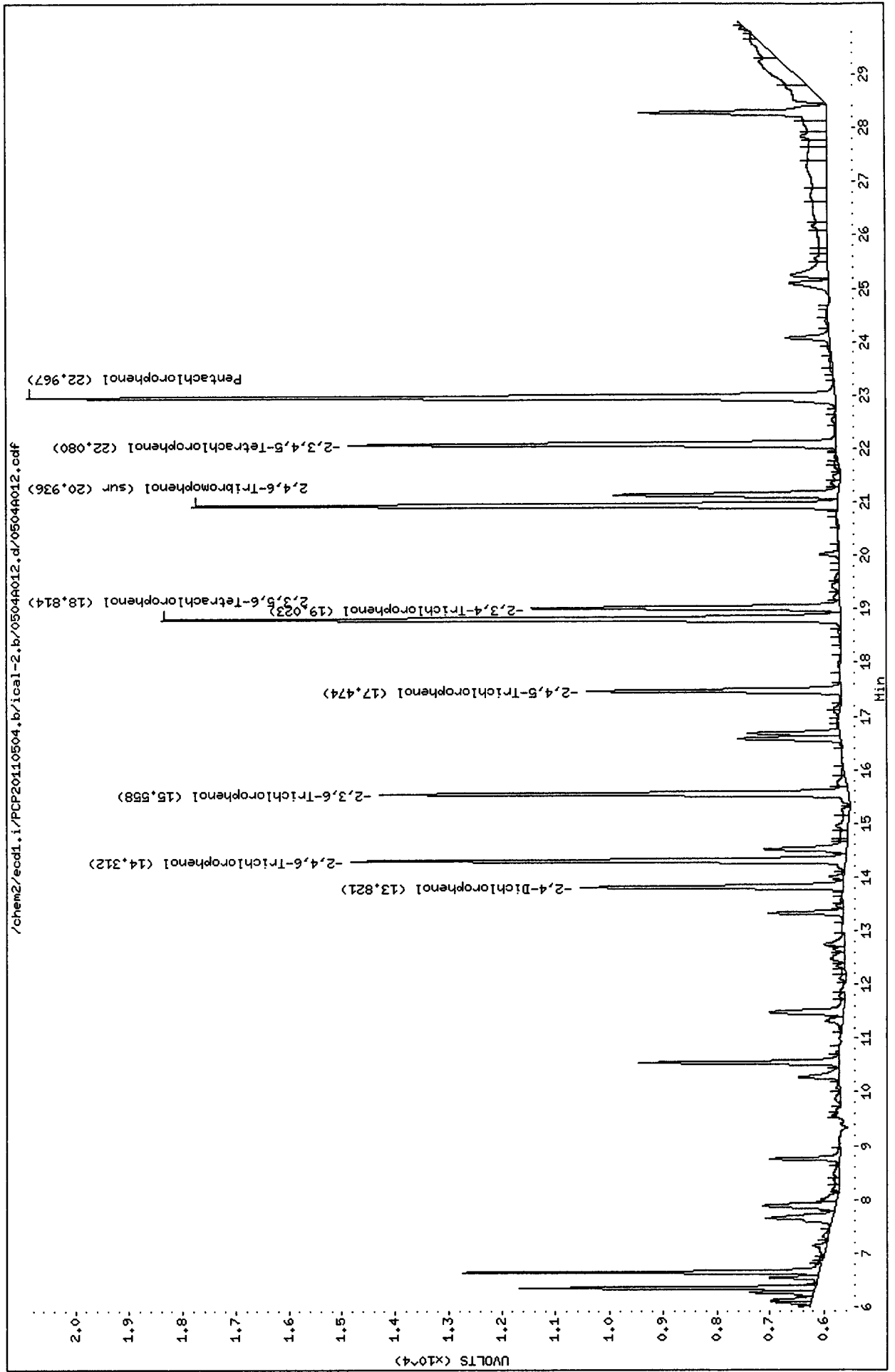
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecdl1.i

Operator: ar

Column diameter: 0.53



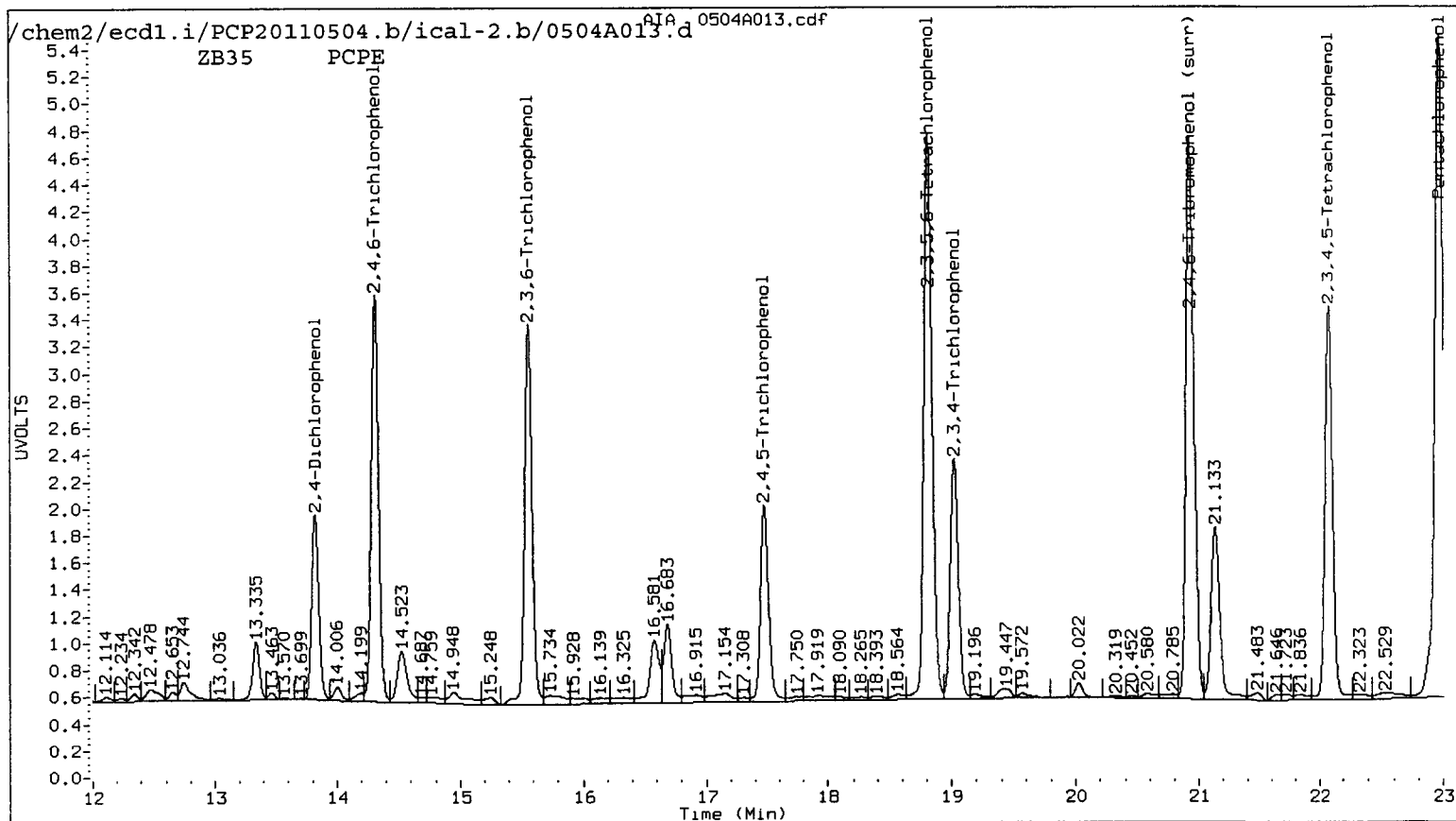
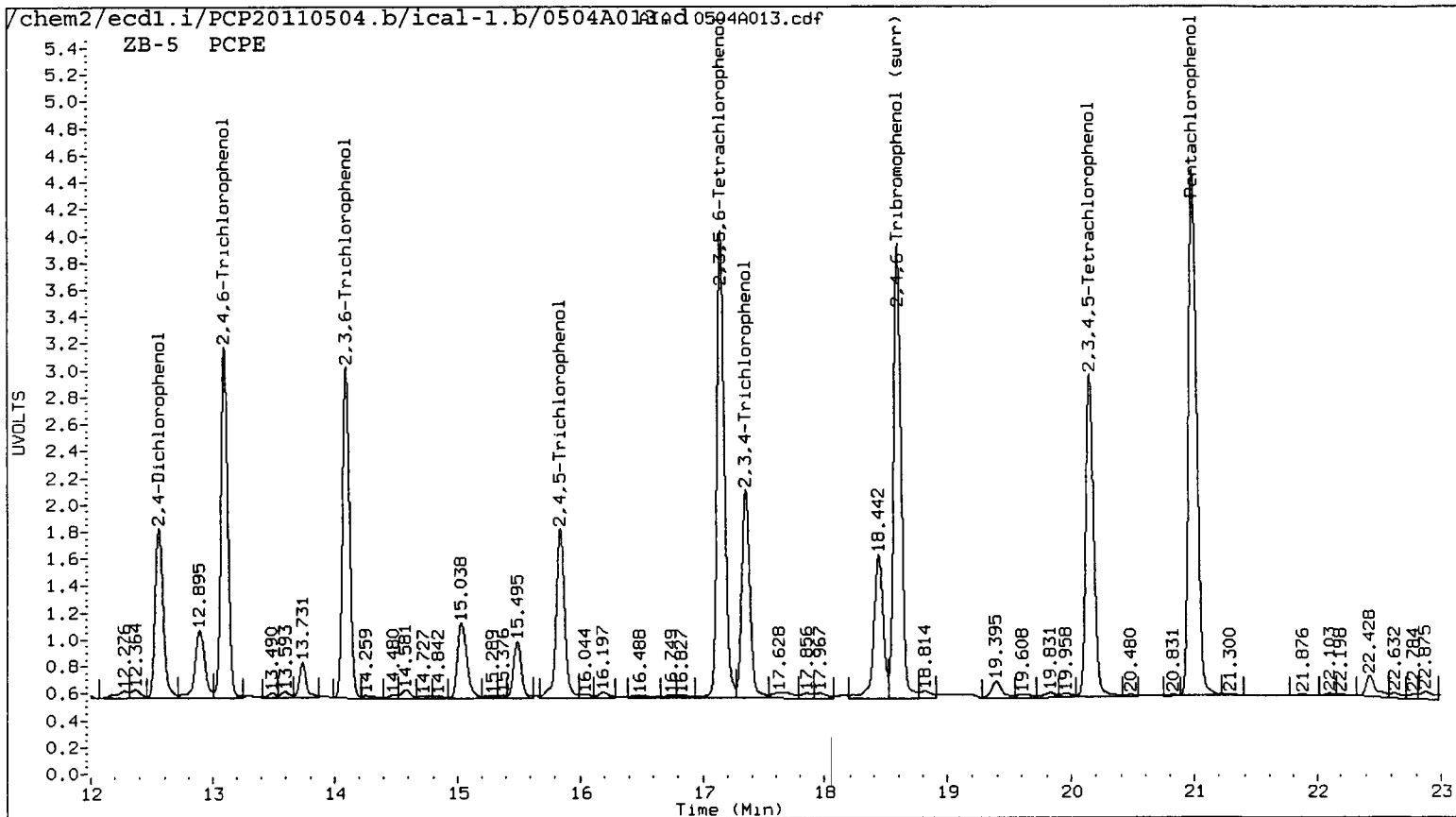
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

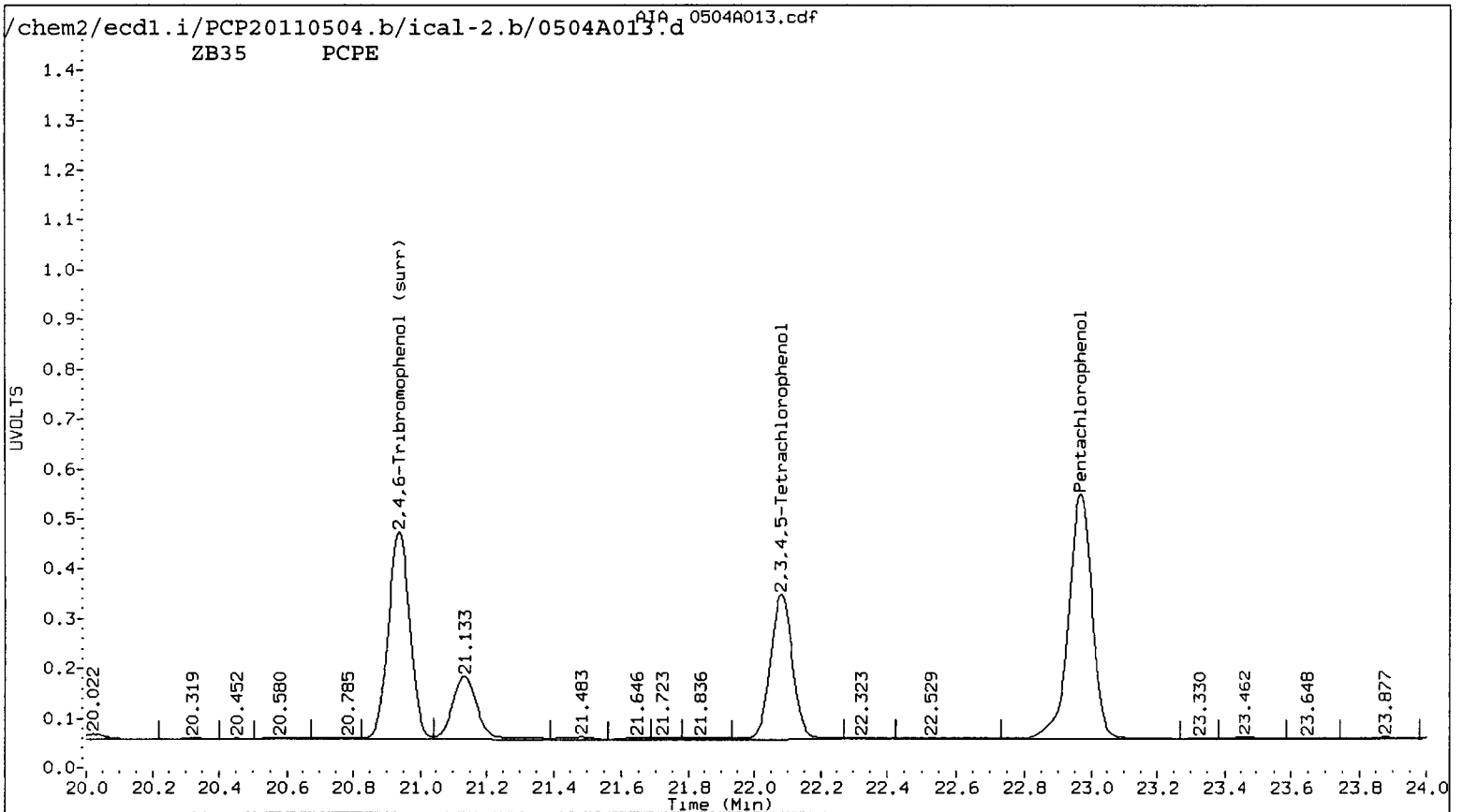
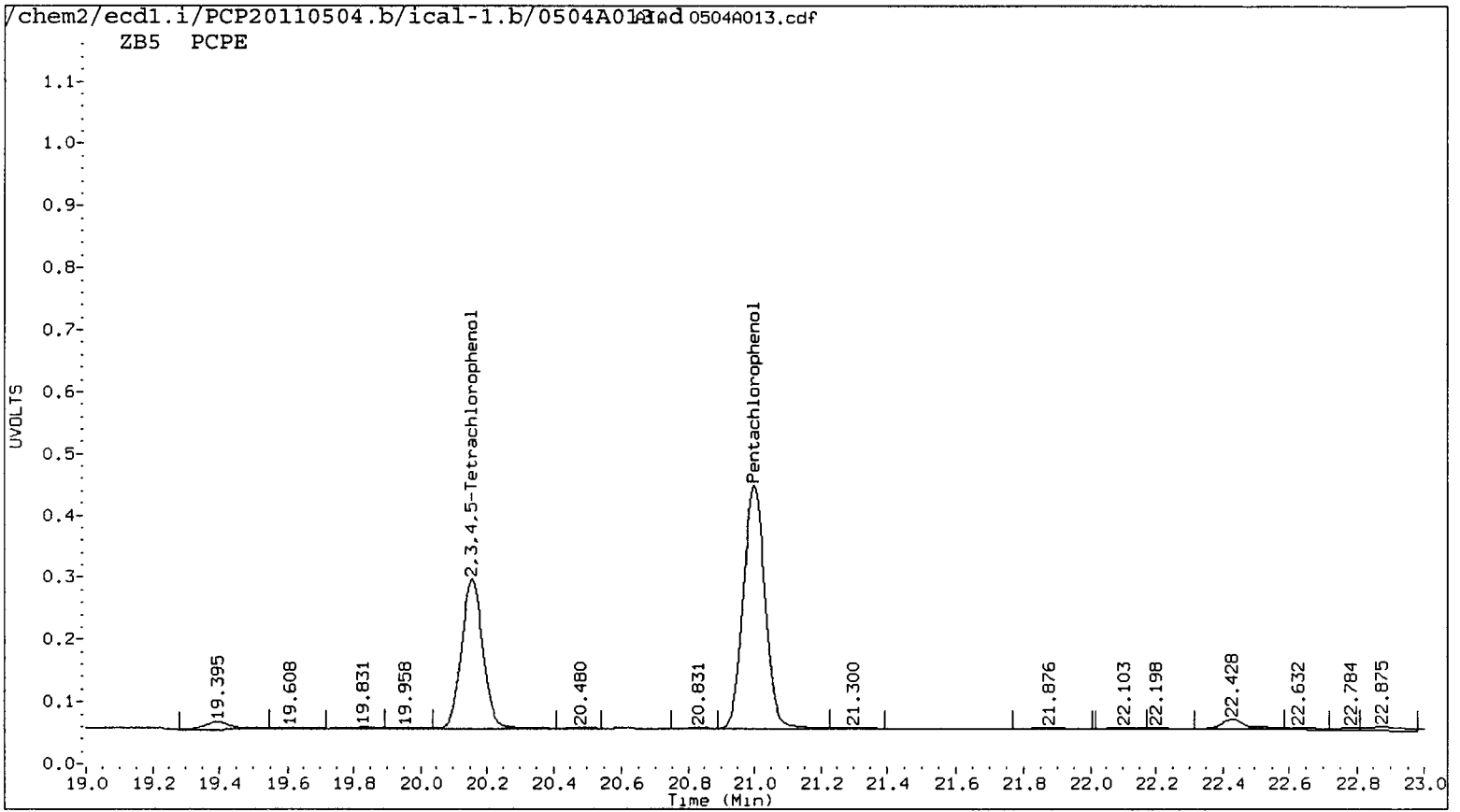
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A013.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 16:21
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.998	0.001	889243	22.967	0.000	1223251	44.1330	43.4380	1.6	Pentachlorophenol
13.101	0.000	520607	14.312	0.001	615086	42.7681	42.4380	0.8	2,4,6-Trichlorophenol
14.097	0.000	496269	15.558	0.001	622220	43.3323	43.2897	0.1	2,3,6-Trichlorophenol
15.845	0.000	295231	17.475	0.001	344386	49.4200	42.5395	15.0	2,4,5-Trichlorophenol
17.352	0.000	356877	19.023	0.000	409120	42.7124	49.2172	14.2	2,3,4-Trichlorophenol
17.153	0.001	759088	18.814	0.000	953164	44.8986	43.4481	3.3	2,3,5,6-Tetrachlorophenol
20.155	0.000	548832	22.081	0.001	691341	42.2771	49.1918	15.1	2,3,4,5-Tetrachlorophenol
12.556	0.001	279617	13.821	0.001	297223	483.2915	485.7456	0.5	2,4-Dichlorophenol
18.596	0.001	728285	20.937	0.001	937307	46.3	44.6	3.7	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	185.0	178.3





Data File: /chem2/eecd1.i/PCP20110504.b/1cal-1.b/0504A013.d

Date : 04-MAY-2011 16:21

Client ID:

Sample Info: PCPE

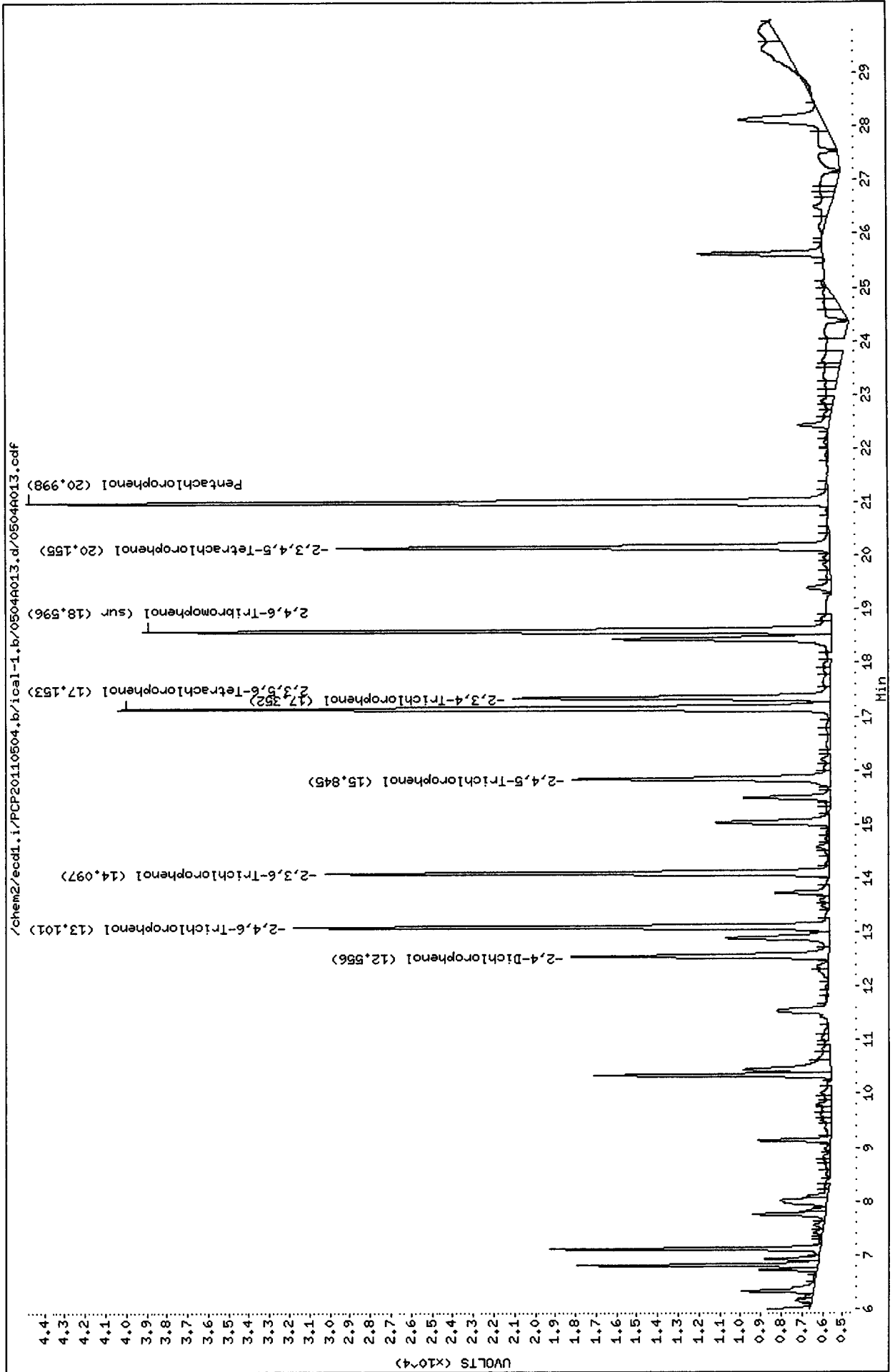
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecd1.1

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A013.d

Date : 04-MAY-2011 16:21

Client ID:

Sample Info: PCPE

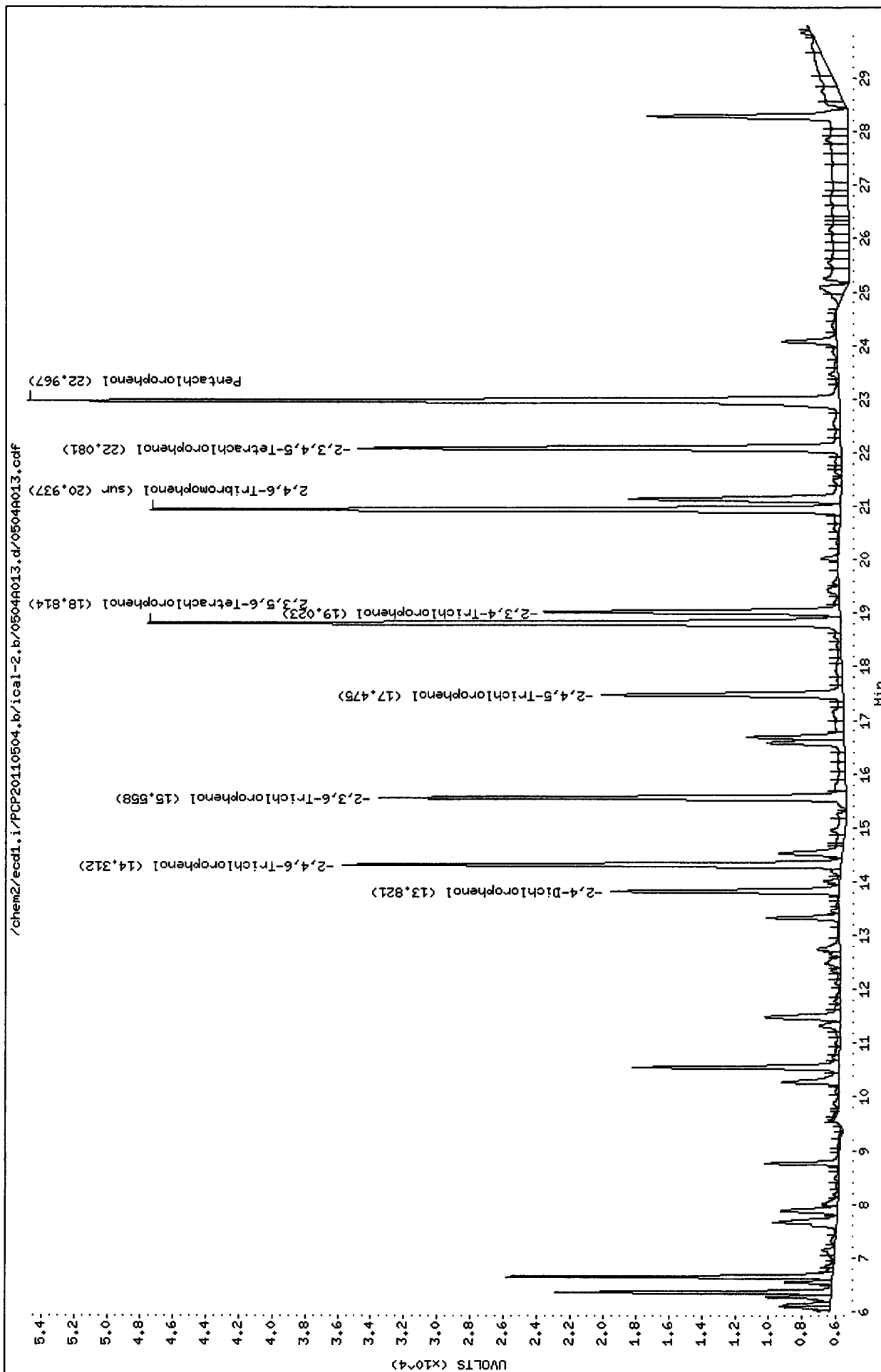
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



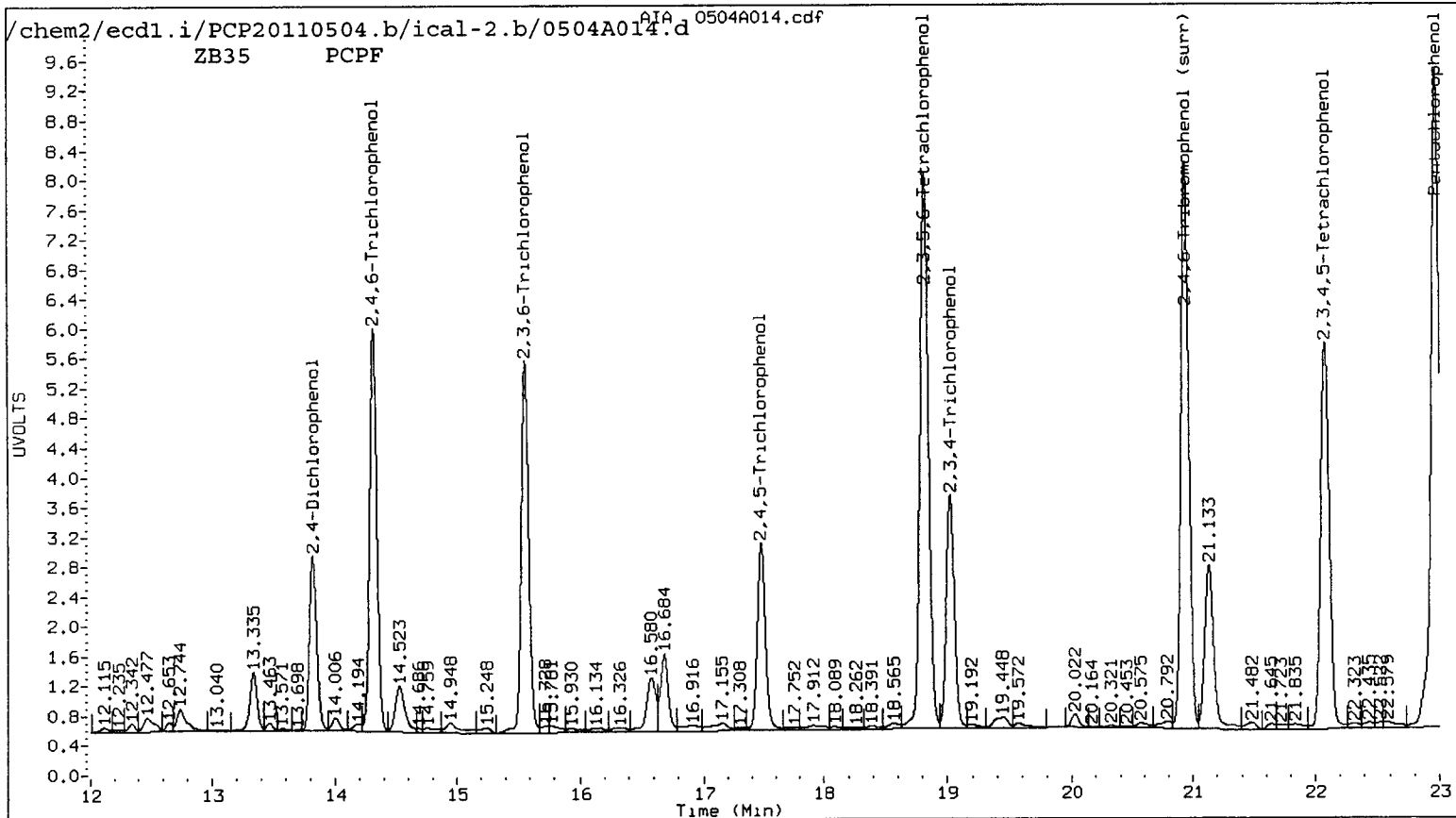
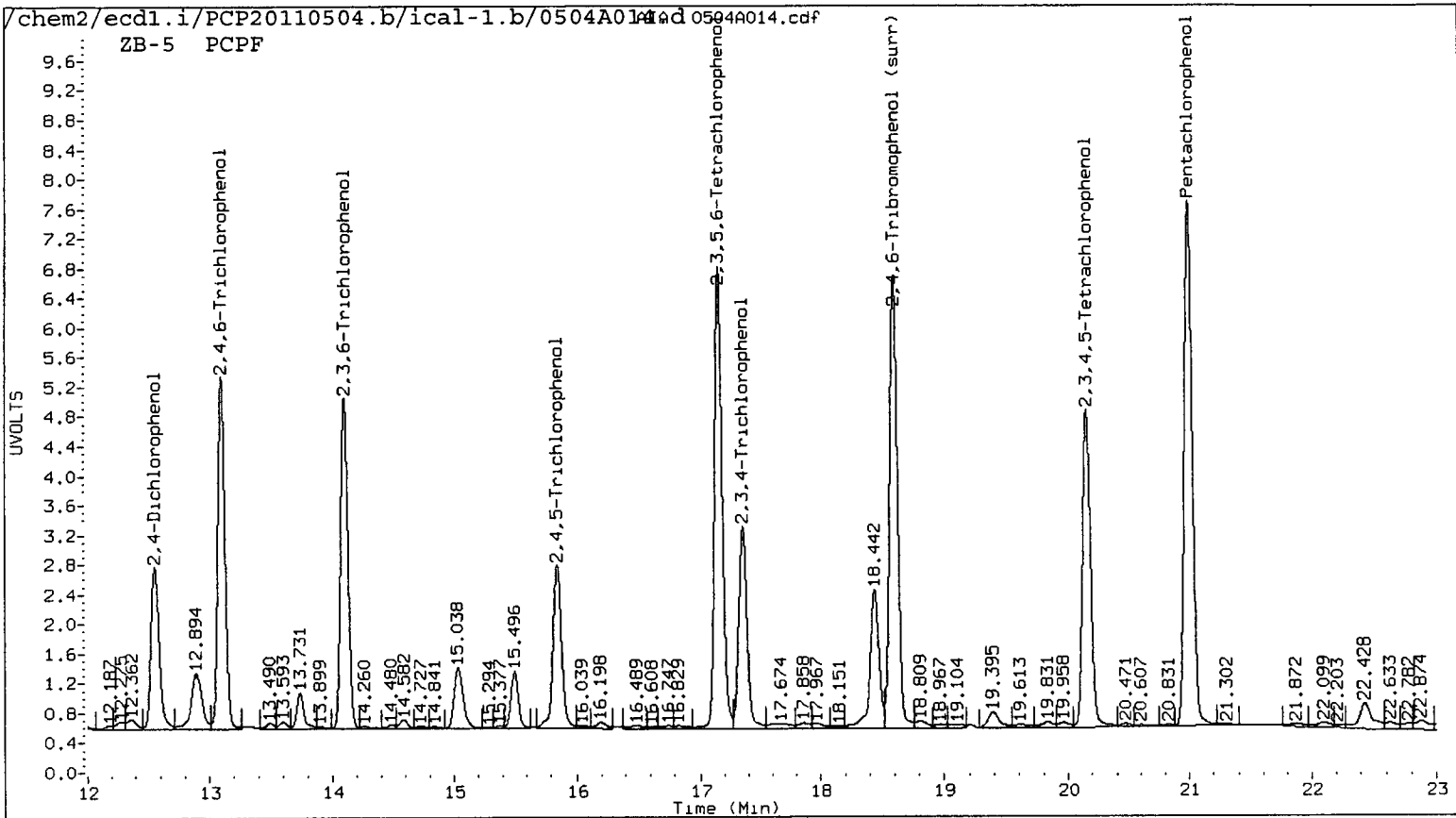
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

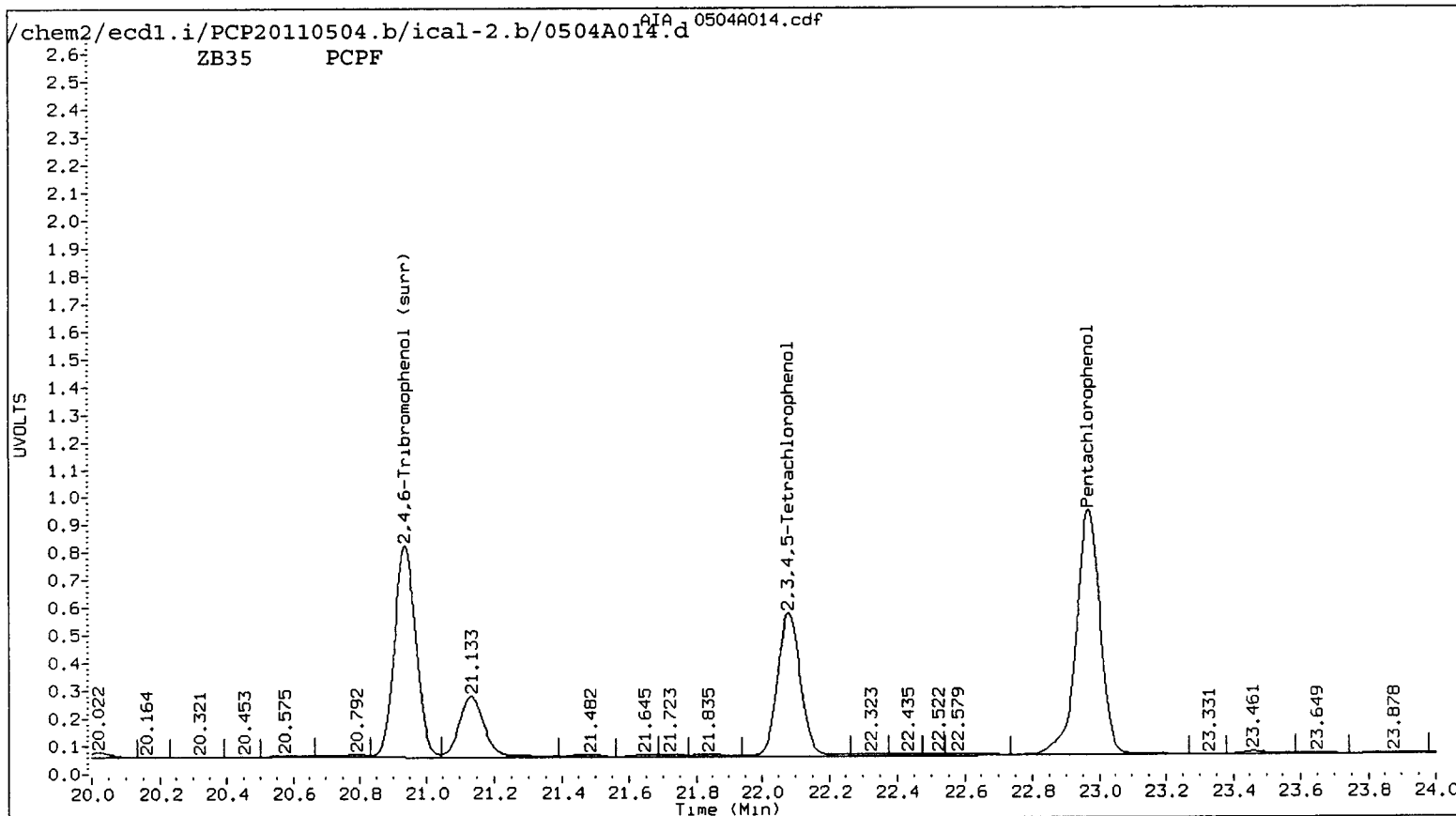
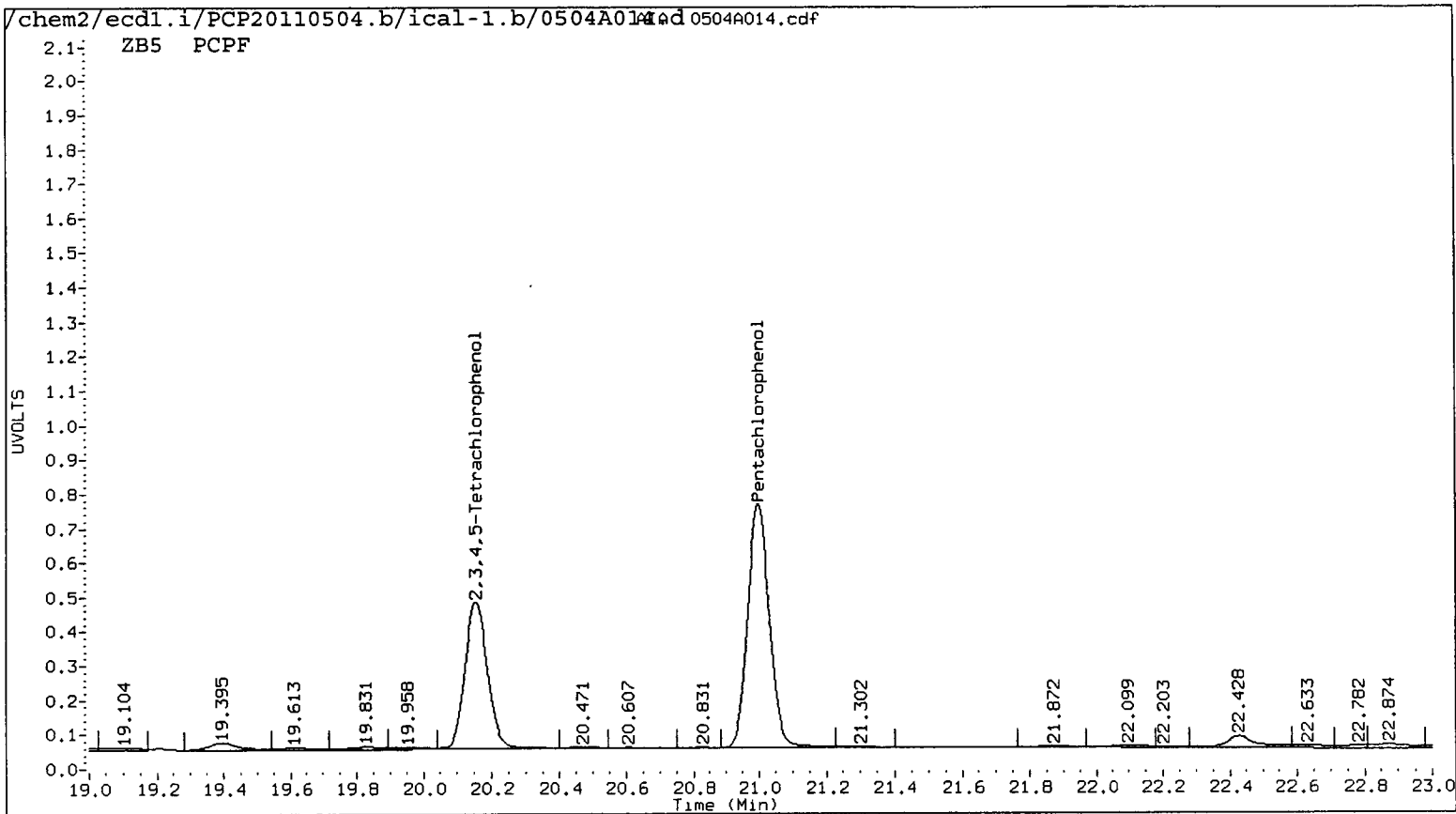
Data file 1: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A014.d ARI ID: PCPF
 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A014.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 16:57
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

RT	ZB-5 Col Shift Response	ZB35 Col Shift Response	ZB-5 on col	ZB35 on col	RPD	Compound
20.999	0.002 1629183	22.968 0.001 2229293	80.8562	79.1628	2.1	Pentachlorophenol
13.102	0.001 953234	14.311 0.000 1105237	78.3086	76.2560	2.7	2,4,6-Trichlorophenol
14.097	0.000 908546	15.559 0.002 1094858	79.3307	76.1725	4.1	2,3,6-Trichlorophenol
15.846	0.001 512989	17.475 0.001 590583	100.2030	72.9504	31.5	2,4,5-Trichlorophenol
17.351	0.000 632191	19.023 0.000 719354	75.6631	100.2377	27.9	2,3,4-Trichlorophenol
17.154	0.001 1387633	18.814 0.000 1735216	82.0758	79.0964	3.7	2,3,5,6-Tetrachloropheno
20.155	0.000 990411	22.081 0.001 1234197	76.2925	100.2187	27.1	2,3,4,5-Tetrachloropheno
12.556	0.001 481637	13.820 0.000 504644	1004.8445	1004.2680	0.1	2,4-Dichlorophenol
18.596	0.001 1354876	20.937 0.001 1734112	86.1	82.5	4.2	2,4,6-Tribromophenol (sur

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	344.2	329.9





Data File: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504R014.d

Date: 04-MAY-2011 16:57

Client ID:

Sample Info: PCPF

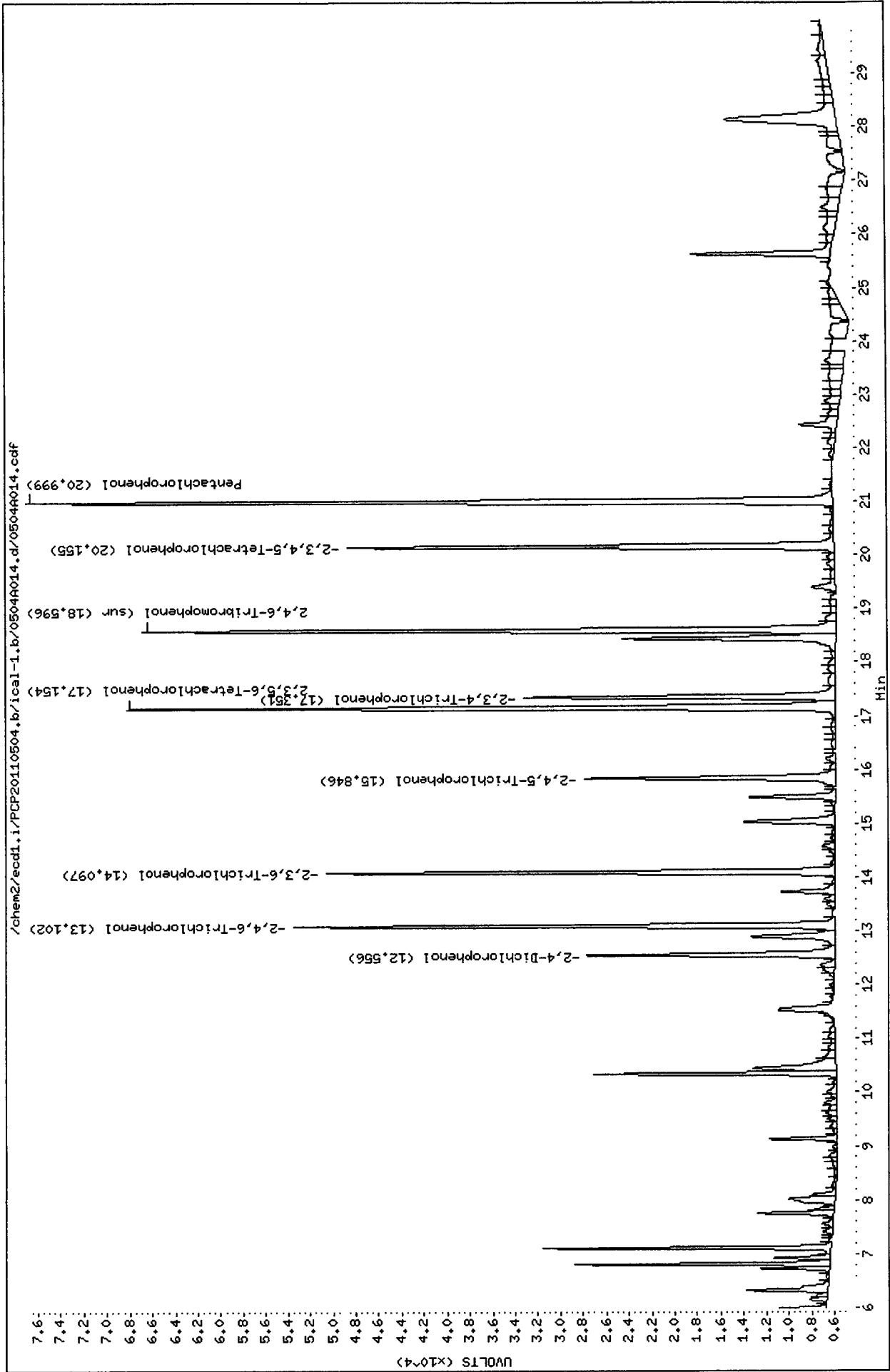
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecdl.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl1.i/PCP20110504.b/ical-2.b/0504A014.d

Date : 04-MAY-2011 16:57

Client ID:

Sample Info: PCPF

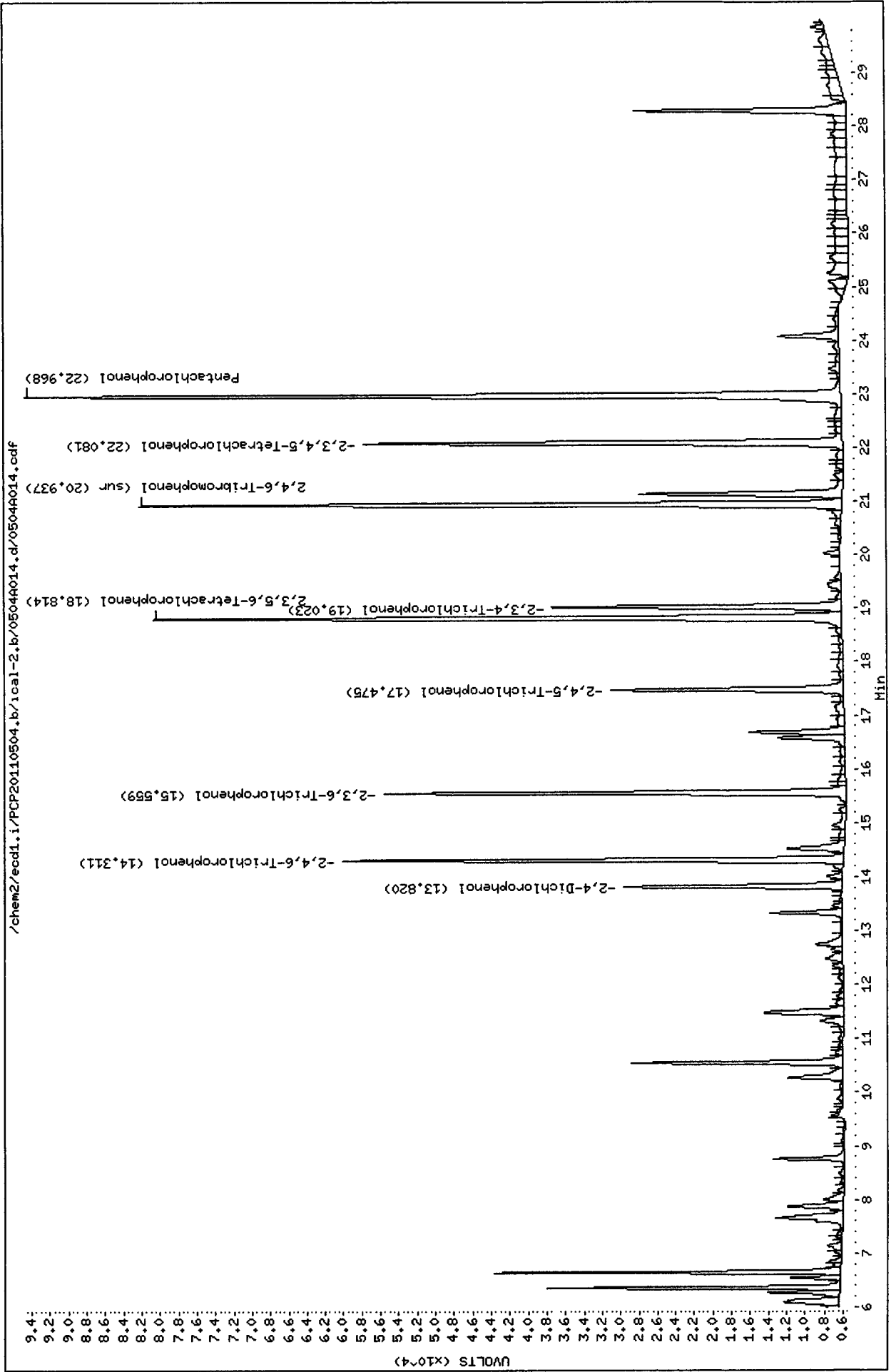
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



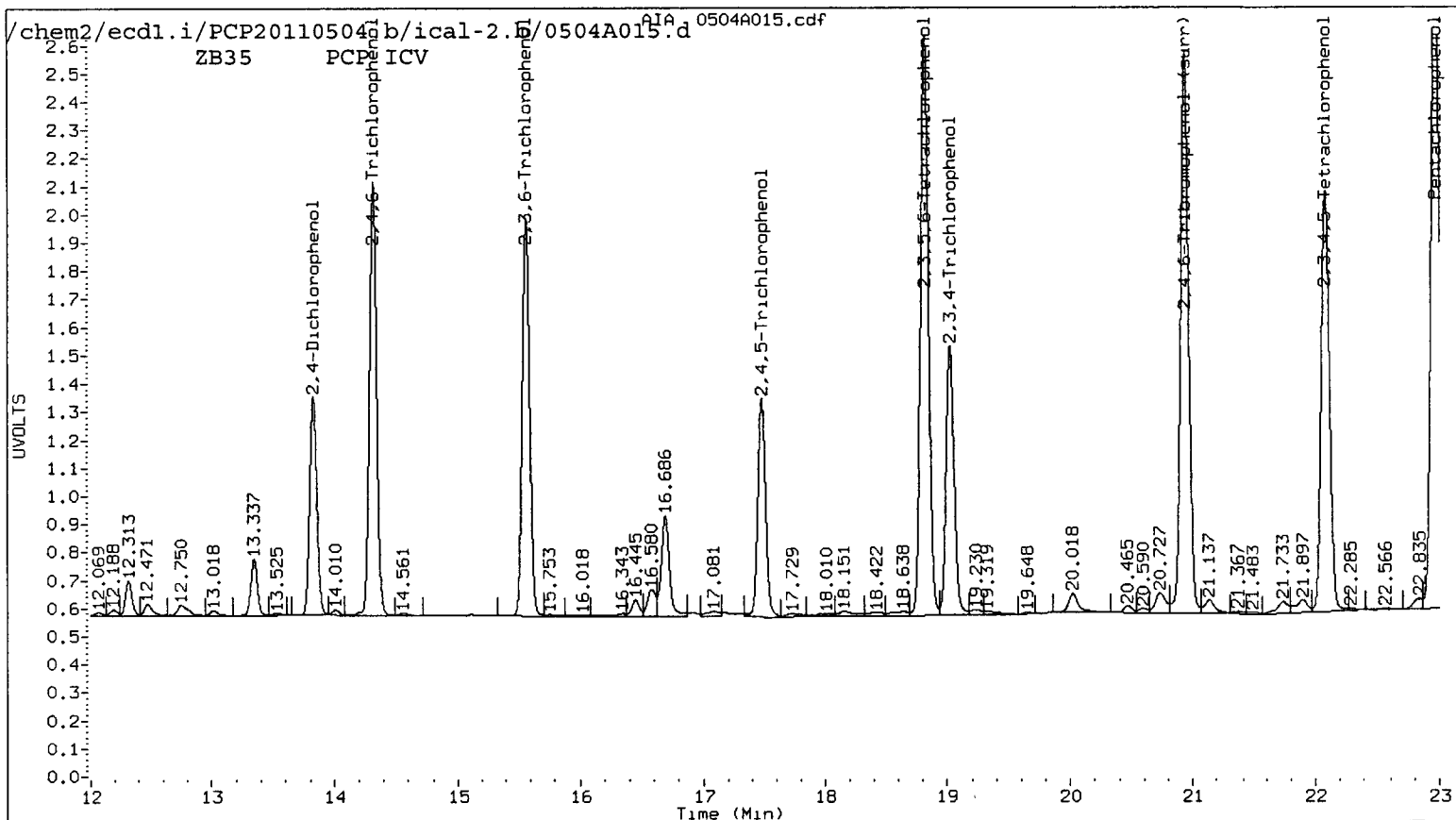
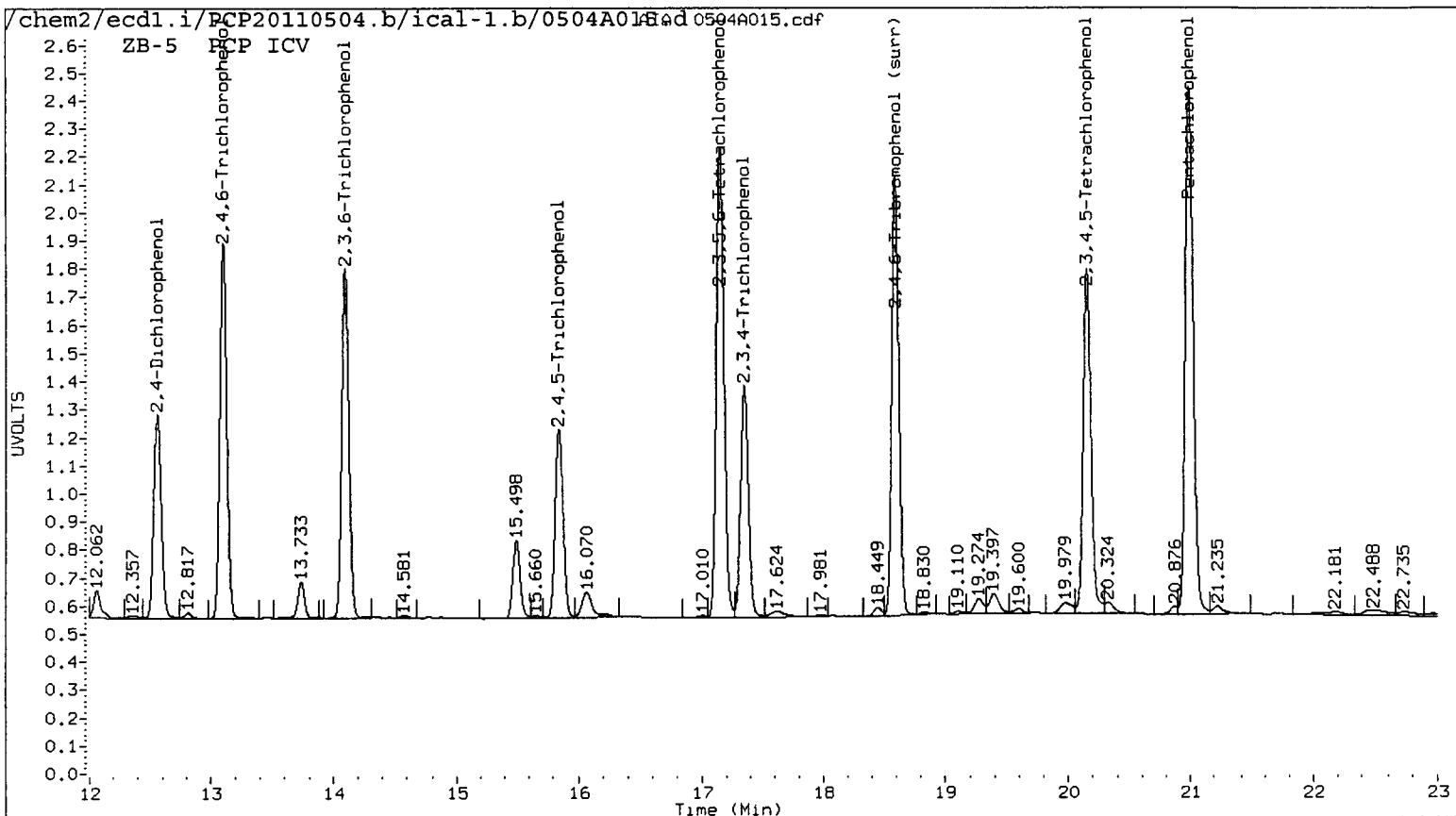
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

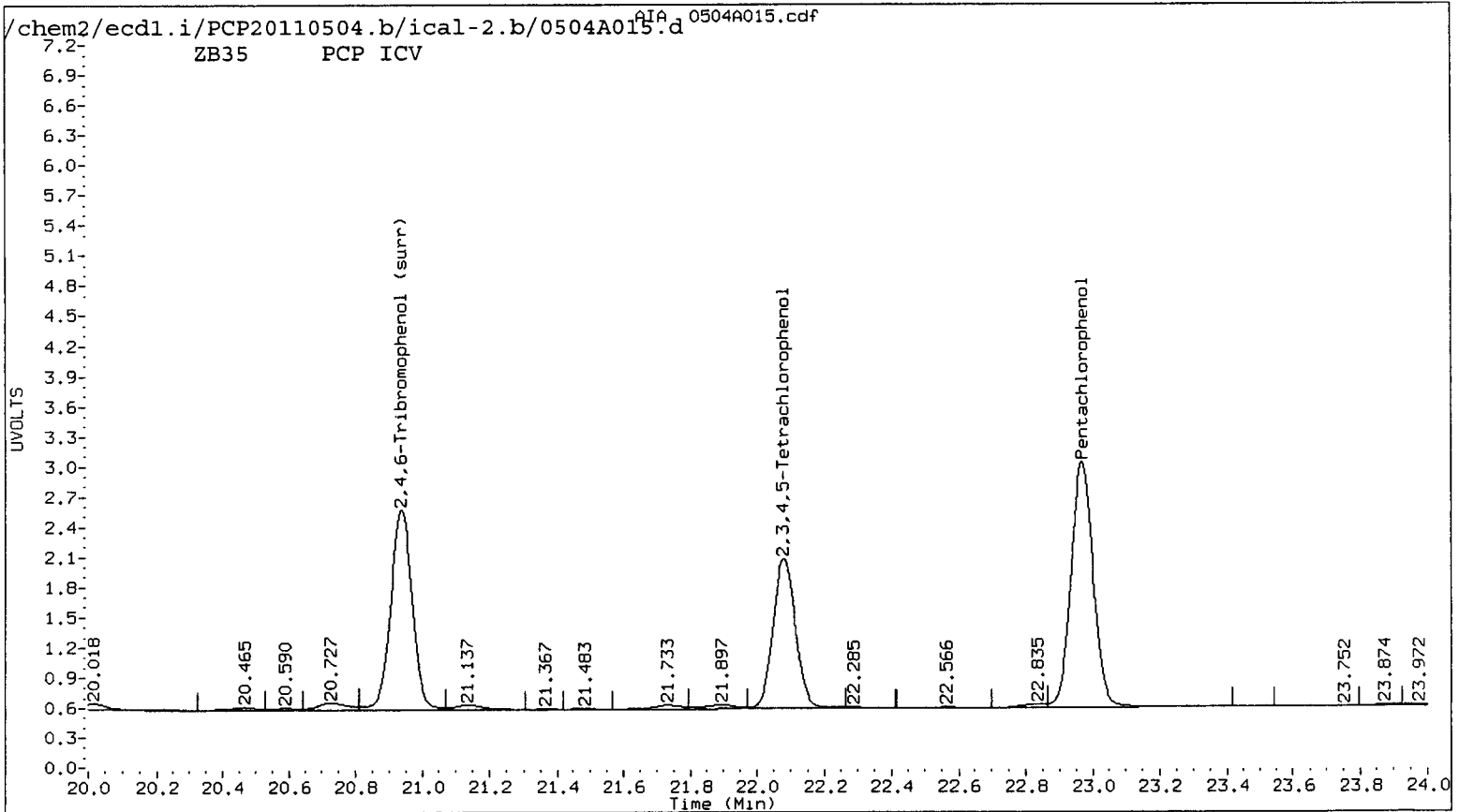
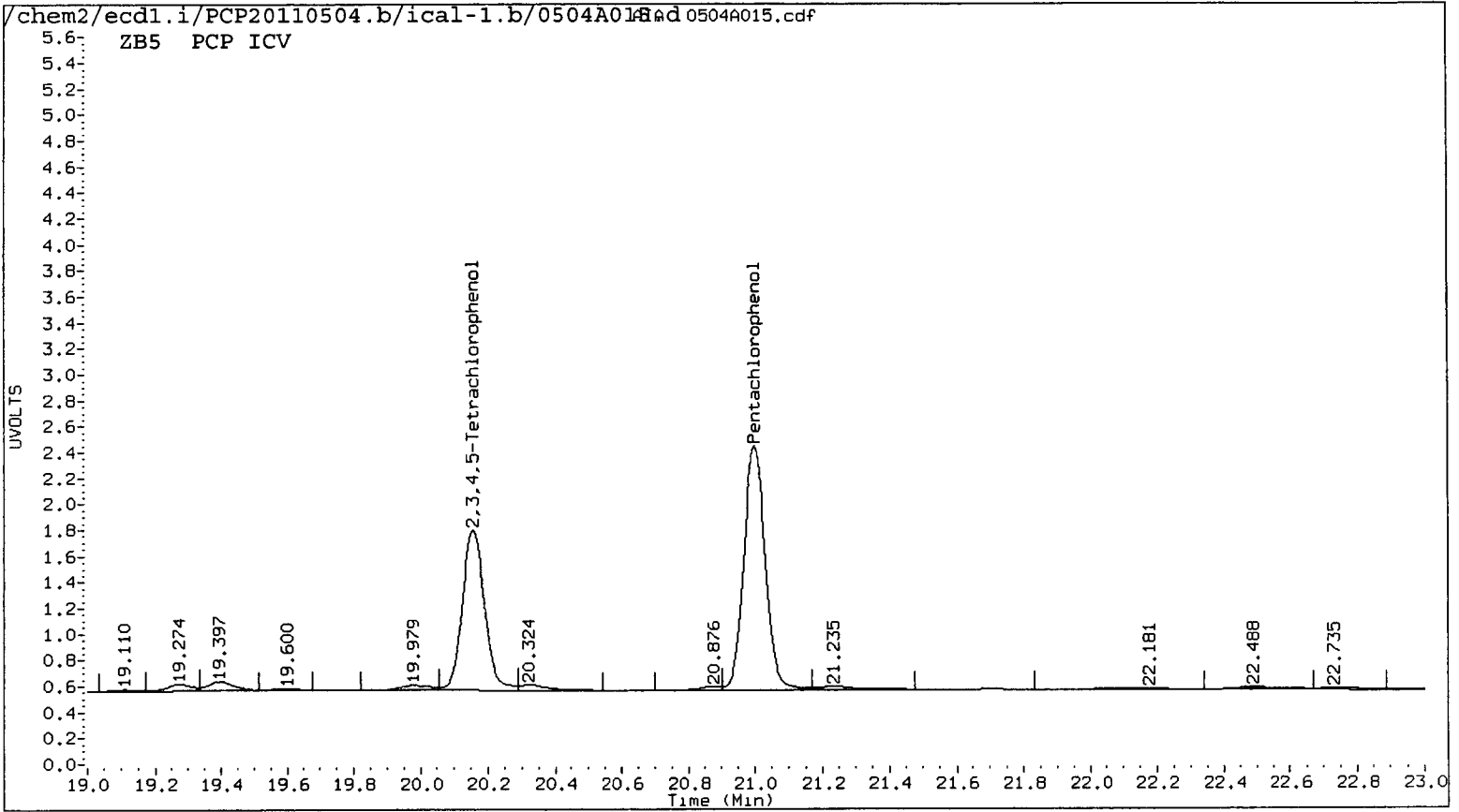
Data file 1: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A015.d ARI ID: PCP ICV
 Data file 2: /chem2/ecdl.i/PCP20110504.b/ical-2.b/0504A015.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 17:33
 Compound Sublist: all Report Date: 05/06/2011 10:51
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.999	0.002	419390	22.968	0.001	573013	20.8143	20.3478	2.3	Pentachlorophenol
13.103	0.002	261364	14.313	0.002	313109	21.4712	21.6030	0.6	2,4,6-Trichlorophenol
14.099	0.002	249795	15.560	0.003	297315	21.8111	20.6851	5.3	2,3,6-Trichlorophenol
15.847	0.002	142426	17.476	0.002	175158	21.0491	21.6360	2.7	2,4,5-Trichlorophenol
17.354	0.002	182226	19.024	0.001	220578	21.8095	23.9827	9.5	2,3,4-Trichlorophenol
17.155	0.002	353209	18.816	0.002	460959	20.8916	21.0119	0.6	2,3,5,6-Tetrachlorophenol
20.157	0.002	280017	22.081	0.001	345838	21.5700	22.3963	3.8	2,3,4,5-Tetrachlorophenol
12.557	0.002	154019	13.822	0.002	166897	231.9359	235.4487	1.5	2,4-Dichlorophenol
18.598	0.002	326814	20.938	0.002	449994	20.8	21.4	3.1	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	83.3	81.4
2,4,6-Trichlorophenol	85.9	86.4
2,3,6-Trichlorophenol	87.2	82.7
2,4,5-Trichlorophenol	84.2	86.5
2,3,4-Trichlorophenol	87.2	95.9
2,3,5,6-Tetrachlorophenol	83.6	84.0
2,3,4,5-Tetrachlorophenol	86.3	89.6
2,4-Dichlorophenol	92.8	94.2
2,4,6-TBP (surr)	41.5	42.8
	83.0	85.6





Data File: /chem2/ecdl.i/PCP20110504.b/ical-1.b/0504A015.d

Date : 04-MAY-2011 17:33

Client ID:

Sample Info: PCP ICV

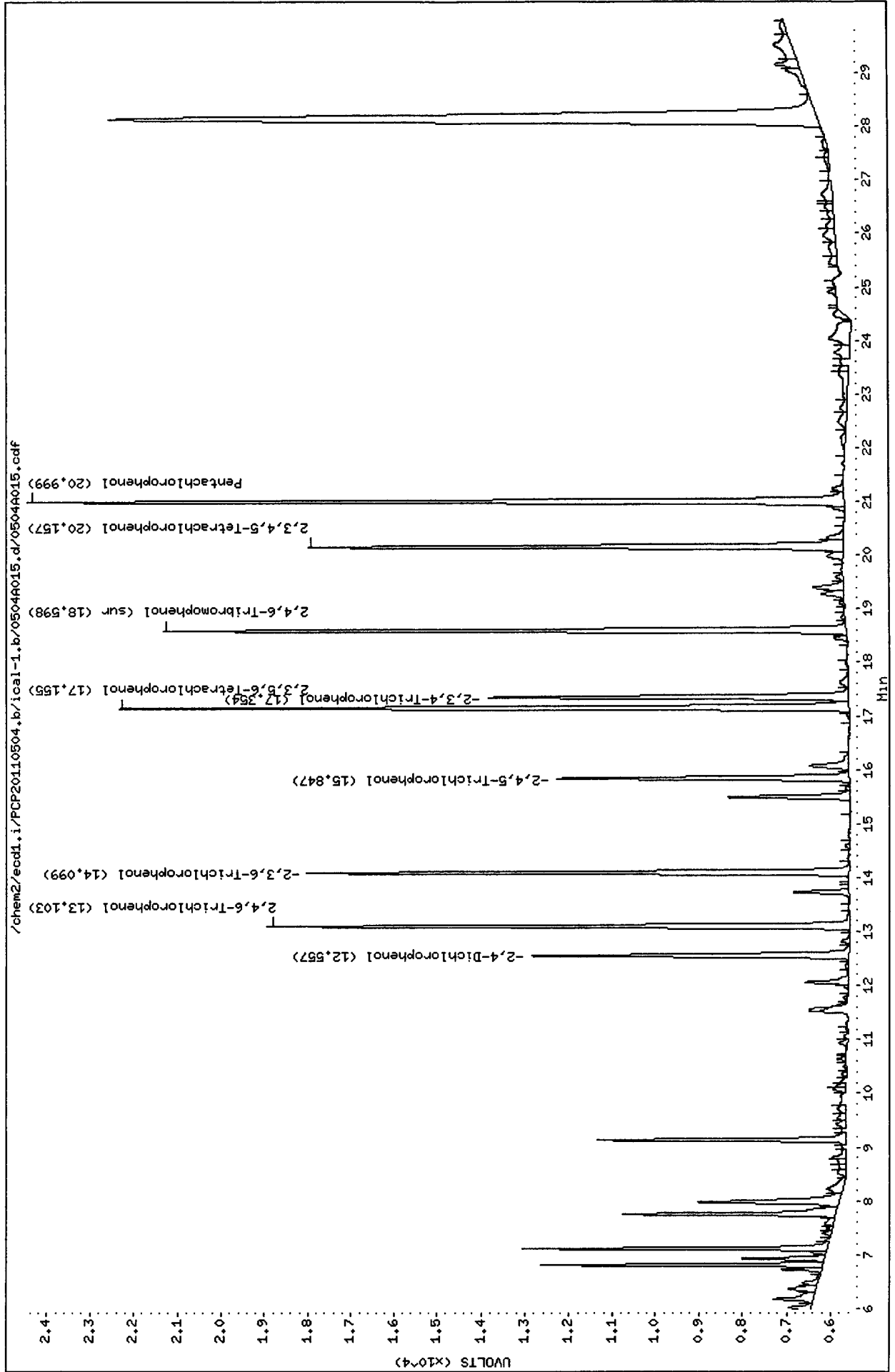
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecdl.i

Operator: ar

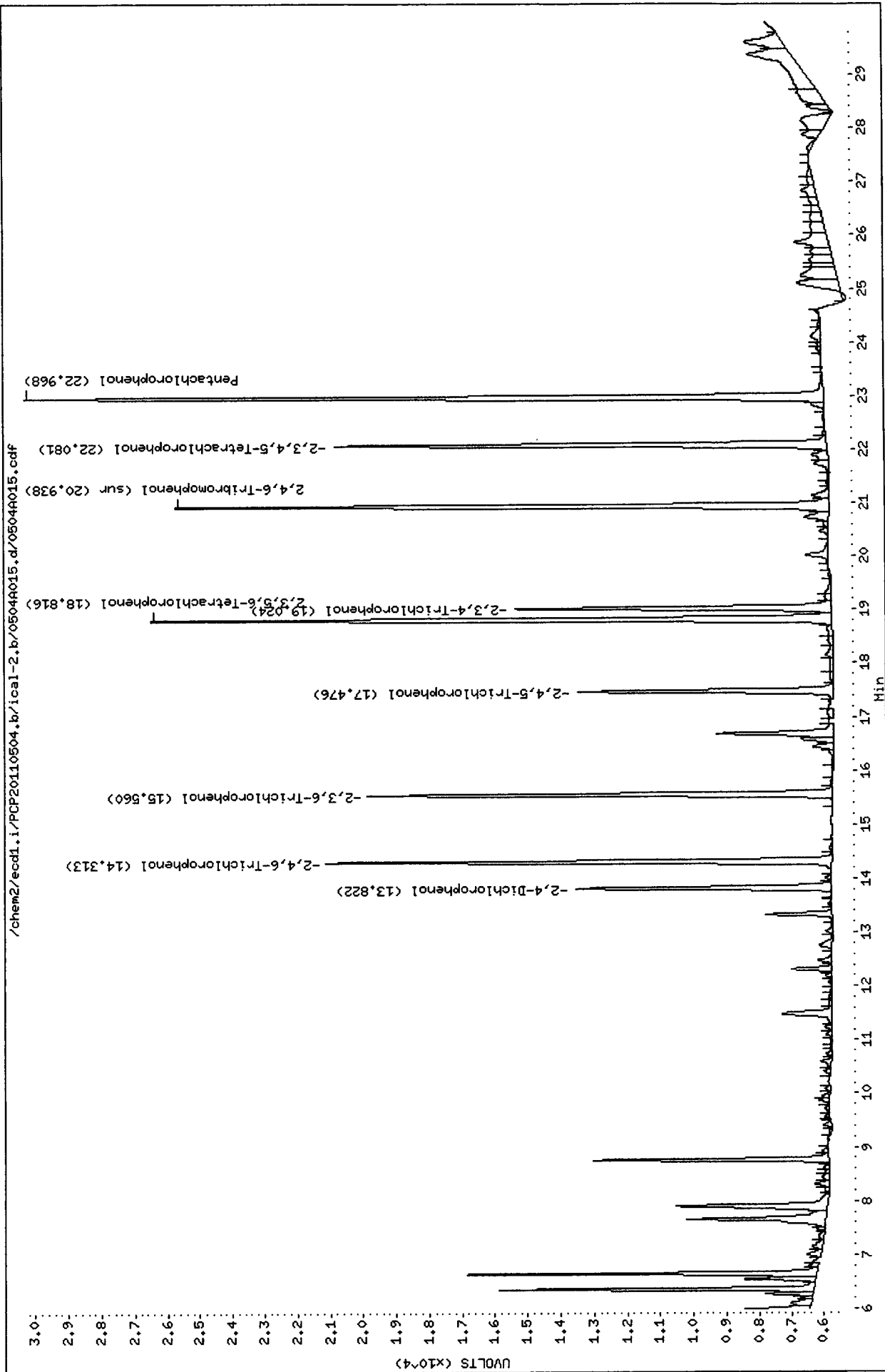
Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/ical-2.b/0504A015.d
Date : 04-MAY-2011 17:33
Client ID:
Sample Info: PCP ICV
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar
Column diameter: 0.53



**PCP/Chlorophenols Raw Data
Run Logs, Continuing Calibrations, and Raw Data**

ARI Job ID: SS83

GC Analyst Notes / Corrective Action Log

ARI Project ID: SS71 & SS83 Client ID: Floyd Snider

ARI SOP: **403S**(PCB) **405S**(Herb) **407S**(TPH-D) **409S**(HCID) **412S**(PCP) **423S**(Pest)
427S(Dir Inj) **428S**(EPH) **432S**(EDB) Other

Parameter(s): N/A

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8
FID-9 ECD-1 ECD-3 ECD-4 ECD-5 ECD-6 ECD-7

Dates: Curve: 5/4/2011 Analysis Start: 5/4/2011

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	<u>YES</u> / NO
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	<u>YES</u> / NO
CCal Meets RF & %RSD Criteria?	<u>YES</u> / NO	Surrogate Recovery In Control?	<u>YES</u> / NO
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	YES / <u>NO</u>
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	<u>YES</u> / NO / NA

VDP Requested

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

- Dilution & 2^o run
- Ccals meet for req'd analytes

Additional Details on Reverse: Yes / No

Analyst: [Signature] Date: 5/6/2011

Reviewer: [Signature] Date: 5/6/11

Analytical Resources Inc.: Organics Instrument Log

ECD1 Serial No.: 3410A39690

Date: 5/4/2011 Analysis: PCP Analyst: AR
 GC Program: HEBB.M Column No: 922995/801692 Column Type: 5TXCLP1/2
 Calibration File: PCP20110504.b Curve Date: 5/4/2011 Injection Vol.: 2µL

IS/SS	Ical/Ccal	LCS/ICV
	1791-4	1820-4

Document All Maintenance Tasks In StarLIMS

GC LOG SUMMARY FOR DATABATCH - /chem2/ecdl.i/PCP20110504.b/0504-2.b

Inject	Date/Time	Filename	DF	LabID	ClientID
1	04-MAY-2011 18:10	0504A016.d	1	PCP CCAL - <i>Passes</i>	
2	04-MAY-2011 18:46	0504A017.d	1	SS71MBW1	SS71MBW1
3	04-MAY-2011 19:22	0504A018.d	1	SS71LCSW1	SS71LCSW1
4	04-MAY-2011 19:59	0504A019.d	1	SS71LCSDW1	SS71LCSDW1
5	04-MAY-2011 20:35	0504A020.d	1	SS71QLS	
6	04-MAY-2011 21:11	0504A021.d	1	SS71T	LL-ER-041911
7	04-MAY-2011 21:48	0504A022.d	1	SS83P	DMA-RB-042011
8	04-MAY-2011 22:24	0504A023.d	10	SS52A	27-D
9	04-MAY-2011 23:00	0504A024.d	1	SS52B	11-A
10	04-MAY-2011 23:37	0504A025.d	10	SS52C	GM-5
11	05-MAY-2011 00:13	0504A026.d	1	SS52D	GM-6
12	05-MAY-2011 00:49	0504A027.d	1	PCP	
13	05-MAY-2011 01:25	0504A028.d	1	PCP CCAL - <i>Passes</i>	
14	05-MAY-2011 02:02	0504A029.d	5	SS52G	24-B
15	05-MAY-2011 02:38	0504A030.d	100	SS51D	5-A
16	05-MAY-2011 03:14	0504A031.d	1	PCP	
17	05-MAY-2011 03:50	0504A032.d	52	SS51E	22 <i>AR 5/6/2011</i>
18	05-MAY-2011 04:26	0504A033.d	10	SS51F	16-A
19	05-MAY-2011 05:03	0504A034.d	10	SS51G	16-D
20	05-MAY-2011 05:39	0504A035.d	10	SS51H	25-B
21	05-MAY-2011 06:15	0504A036.d	1	SS51I	25-A
22	05-MAY-2011 06:51	0504A037.d	10	SS51T	27-B
23	05-MAY-2011 07:27	0504A038.d	1	PCP	
24	05-MAY-2011 08:04	0504A039.d	1	PCP CCAL - <i>Passes</i>	
25	05-MAY-2011 08:40	0504A040.d	1	SS71MBS1	SS71MBS1
26	05-MAY-2011 09:16	0504A041.d	1	SS71LCS1	SS71LCS1
27	05-MAY-2011 09:52	0504A042.d	1	SS71LCS1	SS71LCS1
28	05-MAY-2011 10:29	0504A043.d	1	SS71QLS	
29	05-MAY-2011 11:05	0504A044.d	1	SS71A	LL-SB6-0-0.5-041811
30	05-MAY-2011 11:41	0504A045.d	1	SS71B	LL-SB6-1.5-2-041811
31	05-MAY-2011 12:18	0504A046.d	1	SS71C	LL-SB6-2-4-041811
32	05-MAY-2011 12:54	0504A047.d	1	SS71D	LL-SB5-0-0.5-041811
33	05-MAY-2011 13:30	0504A048.d	1	SS71E	LL-SB5-1.5-2-041811
34	05-MAY-2011 14:07	0504A049.d	1	SS71F	LL-SB5-2-4-041811
35	05-MAY-2011 14:43	0504A050.d	1	PCP	
36	05-MAY-2011 15:19	0504A051.d	1	PCP CCAL - <i>Passes</i>	
37	05-MAY-2011 15:56	0504A052.d	1	SS71G	LL-SB4-0-0.5-041911
38	05-MAY-2011 16:32	0504A053.d	1	SS71H	LL-SB4-1.5-2-041911
39	05-MAY-2011 17:08	0504A054.d	1	SS71I	LL-SB4-2-4-041911
40	05-MAY-2011 17:45	0504A055.d	1	SS71IMS	LL-SB4-2-4-0419 MS
41	05-MAY-2011 18:21	0504A056.d	1	SS71IMSD	LL-SB4-2-4-0419 MSD
42	05-MAY-2011 18:57	0504A057.d	1	SS71J	LL-SB3-0-0.5-041911
43	05-MAY-2011 19:34	0504A058.d	1	SS71K	LL-SB3-1.5-2-041911
44	05-MAY-2011 20:10	0504A059.d	1	SS71L	LL-SB3-2-4-041911
45	05-MAY-2011 20:46	0504A060.d	1	SS71M	LL-SB2-0-0.5-041911
46	05-MAY-2011 21:23	0504A061.d	1	SS71N	LL-SB2-1.5-2-041911
47	05-MAY-2011 21:59	0504A062.d	1	PCP	
48	05-MAY-2011 22:35	0504A063.d	1	PCP CCAL - <i>Passes</i>	
49	05-MAY-2011 23:12	0504A064.d	1	SS71O	LL-SB2-2-3.5-041911
50	05-MAY-2011 23:48	0504A065.d	1	SS71P	LL-SB1-0-0.5-041911
51	06-MAY-2011 00:24	0504A066.d	1	SS71Q	LL-SB1-0-0.5-041911
52	06-MAY-2011 01:00	0504A067.d	1	SS71R	LL-SB1-1.5-2-041911
53	06-MAY-2011 01:37	0504A068.d	1	SS71S	LL-SB1-2-4-041911
54	06-MAY-2011 02:13	0504A069.d	1	PCP	
55	06-MAY-2011 02:49	0504A070.d	1	PCP CCAL - <i>Passes</i>	

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In StarLIMS

AR 5/6/2011

Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

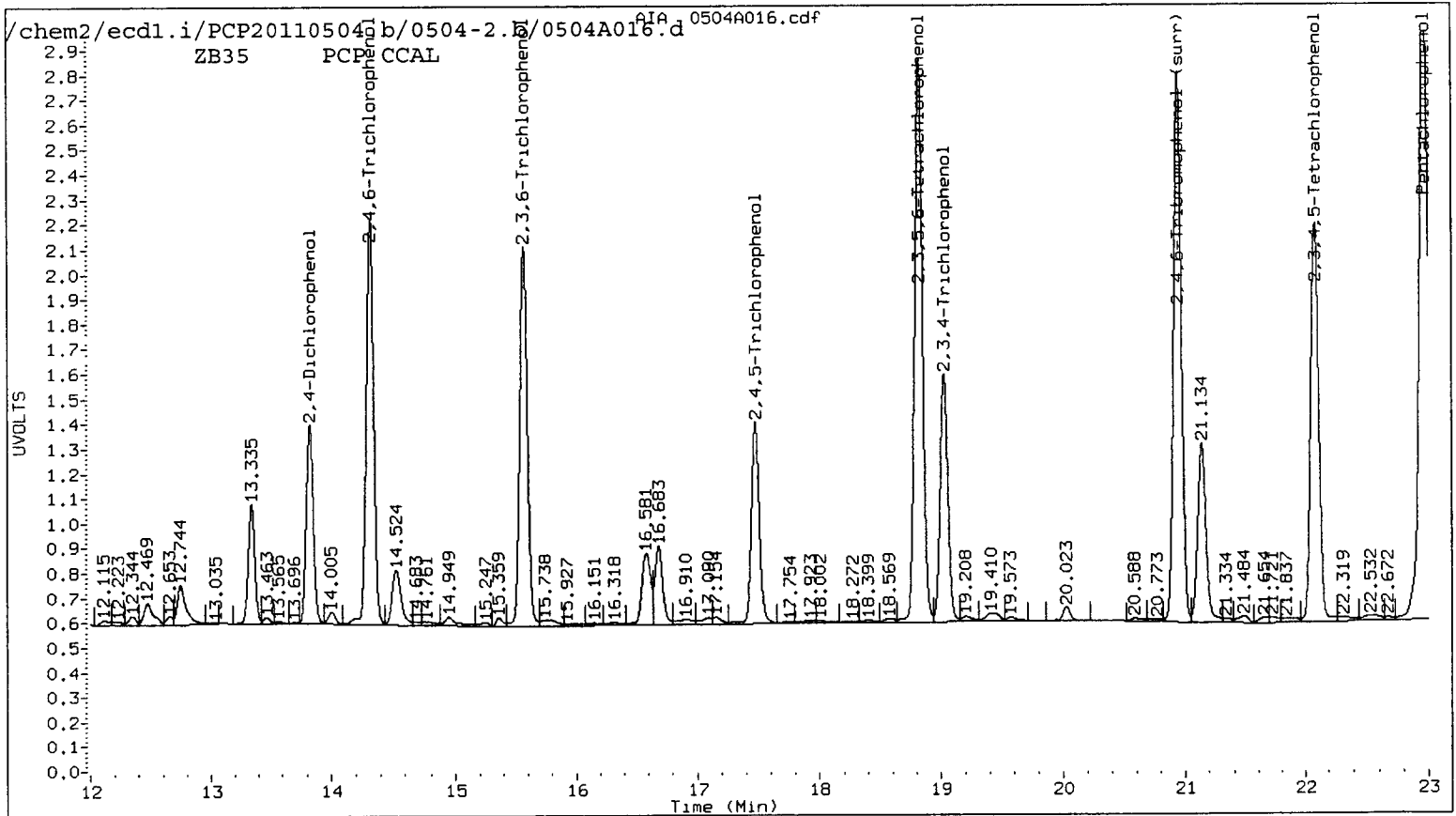
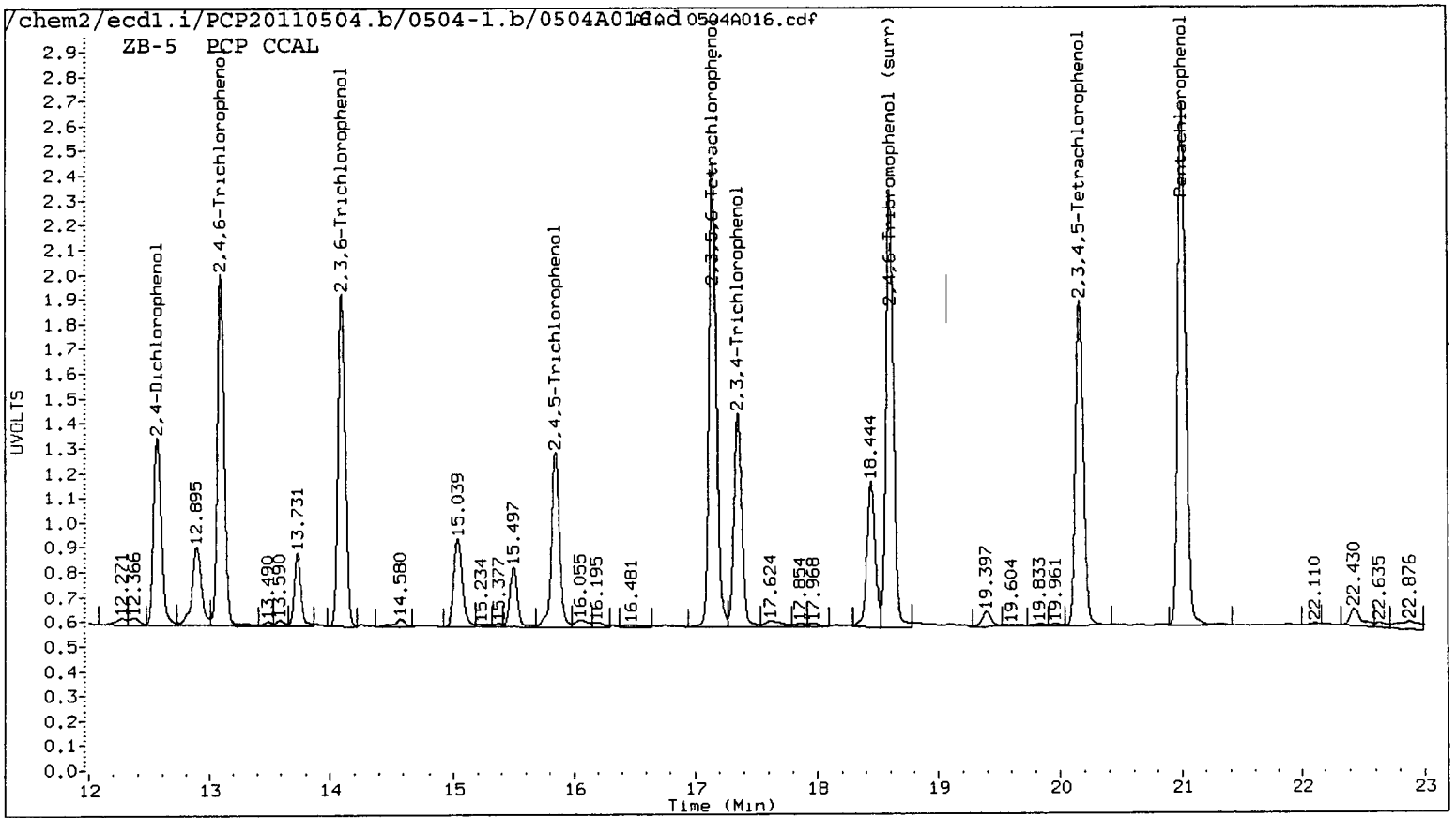
AR 5/6/2011

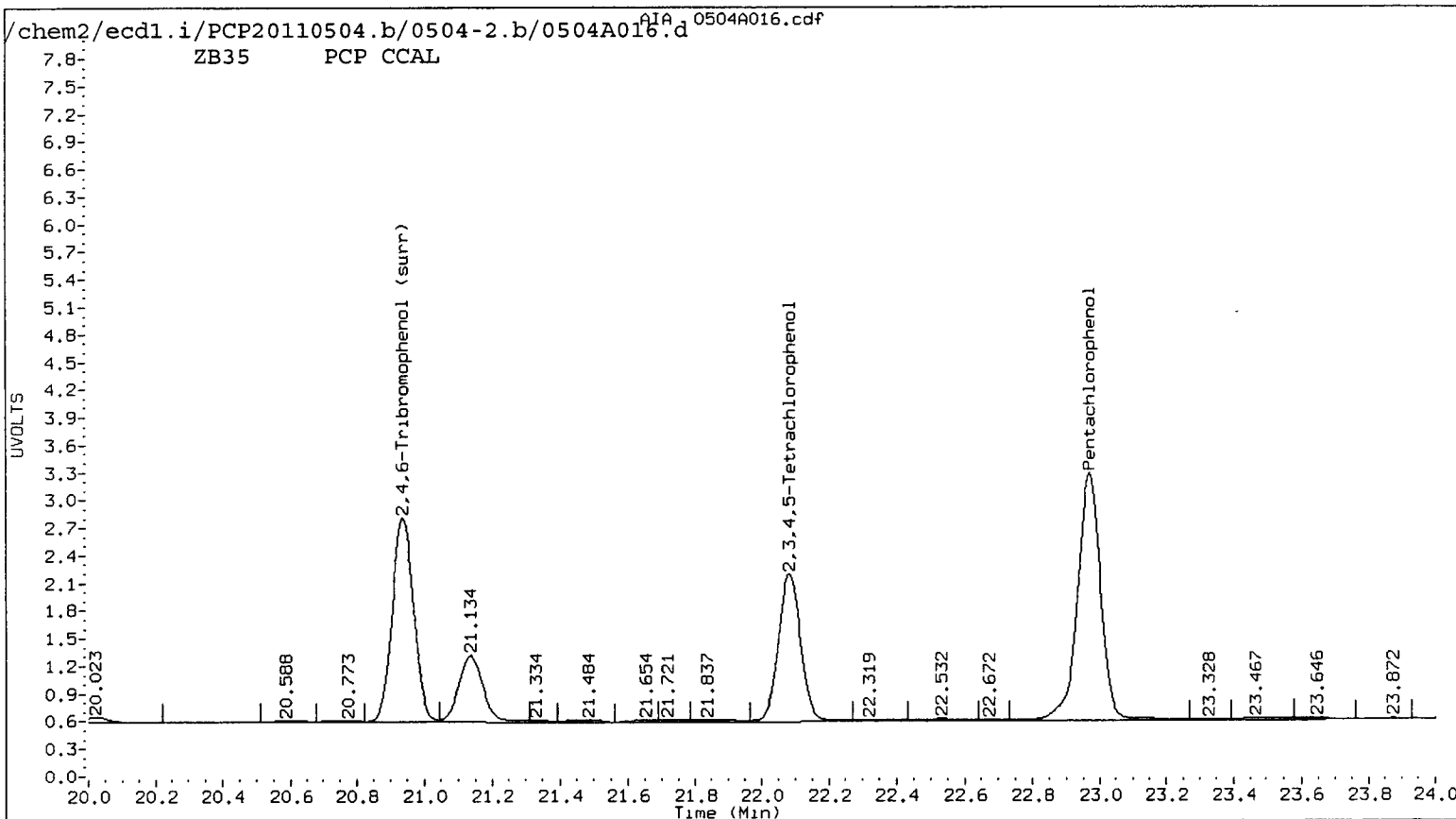
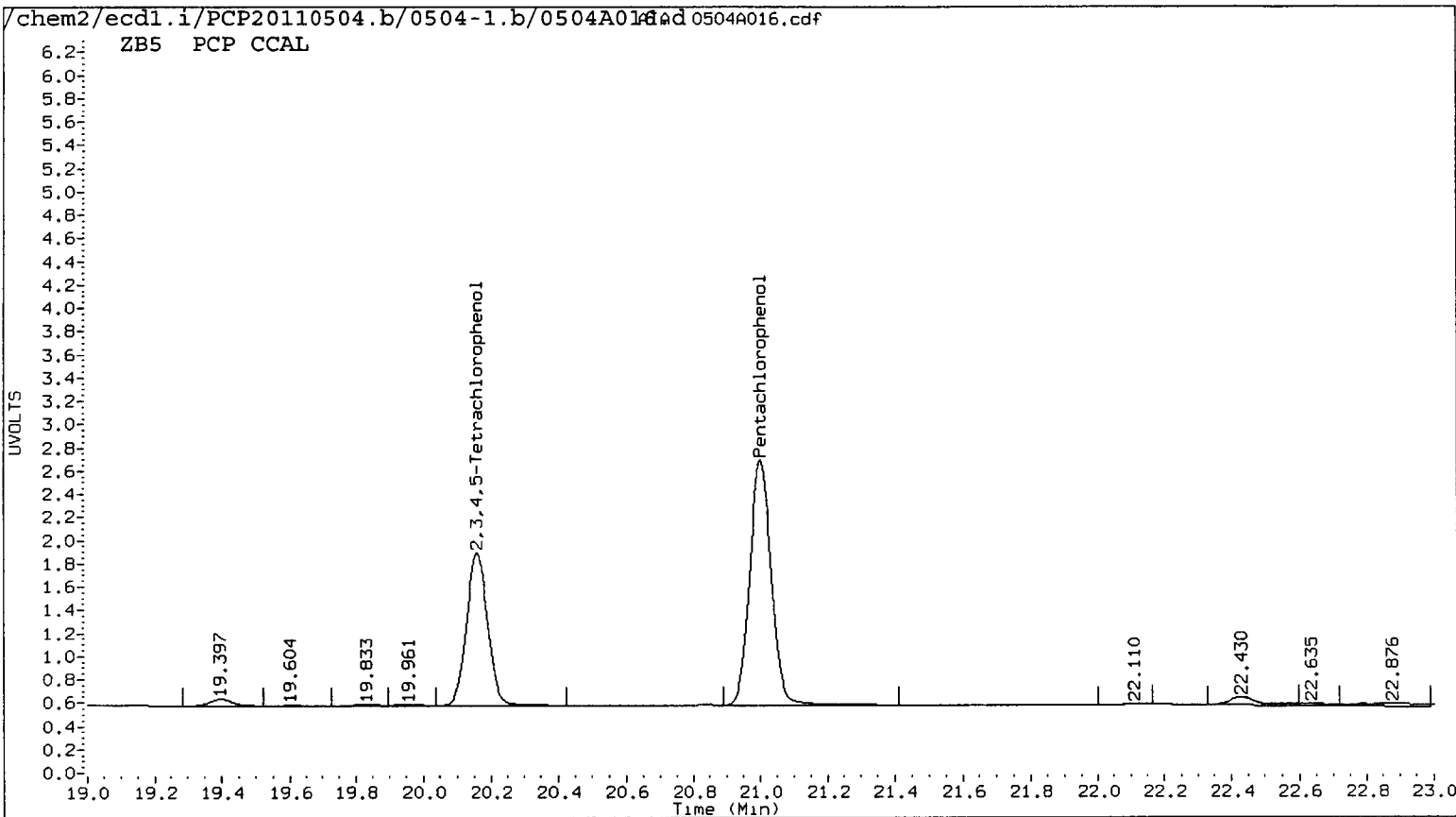
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 18:10
 Compound Sublist: all Report Date: 05/06/2011 11:11
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col		ZB35 Col		ZB-5	ZB35	RPD	Compound
RT	Shift Response	RT	Shift Response	on col	on col		
21.000	0.002 473322	22.969	0.002 661001	23.4909	23.4723	0.1	Pentachlorophenol
13.101	0.000 283966	14.312	0.001 335921	23.3279	23.1770	0.6	2,4,6-Trichlorophenol
14.097	0.000 266073	15.558	0.001 327947	23.2325	22.8163	1.8	2,3,6-Trichlorophenol
15.846	0.001 163952	17.475	0.001 186383	24.6834	23.0226	7.0	2,4,5-Trichlorophenol
17.353	0.001 194175	19.024	0.001 225239	23.2397	24.5540	5.5	2,3,4-Trichlorophenol
17.154	0.001 401424	18.815	0.001 509727	23.7435	23.2349	2.2	2,3,5,6-Tetrachlorophenol
20.156	0.002 291334	22.082	0.002 375332	22.4418	24.5112	8.8	2,3,4,5-Tetrachlorophenol
12.557	0.002 169736	13.821	0.001 170839	260.3304	242.1664	7.2	2,4-Dichlorophenol
18.597	0.001 376880	20.938	0.002 491589	23.9	23.4	2.3	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	94.0	93.9
2,4,6-Trichlorophenol	93.3	92.7
2,3,6-Trichlorophenol	92.9	91.3
2,4,5-Trichlorophenol	98.7	92.1
2,3,4-Trichlorophenol	93.0	98.2
2,3,5,6-Tetrachlorophenol	95.0	92.9
2,3,4,5-Tetrachlorophenol	89.8	98.0
2,4-Dichlorophenol	104.1	96.9
2,4,6-TBP (surr)	95.8	93.5





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Date: 04-MAY-2011 18:10

Client ID:

Sample Info: PCP CCAL

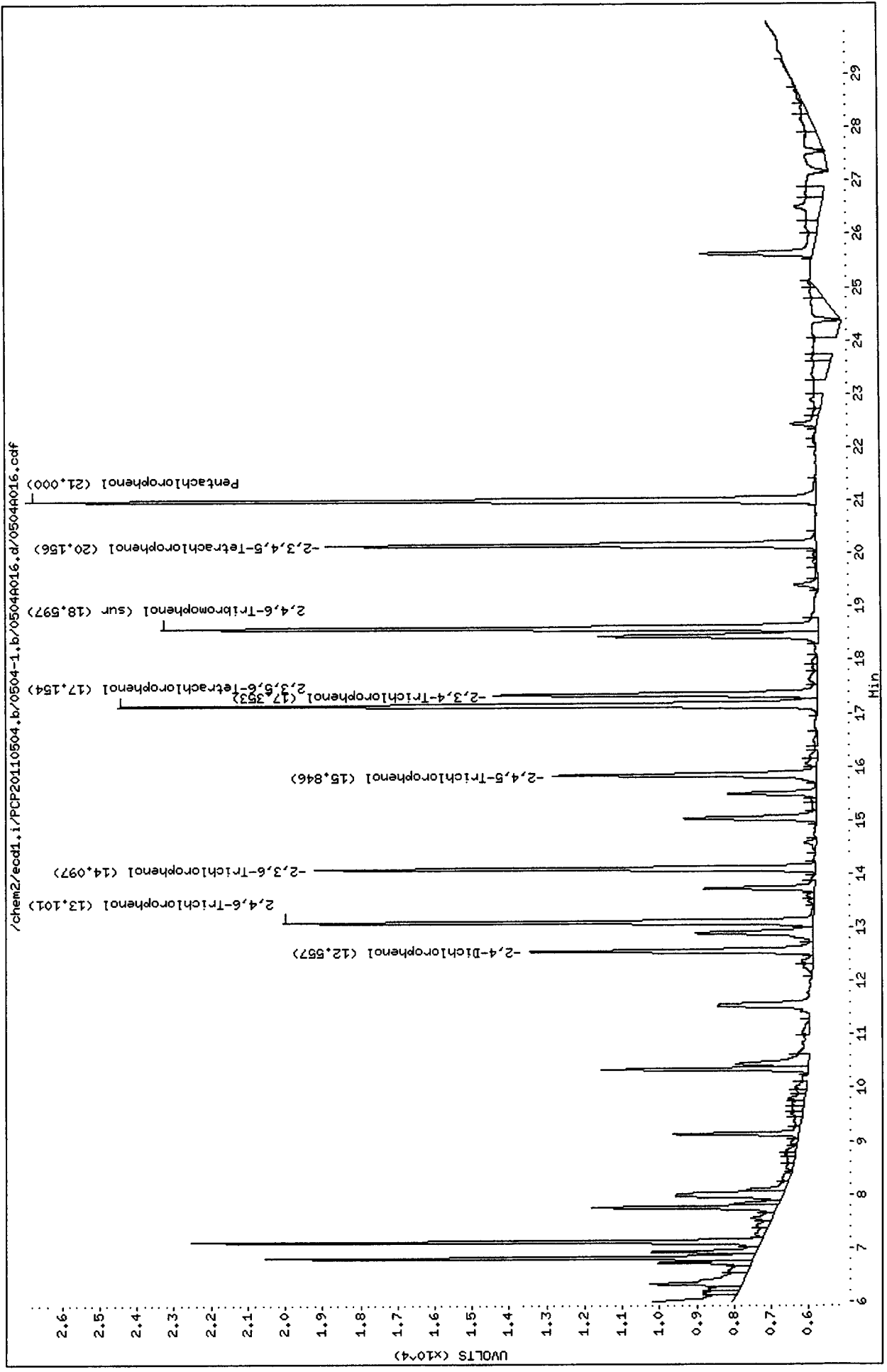
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecdl1.i

Operator: ar

Column diameter: 0.53



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Date : 04-MAY-2011 18:10

Client ID:

Sample Info: PCP CCAL

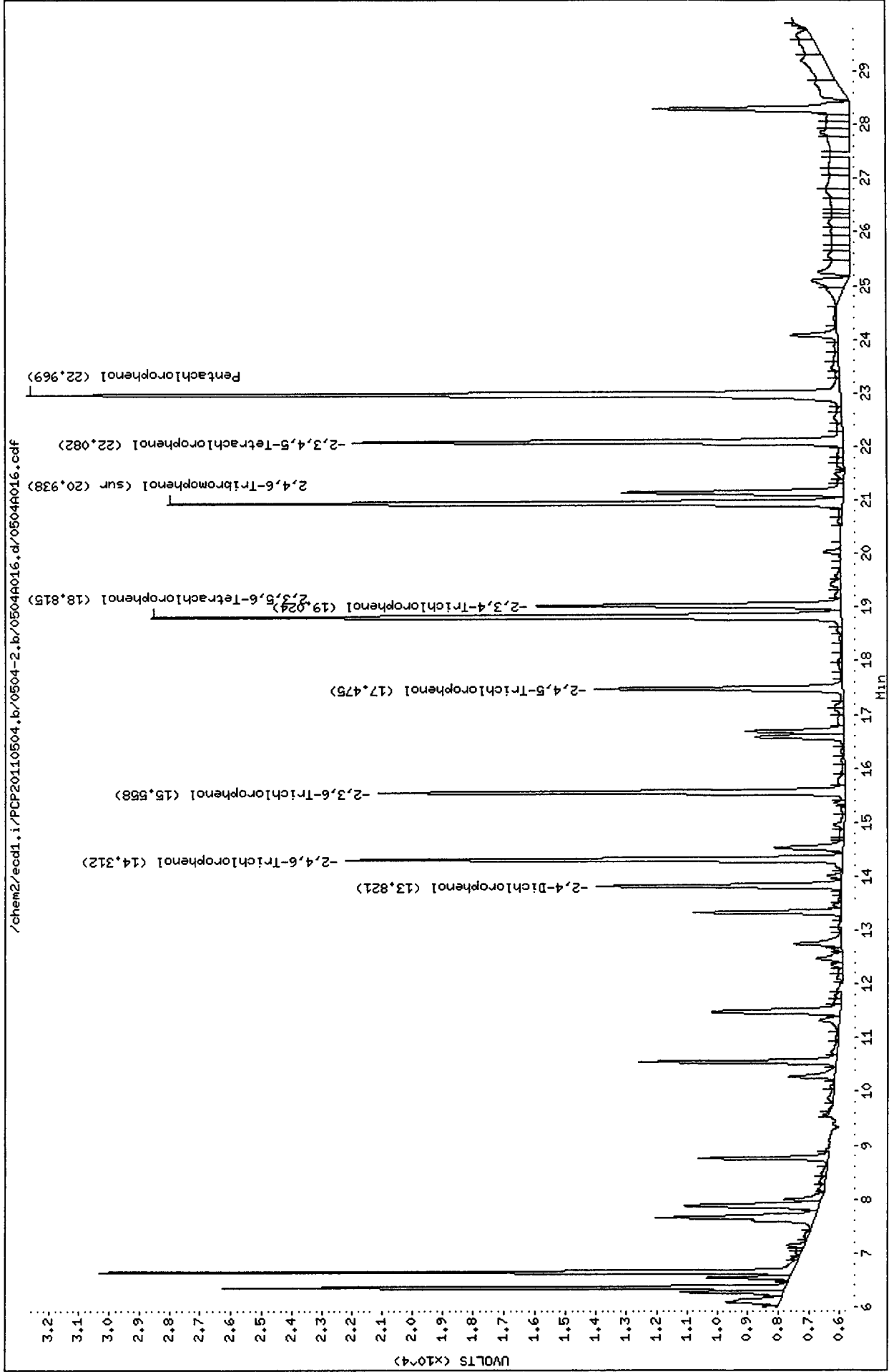
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecdl1.i

Operator: ar

Column diameter: 0.53



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

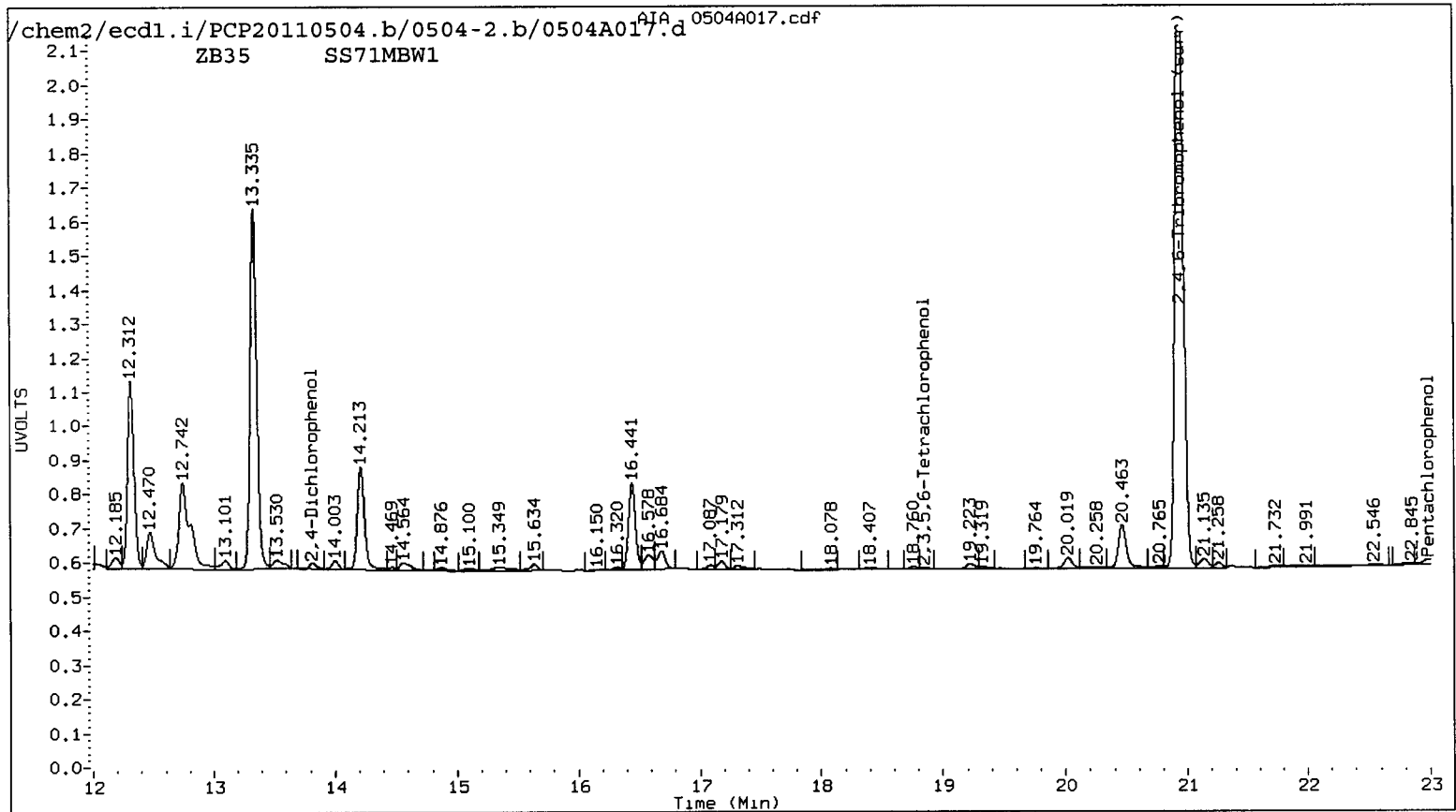
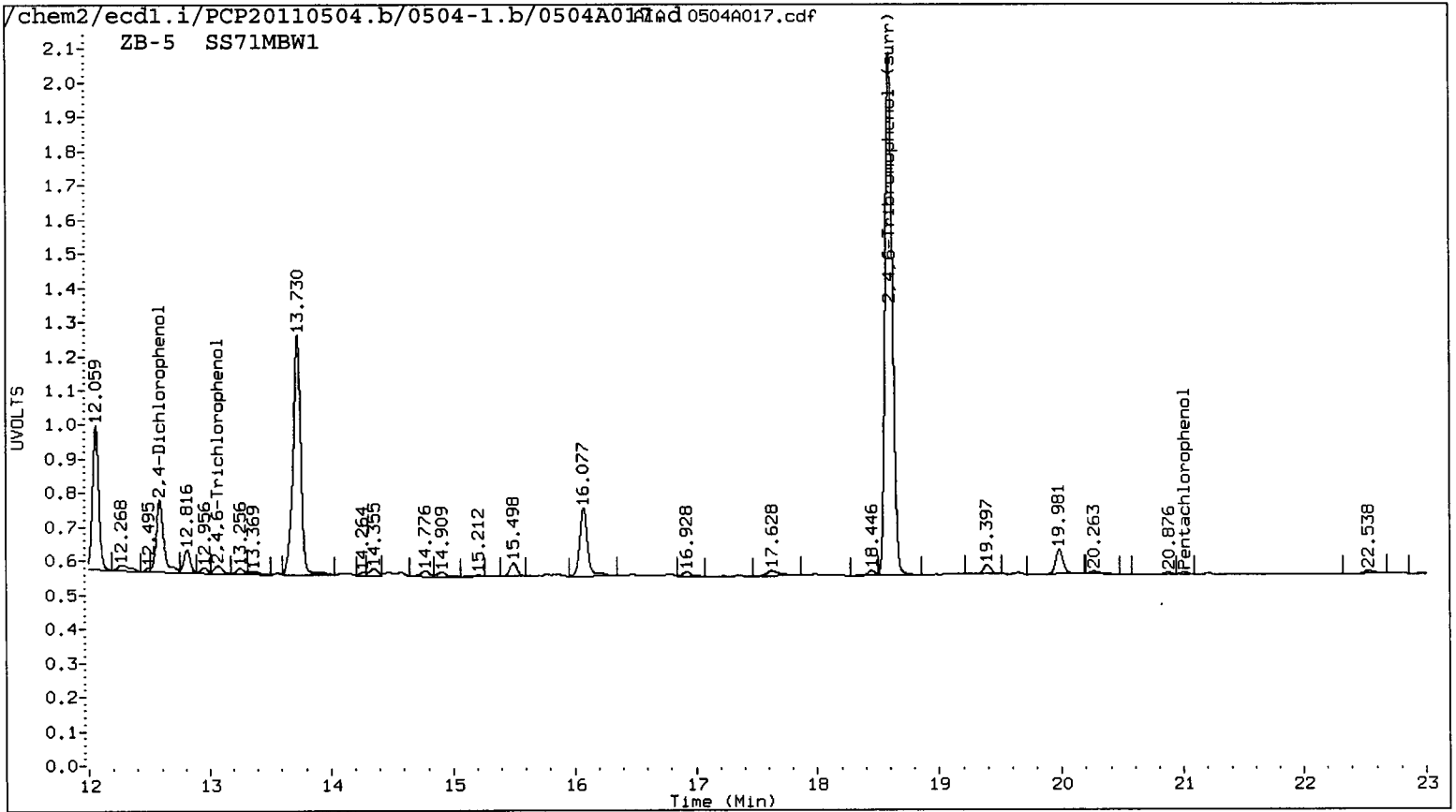
AR 5/6/2011

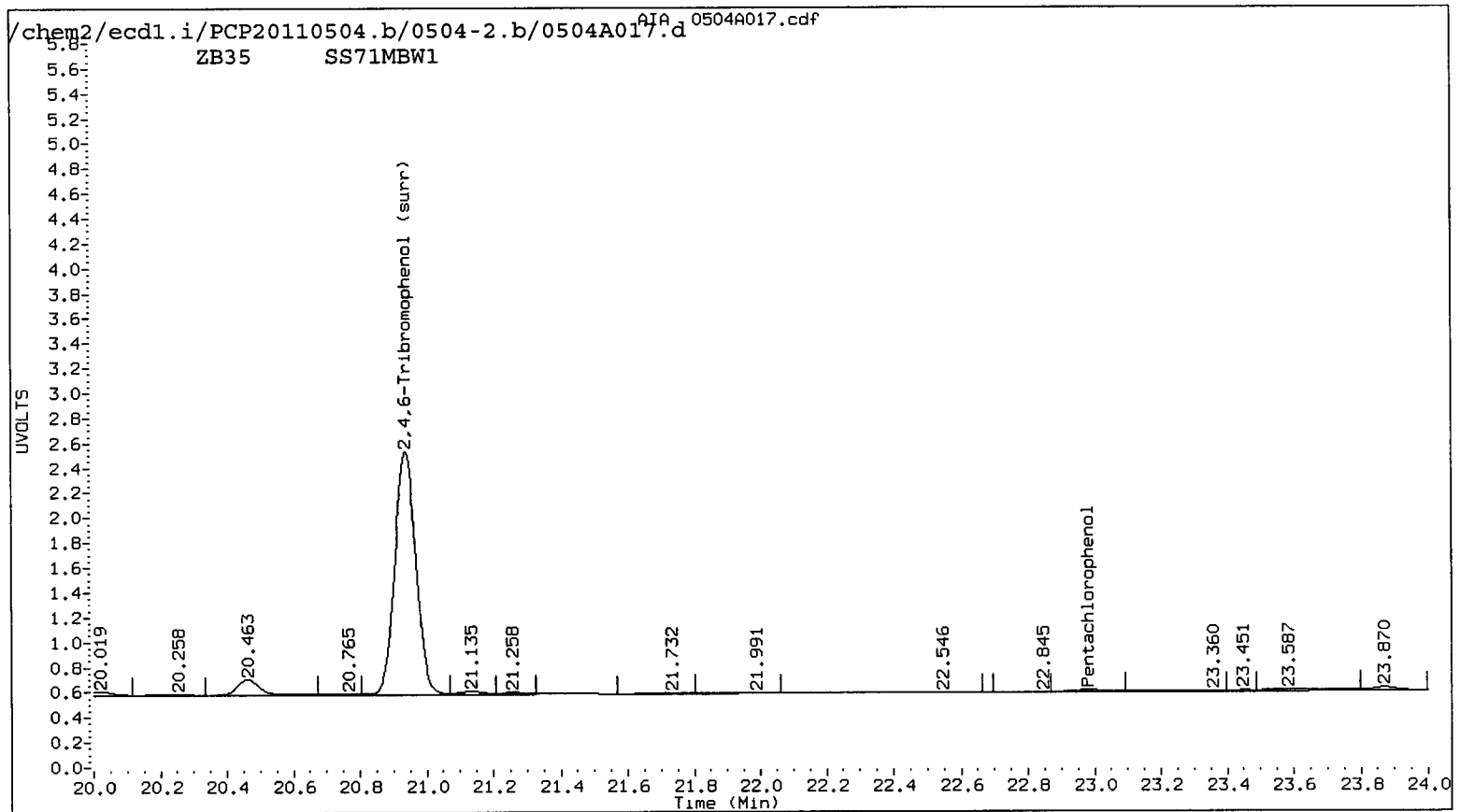
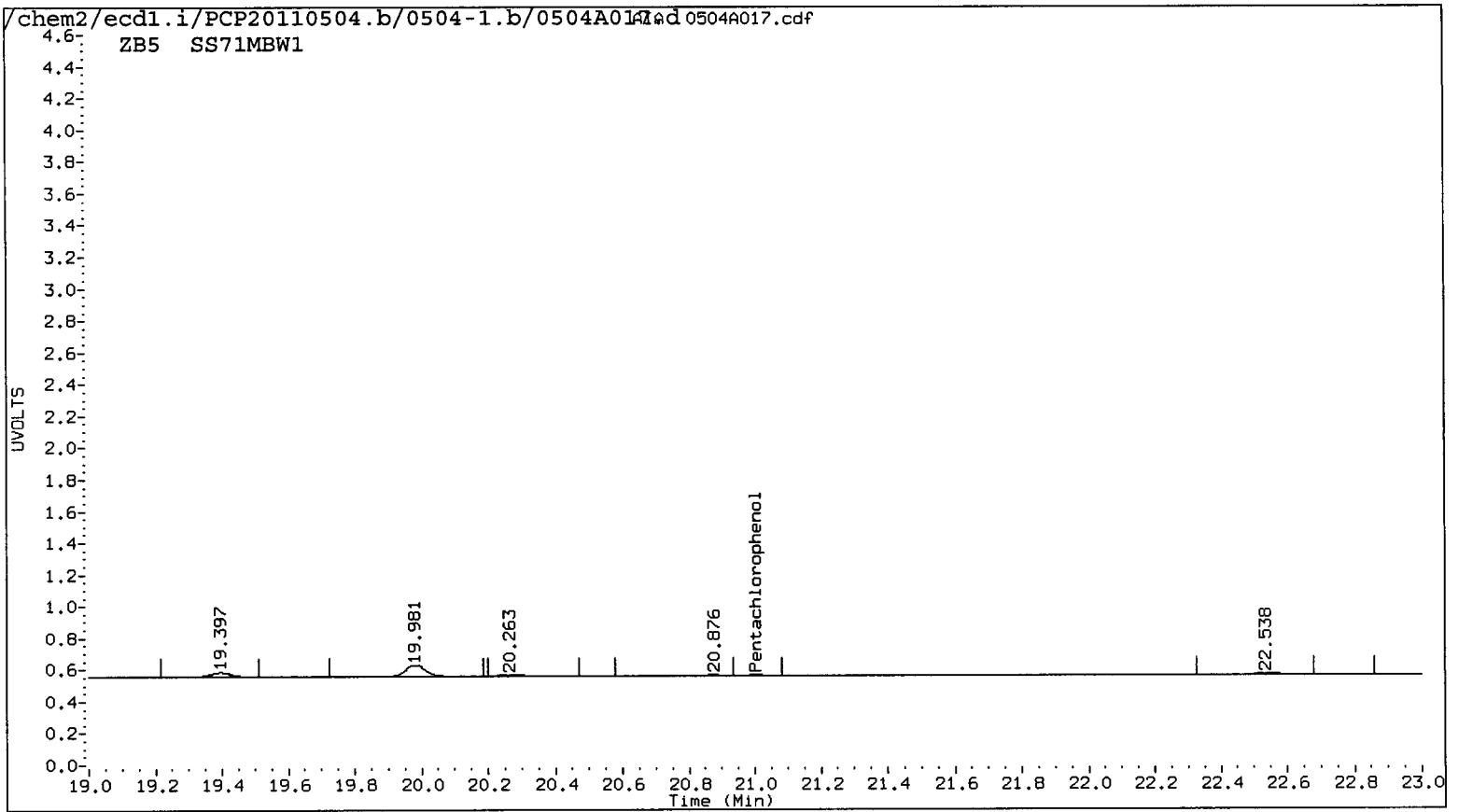
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0504-2.b/0504A017.d Client ID: SS71MBW1
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 18:46
 Compound Sublist: all Report Date: 05/06/2011 11:11
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.003	0.006	1445	22.981	0.014	5647	0.0717	0.2006	94.6*	Pentachlorophenol
13.074	-0.027	5528	----	----	----	0.4542	0.0000	---	2,4,6-Trichlorophenol
----	----	----	----	----	----	0.0000	0.0000	---	2,3,6-Trichlorophenol
----	----	----	----	----	----	0.0000	0.0000	---	2,4,5-Trichlorophenol
----	----	----	----	----	----	0.0000	0.0000	---	2,3,4-Trichlorophenol
----	----	----	18.847	0.033	1340	0.0000	0.0611	---	2,3,5,6-Tetrachlorophenol
----	----	----	----	----	----	0.0000	0.0000	---	2,3,4,5-Tetrachlorophenol
12.586	0.031	46453	13.818	-0.002	3232	61.1019	3.6530	177.4*	2,4-Dichlorophenol
18.597	0.001	321651	20.938	0.002	431793	20.4	20.5	0.5	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	81.7	82.2



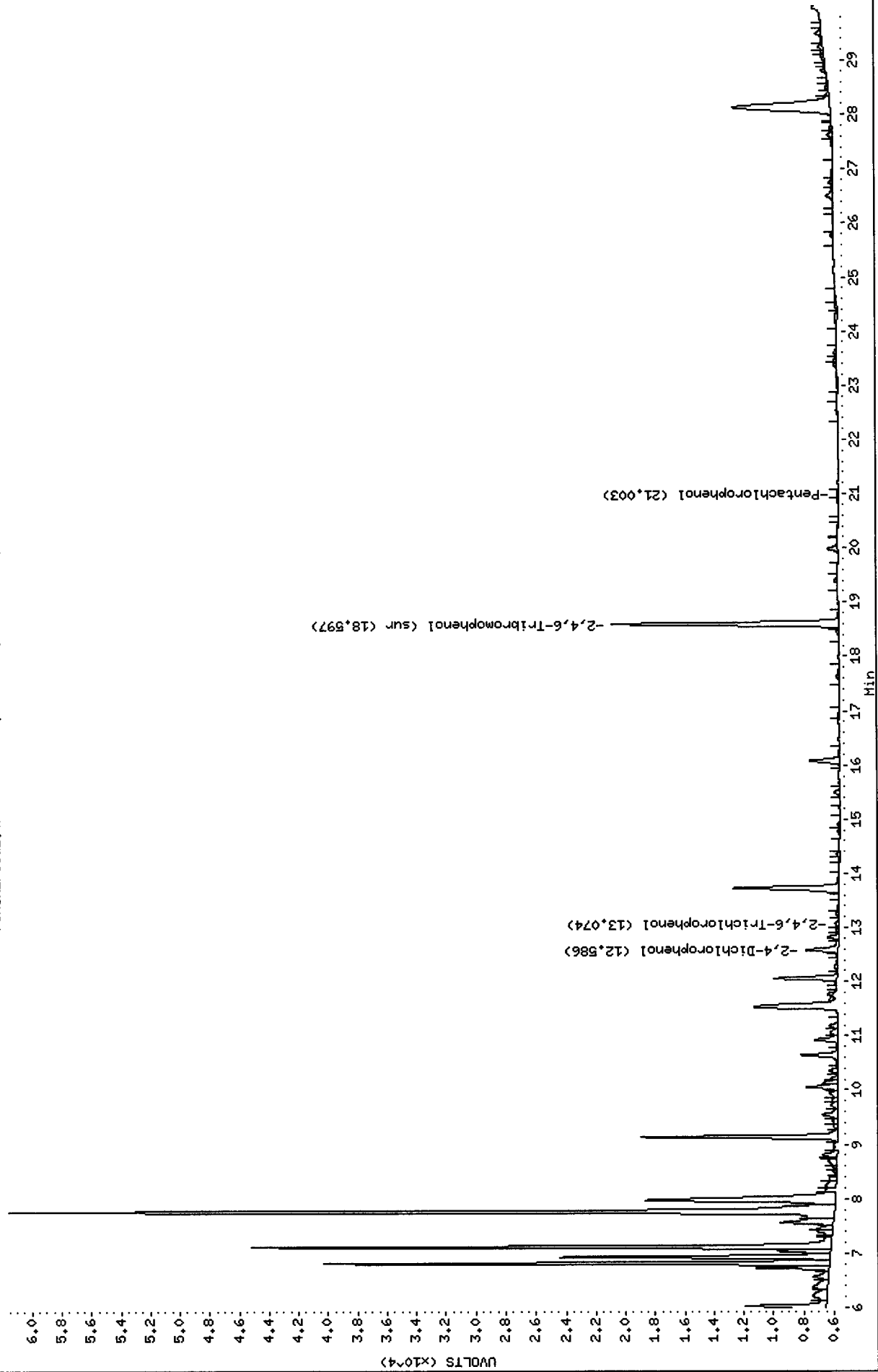


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Date : 04-MAY-2011 18:46
Client ID: SS71HBM1
Sample Info: SS71HBM1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar
Column diameter: 0.53

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Data File: /chem2/ecd1.i/PCP20110504.b/0504-2.b/0504A017.d

Date : 04-MAY-2011 18:46

Client ID: SS71HBM1

Sample Info: SS71HBM1

Purge Volume: 500.0

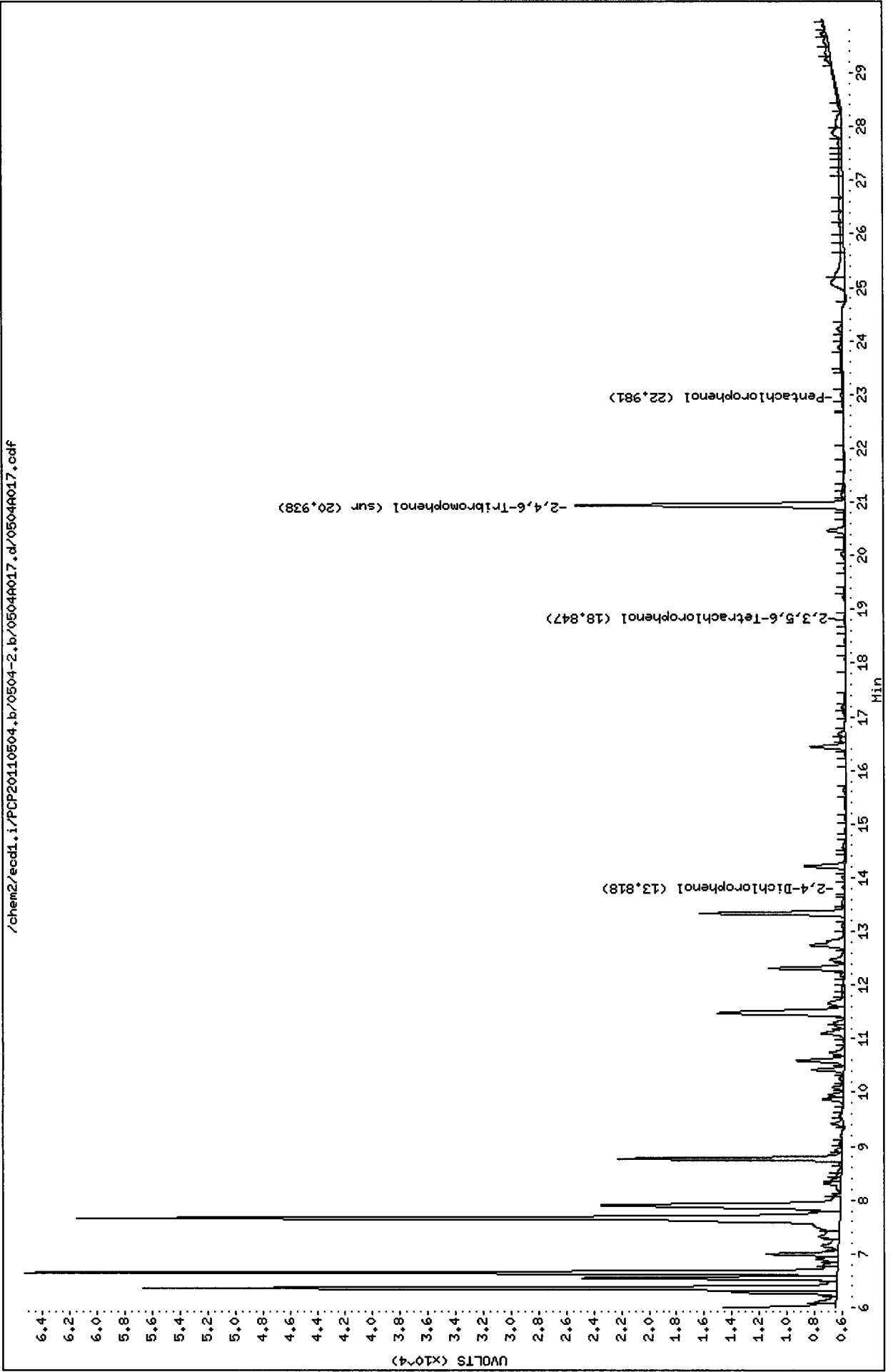
Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53

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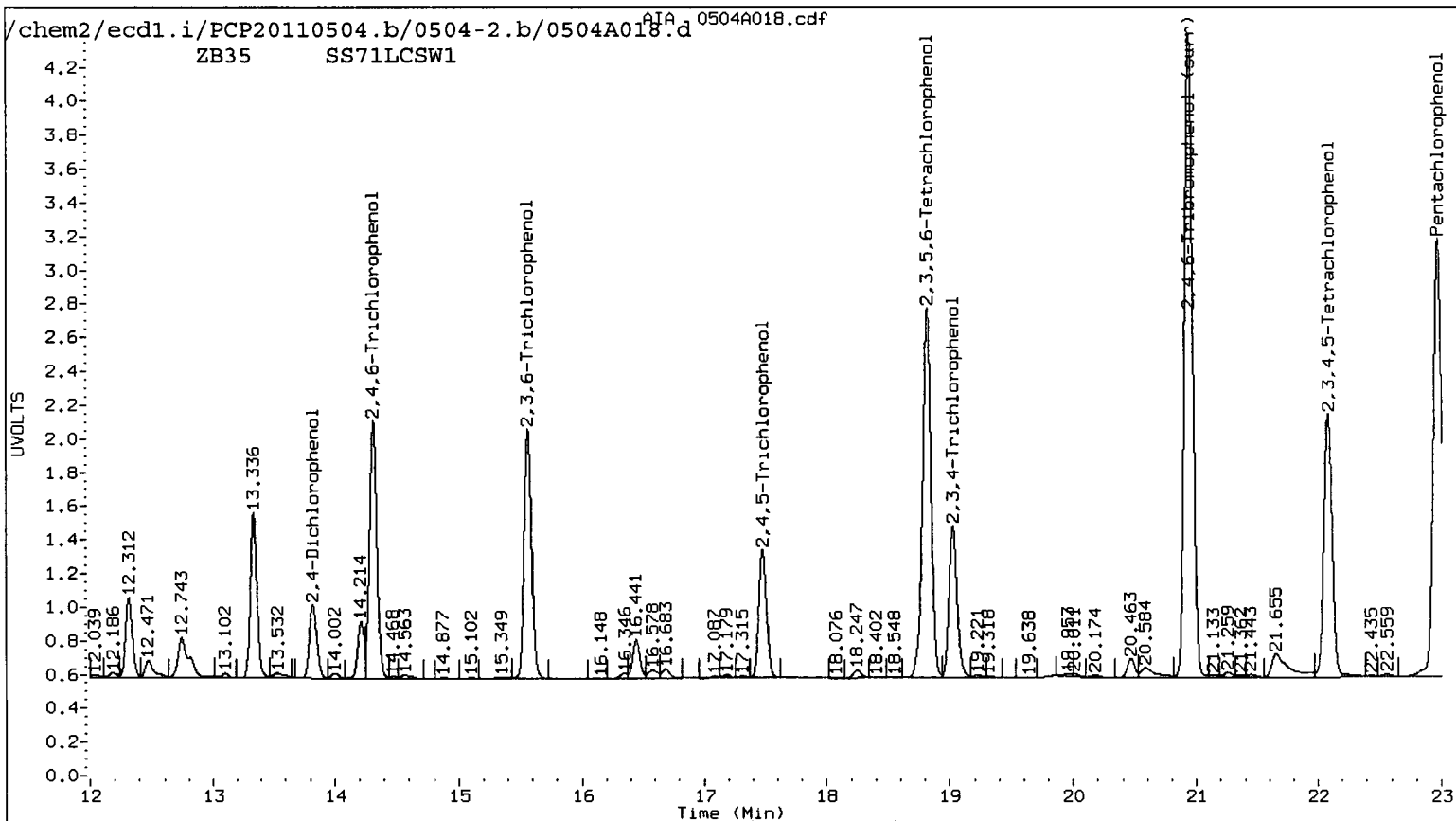
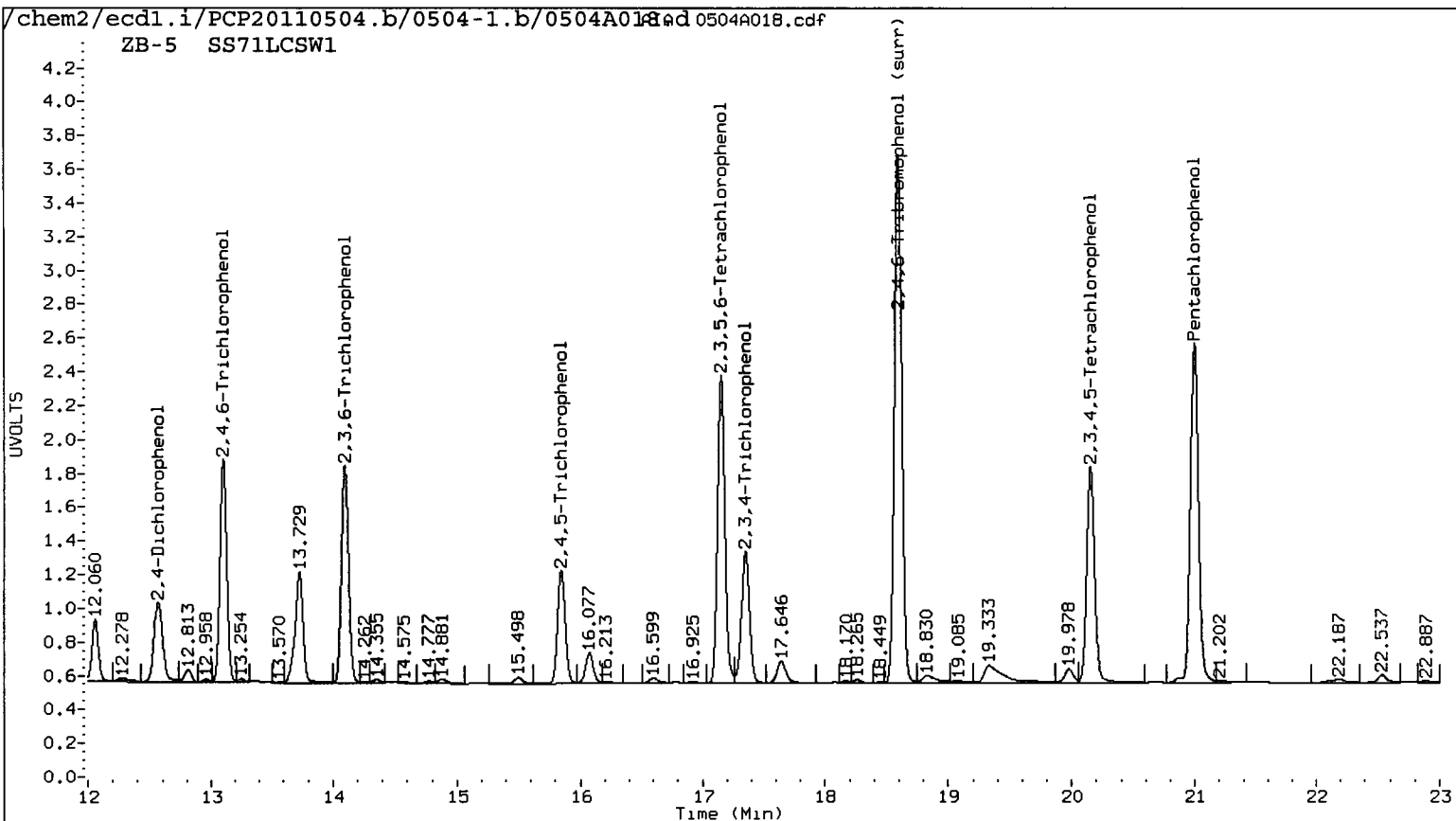
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

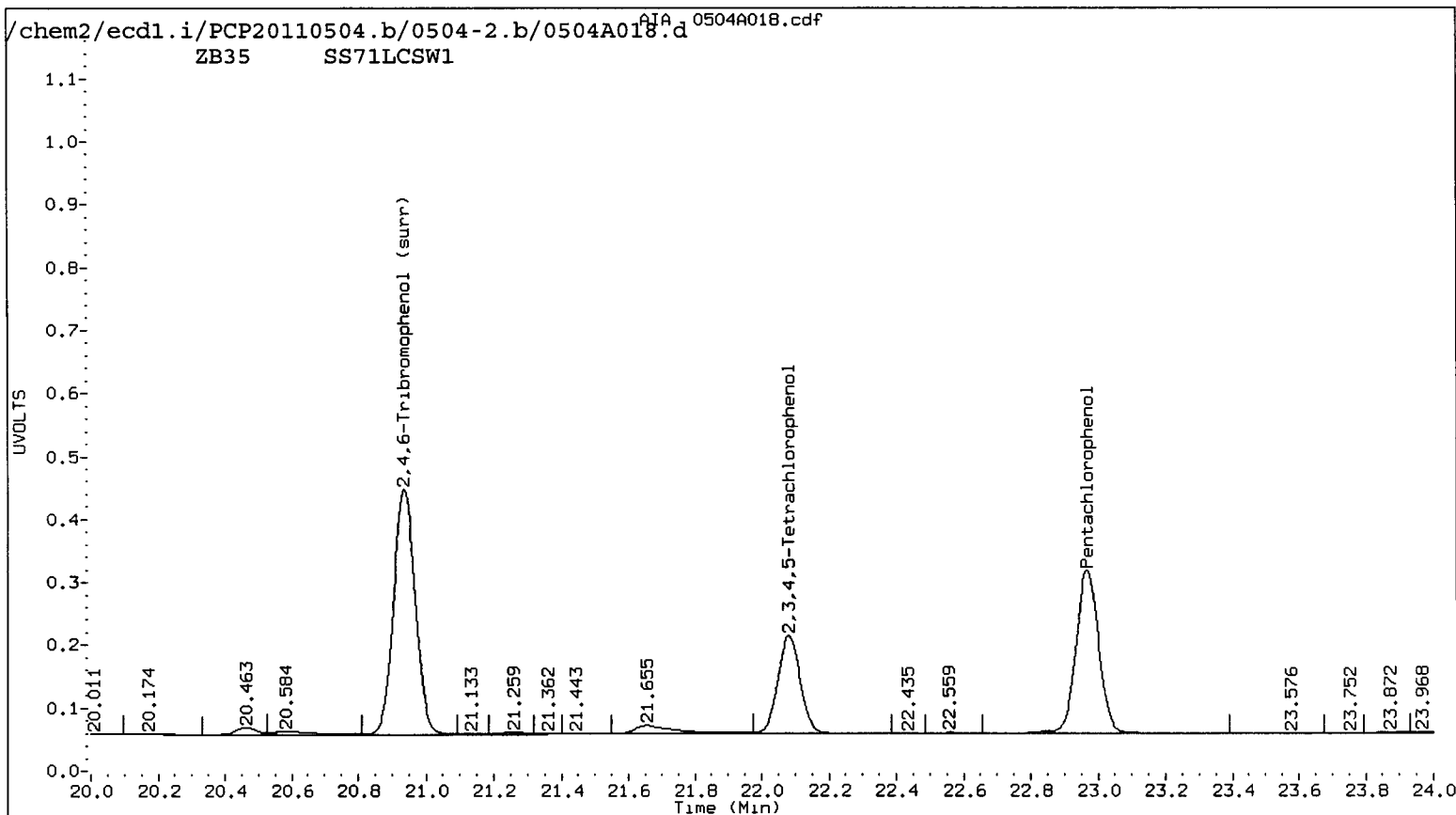
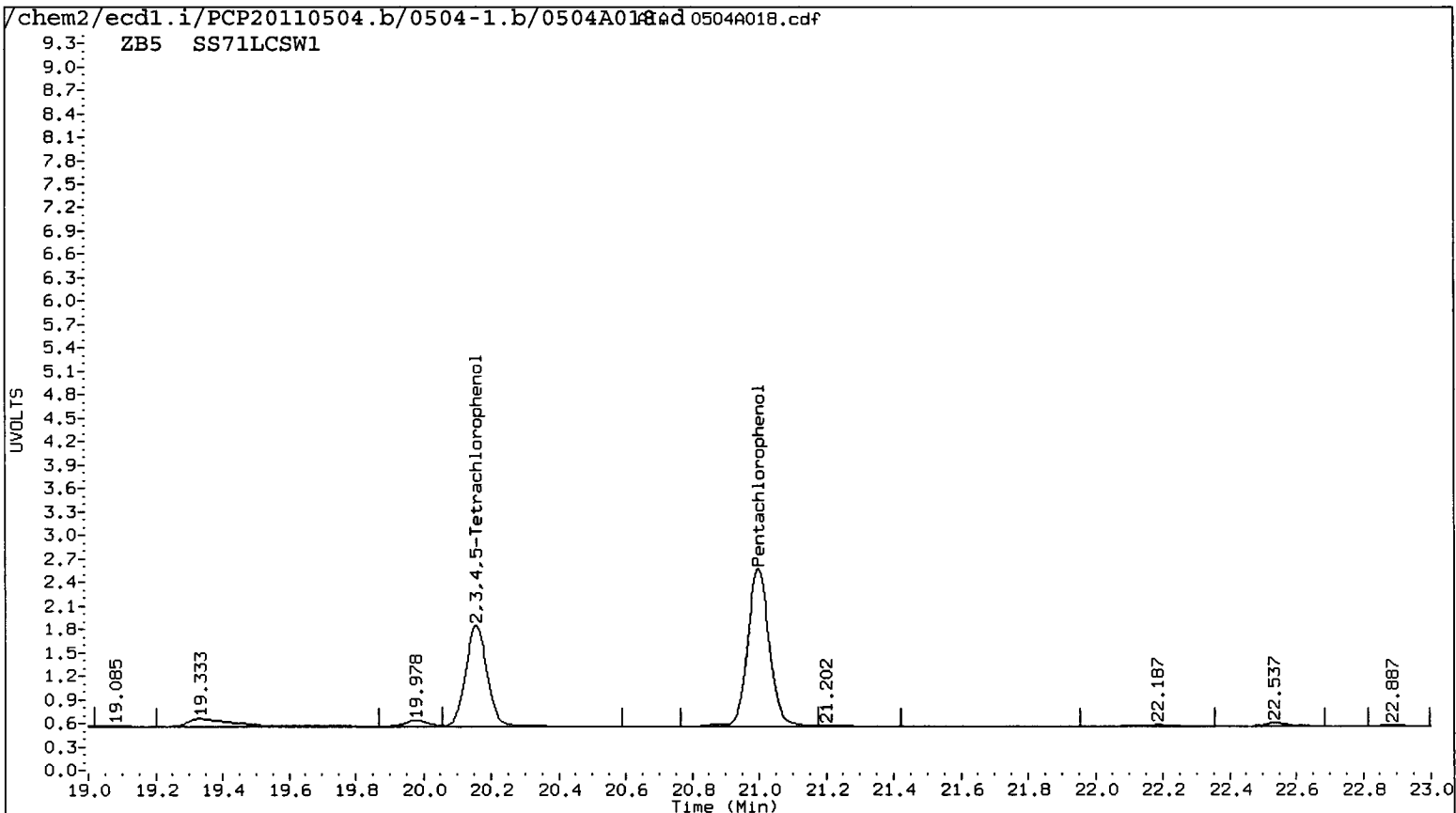
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 19:22
 Compound Sublist: all Report Date: 05/06/2011 11:11
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.998	0.001	459962	22.968	0.001	616343	22.8279	21.8865	4.2	Pentachlorophenol
13.102	0.001	259132	14.313	0.002	313270	21.2879	21.6141	1.5	2,4,6-Trichlorophenol
14.097	0.000	260325	15.560	0.003	311692	22.7306	21.6853	4.7	2,3,6-Trichlorophenol
15.846	0.001	143538	17.476	0.002	165481	21.2340	20.4407	3.8	2,4,5-Trichlorophenol
17.352	0.001	176759	19.024	0.001	206746	21.1553	22.3033	5.3	2,3,4-Trichlorophenol
17.154	0.001	386228	18.815	0.001	515268	22.8447	23.4875	2.8	2,3,5,6-Tetrachlorophenol
20.155	0.001	291933	22.082	0.002	367525	22.4879	23.9483	6.3	2,3,4,5-Tetrachlorophenol
12.564	0.009	116995	13.822	0.002	92494	168.5093	118.6825	34.7	2,4-Dichlorophenol
18.596	0.001	664844	20.938	0.002	872119	42.2	41.5	1.8	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	91.3	87.5
2,4,6-Trichlorophenol	85.2	86.5
2,3,6-Trichlorophenol	90.9	86.7
2,4,5-Trichlorophenol	84.9	81.8
2,3,4-Trichlorophenol	84.6	89.2
2,3,5,6-Tetrachlorophenol	91.4	94.0
2,3,4,5-Tetrachlorophenol	90.0	95.8
2,4-Dichlorophenol	67.4	47.5
2,4,6-TBP (surr)	84.5	83.0

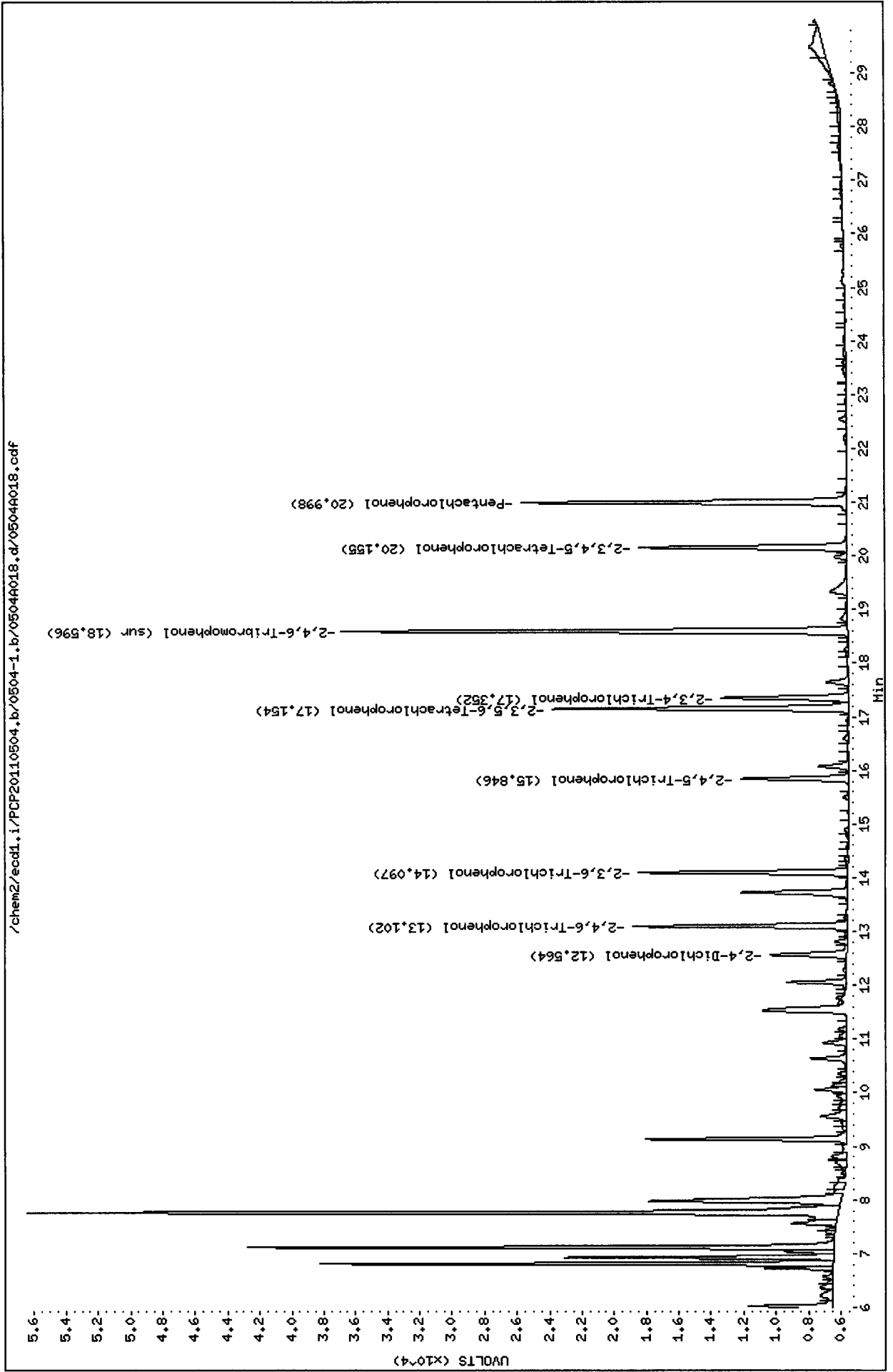




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Client ID: SS71LCSW1
Sample Info: SS71LCSW1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar
Column diameter: 0.53



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Date : 04-MAY-2011 19:22

Client ID: SS71LCSM1

Sample Info: SS71LCSM1

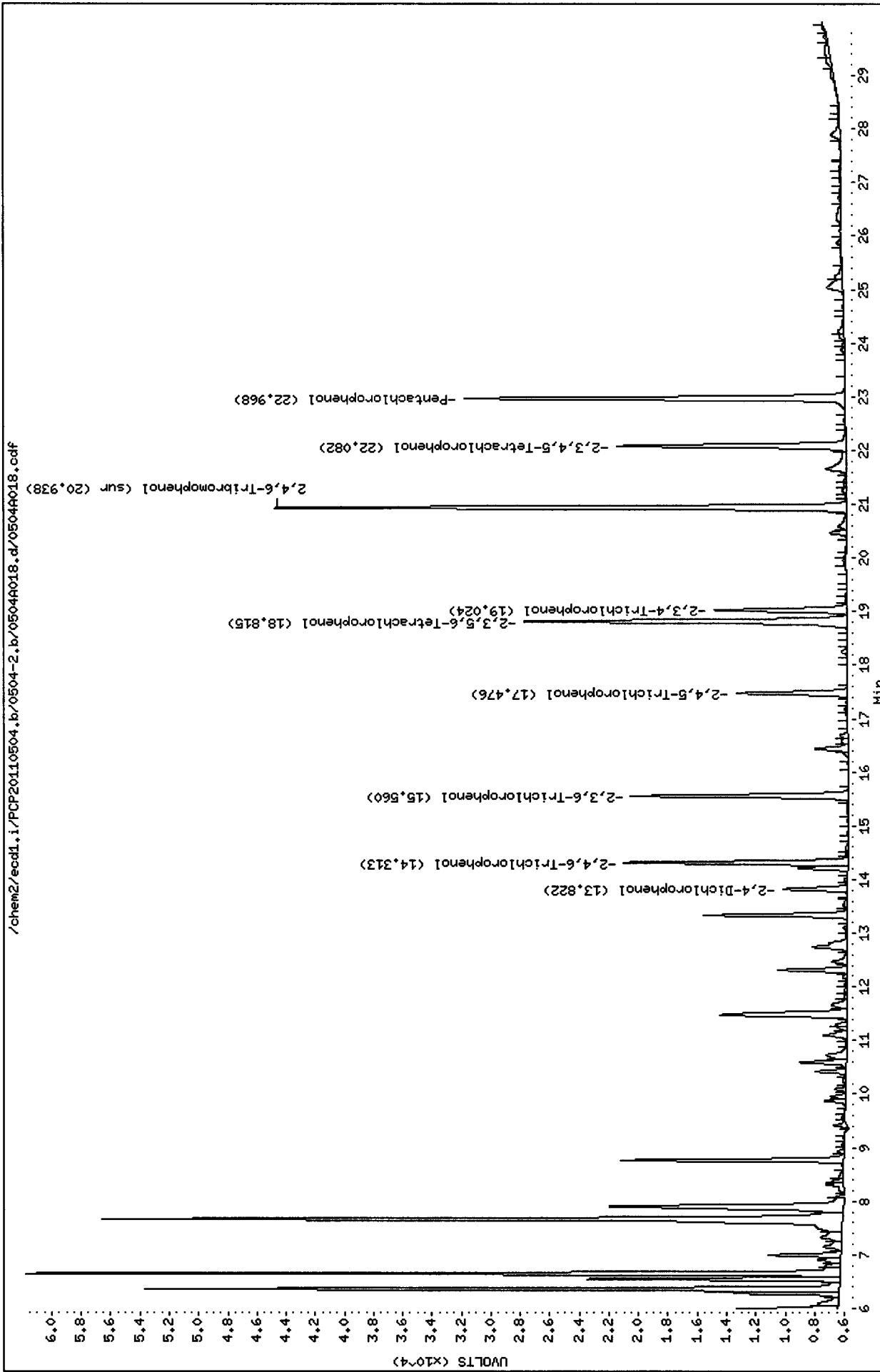
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



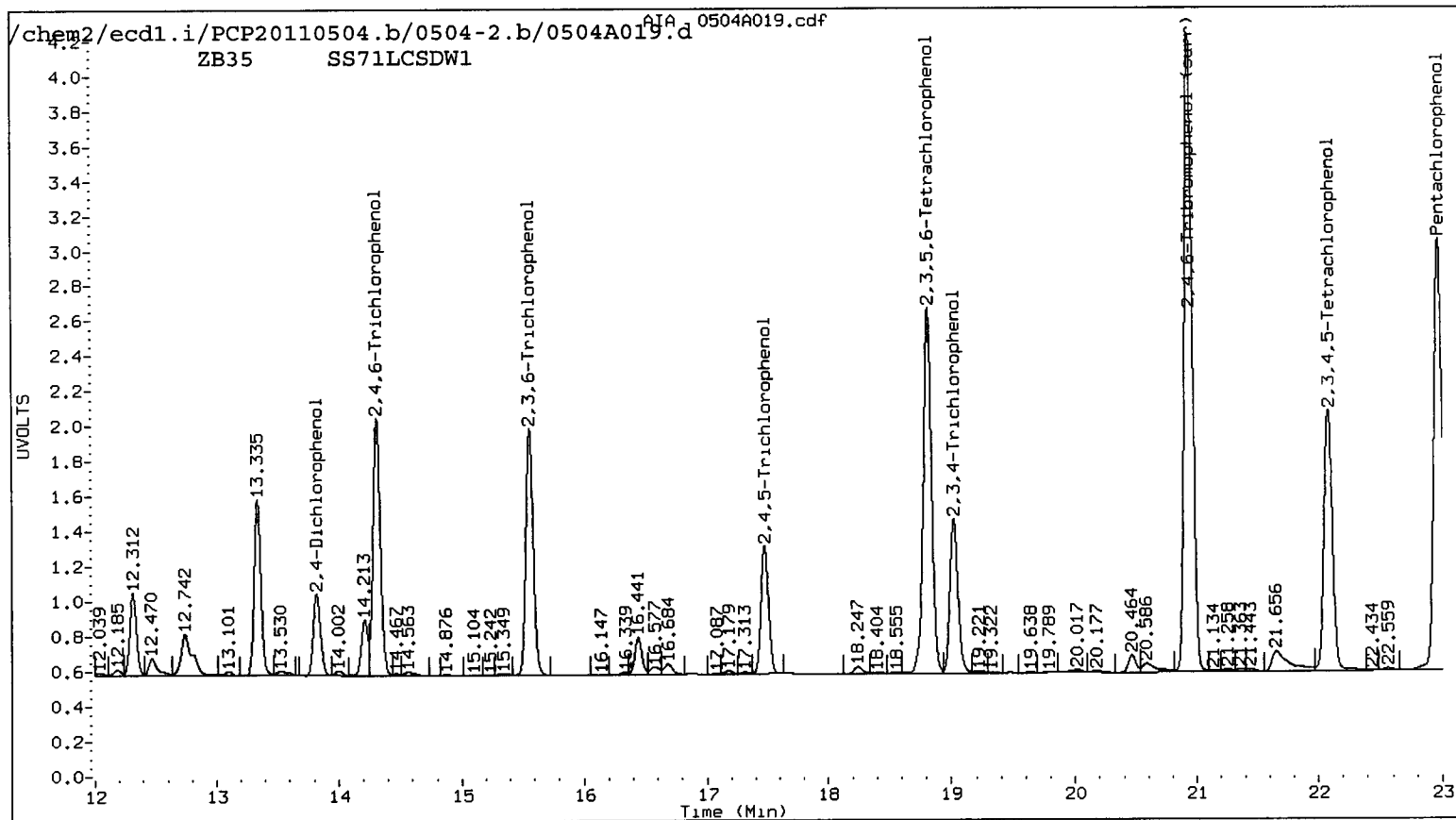
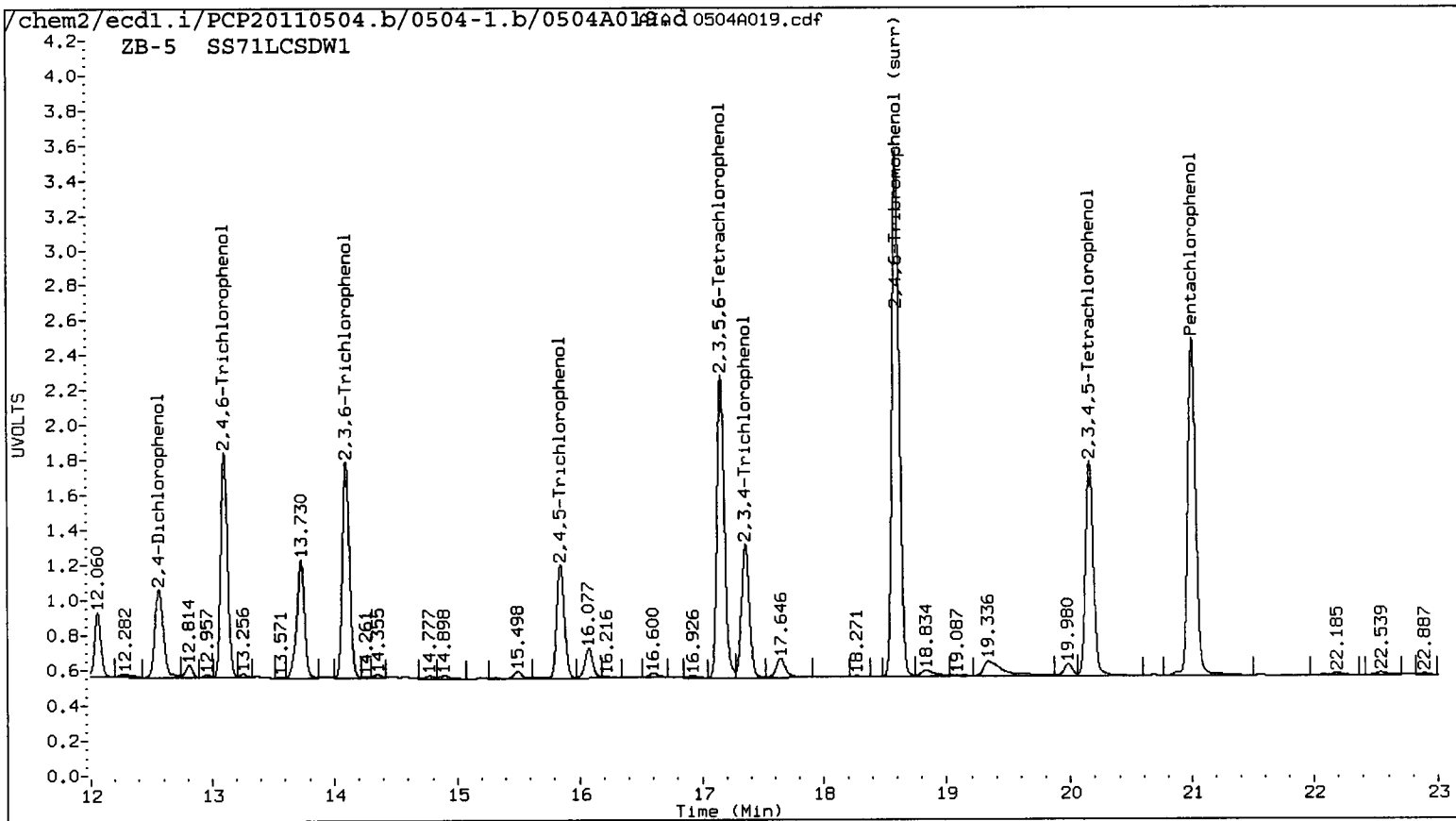
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

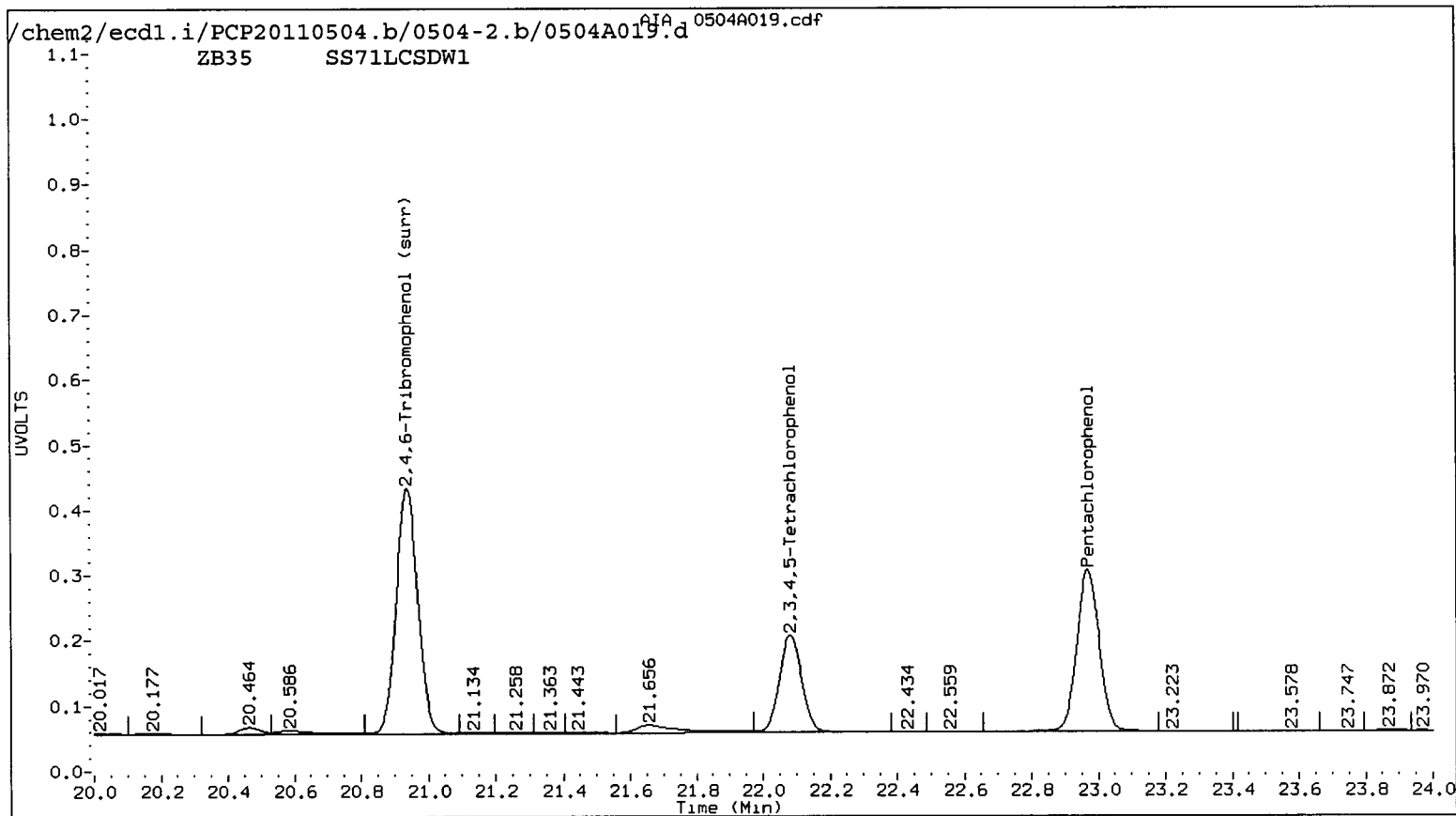
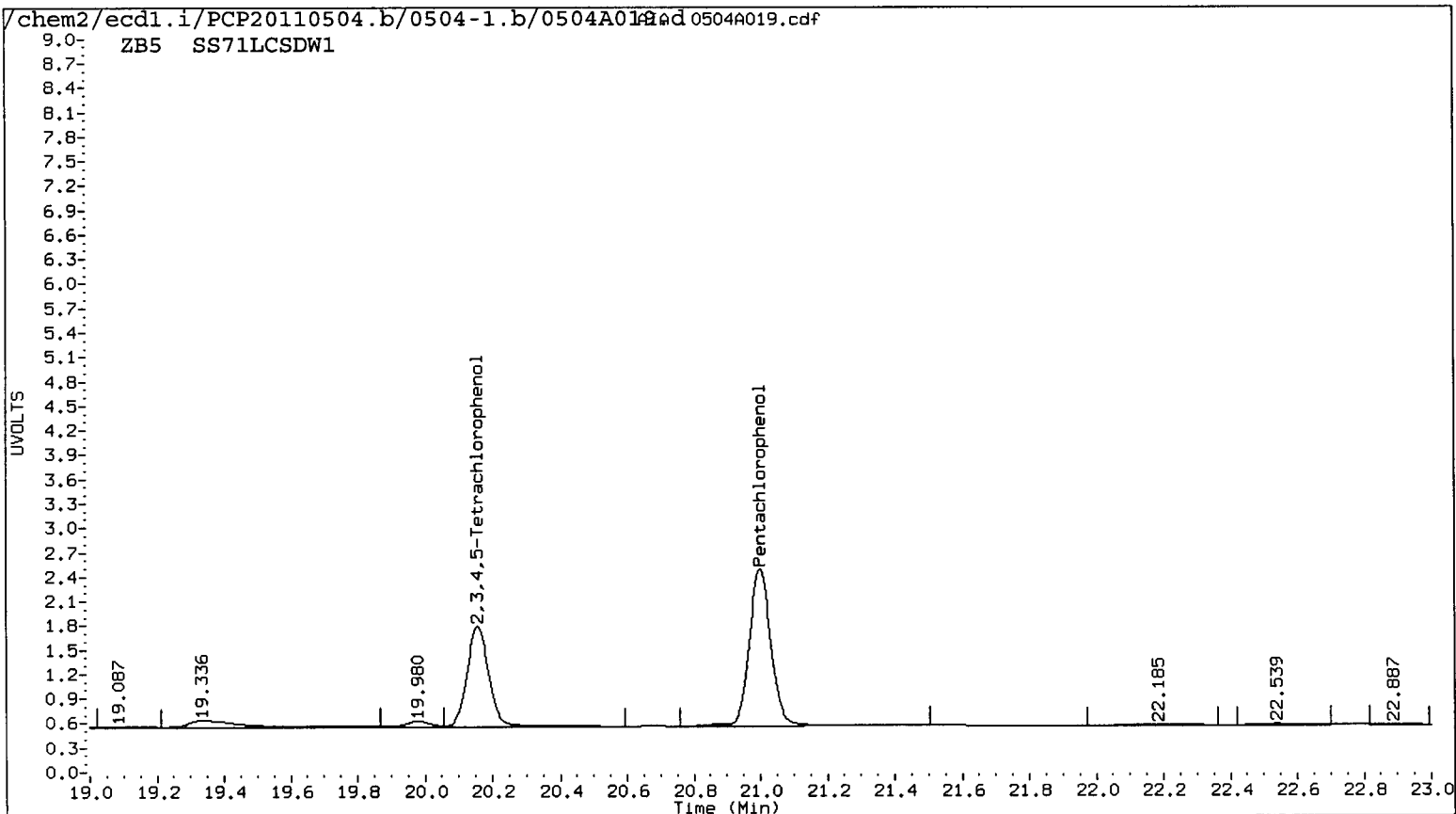
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 19:59
 Compound Sublist: all Report Date: 05/06/2011 11:11
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

RT	ZB-5 Col Shift Response	RT	ZB35 Col Shift Response	ZB-5 on col	ZB35 on col	RPD	Compound
20.999	0.002 440240	22.969	0.002 580351	21.8491	20.6084	5.8	Pentachlorophenol
13.102	0.001 249689	14.312	0.001 303442	20.5121	20.9361	2.0	2,4,6-Trichlorophenol
14.098	0.001 249716	15.559	0.002 297326	21.8043	20.6858	5.3	2,3,6-Trichlorophenol
15.846	0.001 136705	17.475	0.001 159571	20.1034	19.7107	2.0	2,4,5-Trichlorophenol
17.353	0.002 169744	19.024	0.001 202684	20.3156	21.8145	7.1	2,3,4-Trichlorophenol
17.154	0.001 366416	18.815	0.001 484710	21.6728	22.0946	1.9	2,3,5,6-Tetrachlorophenol
20.157	0.002 278861	22.082	0.002 350017	21.4811	22.6940	5.5	2,3,4,5-Tetrachlorophenol
12.564	0.009 122839	13.822	0.002 98175	178.1981	126.9286	33.6	2,4-Dichlorophenol
18.597	0.002 638445	20.938	0.002 835679	40.6	39.7	2.0	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	87.4	82.4
2,4,6-Trichlorophenol	82.0	83.7
2,3,6-Trichlorophenol	87.2	82.7
2,4,5-Trichlorophenol	80.4	78.8
2,3,4-Trichlorophenol	81.3	87.3
2,3,5,6-Tetrachlorophenol	86.7	88.4
2,3,4,5-Tetrachlorophenol	85.9	90.8
2,4-Dichlorophenol	71.3	50.8
2,4,6-TBP (surr)	81.1	79.5

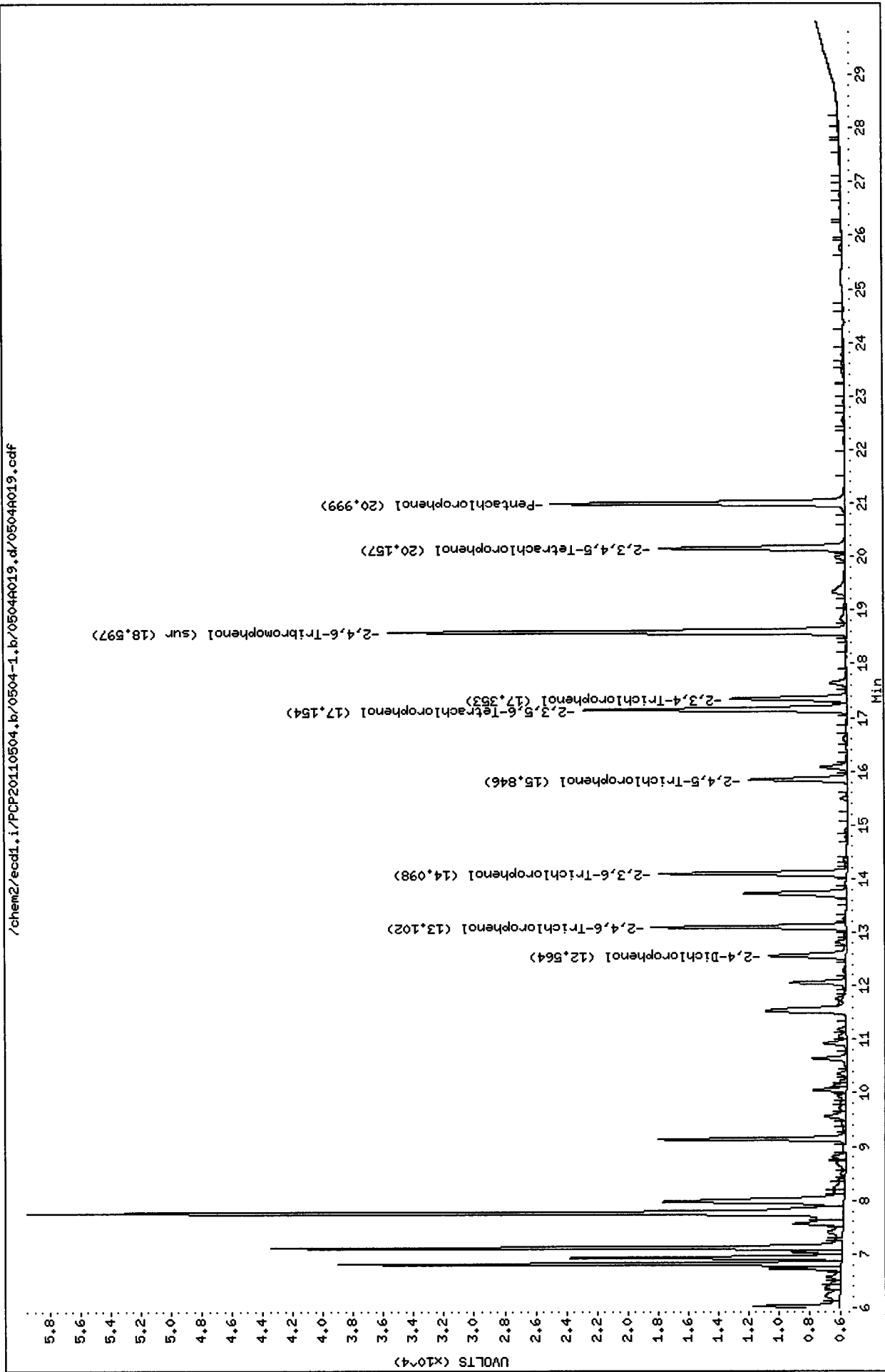




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Date : 04-MAY-2011 19:59
Client ID: SS71LCSDM1
Sample Info: SS71LCSDM1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl1.i

Operator: ar
Column diameter: 0.53



Data File: /chem2/ecdl1.i/PCP20110504.b/0504-2.b/0504A019.d

Date : 04-MAY-2011 19:59

Client ID: SS71LCSDM1

Sample Info: SS71LCSDM1

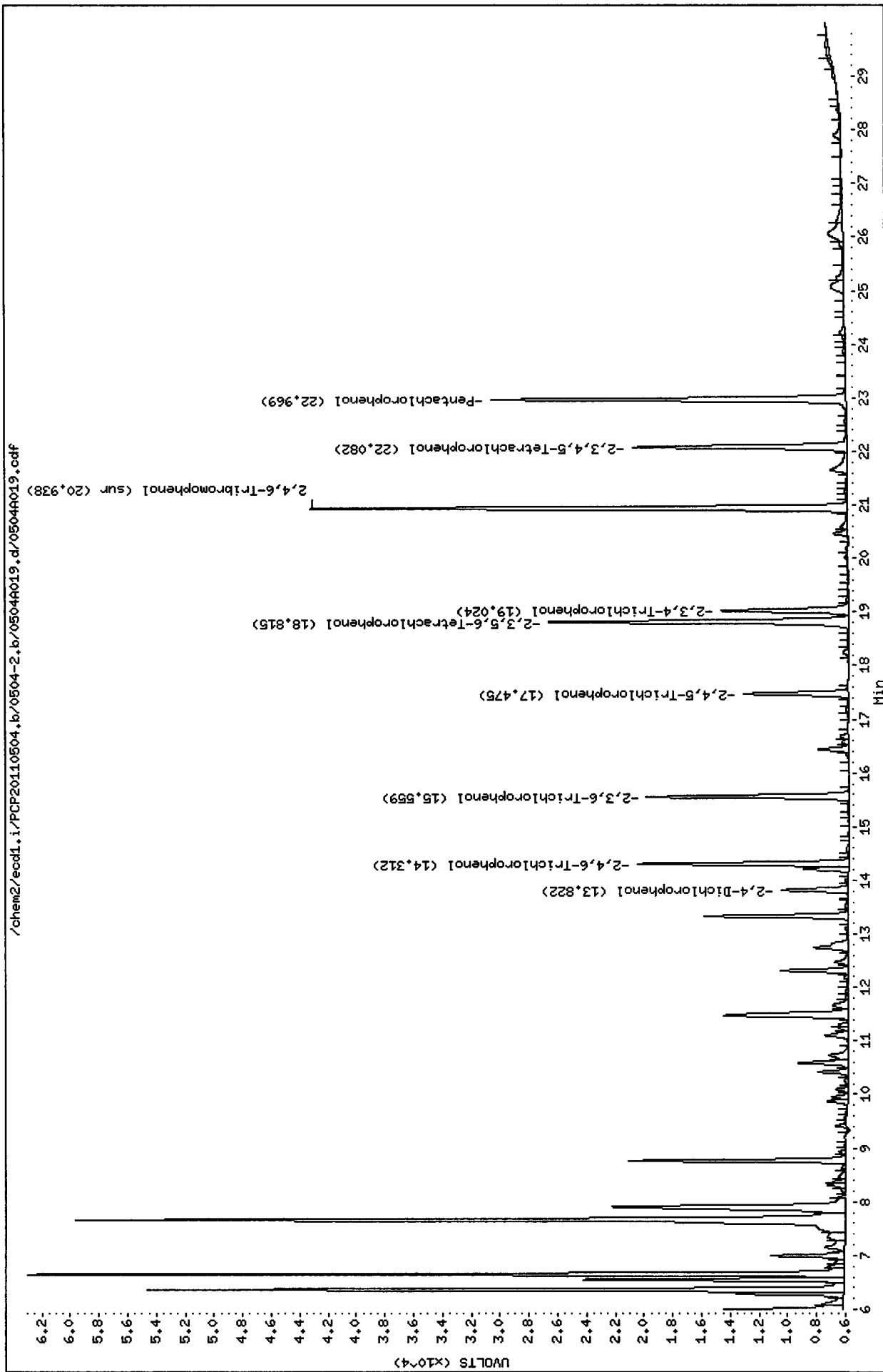
Purge Volume: 500.0

Column Phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

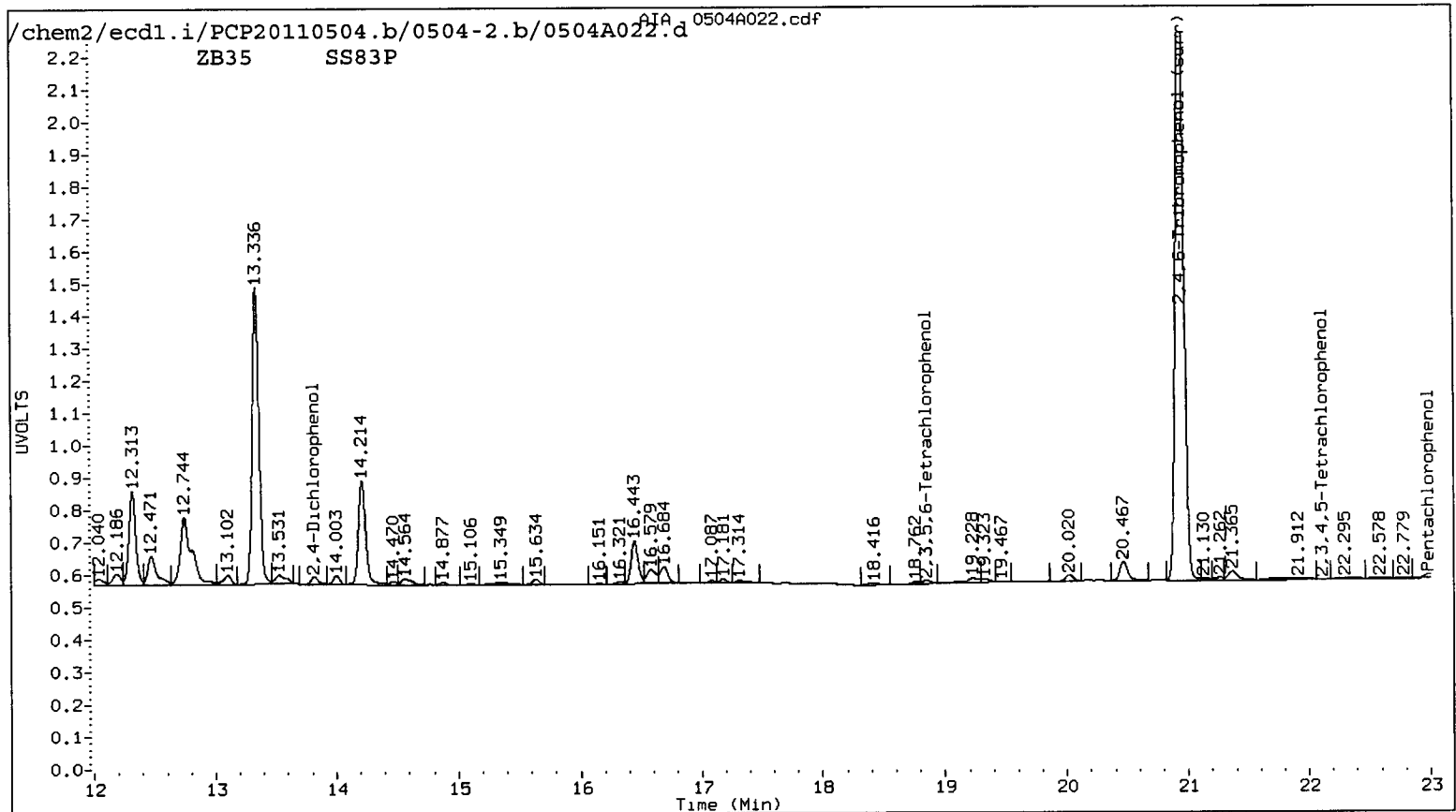
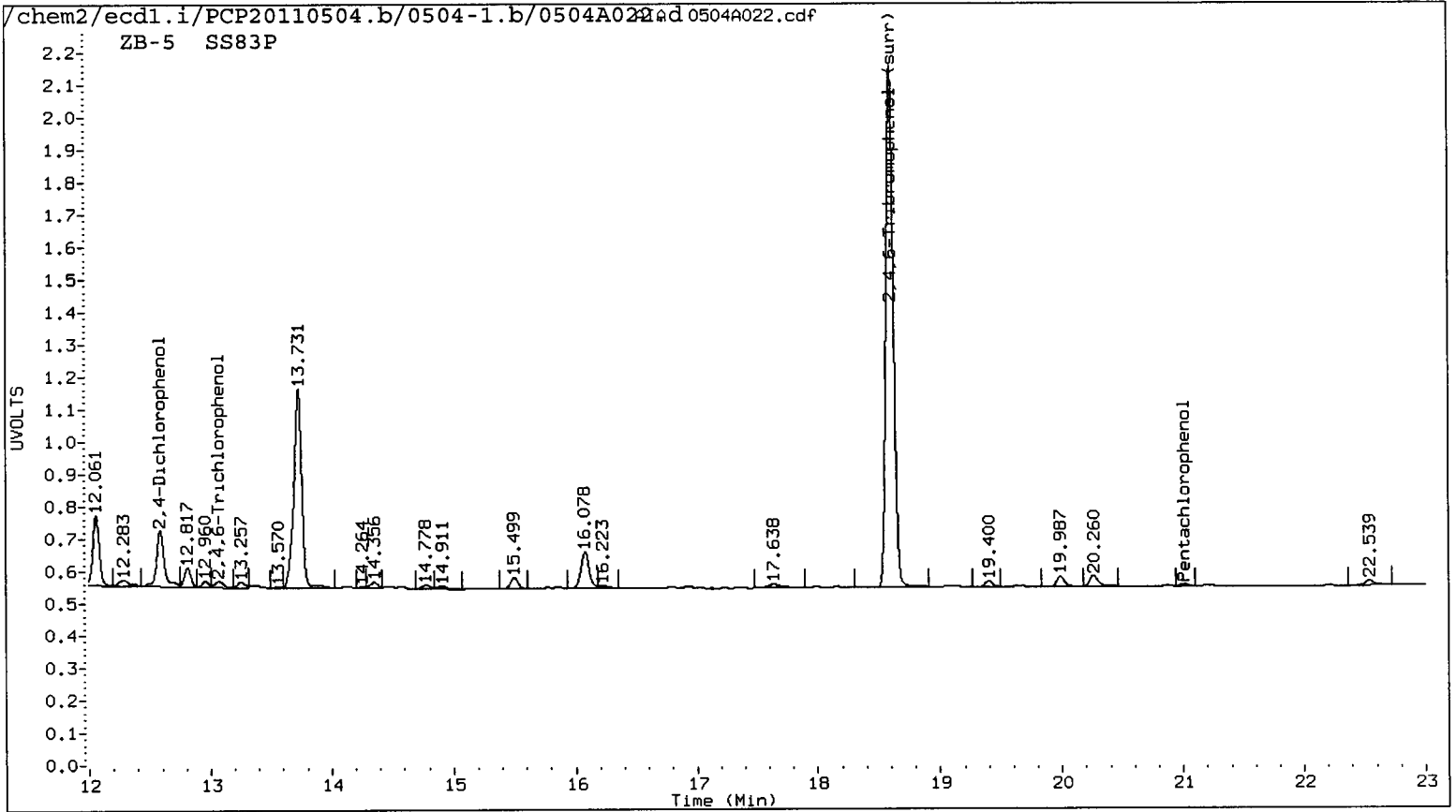
AR 5/6/2011

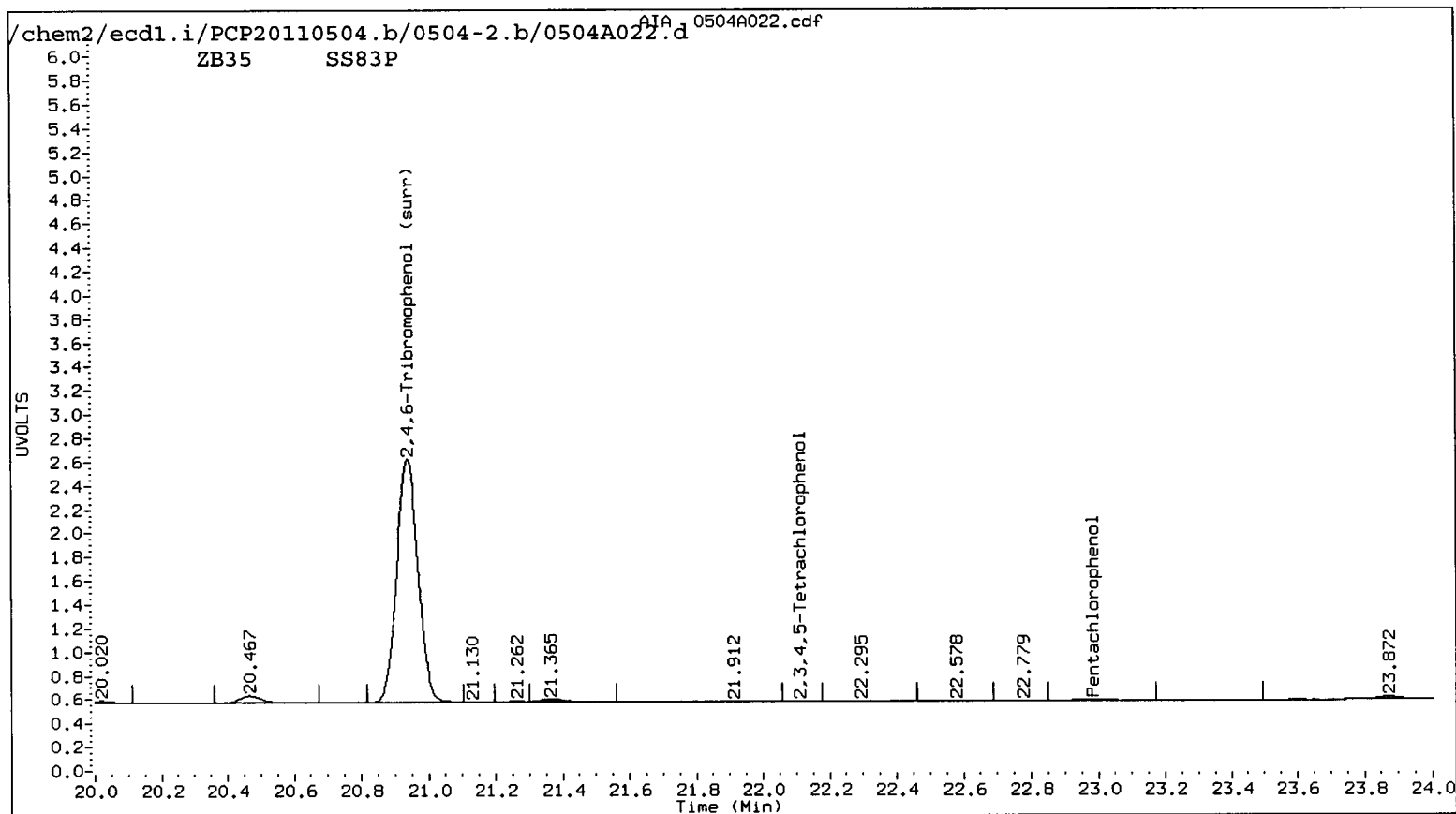
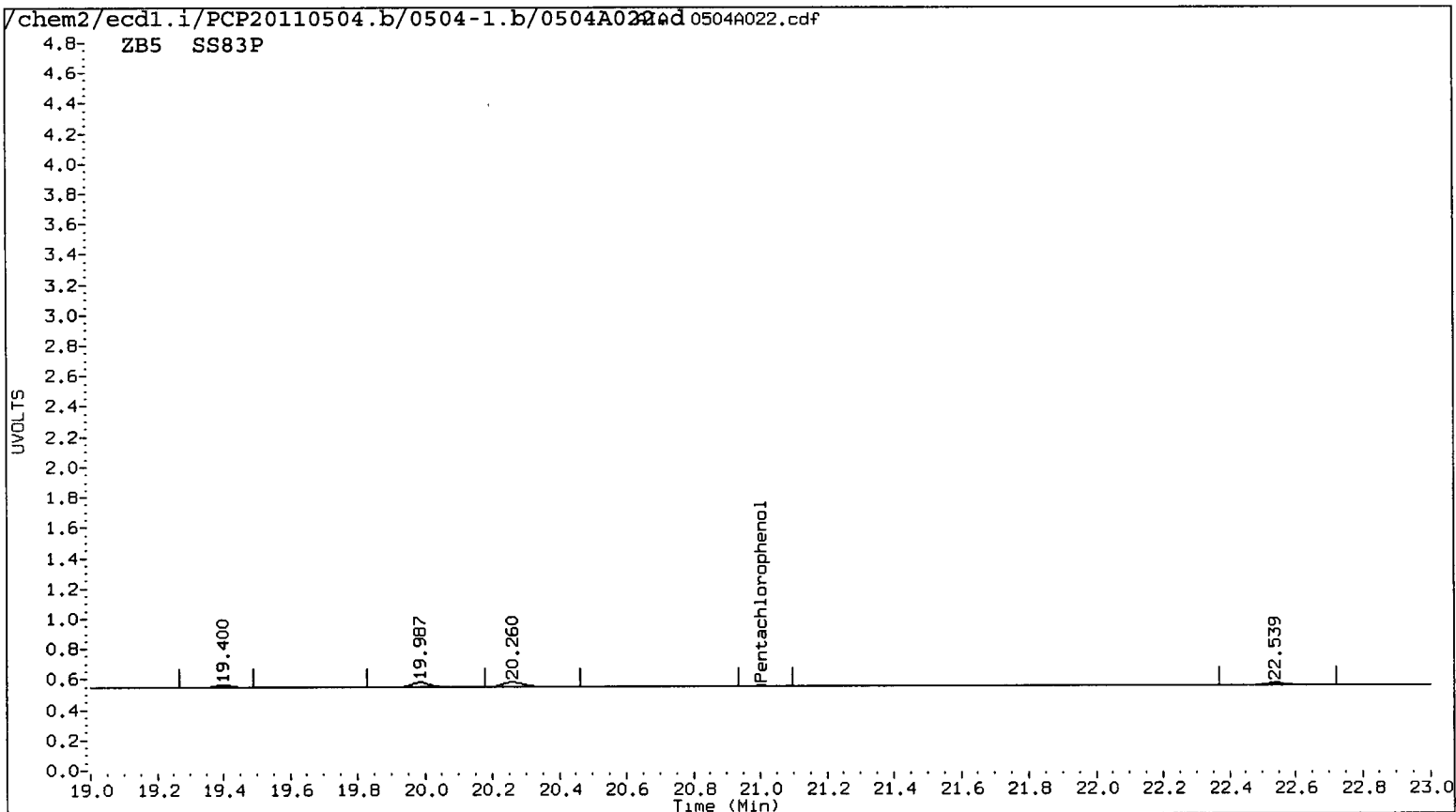
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0504-2.b/0504A022.d Client ID: DMA-RB-042011
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 04-MAY-2011 21:48
 Compound Sublist: all Report Date: 05/06/2011 11:11
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.004	0.007	1449	22.983	0.016	4552	0.0719	0.1617	76.8*	Pentachlorophenol
13.074	-0.027	4696	----			0.3858	0.0000	---	2,4,6-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,6-Trichlorophenol
----			----			0.0000	0.0000	---	2,4,5-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,4-Trichlorophenol
----			18.849	0.035	2589	0.0000	0.1181	---	2,3,5,6-Tetrachlorophenol
----			22.109	0.029	888	0.0000	0.0519	---	2,3,4,5-Tetrachlorophenol
12.587	0.032	39862	13.818	-0.002	4438	51.9673	5.0245	164.7*	2,4-Dichlorophenol
18.598	0.003	340239	20.939	0.003	453239	21.6	21.6	0.2	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	86.4	86.2

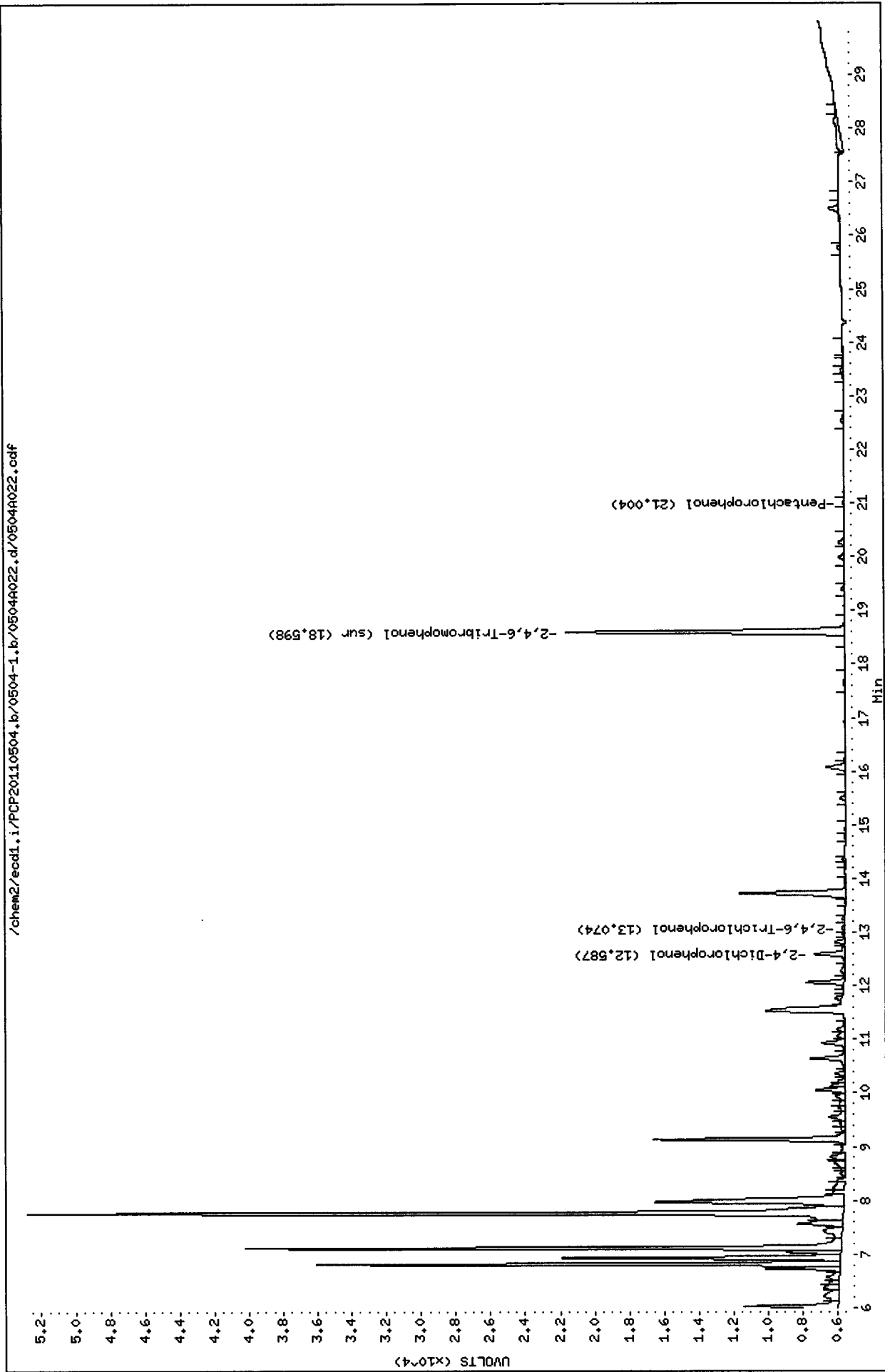




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Date : 04-MAY-2011 21:48
Client ID: DMA-RB-042011
Sample Info: SS83P
Purge Volume: 500.0
Column phase: STX CLP1

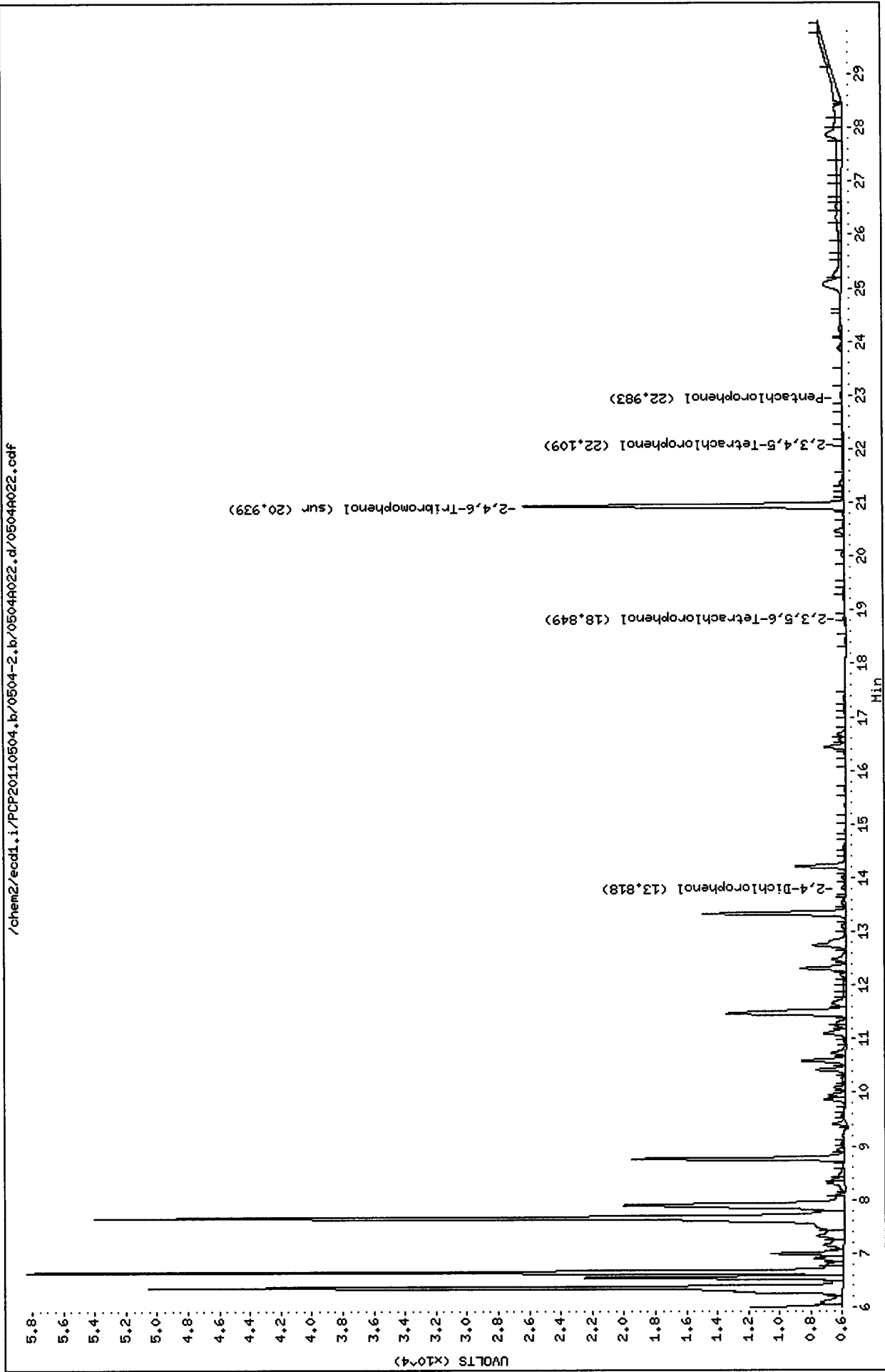
Instrument: ecdl.i

Operator: ar
Column diameter: 0.53



Data File: /chem2/ecdl1.i/PCP20110504.b/0504-2.b/0504A022.d
Date : 04-MAY-2011 21:48
Client ID: DMA-RB-042011
Sample Info: S883P
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecdl1.i
Operator: ar
Column diameter: 0.53



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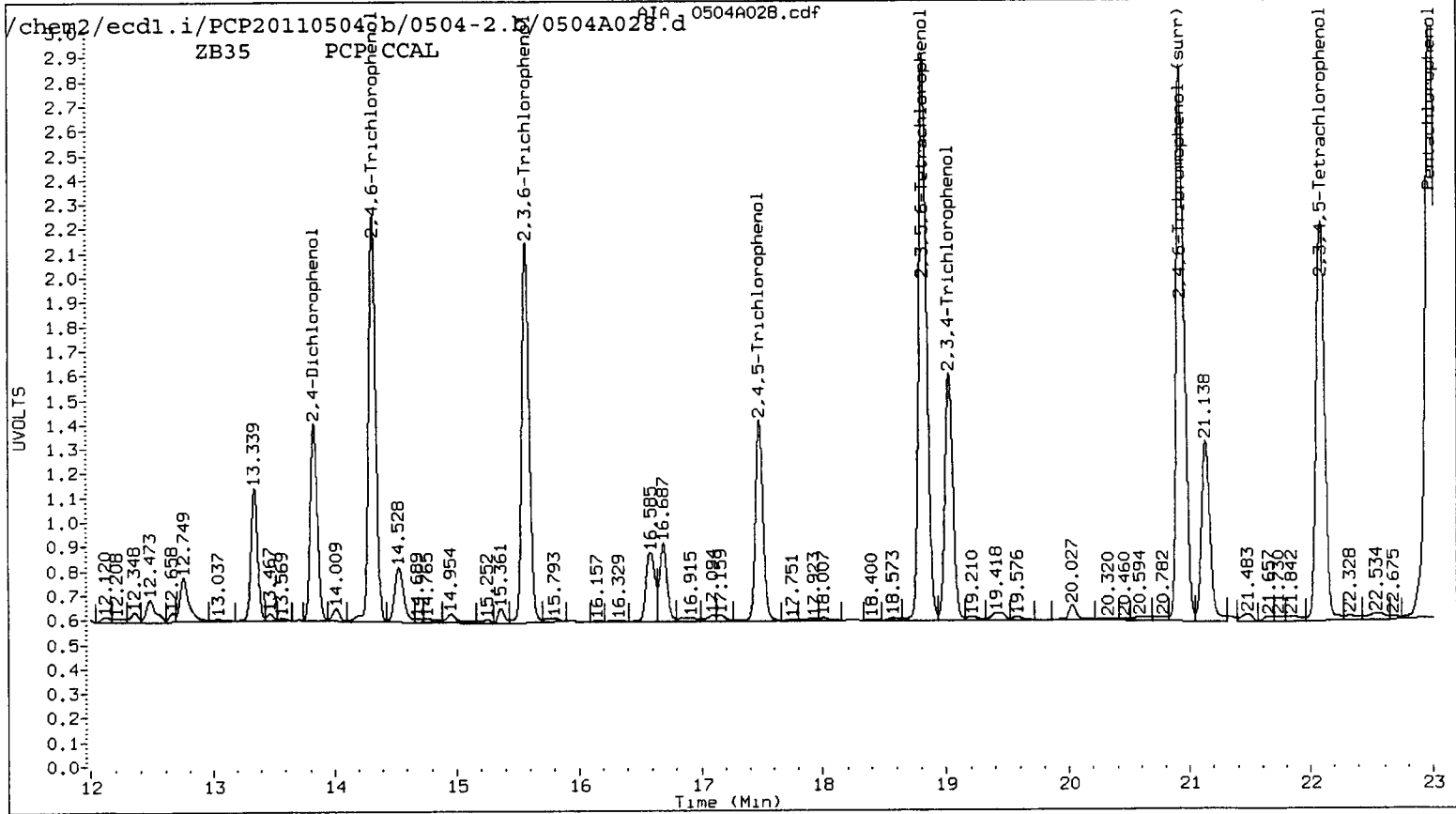
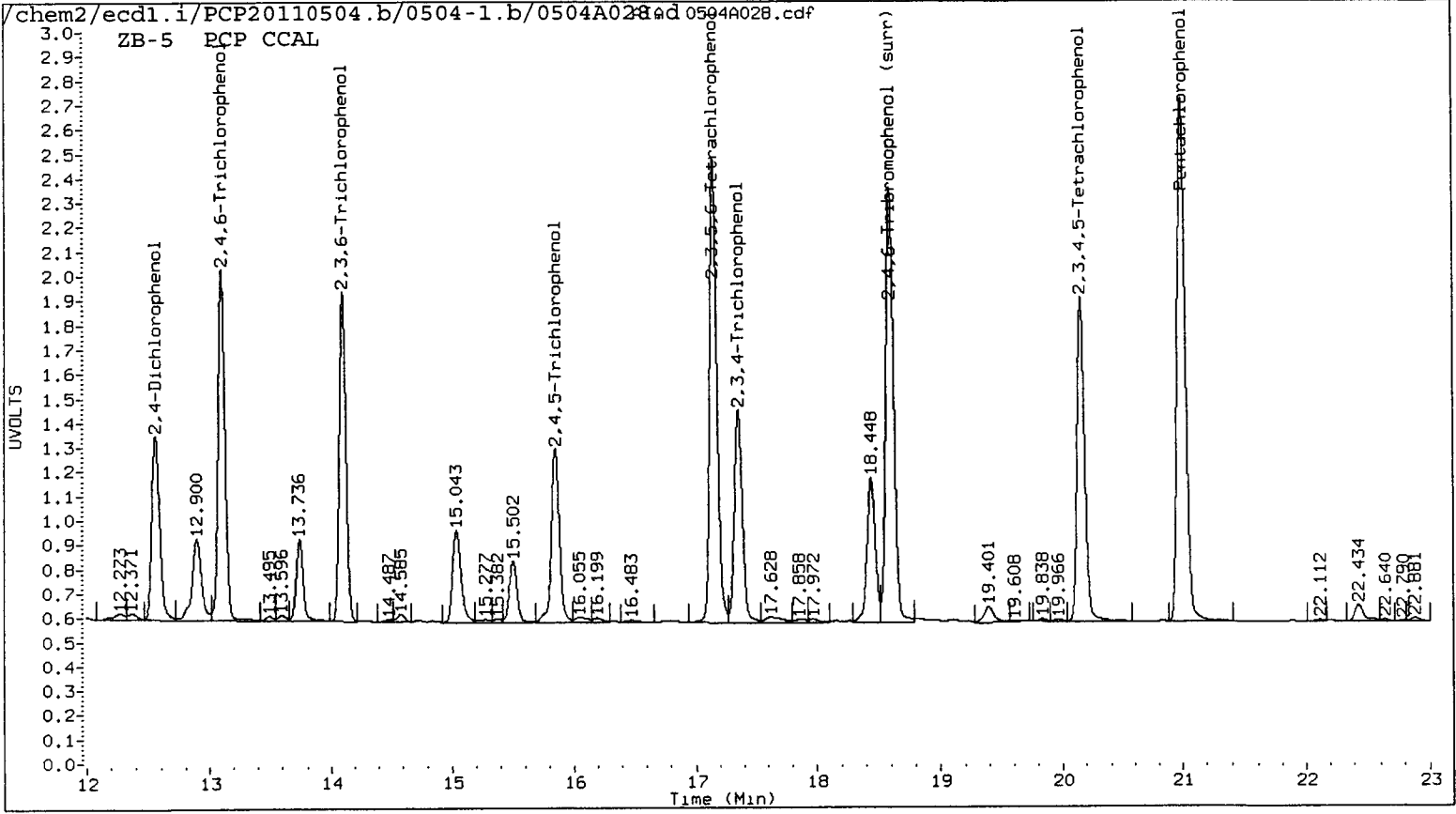
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

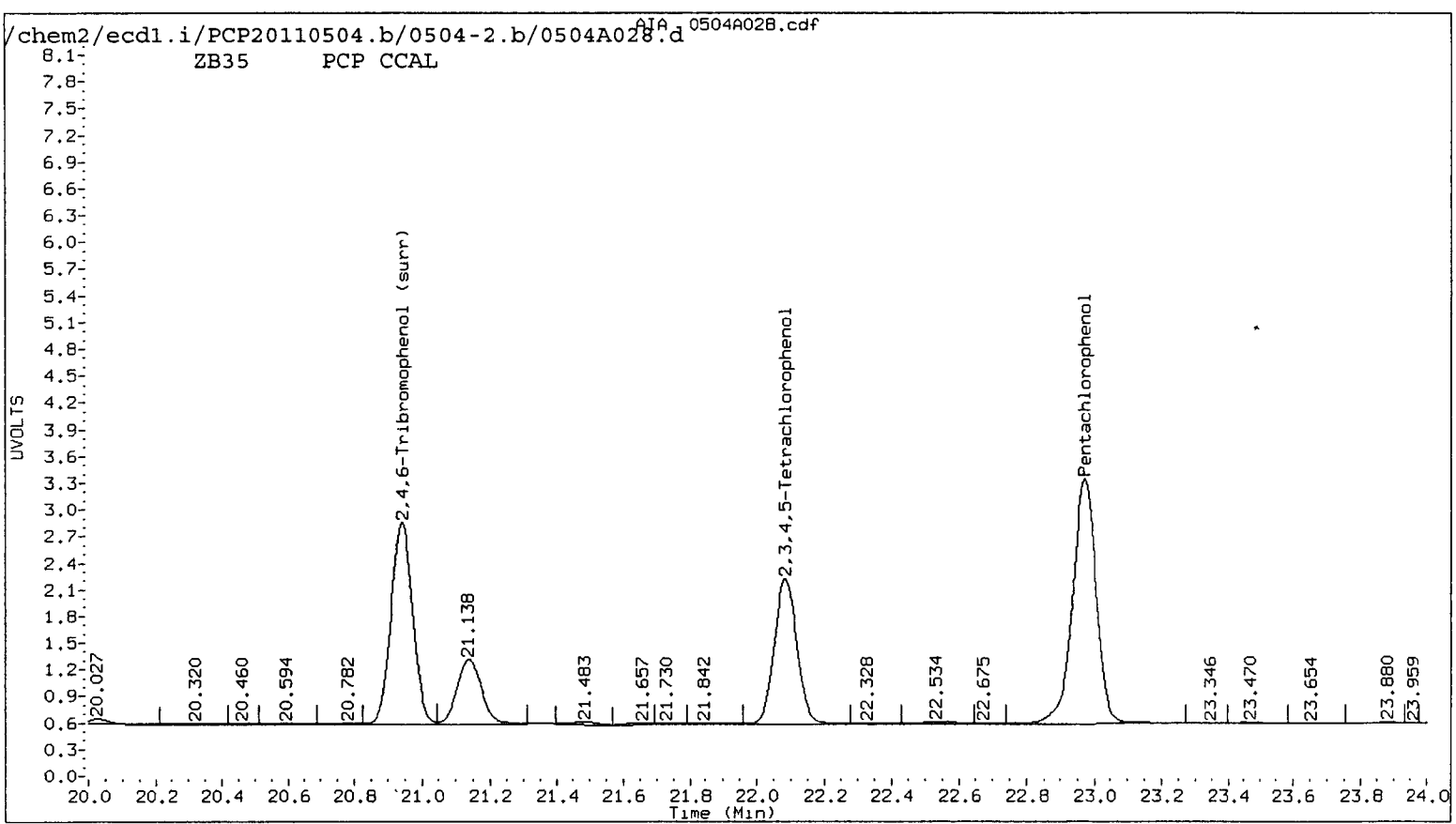
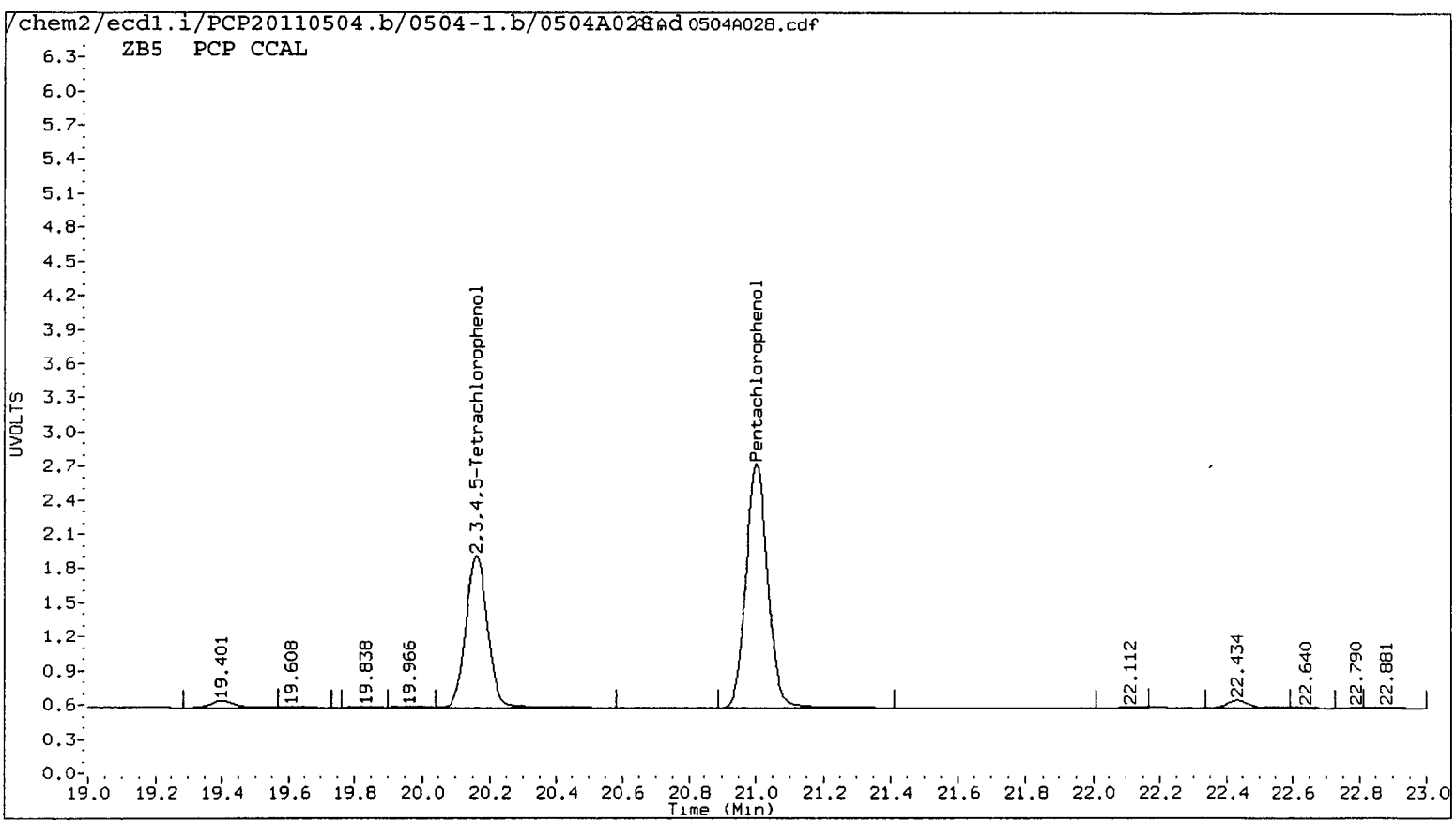
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 05-MAY-2011 01:25
 Compound Sublist: all Report Date: 05/06/2011 11:12
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

RT	ZB-5 Col Shift Response	RT	ZB35 Col Shift Response	ZB-5 on col	ZB35 on col	RPD	Compound
21.003	0.006 485587	22.973	0.006 672187	24.0997	23.8695	1.0	Pentachlorophenol
13.106	0.005 286990	14.316	0.005 340422	23.5764	23.4875	0.4	2,4,6-Trichlorophenol
14.102	0.005 268867	15.563	0.006 329501	23.4765	22.9244	2.4	2,3,6-Trichlorophenol
15.850	0.005 163909	17.479	0.005 187600	24.6759	23.1729	6.3	2,4,5-Trichlorophenol
17.357	0.005 195945	19.028	0.005 228959	23.4515	25.0118	6.4	2,3,4-Trichlorophenol
17.158	0.005 407996	18.819	0.005 517117	24.1322	23.5718	2.3	2,3,5,6-Tetrachlorophenol
20.160	0.006 301574	22.085	0.005 385413	23.2306	25.2415	8.3	2,3,4,5-Tetrachlorophenol
12.562	0.007 170032	13.825	0.005 172706	260.8748	245.3658	6.1	2,4-Dichlorophenol
18.601	0.005 385092	20.942	0.006 506074	24.5	24.1	1.6	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	96.4	95.5
2,4,6-Trichlorophenol	94.3	94.0
2,3,6-Trichlorophenol	93.9	91.7
2,4,5-Trichlorophenol	98.7	92.7
2,3,4-Trichlorophenol	93.8	100.0
2,3,5,6-Tetrachlorophenol	96.5	94.3
2,3,4,5-Tetrachlorophenol	92.9	101.0
2,4-Dichlorophenol	104.3	98.1
2,4,6-TBP (surr)	97.8	96.3





Data File: /chem2/ecdl1.i/PCP20110504.b/0504-1.b/0504028.d

Date : 05-MAY-2011 01:25

Client ID:

Sample Info: PCP CCAL

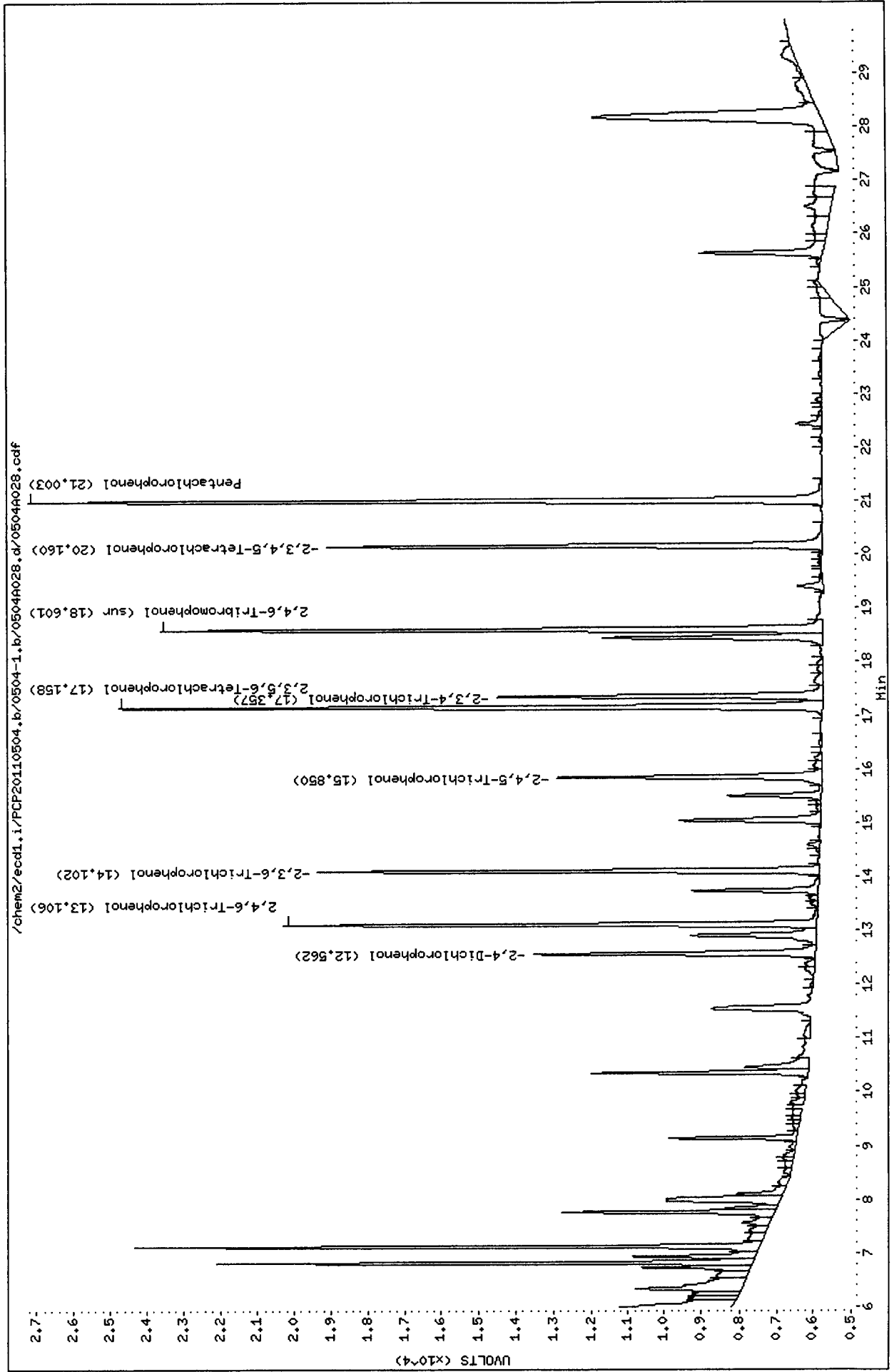
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecdl1.1

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/0504-2.b/0504028.d

Date: 05-MAY-2011 01:25

Client ID:

Sample Info: PCP CCAL

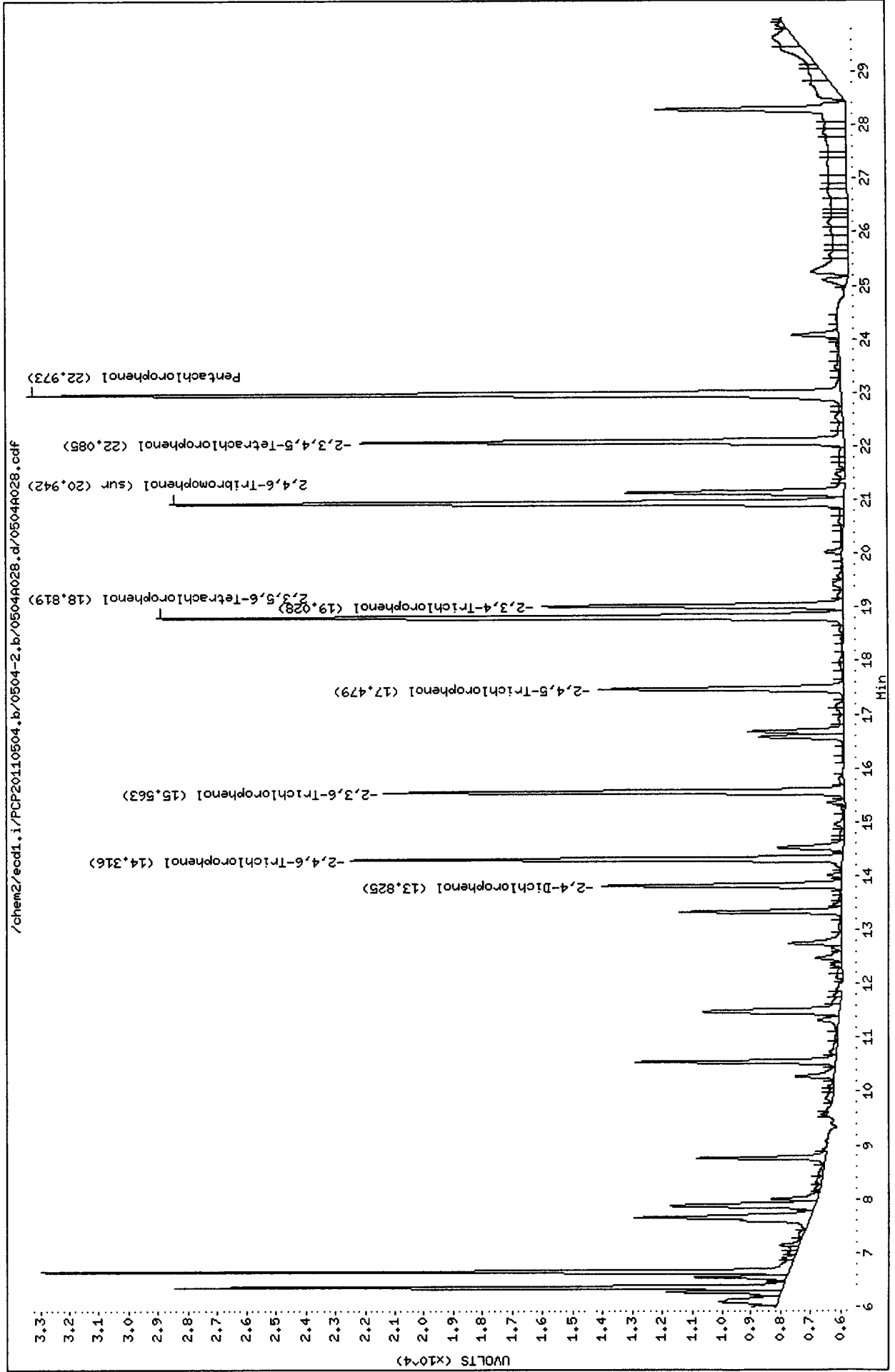
Purge Volume: 500.0

Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



GC Analyst Notes / Corrective Action Log

ARI Project ID: SS83 Client ID: Floyd Snider

ARI SOP: 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): 10g/25mL FV

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8
FID-9 ECD-1 ECD-3 ECD-4 ECD-5 ECD-6 ECD-7

Dates: Curve: 5/4/2011 Analysis Start: 5/6/2011

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	<u>YES</u> / NO
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	<u>YES</u> / NO
CCal Meets RF & %RSD Criteria?	<u>YES</u> / NO	Surrogate Recovery In Control?	<u>YES</u> / NO
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	<u>YES</u> / NO
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	<u>YES</u> / NO / NA

Request

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

① For requestal comp's

Additional Details on Reverse: Yes / No

Analyst: [Signature] Date: 5/9/2011

Reviewer: _____ Date: _____

Analytical Resources Inc.: Organics Instrument Log

ECD1 Serial No.: 3410A39690

Date: 5/6/2011 Analysis: PCP Analyst: AR
 GC Program: HERB.M Column No: 922995/801692 Column Type: STXCLP1/2
 Calibration File: PCP2011C504.b Curve Date: 5/4/2011 Injection Vol.: 2µL

IS/SS	Ical/Ccal	LCS/ICV
⚡	1791-4	1820-4

Document All Maintenance Tasks In StarLIMS

GC LOG SUMMARY FOR DATABATCH - /chem2/ecd1.i/PCP20110504.b/0506-2.1

	Inject Date/Time	Filename	DF	LabID	ClientID
1	06-MAY-2011 19:46	0506A010.d	1	PCP CCAL - <i>Passes</i>	
2	06-MAY-2011 20:23	0506A011.d	1	SS83MBS1	
3	06-MAY-2011 20:59	0506A012.d	1	SS83LCSS1	
4	06-MAY-2011 21:35	0506A013.d	1	SS83LCSDS1	
5	06-MAY-2011 22:11	0506A014.d	1	SS83QLS	
6	06-MAY-2011 22:48	0506A015.d	1	SS83A	
7	06-MAY-2011 23:24	0506A016.d	1	SS83B	
8	07-MAY-2011 00:00	0506A017.d	1	SS83C	
9	07-MAY-2011 00:36	0506A018.d	1	SS83D	
10	07-MAY-2011 01:13	0506A019.d	1	SS83E	
11	07-MAY-2011 01:49	0506A020.d	1	SS83F	
12	07-MAY-2011 02:25	0506A021.d	1	PCP	
13	07-MAY-2011 03:01	0506A022.d	1	PCP CCAL - <i>Passes</i>	
14	07-MAY-2011 03:37	0506A023.d	1	SS83G	
15	07-MAY-2011 04:14	0506A024.d	1	SS83H	
16	07-MAY-2011 04:50	0506A025.d	1	SS83I	
17	07-MAY-2011 05:26	0506A026.d	1	SS83J	
18	07-MAY-2011 06:02	0506A027.d	1	SS83K	
19	07-MAY-2011 06:39	0506A028.d	1	SS83L	
20	07-MAY-2011 07:15	0506A029.d	1	SS83M	
21	07-MAY-2011 07:51	0506A030.d	1	SS83N	
22	07-MAY-2011 08:28	0506A031.d	1	PCP	
23	07-MAY-2011 09:04	0506A032.d	1	PCP CCAL - <i>Passes</i>	
24	07-MAY-2011 09:40	0506A033.d	1	SS83O	
25	07-MAY-2011 10:16	0506A034.d	1	SS83OMS	
26	07-MAY-2011 10:53	0506A035.d	1	SS83OMSD	
27	07-MAY-2011 11:29	0506A036.d	1	PCP	
28	07-MAY-2011 12:05	0506A037.d	1	PCP CCAL - <i>Passes</i>	
AR 5/9/2011					
⚡					

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In StarLIMS

Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

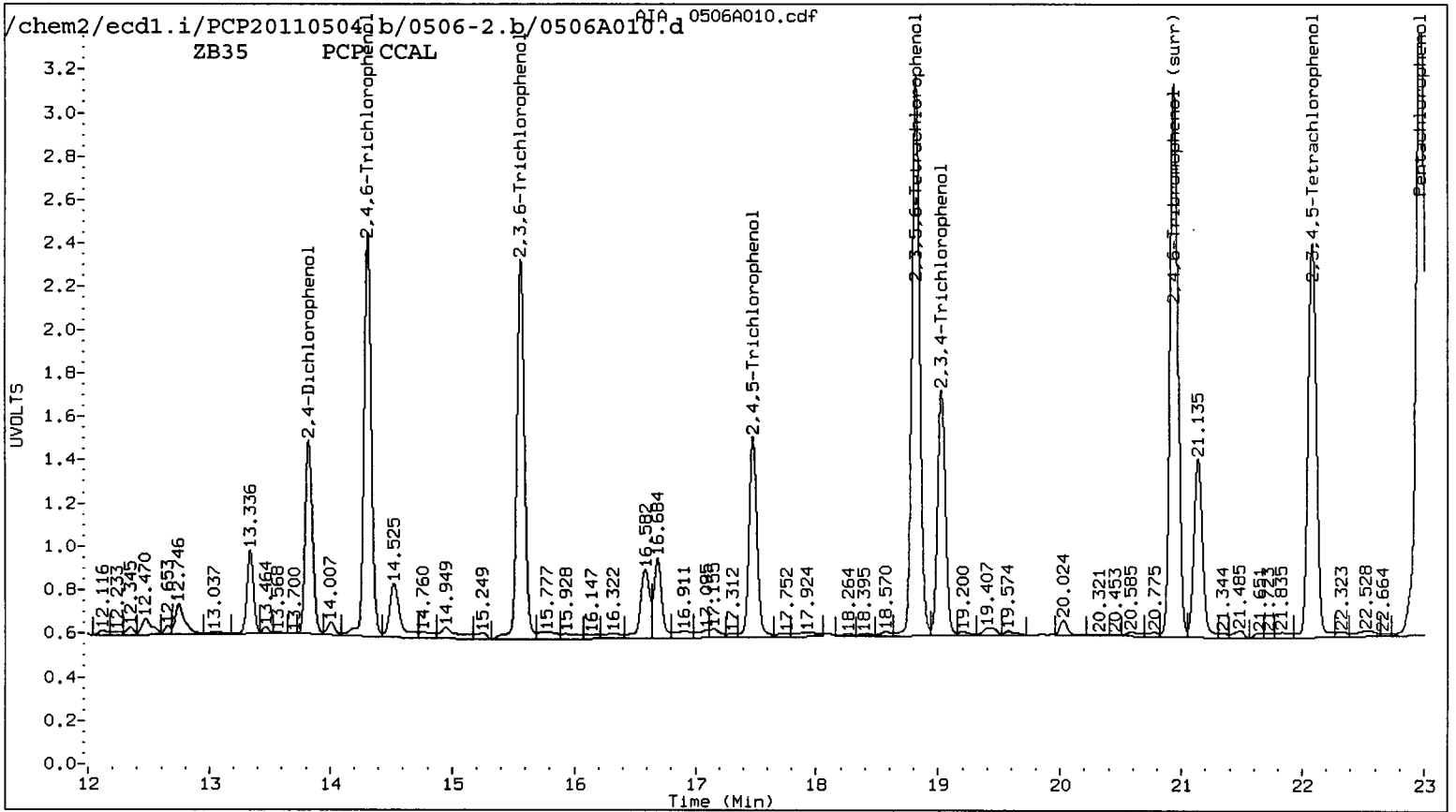
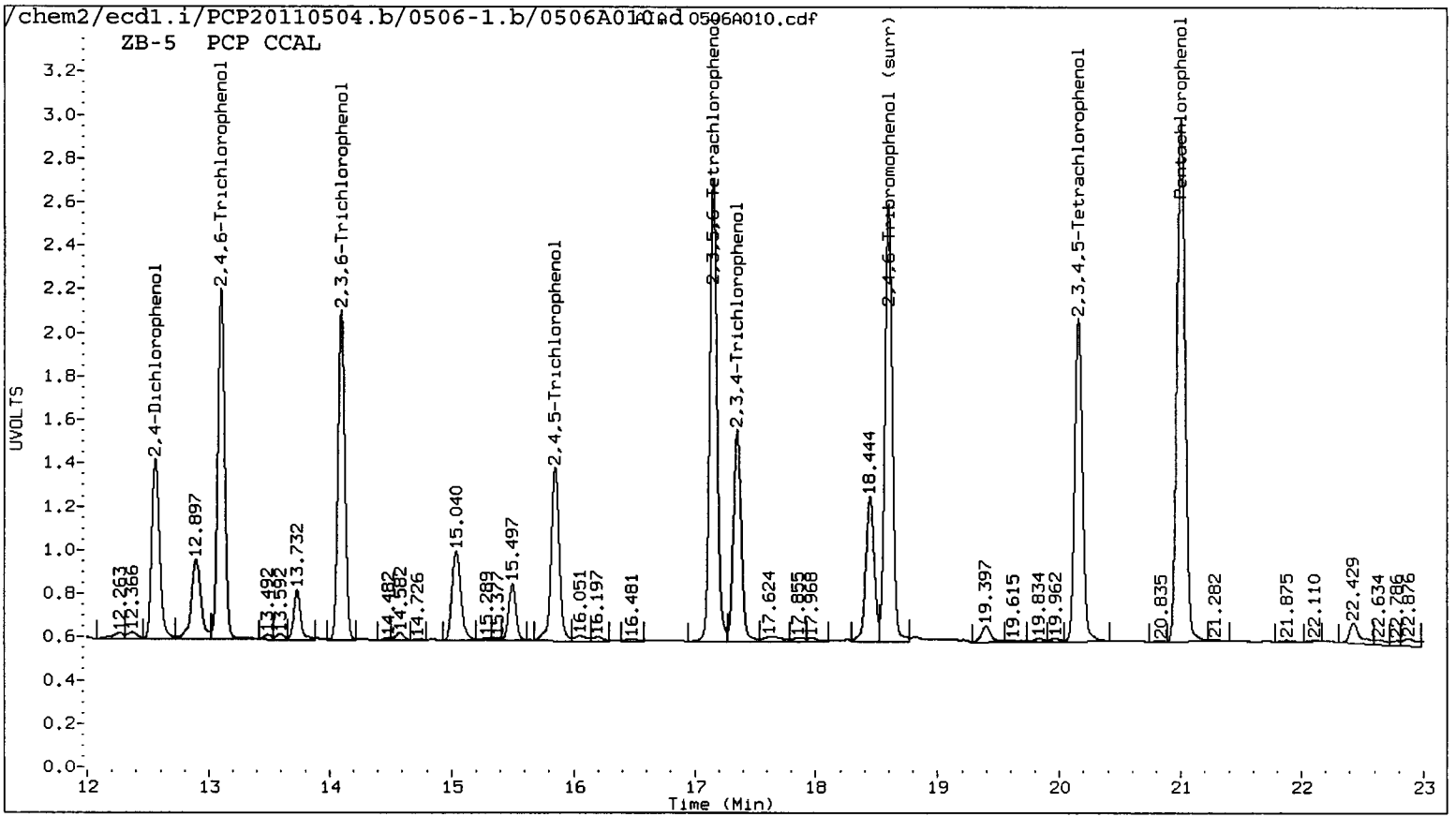
AR 5/19/2011

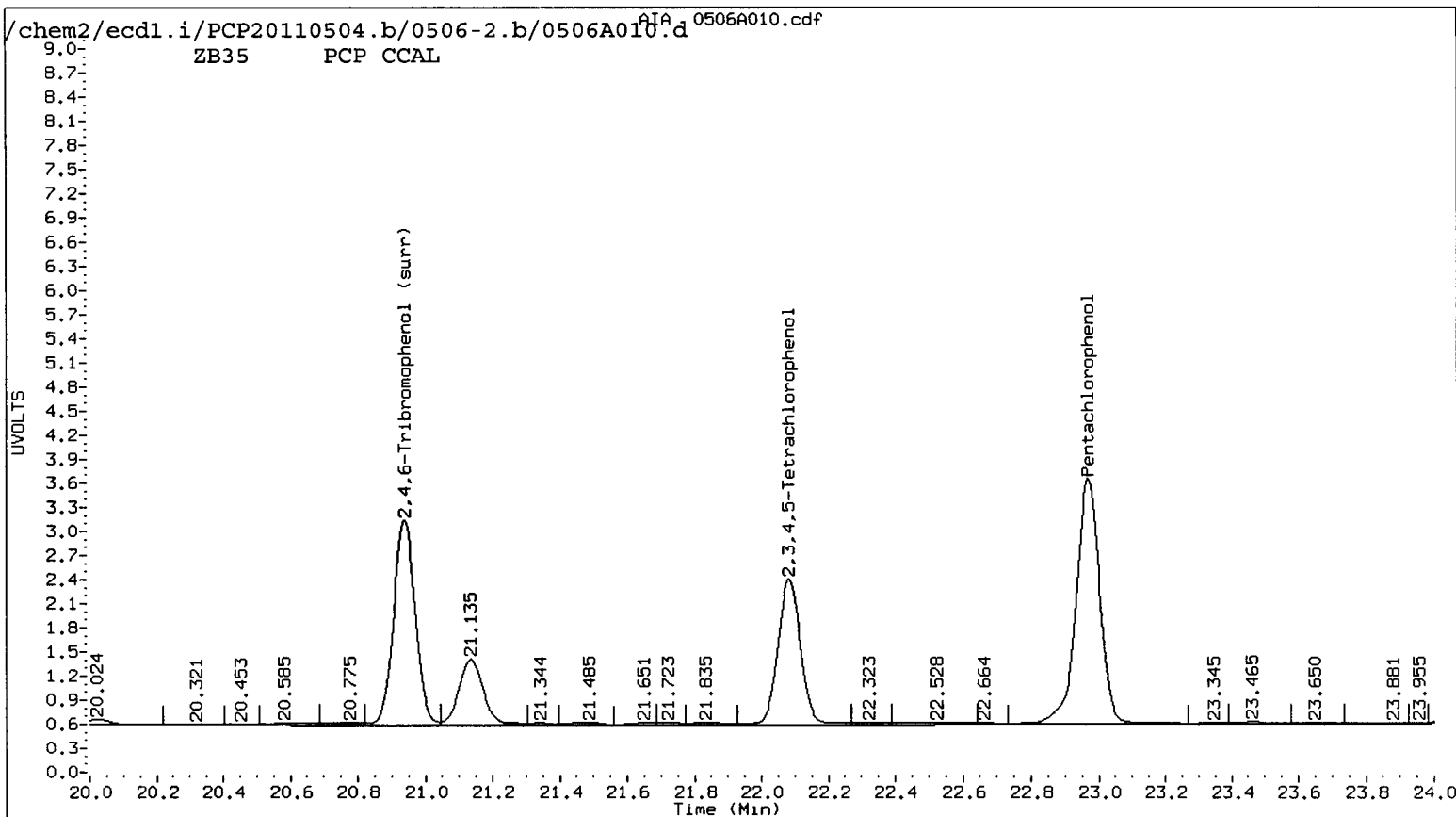
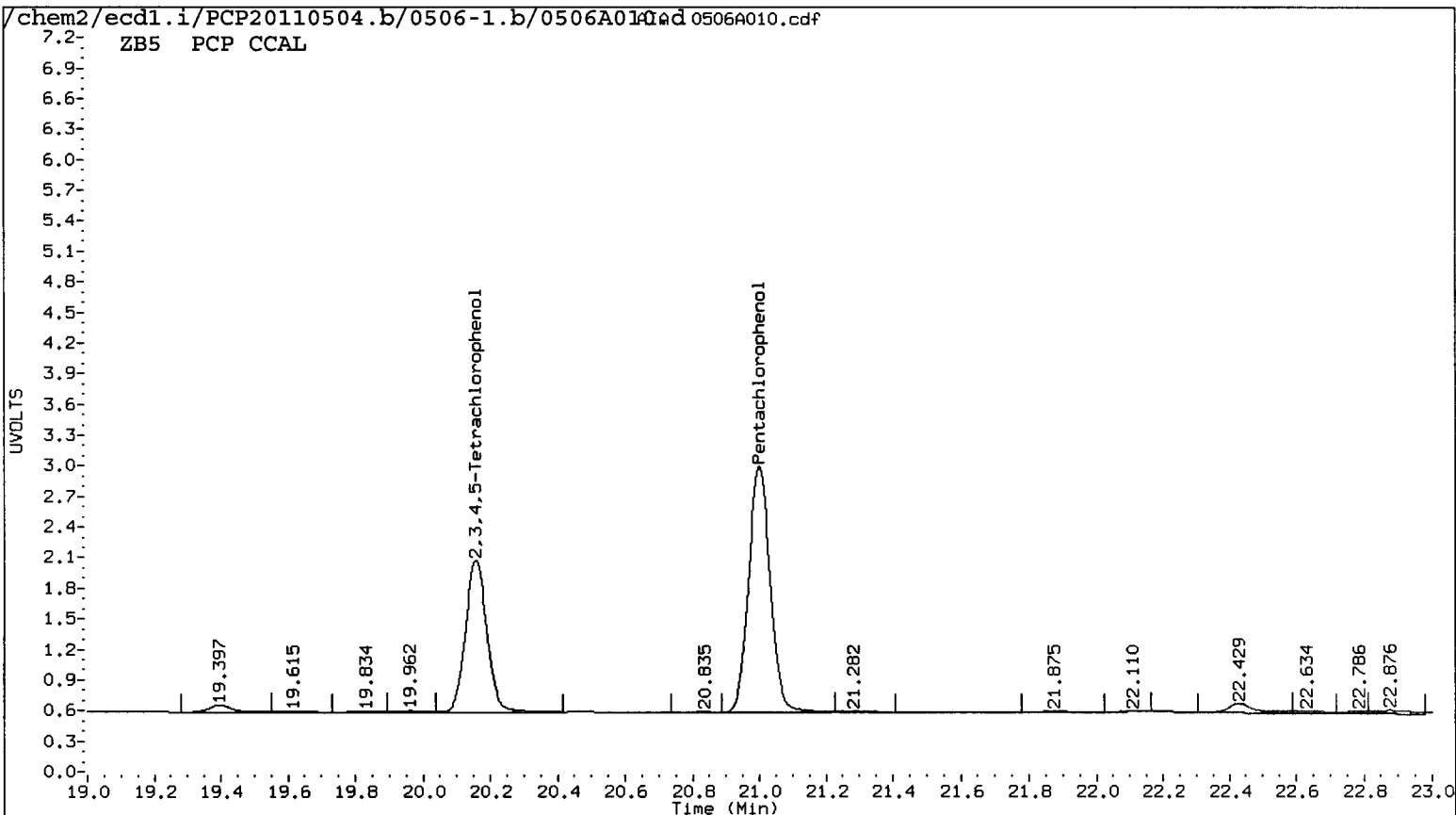
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A010.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 19:46
 Compound Sublist: all Report Date: 05/09/2011 15:32
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.000	0.003	543019	22.969	0.002	753430	26.9500	26.7545	0.7	Pentachlorophenol
13.103	0.002	323369	14.313	0.002	387316	26.5650	26.7230	0.6	2,4,6-Trichlorophenol
14.099	0.002	302755	15.560	0.003	385209	26.4354	26.8001	1.4	2,3,6-Trichlorophenol
15.847	0.002	182213	17.476	0.002	215417	27.8595	26.6089	4.6	2,4,5-Trichlorophenol
17.354	0.002	220143	19.025	0.002	256372	26.3477	28.4378	7.6	2,3,4-Trichlorophenol
17.155	0.002	459140	18.815	0.001	581415	27.1573	26.5027	2.4	2,3,5,6-Tetrachlorophenol
20.157	0.002	335616	22.083	0.003	430084	25.8529	28.5227	9.8	2,3,4,5-Tetrachlorophenol
12.558	0.003	183328	13.822	0.002	191705	285.5926	278.6042	2.5	2,4-Dichlorophenol
18.598	0.002	435747	20.938	0.002	567857	27.7	27.0	2.4	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	107.8	107.0
2,4,6-Trichlorophenol	106.3	106.9
2,3,6-Trichlorophenol	105.7	107.2
2,4,5-Trichlorophenol	111.4	106.4
2,3,4-Trichlorophenol	105.4	113.8
2,3,5,6-Tetrachlorophenol	108.6	106.0
2,3,4,5-Tetrachlorophenol	103.4	114.1
2,4-Dichlorophenol	114.2	111.4
2,4,6-TBP (surr)	110.7	108.0

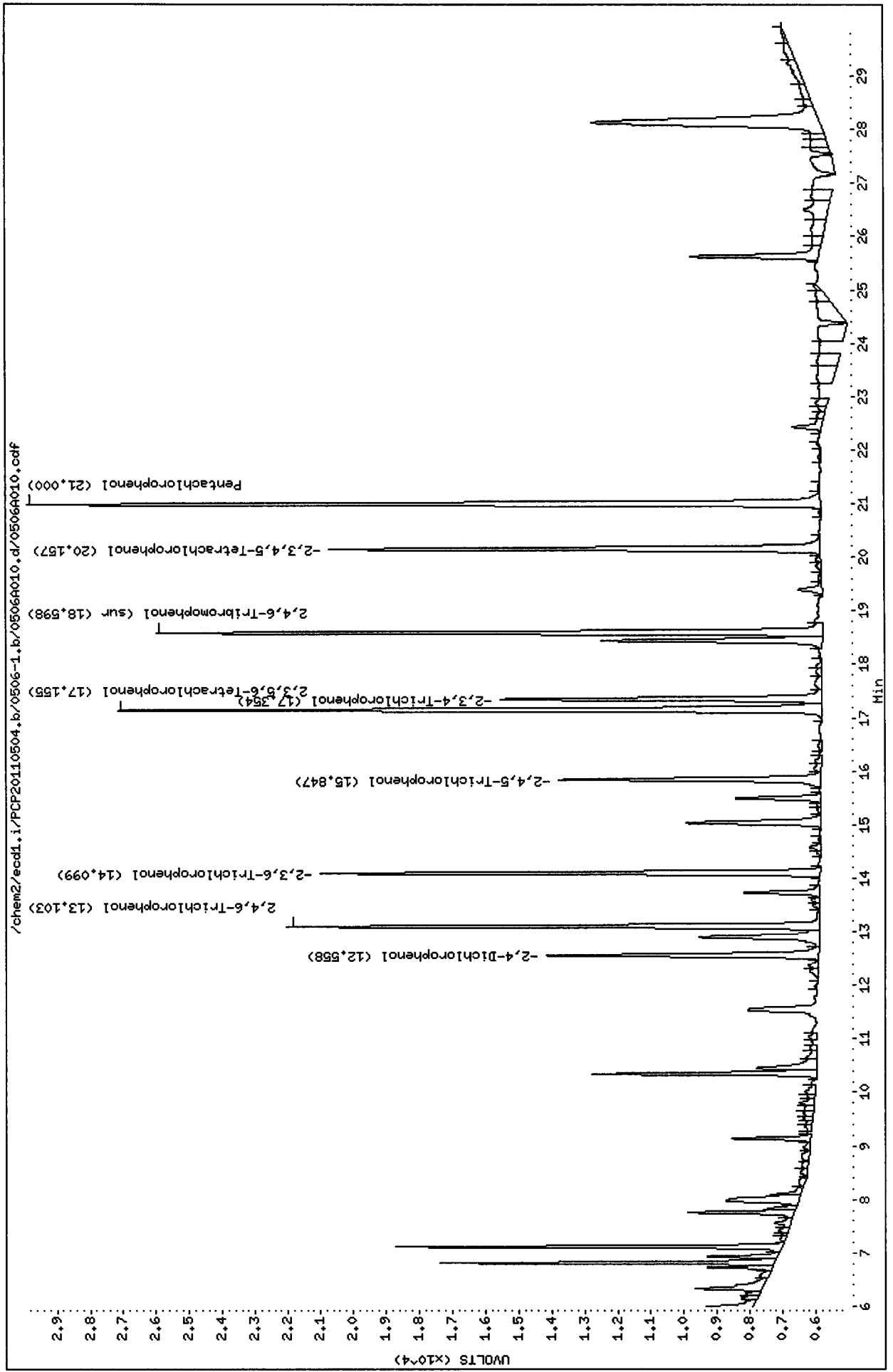




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Date : 06-MAY-2011 19:46
Client ID:
Sample Info: PCP CCAL
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar
Column diameter: 0.53



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

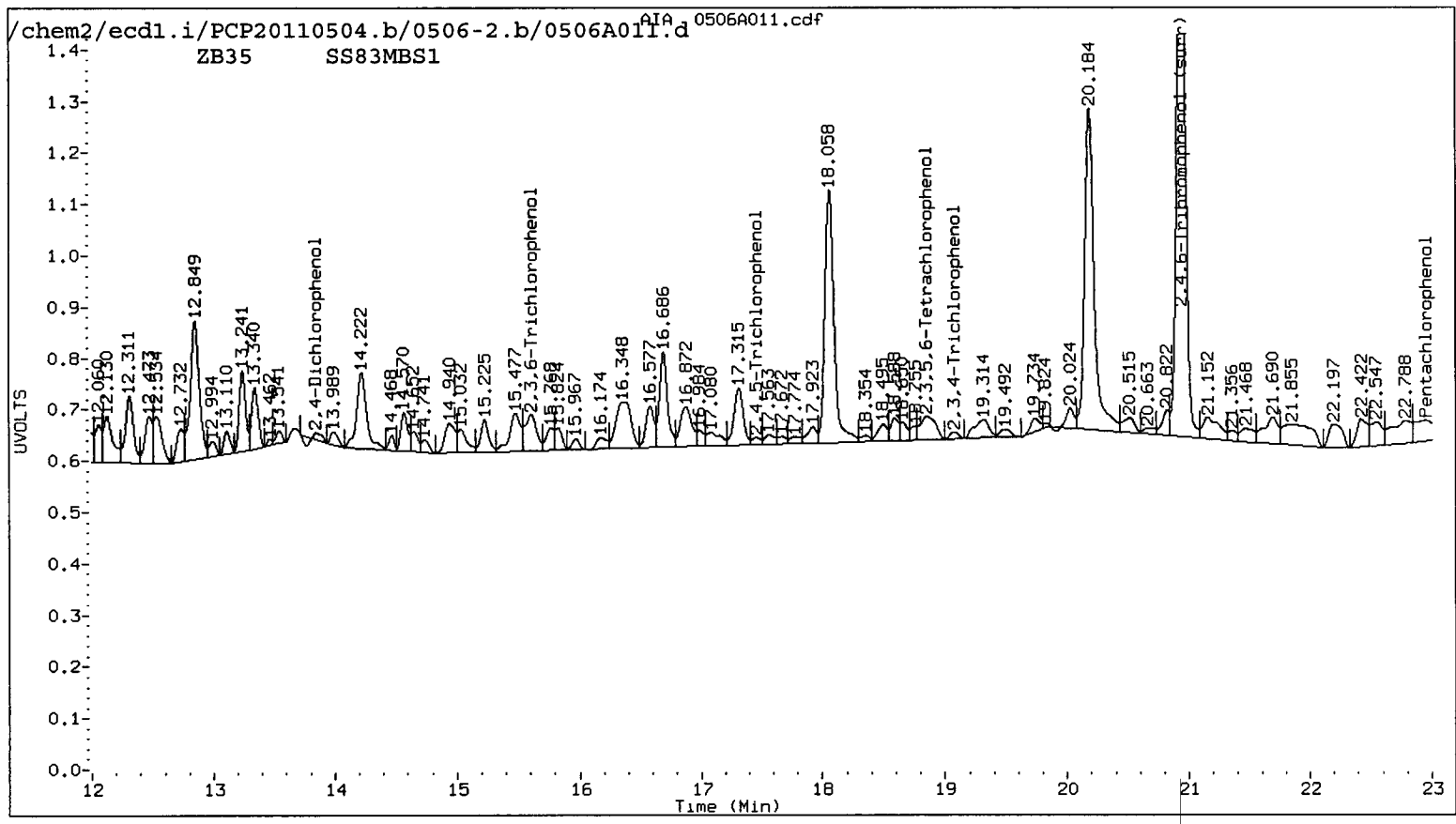
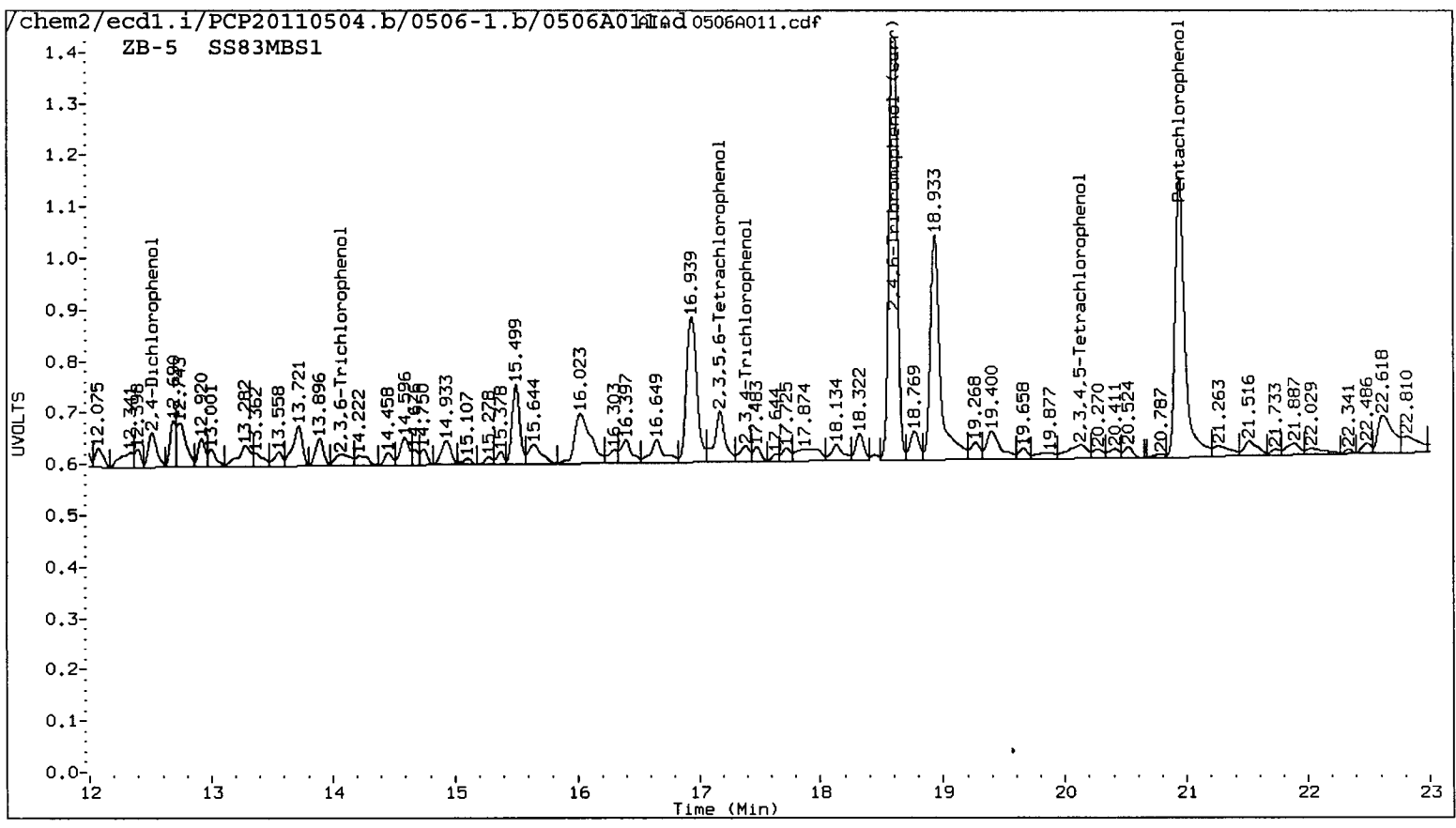
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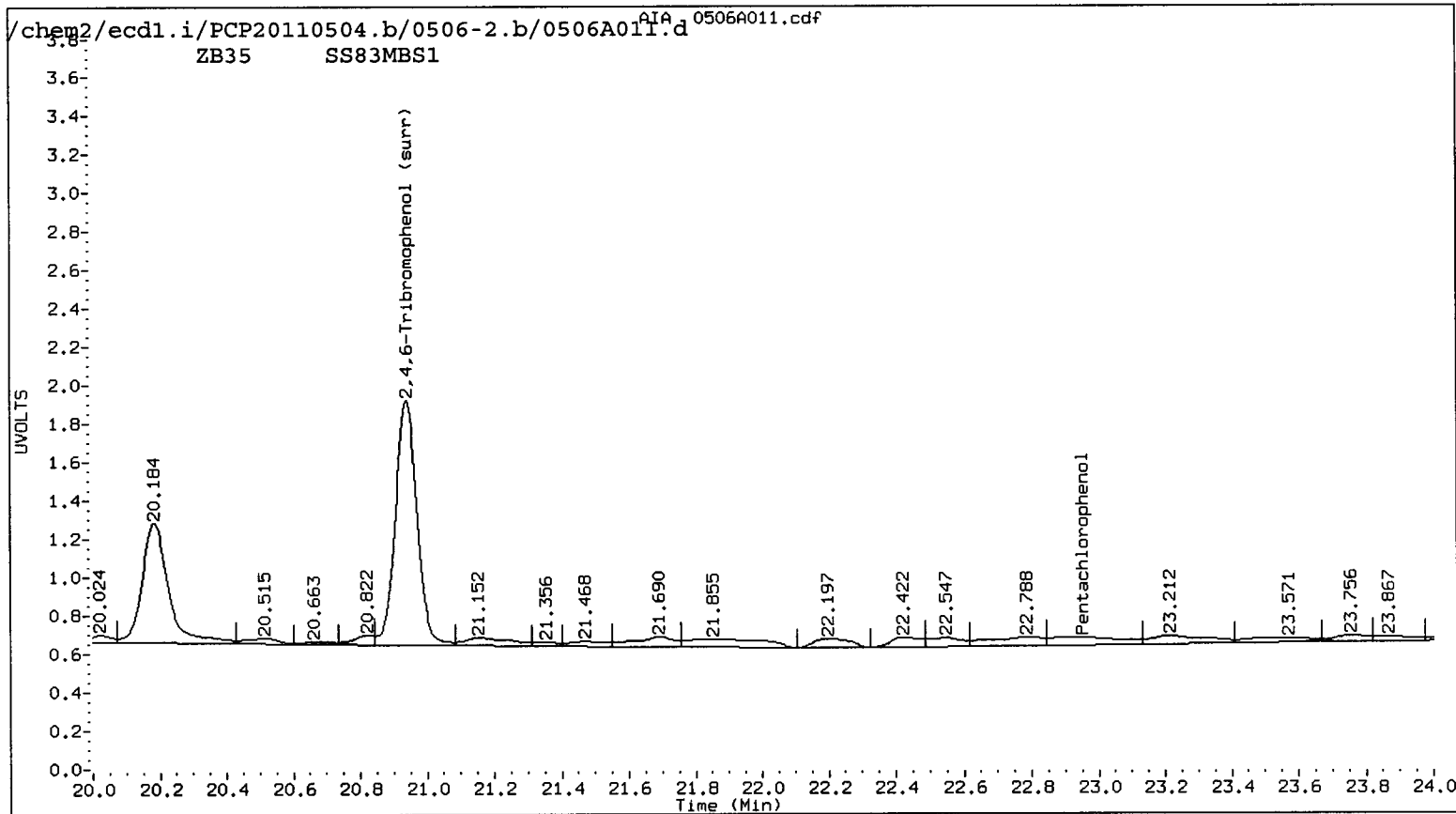
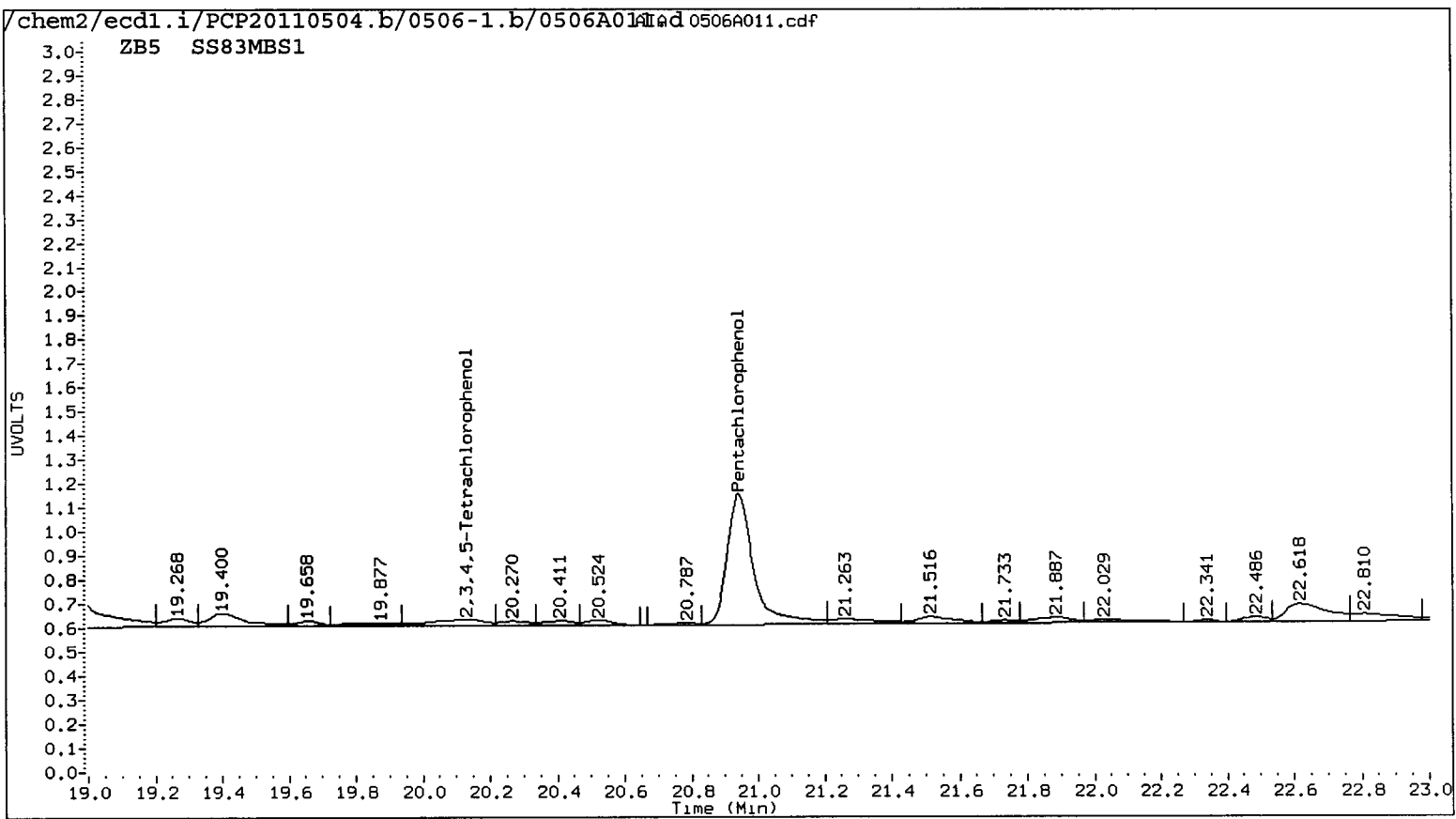
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 20:23
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.943	-0.055	150806	22.949	-0.018	29971	7.4845	1.0643	150.2*	Pentachlorophenol
----			----			0.0000	0.0000	---	2,4,6-Trichlorophenol
14.072	-0.025	9562	15.606	0.049	23201	0.8349	1.6142	63.6*	2,3,6-Trichlorophenol
----			17.457	-0.017	3191	0.0000	0.3942	---	2,4,5-Trichlorophenol
17.387	0.036	8889	19.077	0.054	3421	1.0639	0.3264	106.1*	2,3,4-Trichlorophenol
17.176	0.024	30787	18.850	0.036	19601	1.8210	0.8935	68.3*	2,3,5,6-Tetrachlorophenol
20.131	-0.024	14623	----			1.1265	0.0000	---	2,3,4,5-Tetrachlorophenol
12.517	-0.038	16012	13.846	0.026	998	20.1980	1.1241	178.9*	2,4-Dichlorophenol
18.598	0.003	214672	20.939	0.003	287906	13.6	13.7	0.4	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	54.5	54.8

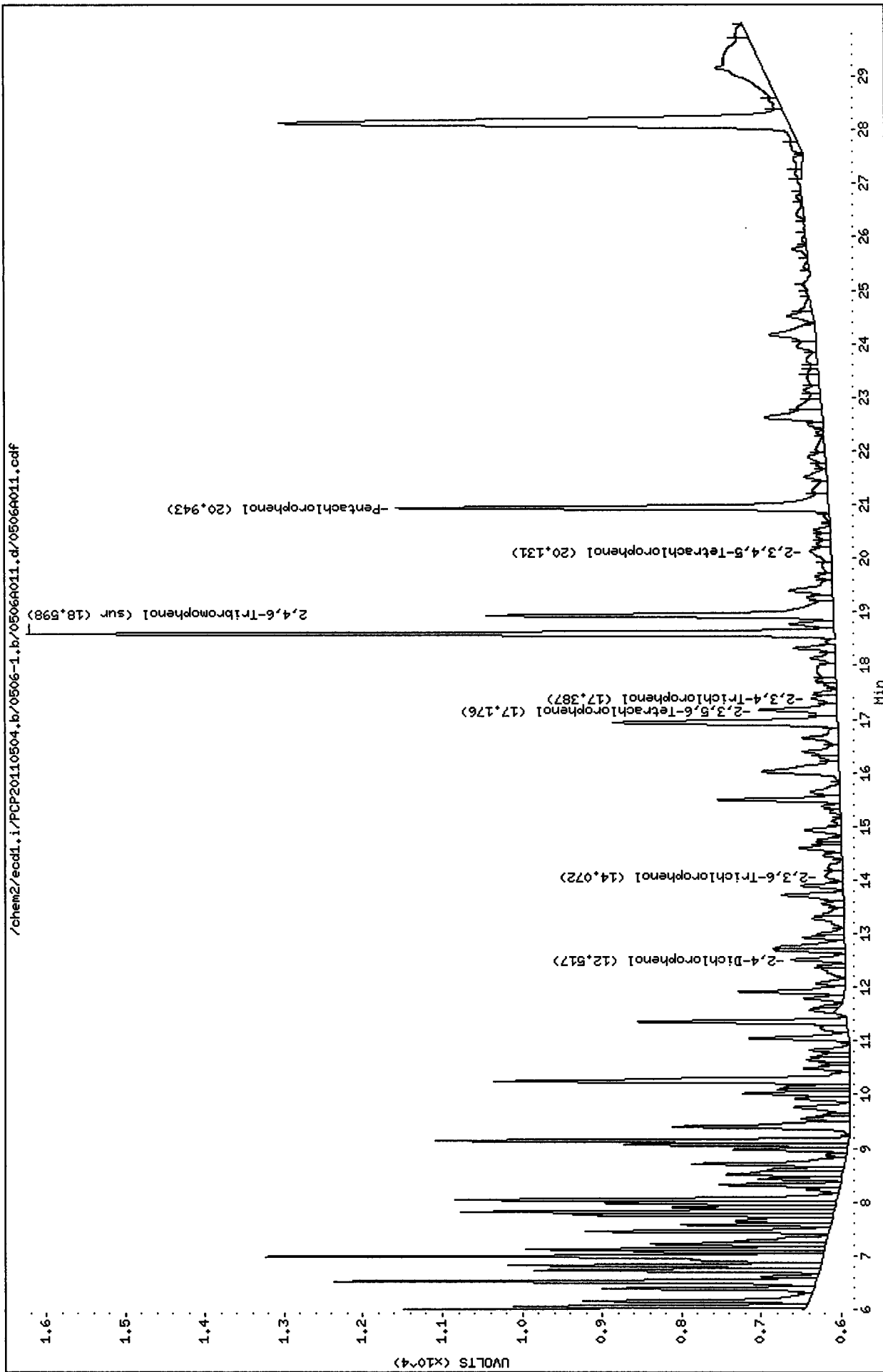




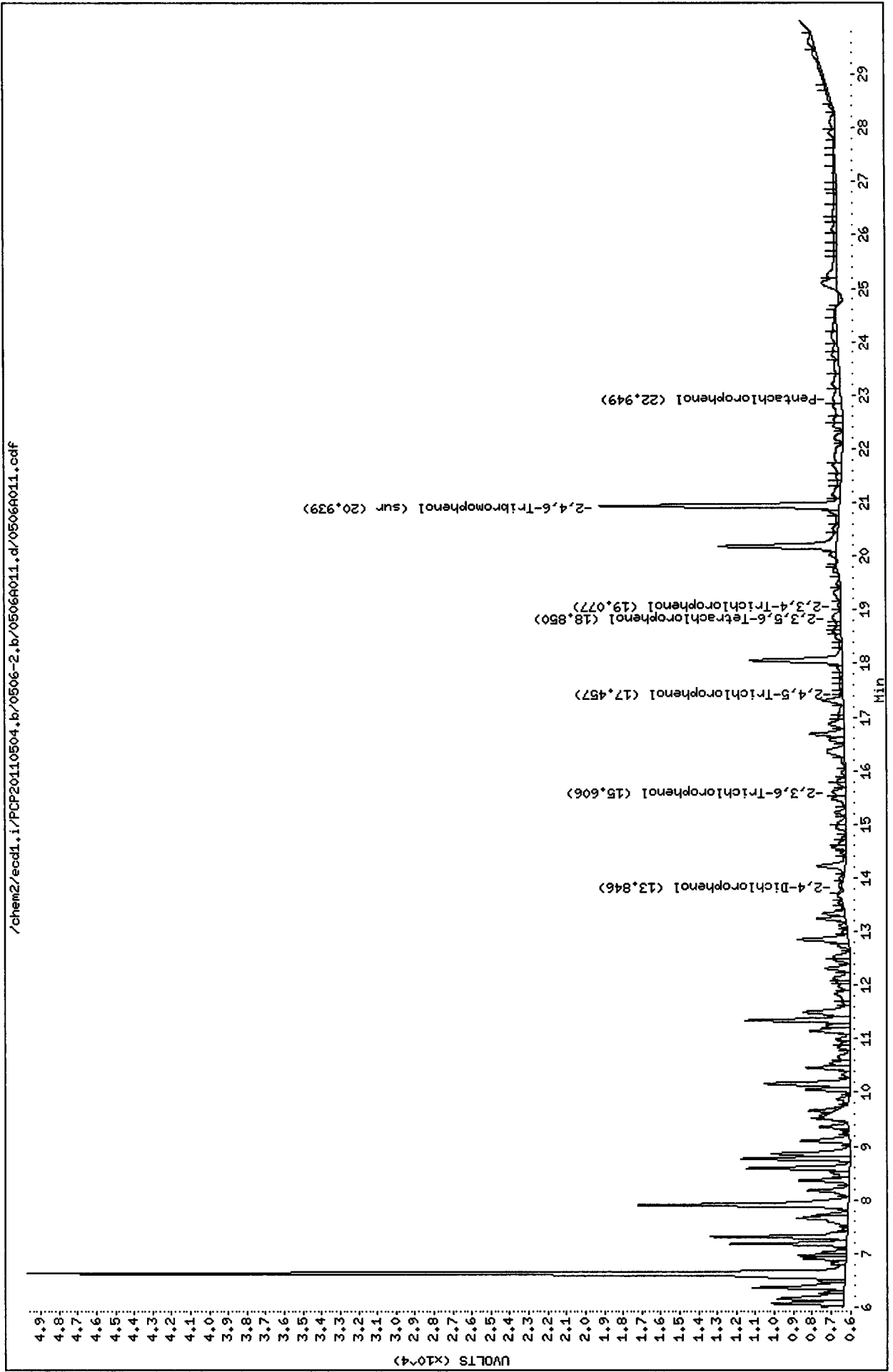
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Date : 06-MAY-2011 20:23
Client ID:
Sample Info: S883MBS1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl.i

Operator: ar
Column diameter: 0.53



Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A011.d
Date : 06-MAY-2011 20:23
Client ID:
Instrument: ecdl.i
Sample Info: SSS3HBS1
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



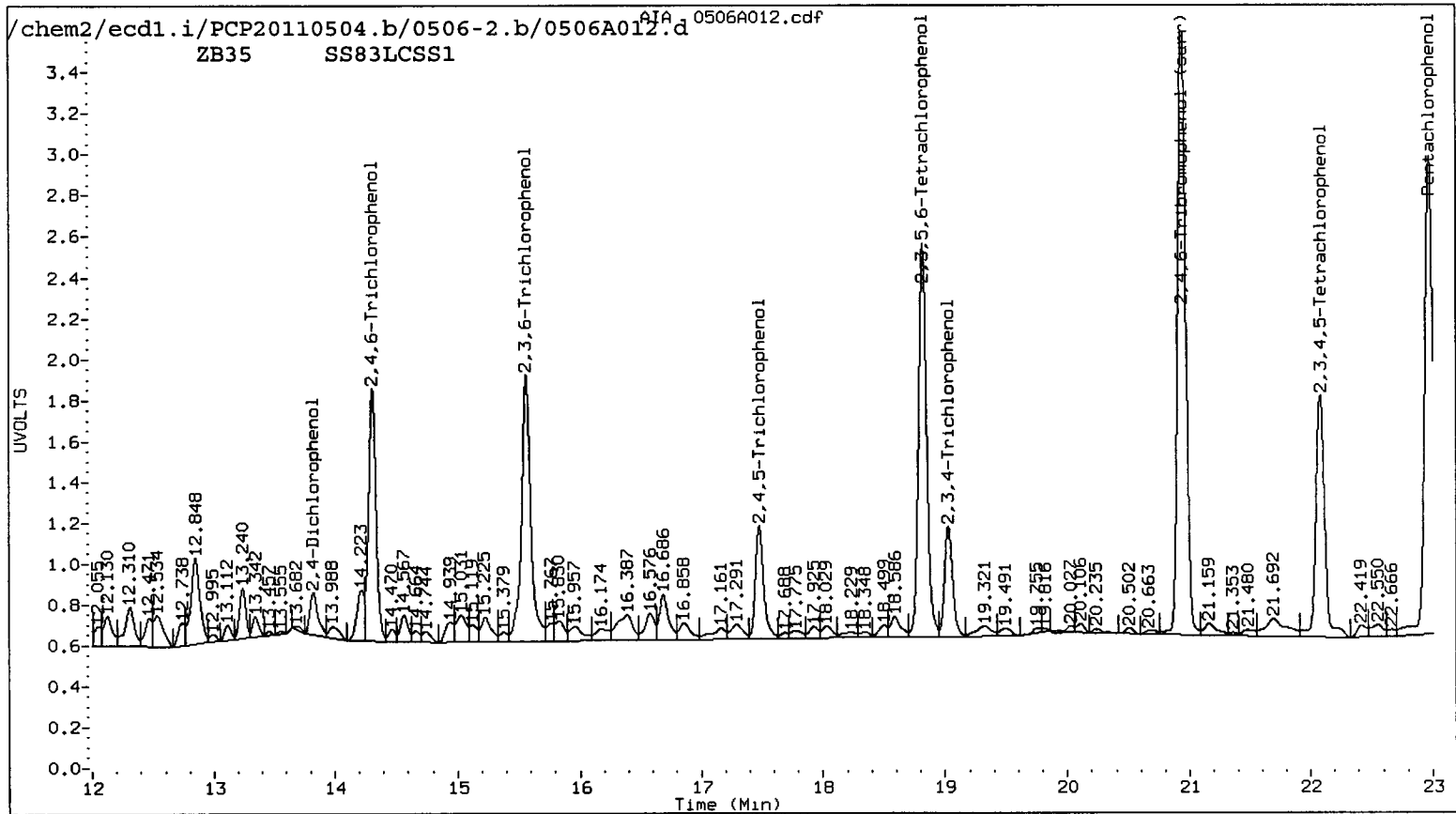
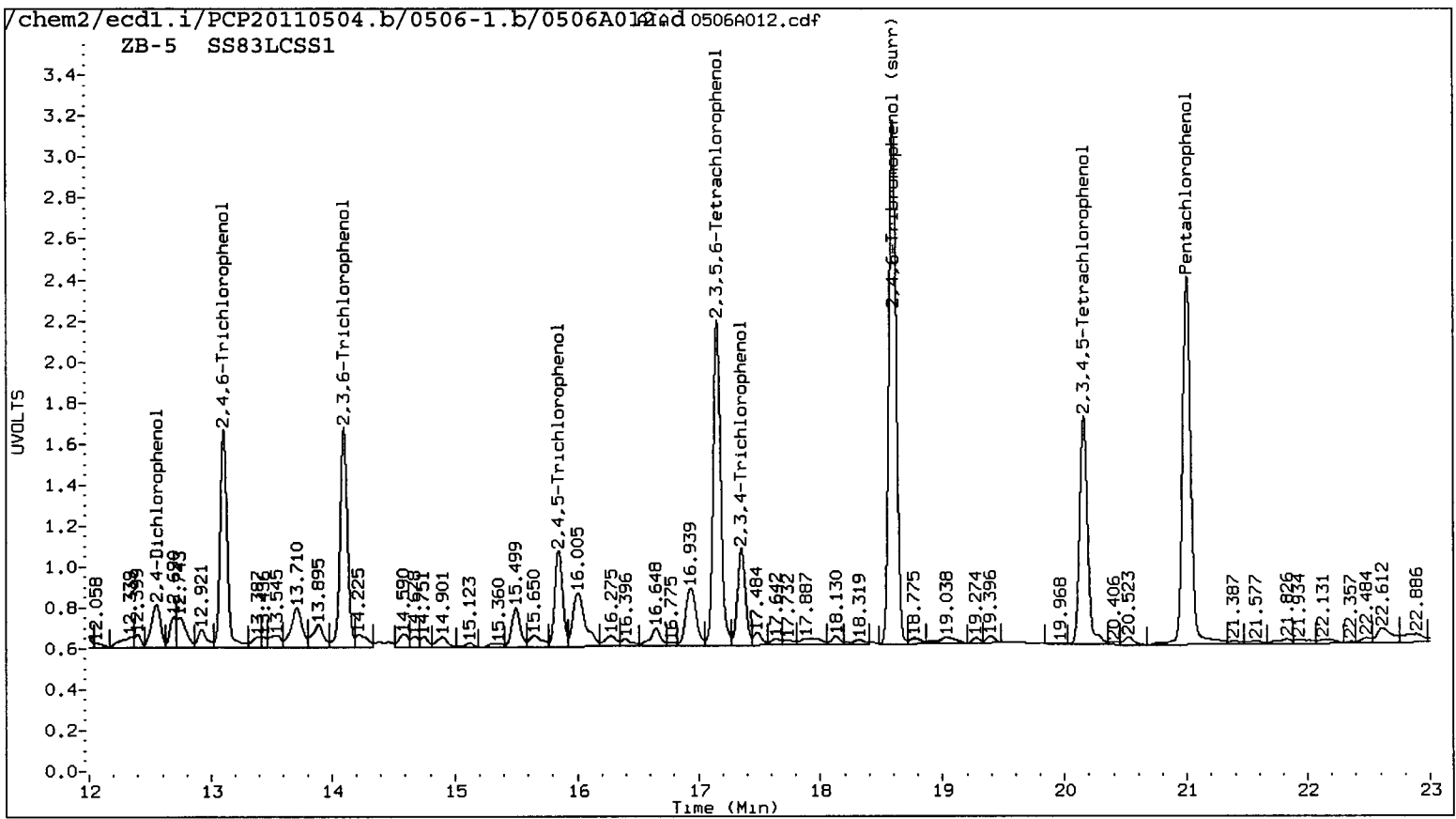
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

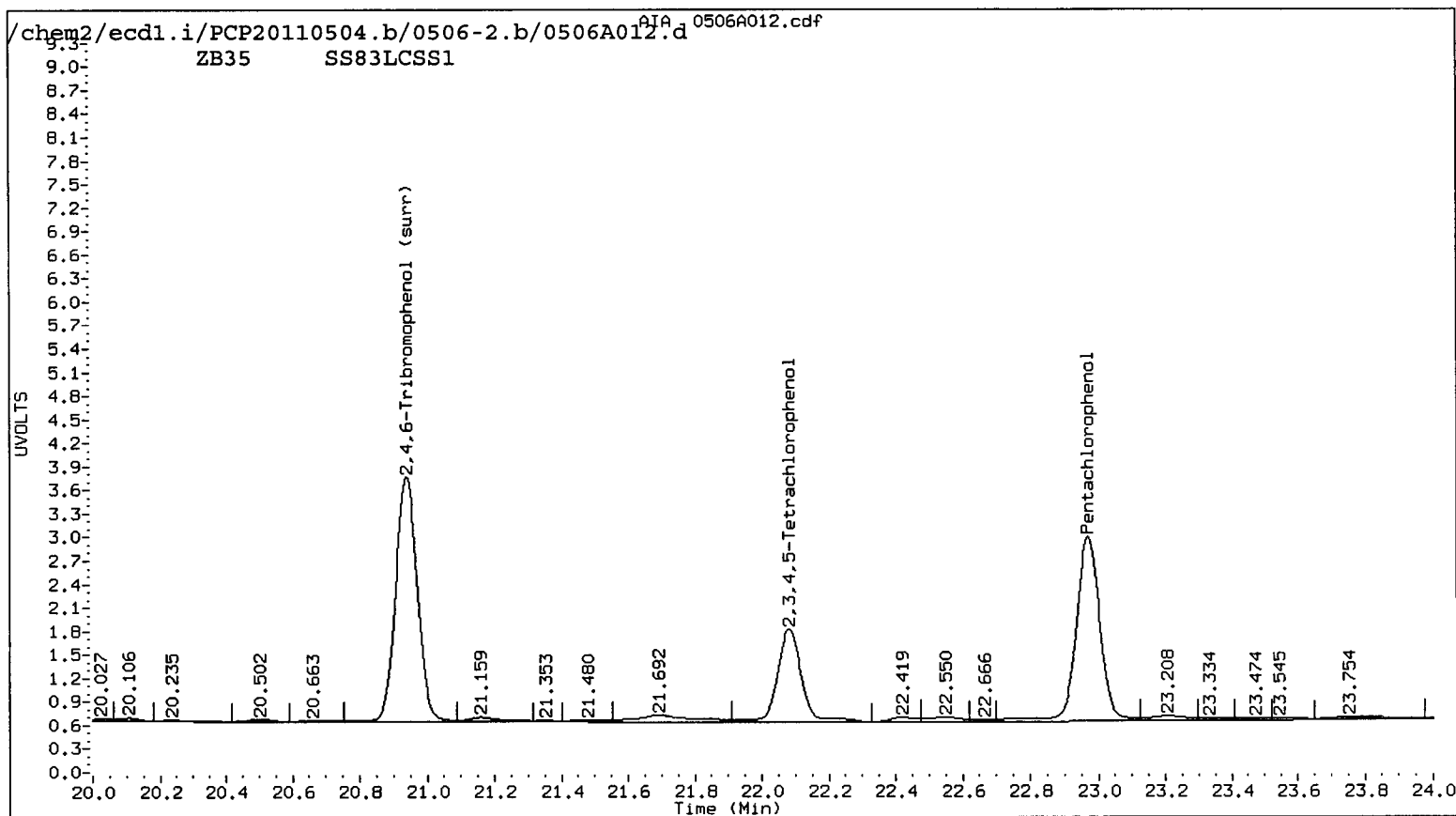
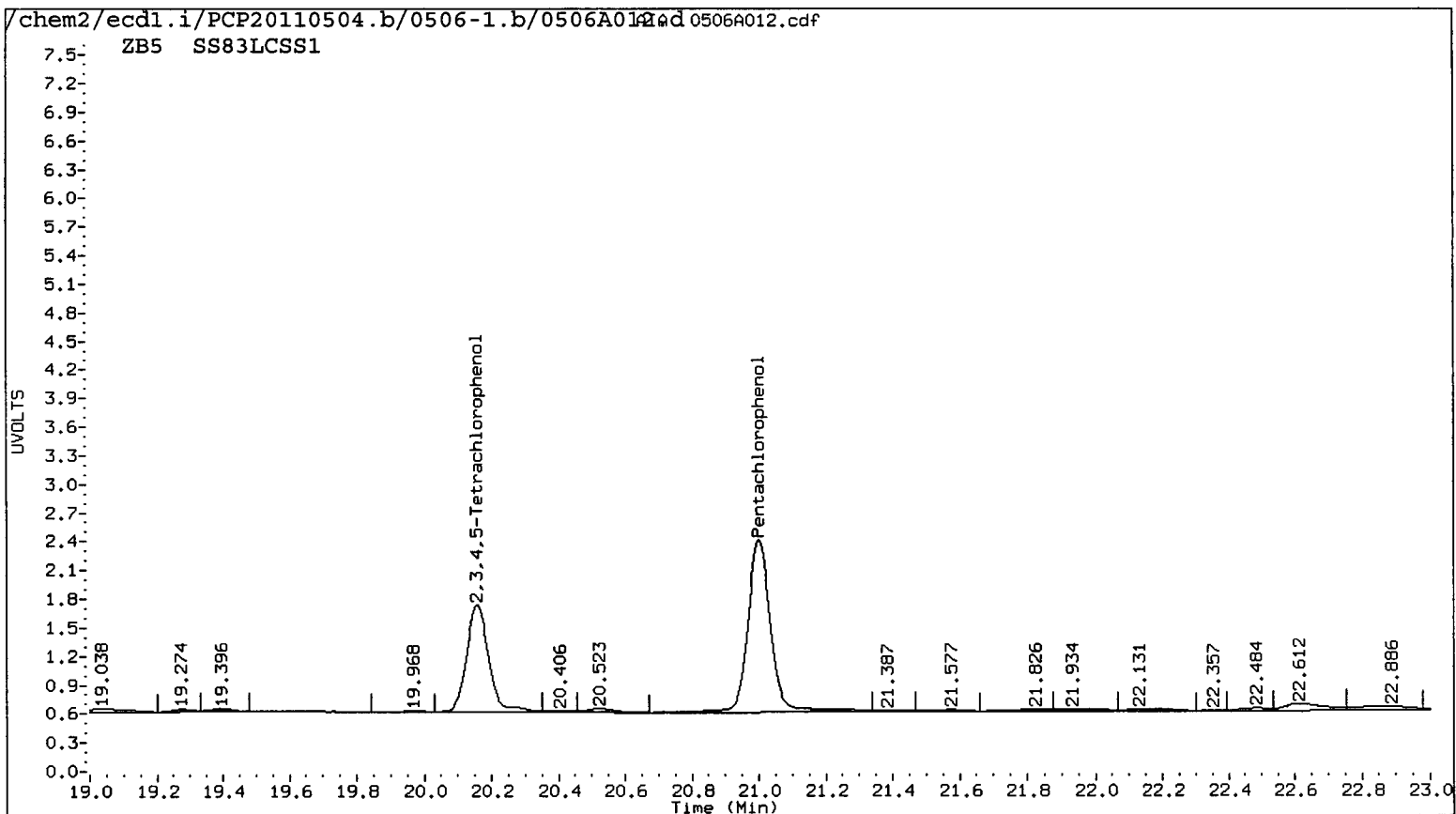
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A012.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 20:59
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.000	0.003	435069	22.970	0.003	572028	21.5924	20.3129	6.1	Pentachlorophenol
13.103	0.002	221991	14.313	0.002	265307	18.2367	18.3050	0.4	2,4,6-Trichlorophenol
14.099	0.002	228569	15.560	0.003	348008	19.9578	24.2120	19.3	2,3,6-Trichlorophenol
15.848	0.003	102546	17.477	0.003	132285	14.6306	16.3403	11.0	2,4,5-Trichlorophenol
17.354	0.003	106848	19.026	0.003	124930	12.7881	12.8497	0.5	2,3,4-Trichlorophenol
17.155	0.002	346795	18.817	0.003	444546	20.5123	20.2638	1.2	2,3,5,6-Tetrachlorophenol
20.158	0.003	259783	22.082	0.002	297166	20.0114	18.9767	5.3	2,3,4,5-Tetrachlorophenol
12.552	-0.003	56083	13.826	0.006	48705	74.7251	58.8367	23.8	2,4-Dichlorophenol
18.598	0.002	538318	20.939	0.003	704921	34.2	33.5	2.0	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

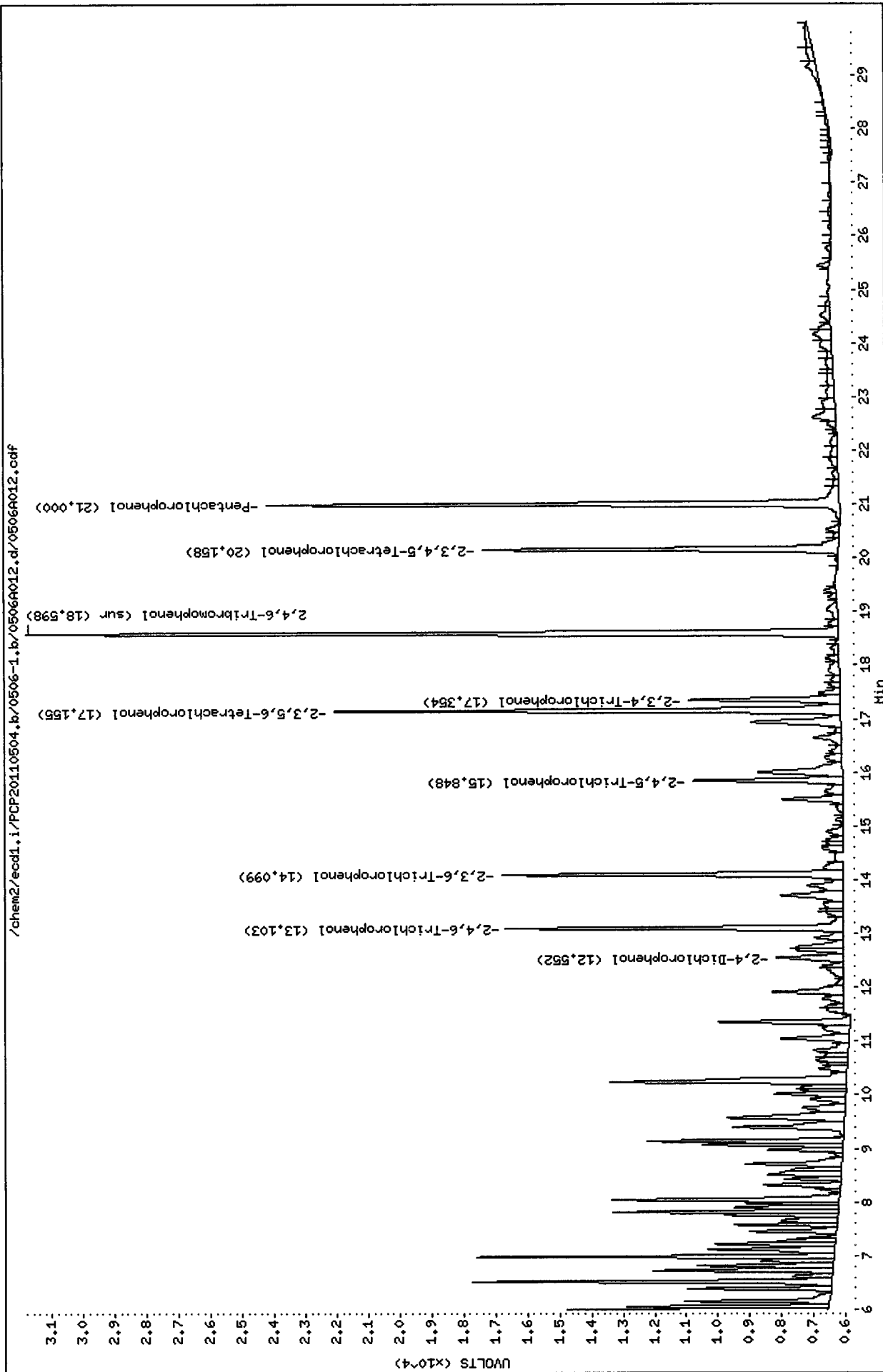
COMPOUND	Col1	Col2
Pentachlorophenol	86.4	81.3
2,4,6-Trichlorophenol	72.9	73.2
2,3,6-Trichlorophenol	79.8	96.8
2,4,5-Trichlorophenol	58.5	65.4
2,3,4-Trichlorophenol	51.2	51.4
2,3,5,6-Tetrachlorophenol	82.0	81.1
2,3,4,5-Tetrachlorophenol	80.0	75.9
2,4-Dichlorophenol	29.9	23.5
2,4,6-TBP (surr)	68.4	67.1



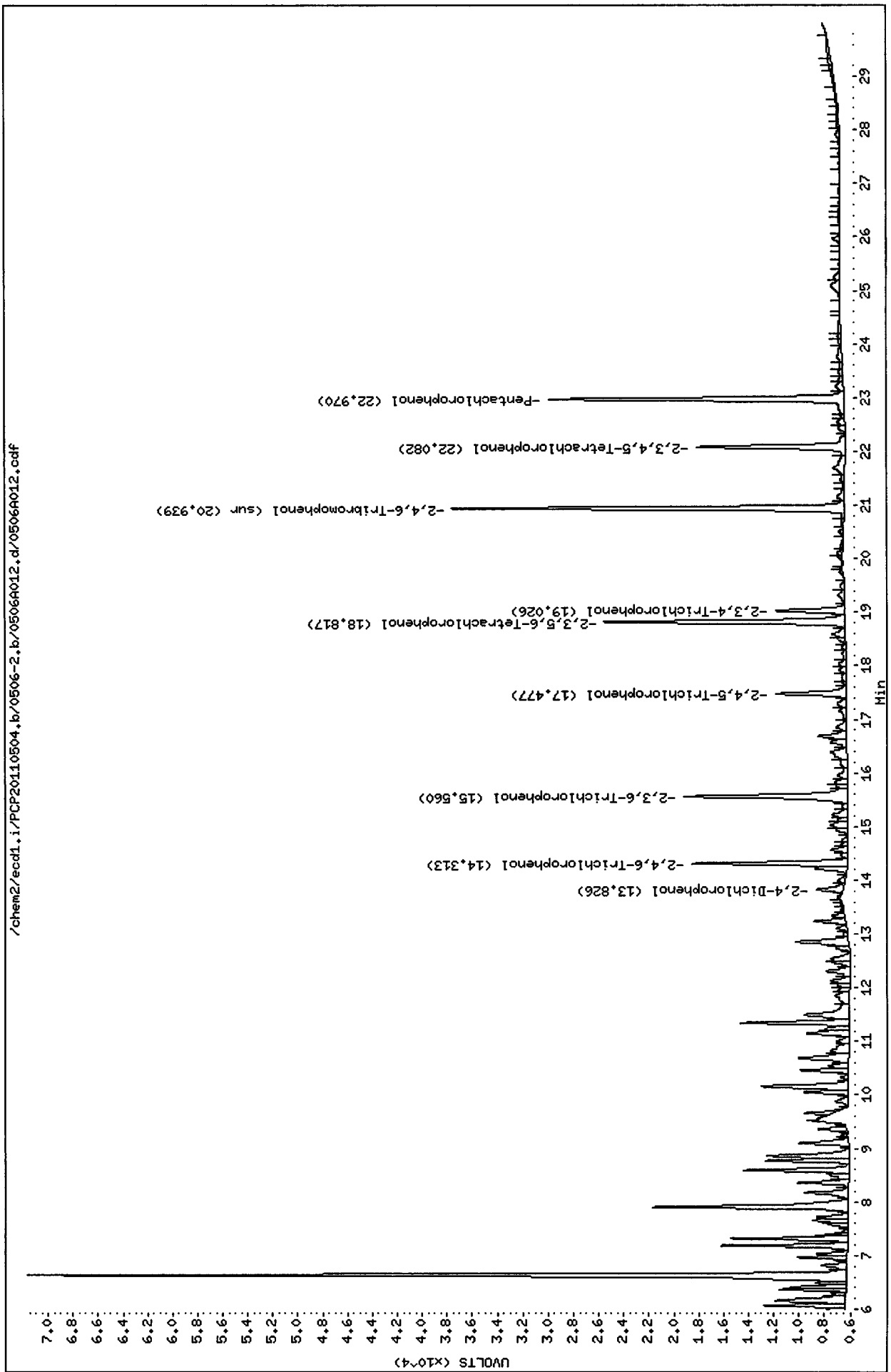


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Date : 06-MAY-2011 20:59
Client ID:
Sample Info: S883LCSS1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl.i
Operator: ar
Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A012.d
Date : 06-MAY-2011 20:59
Client ID:
Sample Info: S883LCSS1
Purge Volume: 500.0
Column phase: STX CLP2
Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



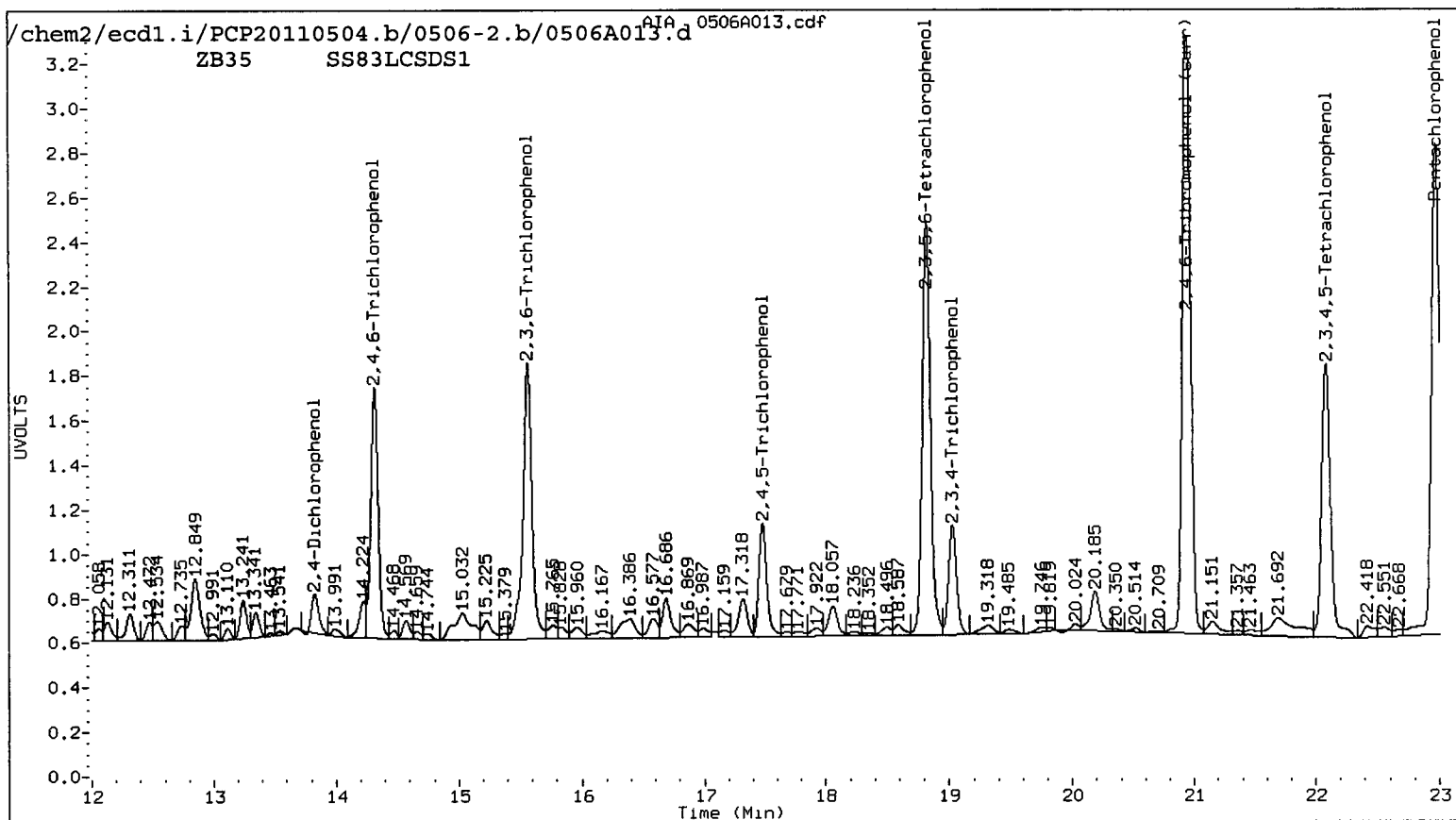
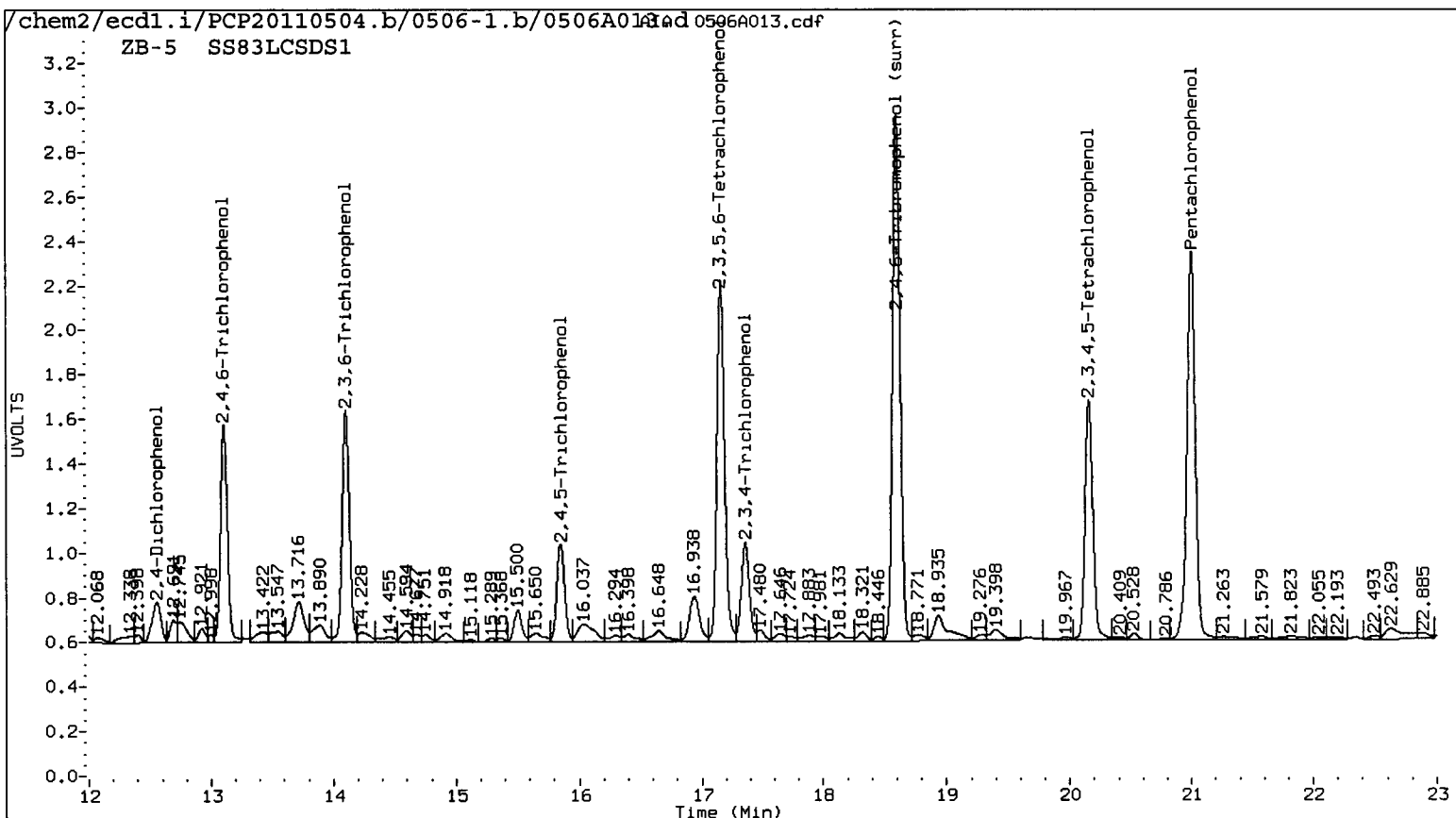
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

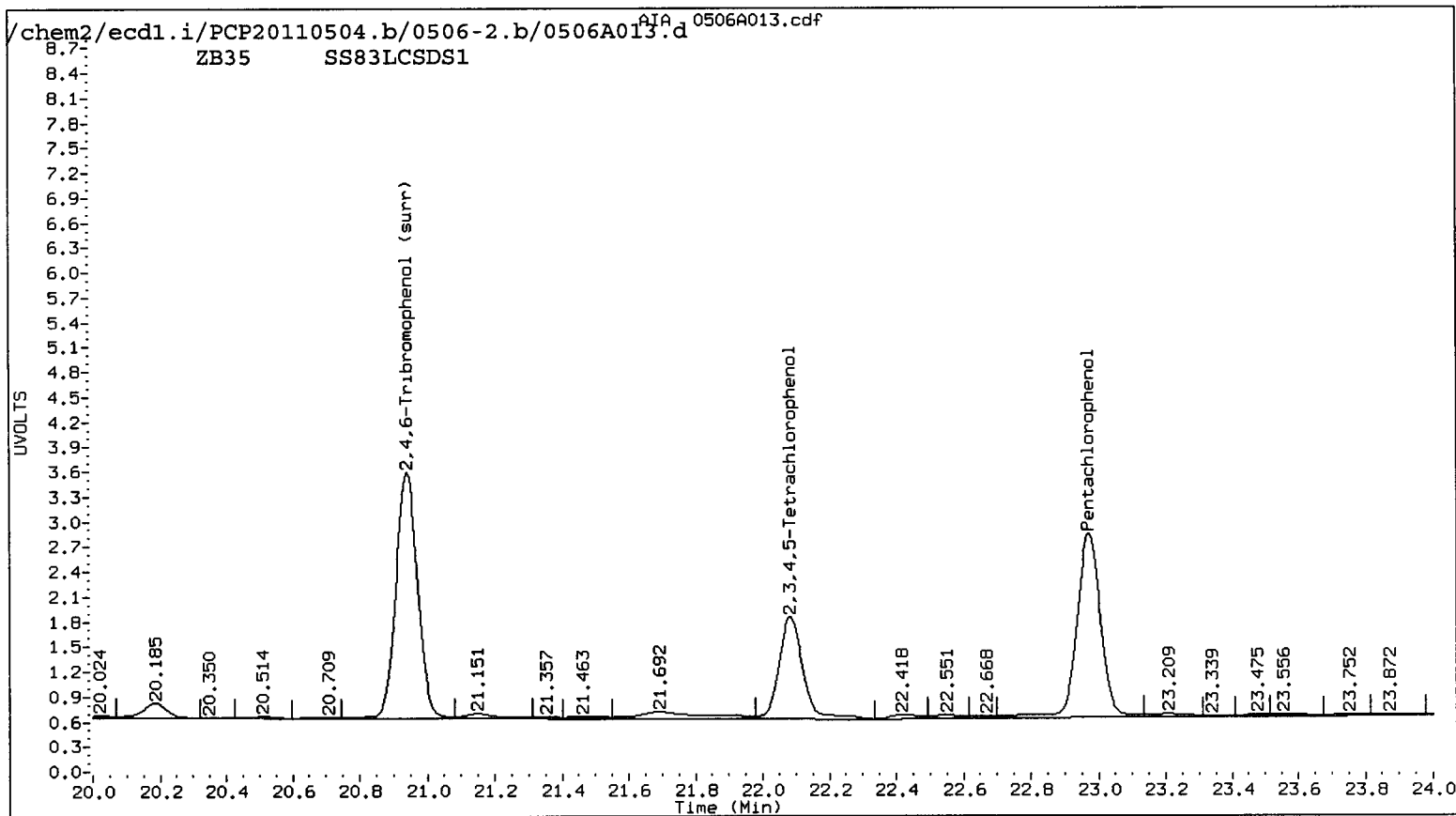
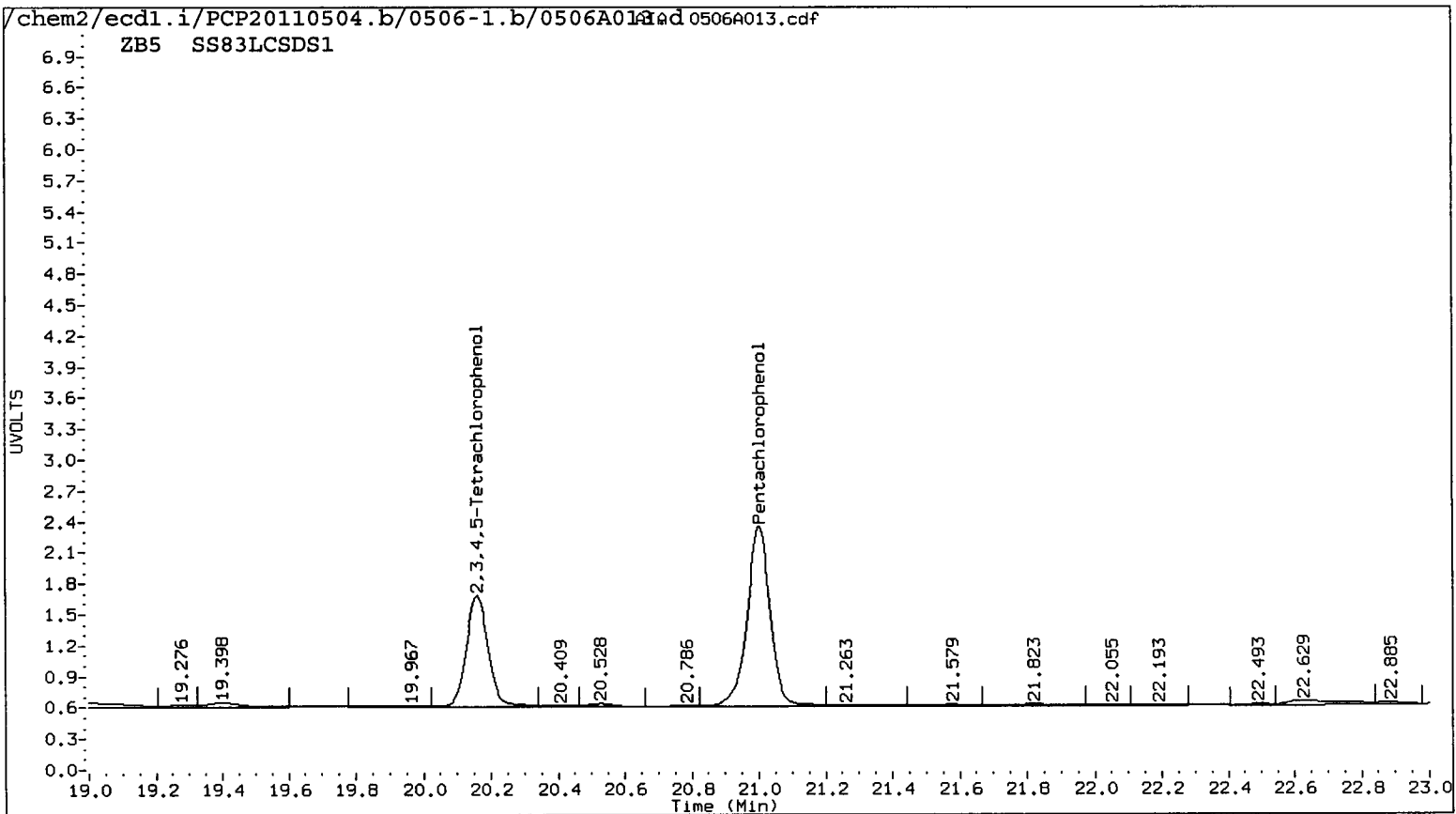
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A013.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 21:35
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.002	0.005	419993	22.971	0.004	543986	20.8442	19.3171	7.6	Pentachlorophenol
13.104	0.003	194781	14.314	0.003	239328	16.0014	16.5126	3.1	2,4,6-Trichlorophenol
14.100	0.003	216354	15.561	0.004	317733	18.8912	22.1056	15.7	2,3,6-Trichlorophenol
15.849	0.004	92966	17.478	0.004	117880	13.1495	14.5609	10.2	2,4,5-Trichlorophenol
17.356	0.005	100909	19.027	0.004	112887	12.0772	11.5276	4.7	2,3,4-Trichlorophenol
17.157	0.005	354516	18.817	0.003	427993	20.9690	19.5092	7.2	2,3,5,6-Tetrachlorophenol
20.159	0.004	245538	22.083	0.003	302278	18.9141	19.3317	2.2	2,3,4,5-Tetrachlorophenol
12.554	-0.001	45360	13.826	0.006	35413	59.5762	41.9728	34.7	2,4-Dichlorophenol
18.599	0.003	501858	20.940	0.004	660219	31.9	31.4	1.5	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	83.4	77.3
2,4,6-Trichlorophenol	64.0	66.1
2,3,6-Trichlorophenol	75.6	88.4
2,4,5-Trichlorophenol	52.6	58.2
2,3,4-Trichlorophenol	48.3	46.1
2,3,5,6-Tetrachlorophenol	83.9	78.0
2,3,4,5-Tetrachlorophenol	75.7	77.3
2,4-Dichlorophenol	23.8	16.8
2,4,6-TBP (surr)	63.8	62.8

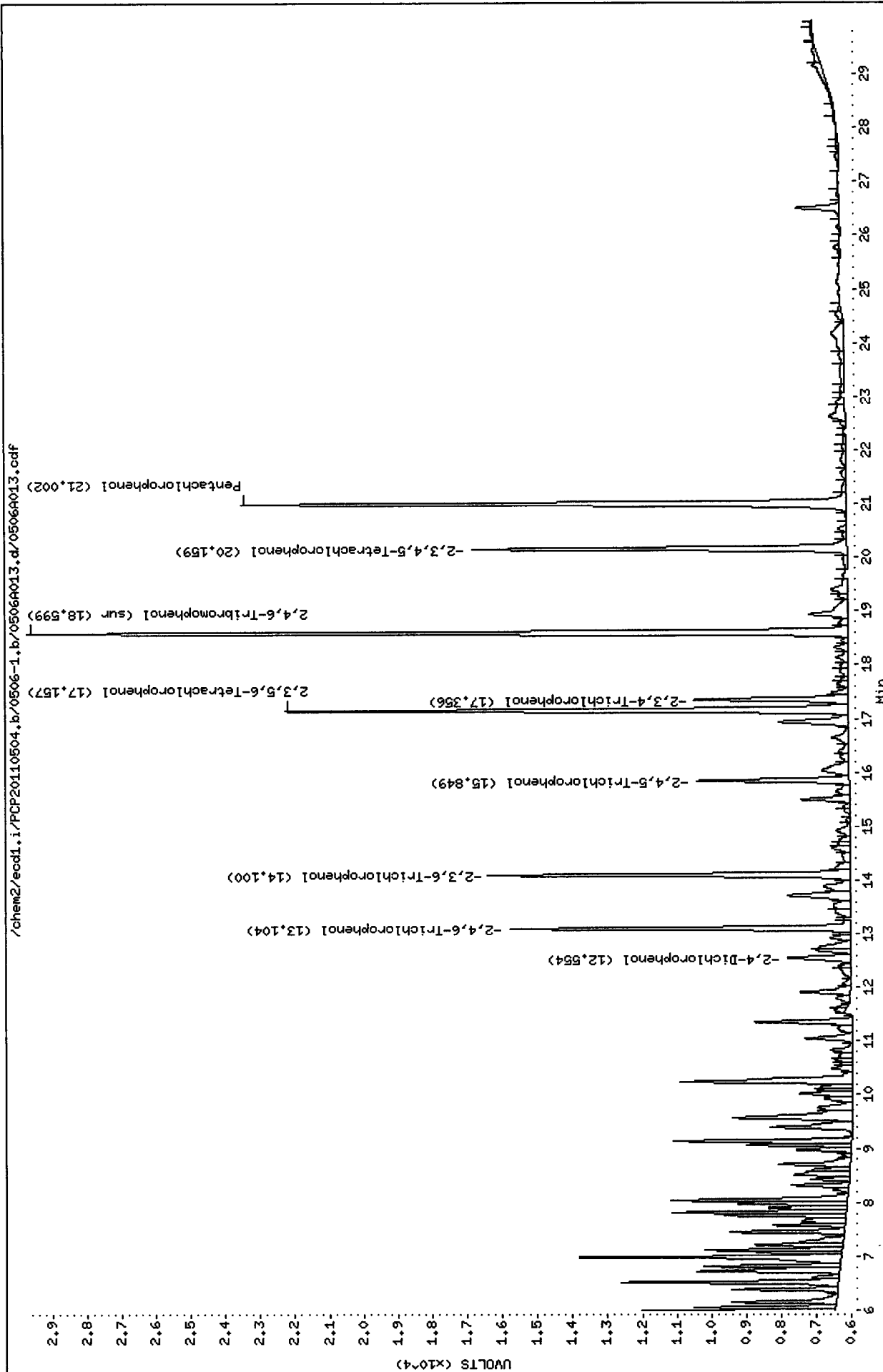




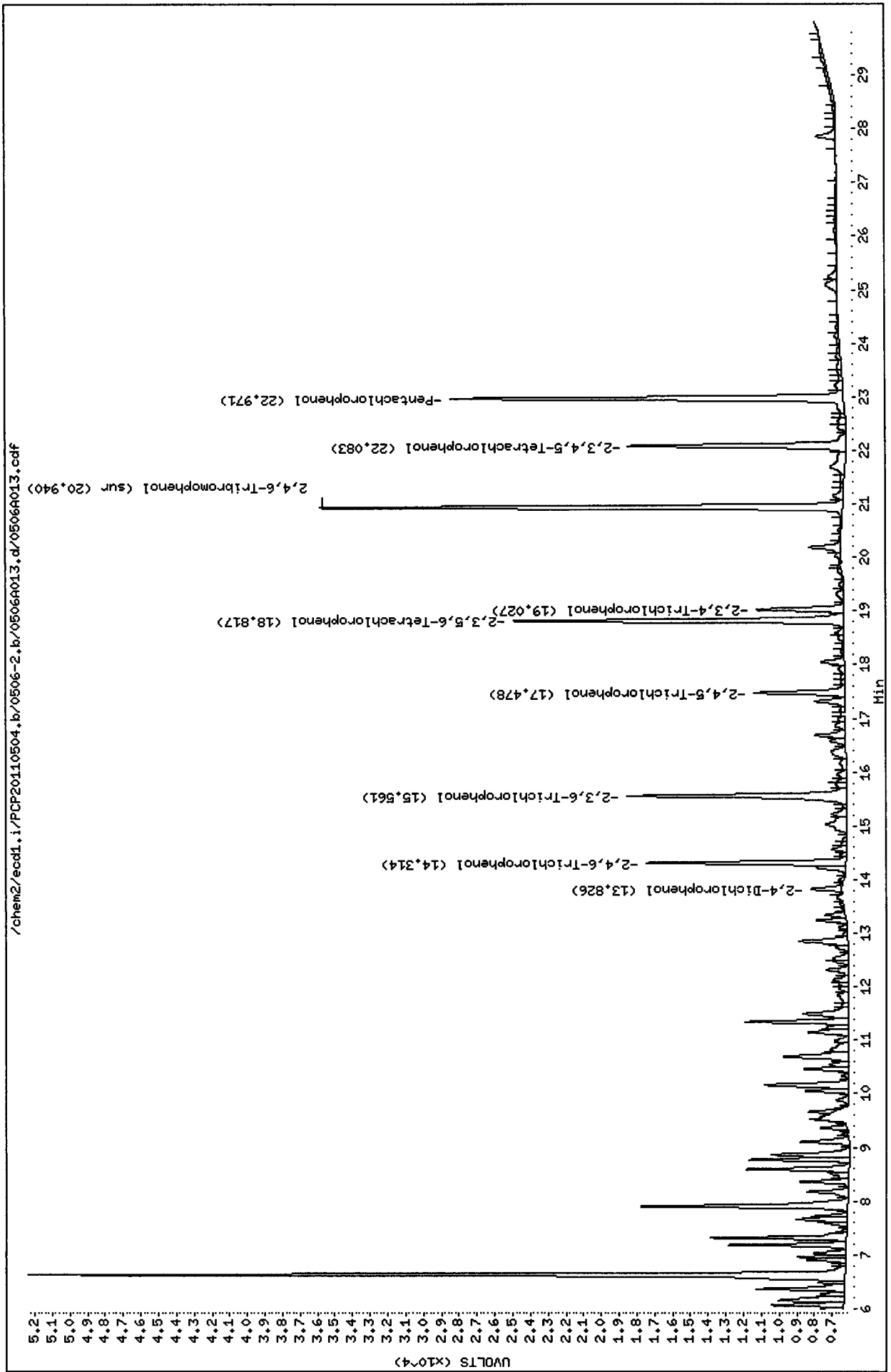
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Date : 06-MAY-2011 21:35
Client ID:
Sample Info: S883LCSIS1
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl.i

Operator: ar
Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A013.d
Date : 06-MAY-2011 21:35
Client ID:
Sample Info: S883LCSDS1
Purge Volume: 500.0
Column phase: STX CLP2
Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

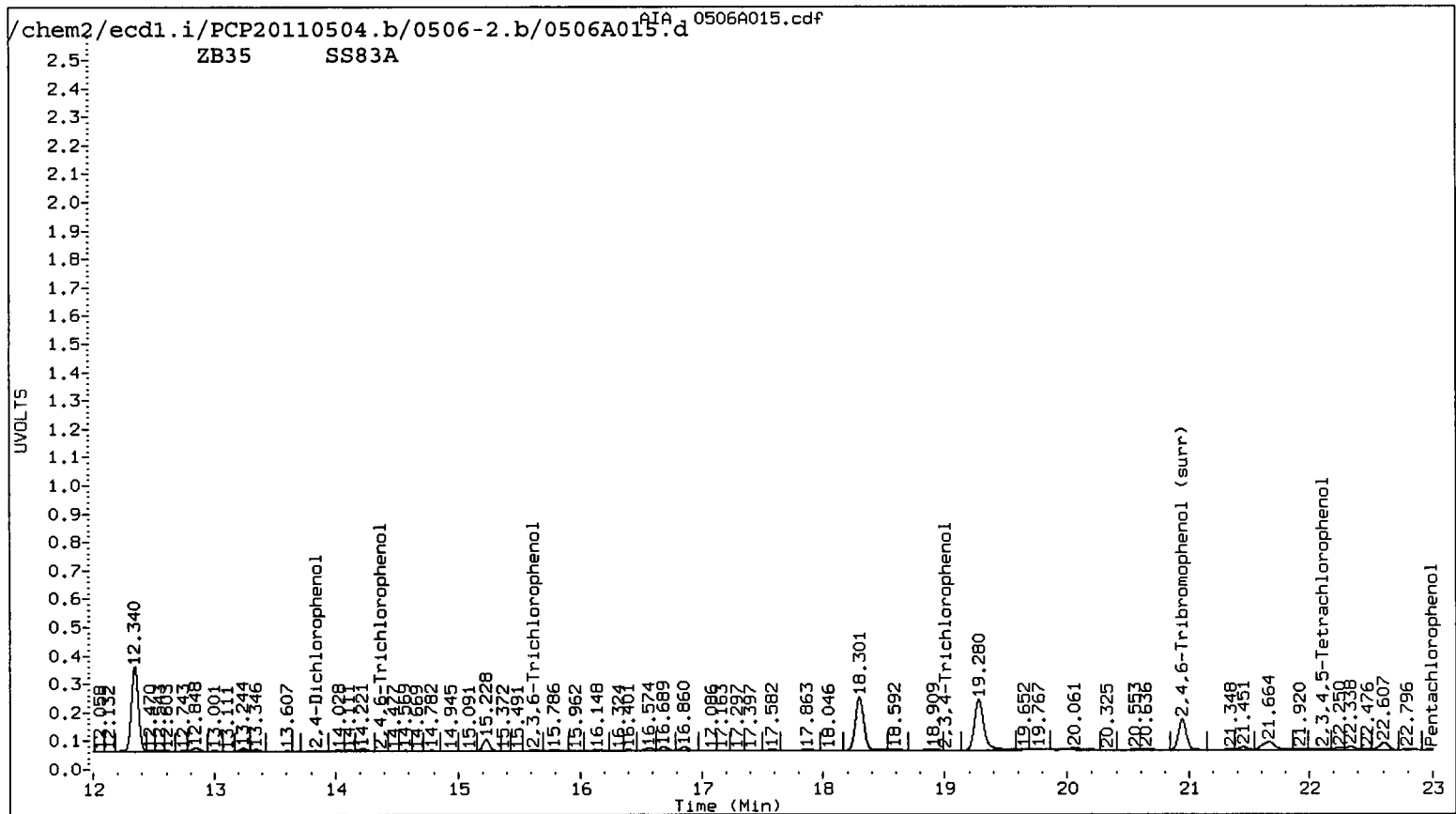
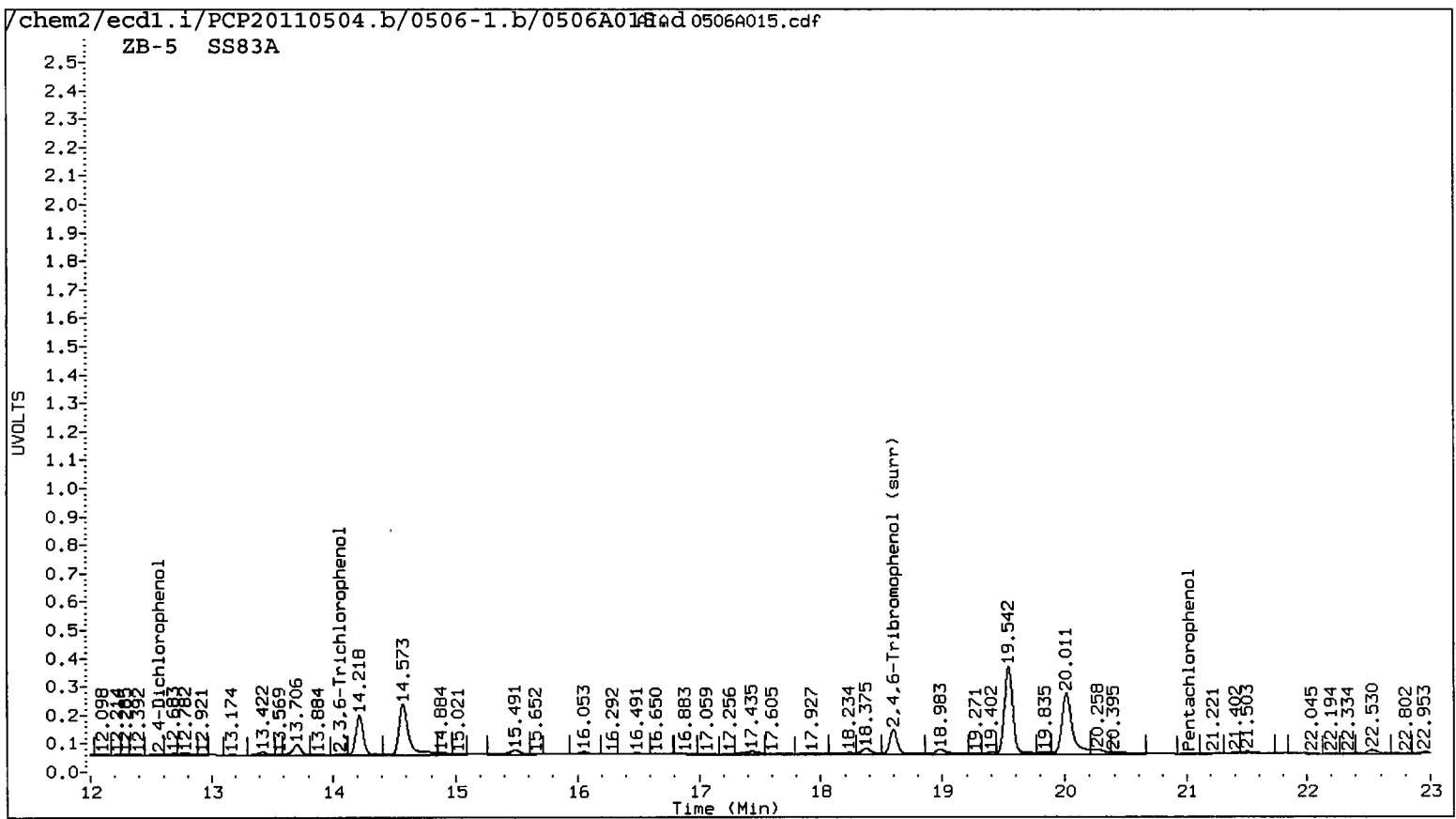
AR 5/9/2011

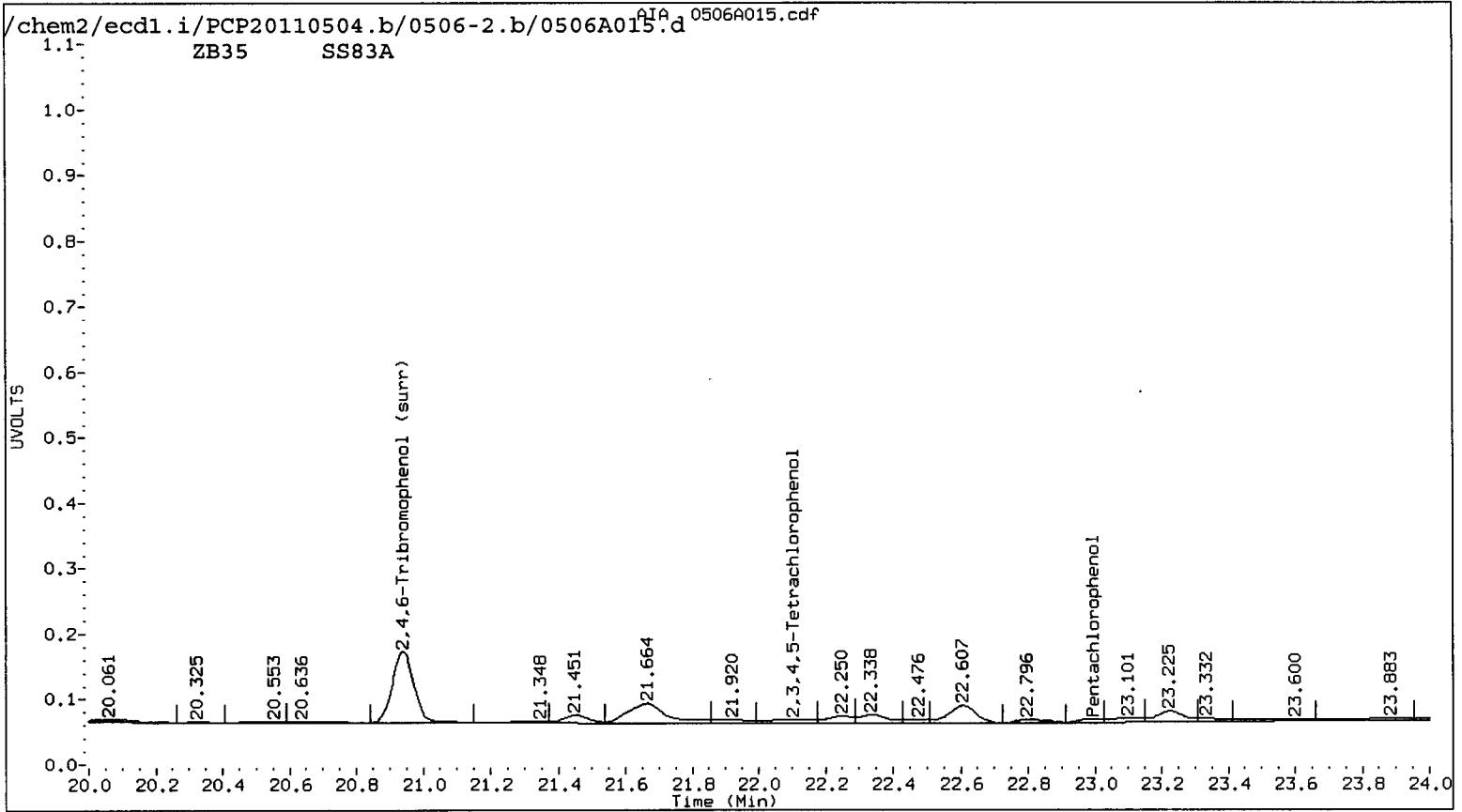
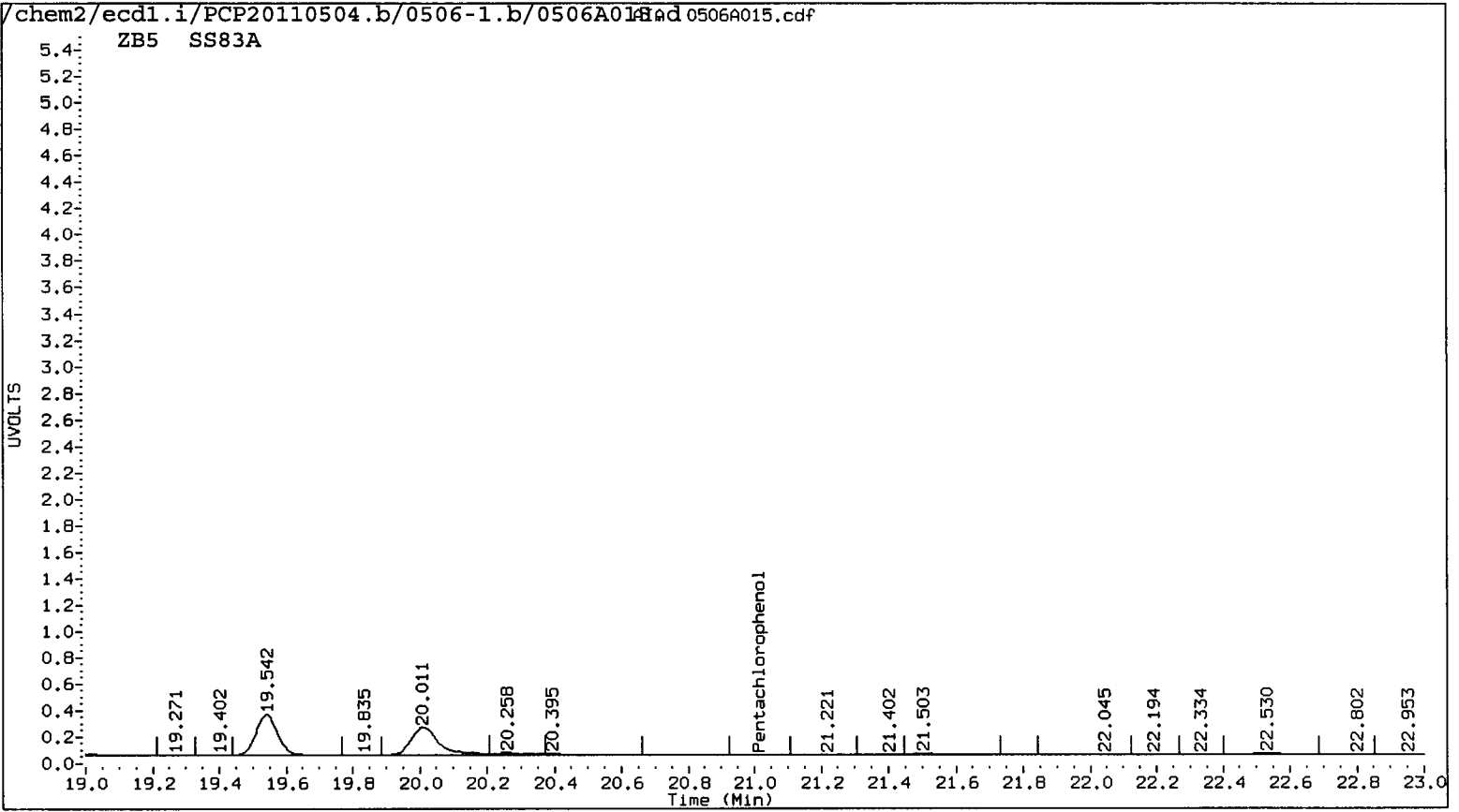
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A015.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 22:48
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.014	0.017	11787	22.994	0.027	12555	0.5850	0.4458	27.0	Pentachlorophenol
----			14.375	0.064	3695	0.0000	0.2549	---	2,4,6-Trichlorophenol
14.062	-0.035	6828	15.620	0.063	17701	0.5962	1.2316	69.5*	2,3,6-Trichlorophenol
----			-----			0.0000	0.0000	---	2,4,5-Trichlorophenol
----			19.004	-0.019	3057	0.0000	0.2916	---	2,3,4-Trichlorophenol
----			-----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.103	0.023	28119	0.0000	1.6557	---	2,3,4,5-Tetrachlorophenol
12.565	0.010	11023	13.841	0.021	3089	13.8081	3.4900	119.3*	2,4-Dichlorophenol
18.600	0.004	199786	20.941	0.005	245952	12.7	11.7	8.1	2,4,6-Tribromophenol (surr)

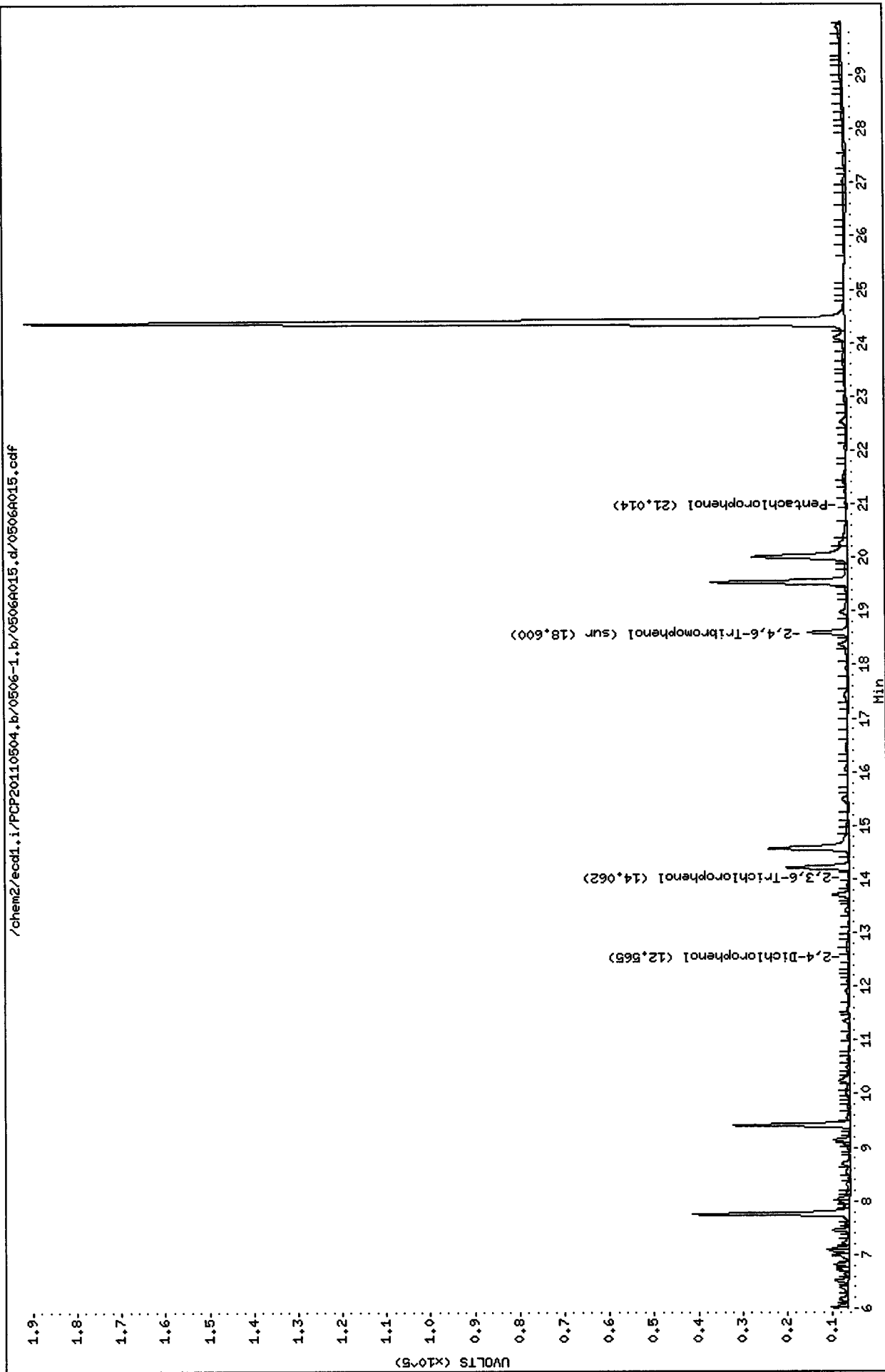
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	50.8	46.8





Data File: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A015.d
Date : 06-MAY-2011 22:48
Client ID:
Instrument: ecdl.i
Sample Info: SS83A
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A015.d

Date : 06-MAY-2011 22:48

Client ID:

Sample Info: S883A

Purge Volume: 500.0

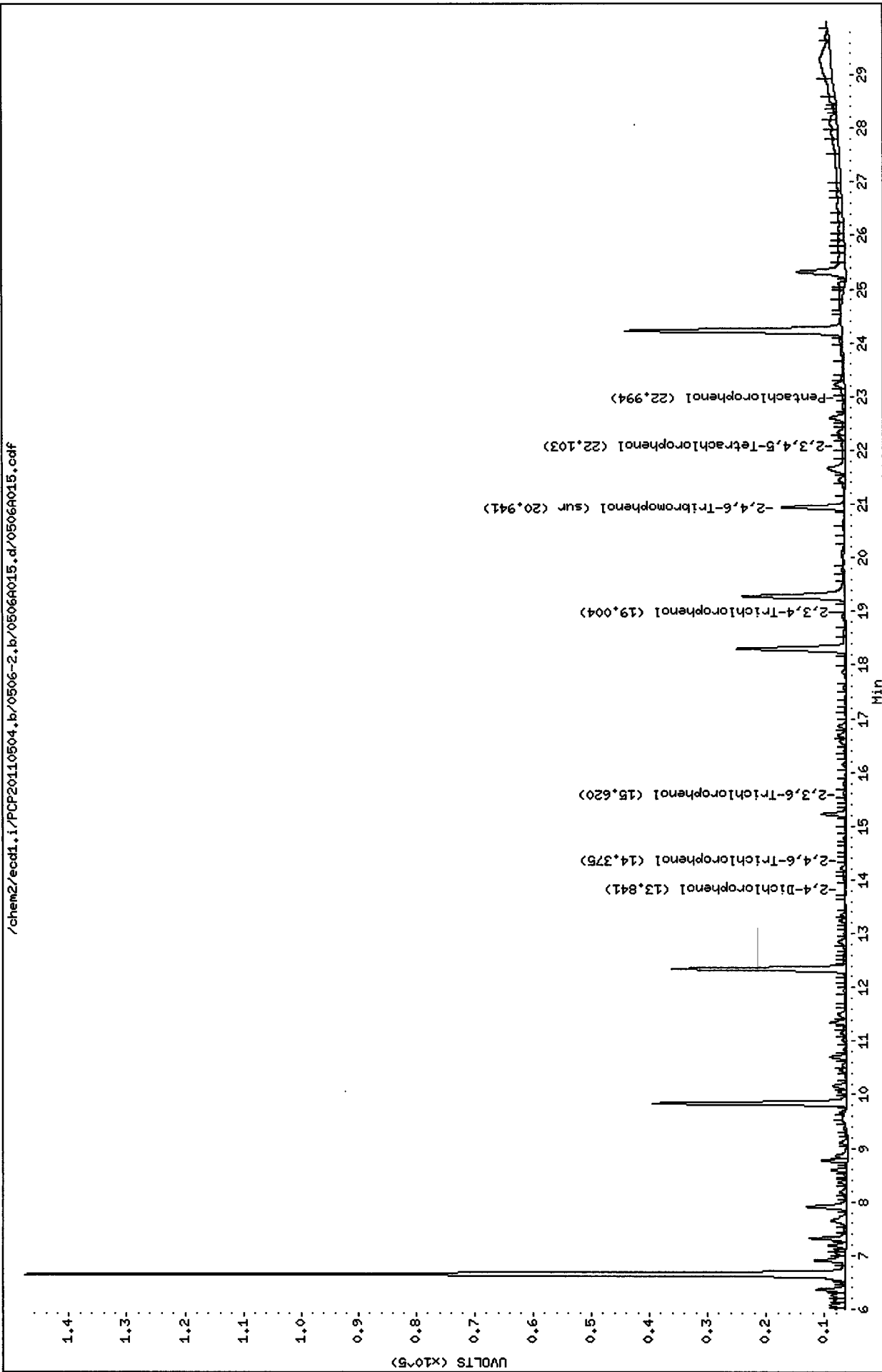
Column phase: STX CLP2

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53

/chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A015.d/0506A015.cdf



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

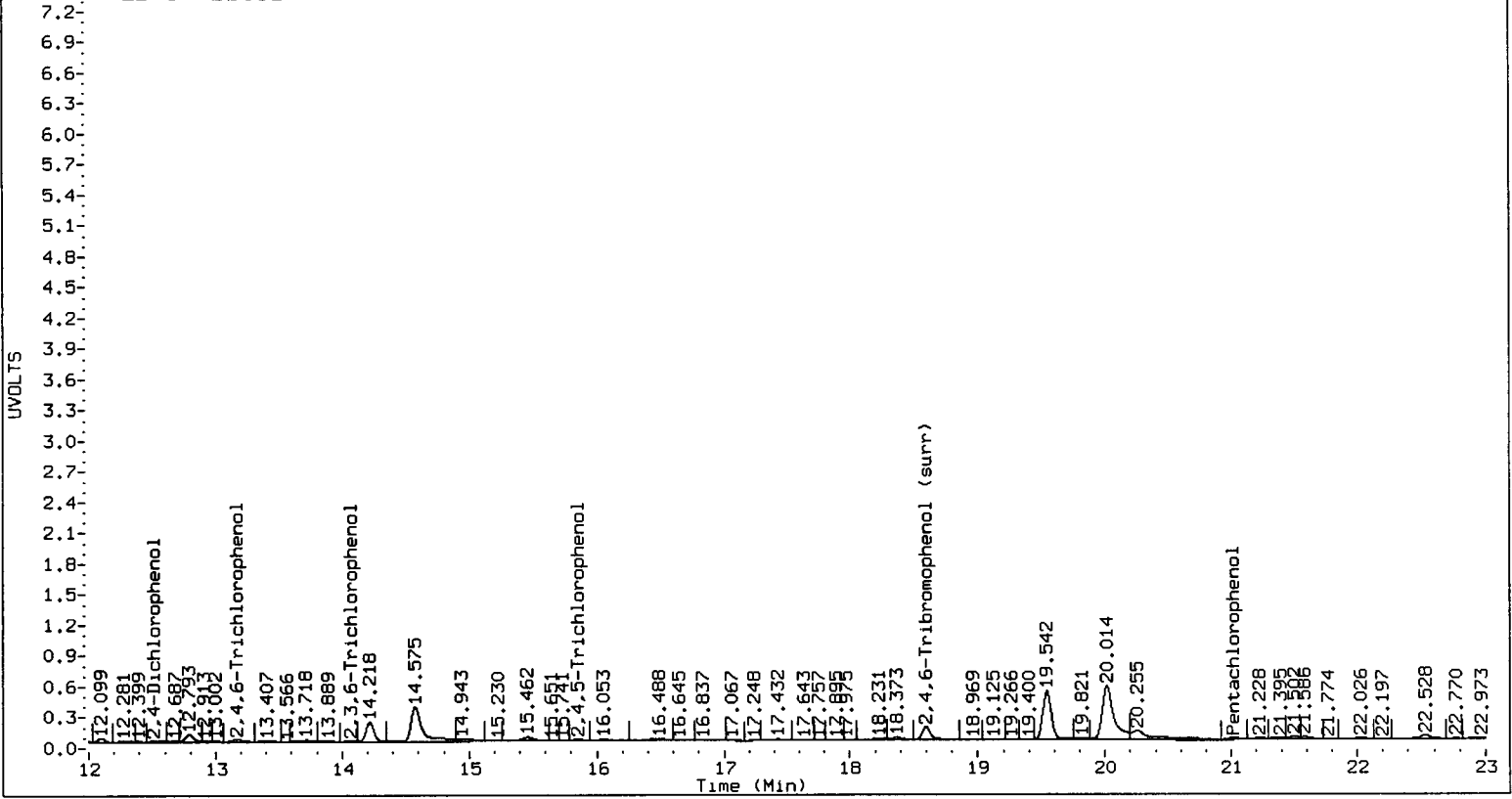
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A016.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 06-MAY-2011 23:24
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

RT	ZB-5 Col Shift Response	ZB35 Col Shift Response	ZB-5 on col	ZB35 on col	RPD	Compound
21.012	0.015 38250	22.994 0.027 26804	1.8983	0.9518 ✓	66.4*	Pentachlorophenol
13.168	0.067 66227	14.376 0.065 6480	5.4406	0.4471	169.6*	2,4,6-Trichlorophenol
14.068	-0.029 11406	15.593 0.036 41491	0.9959	2.8867	97.4*	2,3,6-Trichlorophenol
15.855	0.010 38493	-----	5.1757	0.0000	---	2,4,5-Trichlorophenol
----		19.006 -0.017 1735	0.0000	0.1654	---	2,3,4-Trichlorophenol
----		-----	0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----		22.097 0.017 47815	0.0000	2.8327	---	2,3,4,5-Tetrachlorophenol
12.518	-0.037 / 18710	13.828 0.008 / 21419	23.6901	24.8731 /	4.9	2,4-Dichlorophenol
18.600	0.004 / 300811	20.942 0.006 375829	19.1	17.9 /	6.7	2,4,6-Tribromophenol (surr)

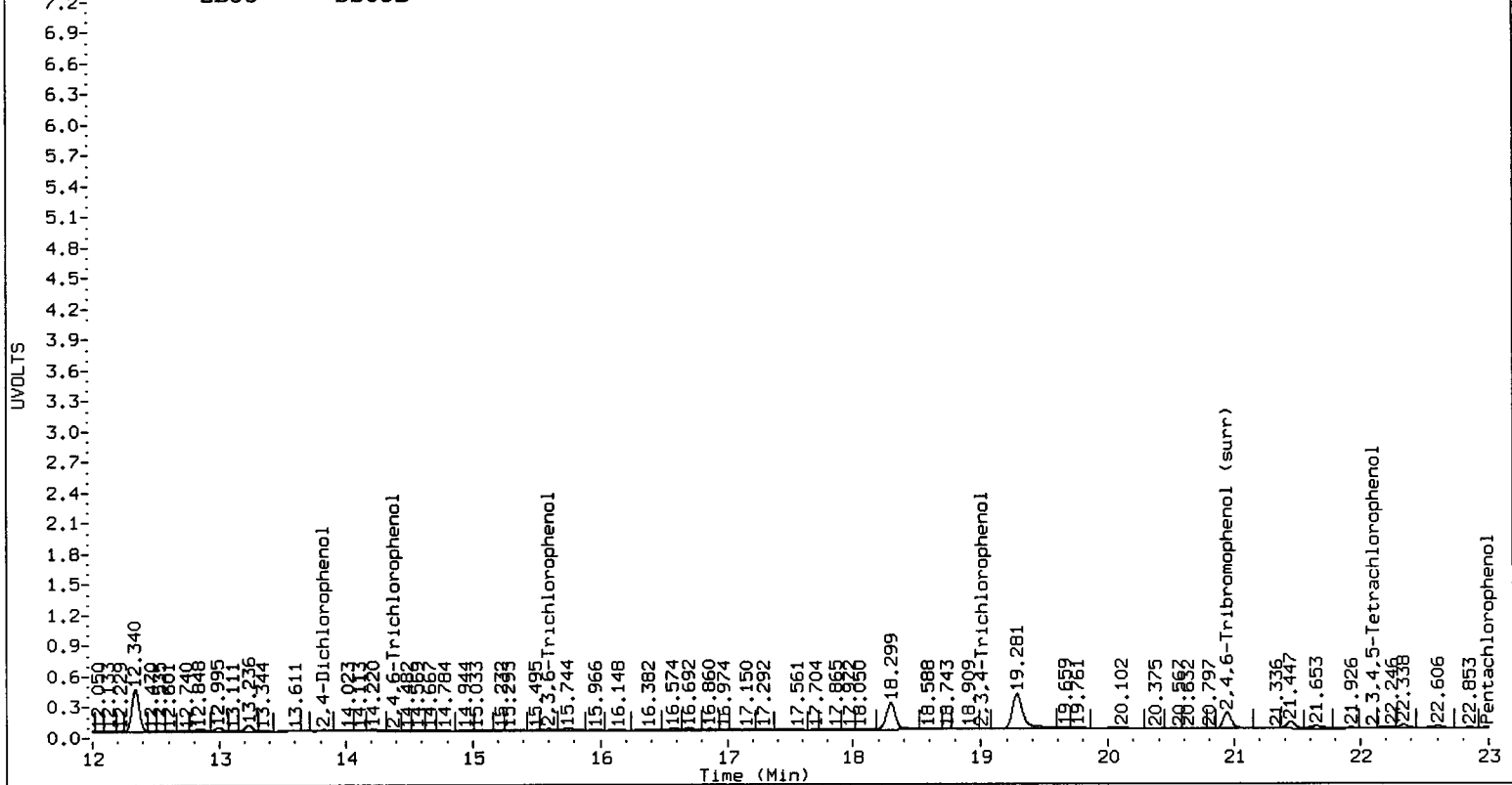
PERCENT RECOVERY

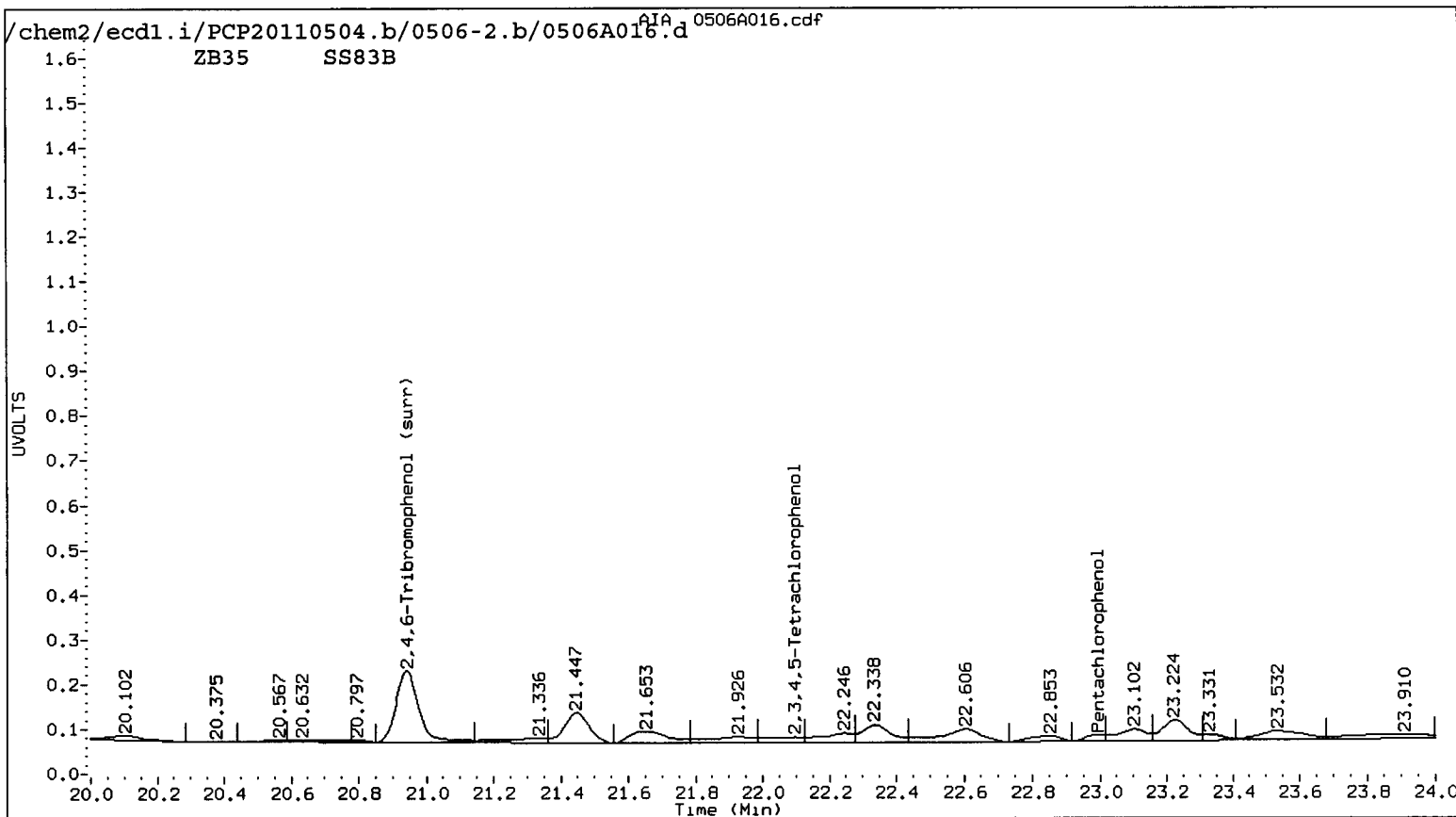
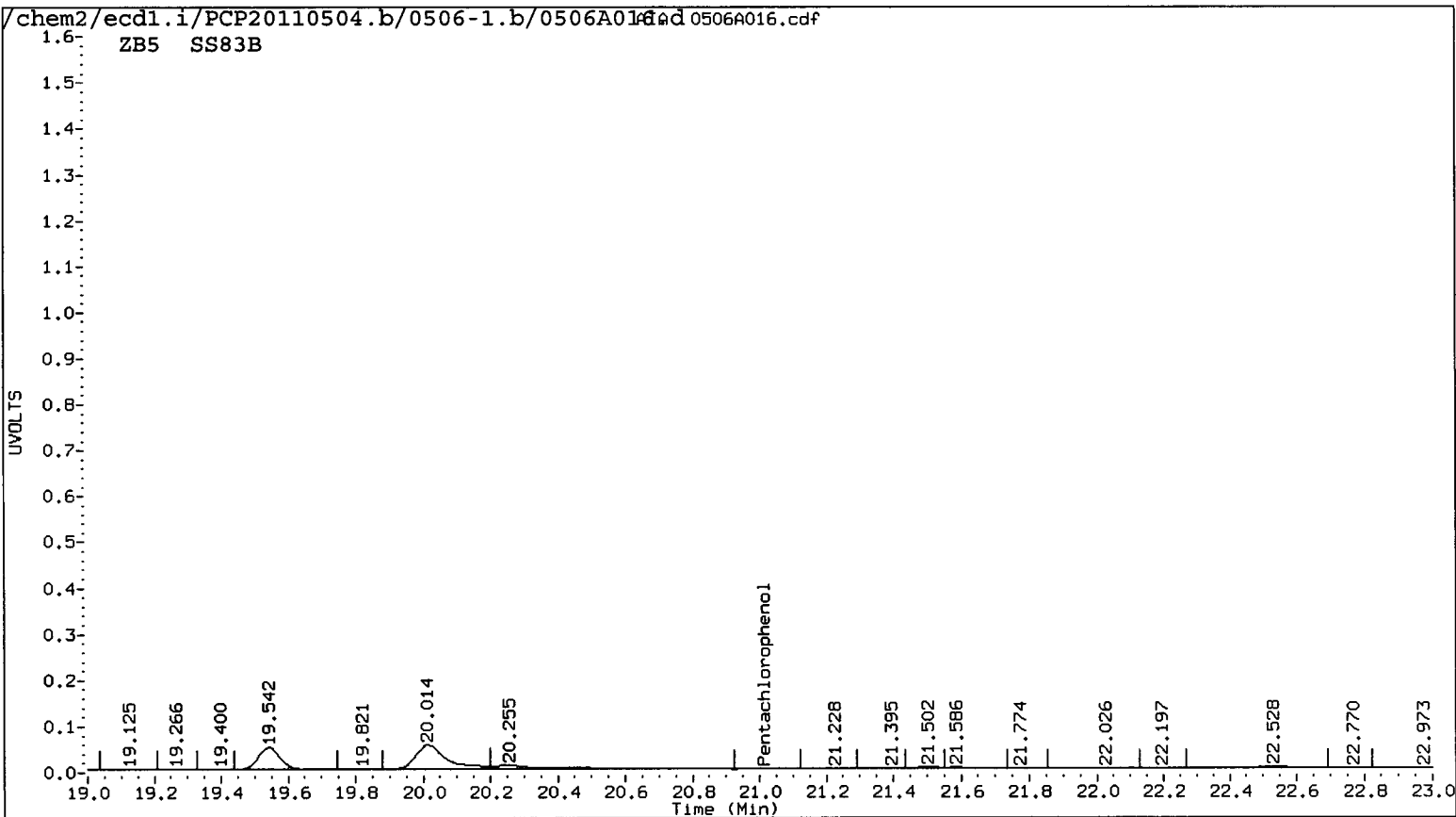
COMPOUND	Col1	Col2
2,4,6-TBP (surr)	76.4	71.5 /

ZB-5 SS83B

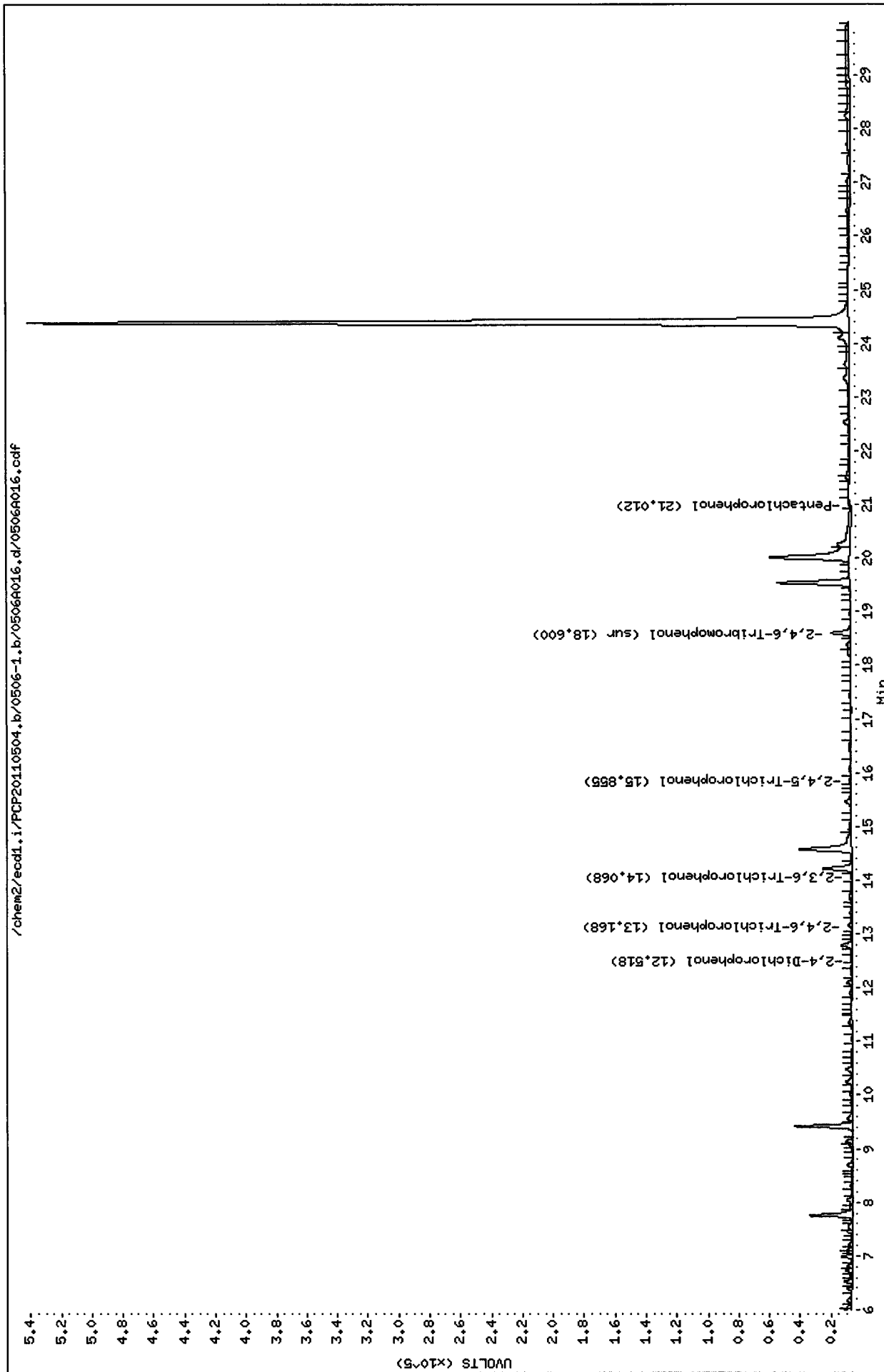


ZB35 SS83B



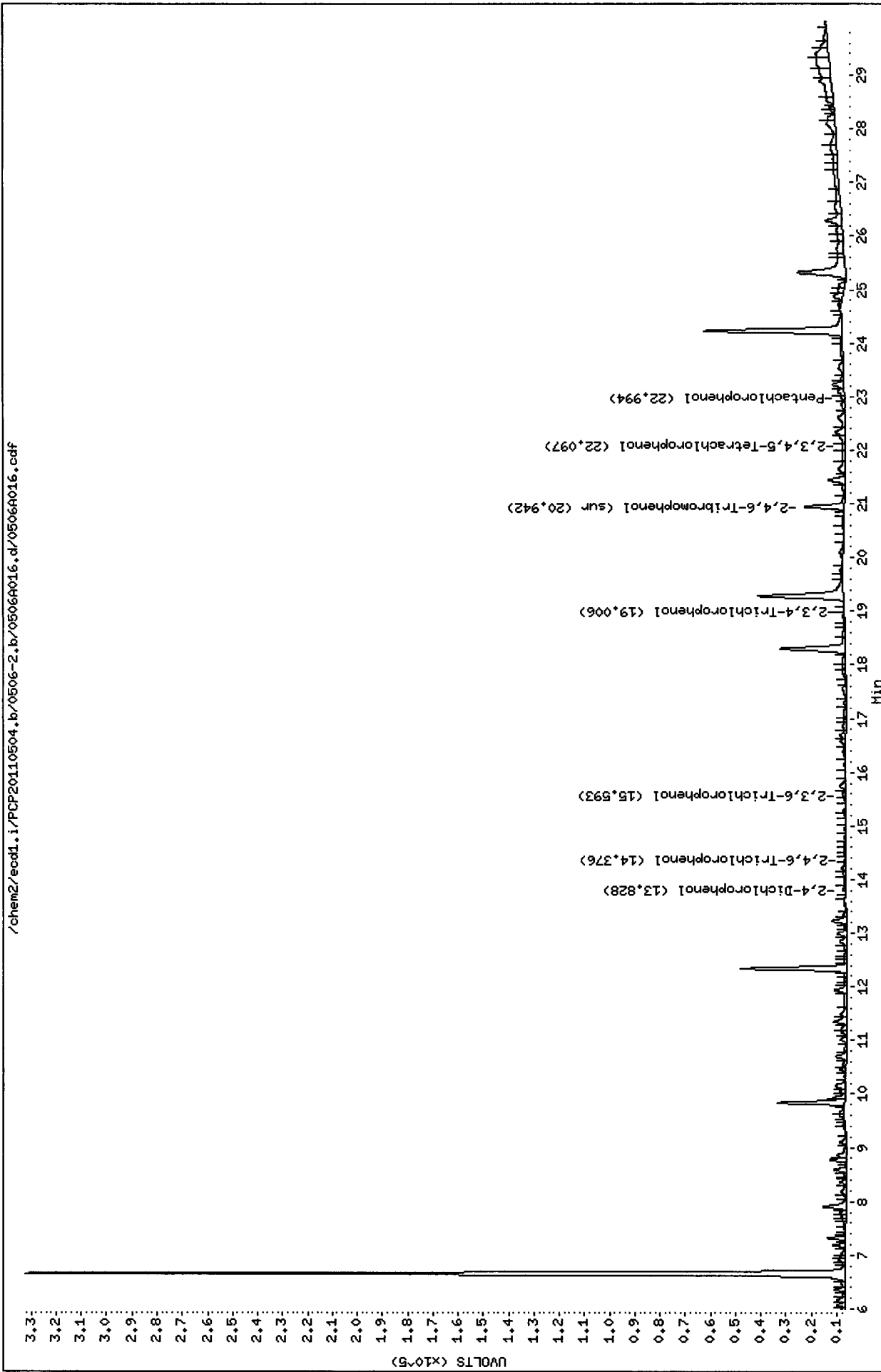


Data File: /chem2/ecd1.i/PCP20110504.b/0506-1.b/0506A016.d
Date : 06-MAY-2011 23:24
Client ID:
Instrument: ecd1.i
Sample Info: S83B
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



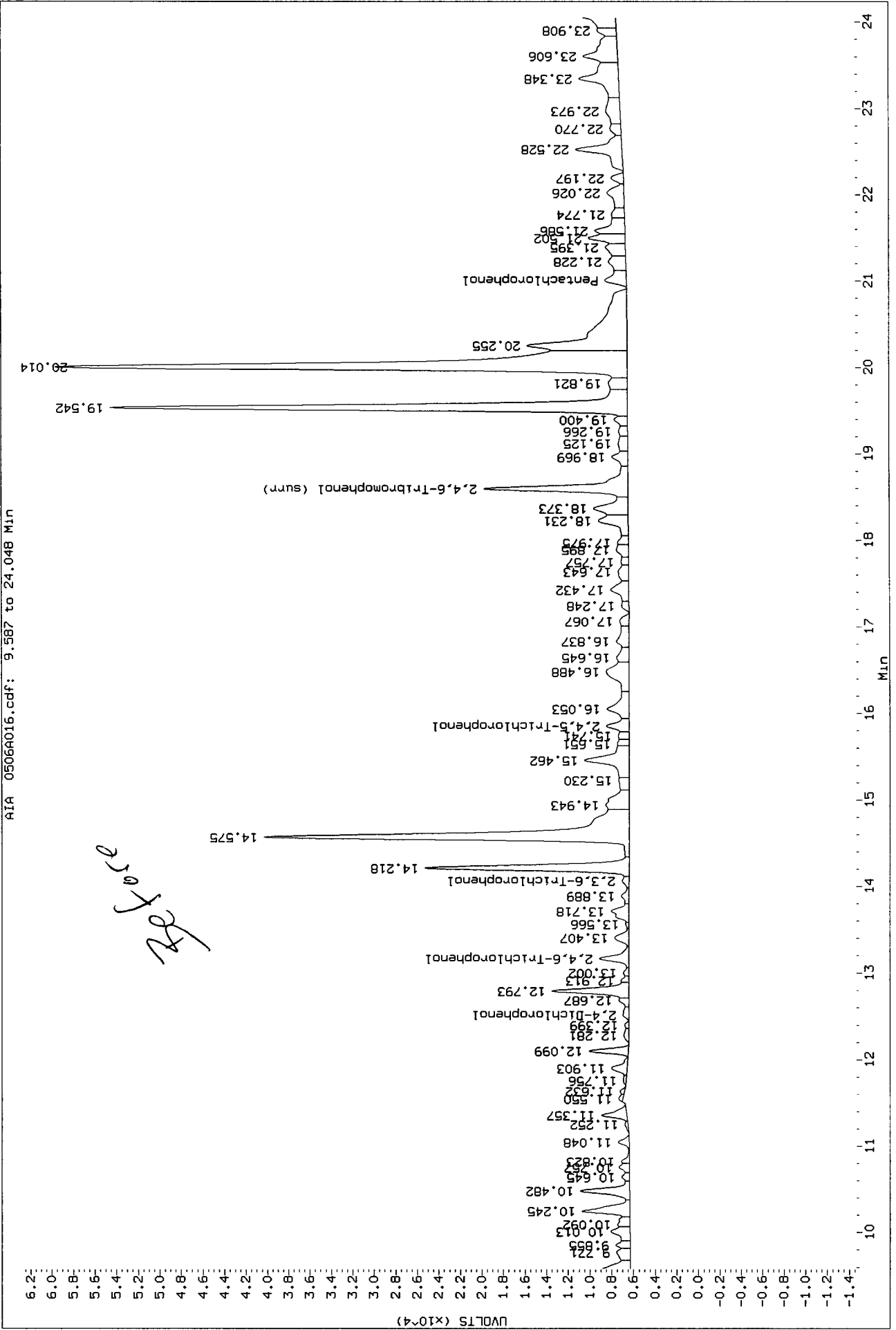
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Date : 06-MAY-2011 23:24
Client ID:
Sample Info: SS83B
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A016.d/0506A016.cdf
Injection Date: 06-MAY-2011 23:24
Instrument: ecdl1.1
Client Sample ID:

AIA 0506A016.cdf: 9.587 to 24.048 Min



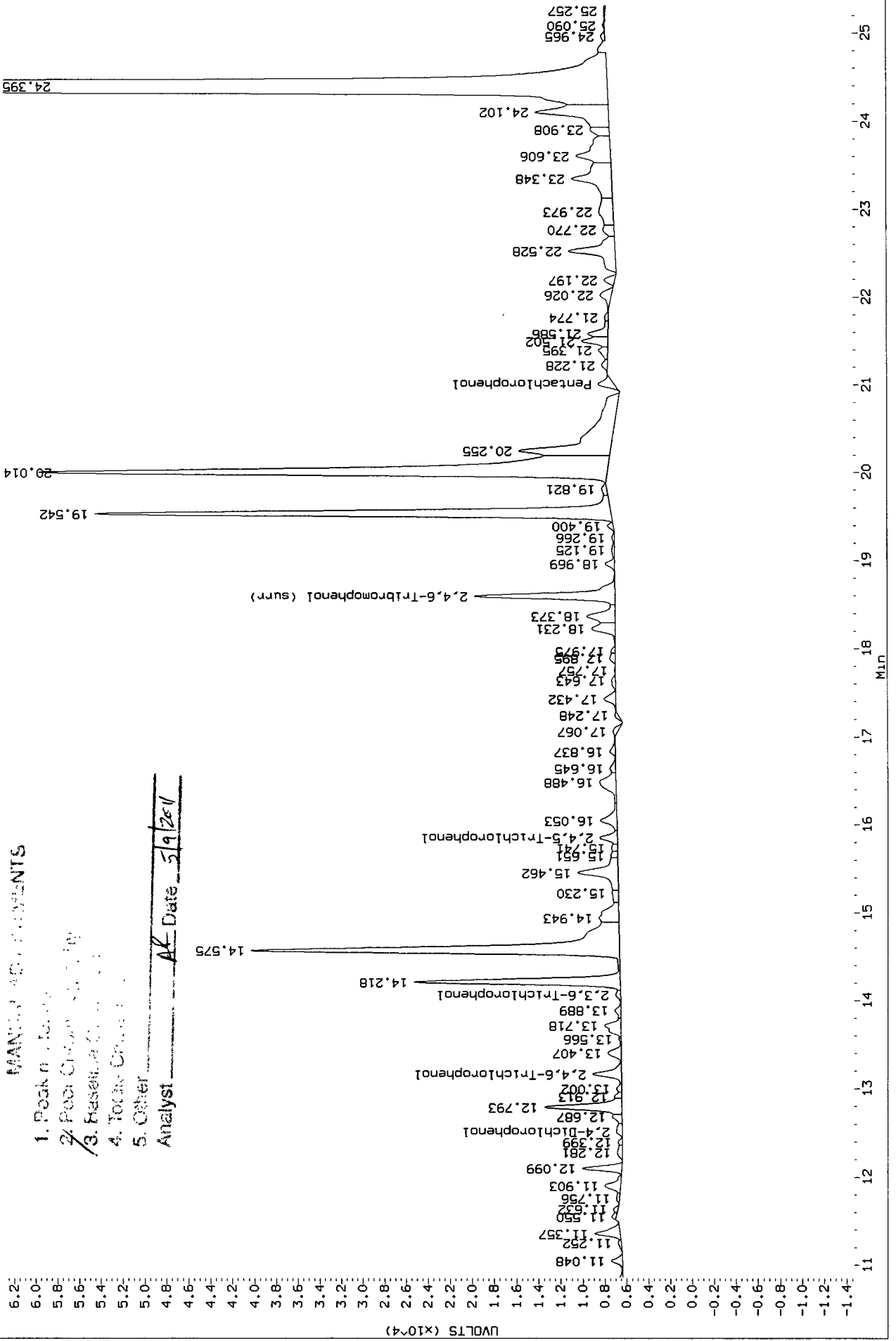
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 Injection Date: 06-MAY-2011 23:24
 Instrument: ecdi1
 Client Sample ID:

AIA 0506A016.cdf: 10.863 to 25.313 Min

MANIPULATED COMPONENTS

1. Peak # 14.575
2. Peak # 19.542
3. Peak # 20.255
4. Total Chlorine
5. Other

Analyst AK Date 5/9/2011



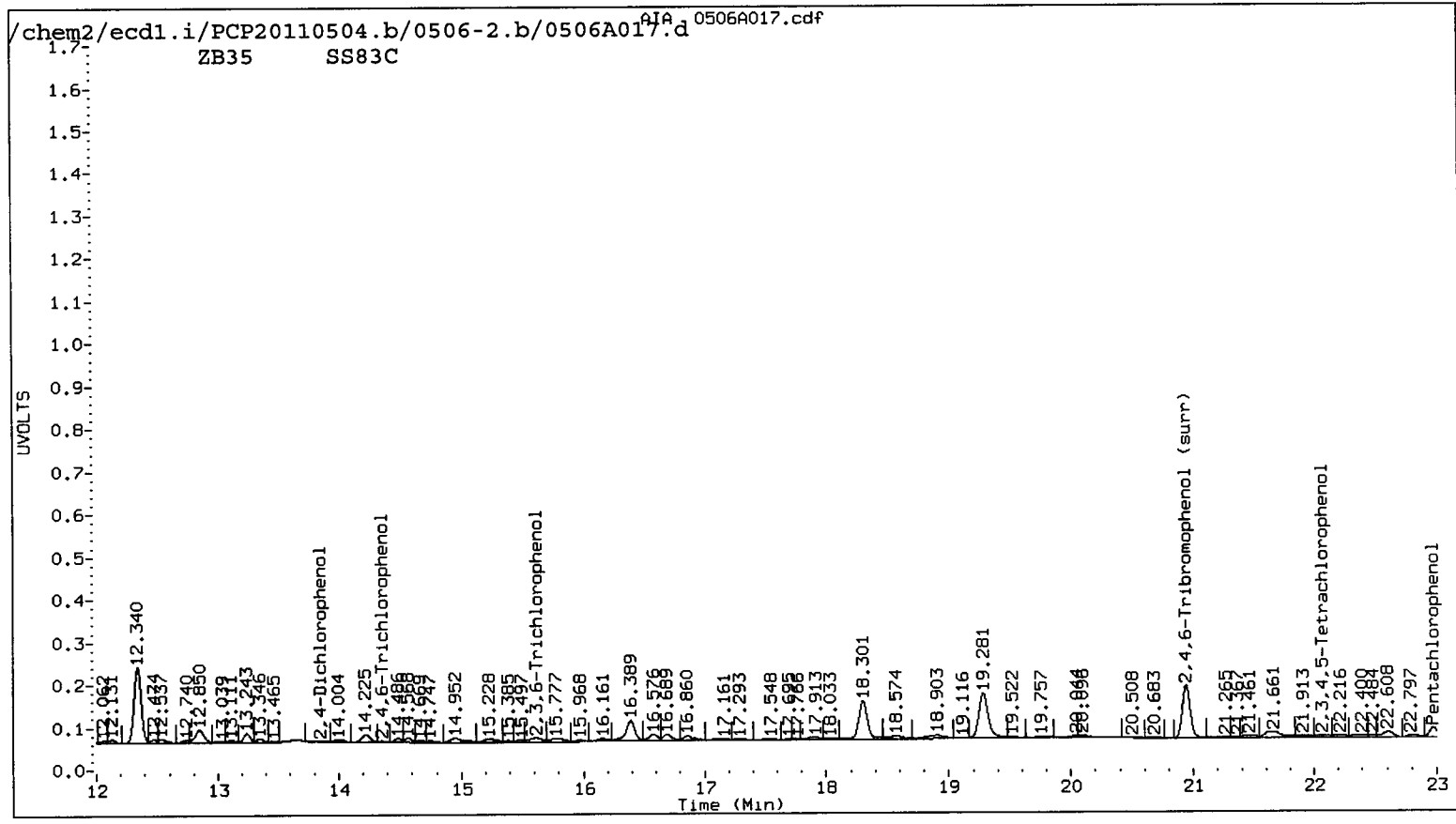
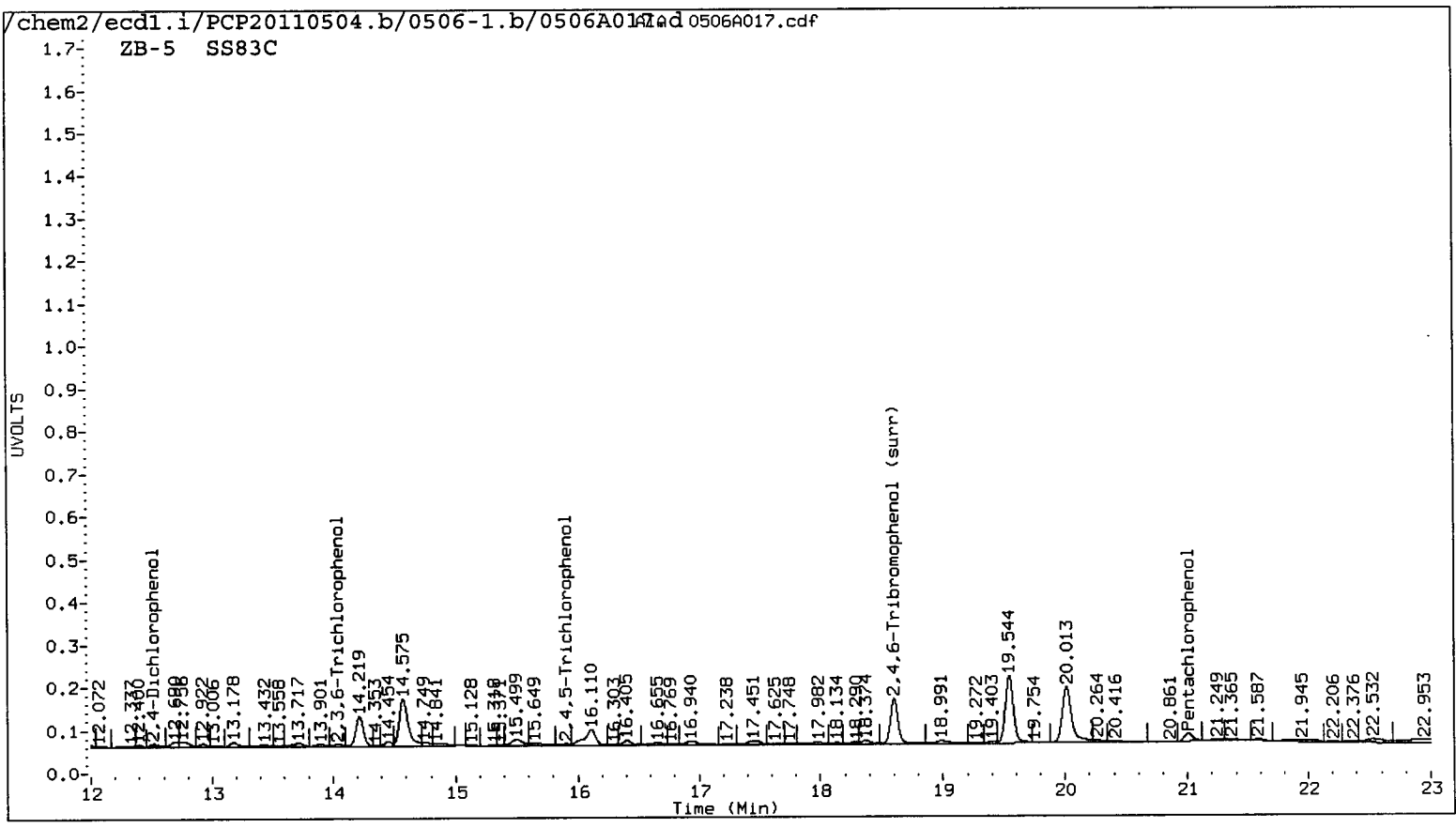
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

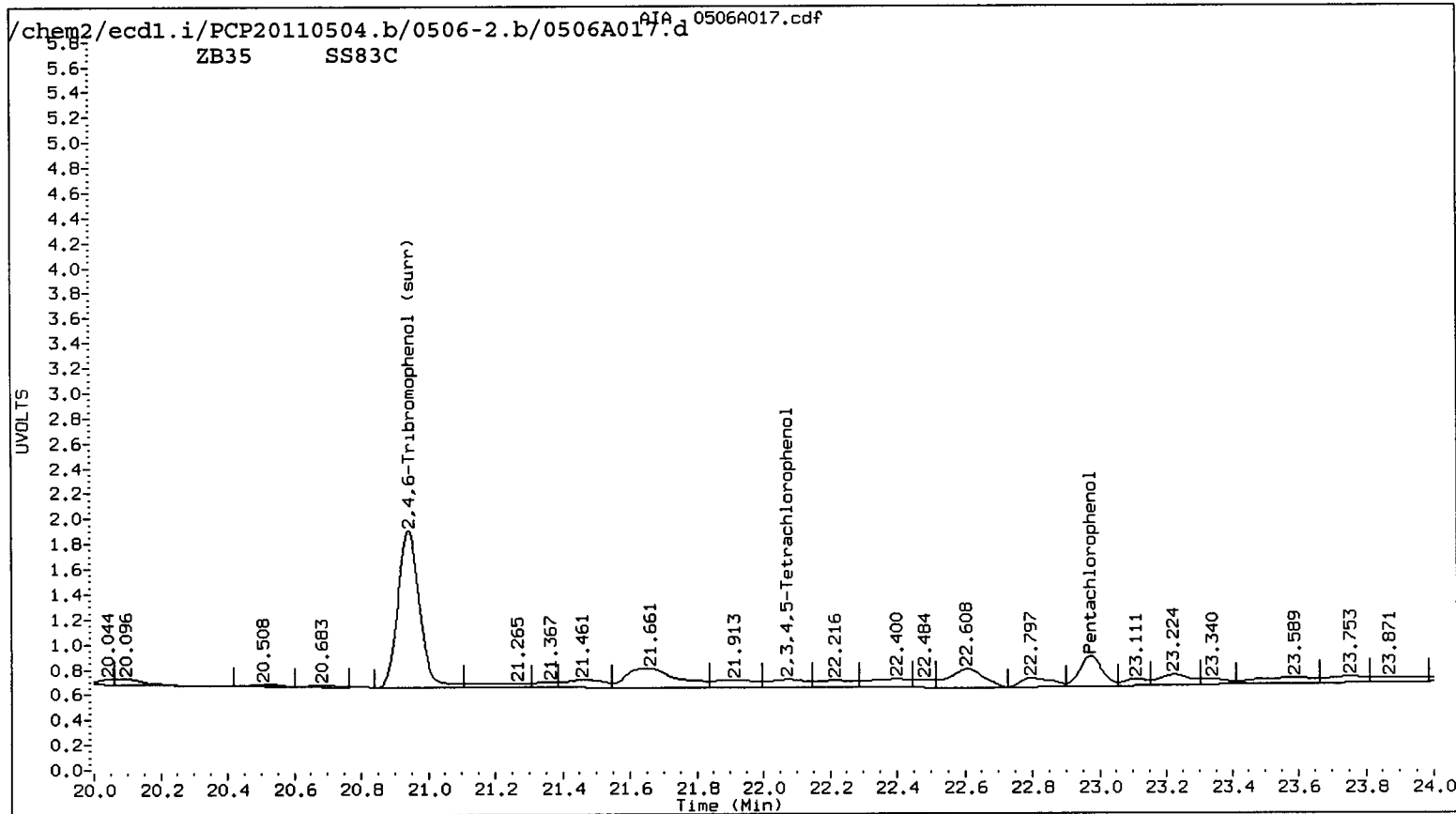
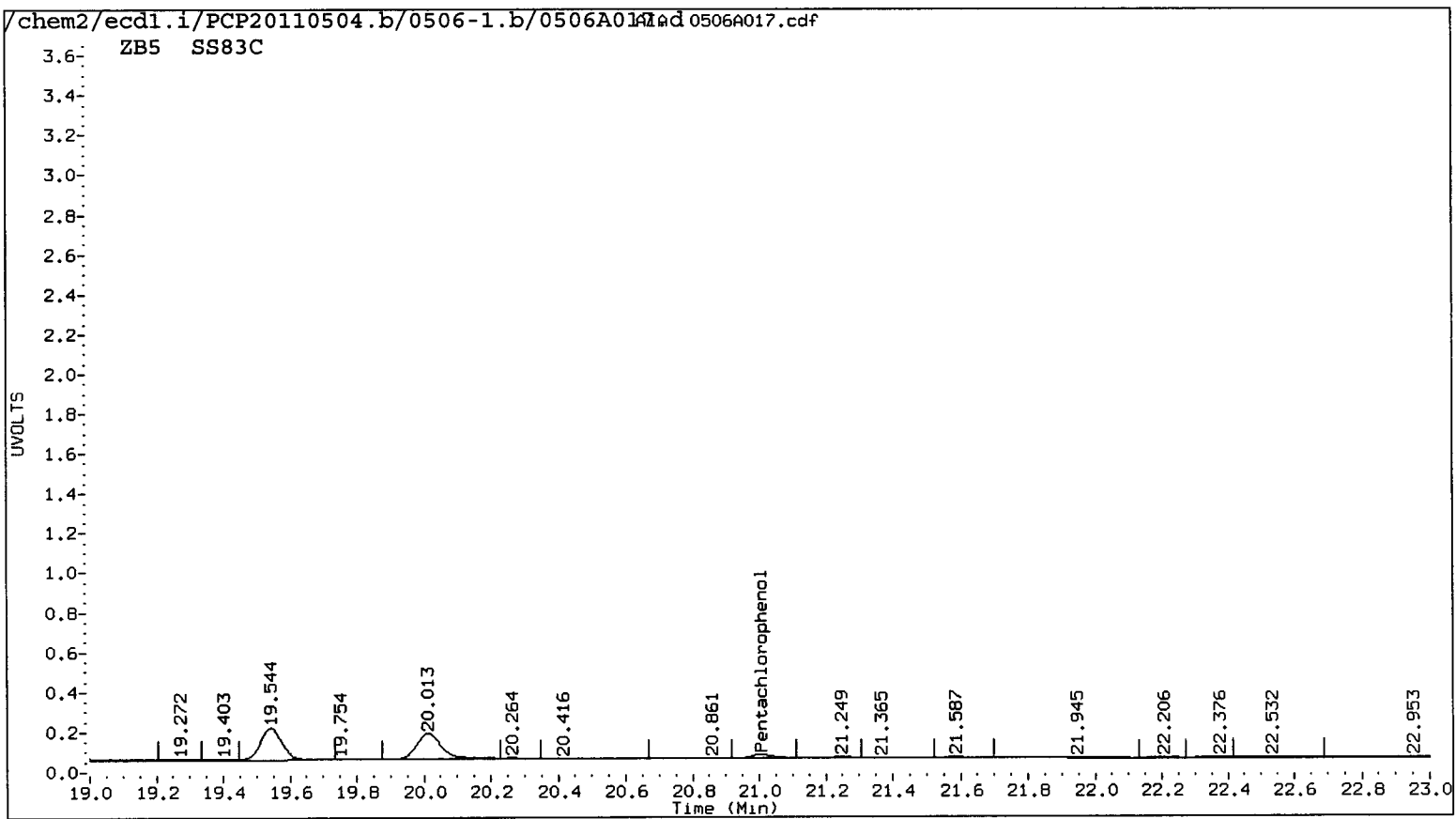
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A017.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 00:00
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.007	0.010	42769	22.974	0.007	55630	2.1226	1.9755	7.2	Pentachlorophenol
----			14.357	0.046	5526	0.0000	0.3813	---	2,4,6-Trichlorophenol
14.039	-0.058	14155	15.613	0.056	33256	1.2360	2.3137	60.7*	2,3,6-Trichlorophenol
15.902	0.057	10629	----			1.3912	0.0000	---	2,4,5-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.075	-0.005	25399	0.0000	1.4942	---	2,3,4,5-Tetrachlorophenol
12.521	-0.034	18386	13.853	0.033	2539	23.2693	2.8669	156.1*	2,4-Dichlorophenol
18.602	0.006	232881	20.942	0.006	280951	14.8	13.4	10.1	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	59.2	53.5

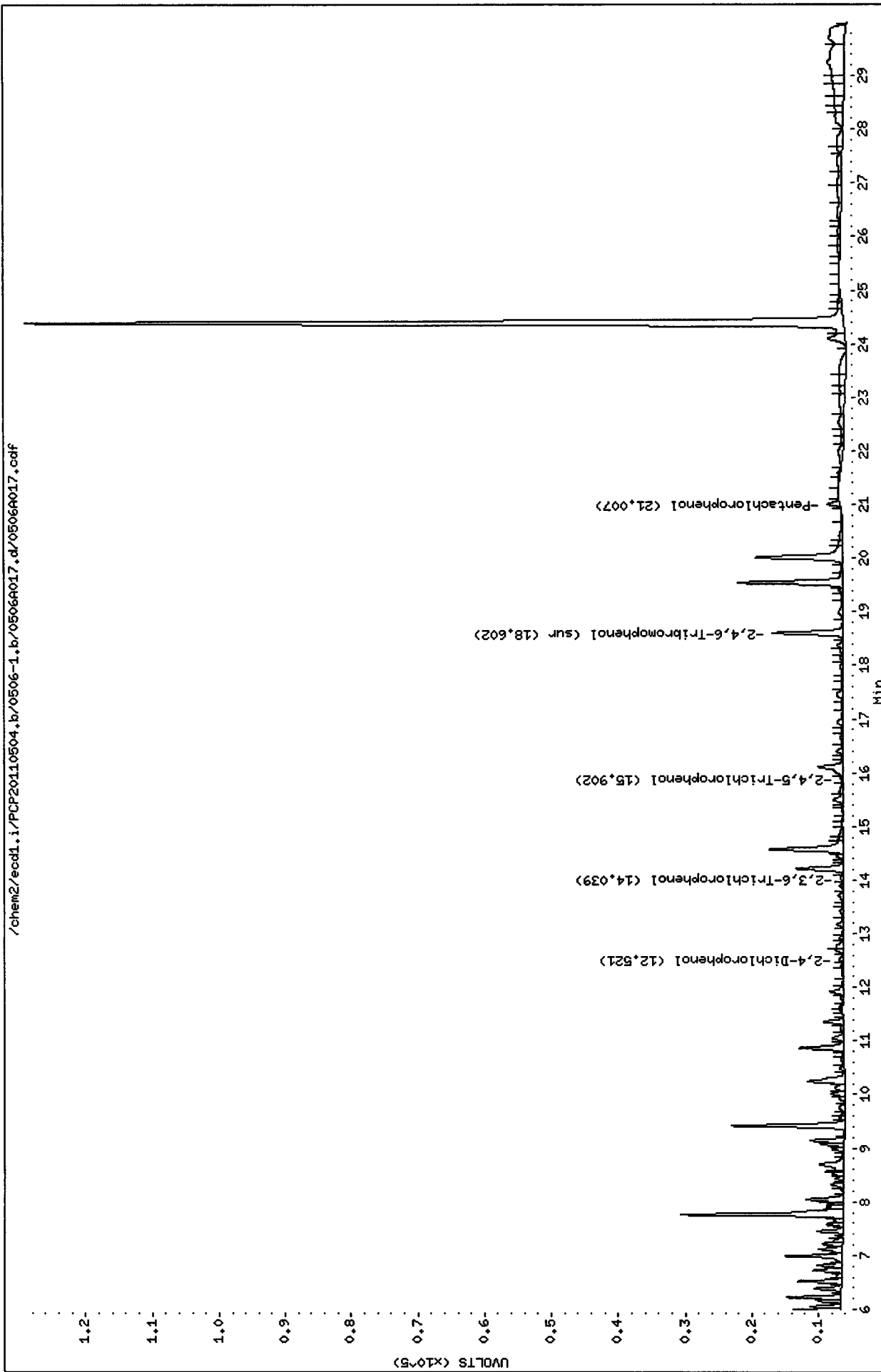




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Date : 07-MAY-2011 00:00
Client ID:
Sample Info: SS83C
Purge Volume: 500.0
Column phase: STX CLP1

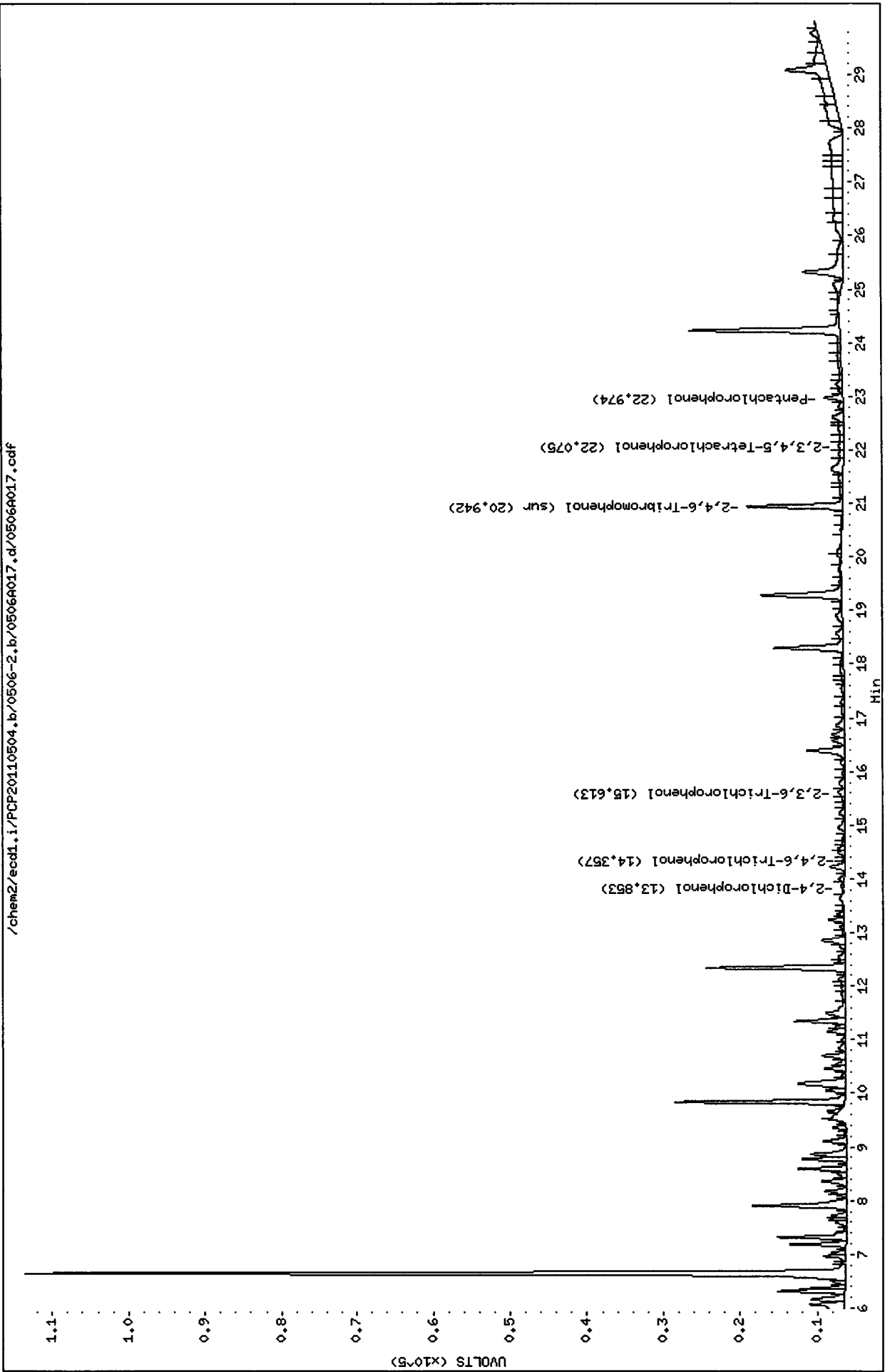
Instrument: ecd1.i

Operator: ar
Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A017.d
Date : 07-MAY-2011 00:00
Client ID:
Sample Info: SS83C
Purge Volume: 500.0
Column phase: STX CLP2

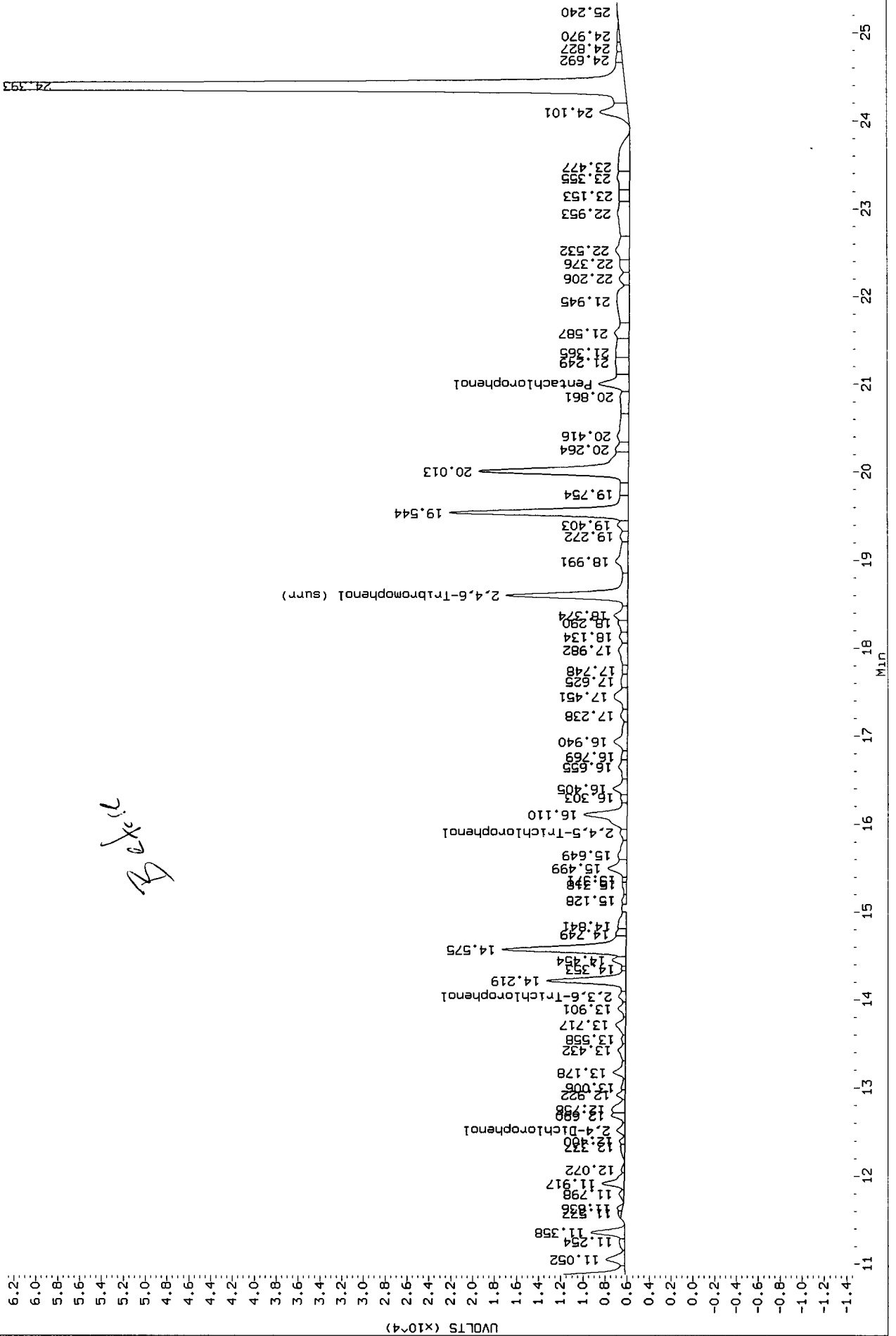
Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



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Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A017.p/0506A017.cdf
 Injection Date: 07-MAY-2011 00:00
 Instrument: ecdl1
 Client Sample ID:

AIA 0506A017.cdf: 10.862 to 25.343 Min



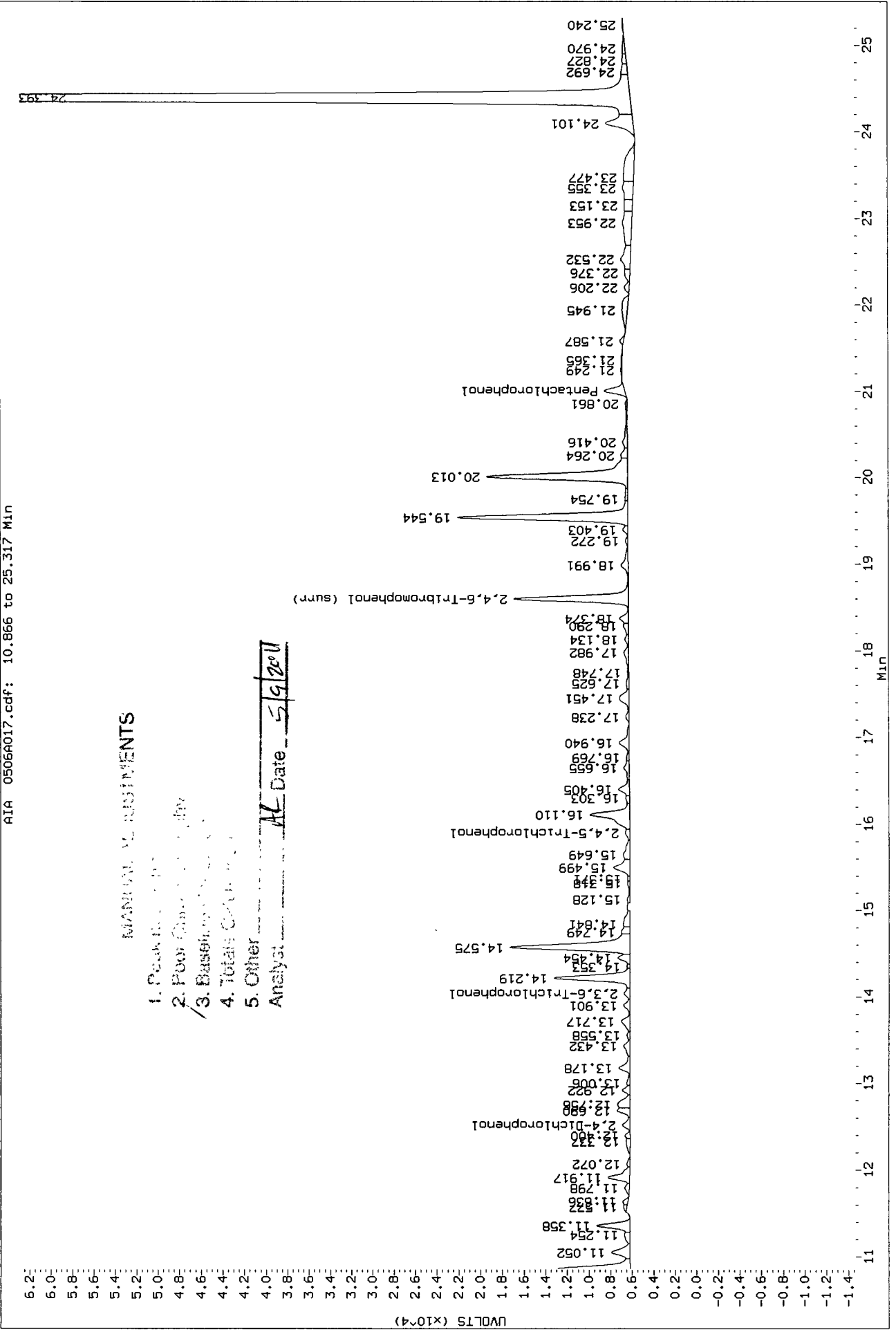
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 Injection Date: 07-MAY-2011 00:00
 Instrument: ecdi.1
 Client Sample ID:

AIA 0506A017.cdf: 10.866 to 25.317 Min

MANUAL ADJUSTMENTS

1. Peak Retention
2. Peak Count
3. Baseline
4. Total Count
5. Other

Analyst: AL Date: 5/9/2011



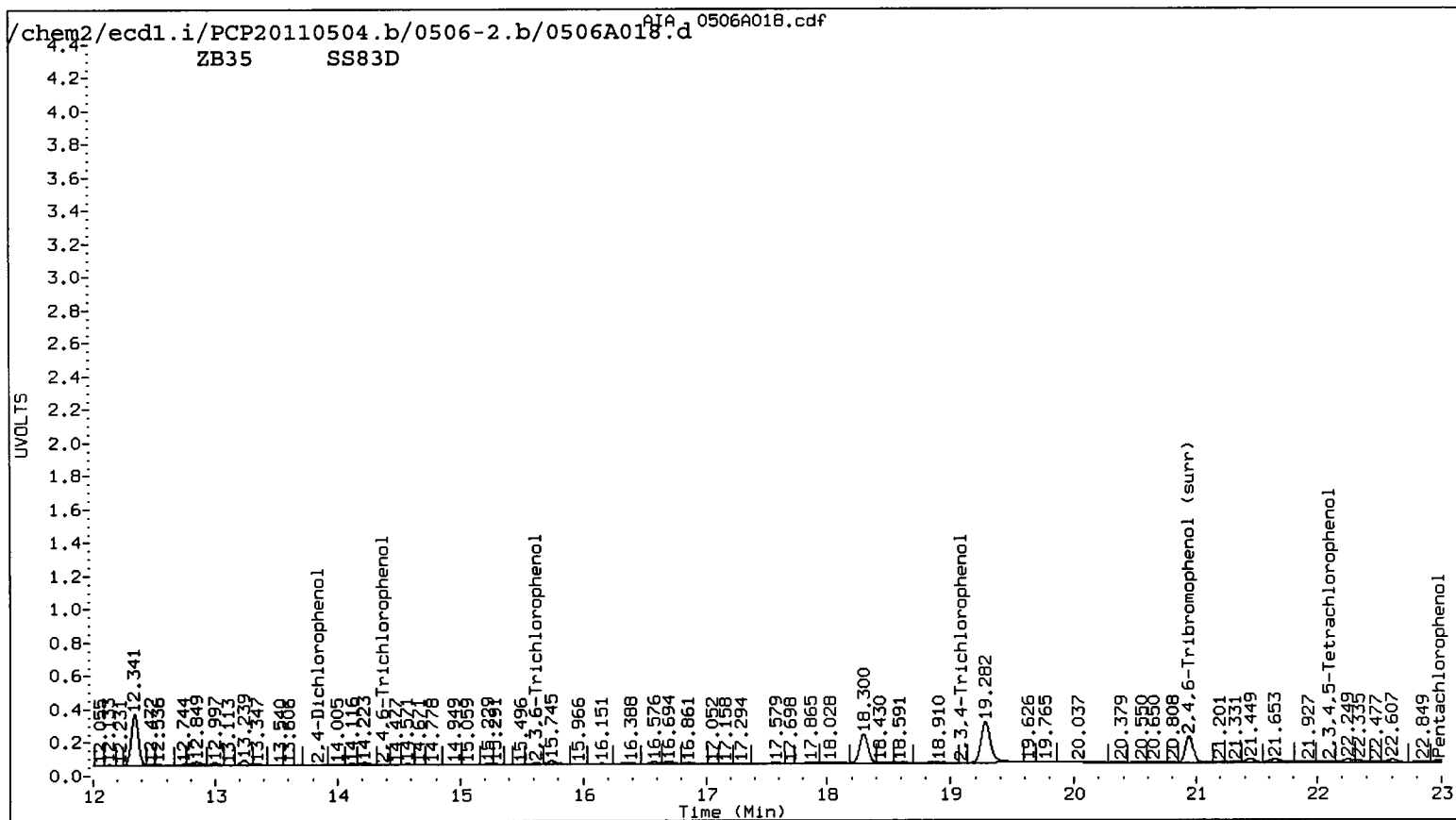
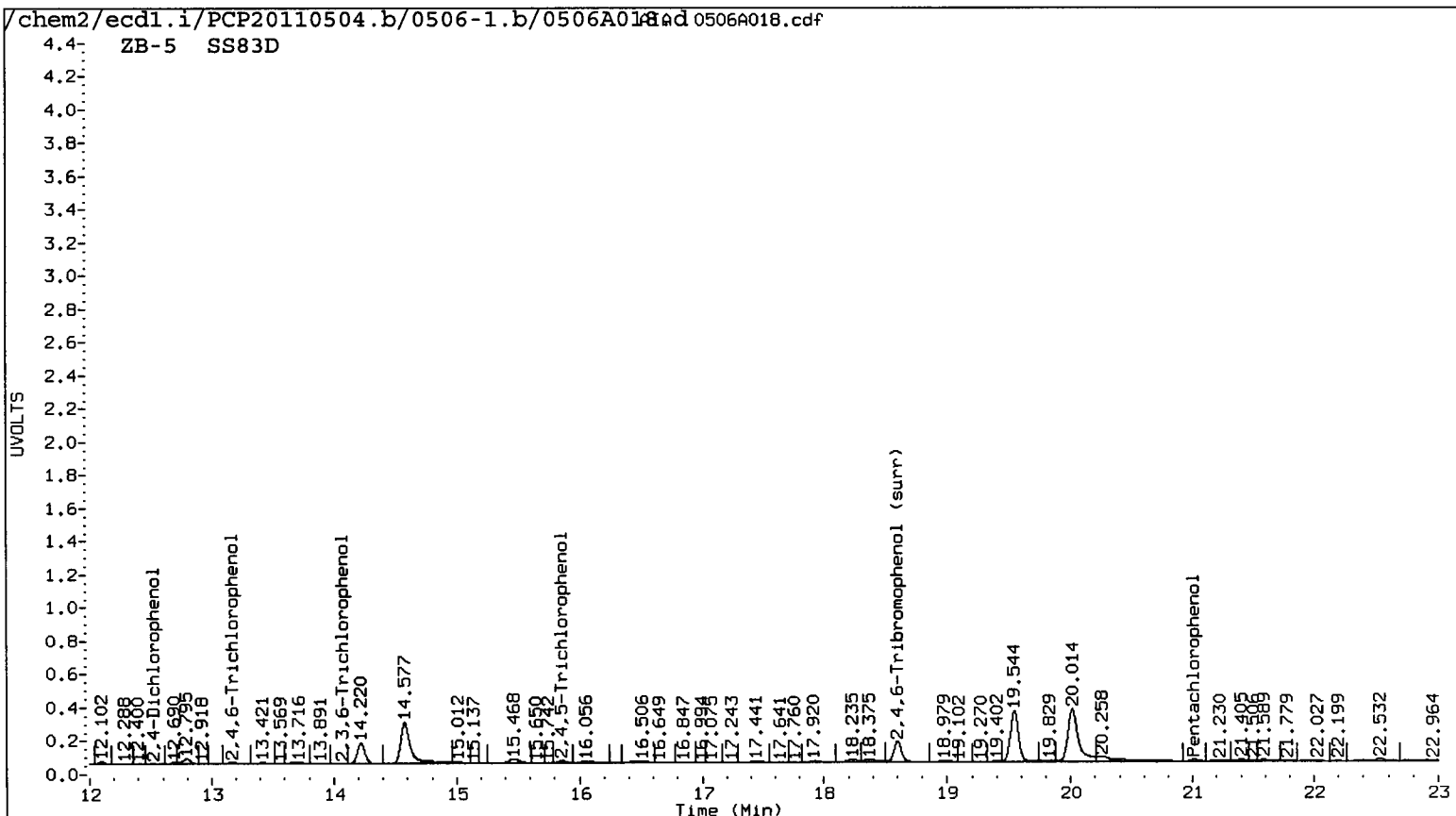
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

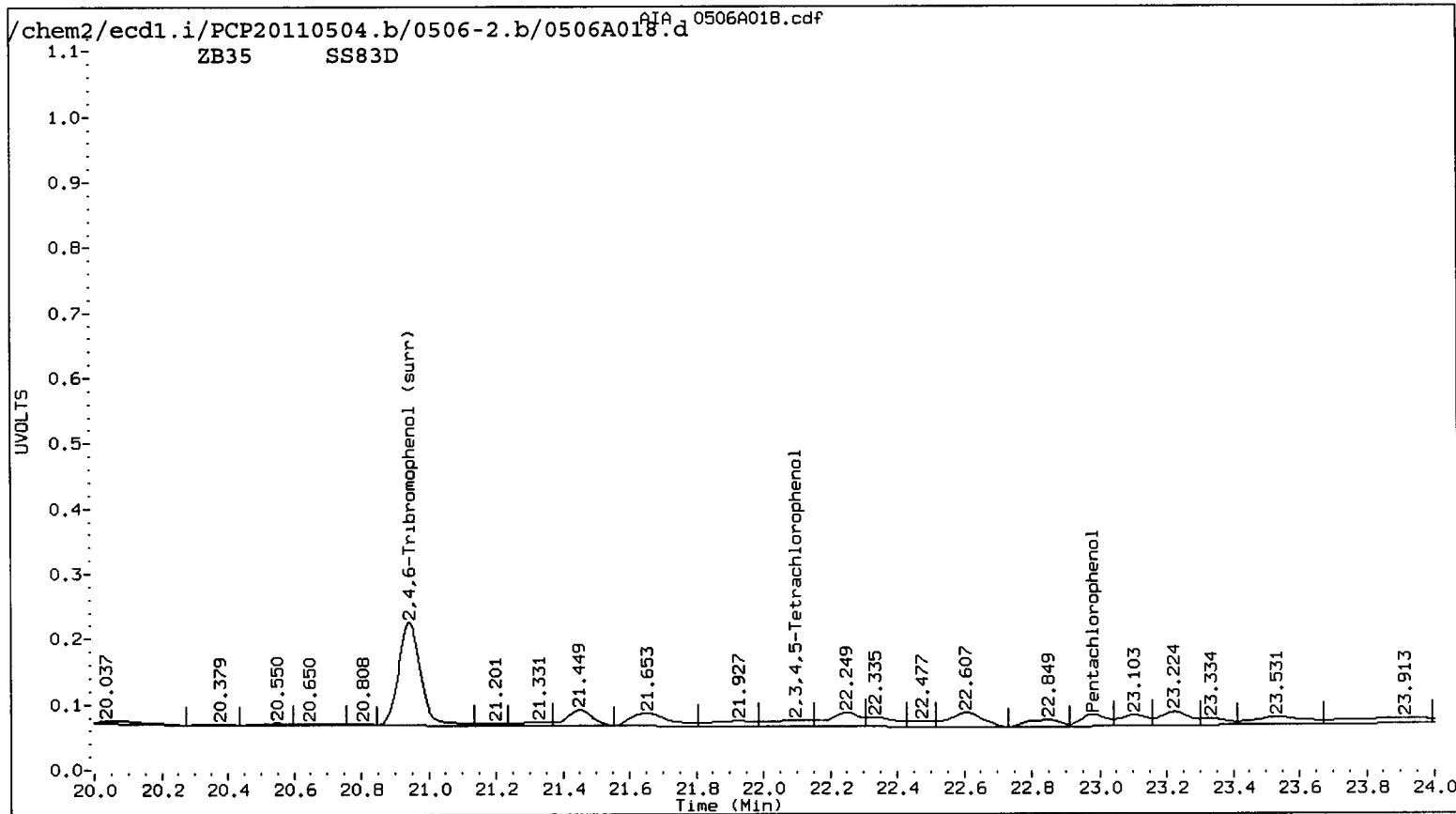
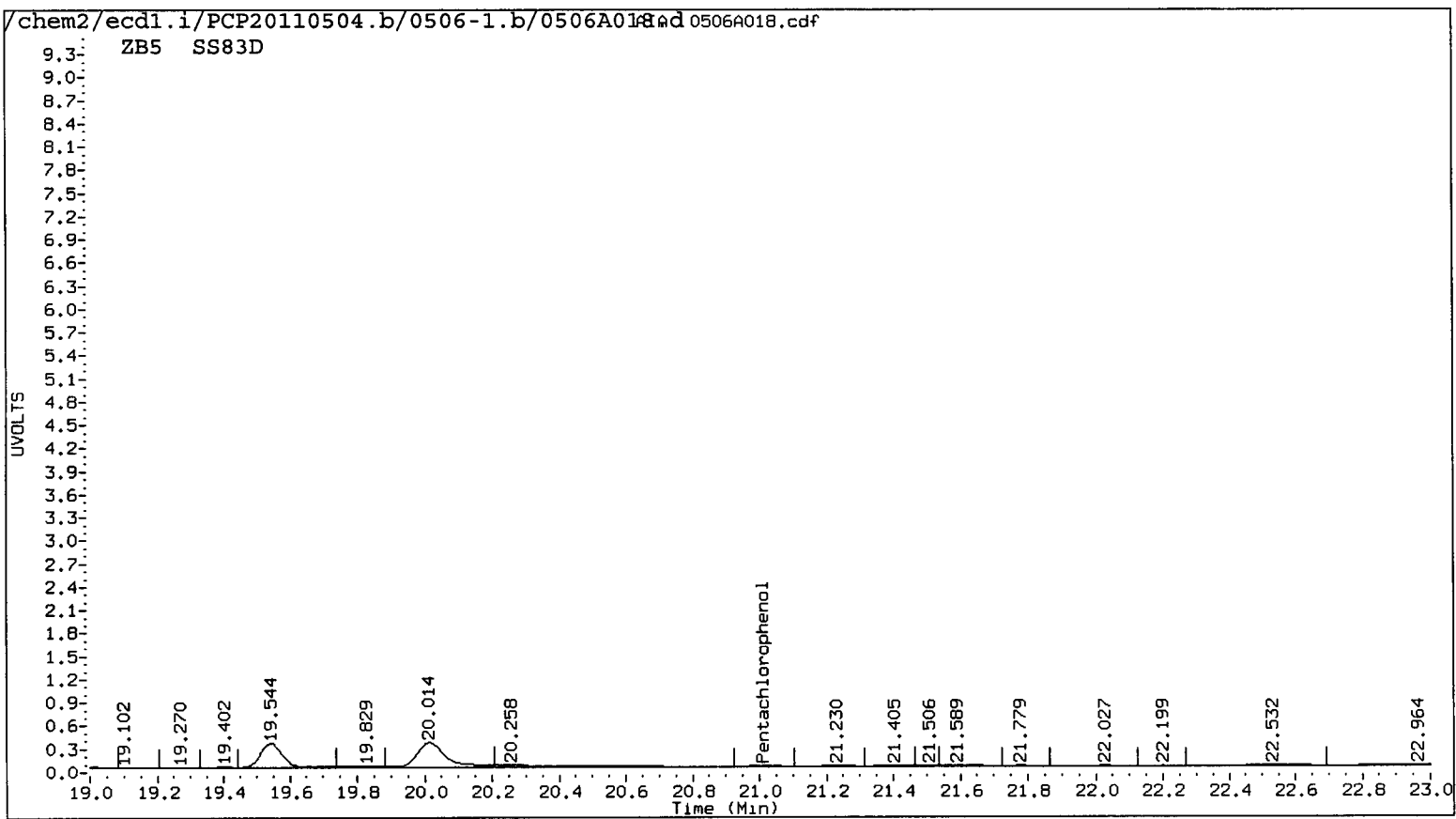
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 00:36
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.009	0.012	44587	22.980	0.013	47260	2.2129	1.6782	27.5	Pentachlorophenol
13.170	0.069	32932	14.366	0.055	2731	2.7054	0.1885	173.9*	2,4,6-Trichlorophenol
14.065	-0.032	10748	15.618	0.061	20735	0.9386	1.4426	42.3*	2,3,6-Trichlorophenol
15.858	0.013	41854	----	----	----	5.6457	0.0000	---	2,4,5-Trichlorophenol
----	----	----	19.087	0.064	600	0.0000	0.0572	---	2,3,4-Trichlorophenol
----	----	----	----	----	----	0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----	----	----	22.096	0.016	41898	0.0000	2.4776	---	2,3,4,5-Tetrachlorophenol
12.523	-0.032	15349	13.839	0.019	2639	19.3438	2.9804	146.6*	2,4-Dichlorophenol
18.602	0.006	310977	20.943	0.007	360380	19.8	17.1	14.2	2,4,6-Tribromophenol (surr)

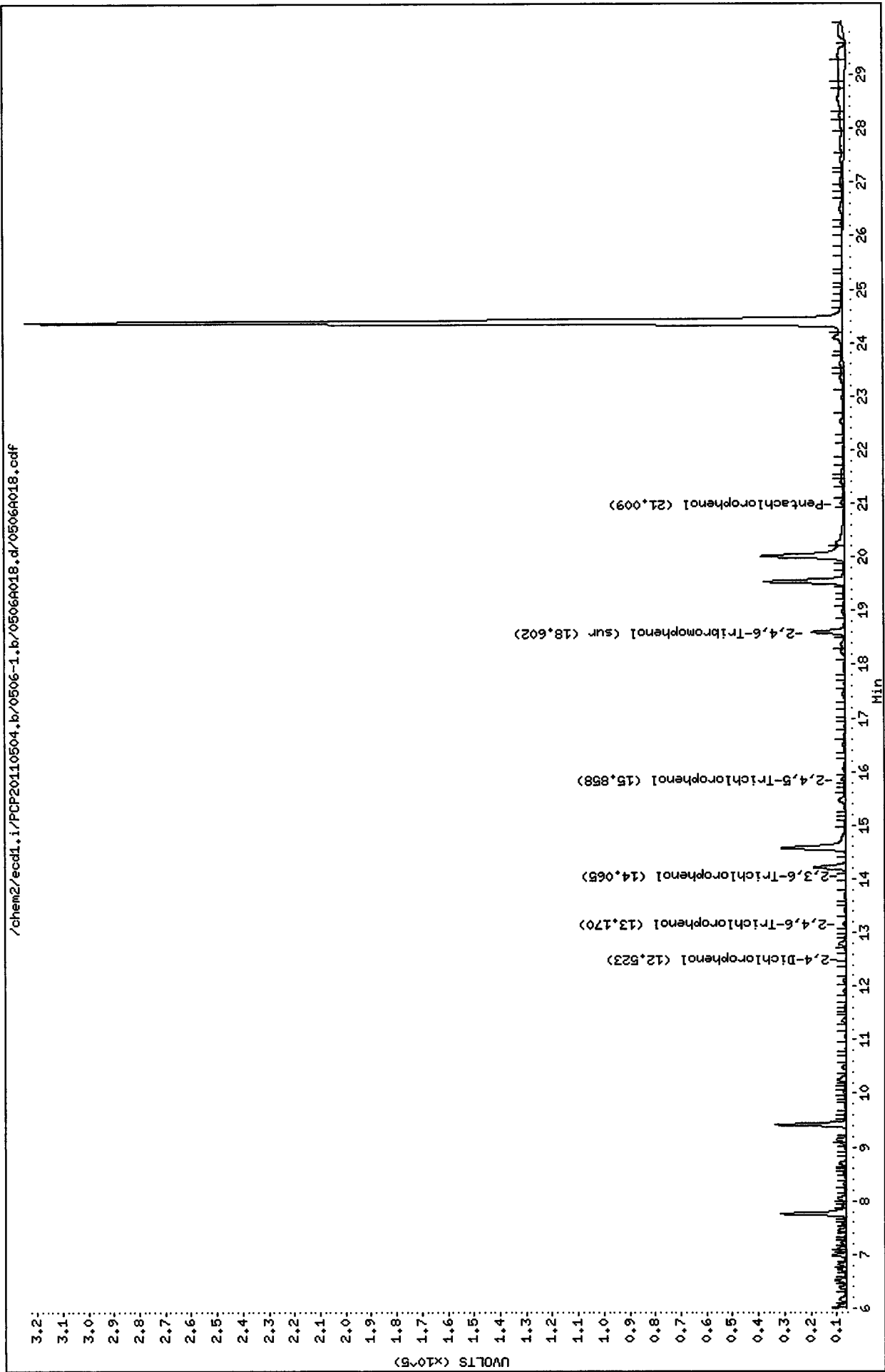
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	79.0	68.6





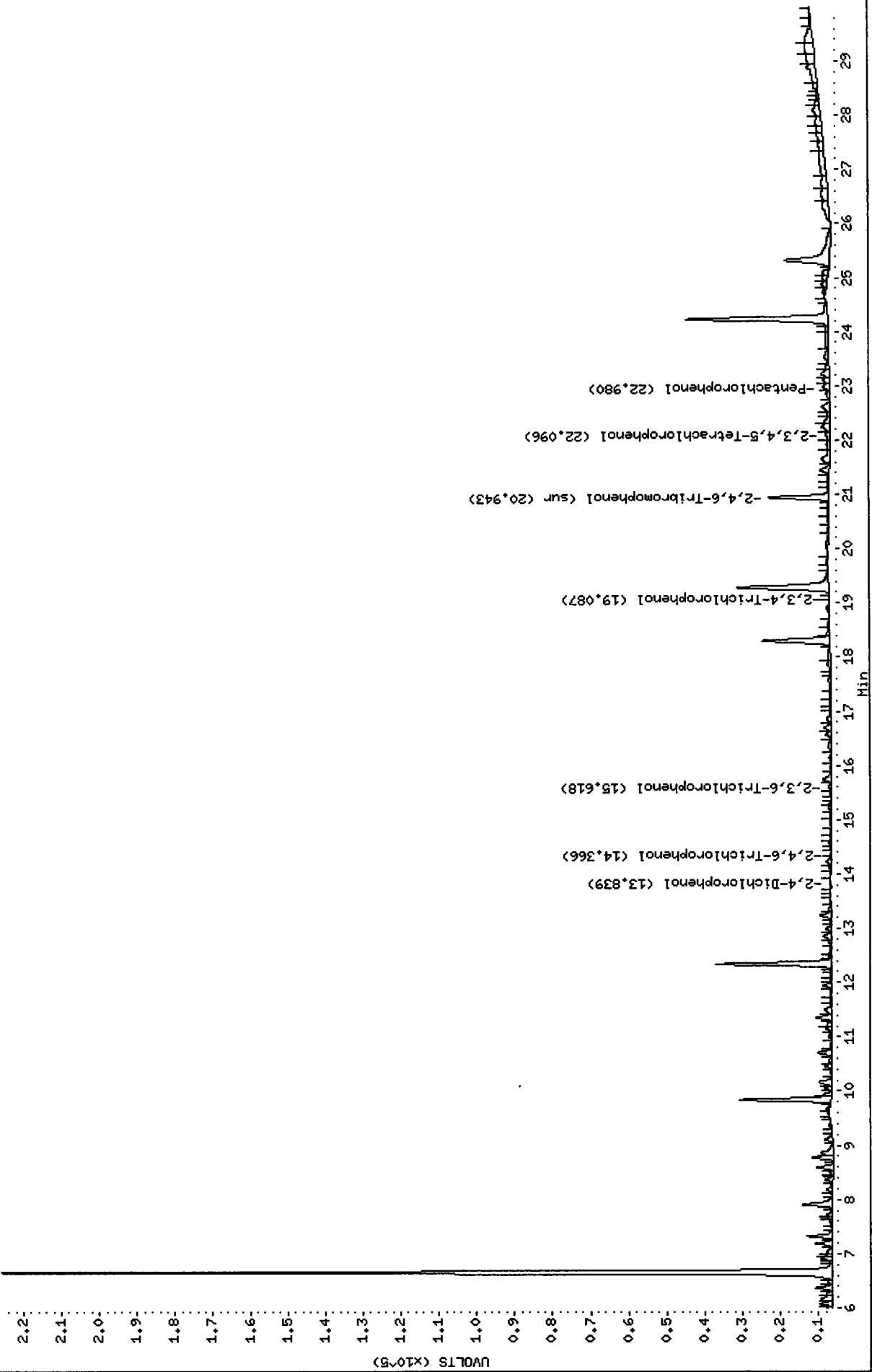
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Date : 07-MAY-2011 00:36
Client ID:
Instrument: ecdl1.i
Sample Info: SS83D
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A018.d
Date : 07-MAY-2011 00:36
Client ID:
Sample Info: SS83D
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecdl.i
Operator: ar
Column diameter: 0.53

/chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A018.d/0506A018.cdf



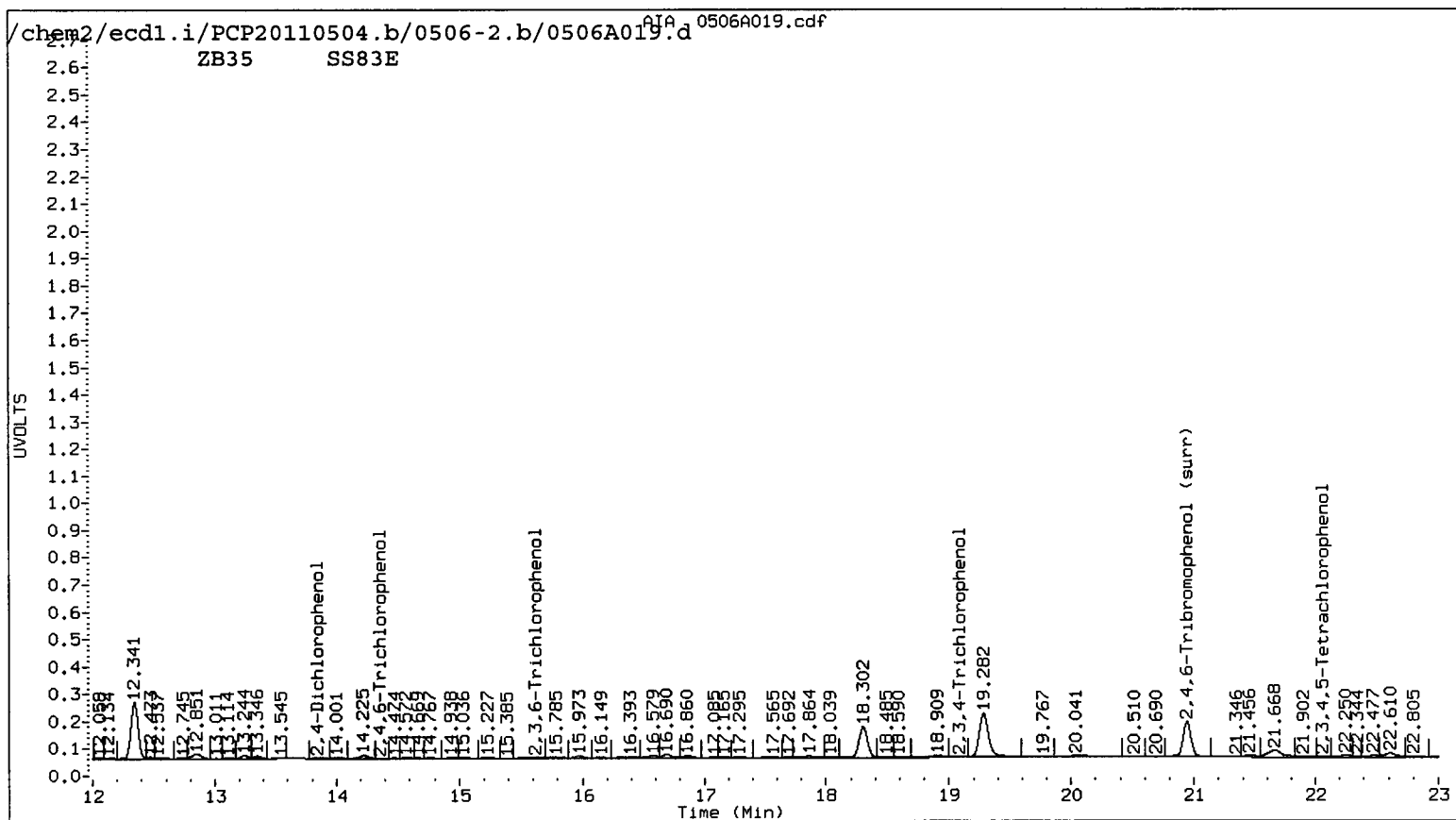
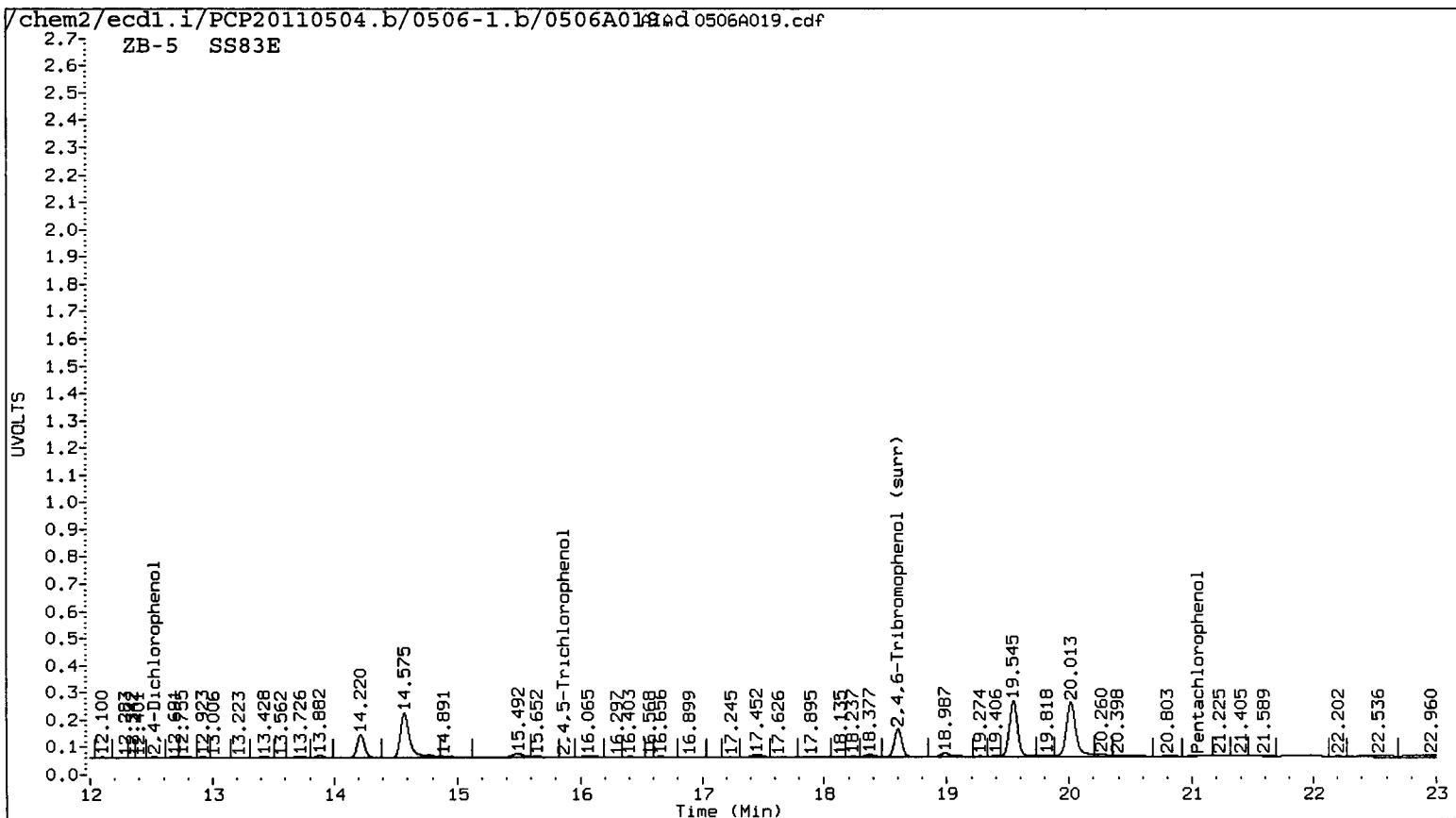
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

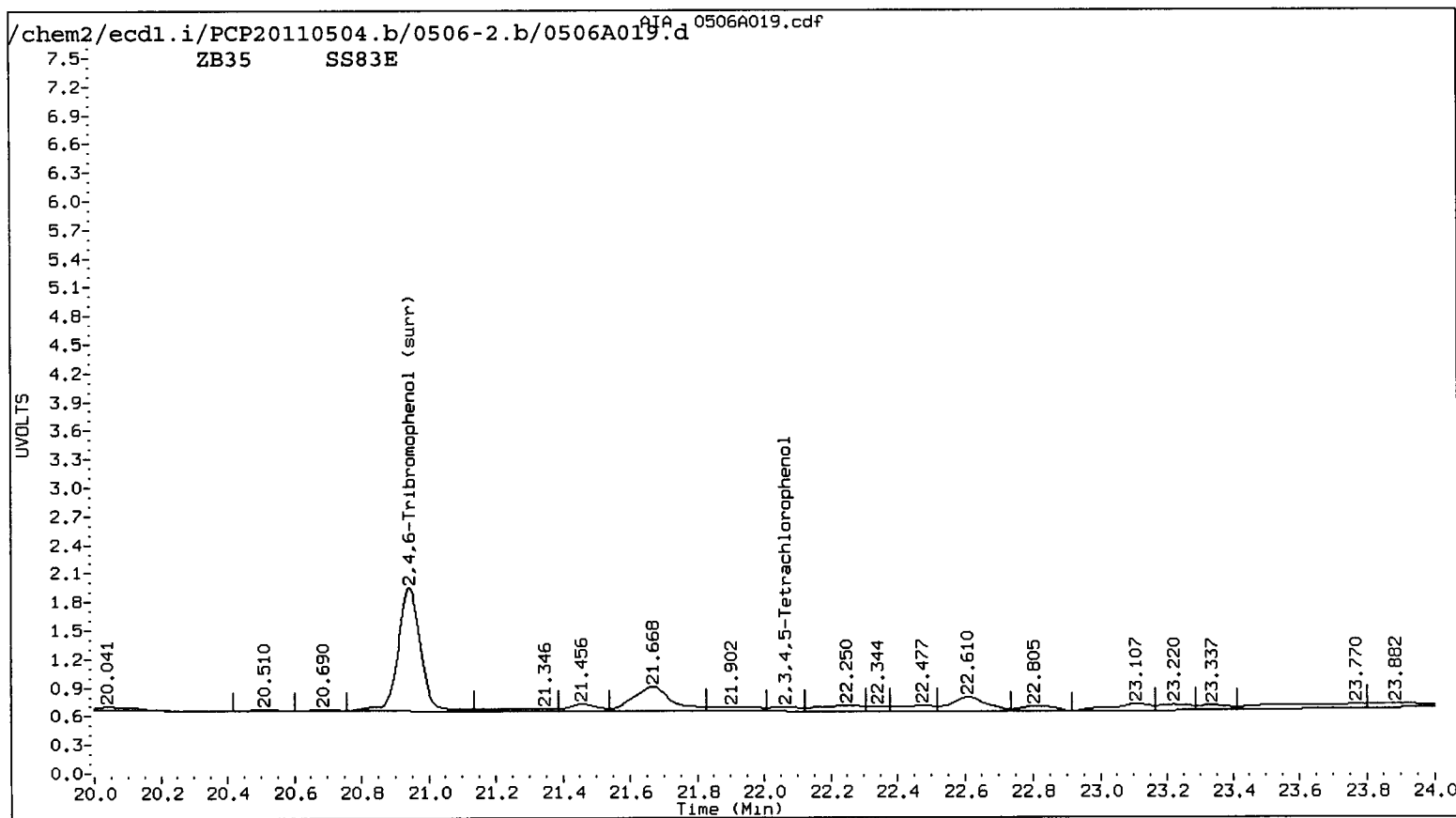
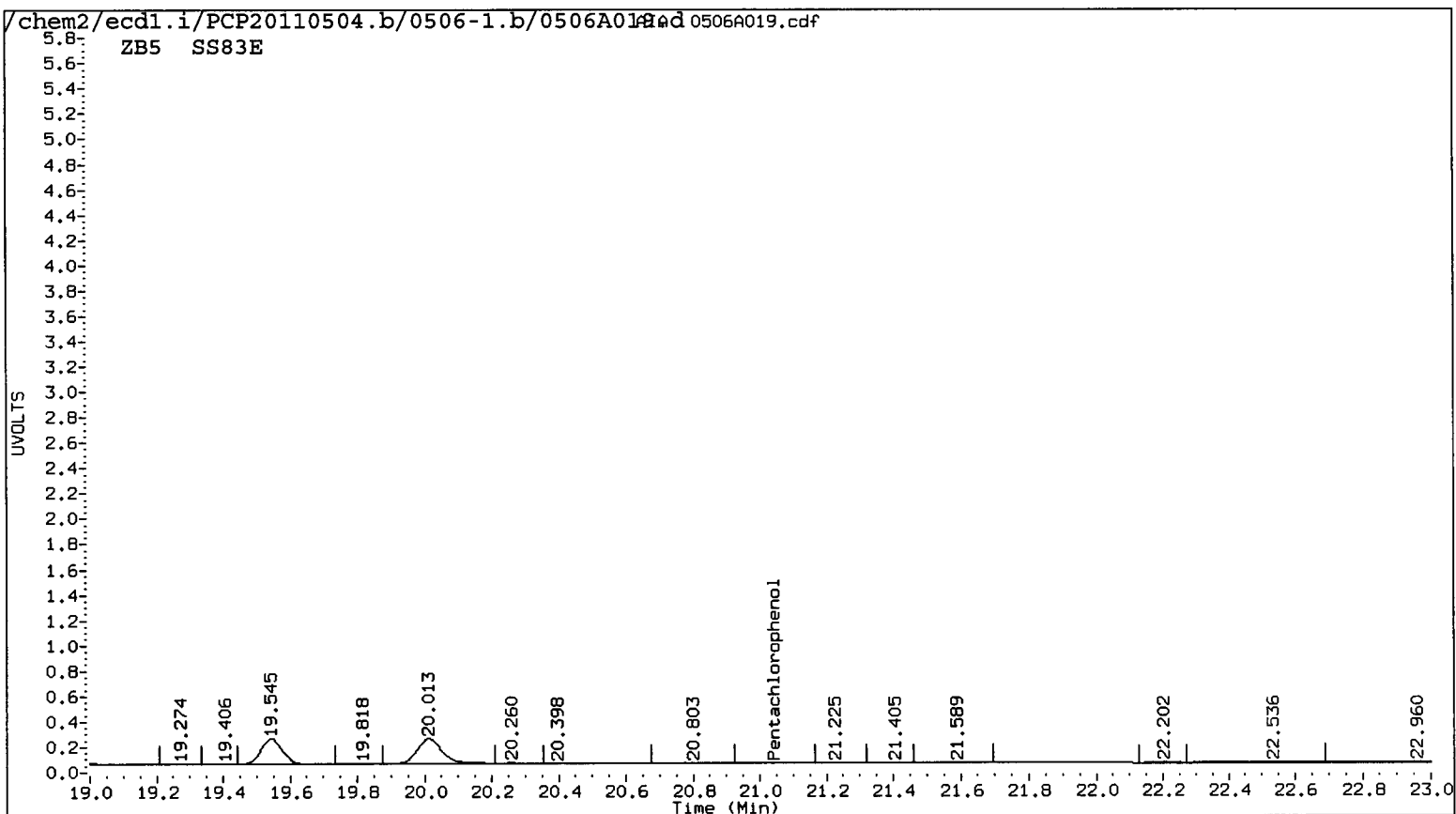
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 01:13
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.043	0.045	5919	----			0.2938	0.0000	---	Pentachlorophenol
----			14.364	0.053	3385	0.0000	0.2336	---	2,4,6-Trichlorophenol
----			15.615	0.058	33247	0.0000	2.3131	---	2,3,6-Trichlorophenol
15.865	0.020	7385	----			0.9635	0.0000	---	2,4,5-Trichlorophenol
----			19.085	0.062	2911	0.0000	0.2777	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.062	-0.018	13598	0.0000	0.7970	---	2,3,4,5-Tetrachlorophenol
12.526	-0.029	13217	13.847	0.027	8946	16.6070	10.1977	47.8*	2,4-Dichlorophenol
18.602	0.007	223025	20.943	0.007	300617	14.2	14.3	0.9	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	56.7	57.2

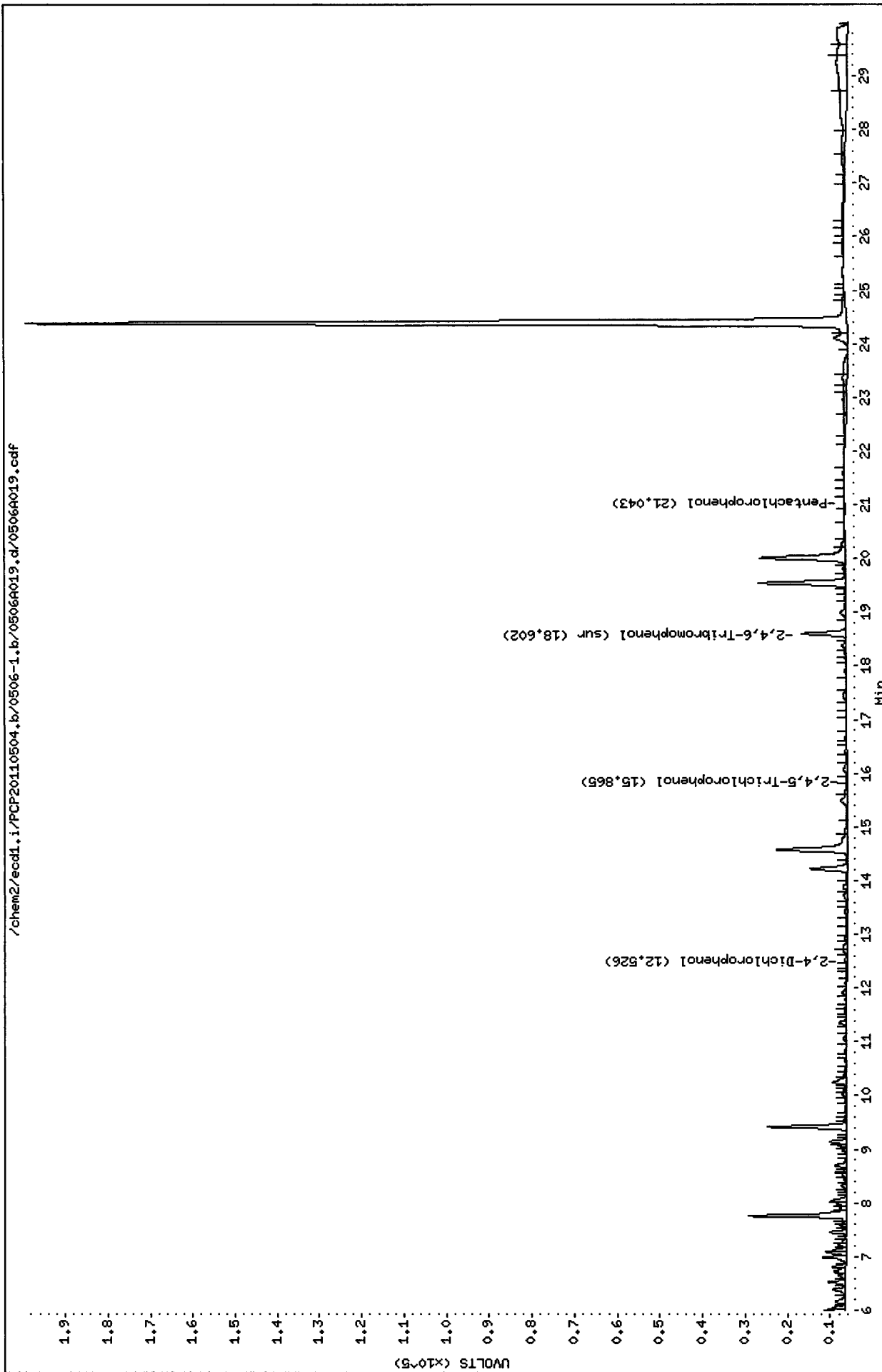




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Date : 07-MAY-2011 01:13
Client ID:
Sample Info: S683E
Purge Volume: 500.0
Column phase: STX CLP1

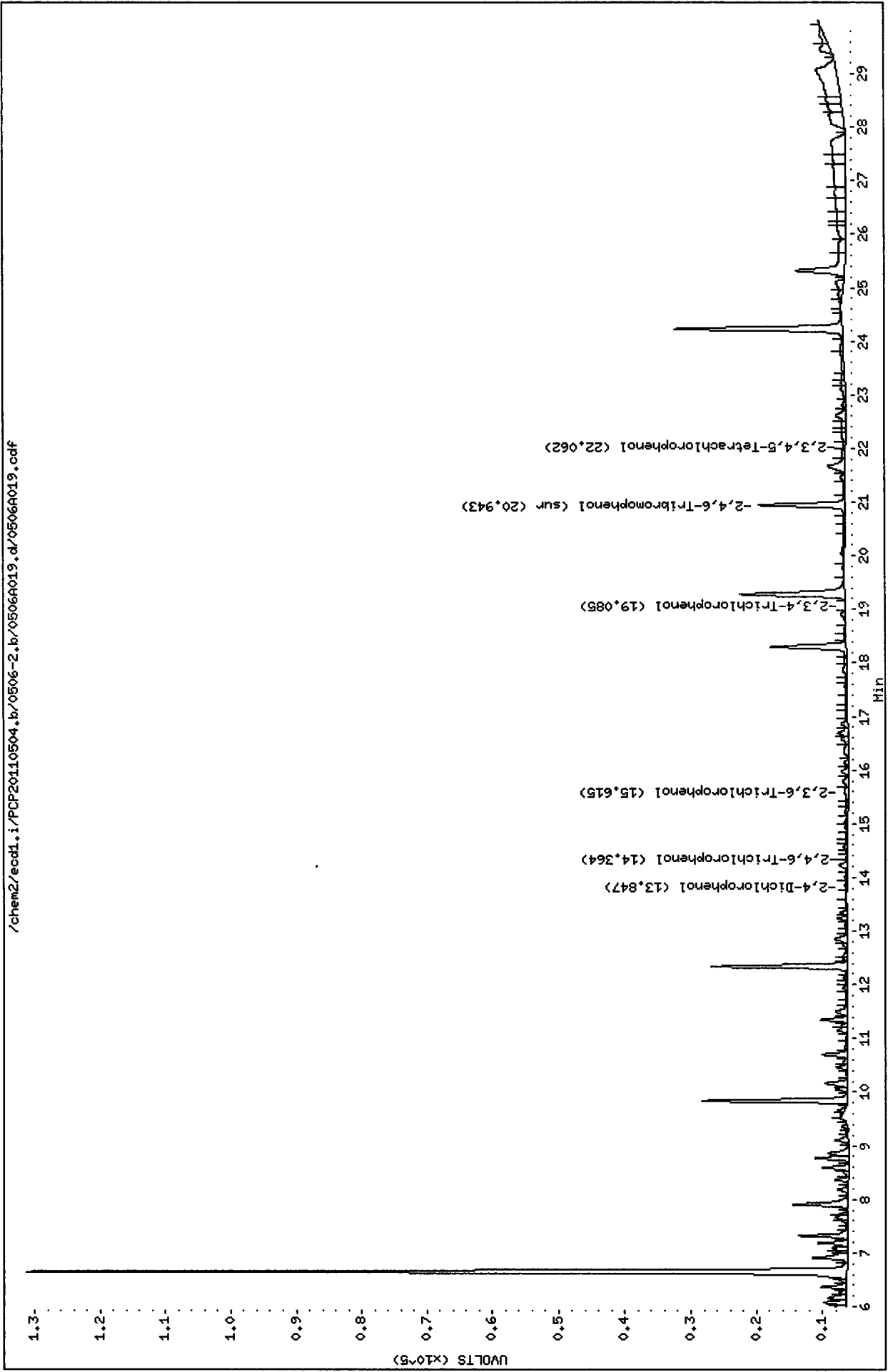
Instrument: ecd1.i

Operator: ar
Column diameter: 0.53



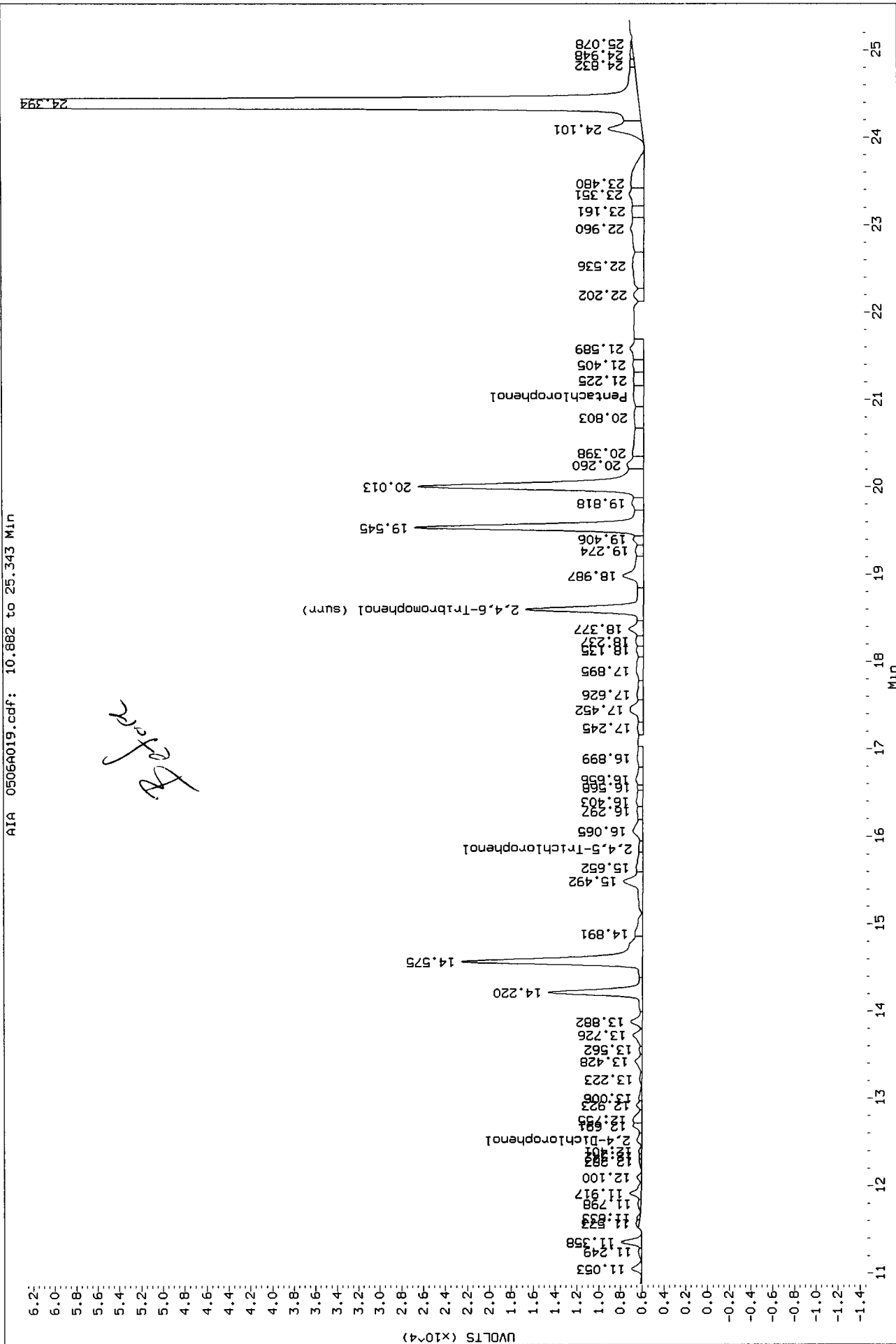
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Date : 07-MAY-2011 01:13
Client ID:
Sample Info: S883E
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



Data File: /chem2/ecd1.1/PCP20110504.b/0506-1.b/0506A019.d/0506A019.cdf
Injection Date: 07-MAY-2011 01:13
Instrument: ecd1.1
Client Sample ID:

AIA 0506A019.cdf: 10.882 to 25.343 Min



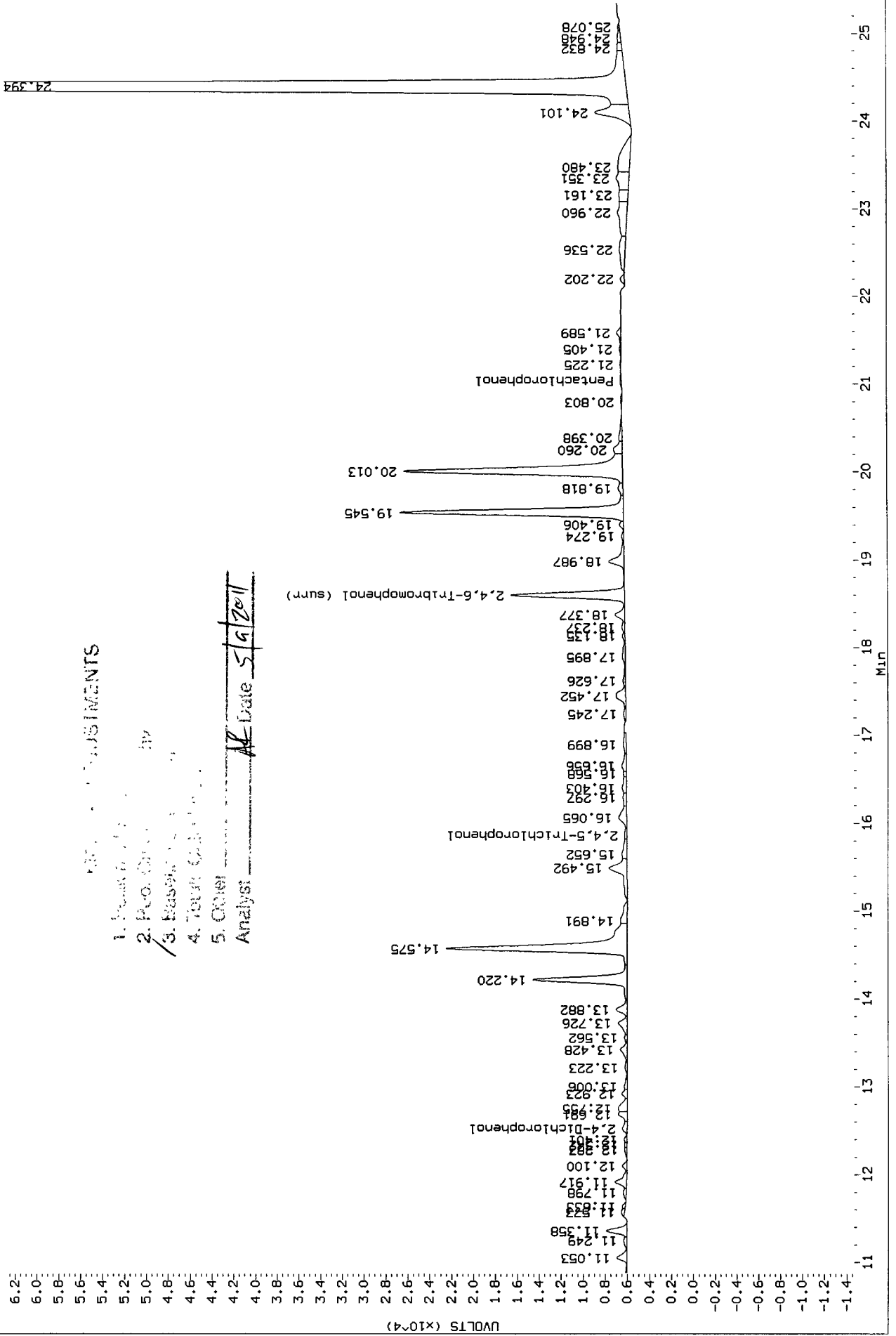
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 Instrument: ecdl1.1
 Client Sample ID:

AIA 0506A019.cdf: 10.882 to 25.343 Min

REVISIONS

1. Found to be
2. PCO. Checked by
3. ~~Mass Spec~~
4. Found to be
5. OK

Analyst: AE Date: 5/6/2011



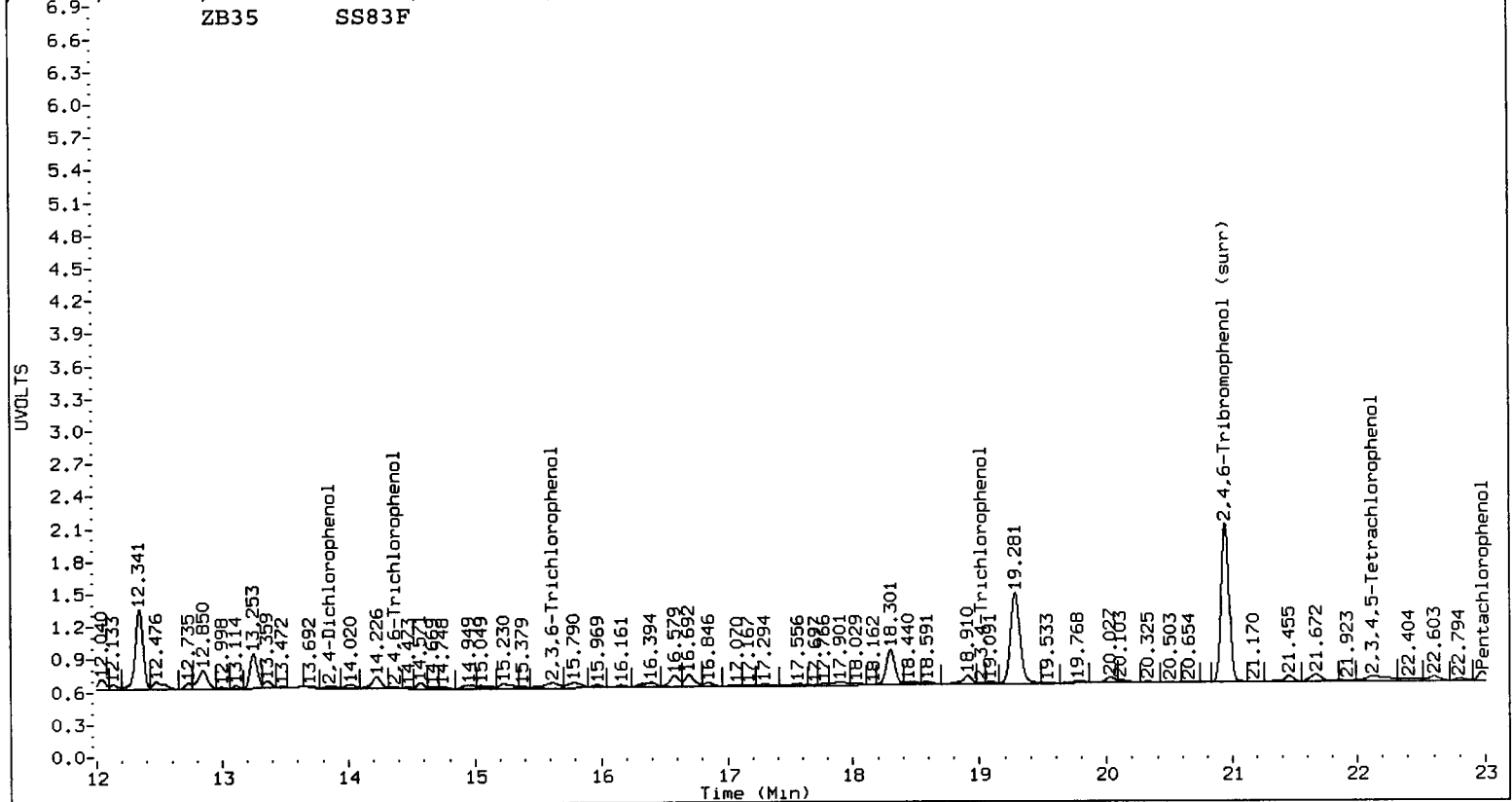
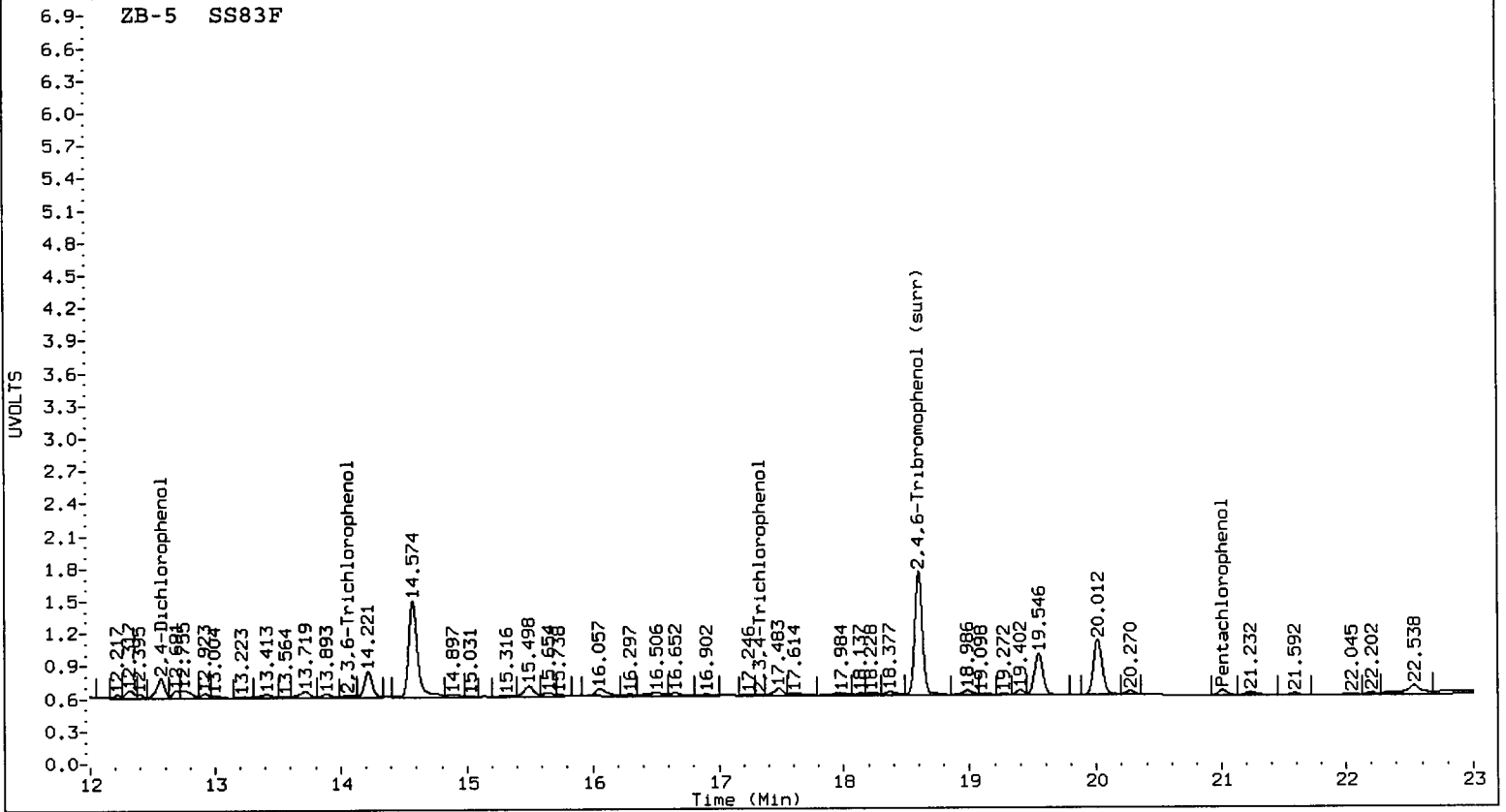
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

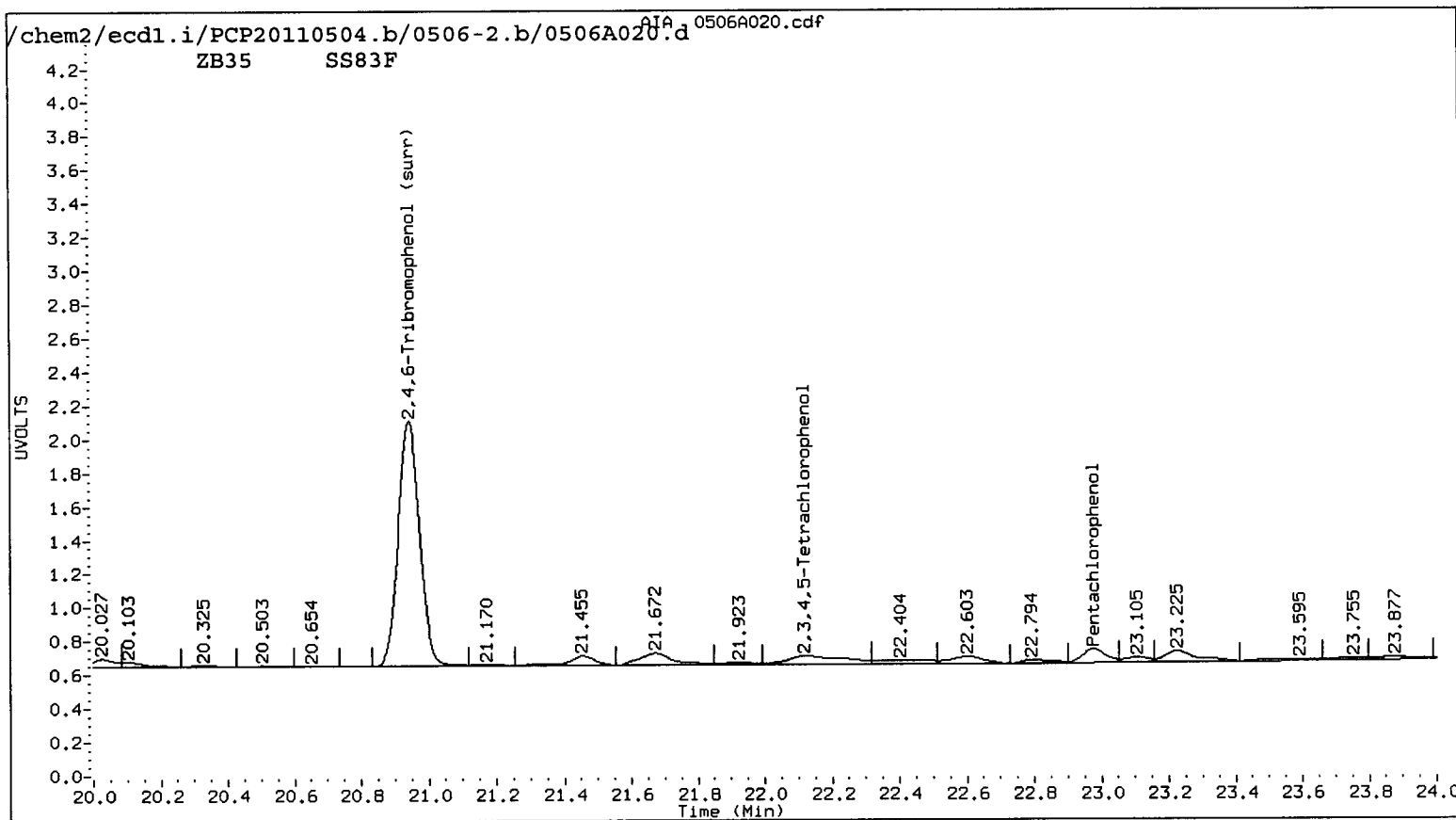
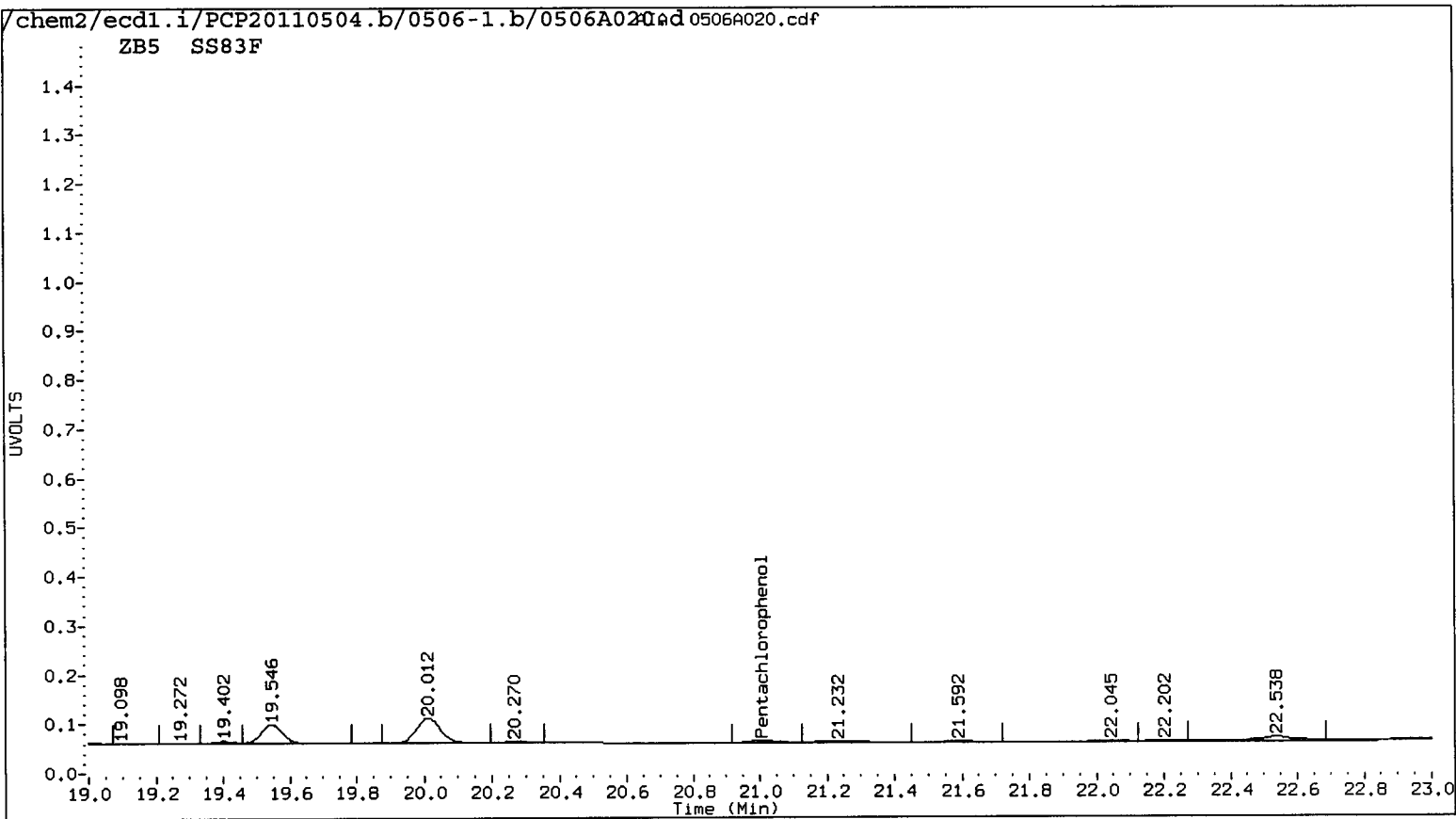
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 01:49
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.008	0.010	13140	22.976	0.009	20173	0.6522	0.7164	9.4	Pentachlorophenol
----			14.369	0.058	3663	0.0000	0.2528	---	2,4,6-Trichlorophenol
14.061	-0.036	7006	15.618	0.061	22103	0.6118	1.5378	86.2*	2,3,6-Trichlorophenol
----			----			0.0000	0.0000	---	2,4,5-Trichlorophenol
17.333	-0.019	1918	19.016	-0.007	2815	0.2296	0.2684	15.6	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.122	0.042	31005	0.0000	1.8272	---	2,3,4,5-Tetrachlorophenol
12.569	0.014	88541	13.852	0.032	7399	50.1548	8.4141	142.5*	2,4-Dichlorophenol
18.602	0.007	248731	20.943	0.007	19481	15.8	15.2	3.9	2,4,6-Tribromophenol (surr)

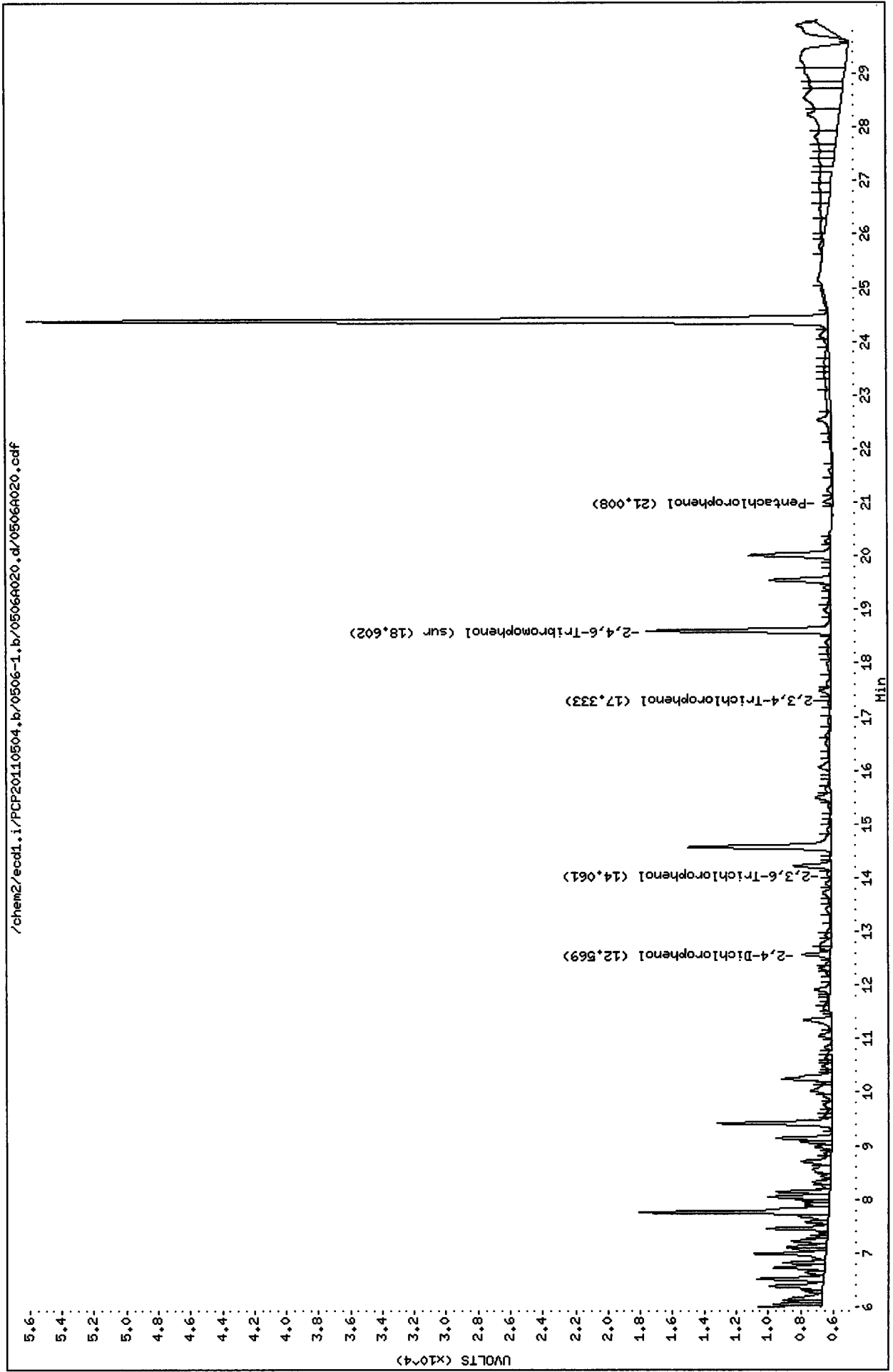
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	63.2	60.8

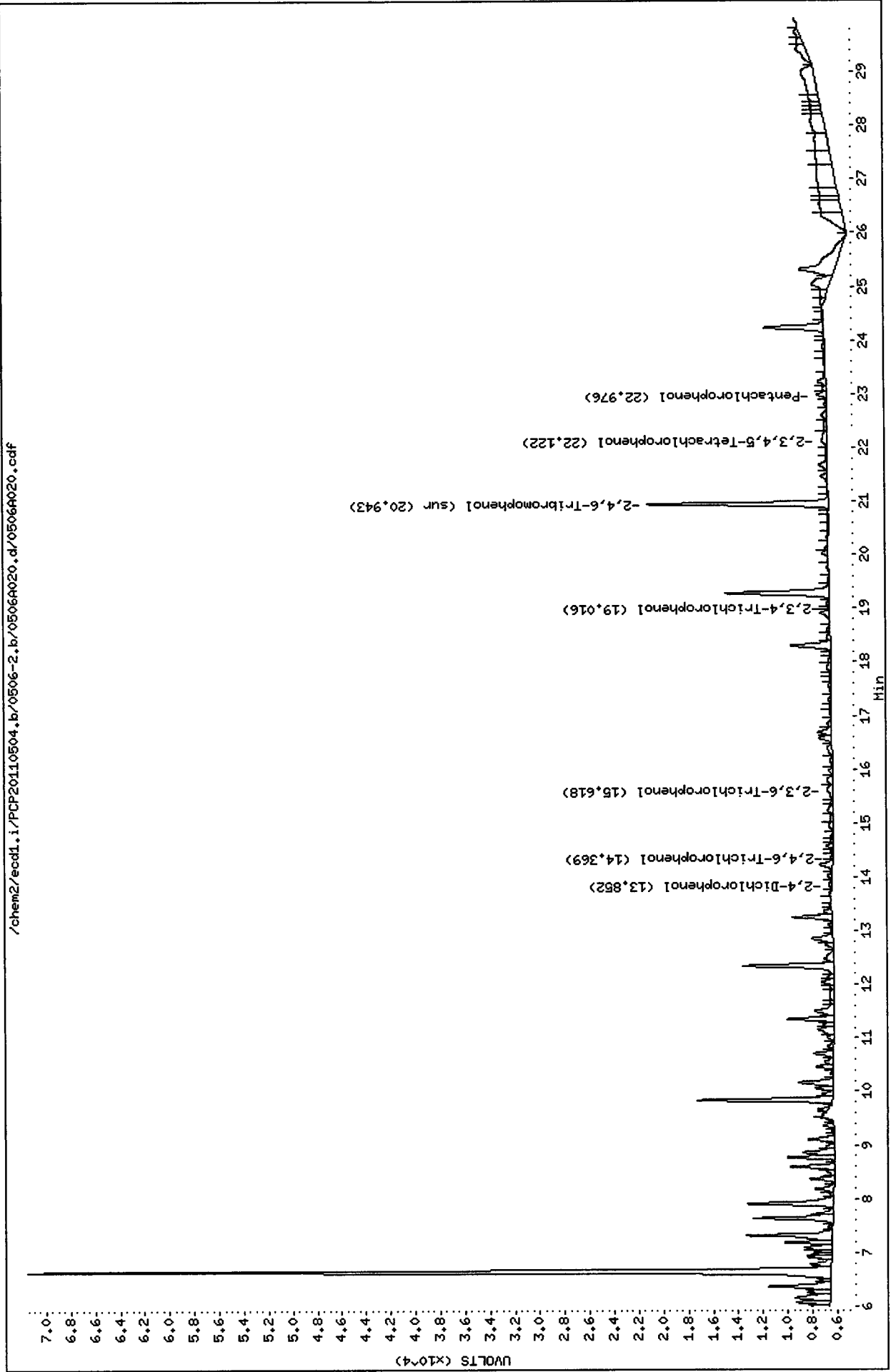




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Date : 07-MAY-2011 01:49
Client ID:
Instrument: ecdl1.i
Sample Info: S883F
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A020.d
Date : 07-MAY-2011 01:49
Client ID:
Instrument: ecdl.i
Sample Info: SS83F
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



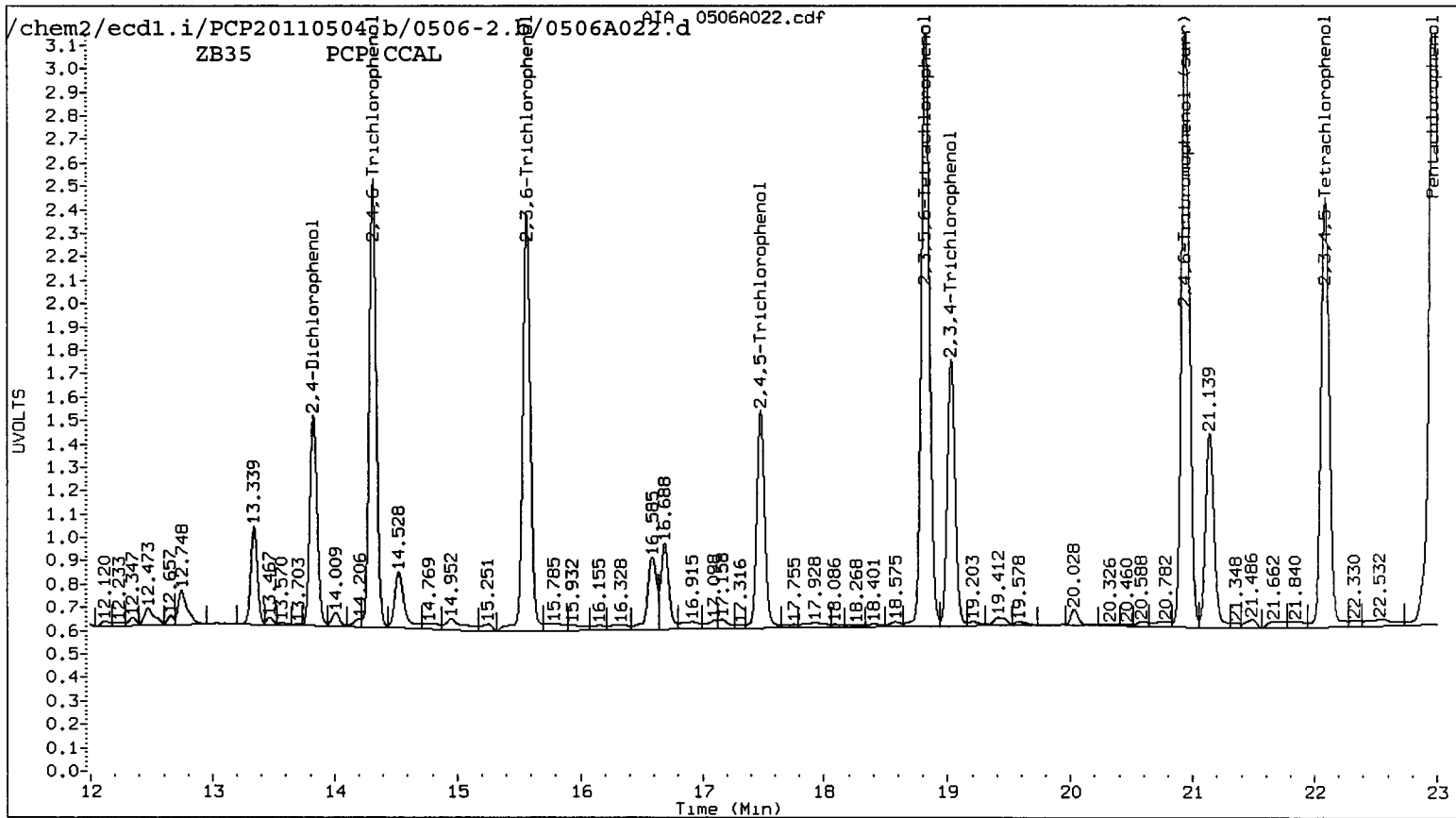
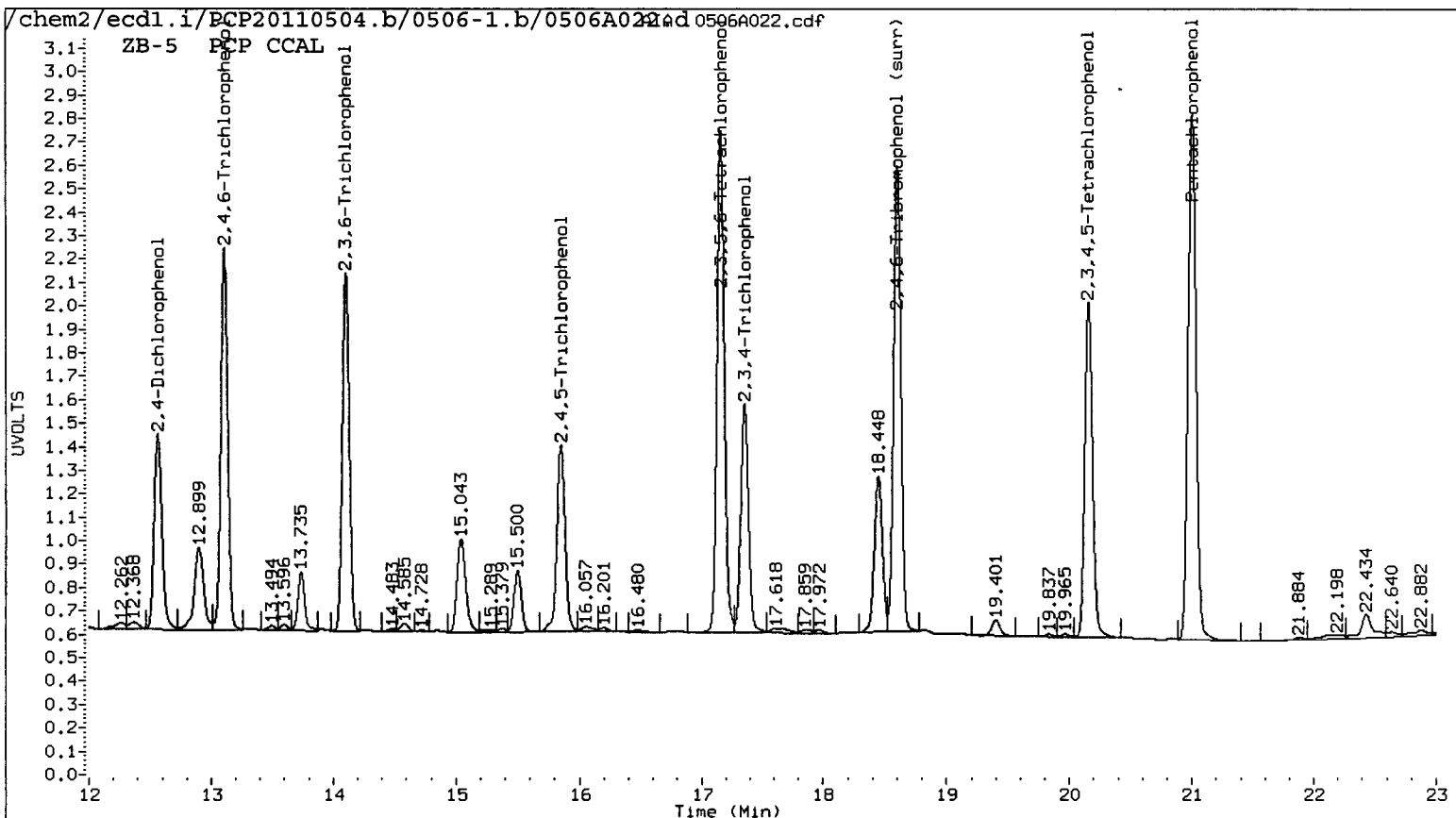
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

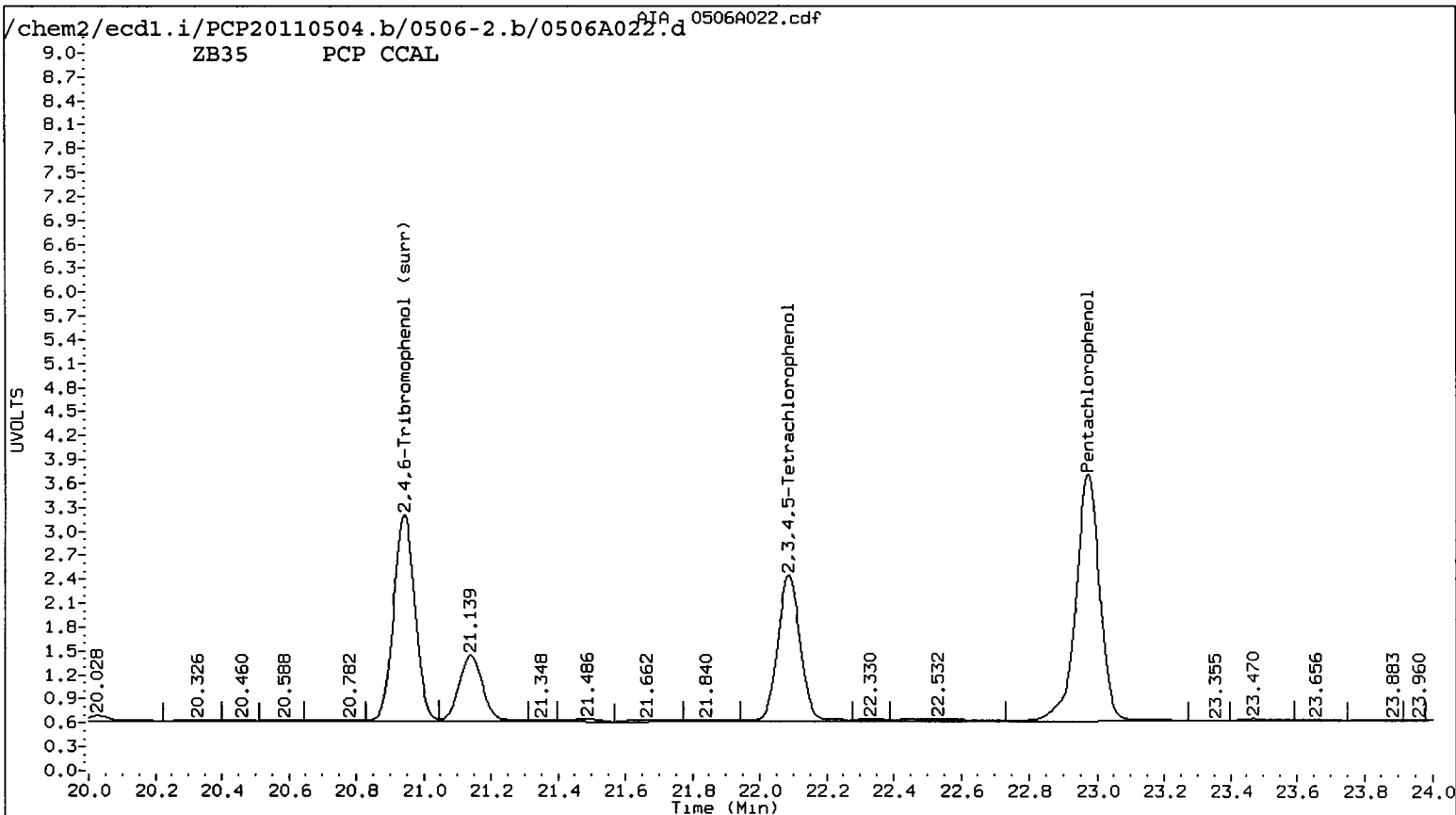
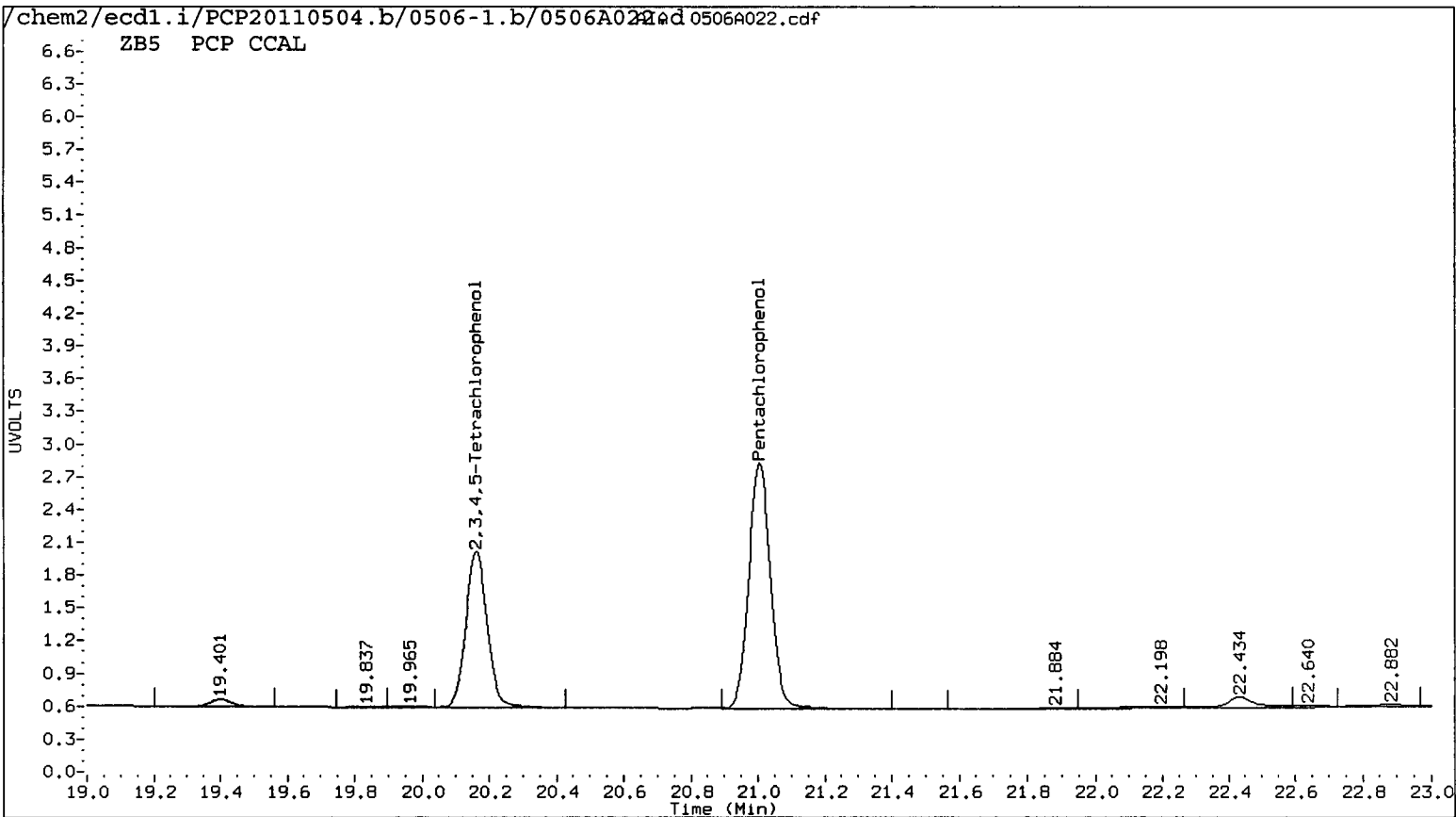
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 03:01
 Compound Sublist: all Report Date: 05/09/2011 15:32
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound
21.005	0.007	510061	22.974	0.007	760991	25.3143	27.0230	6.5	Pentachlorophenol
13.106	0.005	321697	14.316	0.005	386325	26.4276	26.6546	0.9	2,4,6-Trichlorophenol
14.102	0.005	304218	15.563	0.006	391689	26.5632	27.2510	2.6	2,3,6-Trichlorophenol
15.850	0.005	179076	17.480	0.006	216194	27.3078	26.7049	2.2	2,4,5-Trichlorophenol
17.357	0.006	216668	19.029	0.006	257014	25.9317	28.5191	9.5	2,3,4-Trichlorophenol
17.159	0.006	458429	18.820	0.006	589125	27.1152	26.8541	1.0	2,3,5,6-Tetrachlorophenol
20.161	0.007	318933	22.087	0.007	432650	24.5678	28.7134	15.6	2,3,4,5-Tetrachlorophenol
12.561	0.006	182920	13.825	0.005	192305	284.8243	279.6738	1.8	2,4-Dichlorophenol
18.602	0.006	416851	20.943	0.007	573940	26.5	27.3	3.1	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	101.3	108.1
2,4,6-Trichlorophenol	105.7	106.6
2,3,6-Trichlorophenol	106.3	109.0
2,4,5-Trichlorophenol	109.2	106.8
2,3,4-Trichlorophenol	103.7	114.1
2,3,5,6-Tetrachlorophenol	108.5	107.4
2,3,4,5-Tetrachlorophenol	98.3	114.9
2,4-Dichlorophenol	113.9	111.9
2,4,6-TBP (surr)	105.9	109.2





Data File: /chem2/ecd1.i/PCP20110504.b/0506-1.b/0506A022.d

Date : 07-MAY-2011 03:01

Client ID:

Sample Info: PCP CCAL

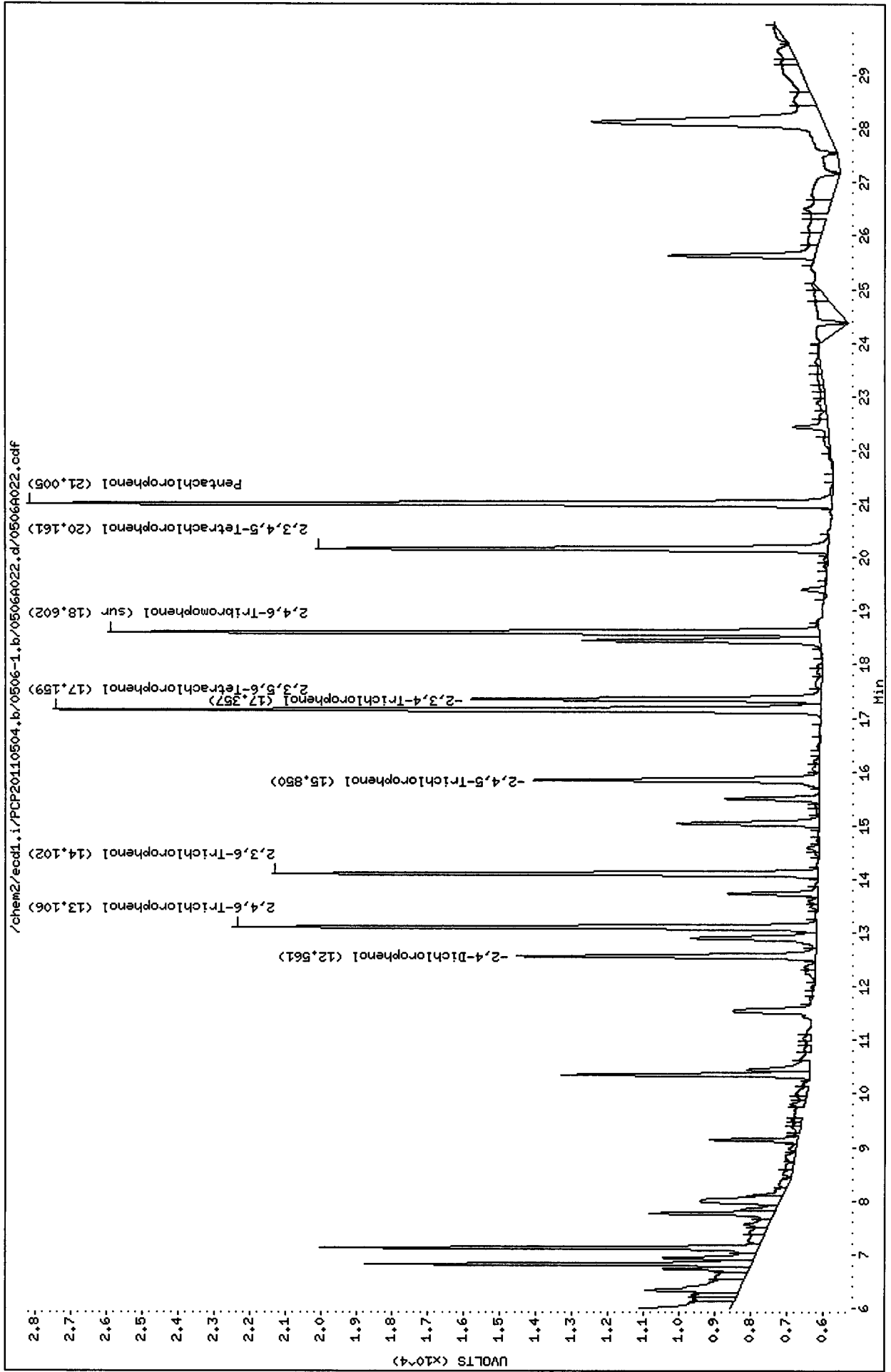
Purge Volume: 500.0

Column phase: STX CLP1

Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



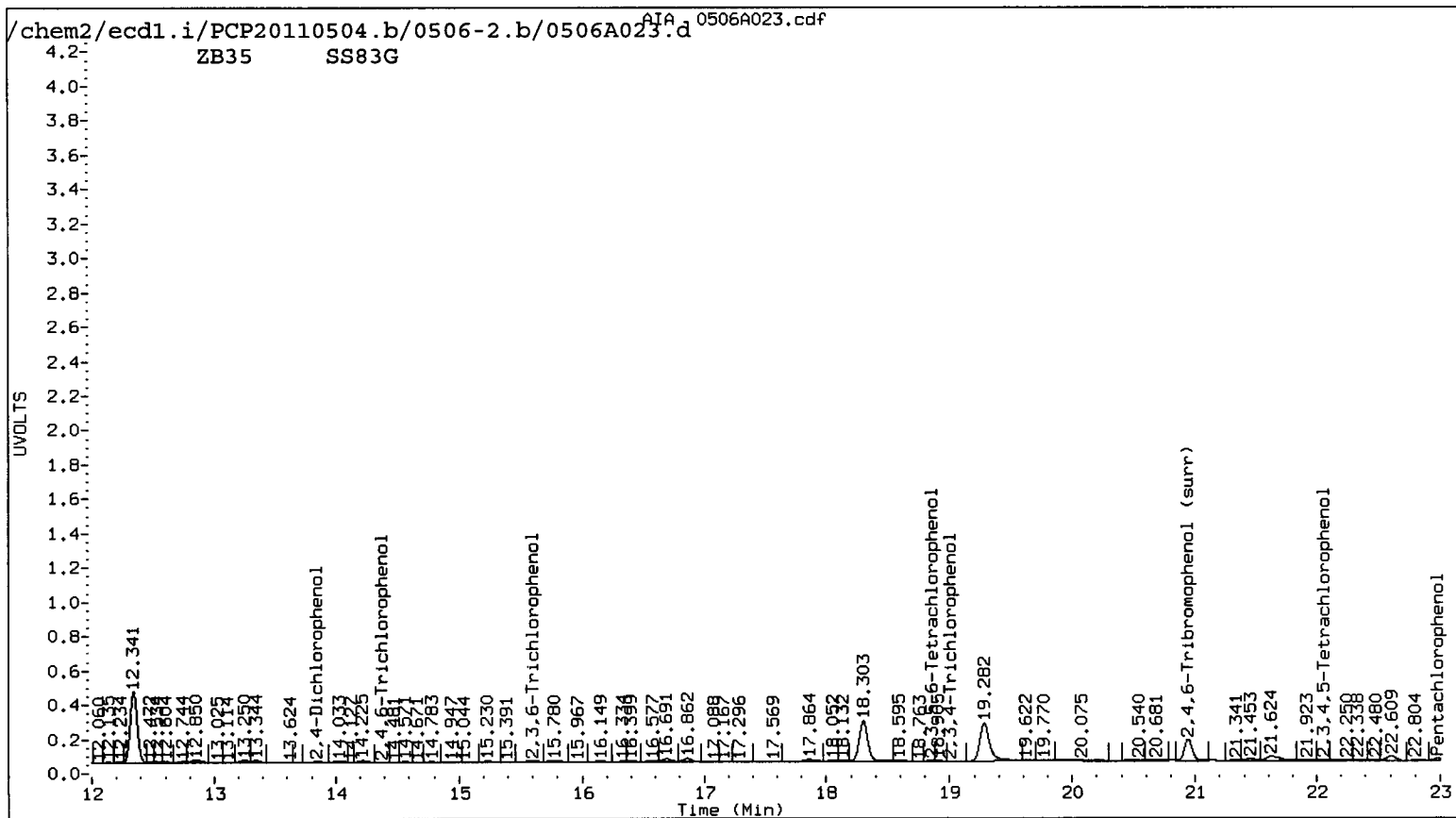
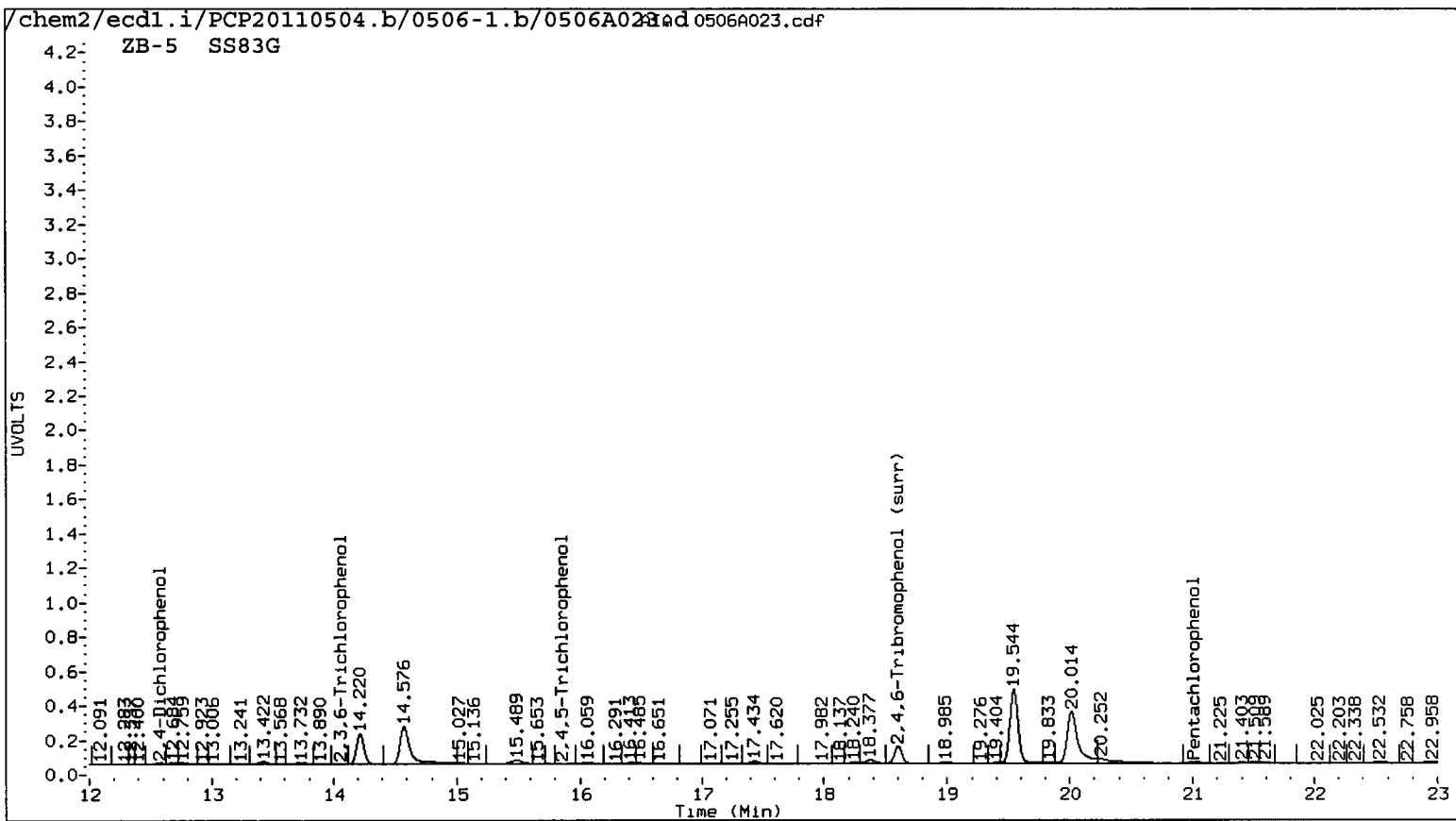
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

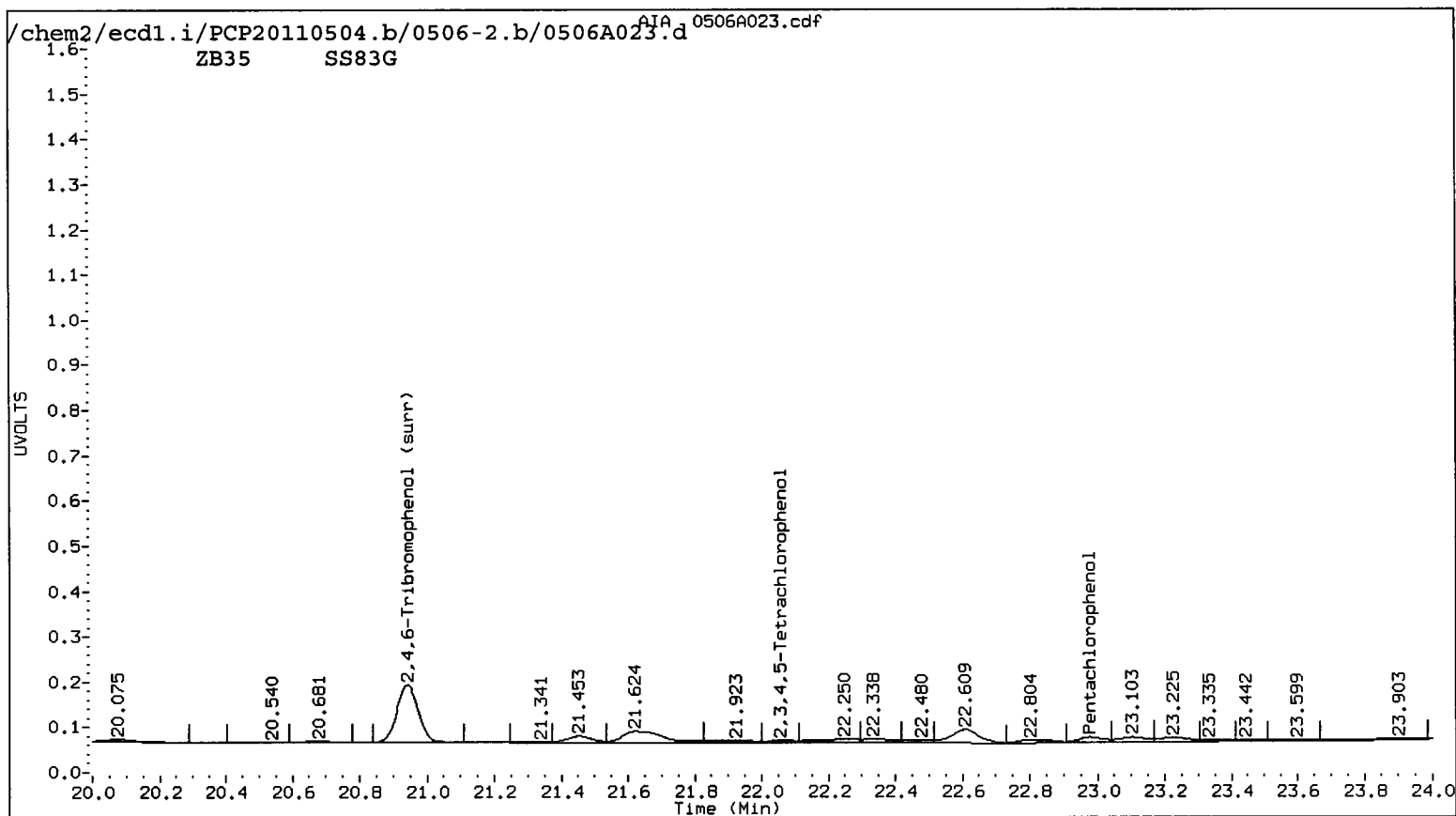
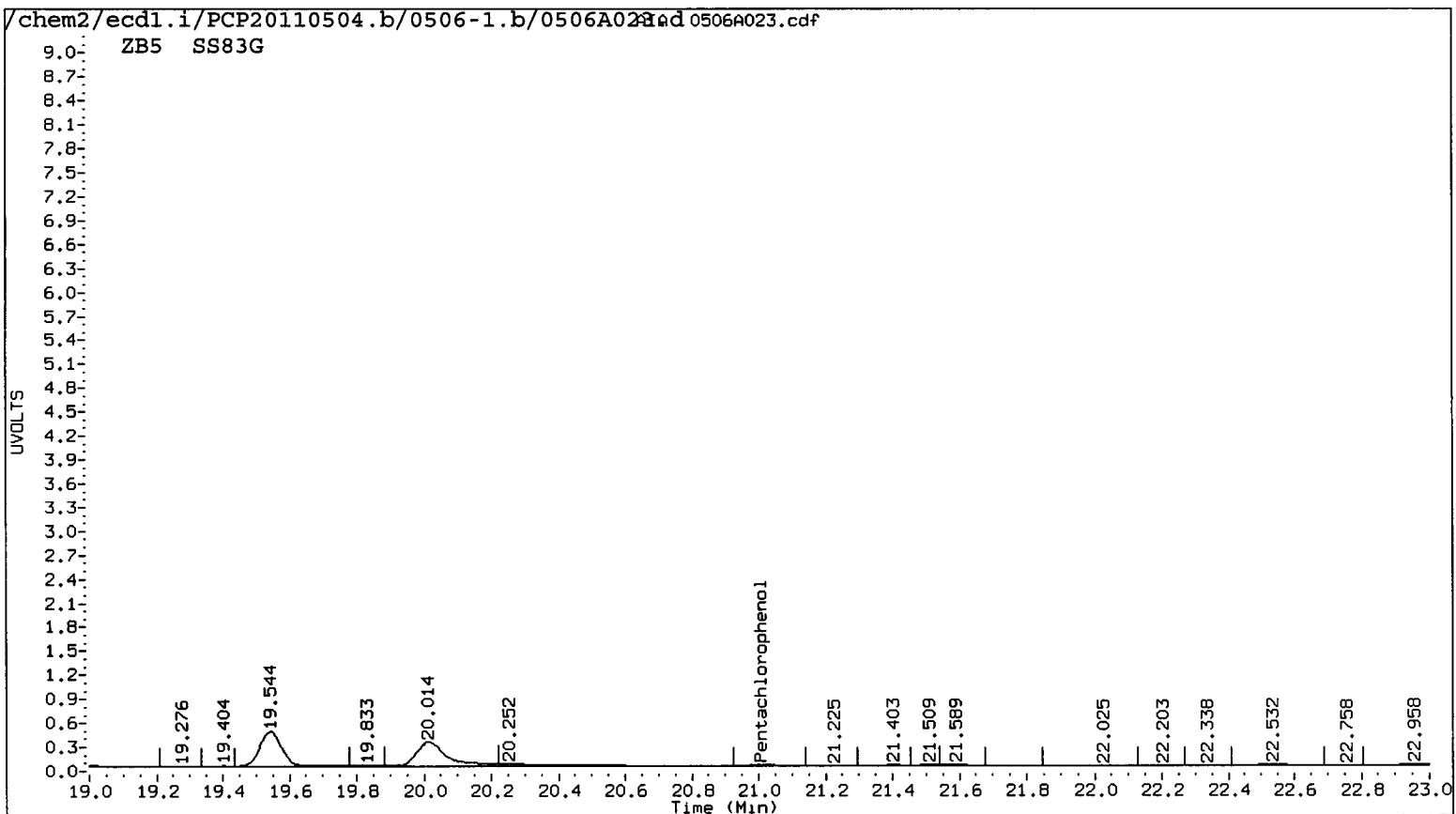
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 03:37
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.008	0.010	36795	22.978	0.011	31461	1.8262	1.1172	48.2*	Pentachlorophenol
----			14.377	0.066	4265	0.0000	0.2943	---	2,4,6-Trichlorophenol
14.063	-0.034	6920	15.594	0.037	23081	0.6043	1.6059	90.6*	2,3,6-Trichlorophenol
15.858	0.013	8181	----			1.0682	0.0000	---	2,4,5-Trichlorophenol
----			19.008	-0.015	3055	0.0000	0.2914	---	2,3,4-Trichlorophenol
----			18.861	0.047	6186	0.0000	0.2820	---	2,3,5,6-Tetrachlorophenol
----			22.057	-0.023	13972	0.0000	0.8190	---	2,3,4,5-Tetrachlorophenol
12.571	0.016	21195	13.844	0.024	6986	26.9303	7.9395	108.9*	2,4-Dichlorophenol
18.603	0.007	234638	20.943	0.007	285384	14.9	13.6	9.3	2,4,6-Tribromophenol (surr)

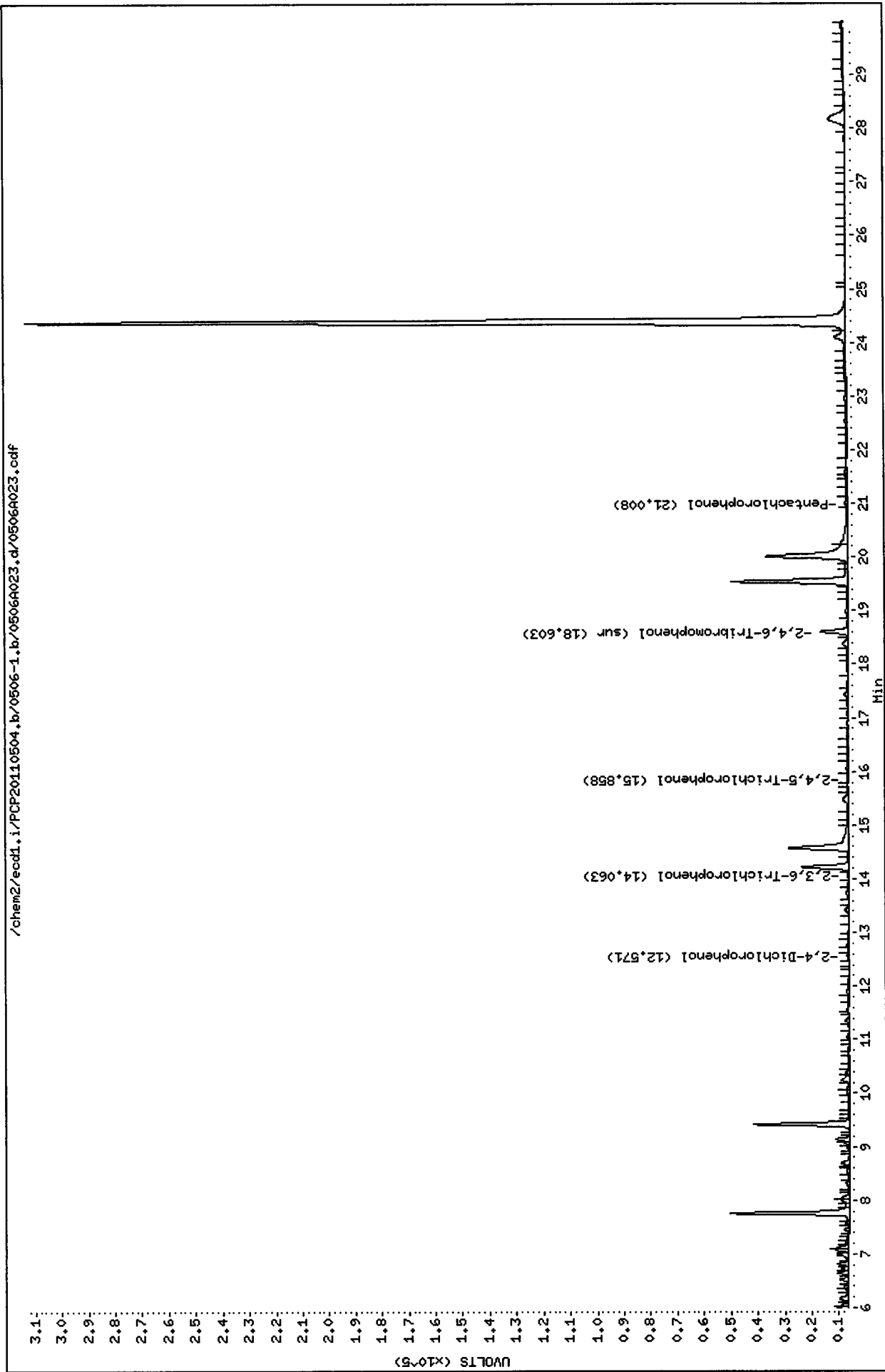
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	59.6	54.3



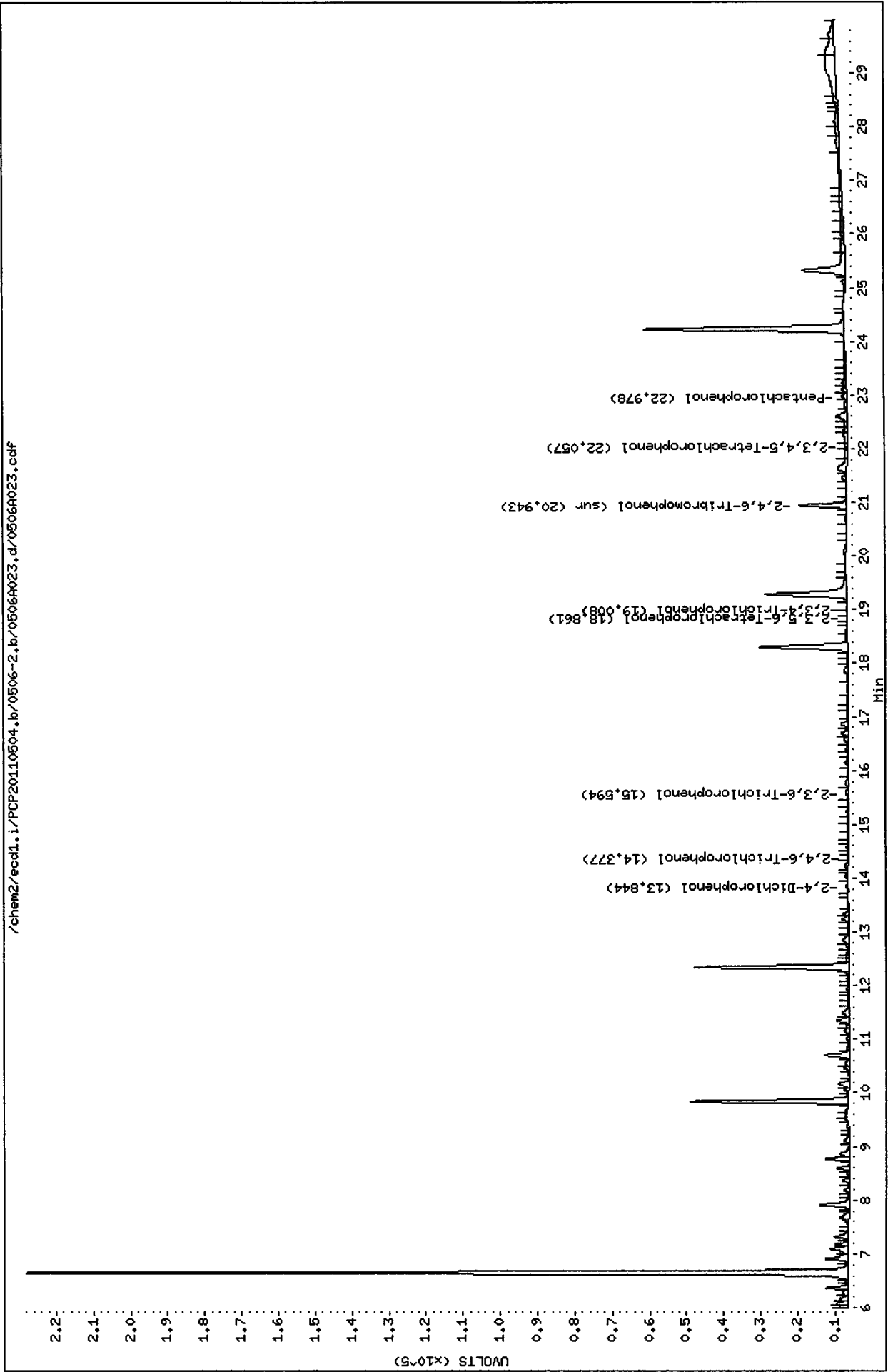


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Date : 07-MAY-2011 03:37
Client ID:
Instrument: ecdl.i
Sample Info: SS83C
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A023.d
Date : 07-MAY-2011 03:37
Client ID:
Sample Info: S883G
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



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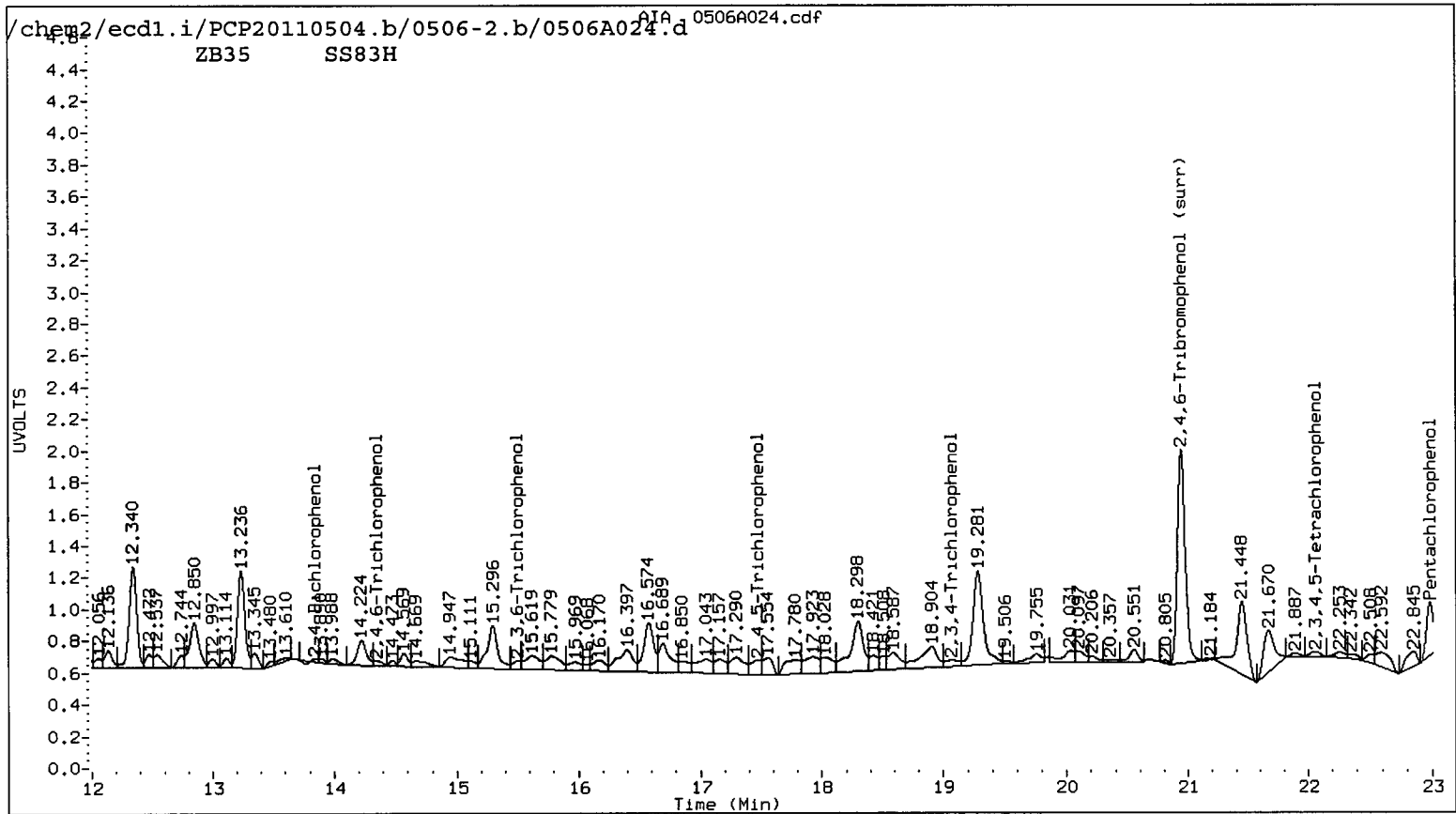
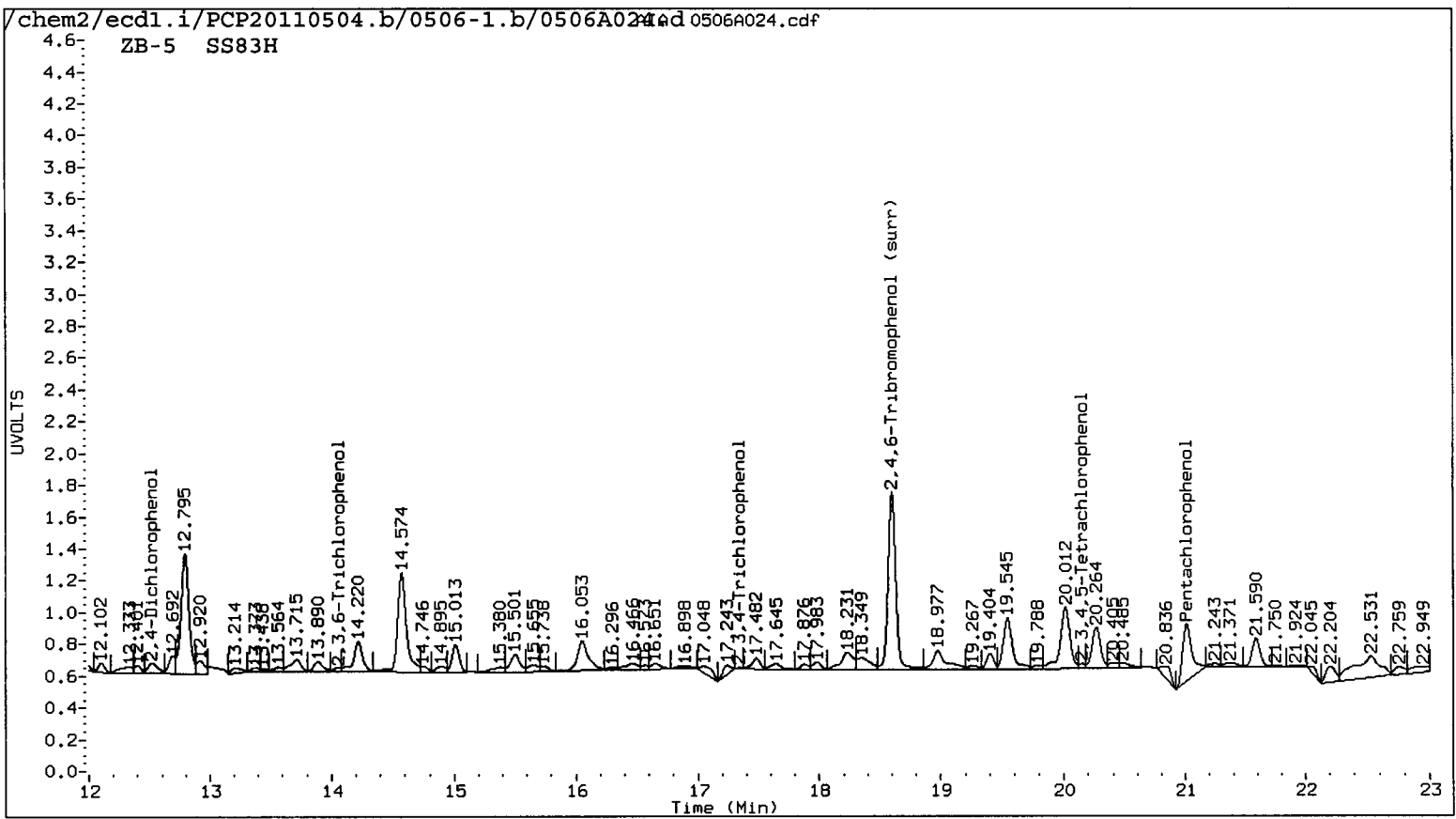
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

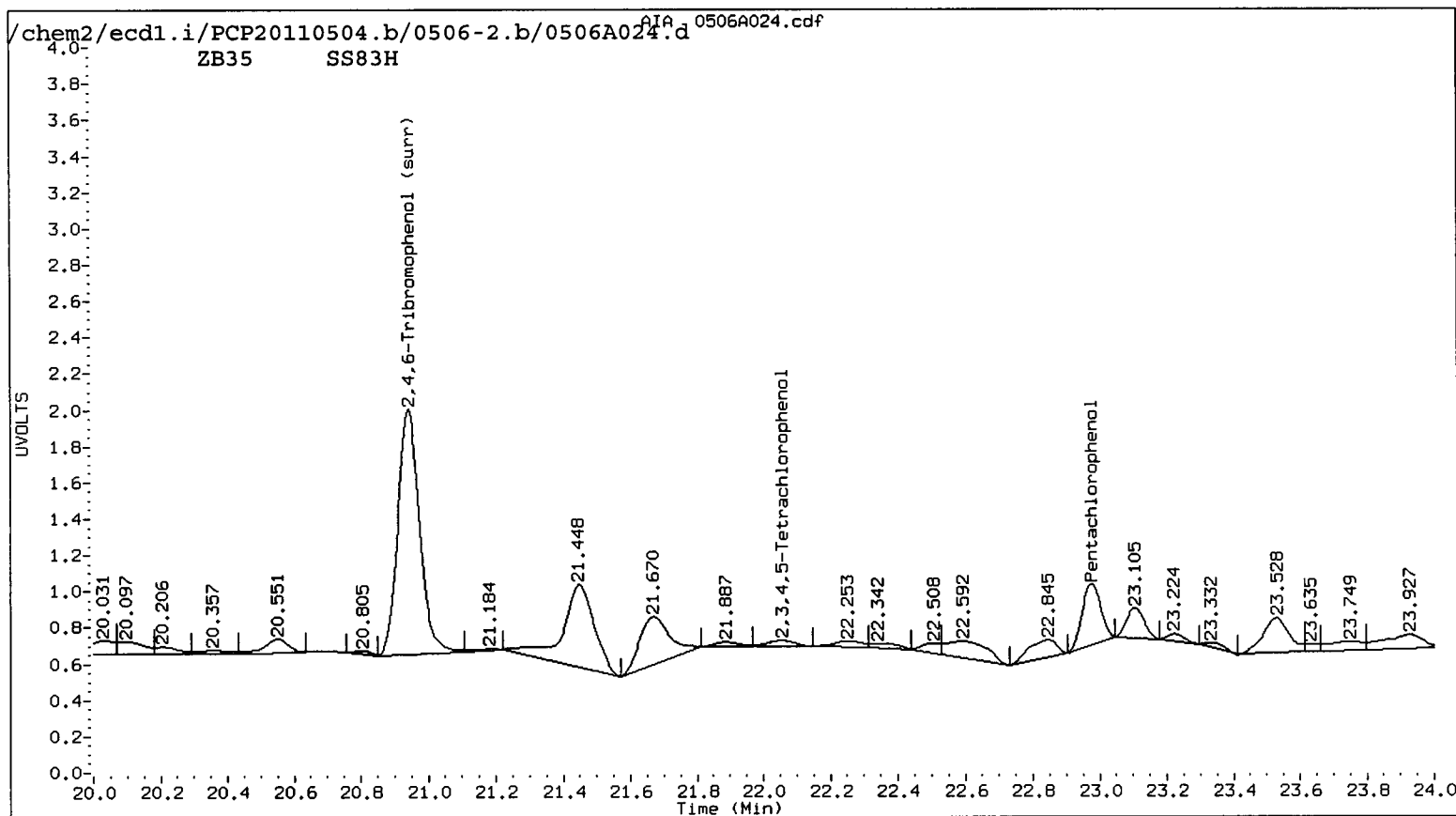
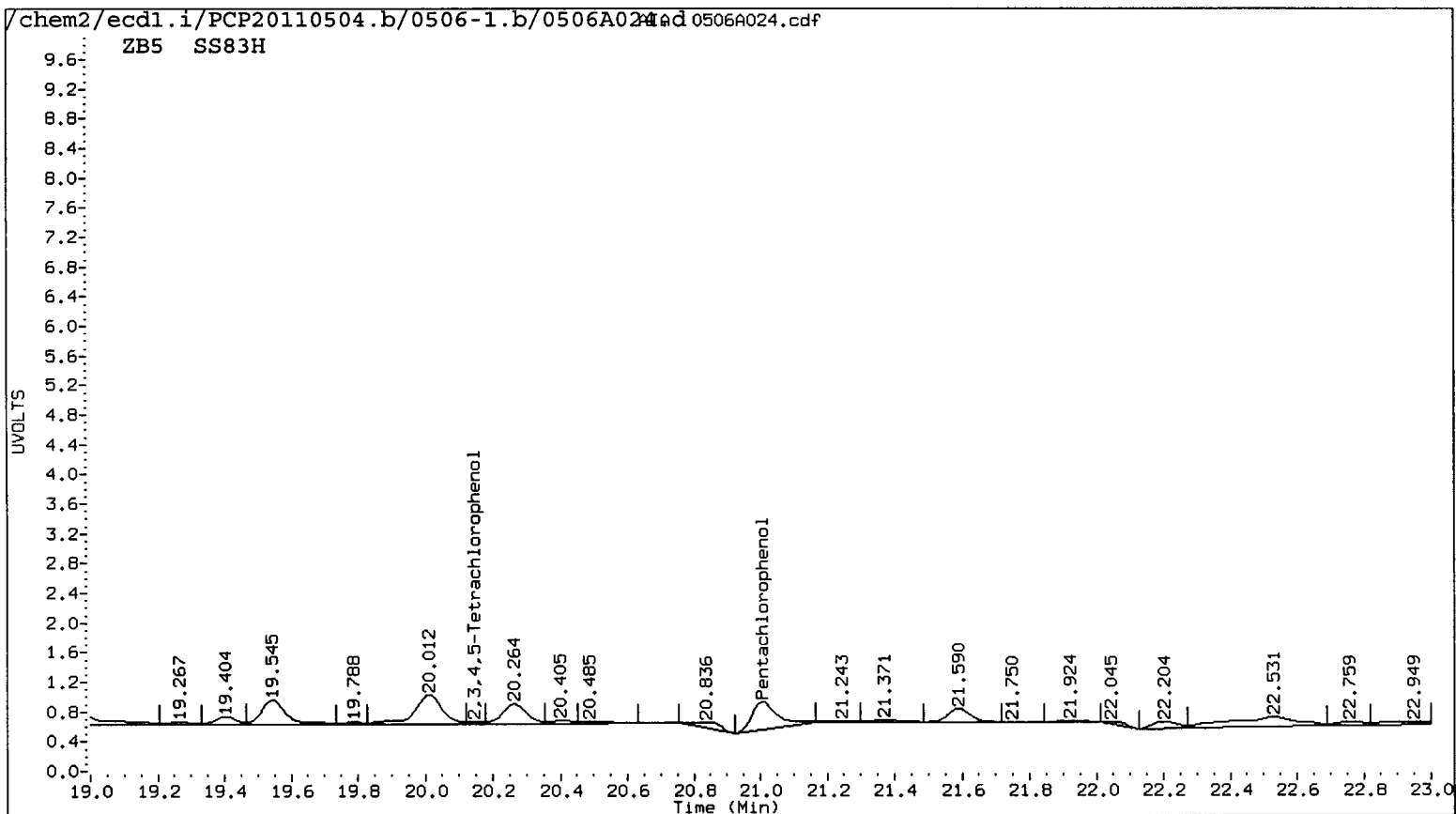
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 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 04:14
 Compound Sublist: all Report Date: 05/09/2011 16:09
 Instrument: ecdl.i Matrix: SOIL
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.008	0.011	95229	22.976	0.009	65159	4.7262	2.3138	68.5*	Pentachlorophenol
----			14.345	0.034	6003	0.0000	0.4142	---	2,4,6-Trichlorophenol
14.057	-0.040	5571	15.501	-0.056	11973	0.4864	0.8331	52.5*	2,3,6-Trichlorophenol
----			17.470	-0.004	26917	0.0000	3.3250	---	2,4,5-Trichlorophenol
17.343	-0.008	1013	19.065	0.042	14749	0.1212	1.4173	168.5*	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
20.147	-0.008	5537	22.056	-0.024	10433	0.4265	0.6109	35.5	2,3,4,5-Tetrachlorophenol
12.520	-0.035	17970	13.844	0.024	1136	22.7296	1.2803	178.7*	2,4-Dichlorophenol
18.601	0.005	252225	20.942	0.006	302964	16.0	14.4	10.6	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	64.1	57.6





Data File: /chem2/ecdl1.i/PCP20110504.b/0506-2.b/0506A024.d

Date : 07-MAY-2011 04:14

Client ID: DMA-TP4-0-1.5-04201

Sample Info: S883H

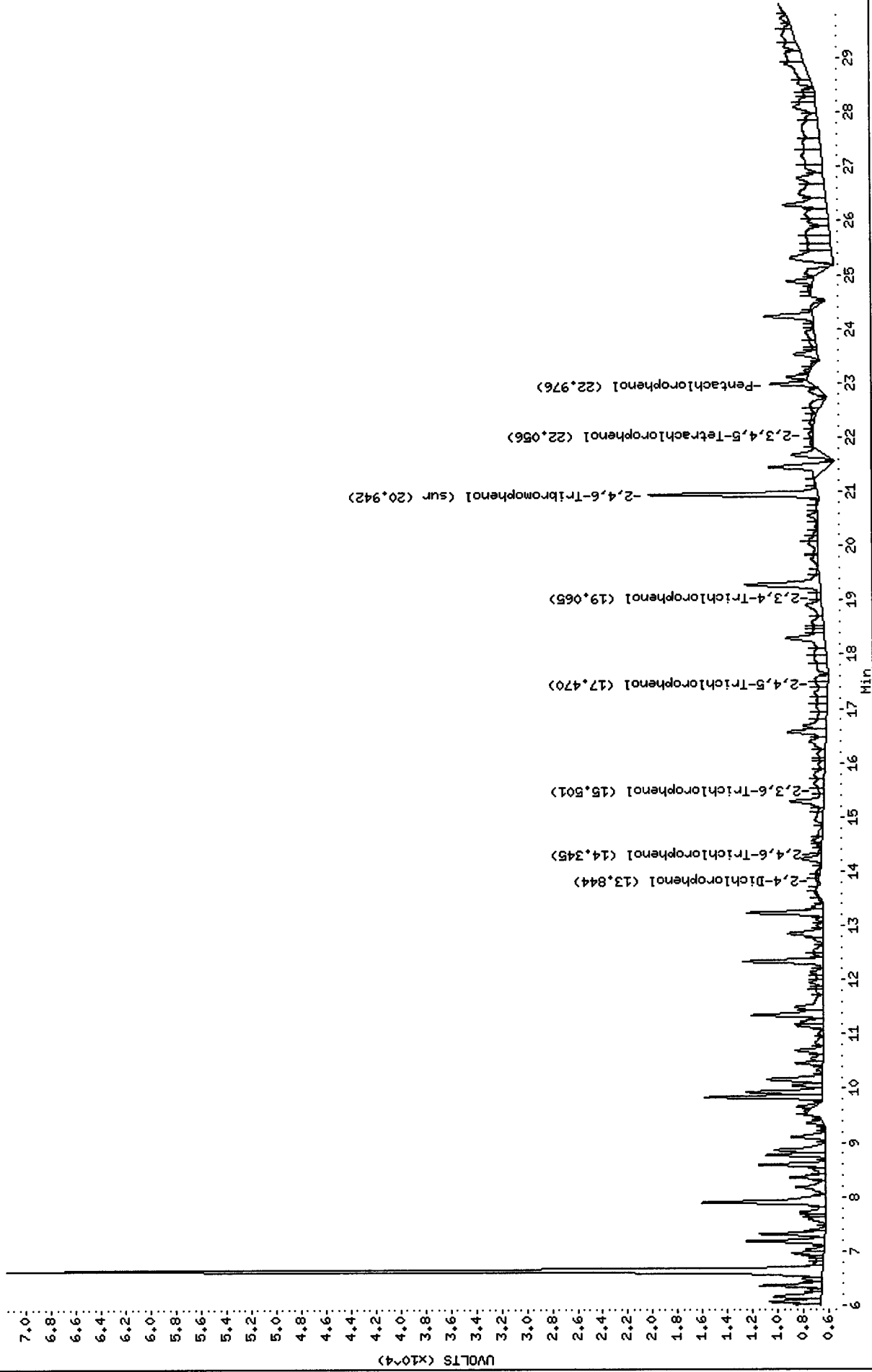
Instrument: ecdl1.i

Operator: ar

Column diameter: 0.53

Column phase: STX CLP2

/chem2/ecdl1.i/PCP20110504.b/0506-2.b/0506A024.d/0506A024.cdf



Data File: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A024.d

Date : 07-MAY-2011 04:14

Client ID: DMA-TP4-0-1.5-04201

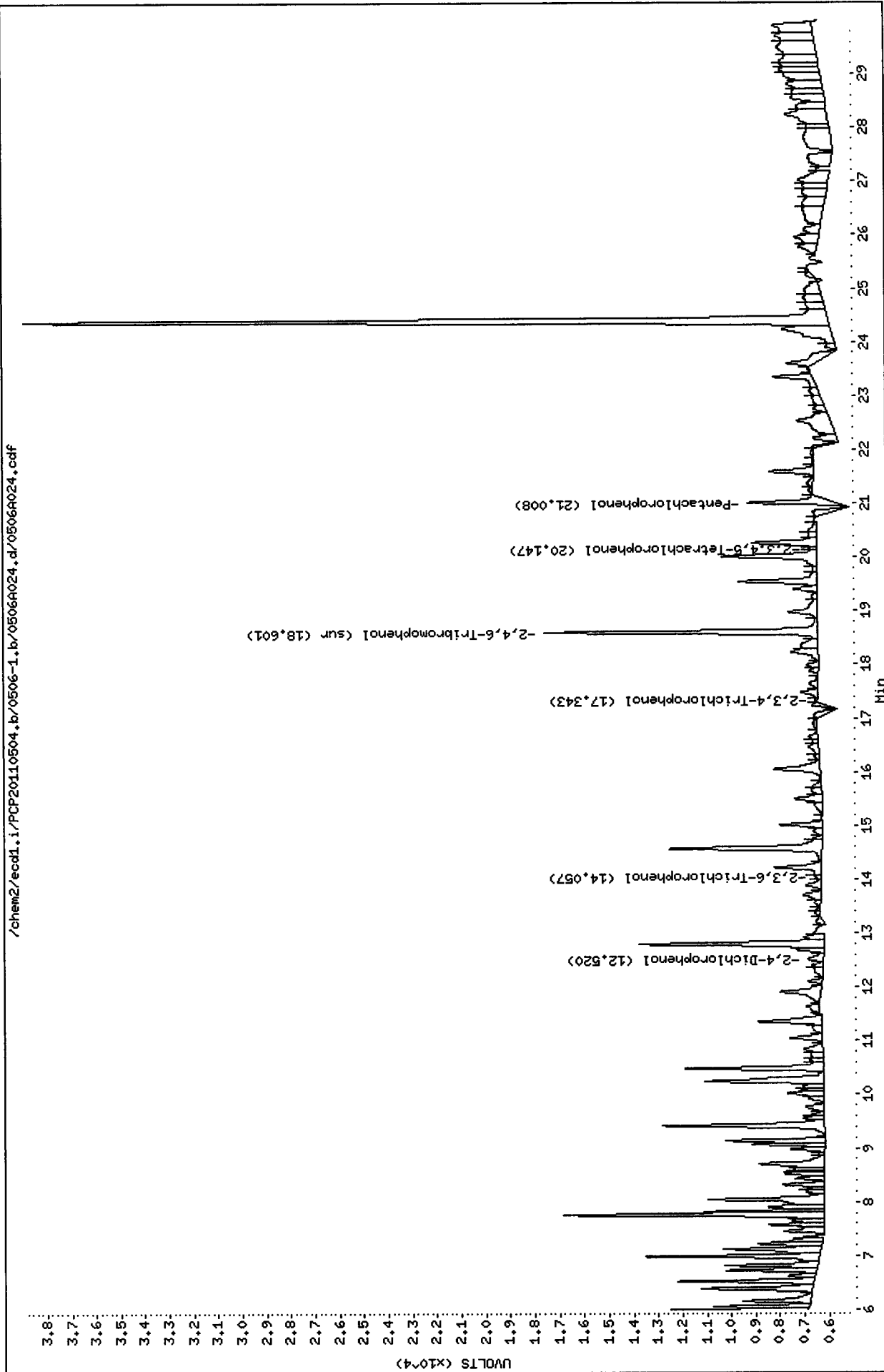
Sample Info: SS83H

Instrument: ecdl.i

Operator: ar

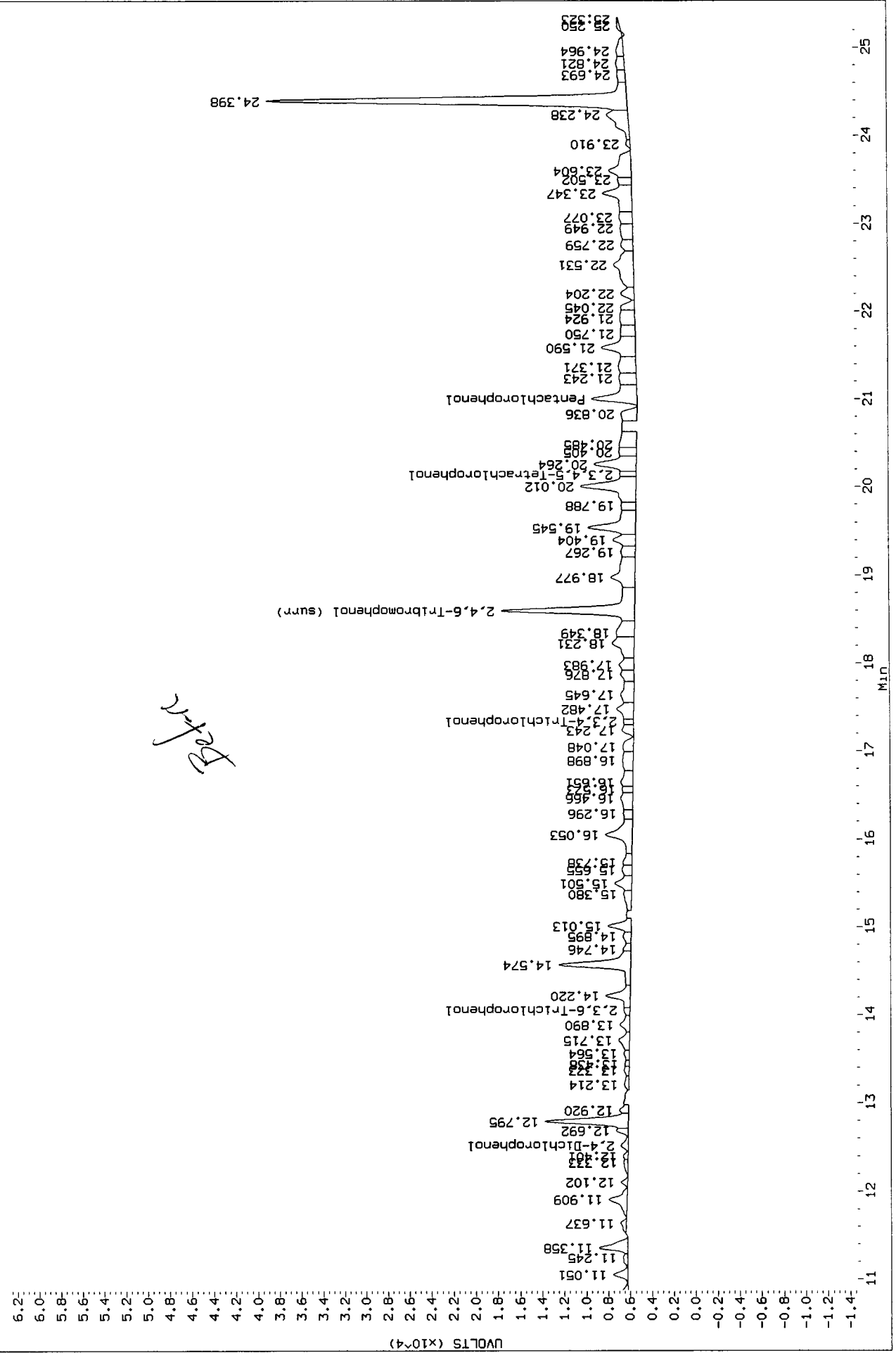
Column diameter: 0.53

Column phase: STX CLP1



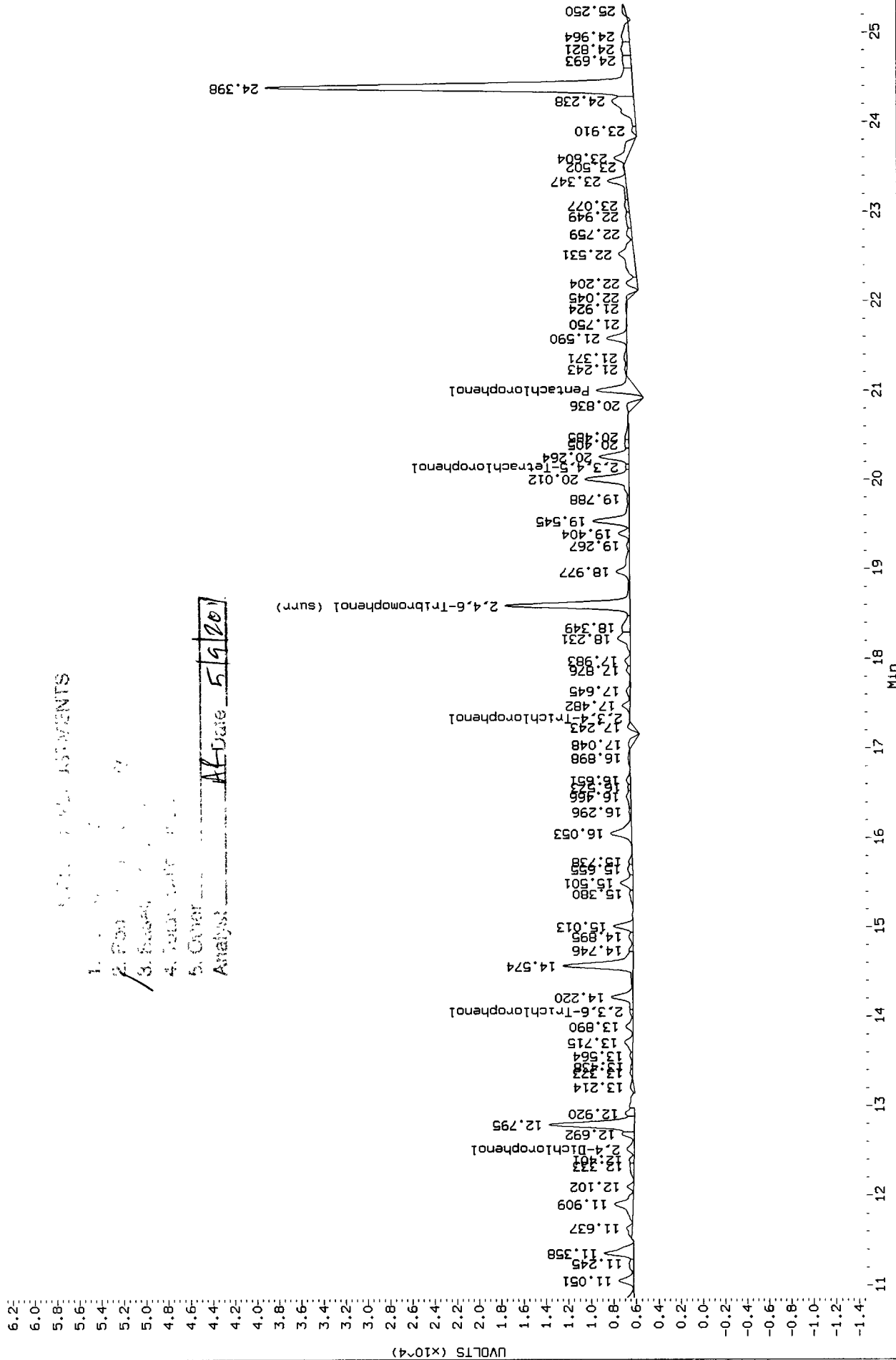
Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A024.d/0506A024.cdf
 Injection Date: 07-MAY-2011 04:14
 Instrument: ecdl1
 Client Sample ID:

AIA 0506A024.cdf: 10.882 to 25.343 Min



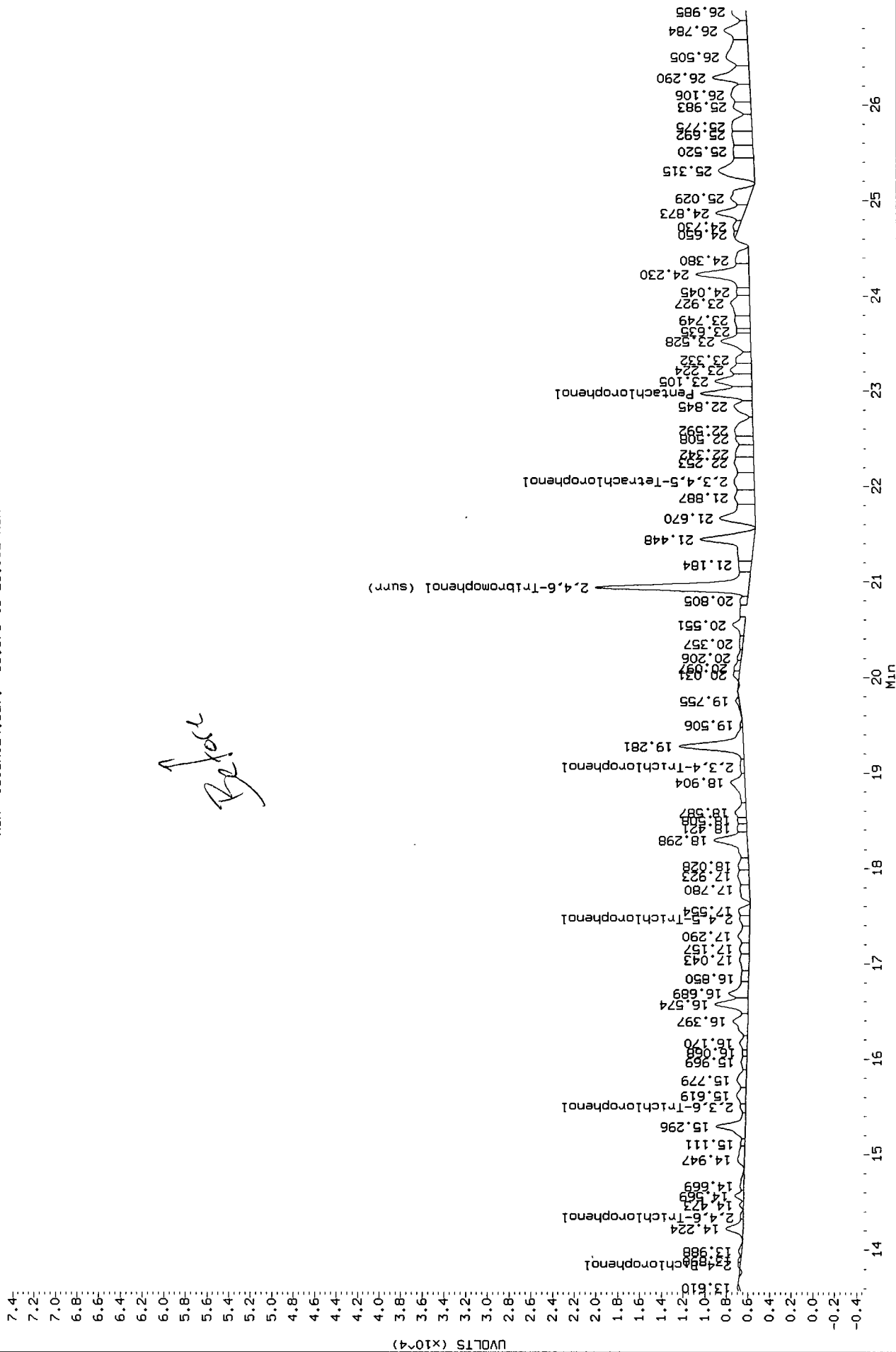
Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A024.d/0506A024.cdf
 Injection Date: 07-MAY-2011 04:14
 Instrument: ecdl.1
 Client Sample ID:

AIA 0506A024.cdf: 10.866 to 25.317 Min



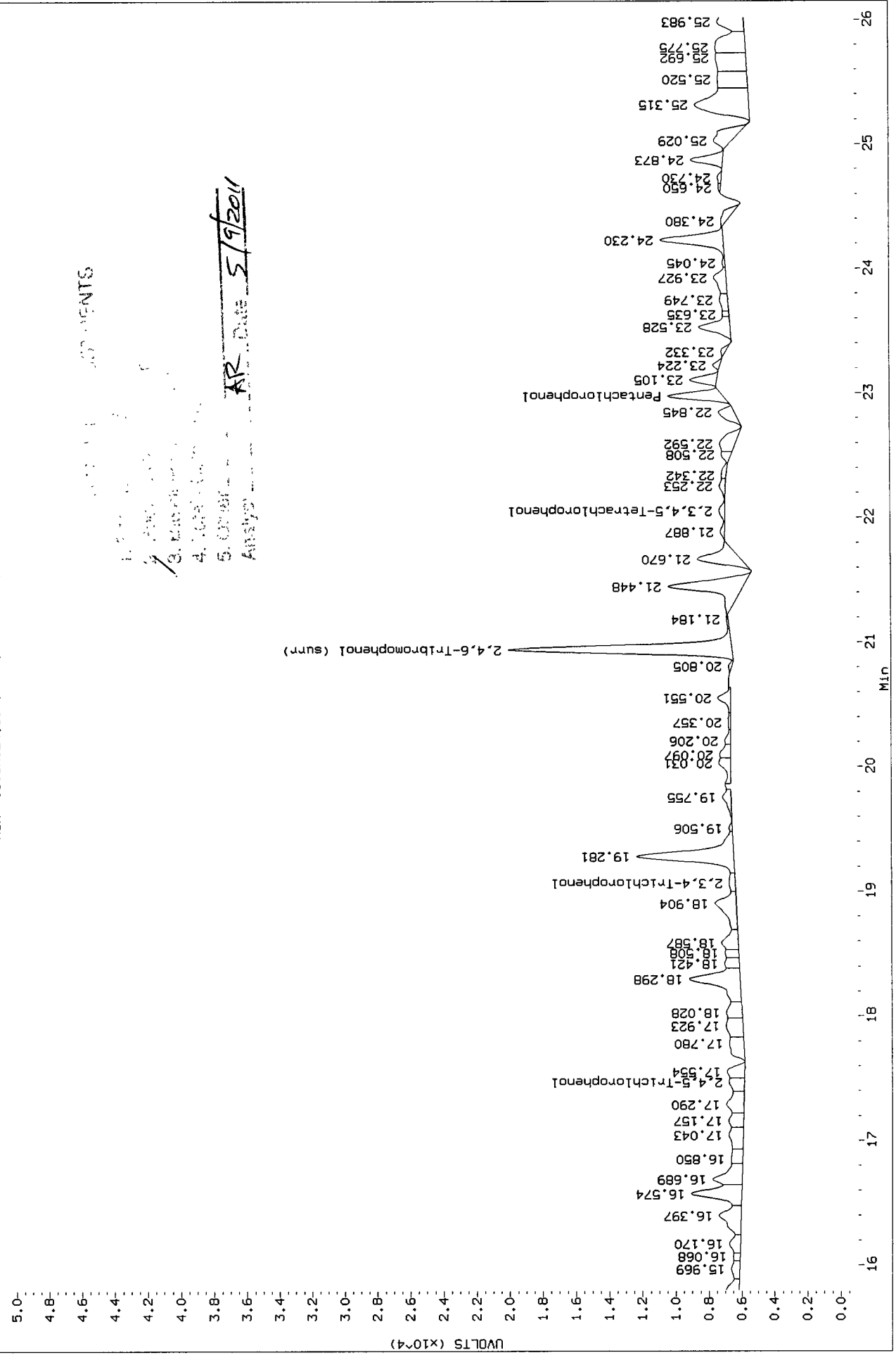
Data File: /chem2/ecdi.i/PCP20110504.b/0506-2.b/0506A024.d/0506A024.cdf
Injection Date: 07-MAY-2011 04:14
Instrument: ecdi.1
Client Sample ID:

AIA 0506A024.cdf: 13.575 to 26.992 Min



Data File: /chem2/ecd1.1/PCP20110504.b/0506-2.b/0506A024.d/0506A024.cdf
Injection Date: 07-MAY-2011 04:14
Instrument: ecd1.1
Client Sample ID: DMA-TP4-0-1.5-04201

AIA 0506A024.cdf: 15.802 to 26.016 Min



COMMENTS

1. [unclear]
 2. [unclear]
 3. [unclear]
 4. [unclear]
 5. [unclear]
 Analyzed: AR Date 5/9/2011

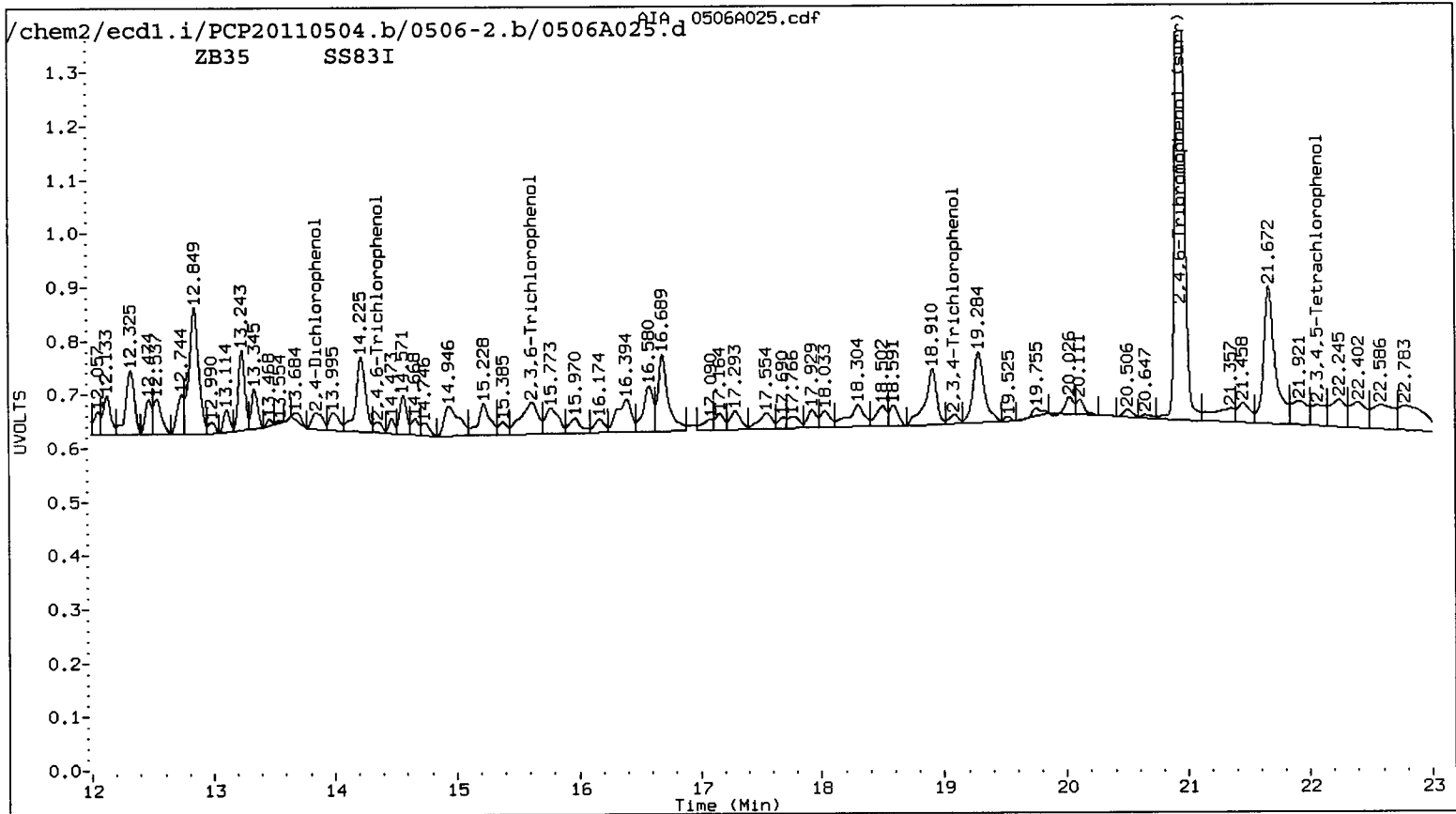
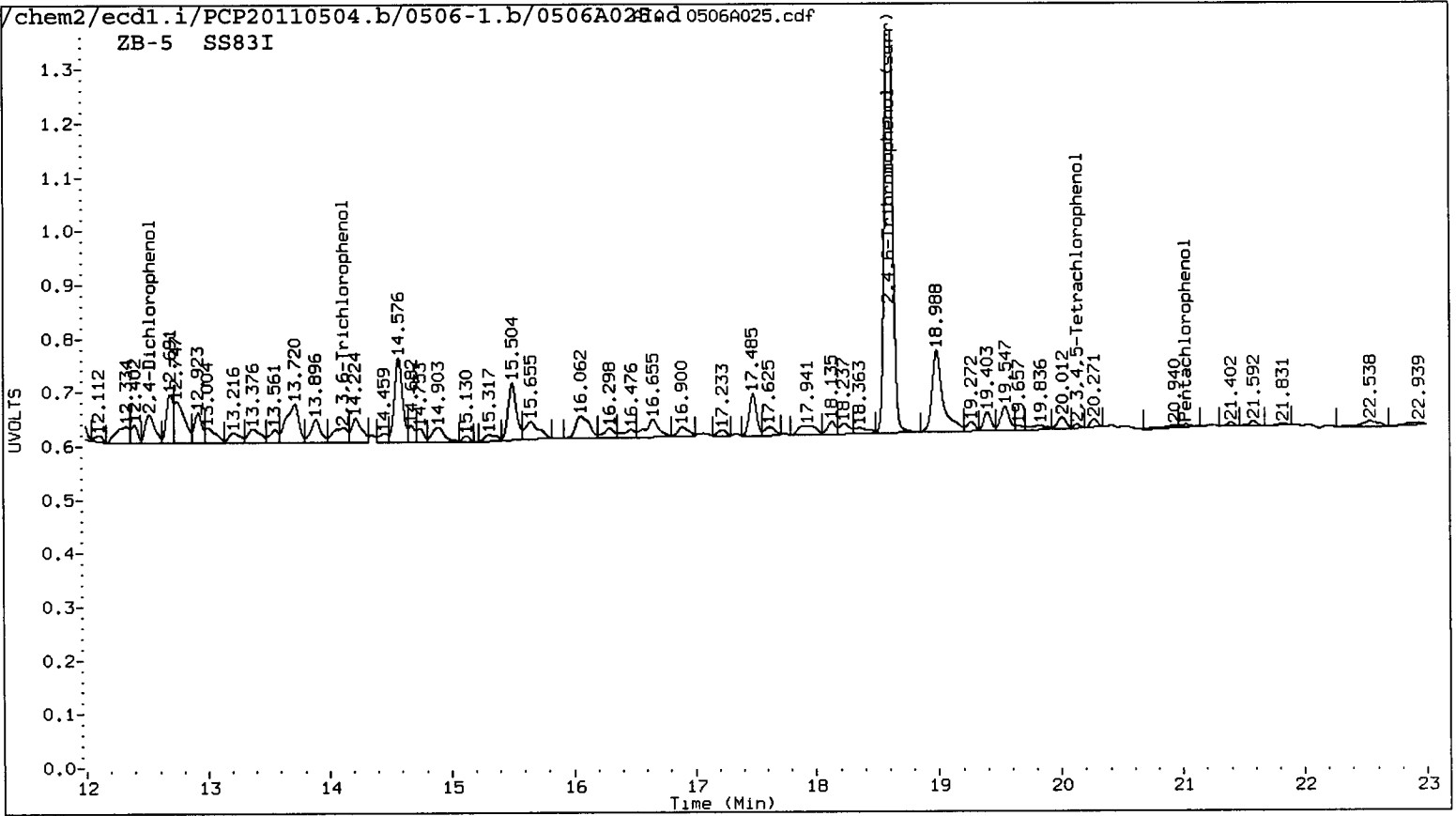
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

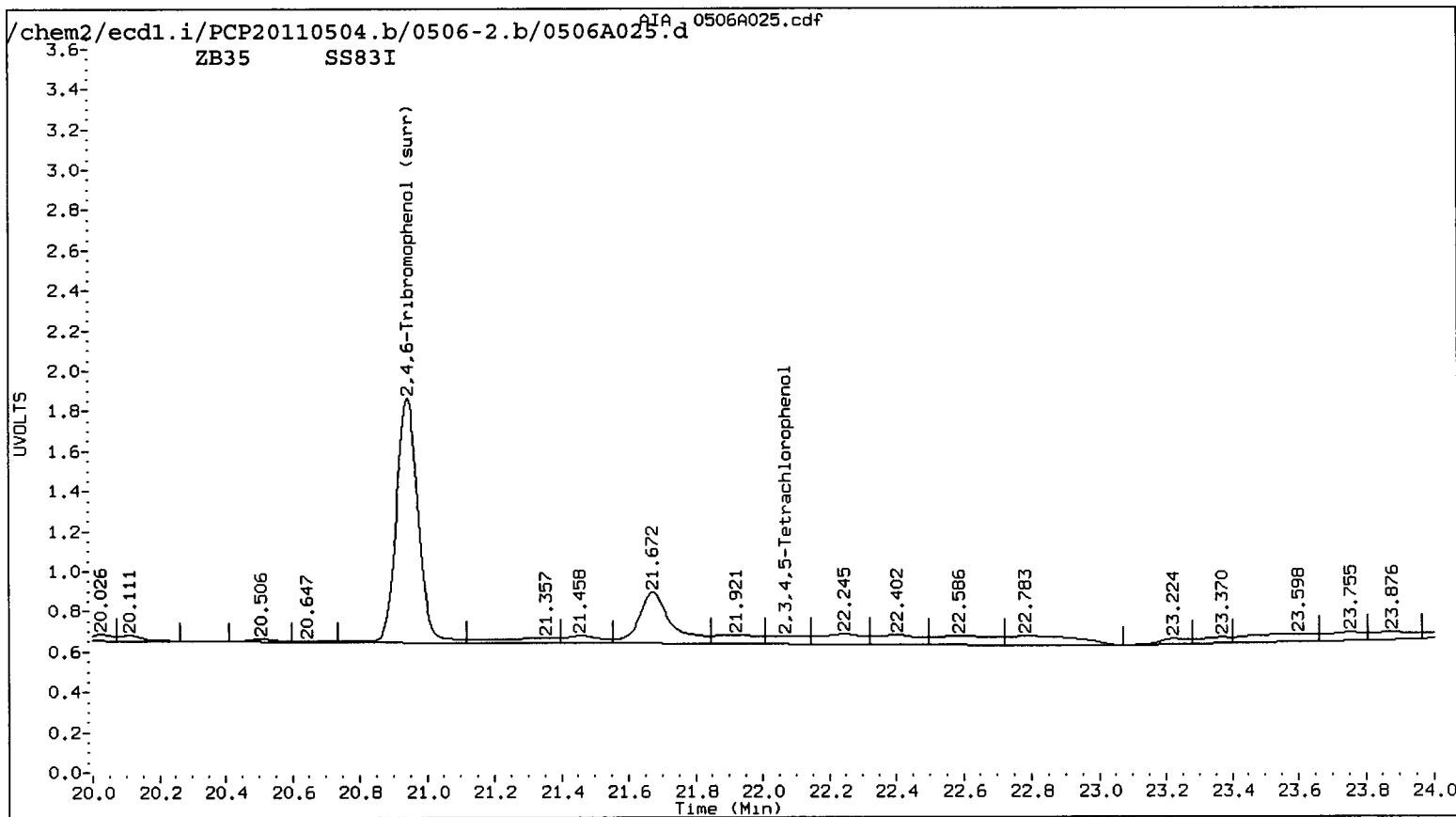
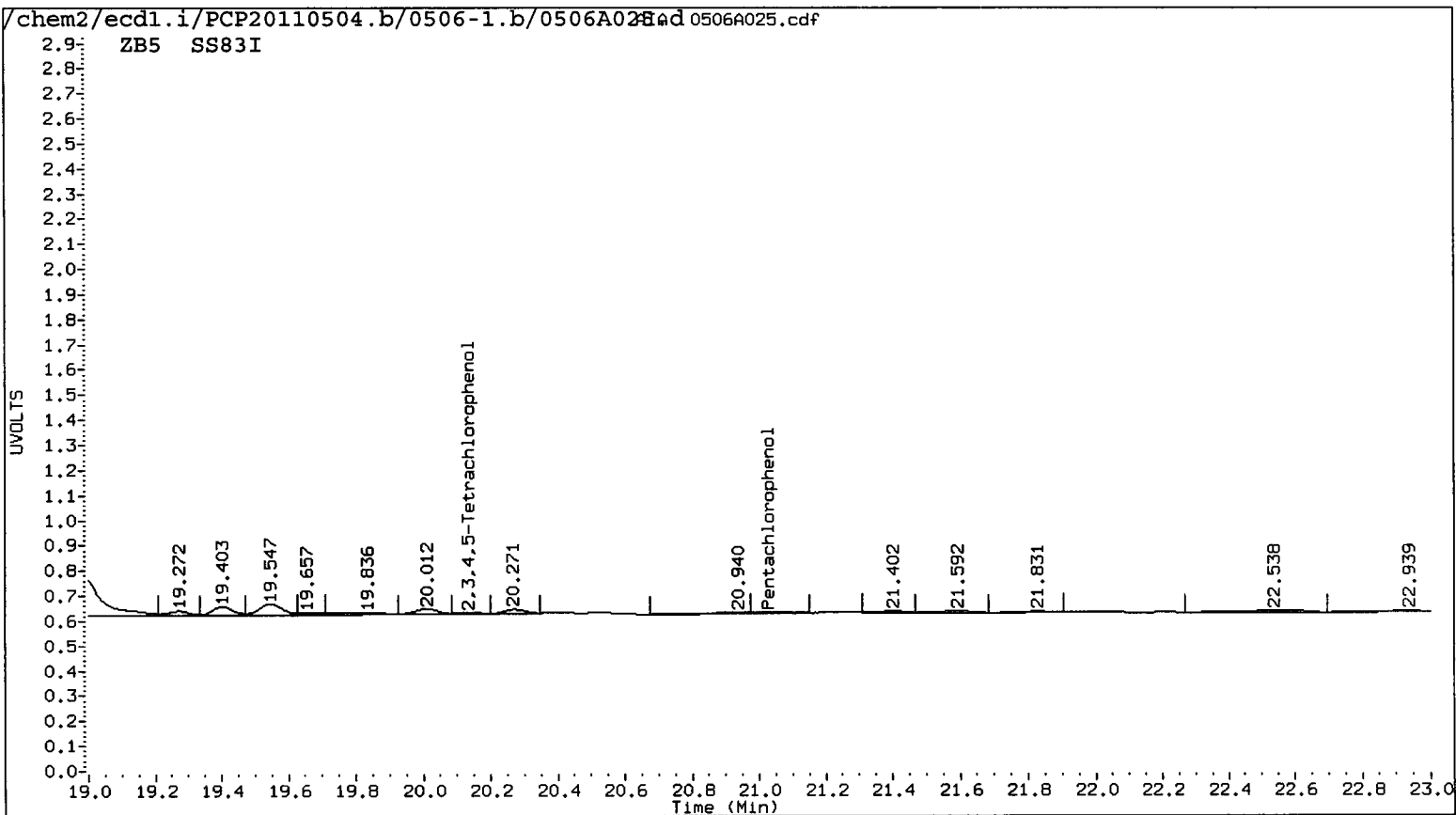
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A025.d ARI ID: SS83I
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A025.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 04:50
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.031	0.034	1558	----			0.0774	0.0000	---	Pentachlorophenol
----			14.360	0.049	4547	0.0000	0.3137	---	2,4,6-Trichlorophenol
14.122	0.025	10975	15.618	0.061	29036	0.9584	2.0201	71.3*	2,3,6-Trichlorophenol
----			----			0.0000	0.0000	---	2,4,5-Trichlorophenol
----			19.089	0.066	4623	0.0000	0.4414	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
20.134	-0.021	1646	22.066	-0.014	15208	0.1268	0.8918	150.2*	2,3,4,5-Tetrachlorophenol
12.523	-0.032	13978	13.851	0.031	9495	17.5819	10.8327	47.5*	2,4-Dichlorophenol
18.603	0.007	205999	20.943	0.007	273019	13.1	13.0	0.8	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

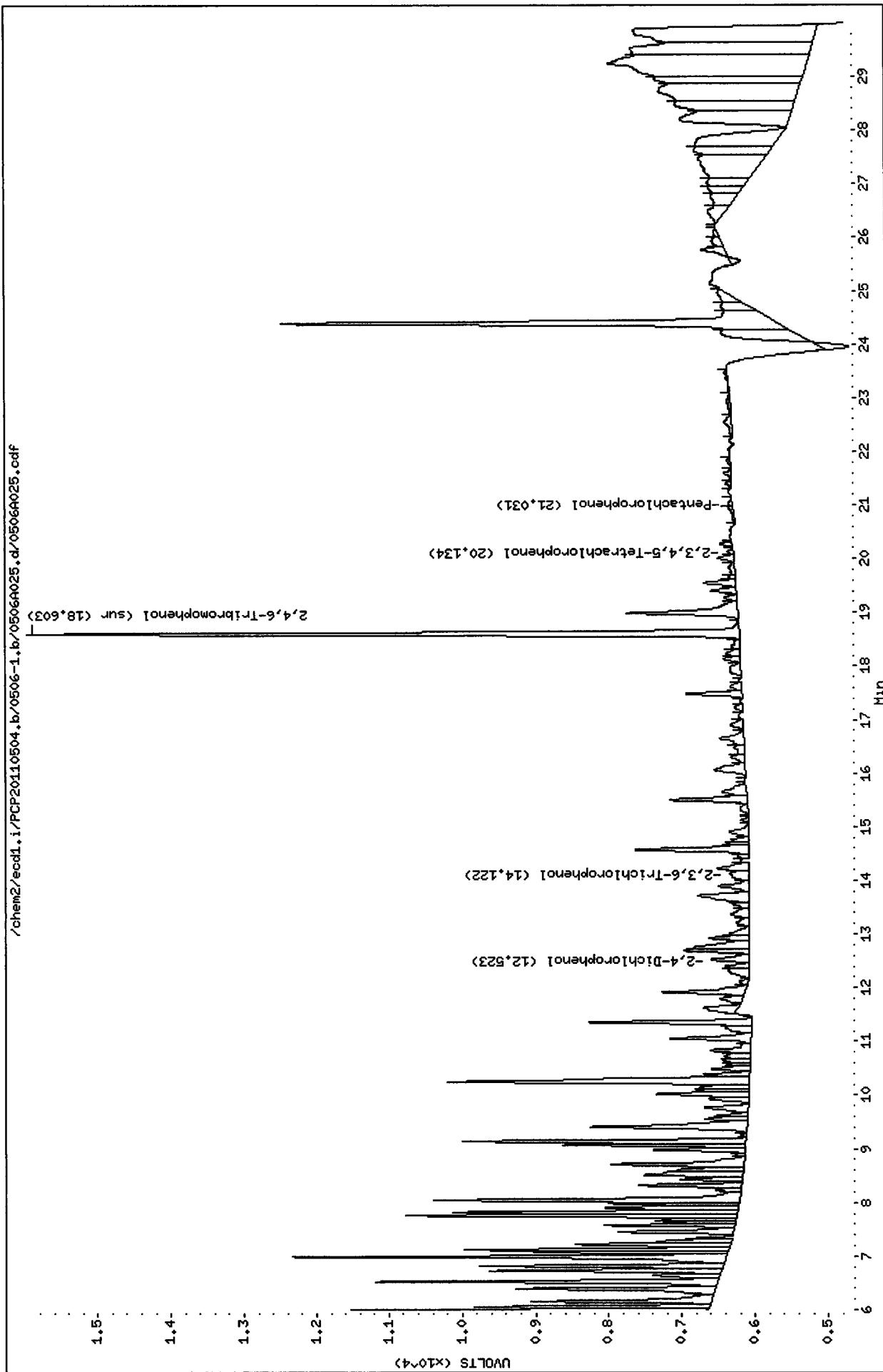
COMPOUND	Col1	Col2
2,4,6-TBP (surr)	52.3	51.9





Data File: /chem2/ecd1.i/PCP20110504.b/0506-1.b/0506A025.d
Date : 07-MAY-2011 04:50
Client ID:
Sample Info: S8831
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecd1.i
Operator: ar
Column diameter: 0.53



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A025.d

Date : 07-MAY-2011 04:50

Client ID:

Instrument: ecd1.i

Sample Info: S8831

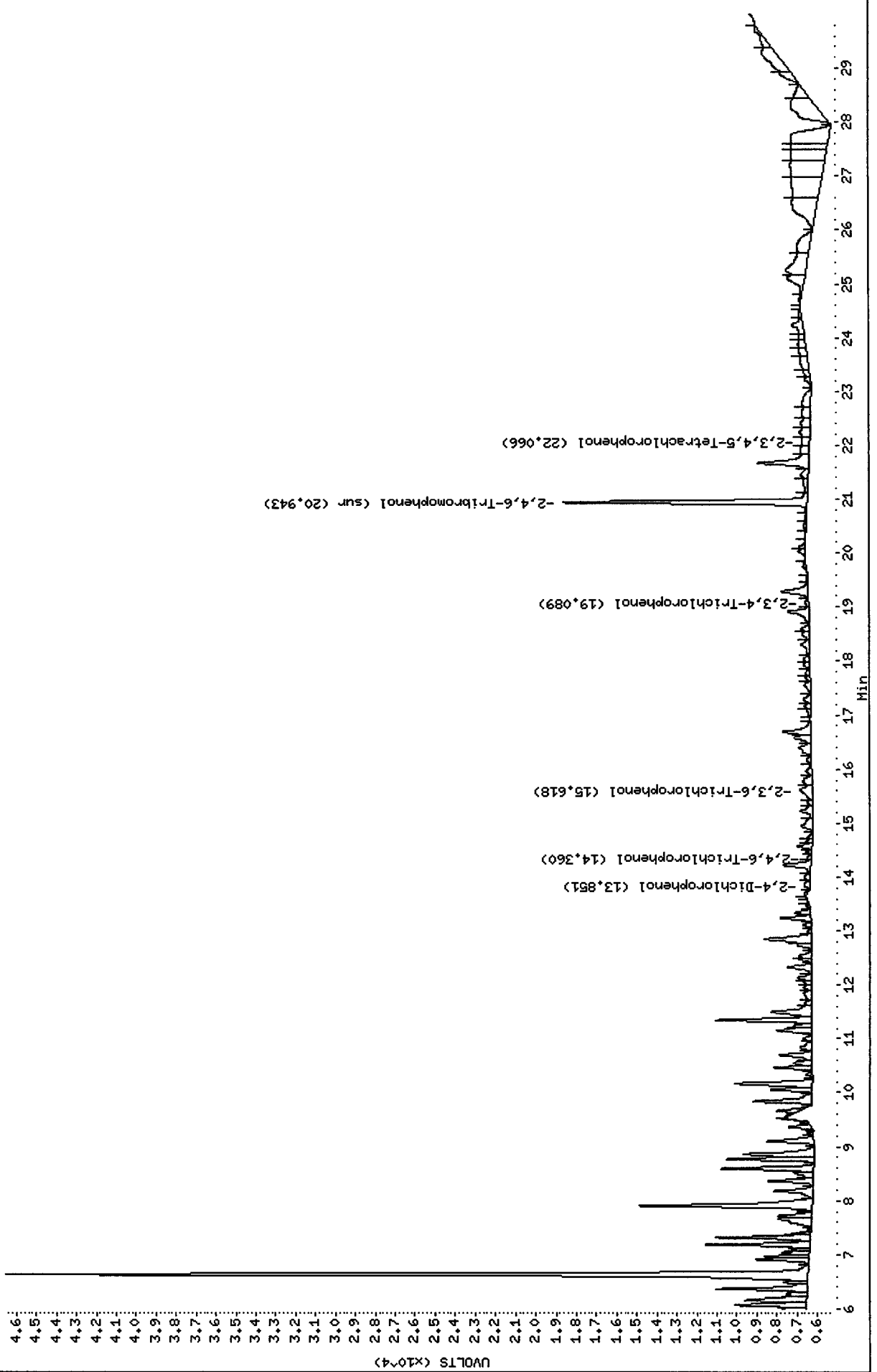
Purge Volume: 500.0

Operator: ar

Column phase: STX CLP2

Column diameter: 0.53

/chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A025.d/0506A025.cdf



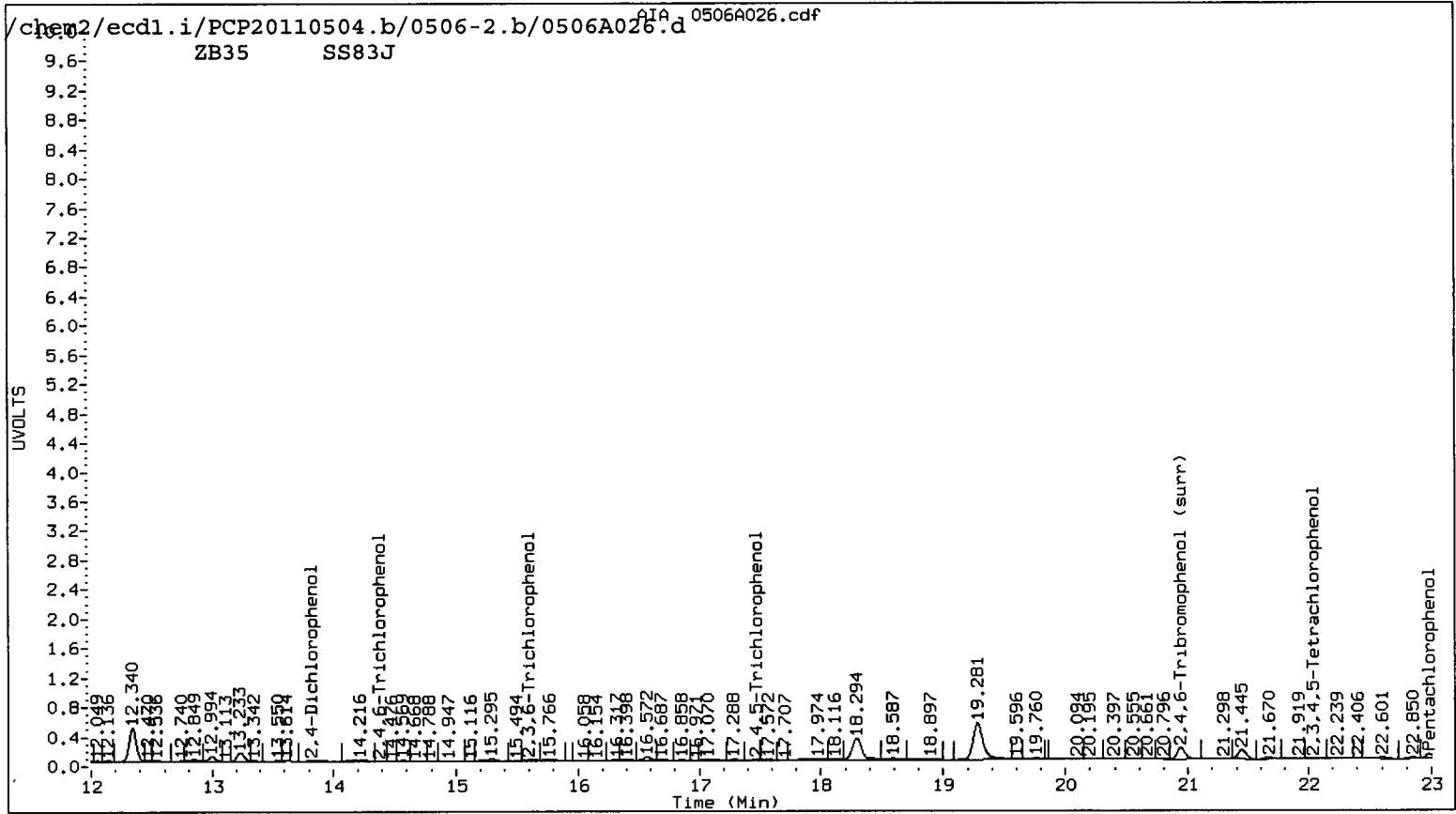
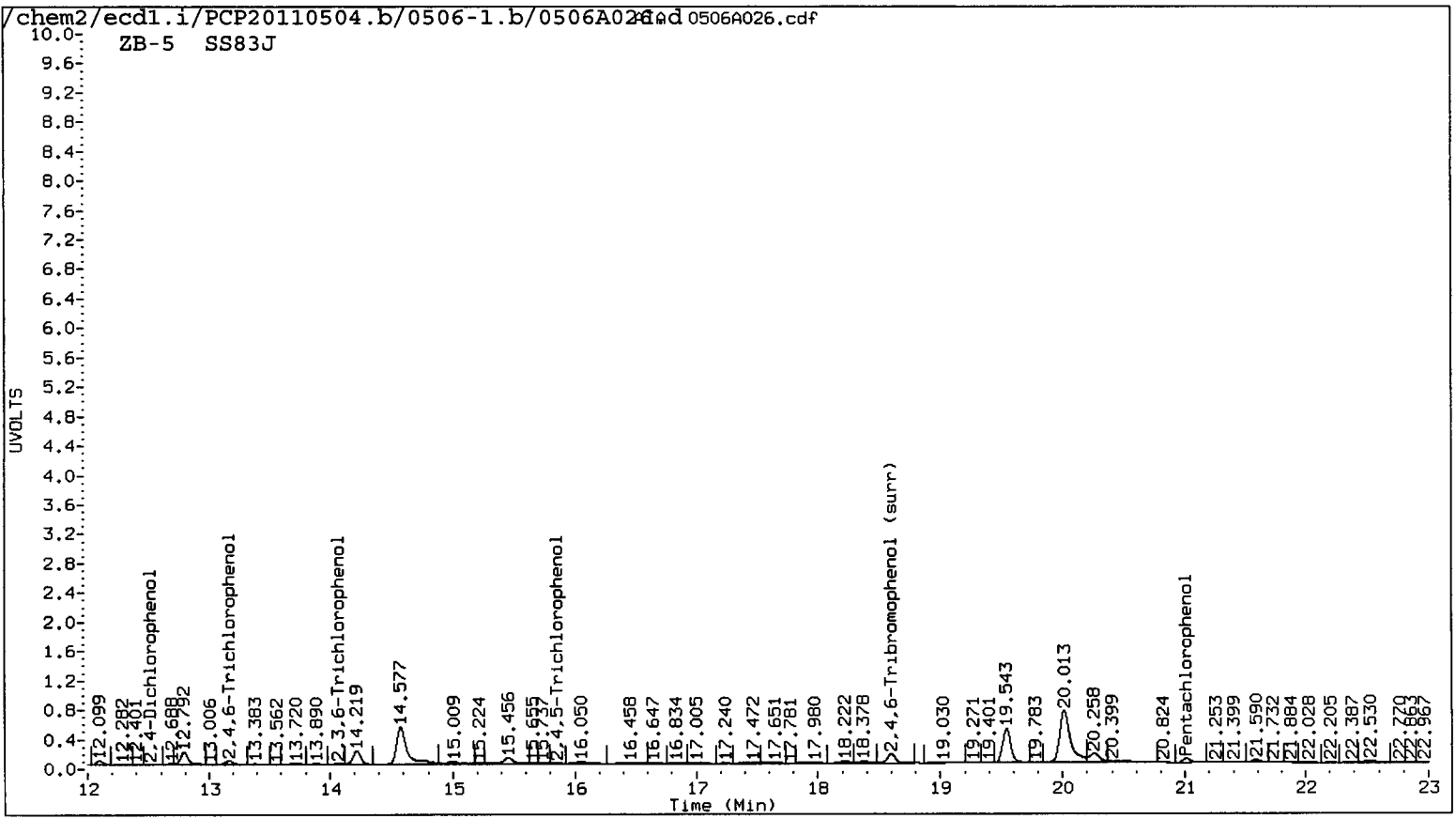
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

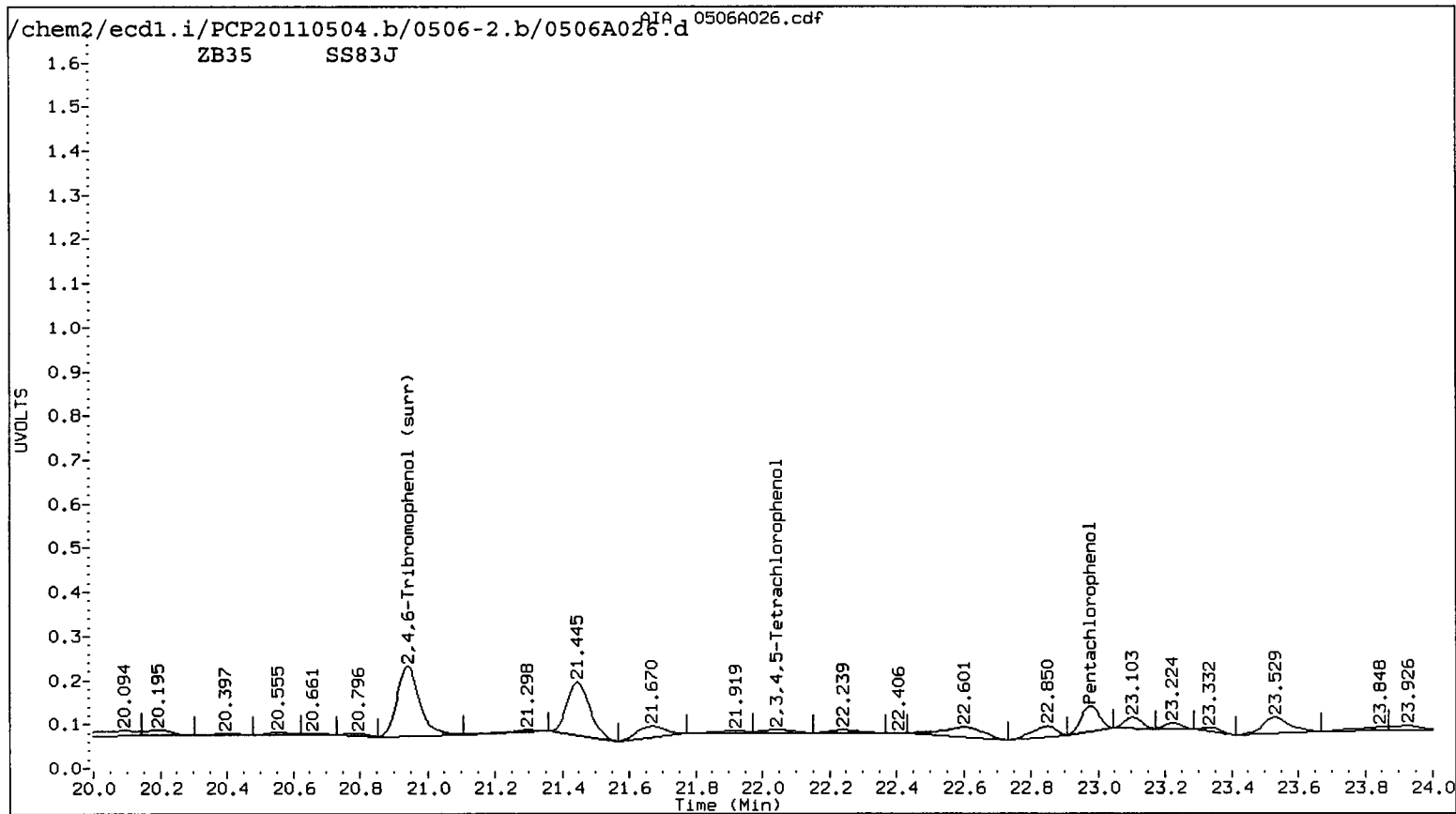
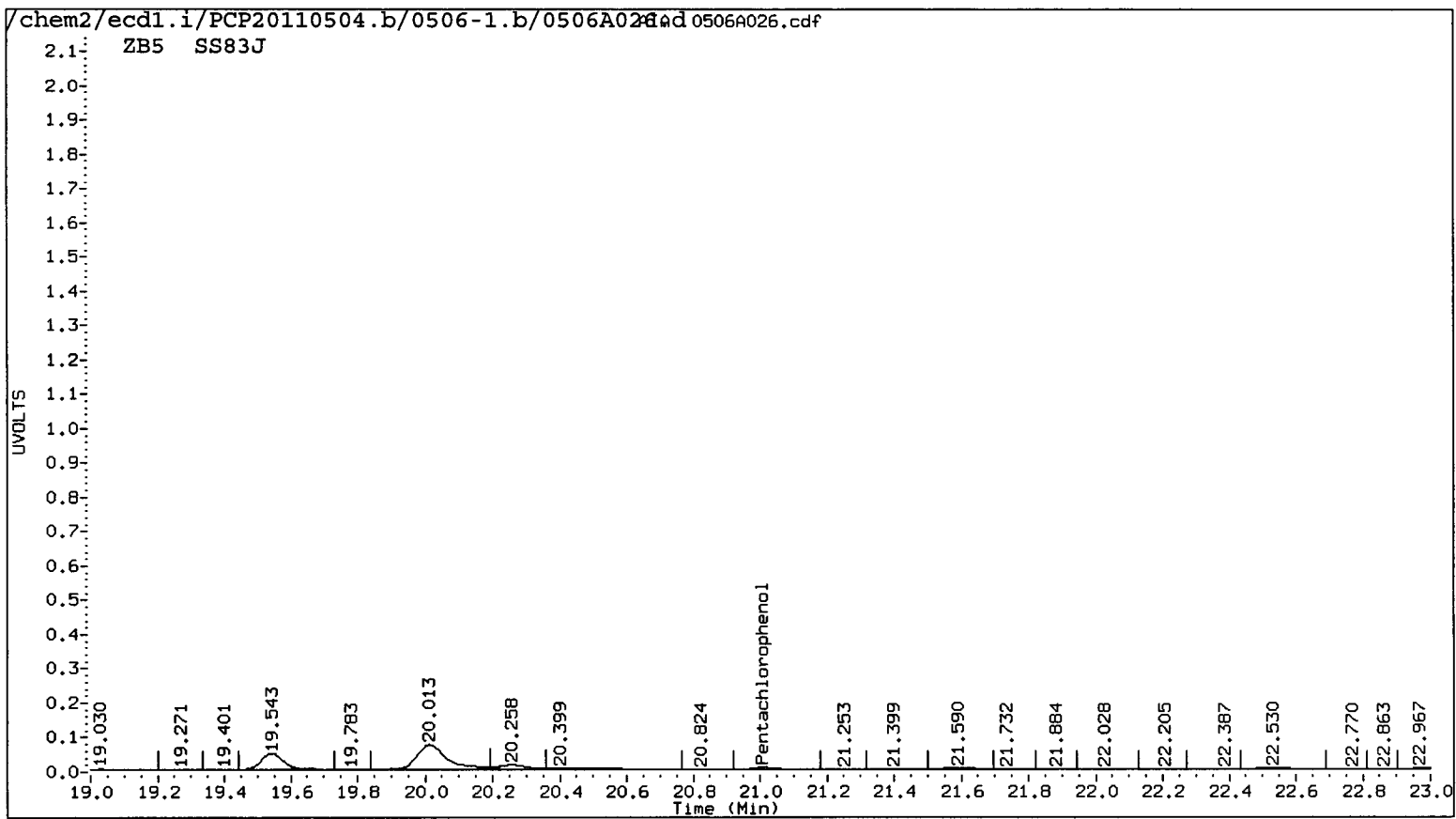
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A026.d ARI ID: SS83J
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A026.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 05:26
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.007	0.010	158346	22.978	0.011	107205	7.8587	3.8069	69.5*	Pentachlorophenol
13.167	0.066	111701	14.380	0.069	9476	9.1763	0.6538	173.4*	2,4,6-Trichlorophenol
14.066	-0.031	17502	15.601	0.044	47844	1.5283	3.3287	74.1*	2,3,6-Trichlorophenol
15.853	0.008	11020	17.468	-0.006	38366	1.4429	4.7391	106.6*	2,4,5-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.043	-0.037	29444	0.0000	1.7344	---	2,3,4,5-Tetrachlorophenol
12.512	-0.043	16710	13.825	0.005	49439	21.0992	59.7866	95.7*	2,4-Dichlorophenol
18.600	0.004	304039	20.942	0.006	358964	19.3	17.1	12.3	2,4,6-Tribromophenol (surr)

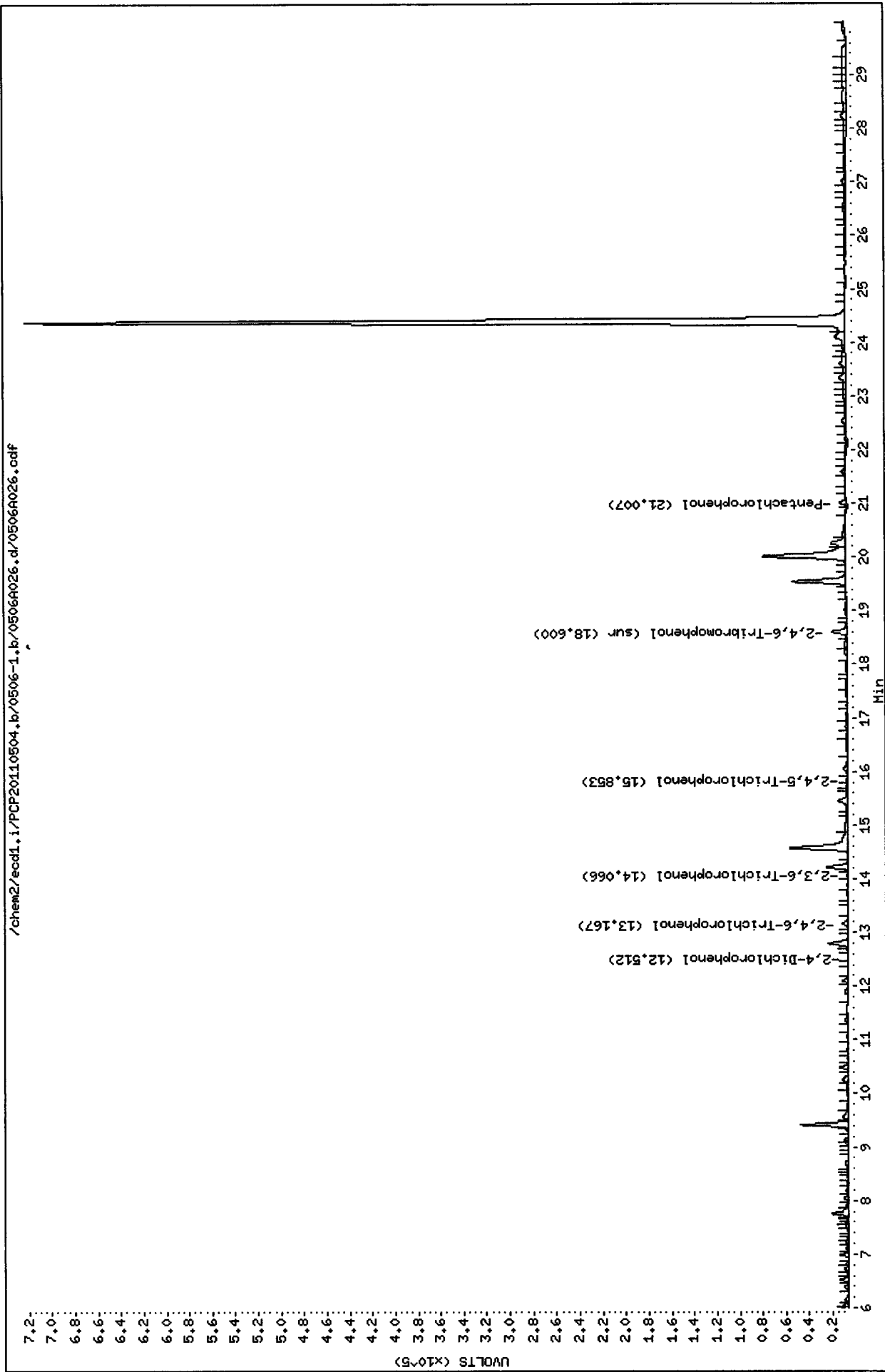
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	77.2	68.3 ✓





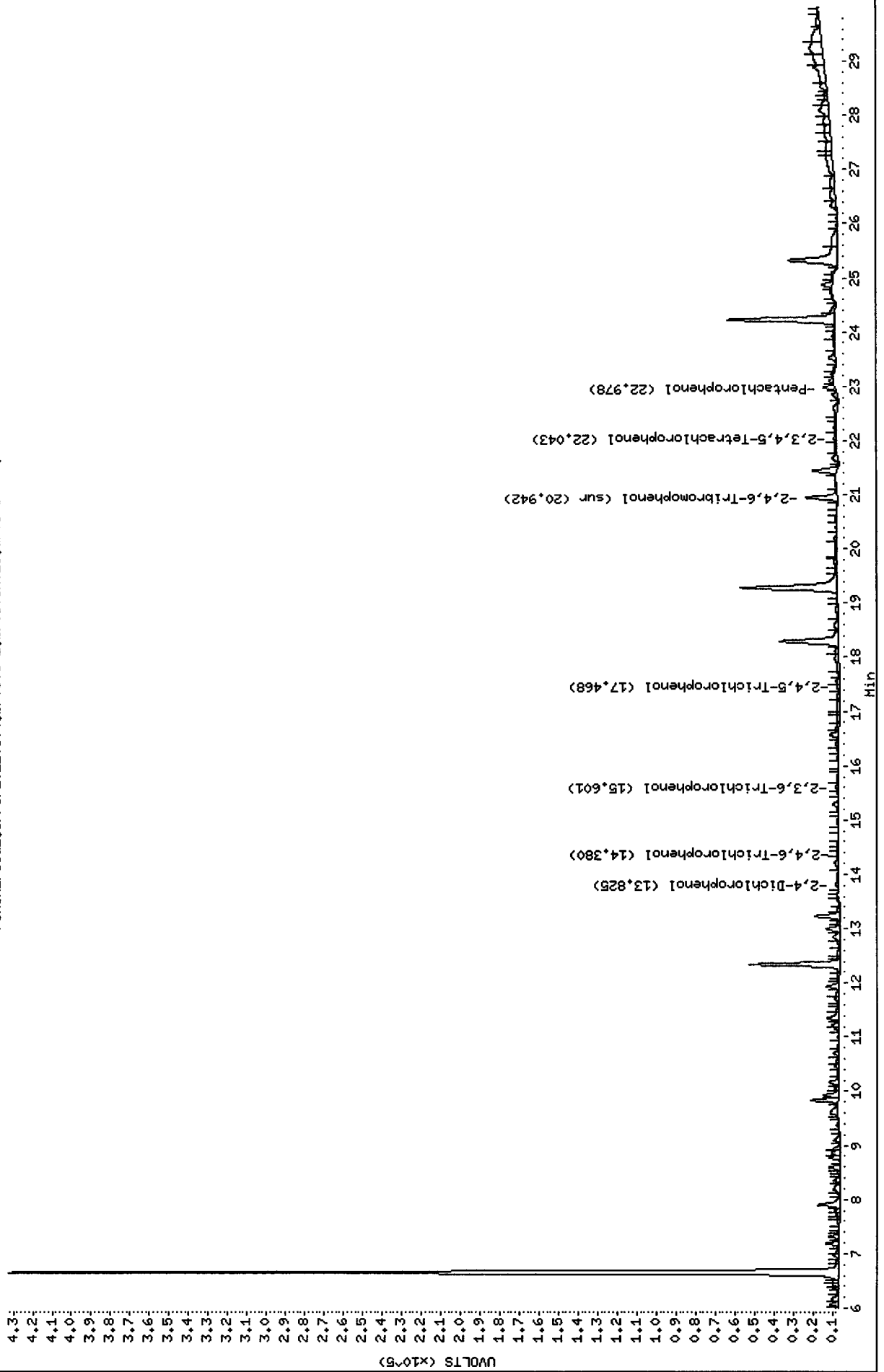
Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A026.d
Date : 07-MAY-2011 05:26
Client ID:
Instrument: ecdl1.i
Sample Info: S883J
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



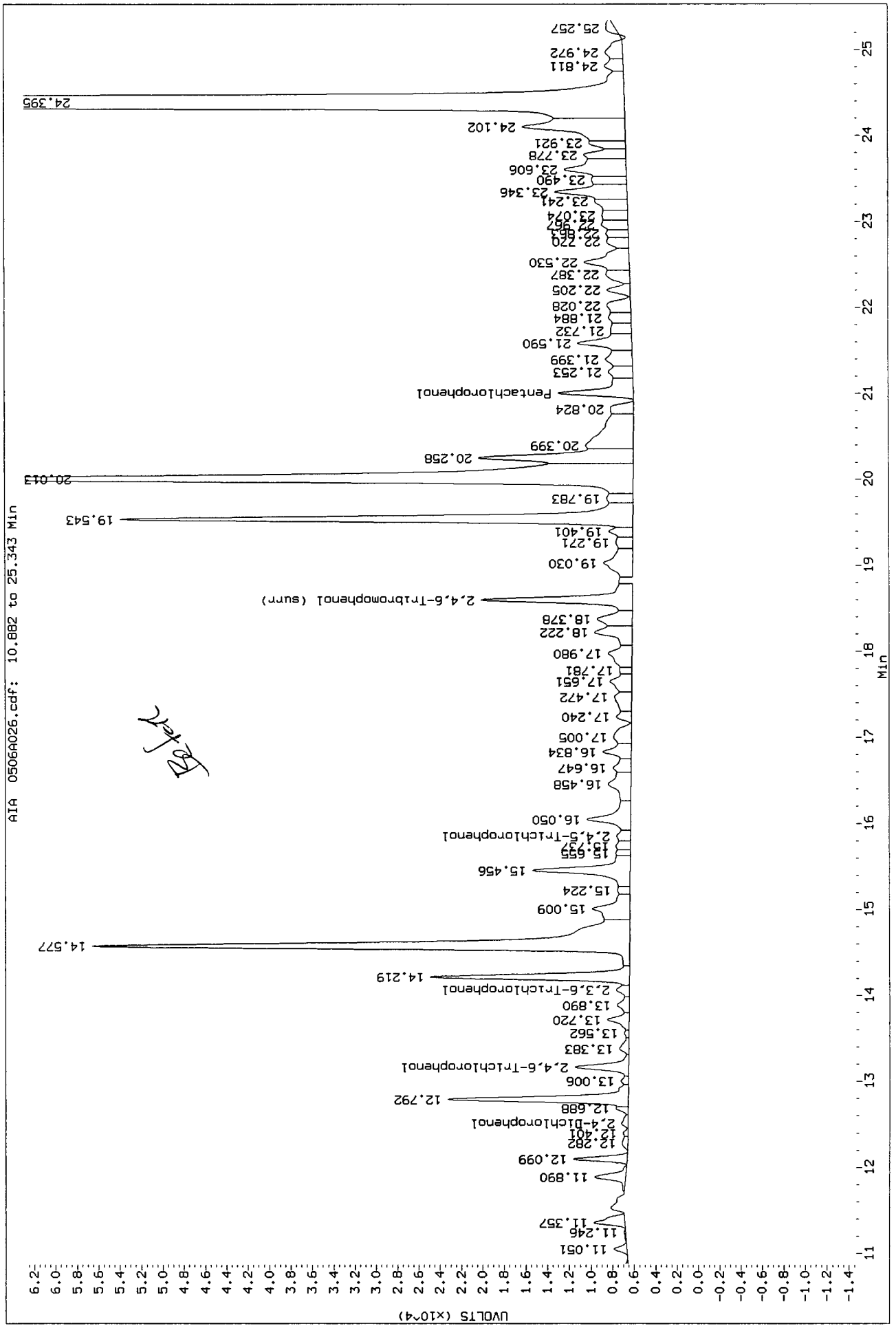
Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A026.d
Date : 07-MAY-2011 05:26
Client ID:
Sample Info: SS83J
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecd1.i
Operator: ar
Column diameter: 0.53

/chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A026.d/0506A026.cdf



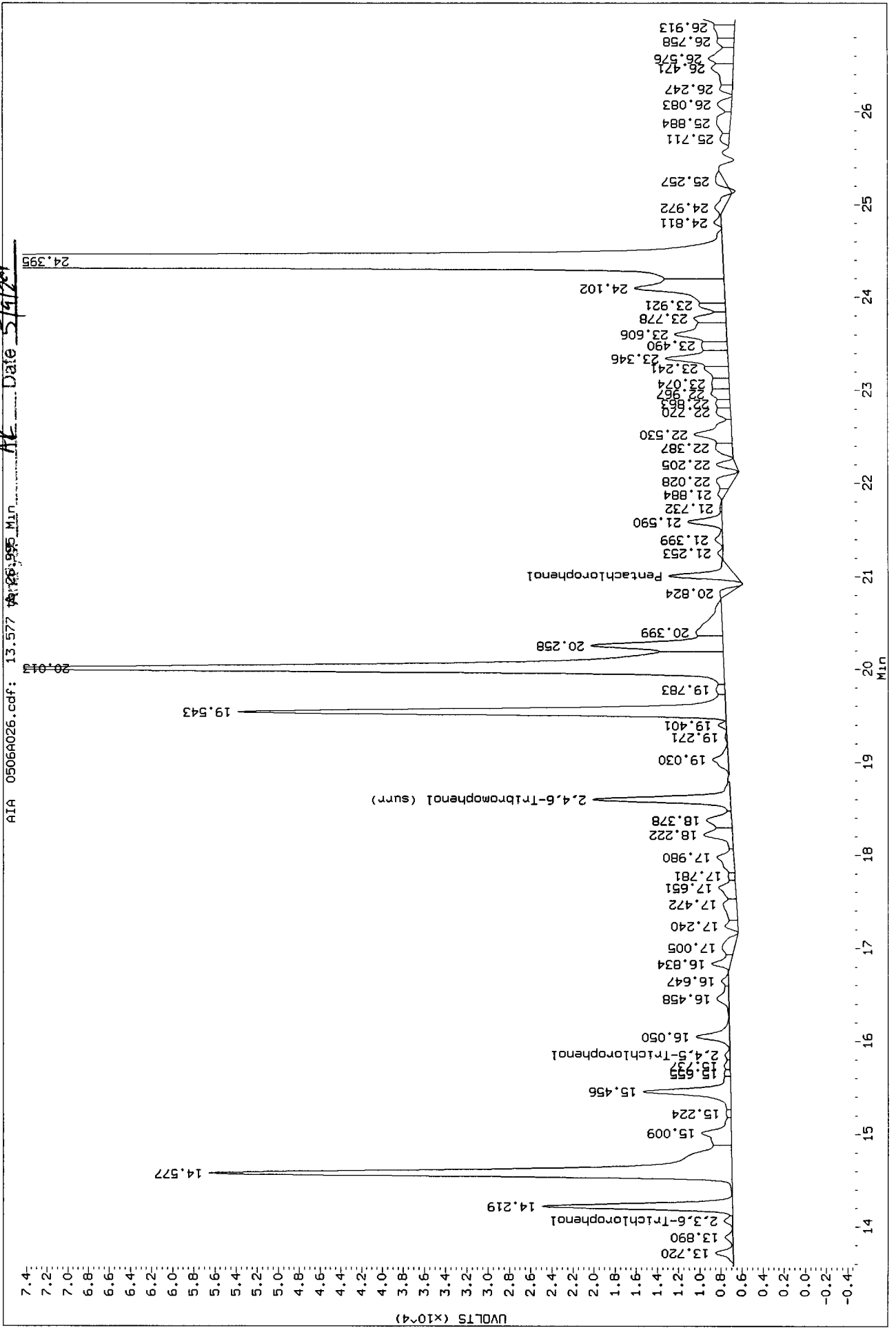
Data File: /chem2/ecd1.1/PCP20110504.b/0506-1.q/0506A026.p/0506A026.cdf
 Injection Date: 07-MAY-2011 05:26
 Instrument: ecd1.1
 Client Sample ID:



RETENTION ADJUSTMENTS

- 1. 2. 3. 4. 5.

Data File: /chem2/ecd1.i/PCF20110504.b/0506-1.q/0506A026.p/0506A026.cdf
Injection Date: 07-MAY-2011 05:26
Instrument: ecd1.1
Client Sample ID:

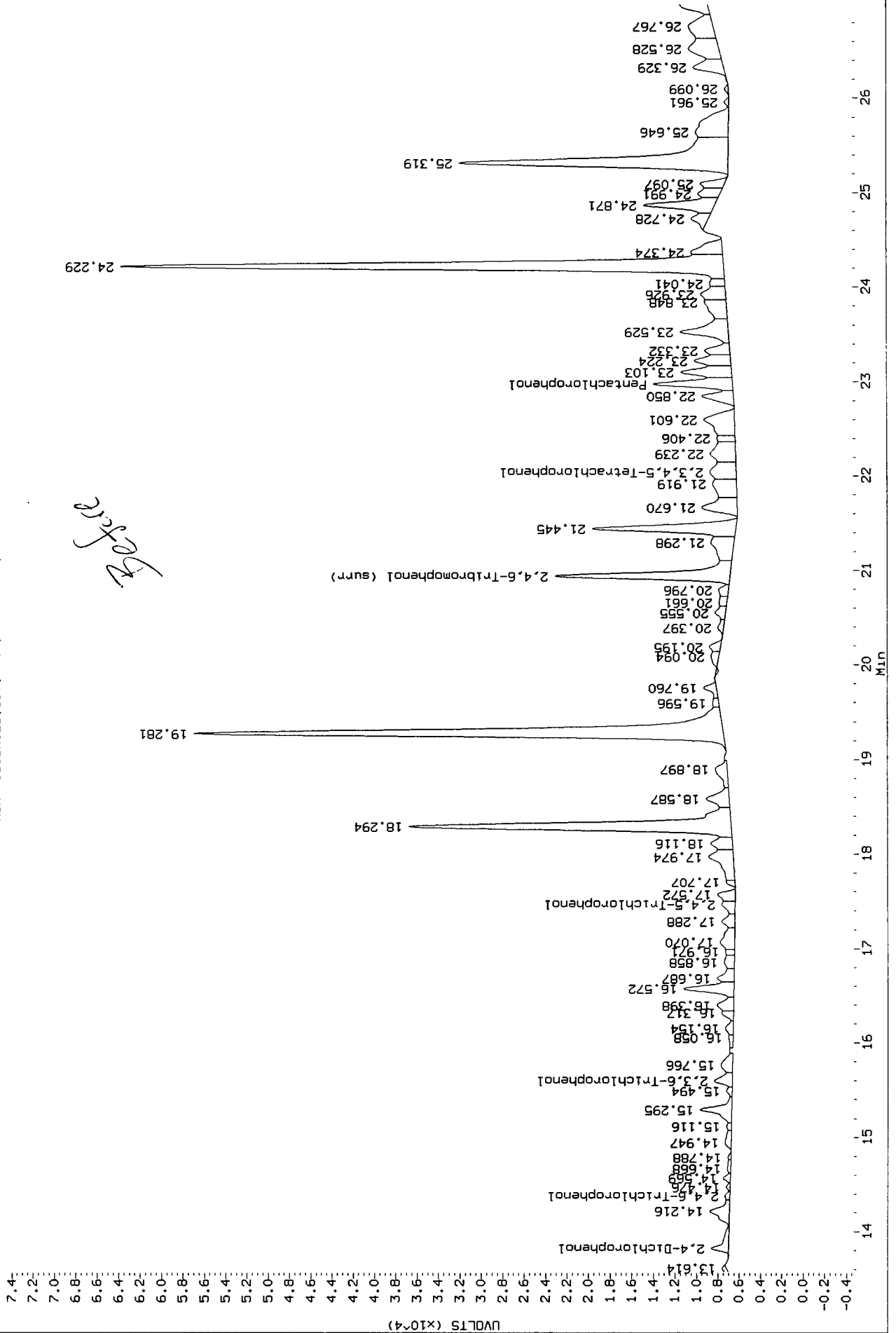


95010:0555

6901

Data File: /chem2/ecd1.1/PCP20110504.b/0506-2.b/0506A026.d/0506A026.cdf
 Injection Date: 07-MAY-2011 05:26
 Instrument: ecd1.1
 Client Sample ID:

AIA 0506A026.cdf: 13.577 to 26.995 Min

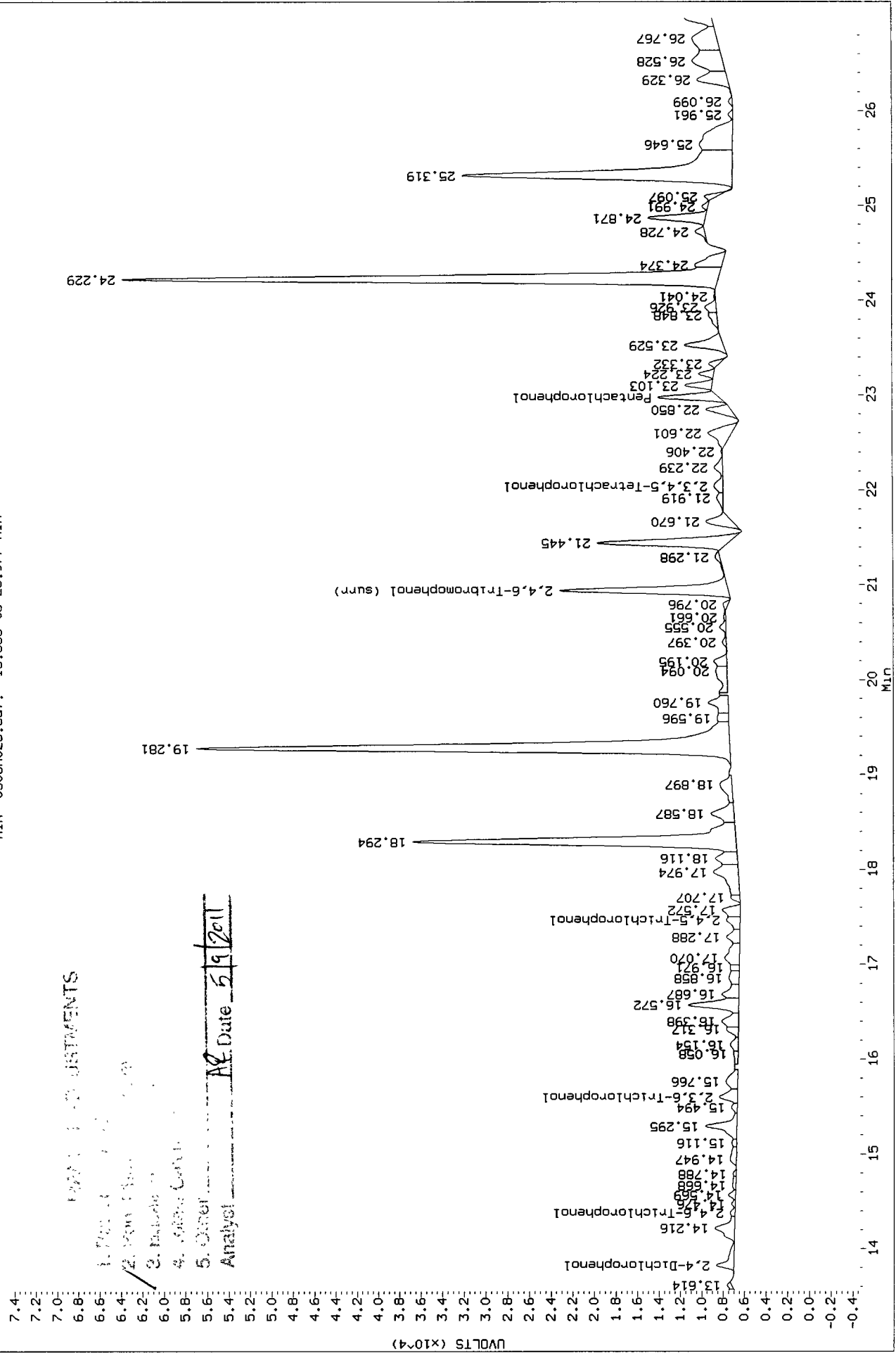


Data File: /chem2/ecdl1/PCP20110504.b/0506-2.b/0506A026.d/0506A026.cdf
 Injection Date: 07-MAY-2011 05:26
 Instrument: ecdl1
 Client Sample ID:

AIA 0506A026.cdf: 13.563 to 26.977 Min

ADJUSTMENTS

1. Peak at 13.563 min
 2. Peak at 13.563 min
 3. Baseline
 4. Mass Conv
 5. Offset
- Analyst: AC Date: 5/9/2011



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

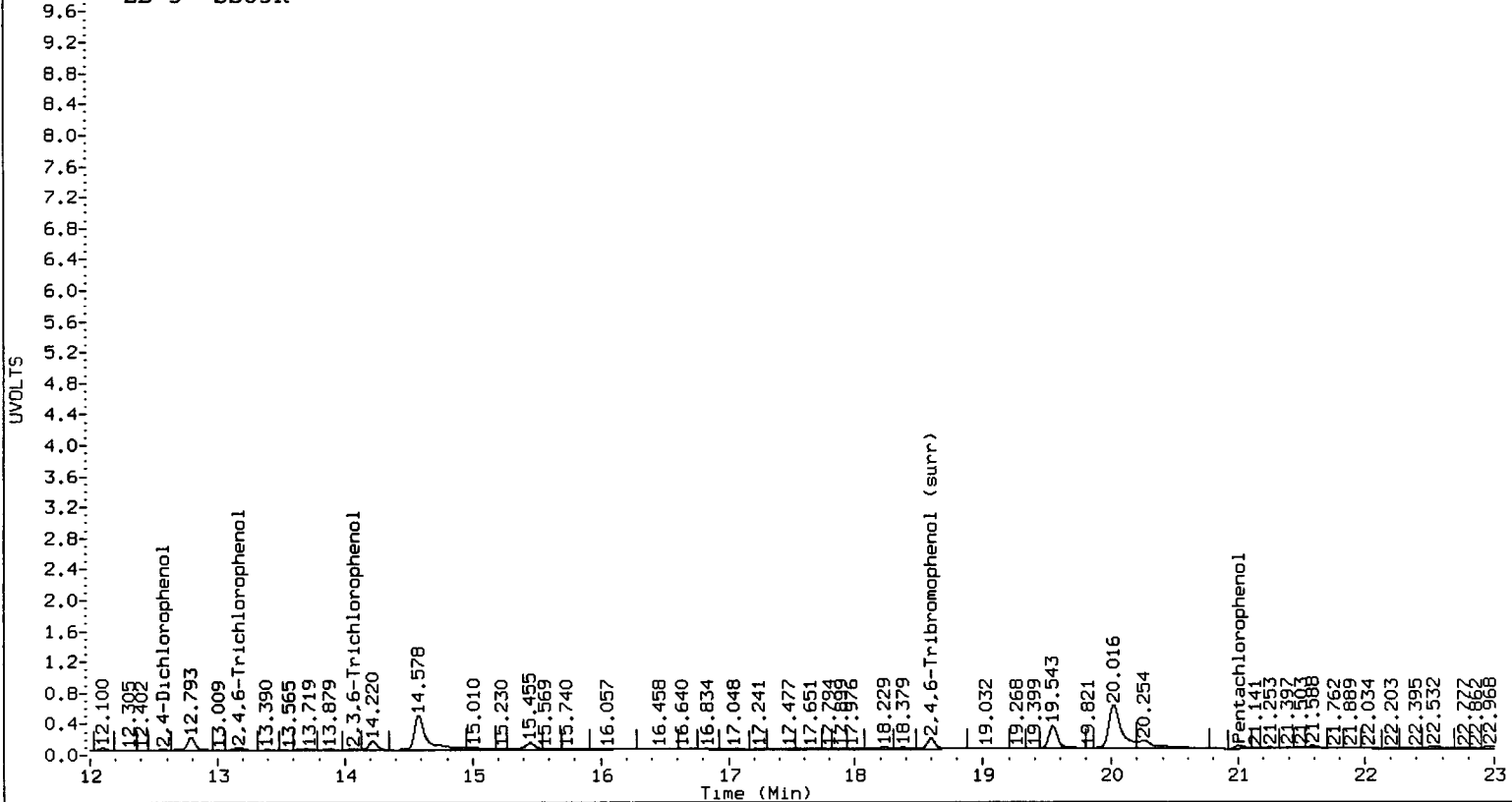
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A027.d ARI ID: SS83K
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A027.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 06:02
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.006	0.008	92921	22.976	0.009	67975	4.6117	2.4138	62.6*	Pentachlorophenol
13.167	0.066	89419	----			7.3458	0.0000		2,4,6-Trichlorophenol
14.066	-0.031	19197	15.607	0.050	23460	1.6762	1.6322	2.7	2,3,6-Trichlorophenol
----			17.468	-0.006	30352	0.0000	3.7492	---	2,4,5-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.024	-0.056	36605	0.0000	2.1611	---	2,3,4,5-Tetrachlorophenol
12.570	0.015	25453	13.827	0.007	13409	32.5320	15.387	71.6*	2,4-Dichlorophenol
18.600	0.004	317841	20.943	0.007	356540	20.2	17.0	17.4	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

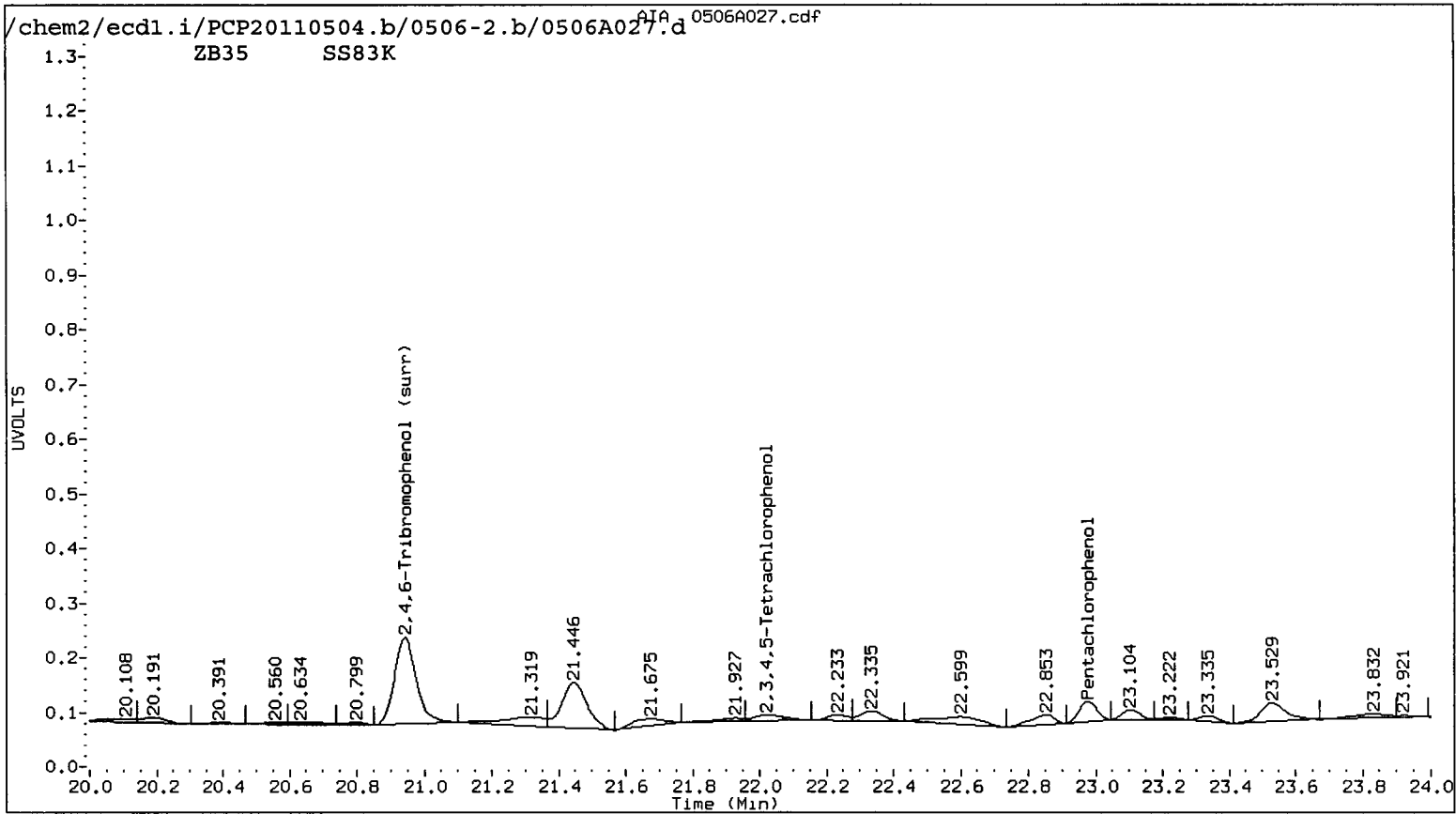
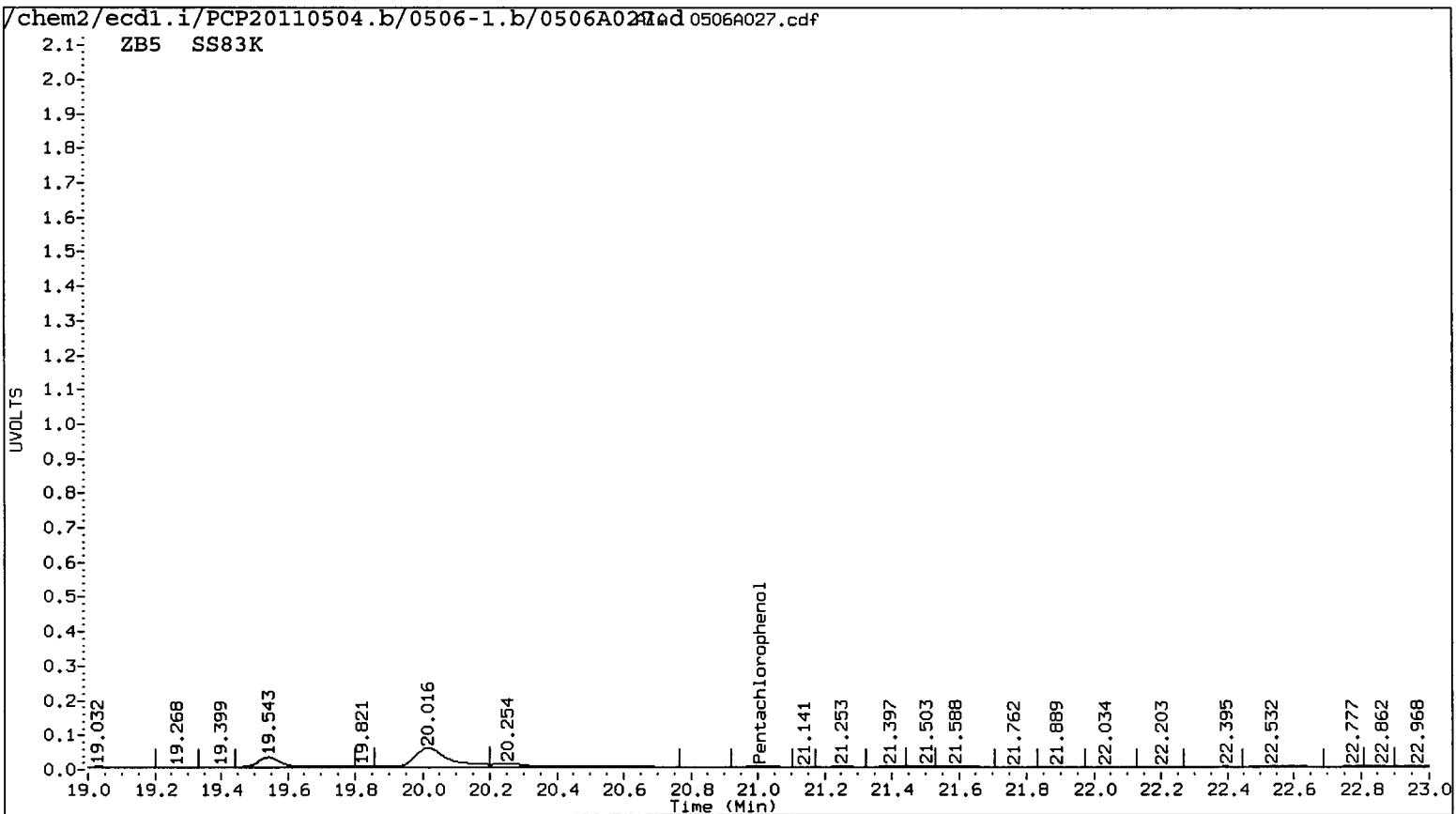
COMPOUND	Col1	Col2
2,4,6-TBP (surr)	80.8	67.8

ZB-5 SS83K

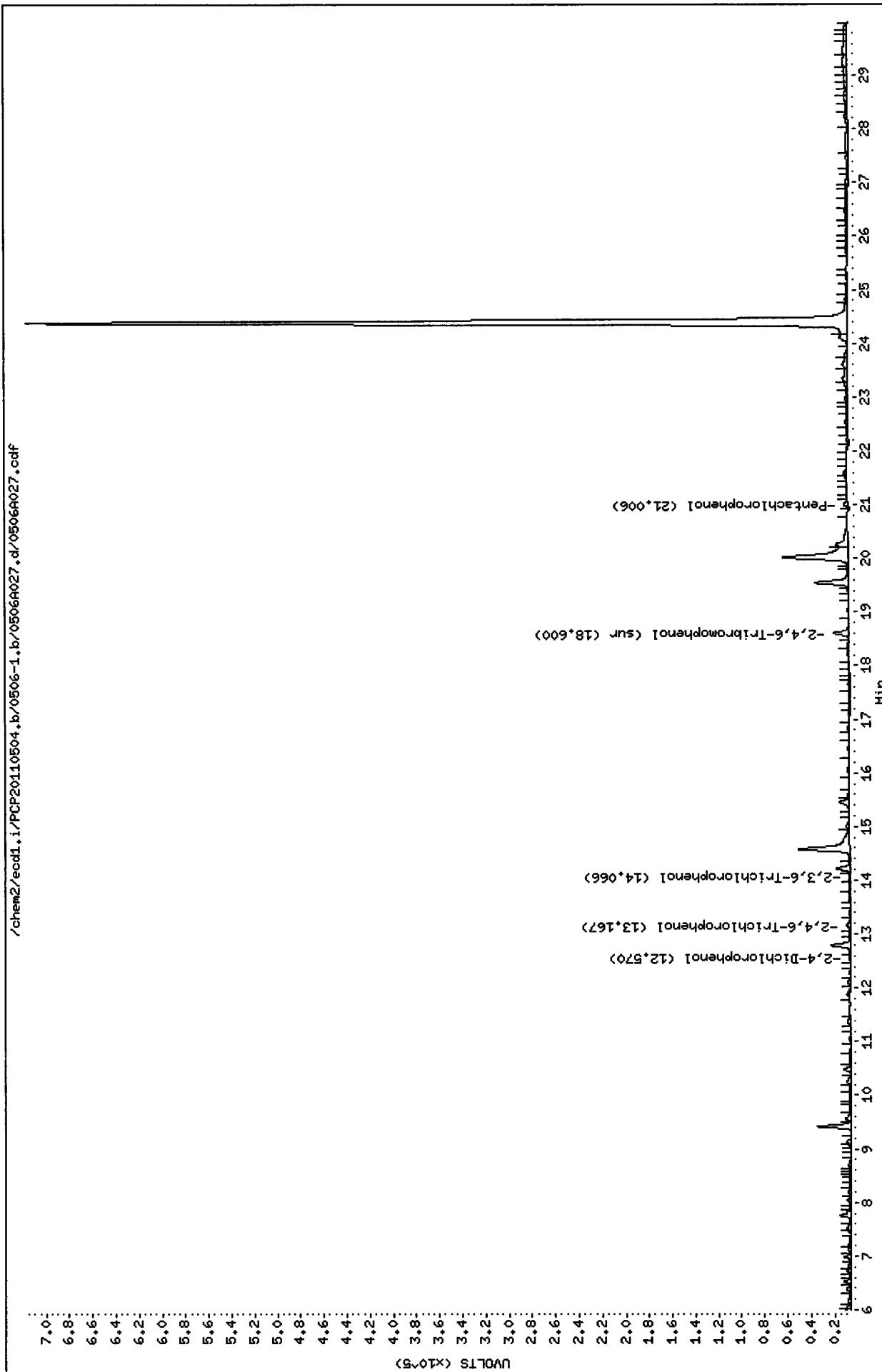


ZB35 SS83K





Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A027.d
Date : 07-MAY-2011 06:02
Client ID:
Instrument: ecdl1.i
Sample Info: S583K
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A027.d

Date : 07-MAY-2011 06:02

Client ID:

Sample Info: SS83K

Purge Volume: 500.0

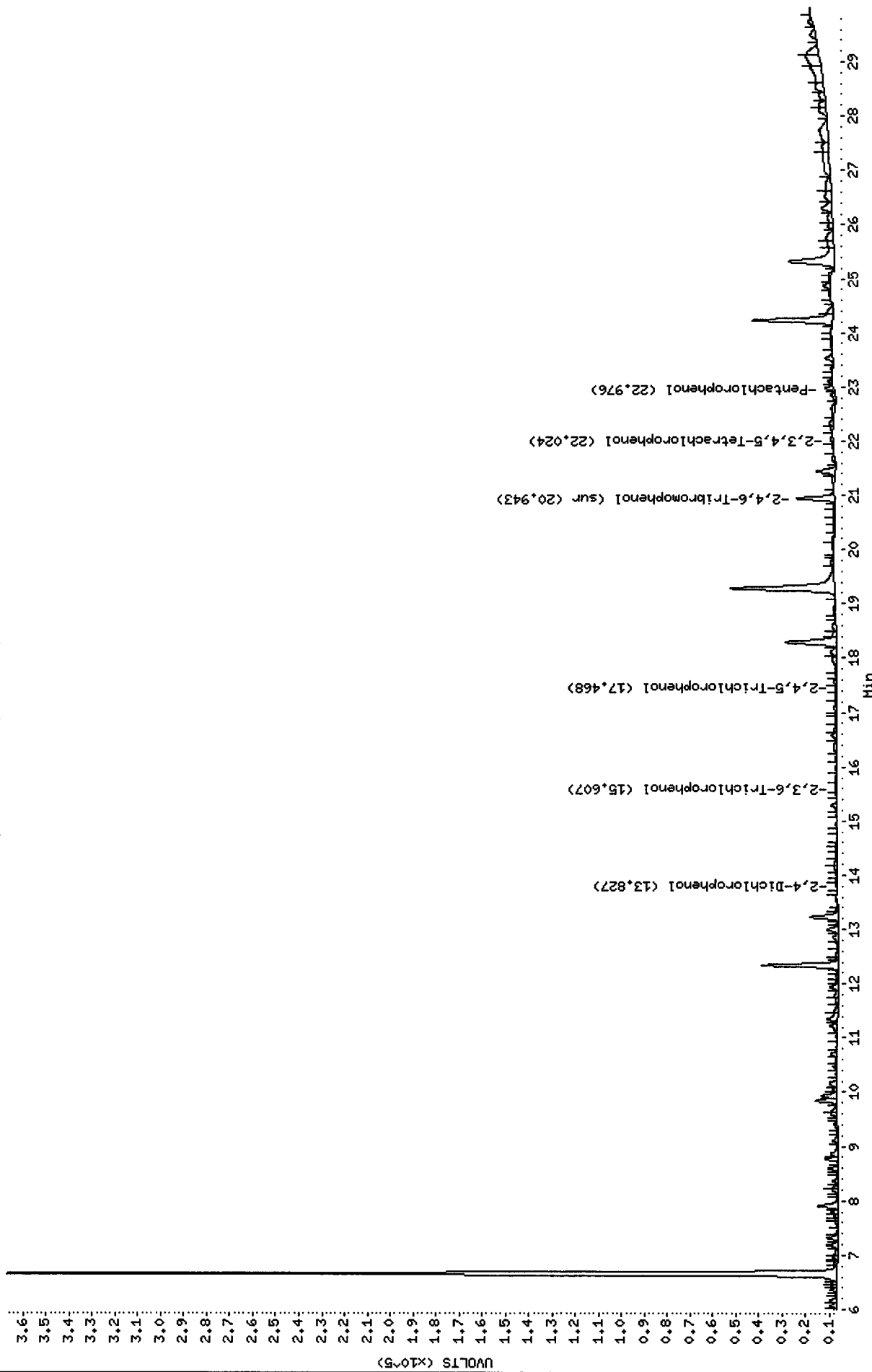
Column phase: STX CLP2

Instrument: ecd1.i

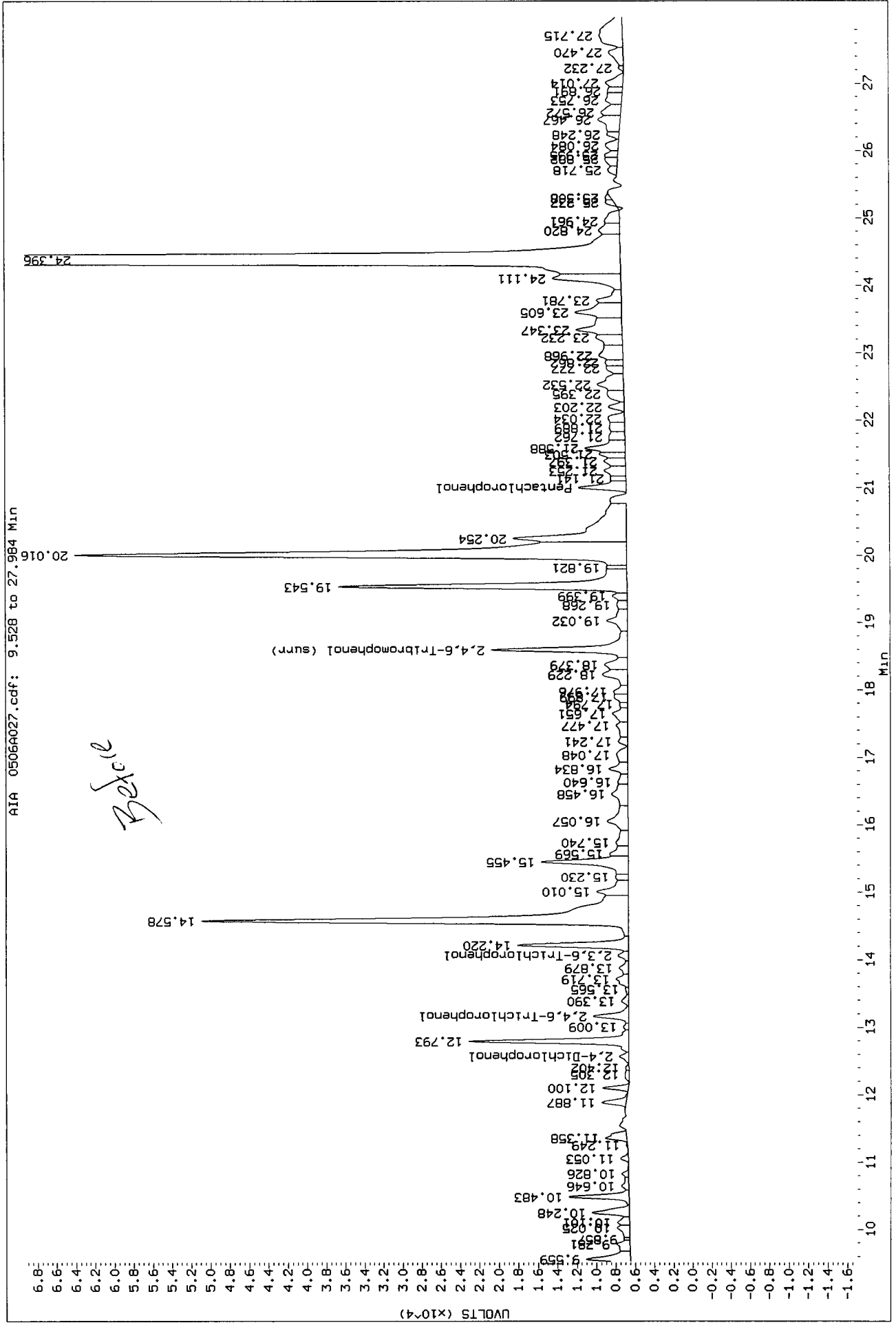
Operator: ar

Column diameter: 0.53

/chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A027.d/0506A027.cdf



Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A027.d/0506A027.cdf
Injection Date: 07-MAY-2011 06:02
Instrument: ecdl1
Client Sample ID:

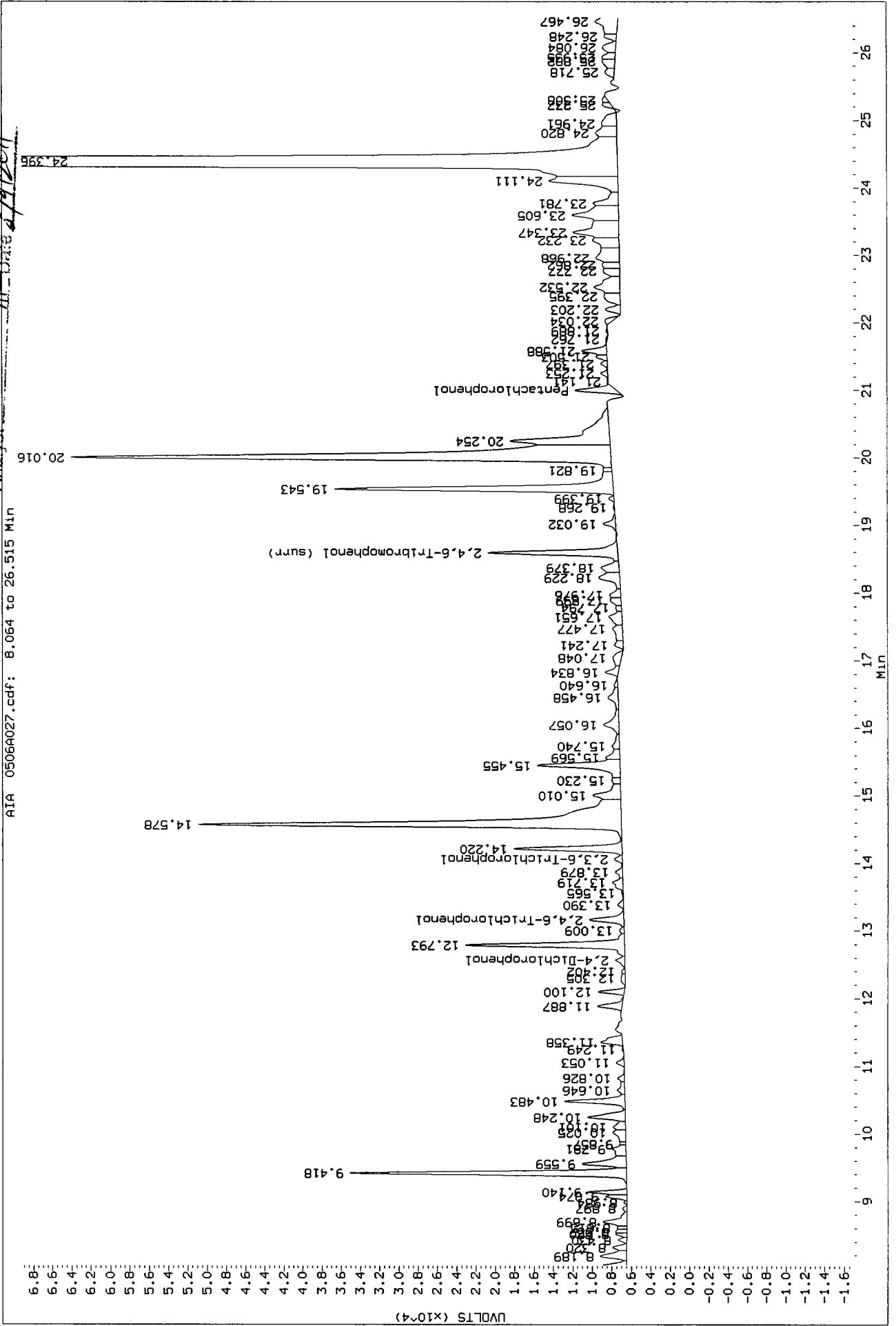


MAINTENANCE PROCEDURES

- 1. Pook H. ...
- 2. Pook H. ...
- 3. Baseline ...
- 4. Totals ...
- 5. Other ...

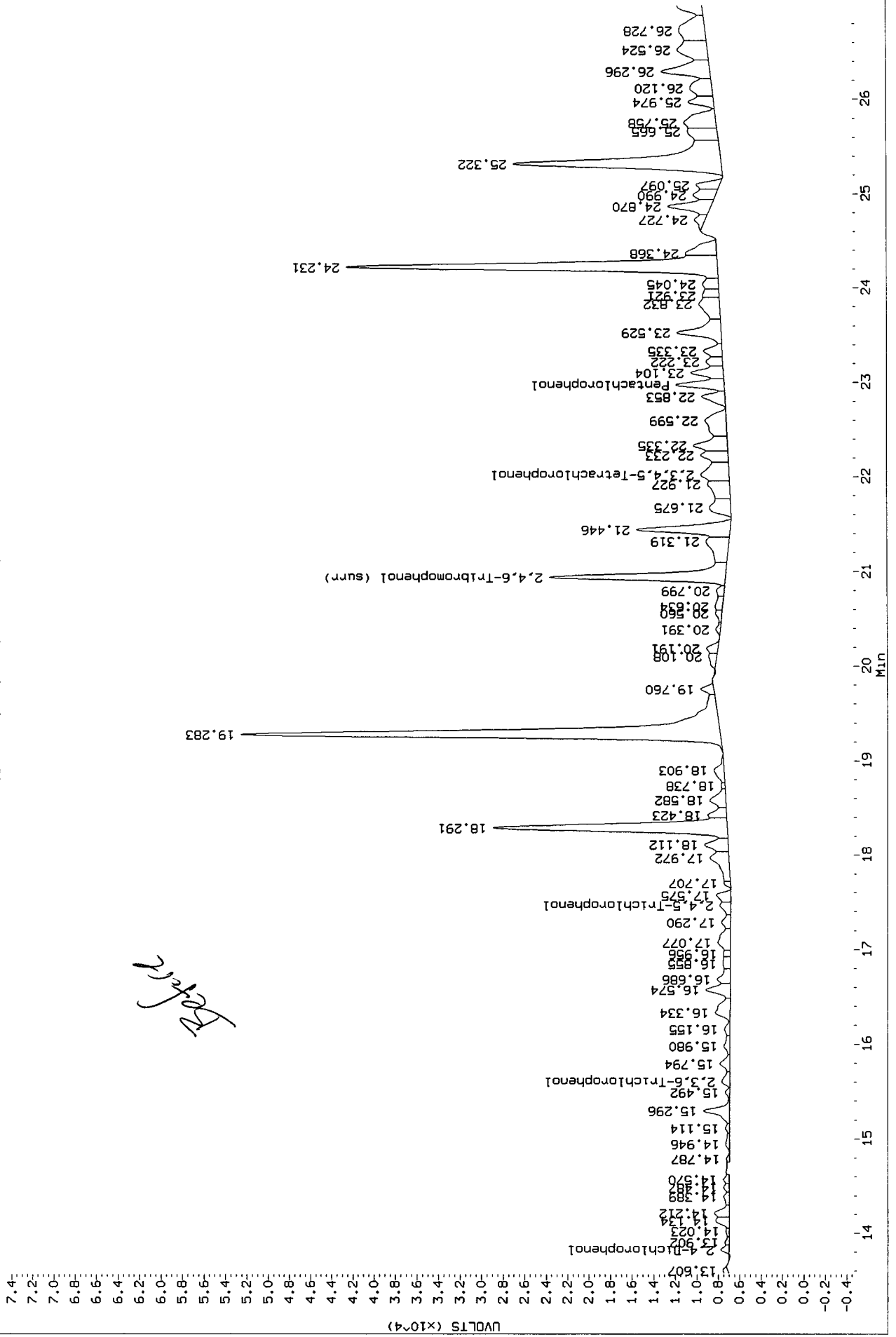
Data File: /chem2/ecdl1/PCP20110504.b/0506-1.q/0506A027.d/0506A027.cdf
Injection Date: 07-MAY-2011 06:02
Instrument: ecdl1.1
Client Sample ID:

Analyst: M. D. ...
Date: 5/19/2011



Data File: /chem2/ecdi.1/PCP20110504.b/0506-2.b/0506A027.d/0506A027.cdf
Injection Date: 07-MAY-2011 06:02
Instrument: ecdi.1
Client Sample ID:

AIA 0506A027.cdf: 13.577 to 26.995 Min

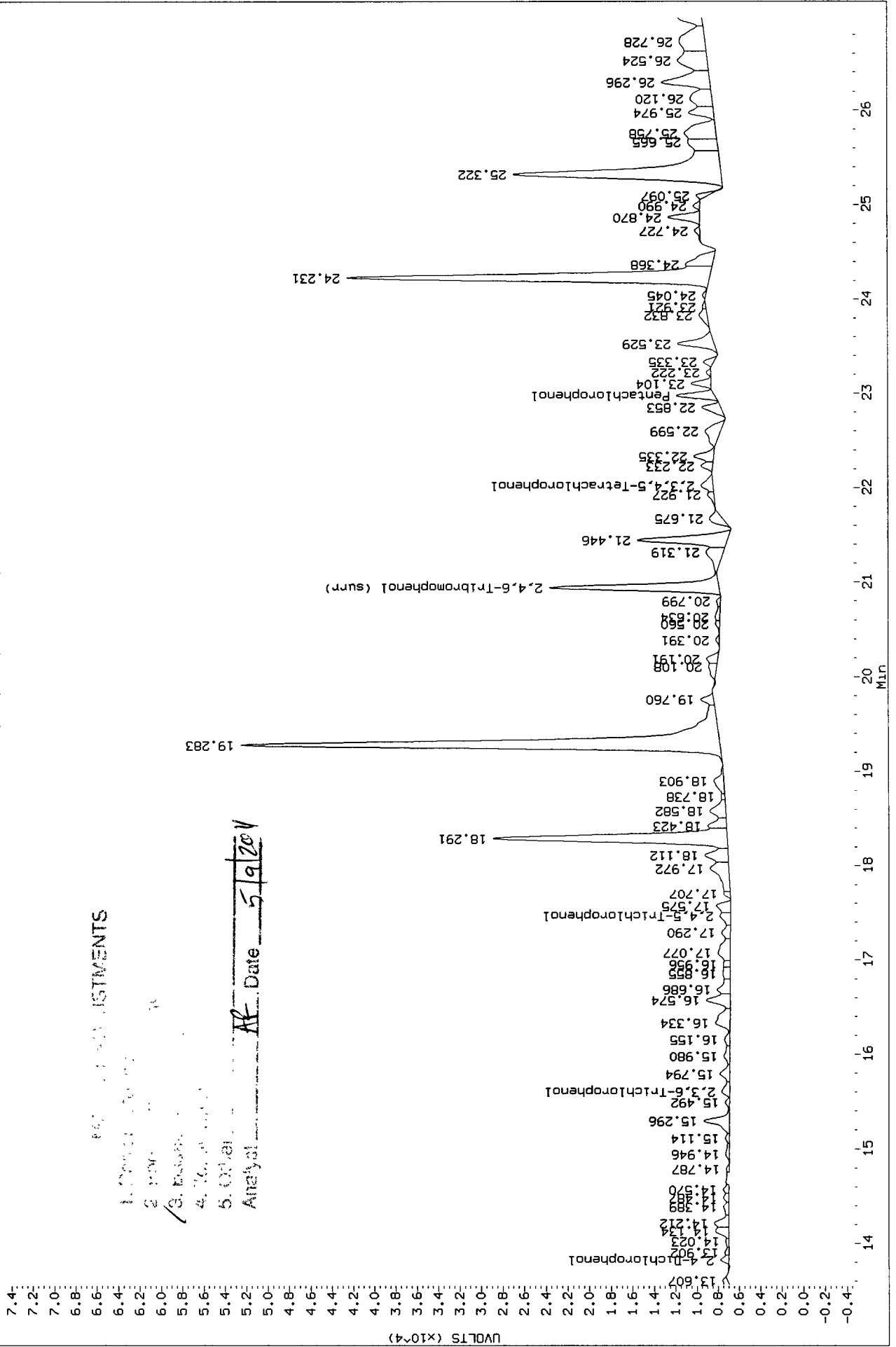


99010:0855

6901

Data File: /chem2/ecdl1/PCFP20110504.b/0506--2.b/0506A027.d/0506A027.cdf
 Injection Date: 07-MAY-2011 06:02
 Instrument: ecdl1.1
 Client Sample ID:

AIA 0506A027.cdf: 13.563 to 26.977 Min



PEAK IDENTIFICATIONS

1. 2,4,5-Trichlorophenol
2. 2,3,6-Trichlorophenol
3. 2,4,6-Trichlorophenol
4. 2,4,6-Trichlorophenol
5. Control

Analyt AF Date 5/9/2011

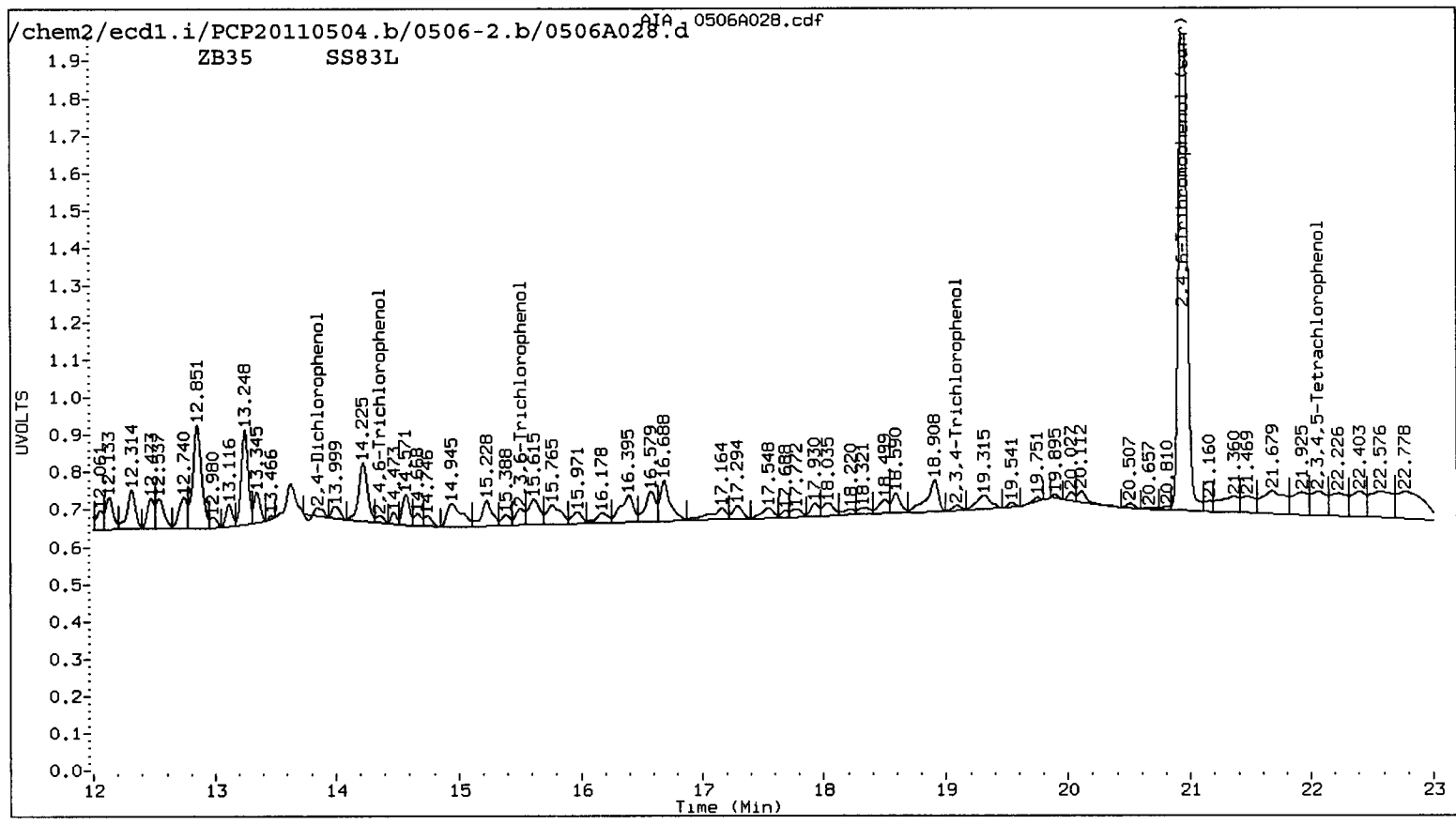
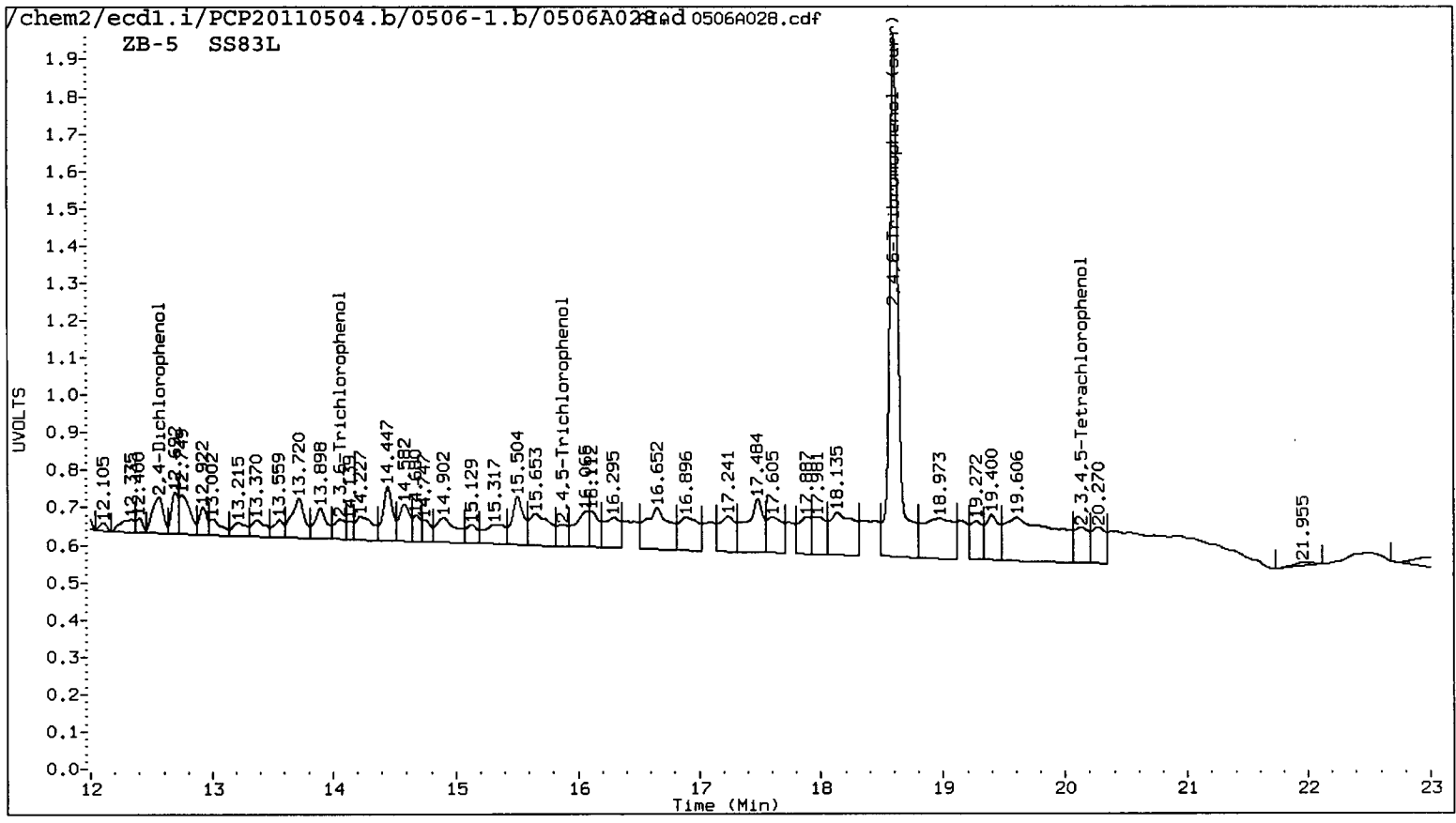
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

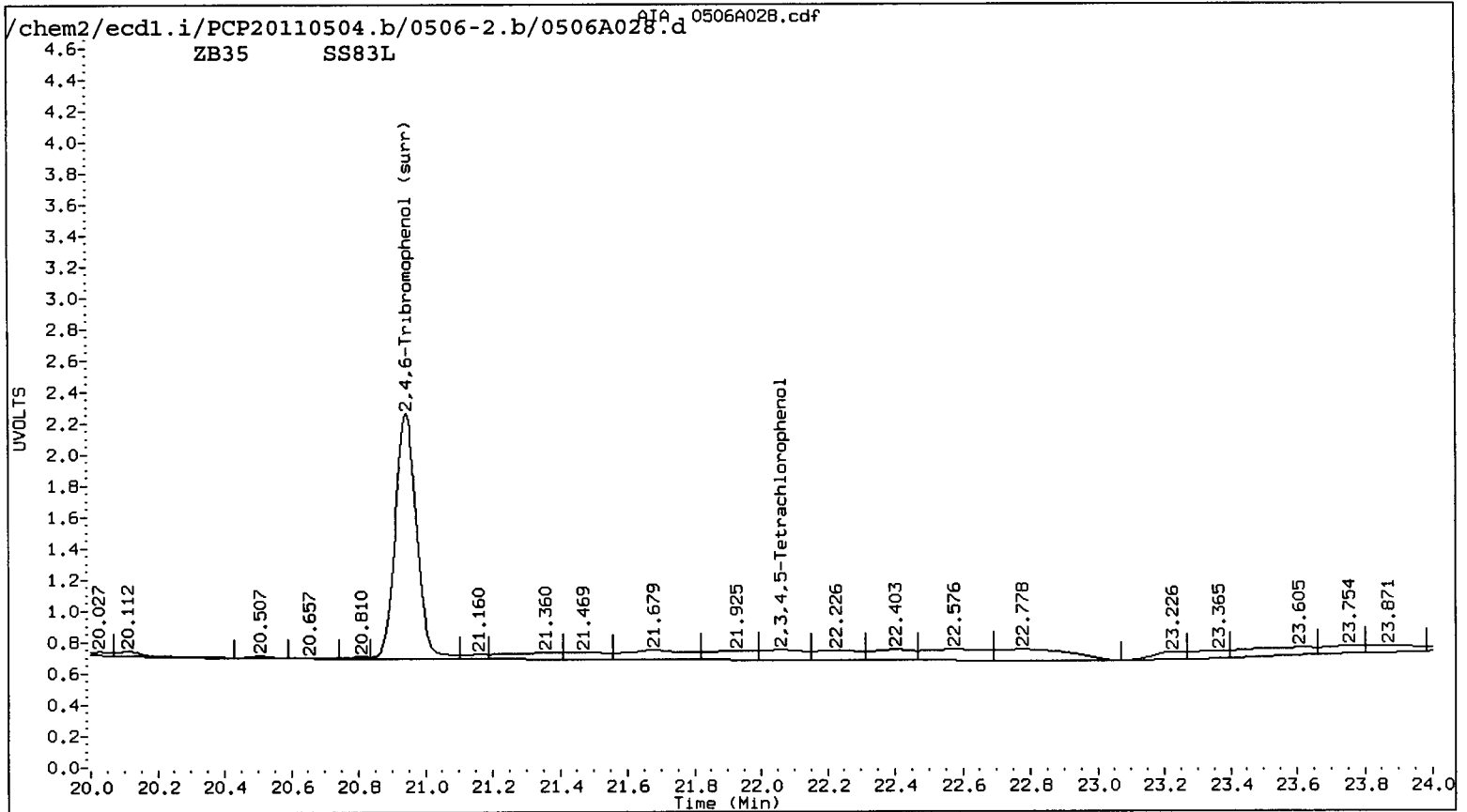
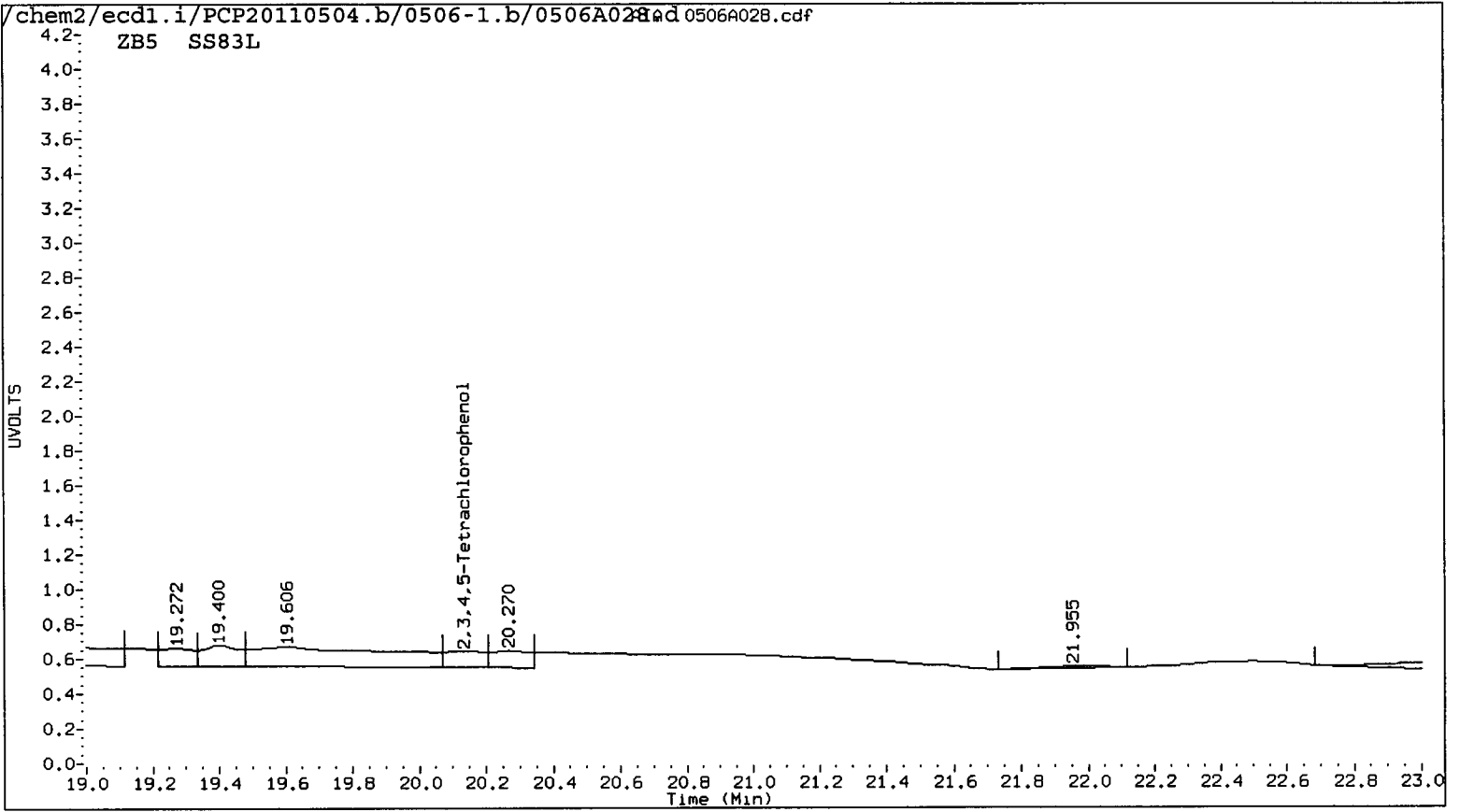
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 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A028.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 06:39
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
-----			-----			0.0000	0.0000	---	Pentachlorophenol
-----			14.358	0.047	3712	0.0000	0.2562	---	2,4,6-Trichlorophenol
14.057	-0.040	16977	15.503	-0.054	10596	1.4824	0.7373	67.1*	2,3,6-Trichlorophenol
15.871	0.026	17021	-----			2.2418	0.0000	---	2,4,5-Trichlorophenol
-----			19.091	0.068	3131	0.0000	0.2987	---	2,3,4-Trichlorophenol
-----			-----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
20.132	-0.023	36897	22.061	-0.019	28104	2.8423	1.6548	52.8*	2,3,4,5-Tetrachlorophenol
12.560	0.005	29414	13.850	0.030	3988	37.8018	4.5125	157.3*	2,4-Dichlorophenol
18.602	0.006	357296	20.943	0.007	347596	22.7	16.5	31.4	2,4,6-Tribromophenol (surr)

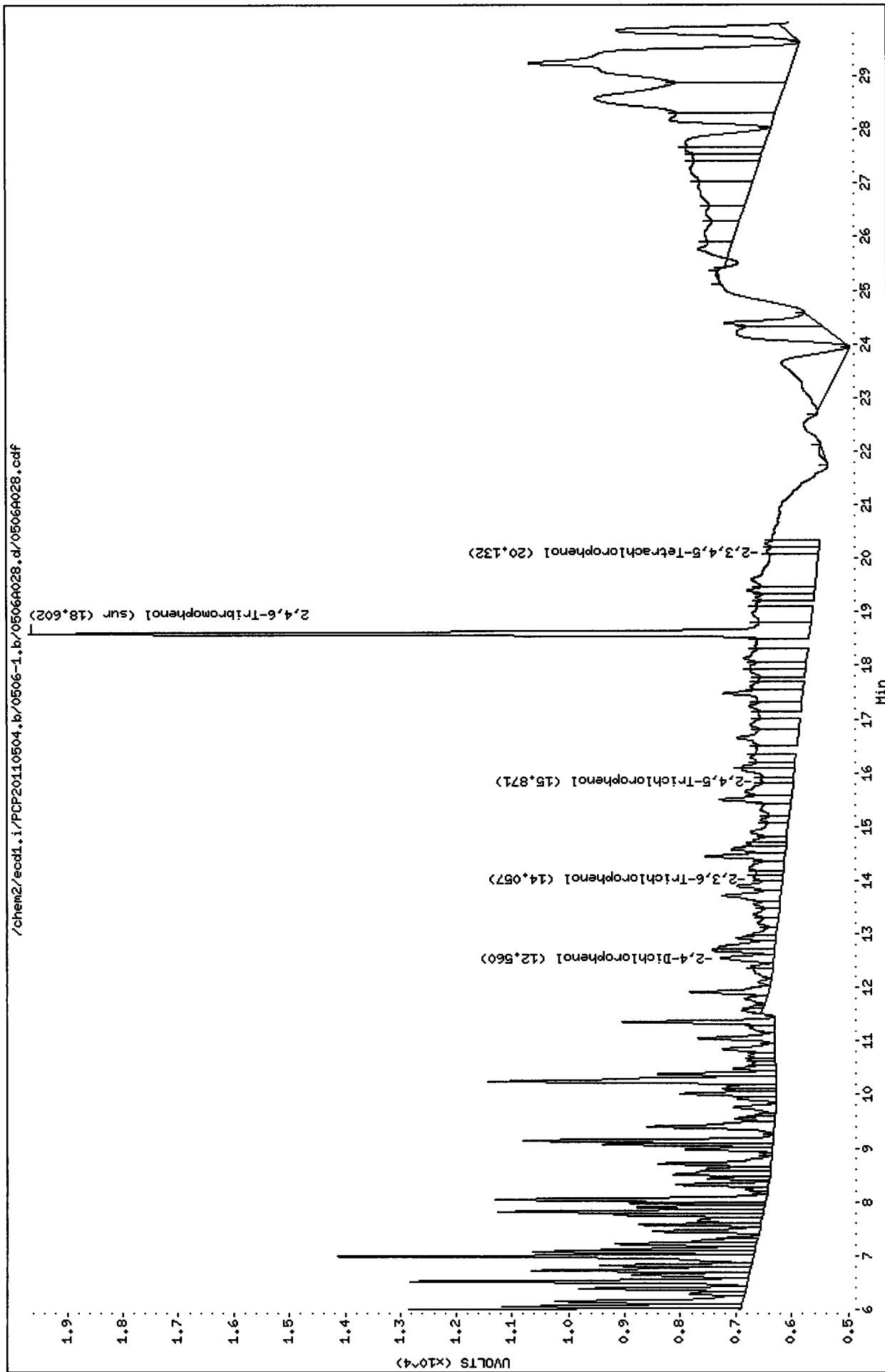
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	90.8	66.1





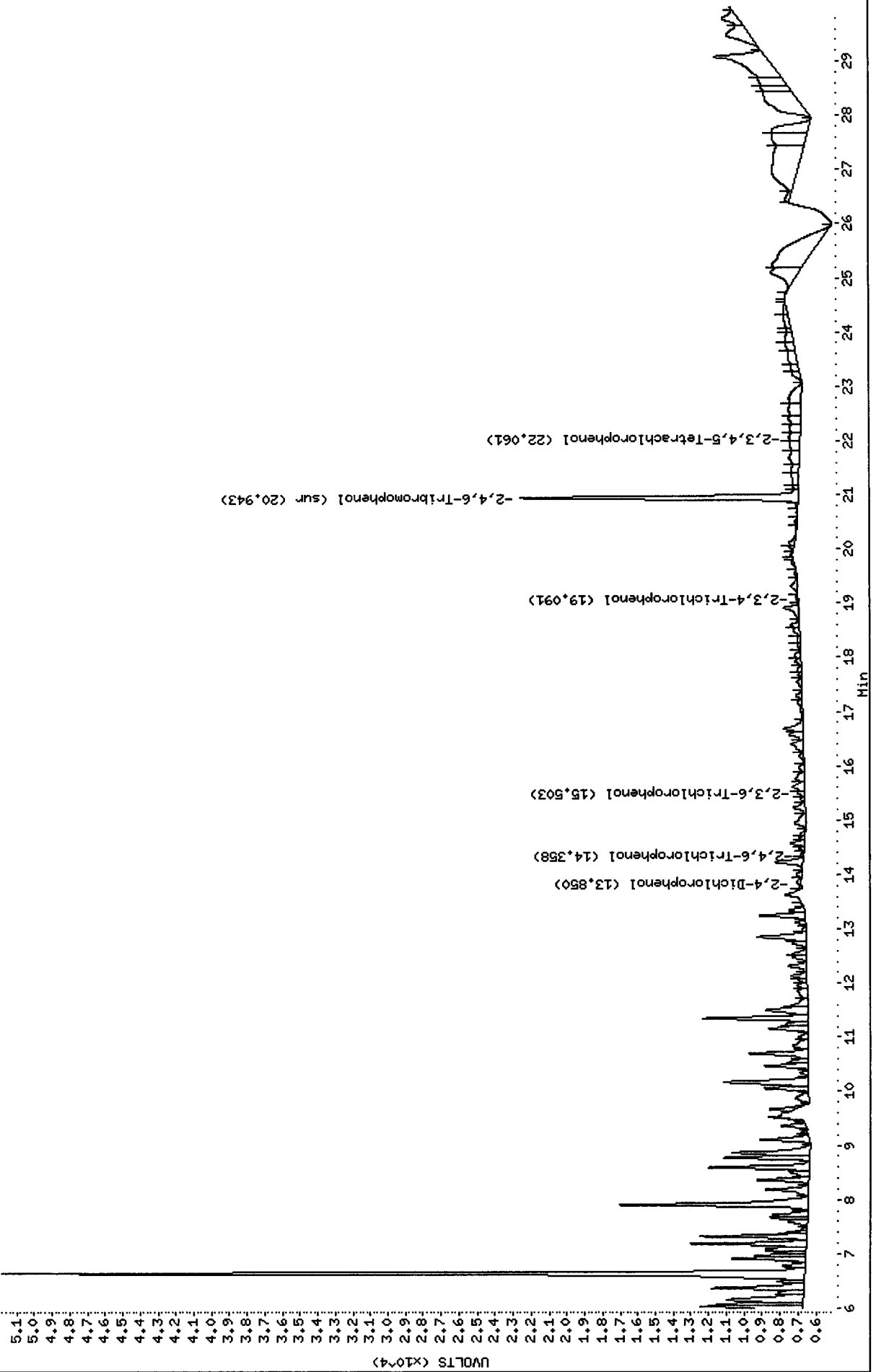
Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A028.d
Date : 07-MAY-2011 06:39
Client ID:
Instrument: ecdl1.i
Sample Info: S863L
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1



Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A028.d
Date : 07-MAY-2011 06:39
Client ID:
Sample Info: SS83L
Purge Volume: 500.0
Column phase: STX CLP2

Instrument: ecdl.i
Operator: ar
Column diameter: 0.53

/chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A028.d/0506A028.cdf



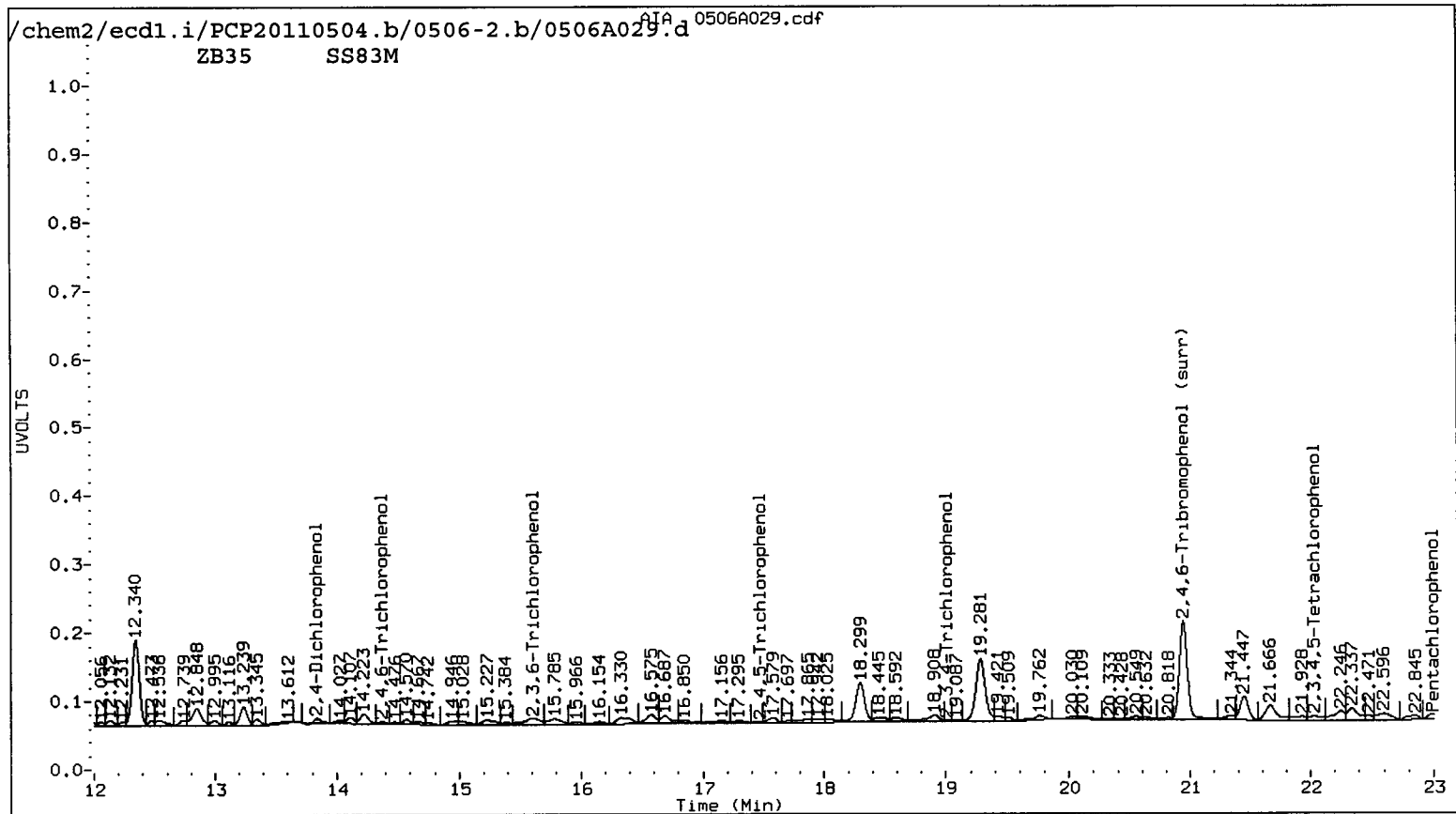
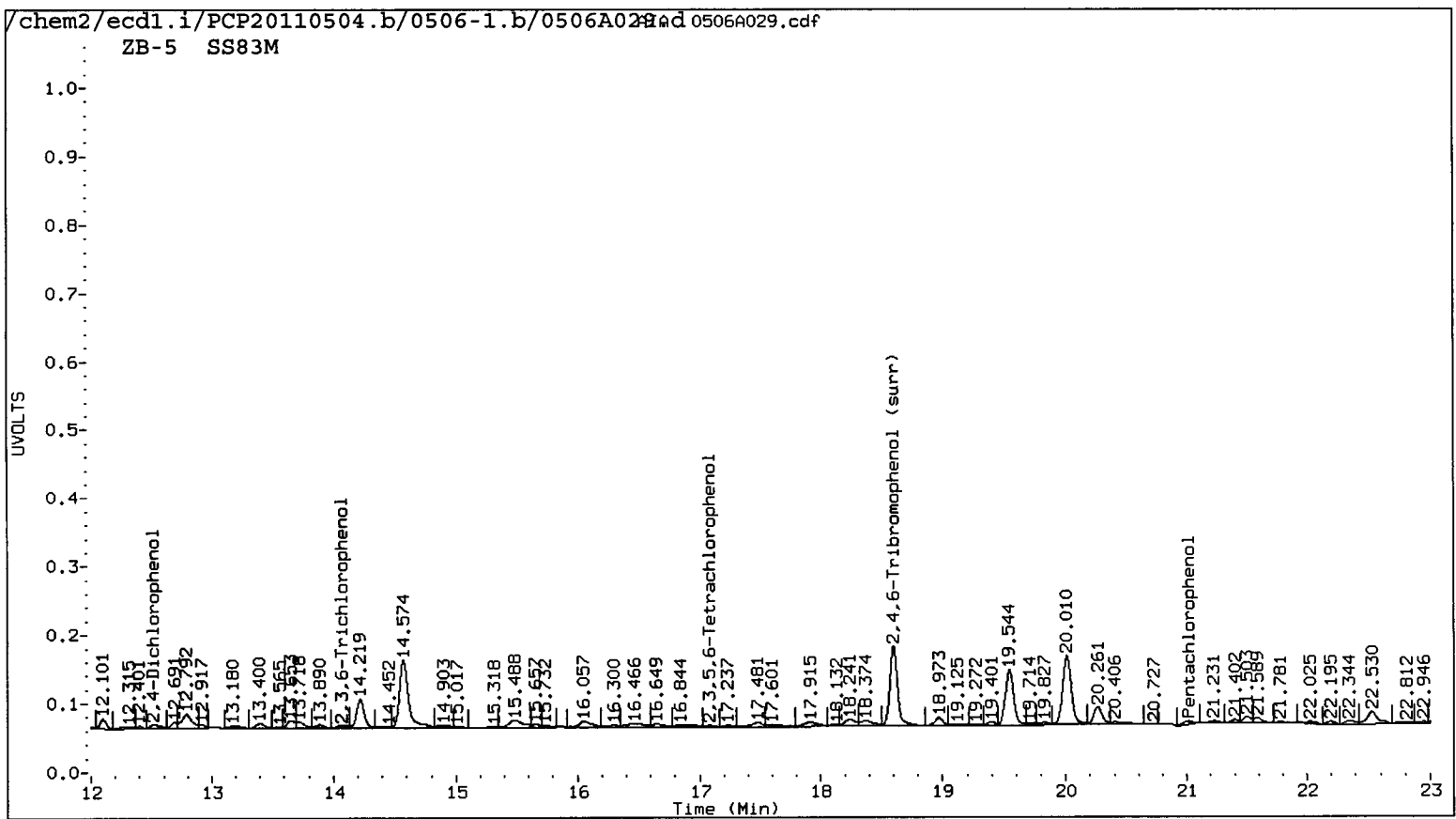
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

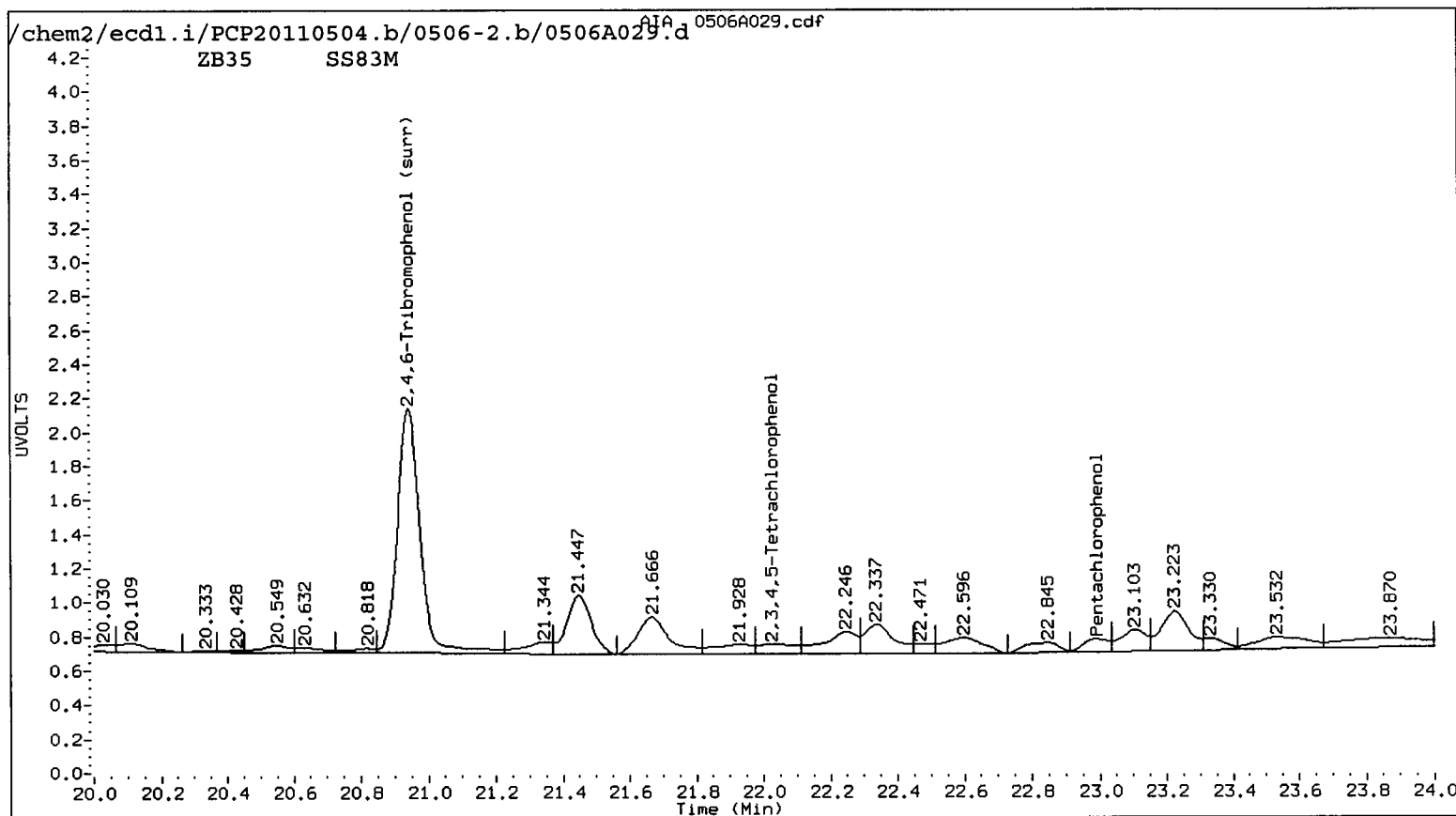
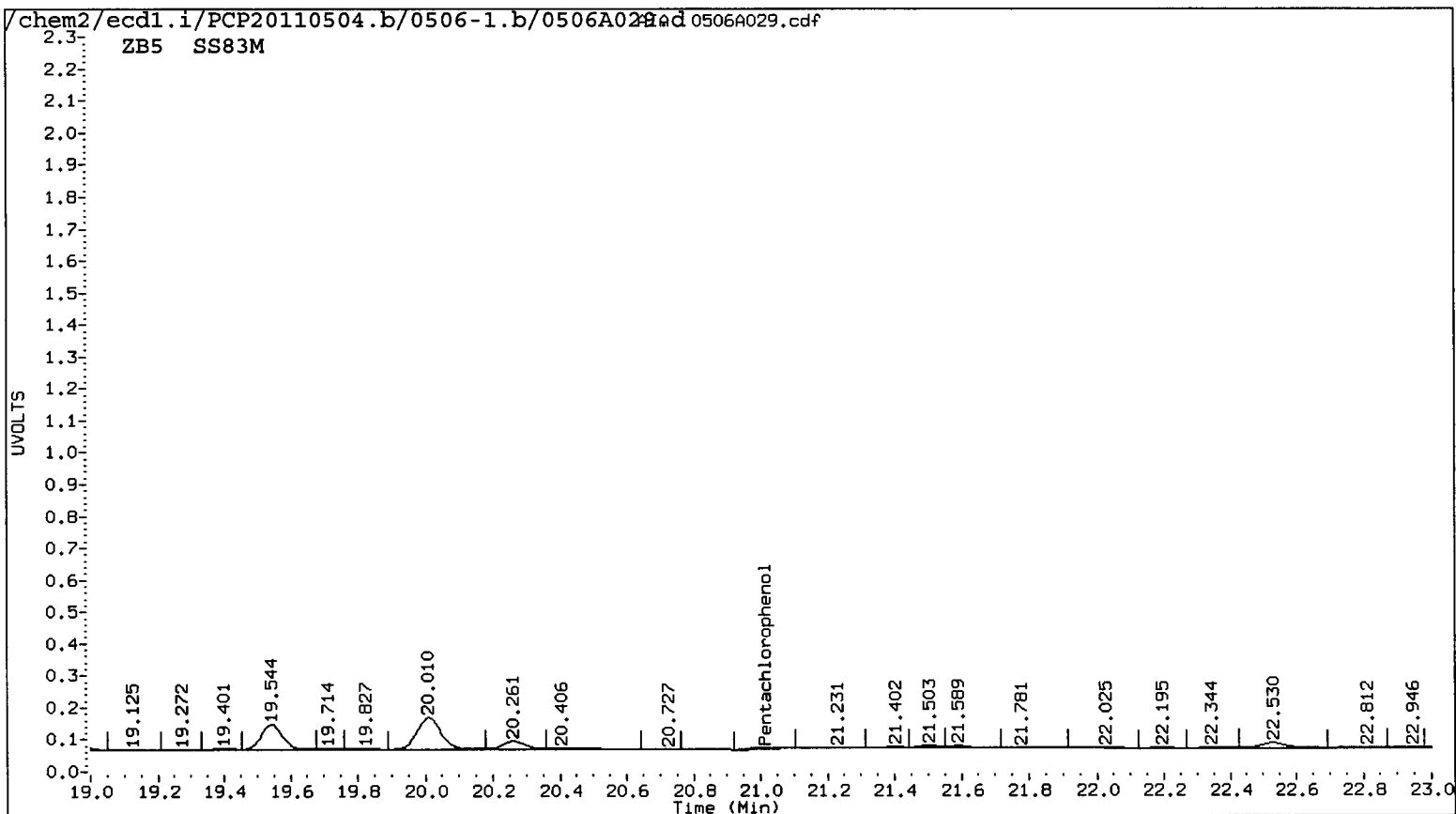
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A029.d ARI ID: SS83M
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A029.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 07:15
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.014	0.016	13730	22.988	0.021	19801	0.6814	0.7031	3.1	Pentachlorophenol
----			14.373	0.062	5569	0.0000	0.3843	---	2,4,6-Trichlorophenol
14.069	-0.028	11521	15.603	0.046	40261	1.0060	2.8011	94.3*	2,3,6-Trichlorophenol
----			17.465	-0.009	4115	0.0000	0.5084	---	2,4,5-Trichlorophenol
----			19.008	-0.015	4227	0.0000	0.4035	---	2,3,4-Trichlorophenol
17.085	-0.068	7945	----			0.4699	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.028	-0.052	22376	0.0000	1.3151	---	2,3,4,5-Tetrachlorophenol
12.522	-0.033	15665	13.838	0.018	9296	19.7501	10.6016	60.3*	2,4-Dichlorophenol
18.600	0.005	261511	20.942	0.006	335610	16.6	16.0	4.0	2,4,6-Tribromophenol (surr)

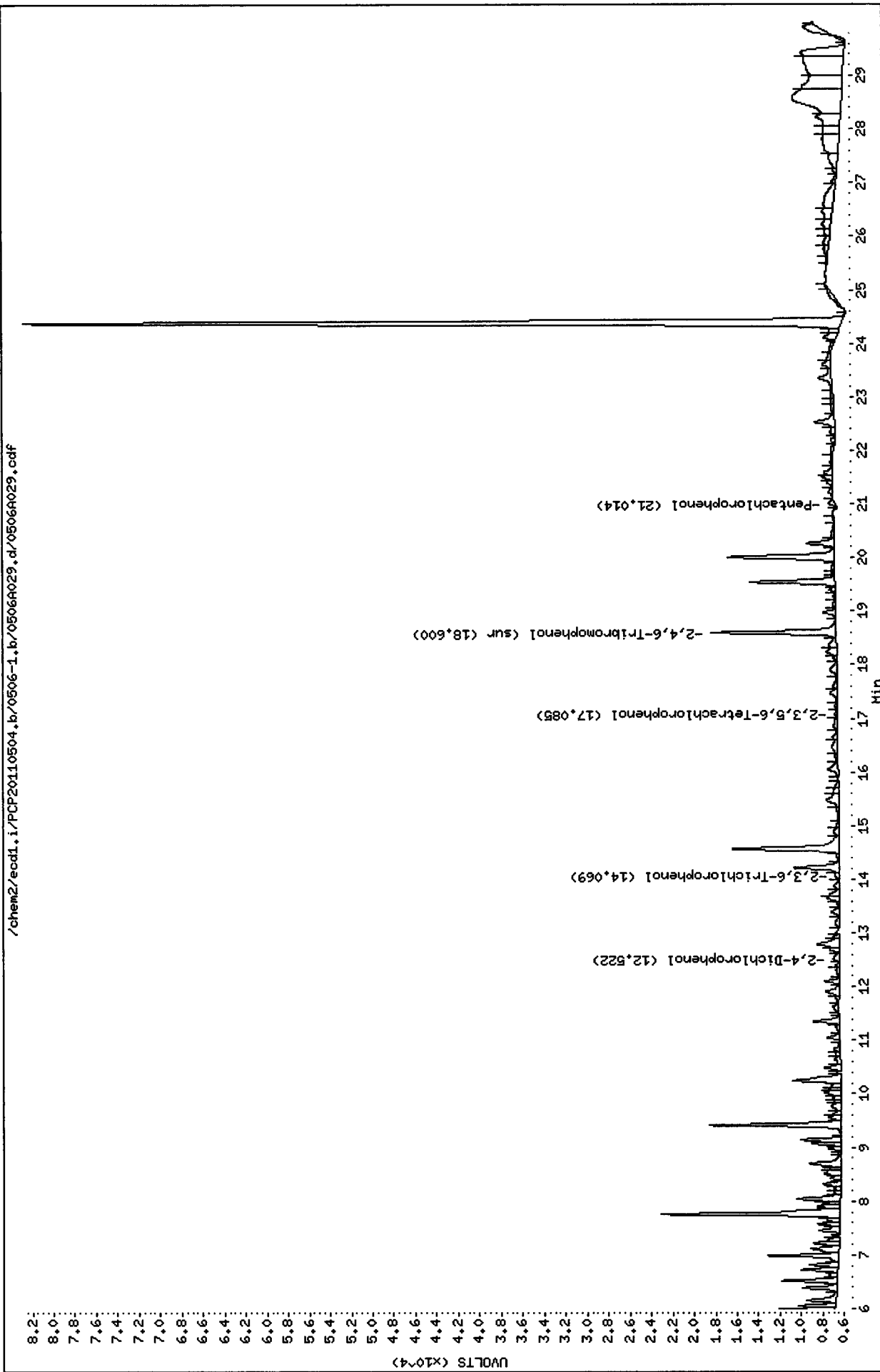
PERCENT RECOVERY

COMPOUND	Col1	Col2
2,4,6-TBP (surr)	66.4	63.9

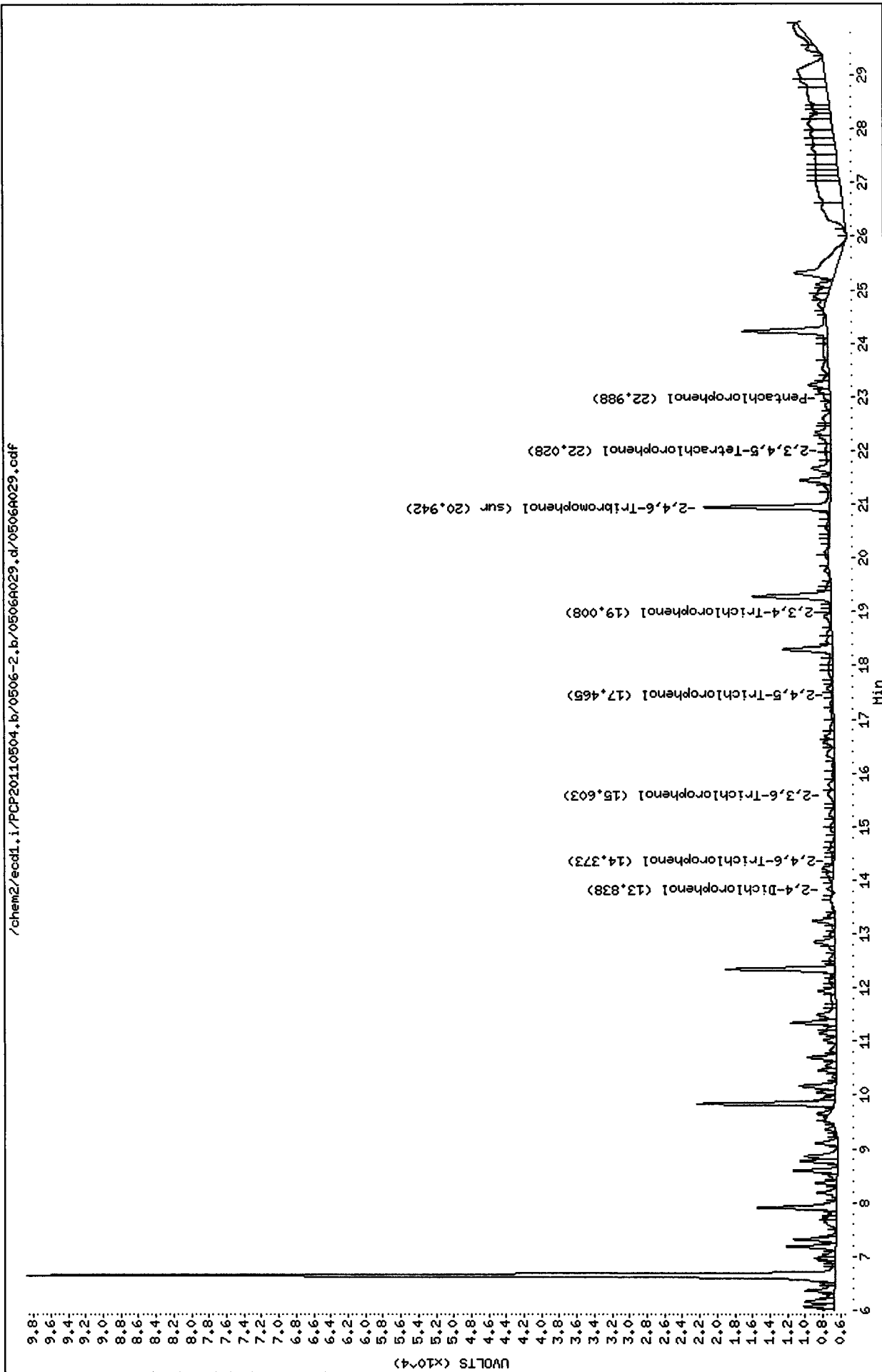




Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A029.d
Date : 07-MAY-2011 07:15
Client ID:
Instrument: ecdl1.i
Sample Info: S863M
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1

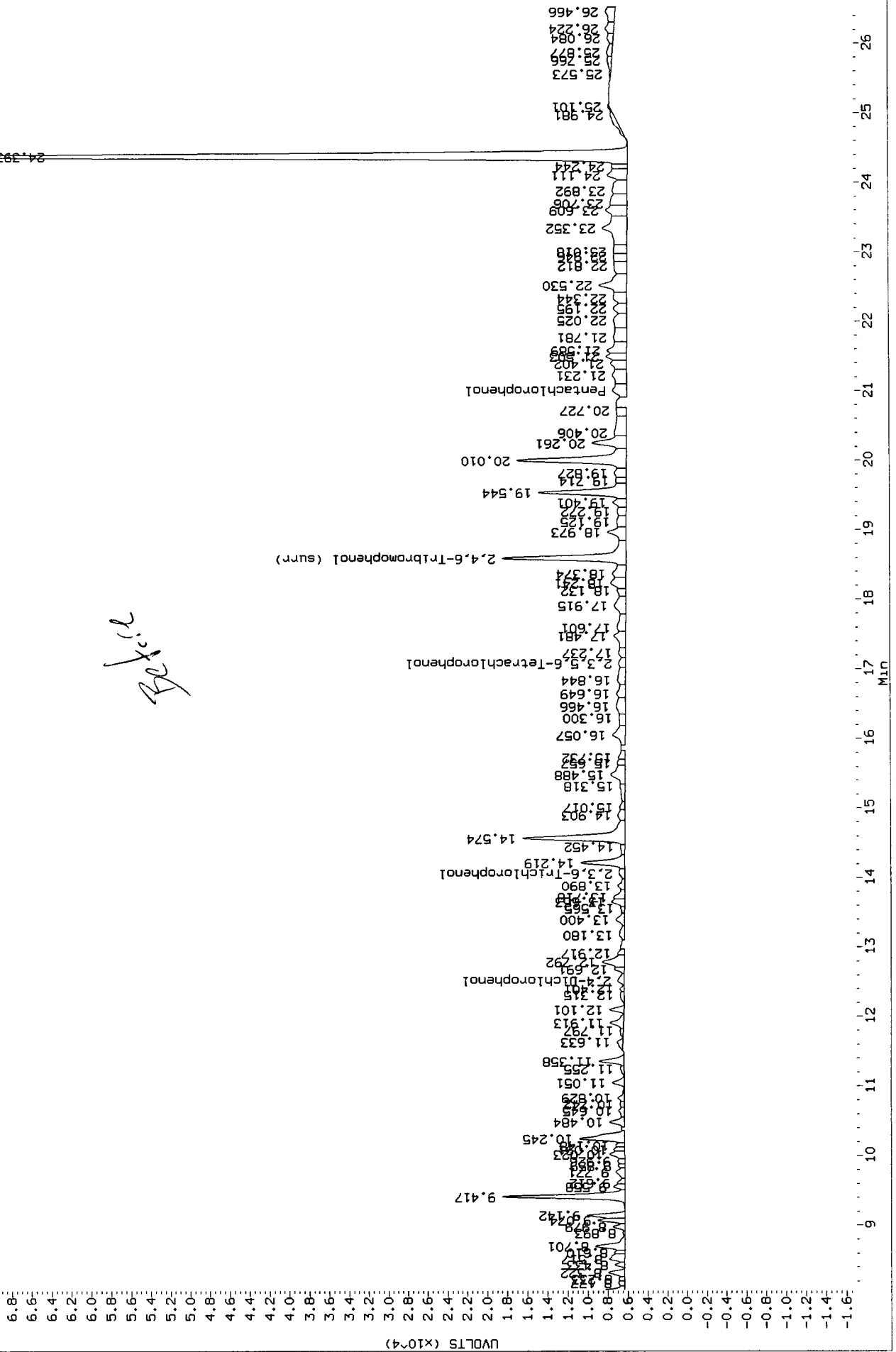


Data File: /chem2/ecd1.i/PCP20110504.b/0506-2.b/0506A029.d
Date : 07-MAY-2011 07:15
Client ID:
Instrument: ecd1.i
Sample Info: S83M
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A029.d/0506A029.cdf
Injection Date: 07-MAY-2011 07:15
Instrument: ecdl1
Client Sample ID:

AIA 0506A029.cdf: 8.081 to 26.538 Min



Bevil

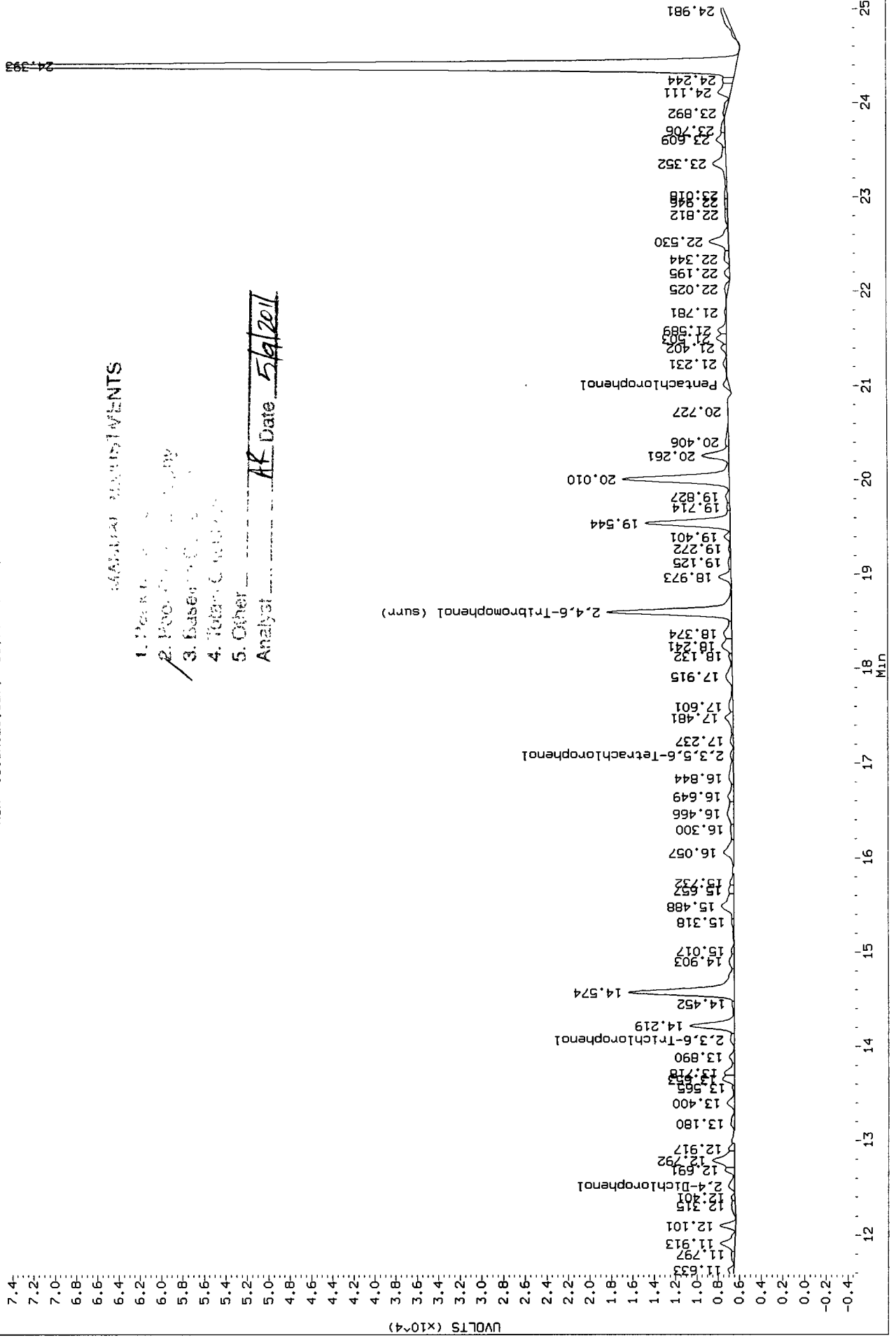
Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A029.d/0506A029.cdf
 Injection Date: 07-MAY-2011 07:15
 Instrument: ecdl1.1
 Client Sample ID:

AIA 0506A029.cdf: 11.595 to 25.008 Min

QUALITY ADJUSTMENTS

1. Peak 1
2. Peak 2
3. Base Peak
4. Total C
5. Other

Analyst: AK Date: 5/9/2011



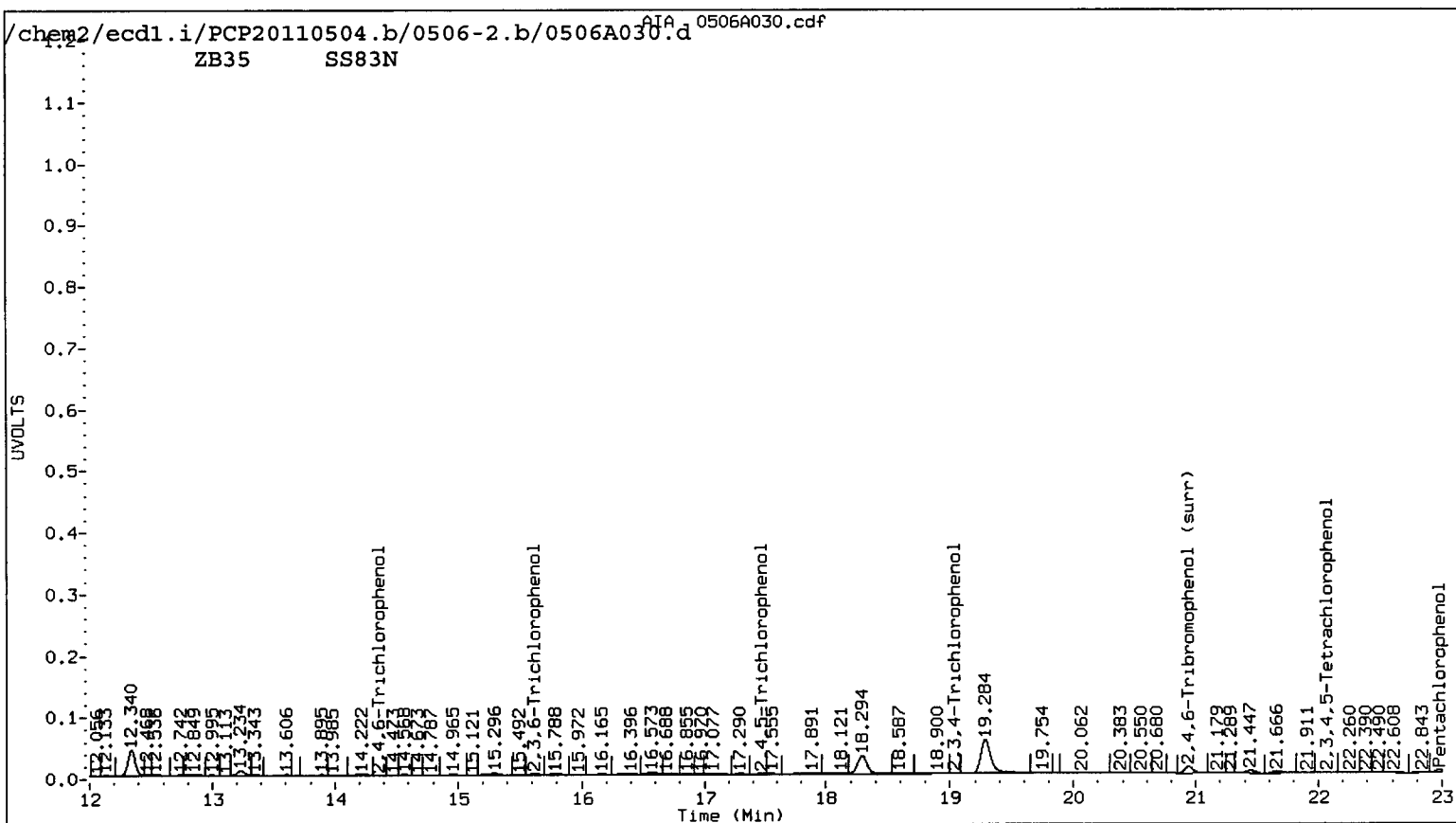
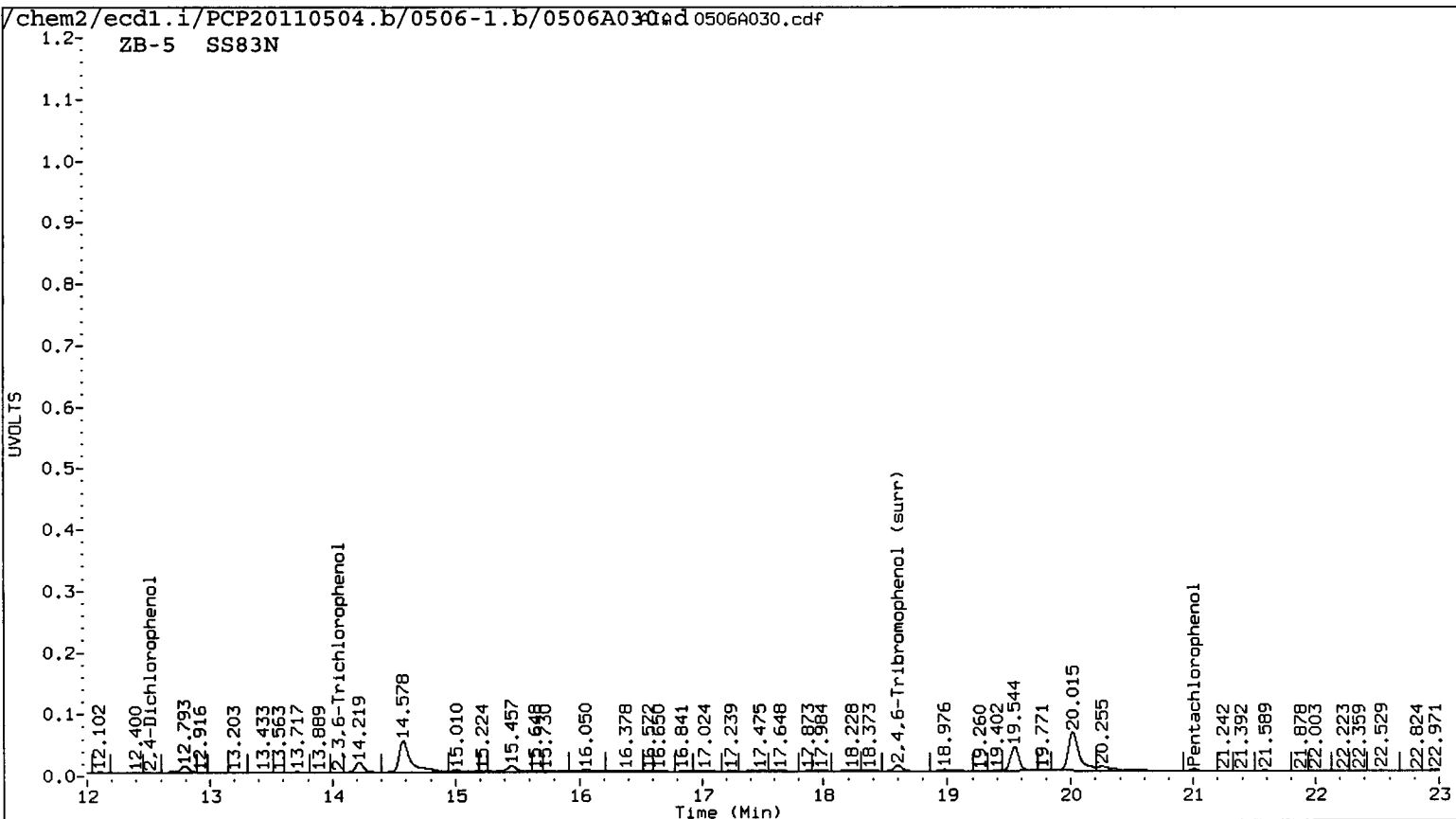
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A030.d ARI ID: SS83N
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A030.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 07:51
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

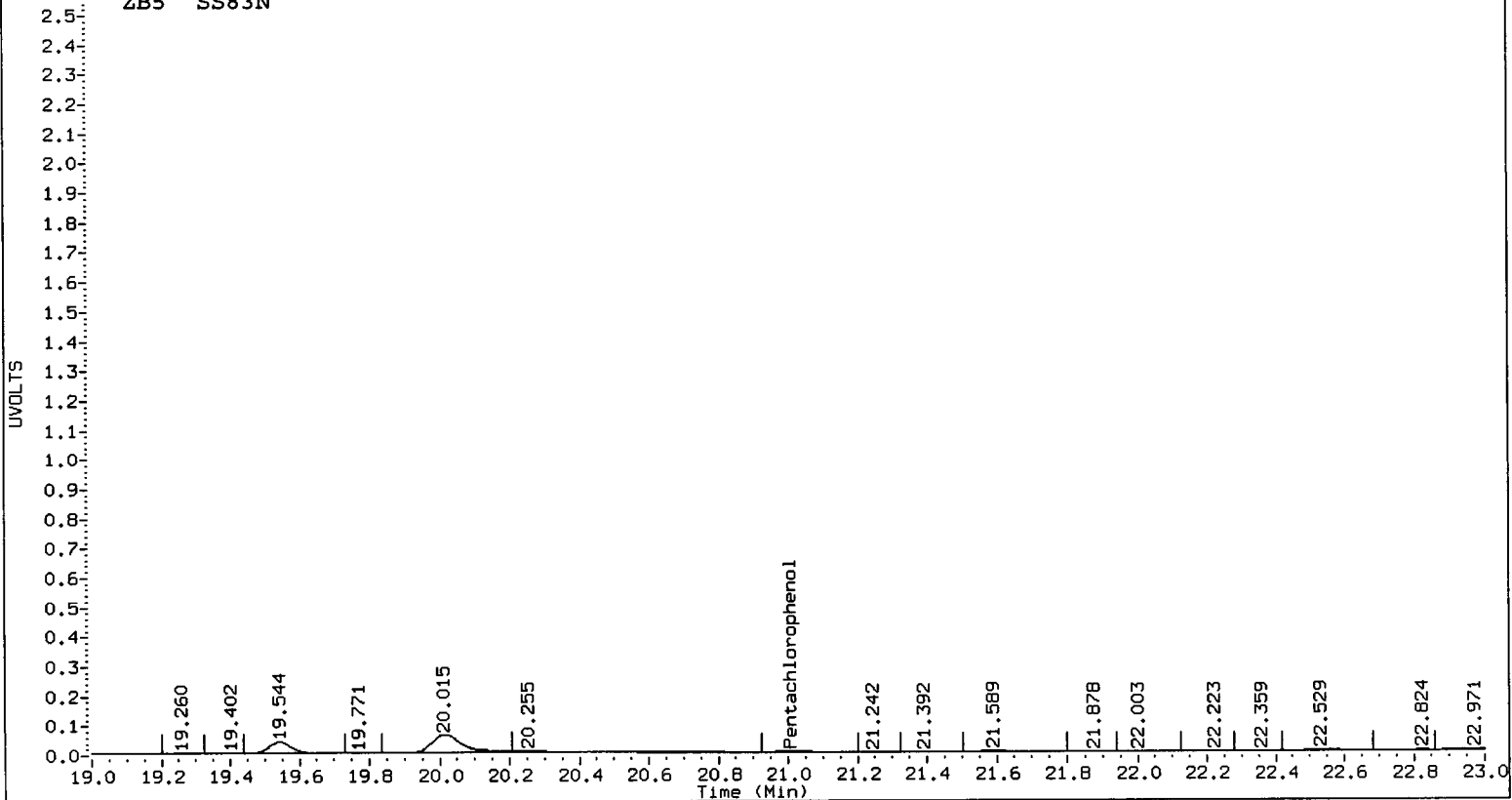
ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.005	0.008	97666	22.977	0.010	93027	4.8472	3.3034	37.9	Pentachlorophenol
----			14.363	0.052	5567	0.0000	0.3842	---	2,4,6-Trichlorophenol
14.048	-0.049	6615	15.620	0.063	27811	0.5776	1.9349	108.0*	2,3,6-Trichlorophenol
----			17.469	-0.005	38243	0.0000	4.7239	---	2,4,5-Trichlorophenol
----			19.035	0.012	2168	0.0000	0.2067	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.070	-0.010	14641	0.0000	0.8584	---	2,3,4,5-Tetrachlorophenol
12.519	-0.036	10988	----			13.7624	0.0000	---	2,4-Dichlorophenol
18.600	0.004	224793	20.943	0.007	250424	14.3	11.9	18.1	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

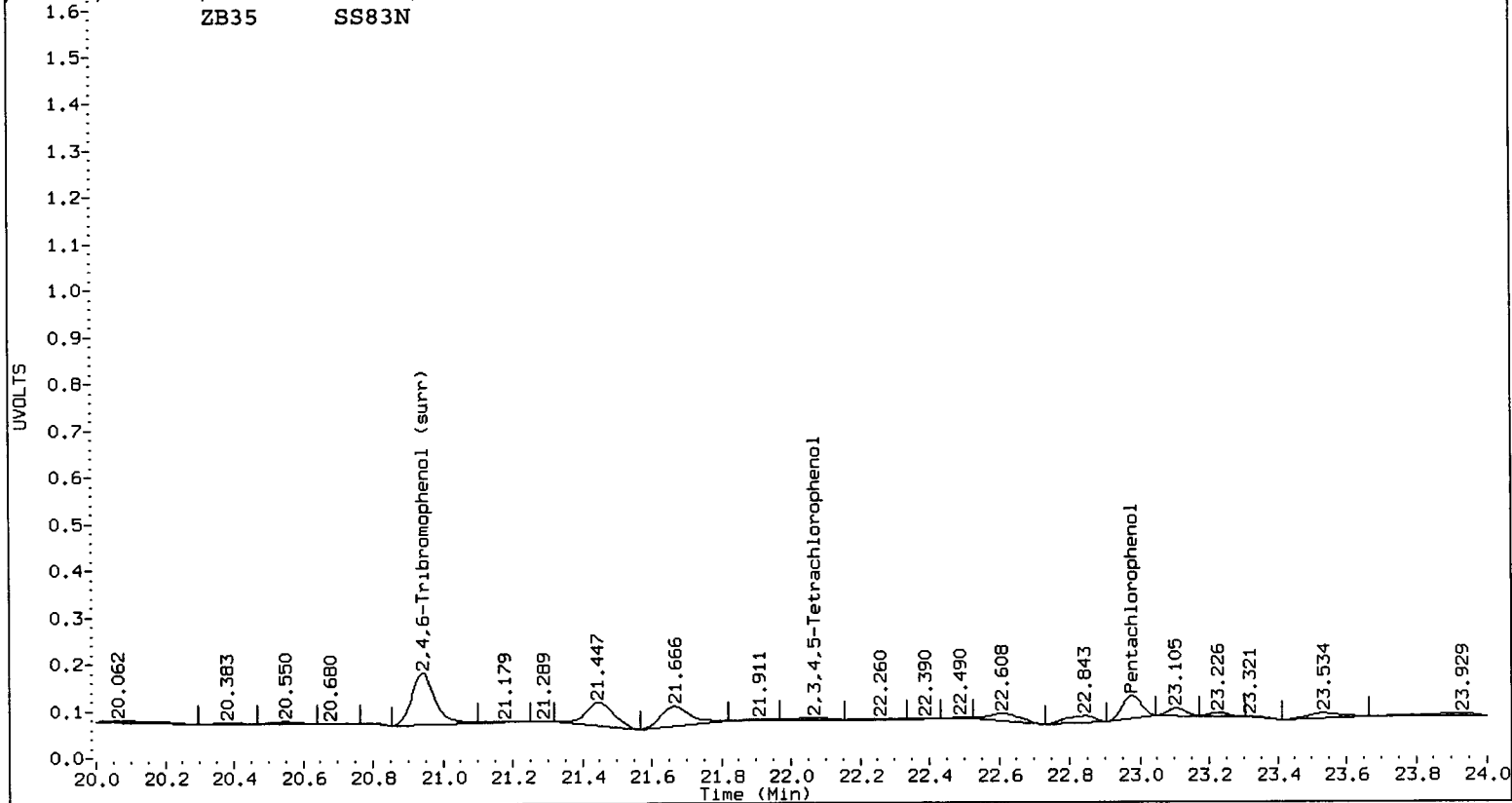
COMPOUND	Col1	Col2
2,4,6-TBP (surr)	57.1	47.6



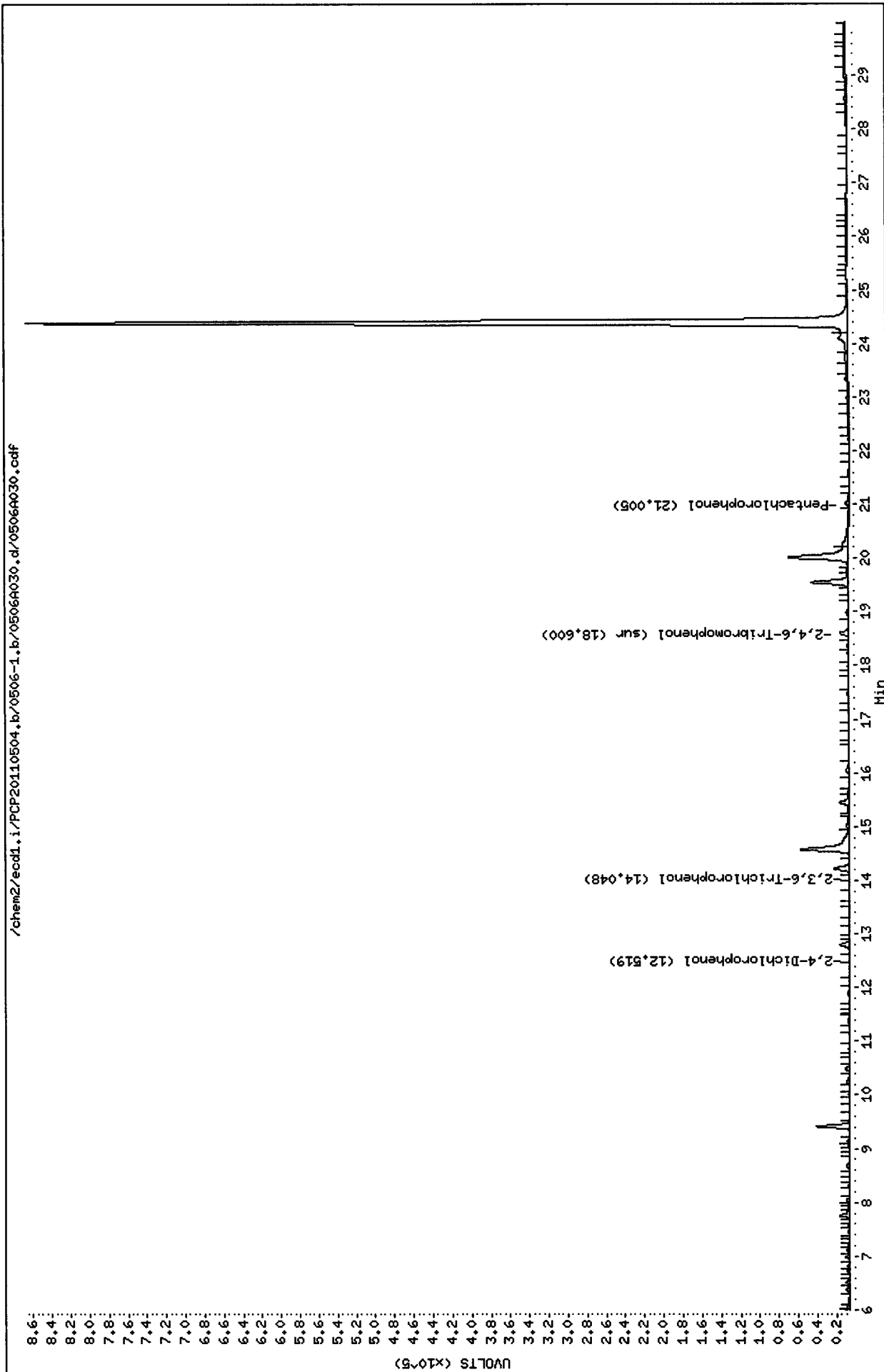
ZB5 SS83N



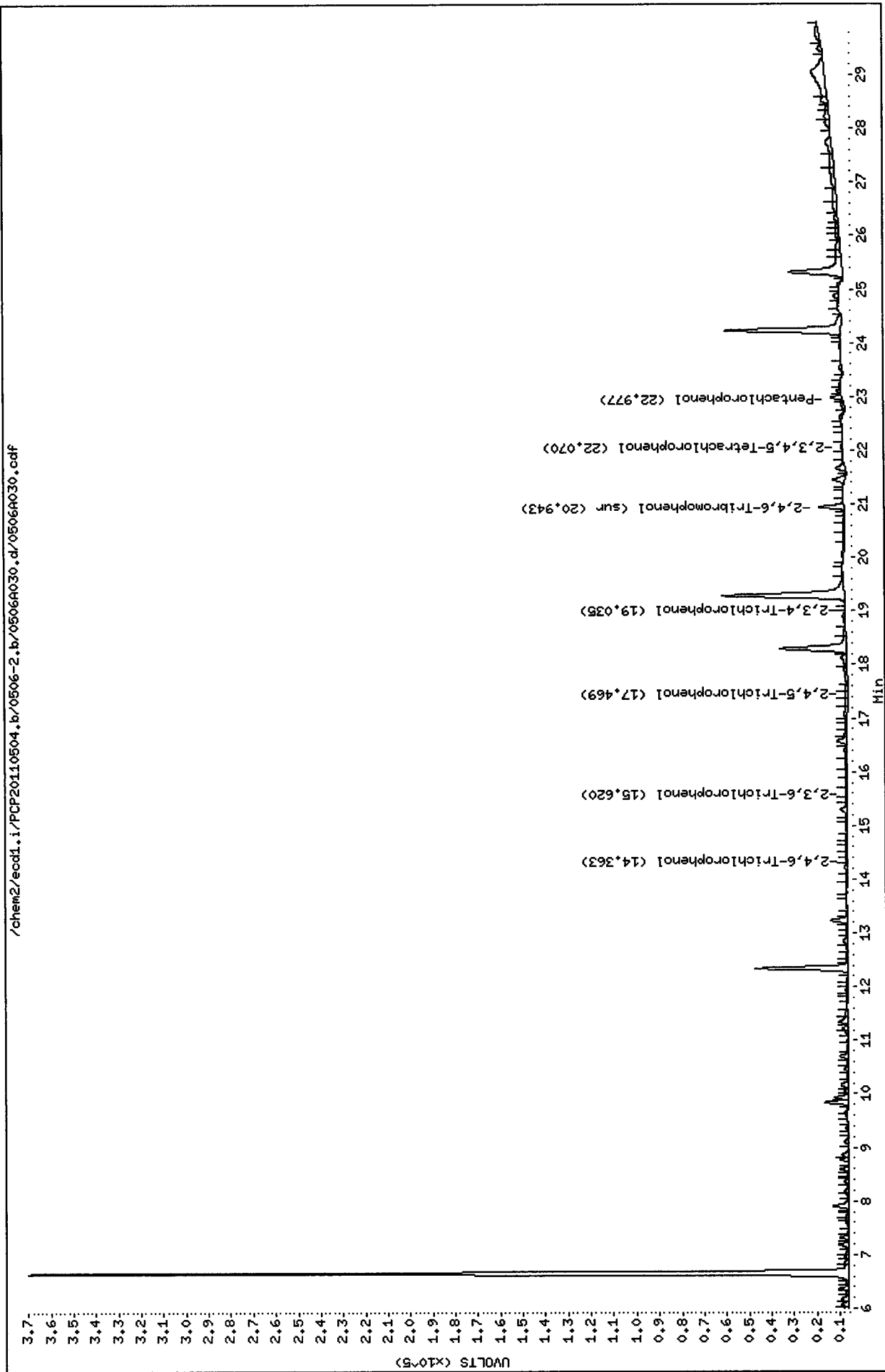
ZB35 SS83N



Data File: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A030.d
Date : 07-MAY-2011 07:51
Client ID:
Instrument: ecdl.i
Sample Info: S883N
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP1

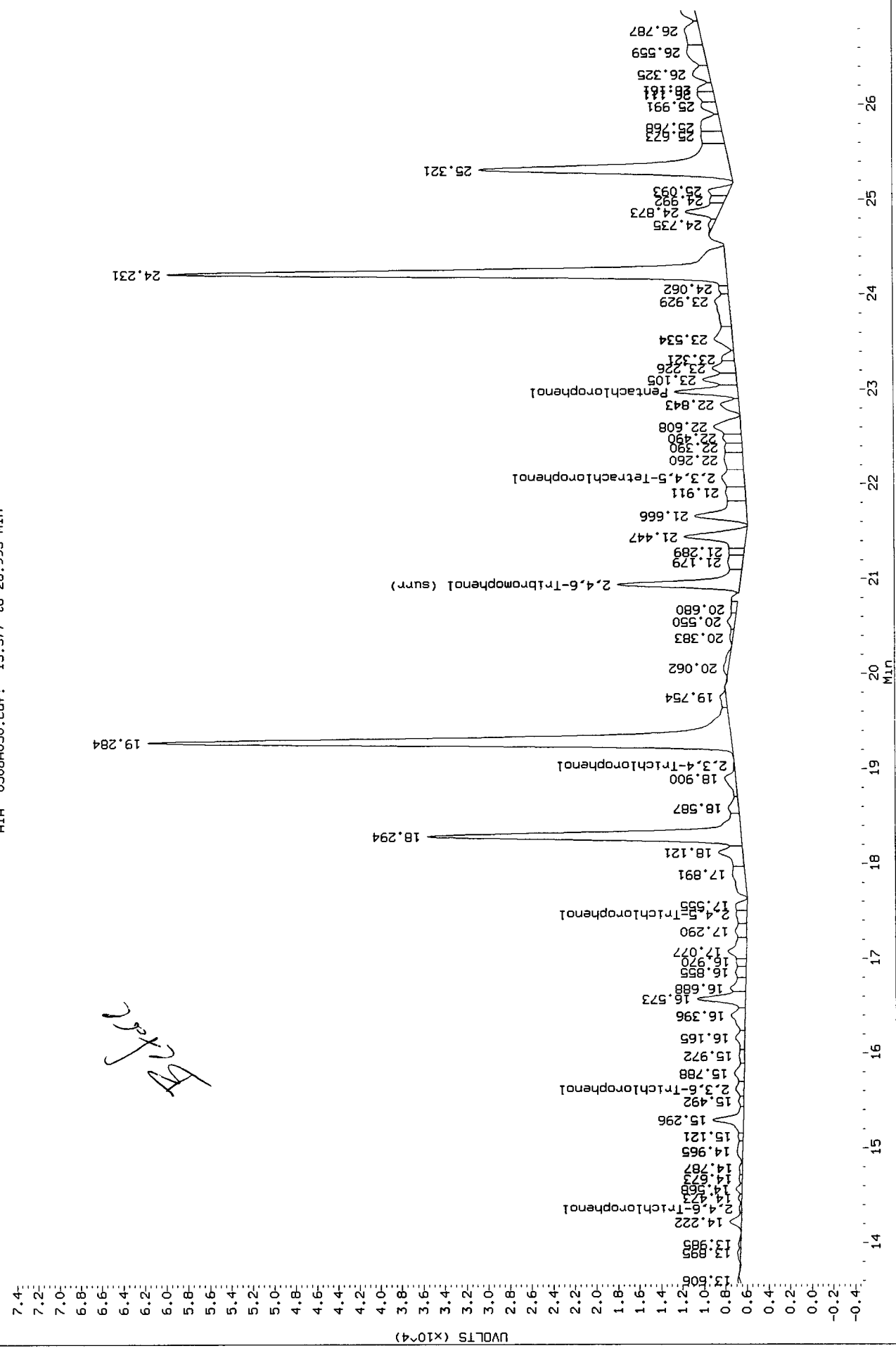


Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A030.d
Date : 07-MAY-2011 07:51
Client ID:
Instrument: ecdl.i
Sample Info: SS83N
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



Data File: /chem2/ecdl1/PCP20110504_b/0506-2.b/0506A030.d/0506A030.cdf
 Injection Date: 07-MAY-2011 07:51
 Instrument: ecdl1
 Client Sample ID:

AIA 0506A030.cdf: 13.577 to 26.995 Min

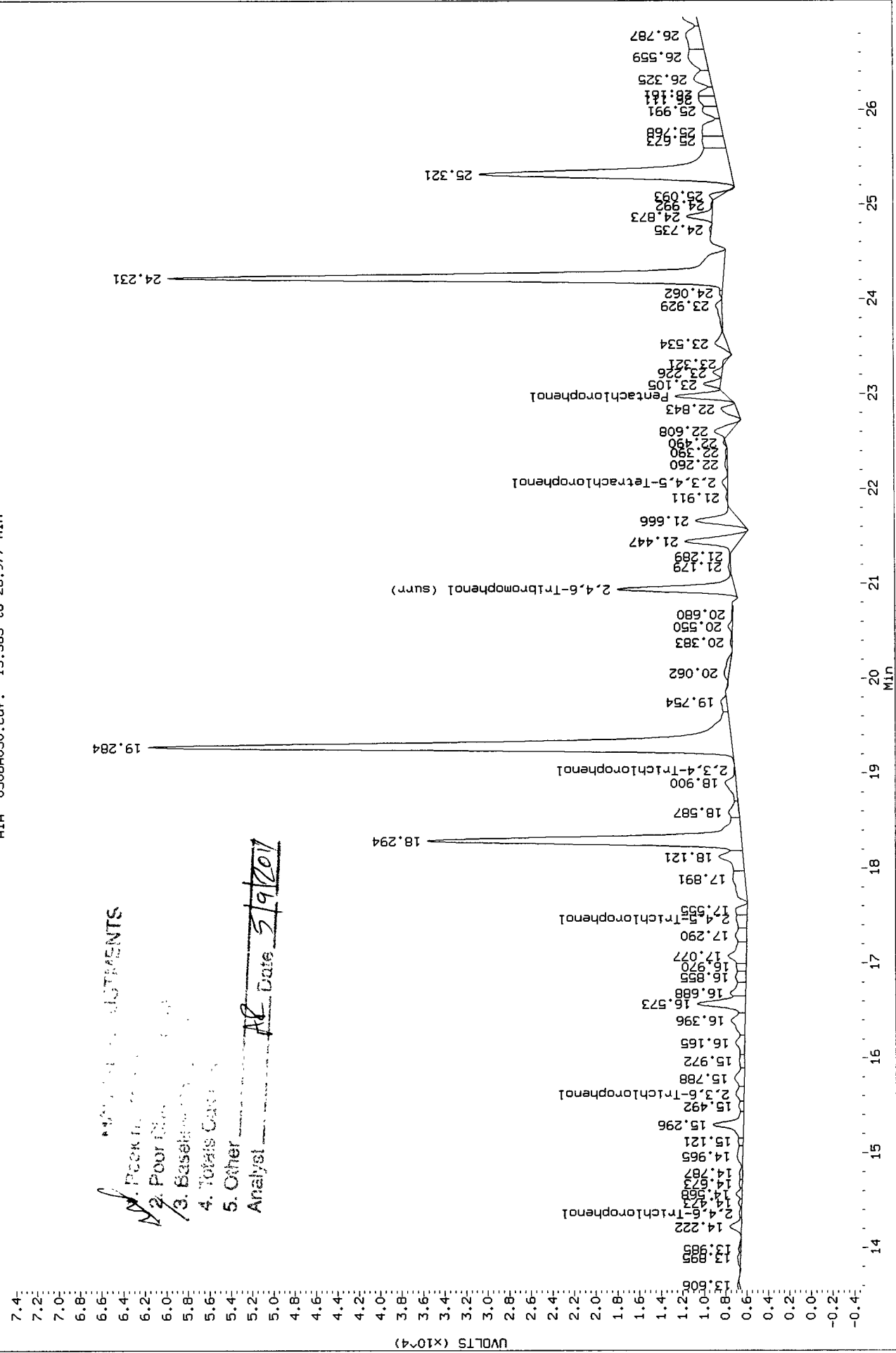


58010 : 01085

1088

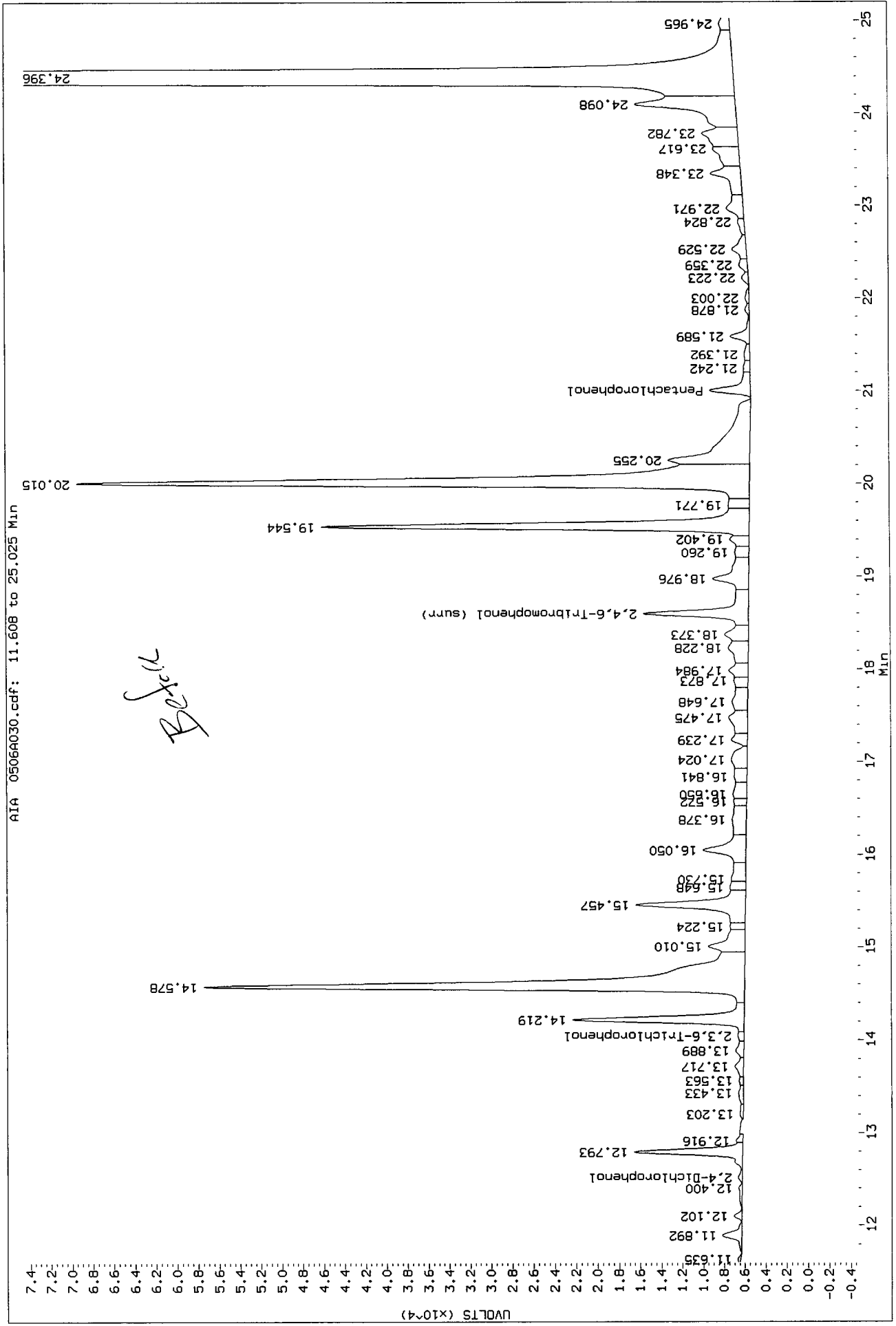
Data File: /chem2/ecd1.1/PCP20110504.b/0506-2.b/0506A030.d/0506A030.cdf
 Injection Date: 07-MAY-2011 07:51
 Instrument: ecd1.1
 Client Sample ID:

AIA 0506A030.cdf: 13.563 to 26.977 Min

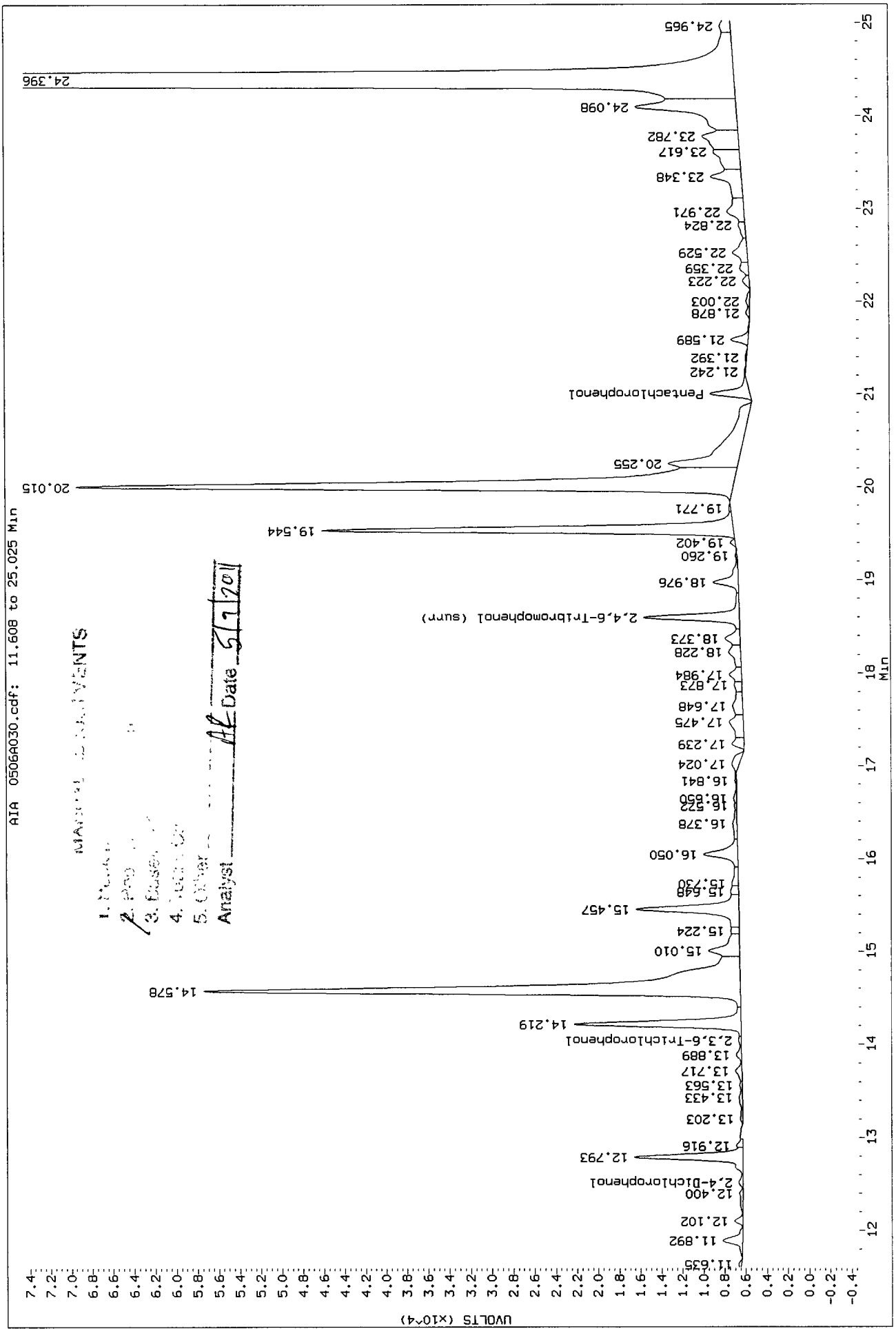


ANALYST'S COMMENTS
 1. Peak in ...
 2. Four ...
 3. Base ...
 4. Total ...
 5. Other
 Analyst: AC Date: 5/9/2011

Data File: /chem2/ecdl1/PCP20110504.b/0506-1.b/0506A030.d/0506A030.cdf
Injection Date: 07-MAY-2011 07:51
Instrument: ecdl1
Client Sample ID:



Data File: /chem2/ecd1.1/PCP20110504.b/0506-1.b/0506A030.d/0506A030.cdf
 Injection Date: 07-MAY-2011 07:51
 Instrument: ecd1.1
 Client Sample ID:



88010:885

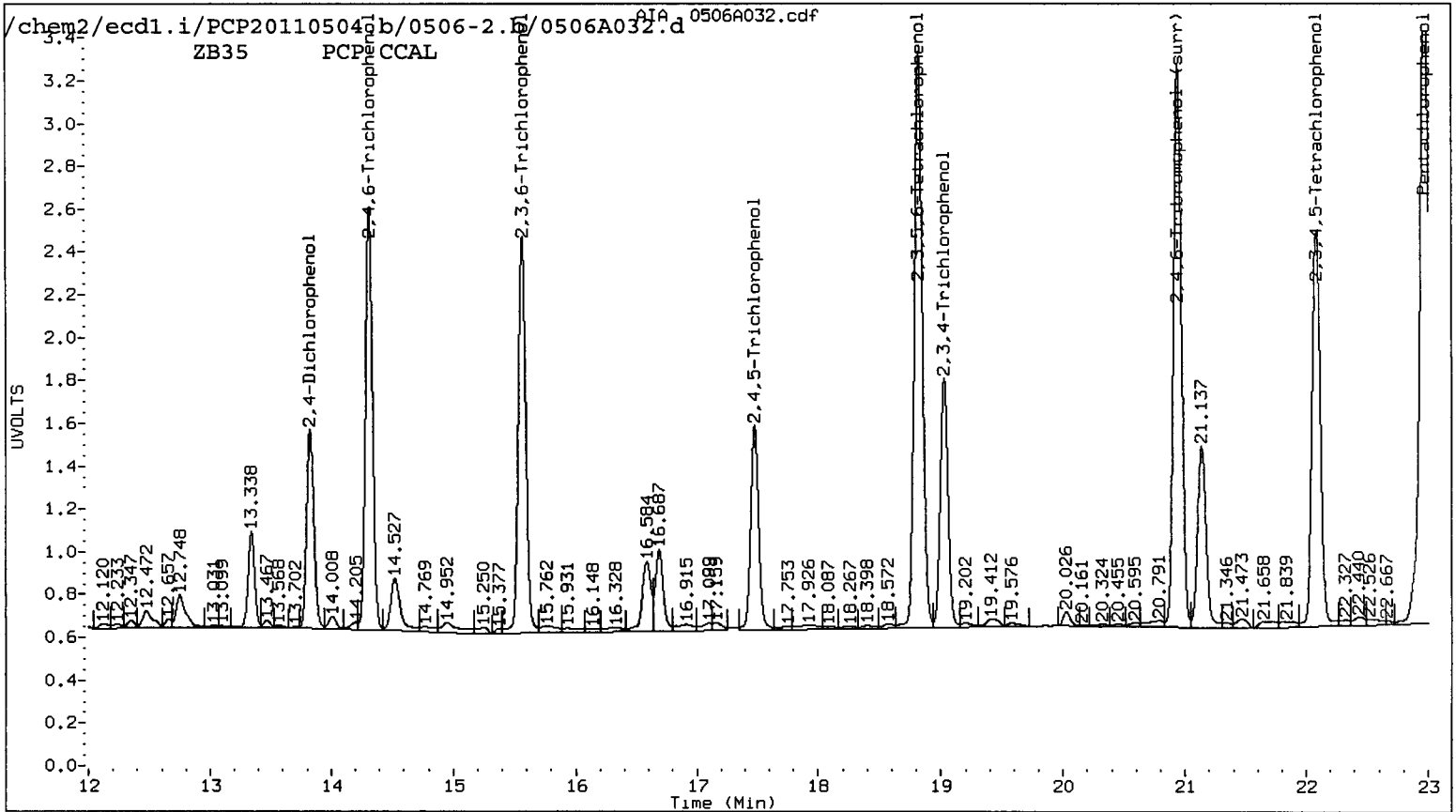
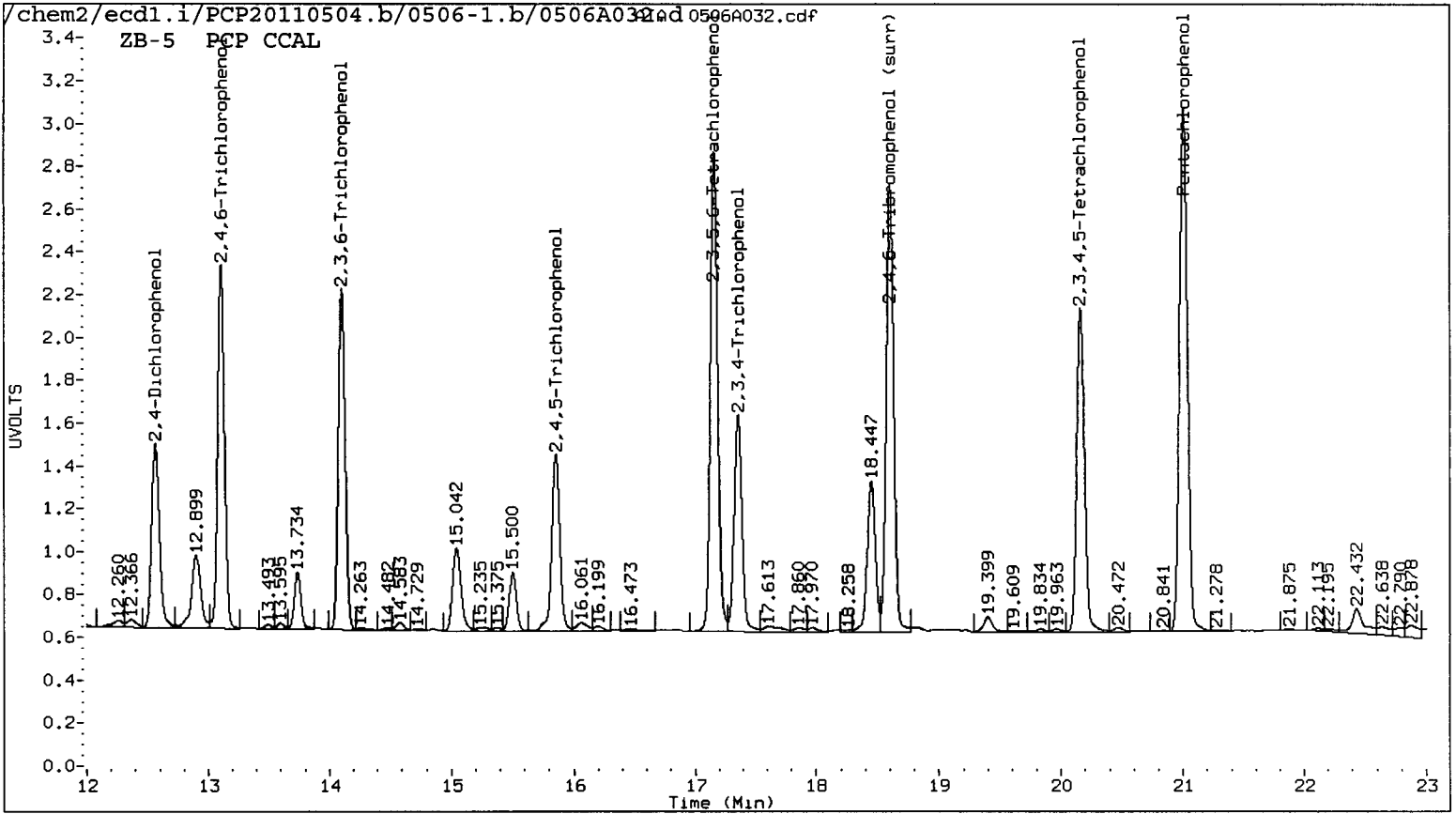
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

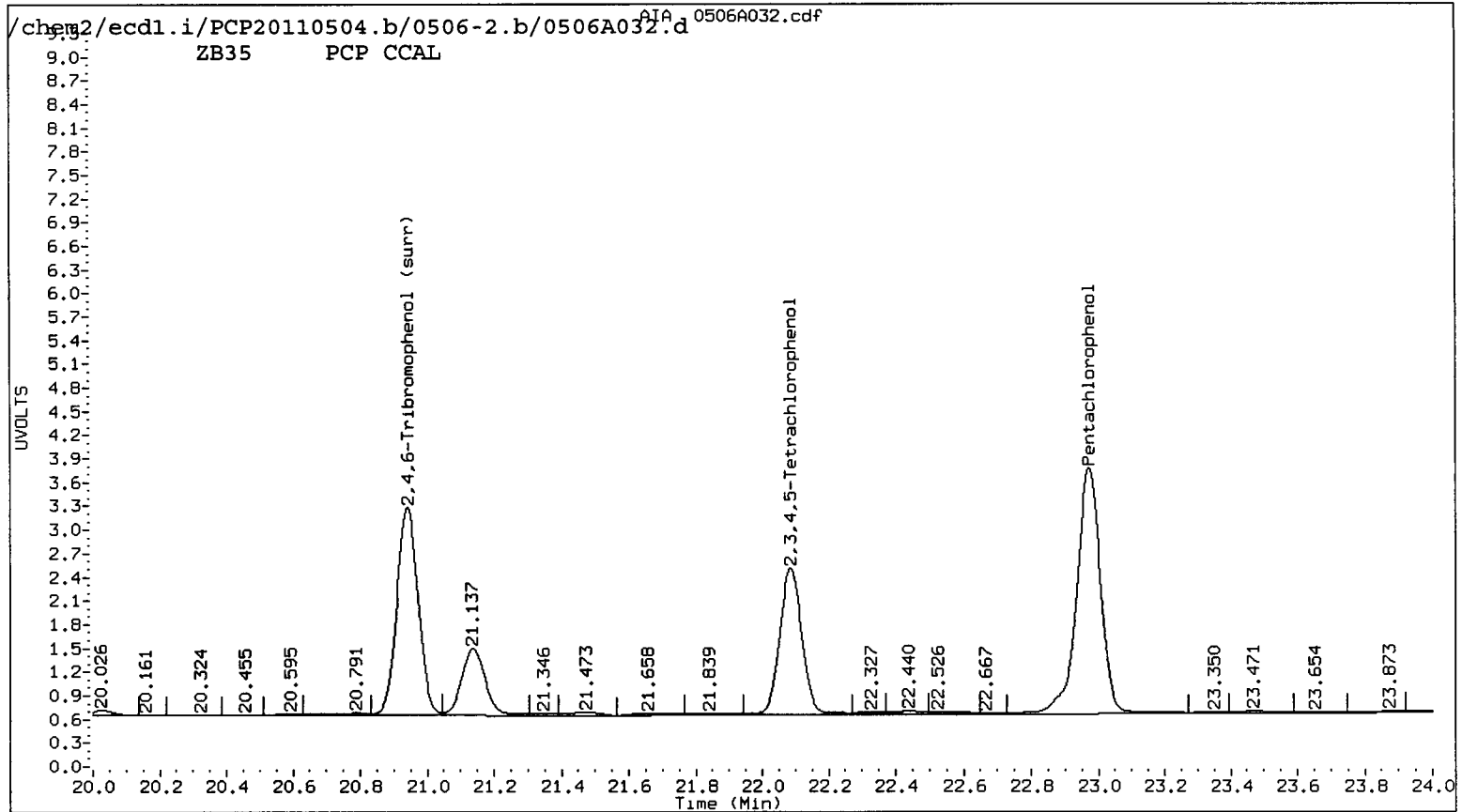
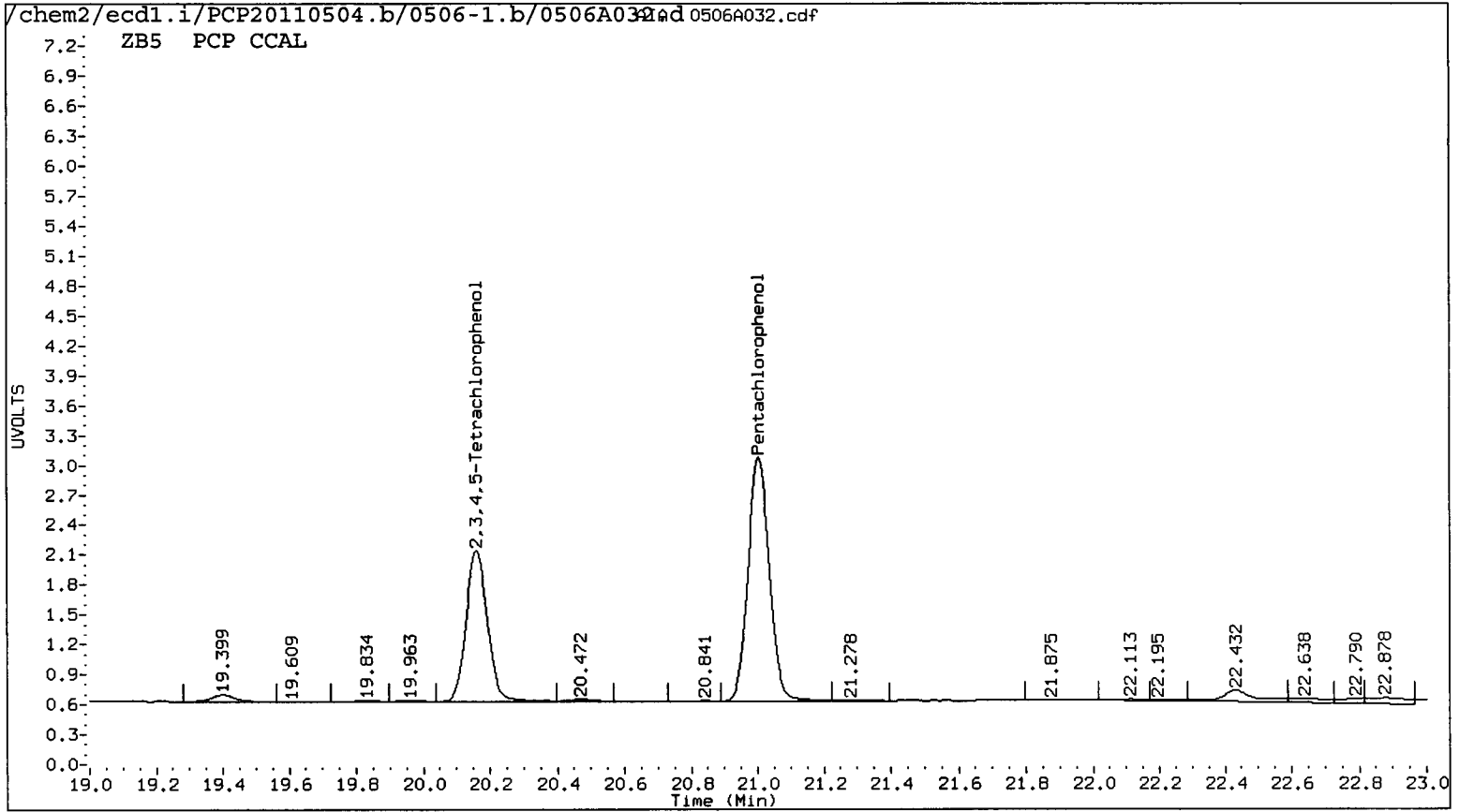
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A032.d ARI ID: PCP CCAL
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A032.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 09:04
 Compound Sublist: all Report Date: 05/09/2011 15:32
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.003	0.006	548189	22.973	0.006	773083	27.2066	27.4524	0.9	Pentachlorophenol
13.106	0.005	332761	14.316	0.005	401161	27.3365	27.6782	1.2	2,4,6-Trichlorophenol
14.101	0.004	315768	15.562	0.005	399967	27.5717	27.8269	0.9	2,3,6-Trichlorophenol
15.850	0.005	187883	17.479	0.005	219867	28.8631	27.1586	6.1	2,4,5-Trichlorophenol
17.356	0.005	227107	19.027	0.004	261013	27.1811	29.0270	6.6	2,3,4-Trichlorophenol
17.158	0.005	482469	18.819	0.005	604928	28.5372	27.5745	3.4	2,3,5,6-Tetrachlorophenol
20.160	0.005	341403	22.086	0.006	434143	26.2987	28.8245	9.2	2,3,4,5-Tetrachlorophenol
12.561	0.006	188051	13.825	0.005	197676	294.5233	289.3069	1.8	2,4-Dichlorophenol
18.601	0.005	447601	20.942	0.006	583991	28.4	27.8	2.3	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	108.8	109.8
2,4,6-Trichlorophenol	109.3	110.7
2,3,6-Trichlorophenol	110.3	111.3
2,4,5-Trichlorophenol	115.5	108.6
2,3,4-Trichlorophenol	108.7	116.1
2,3,5,6-Tetrachlorophenol	114.1	110.3
2,3,4,5-Tetrachlorophenol	105.2	115.3
2,4-Dichlorophenol	117.8	115.7
2,4,6-TBP (surr)	113.7	111.1

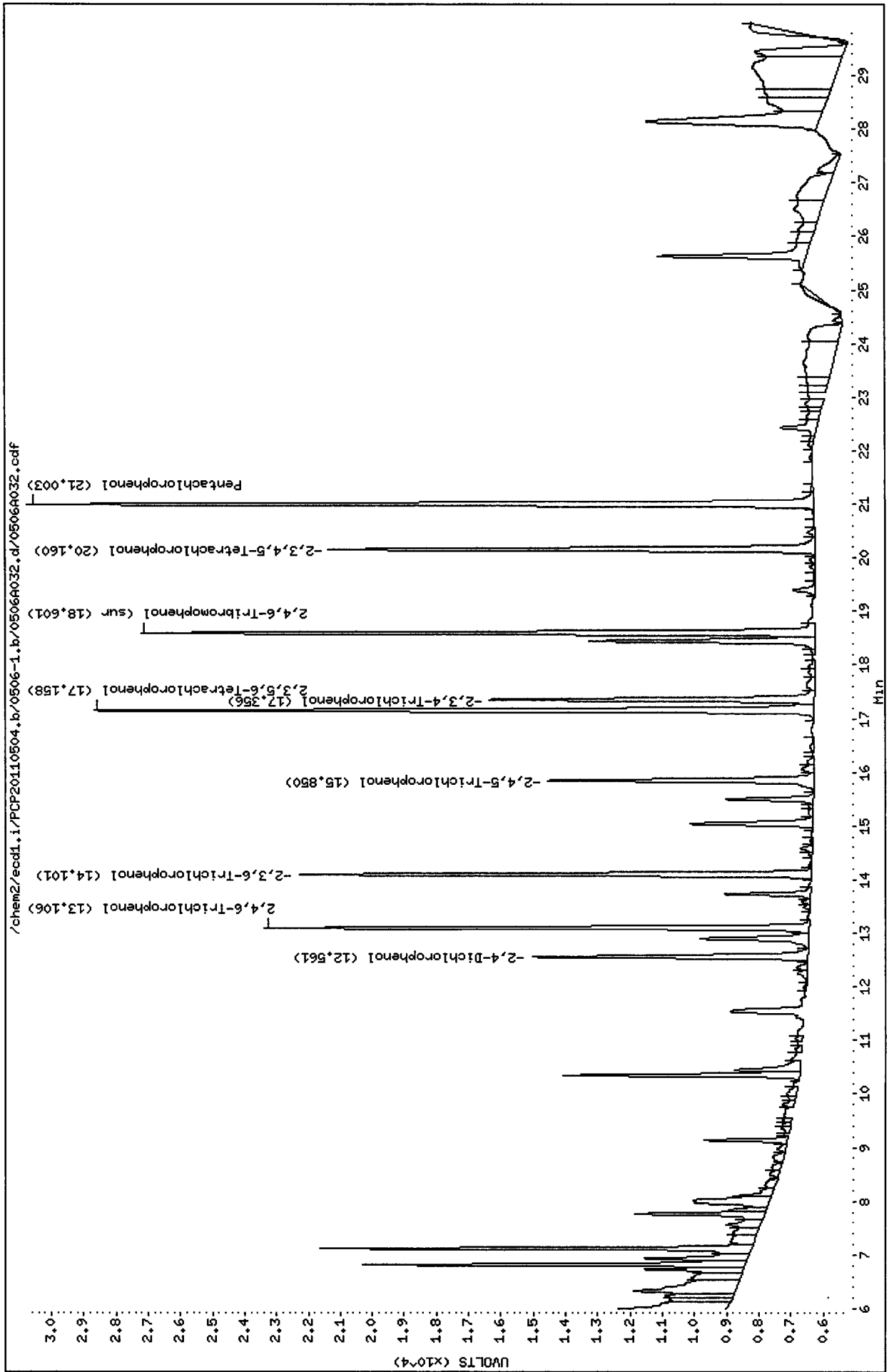




Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A032.d
Date : 07-MAY-2011 09:04
Client ID:
Sample Info: PCP CCAL
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl1.i

Operator: ar
Column diameter: 0.53



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

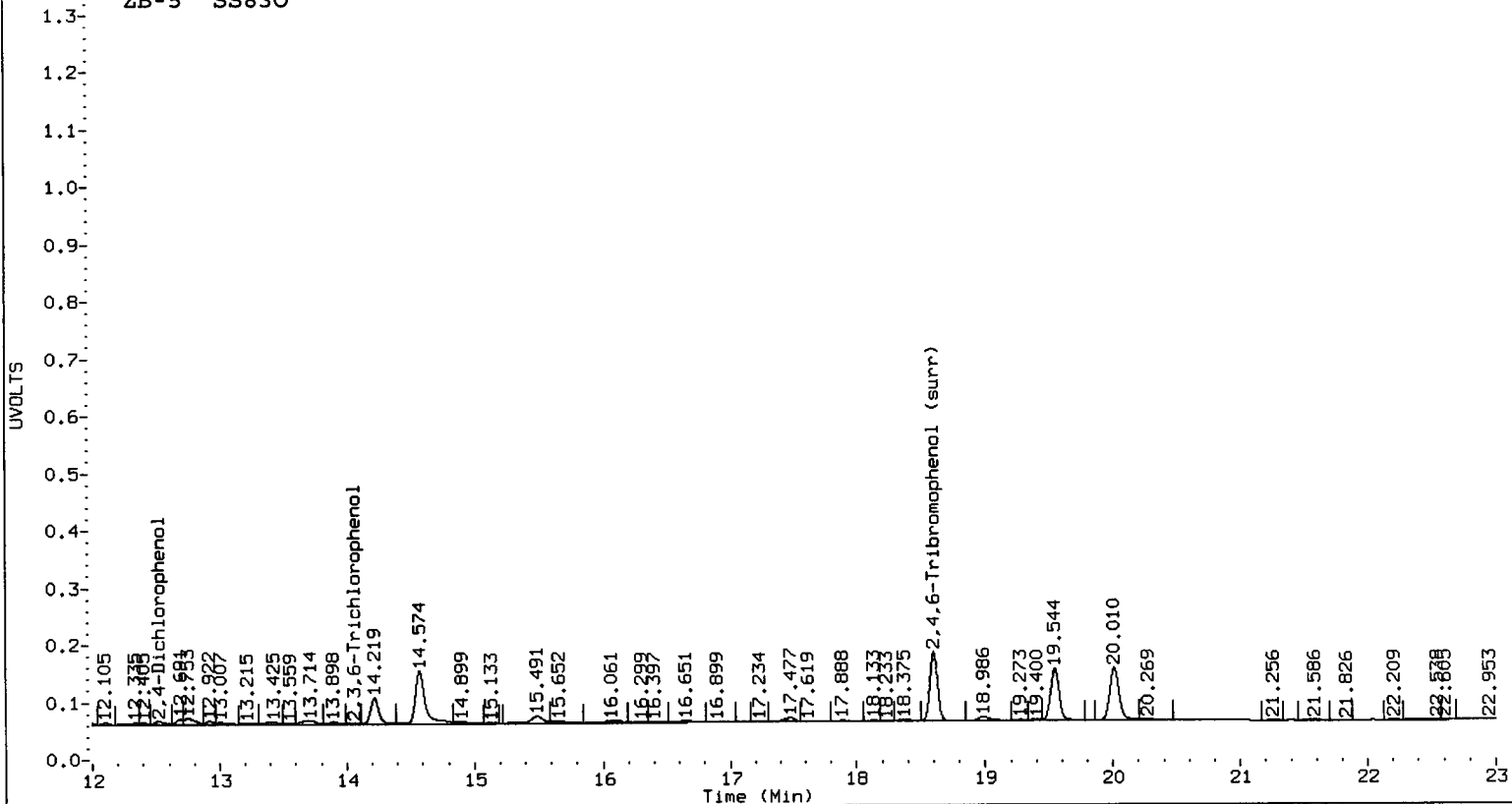
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A033.d ARI ID: SS830
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A033.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 09:40
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
----			----			0.0000	0.0000	---	Pentachlorophenol
----			14.358	0.047	4617	0.0000	0.3186	---	2,4,6-Trichlorophenol
14.064	-0.033	5812	15.613	0.056	30461	0.5075	2.1193	122.7*	2,3,6-Trichlorophenol
----			----			0.0000	0.0000	---	2,4,5-Trichlorophenol
----			19.087	0.064	3255	0.0000	0.3106	---	2,3,4-Trichlorophenol
----			----			0.0000	0.0000	---	2,3,5,6-Tetrachlorophenol
----			22.064	-0.016	3663	0.0000	0.2140	---	2,3,4,5-Tetrachlorophenol
12.524	-0.031	15638	13.887	0.067	14379	19.7159	16.5238	17.6	2,4-Dichlorophenol
18.600	0.005	255155	20.941	0.005	330904	16.2	15.7	2.9	2,4,6-Tribromophenol (surr)

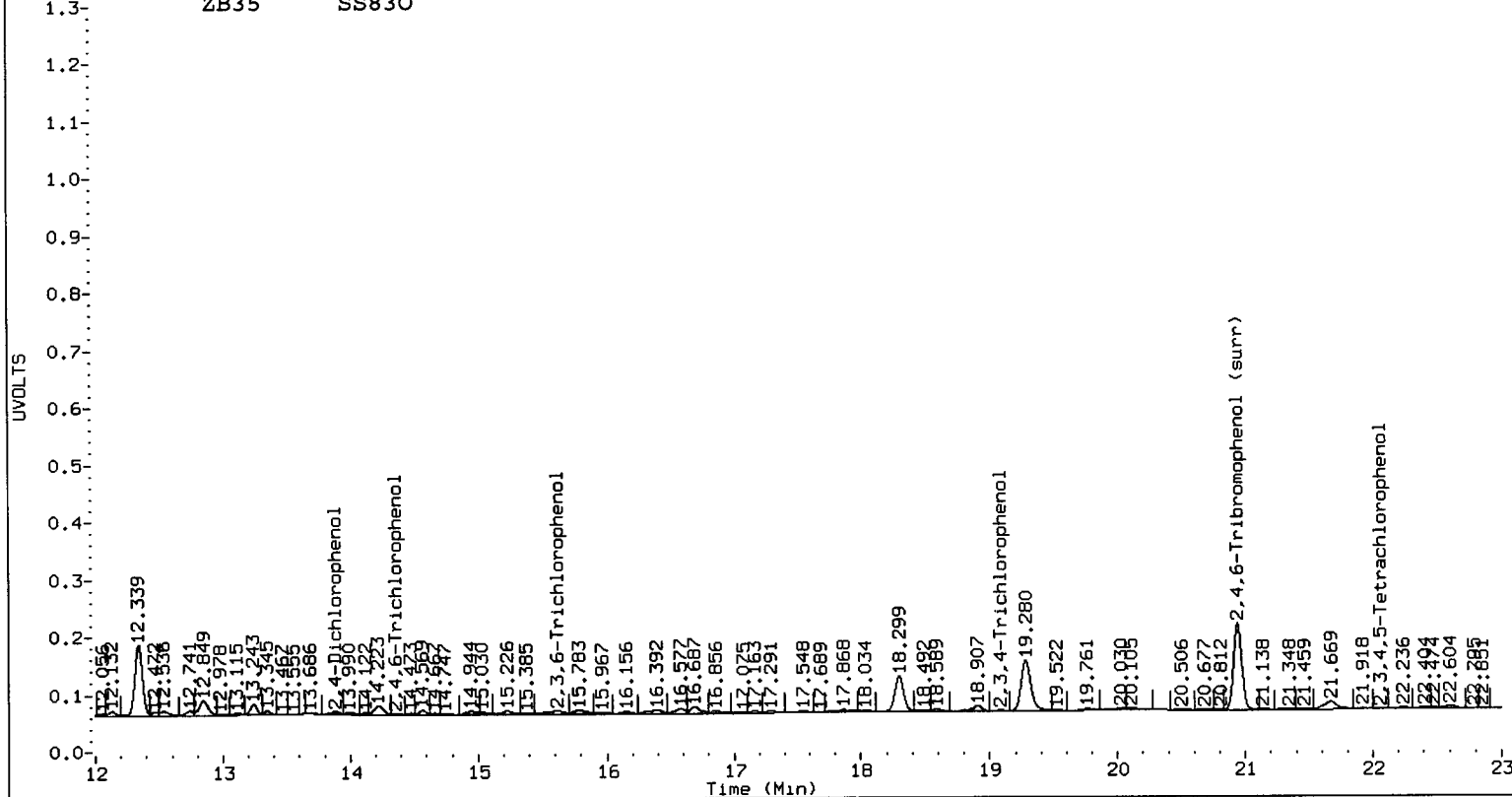
PERCENT RECOVERY

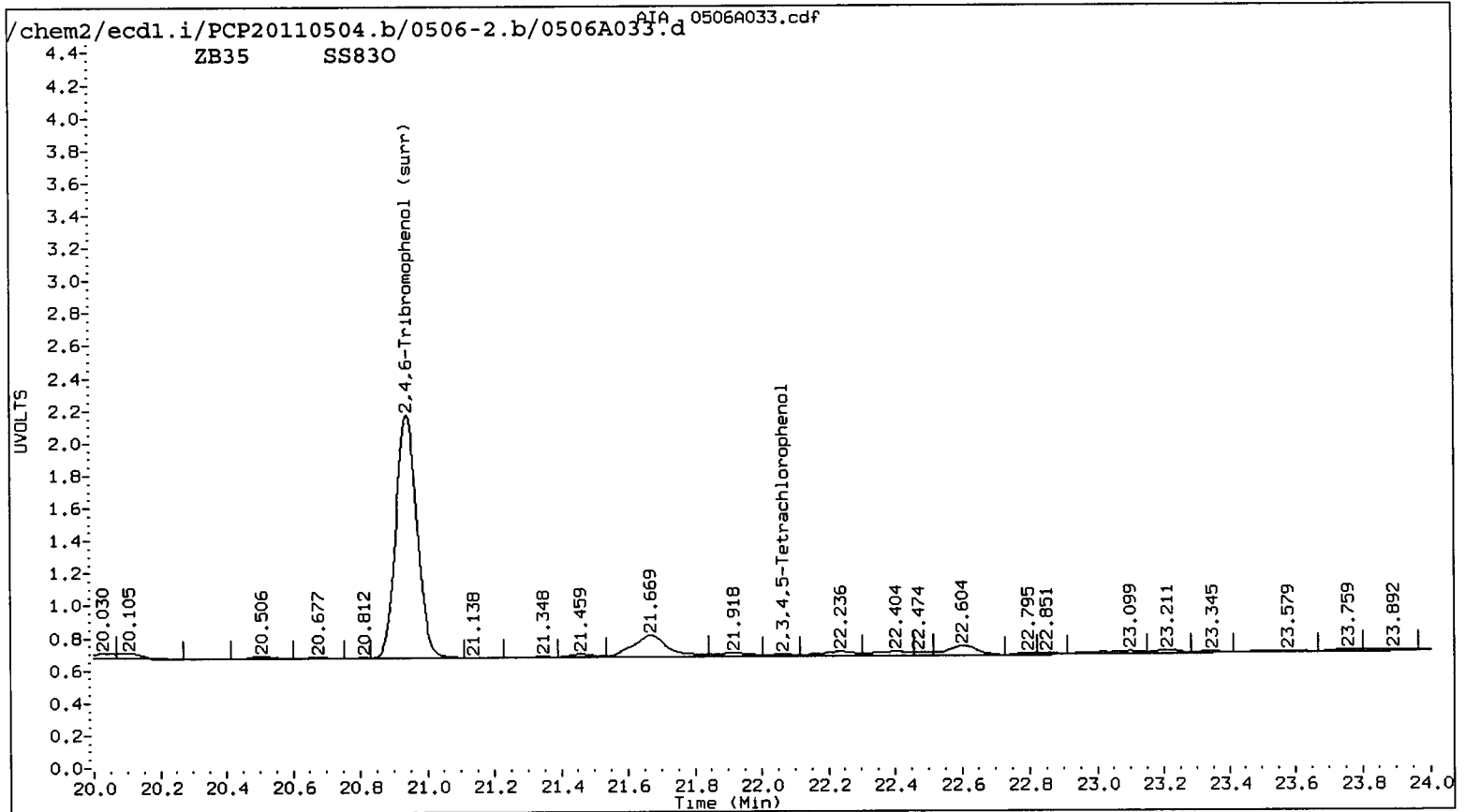
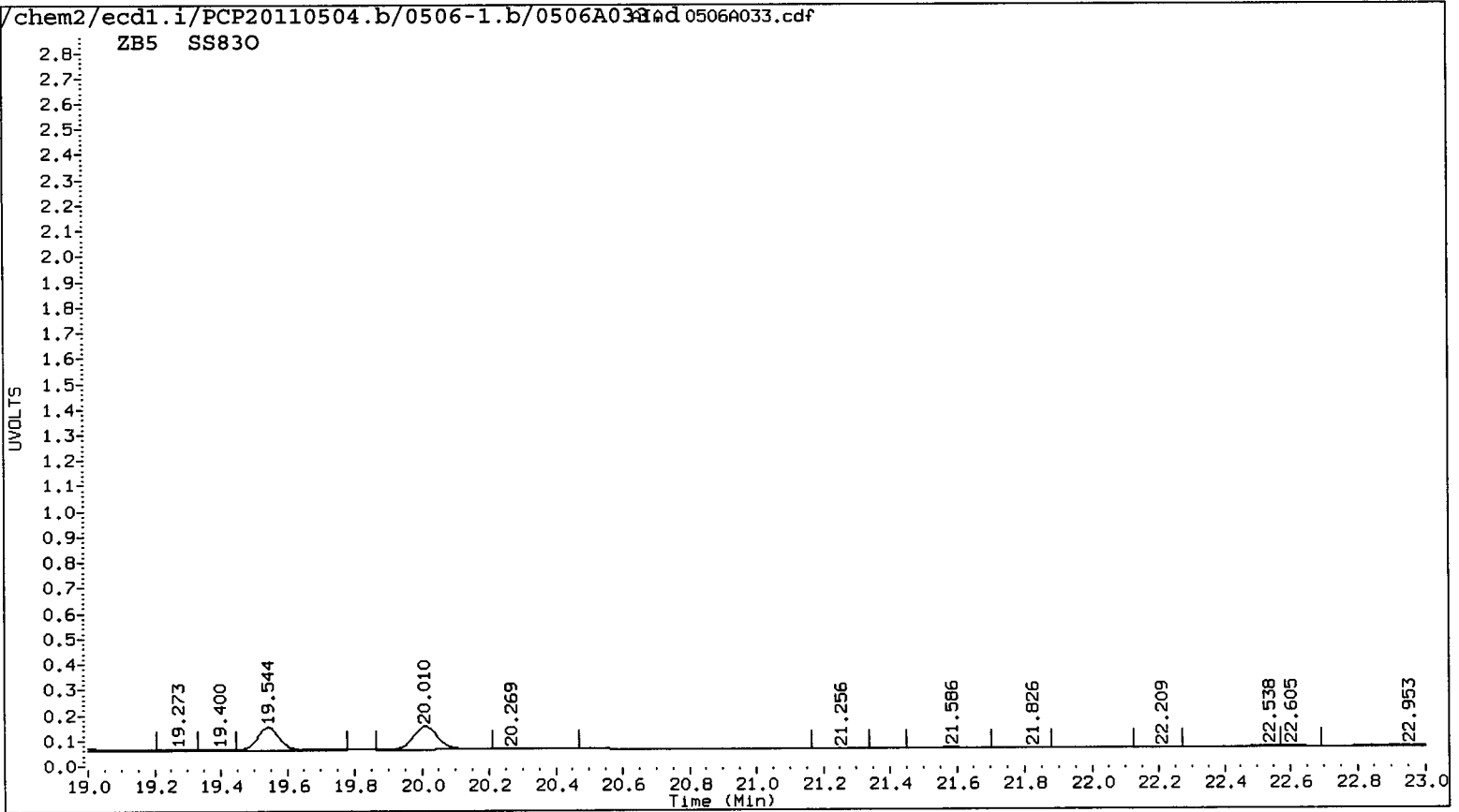
COMPOUND	Col1	Col2
2,4,6-TBP (surr)	64.8	63.0

ZB-5 SS830



ZB35 SS830





Data File: /chem2/ecdl1.i/PCP20110504.b/0506-1.b/0506A033.d

Date : 07-MAY-2011 09:40

Client ID:

Sample Info: S8630

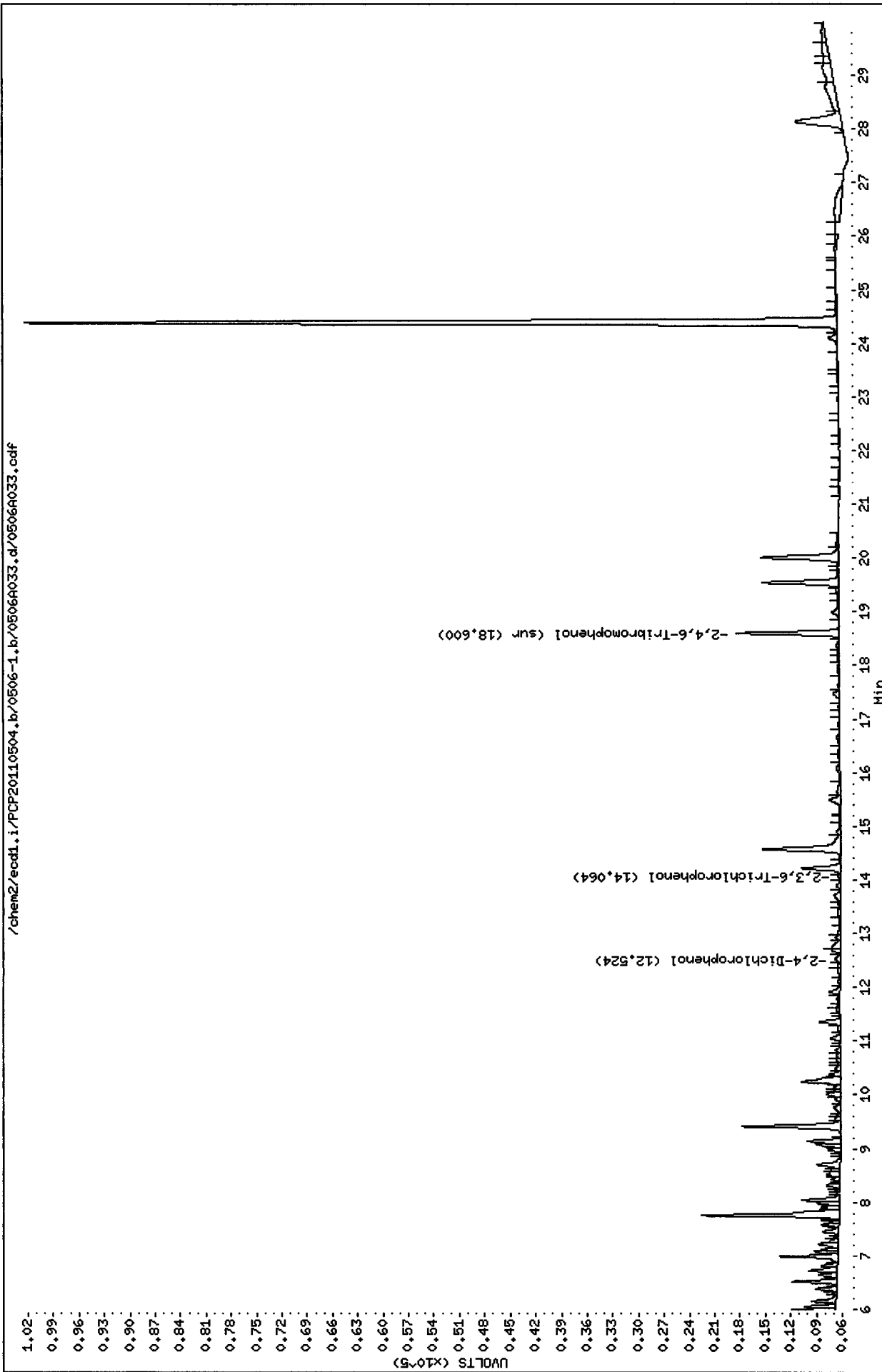
Purge Volume: 500.0

Column phase: STX CLP1

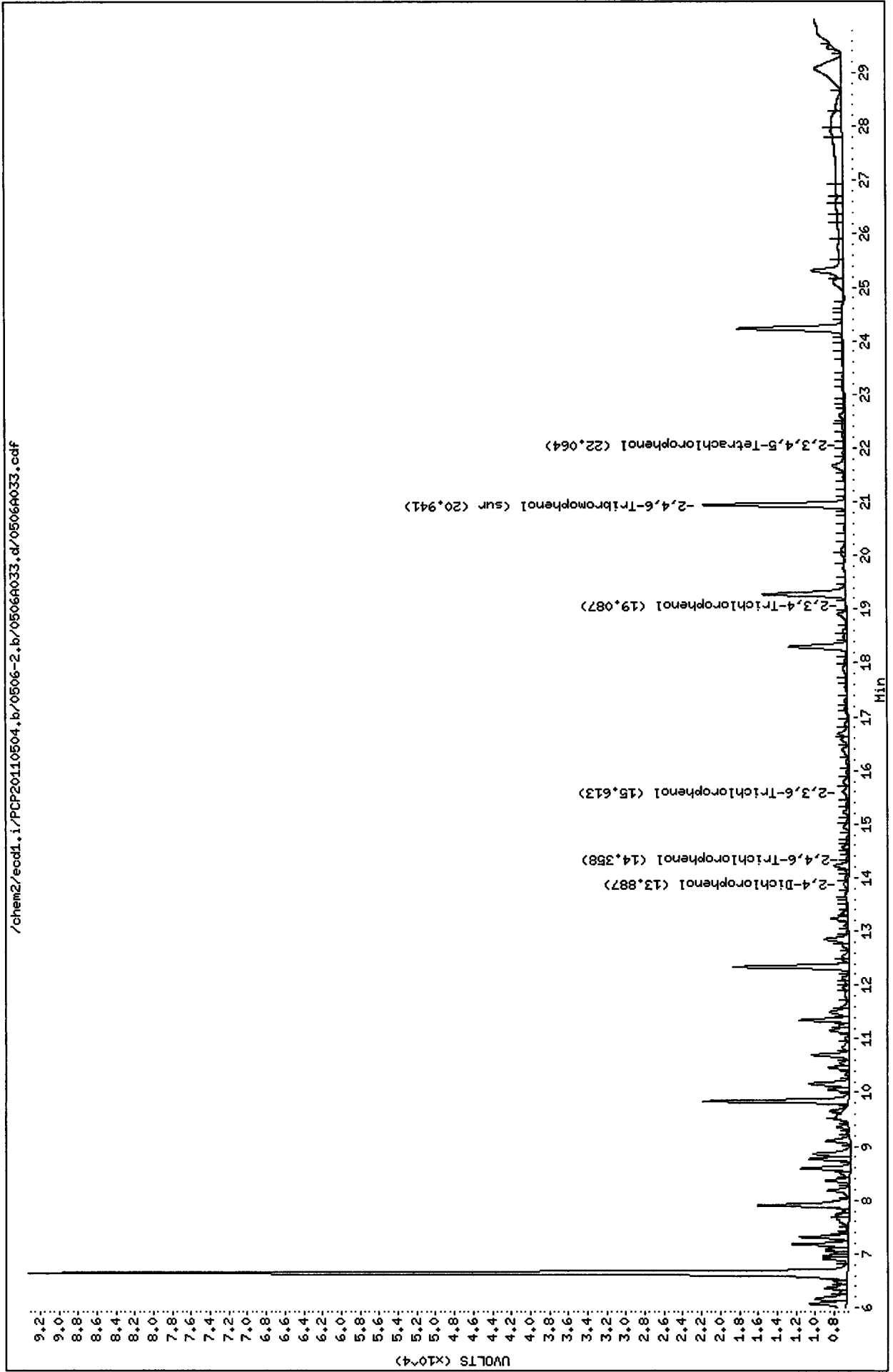
Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/eod1.i/PCP20110504.b/0506-2.b/0506A033.d
Date : 07-MAY-2011 09:40
Client ID:
Instrument: eod1.i
Sample Info: SS830
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



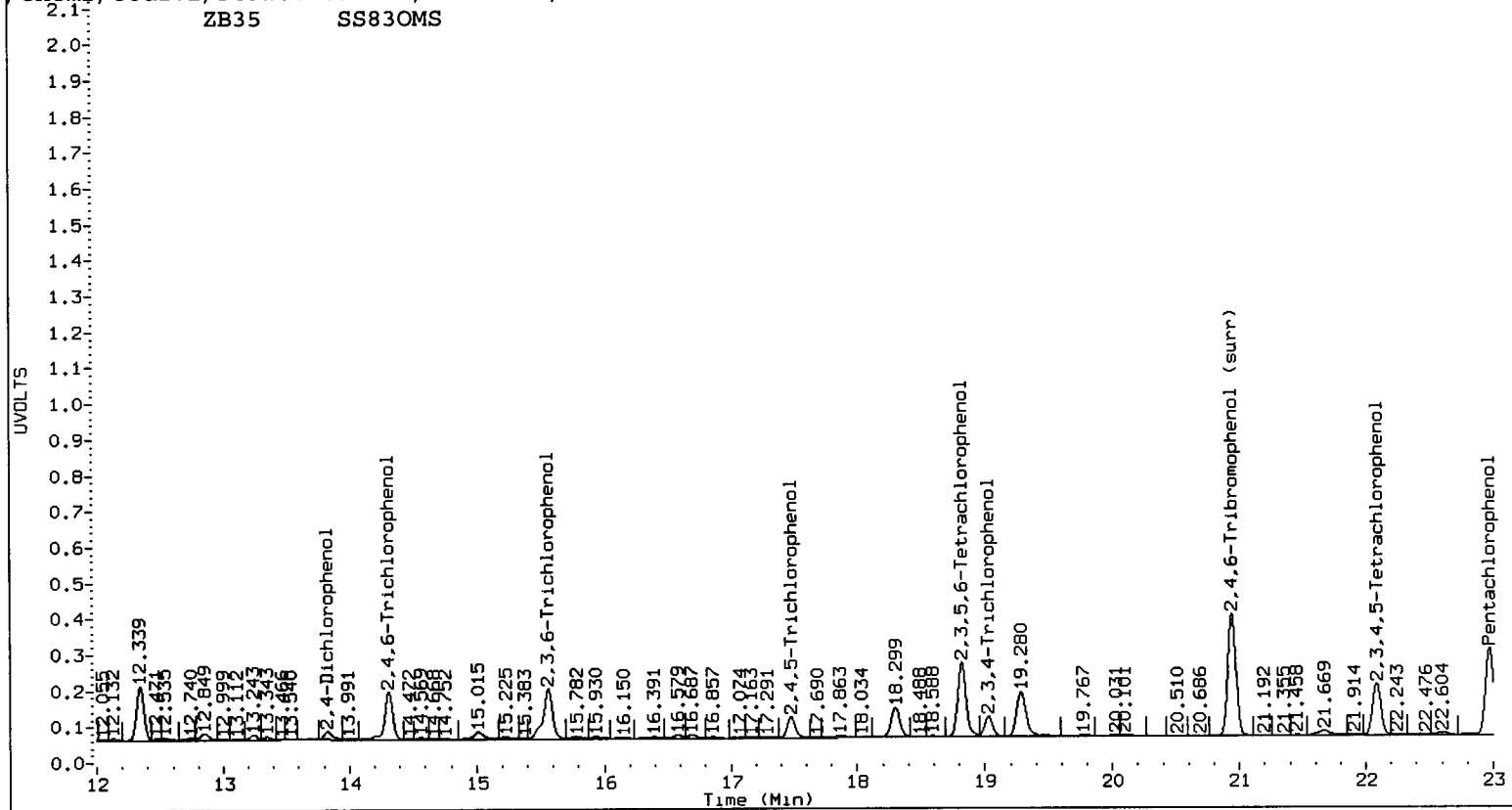
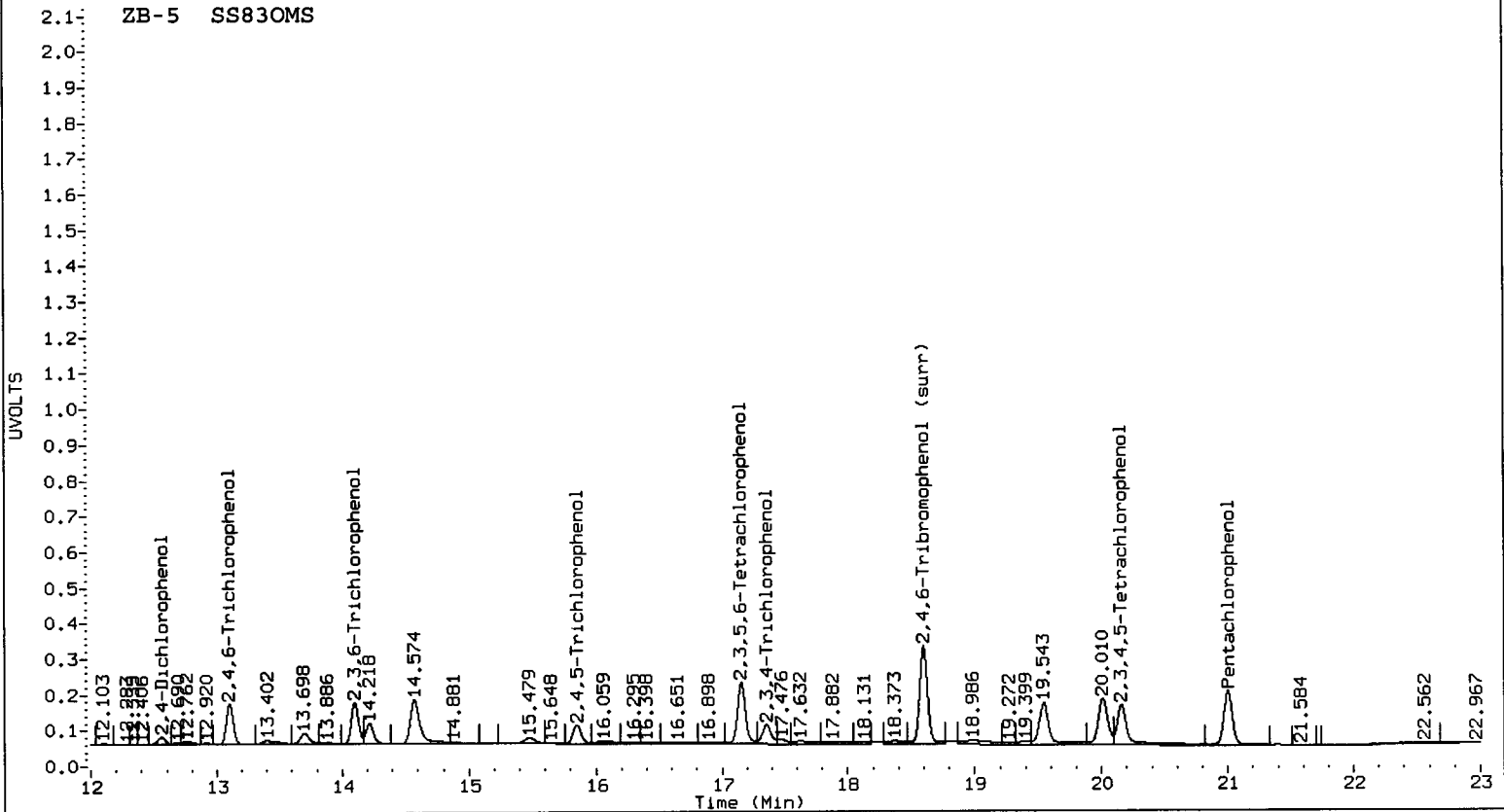
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A034.d ARI ID: SS83OMS
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A034.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 10:16
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

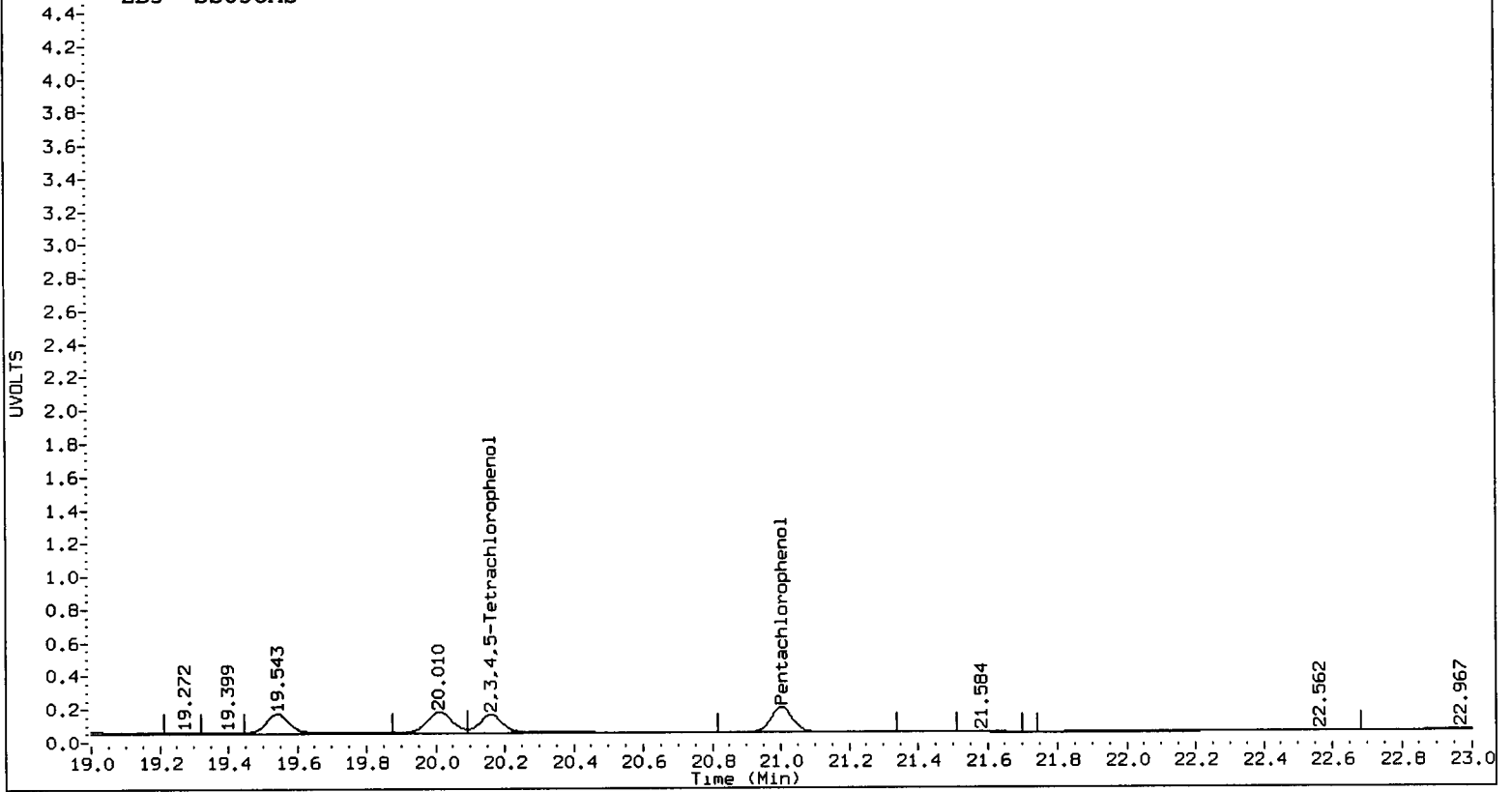
ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.003	0.006	370651	22.972	0.005	566915	18.3954	20.1313	9.0	Pentachlorophenol
13.105	0.004	229593	14.315	0.004	296566	18.8612	20.4617	8.1	2,4,6-Trichlorophenol
14.100	0.003	234250	15.561	0.004	367812	20.4539	25.5898	22.3	2,3,6-Trichlorophenol
15.849	0.004	115072	17.479	0.005	129442	16.6028	15.9891	3.8	2,4,5-Trichlorophenol
17.356	0.005	134692	19.027	0.004	125781	16.1205	12.9438	21.9	2,3,4-Trichlorophenol
17.157	0.005	392853	18.818	0.004	472681	23.2365	21.5462	7.5	2,3,5,6-Tetrachlorophenol
20.159	0.005	354824	22.085	0.005	329029	27.3326	21.2054	25.2	2,3,4,5-Tetrachlorophenol
12.559	0.004	47422	13.826	0.006	49698	62.4576	60.1212	3.8	2,4-Dichlorophenol
18.600	0.004	621818	20.941	0.005	752822	39.5	35.8	9.8	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

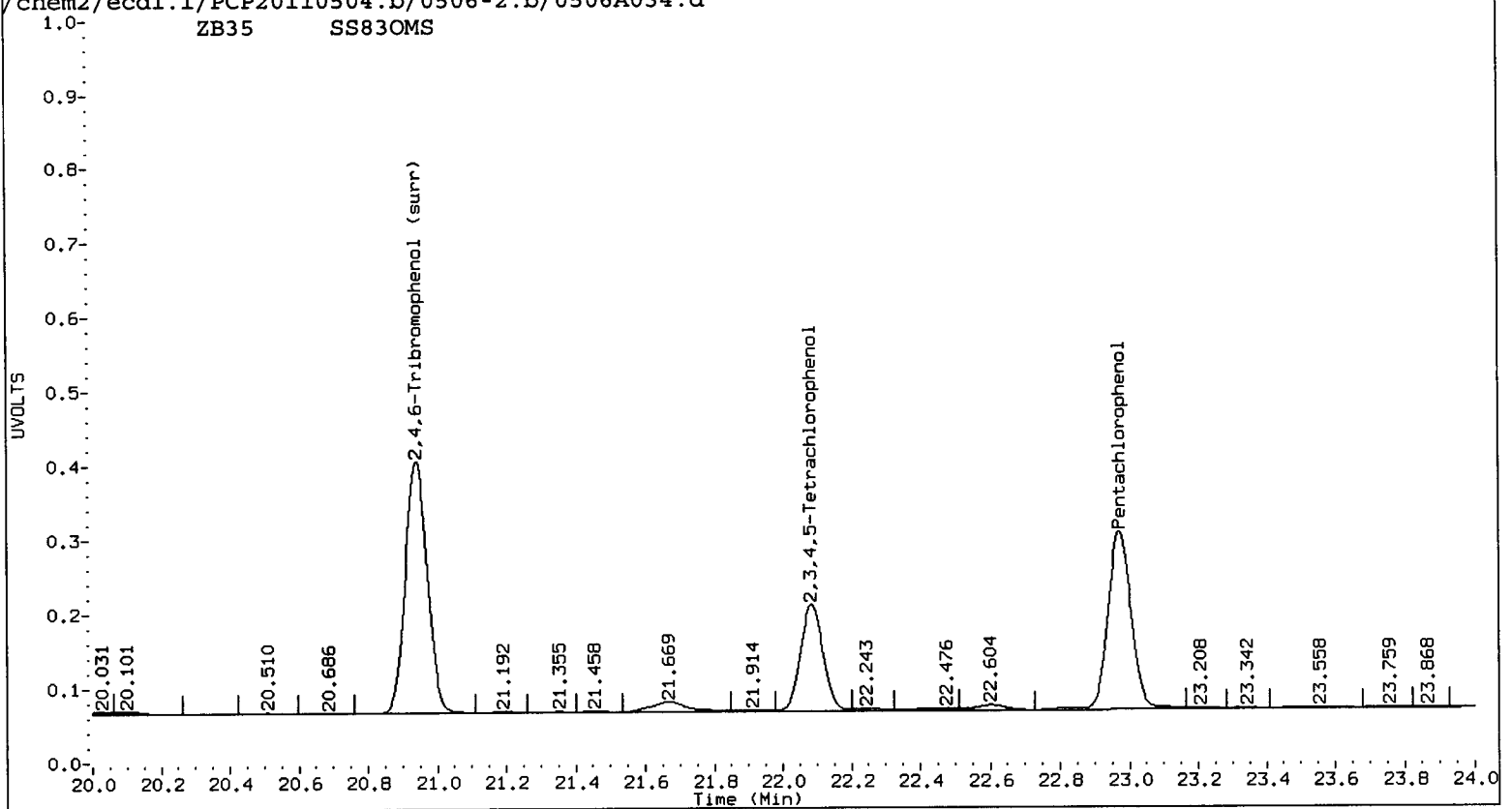
COMPOUND	Col1	Col2
Pentachlorophenol	73.6	80.5
2,4,6-Trichlorophenol	75.4	81.8
2,3,6-Trichlorophenol	81.8	102.4
2,4,5-Trichlorophenol	66.4	64.0
2,3,4-Trichlorophenol	64.5	51.8
2,3,5,6-Tetrachlorophenol	92.9	86.2
2,3,4,5-Tetrachlorophenol	109.3	84.8
2,4-Dichlorophenol	25.0	24.0
2,4,6-TBP (surr)	79.0	71.6



ZB5 SS83OMS



ZB35 SS83OMS



Data File: /chem2/ecd1.i/PCP20110504.b/0506-1.b/0506A034.d

Date : 07-MAY-2011 10:16

Client ID:

Sample Info: SS830HS

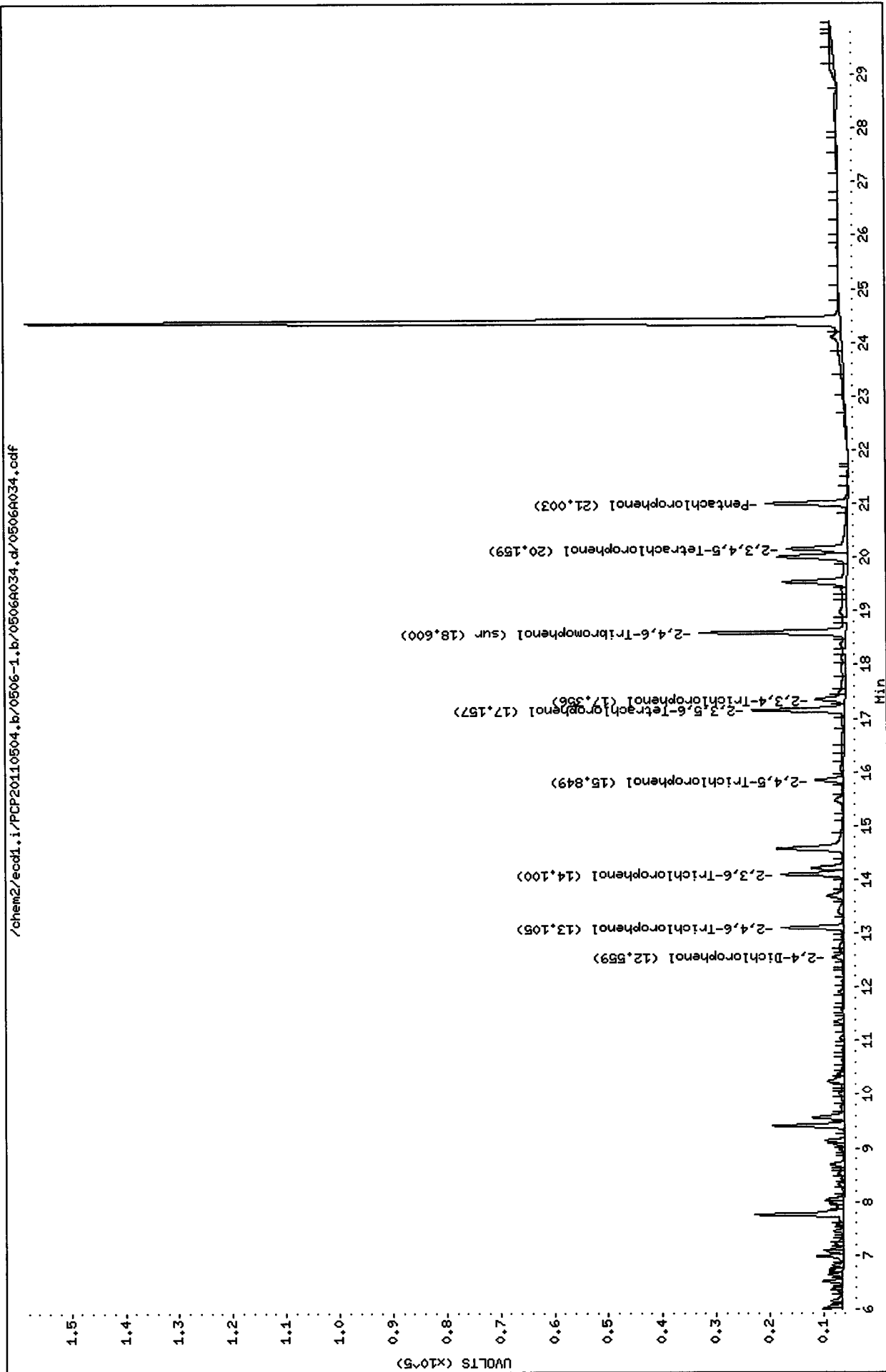
Purge Volume: 500.0

Column phase: STX CLP1

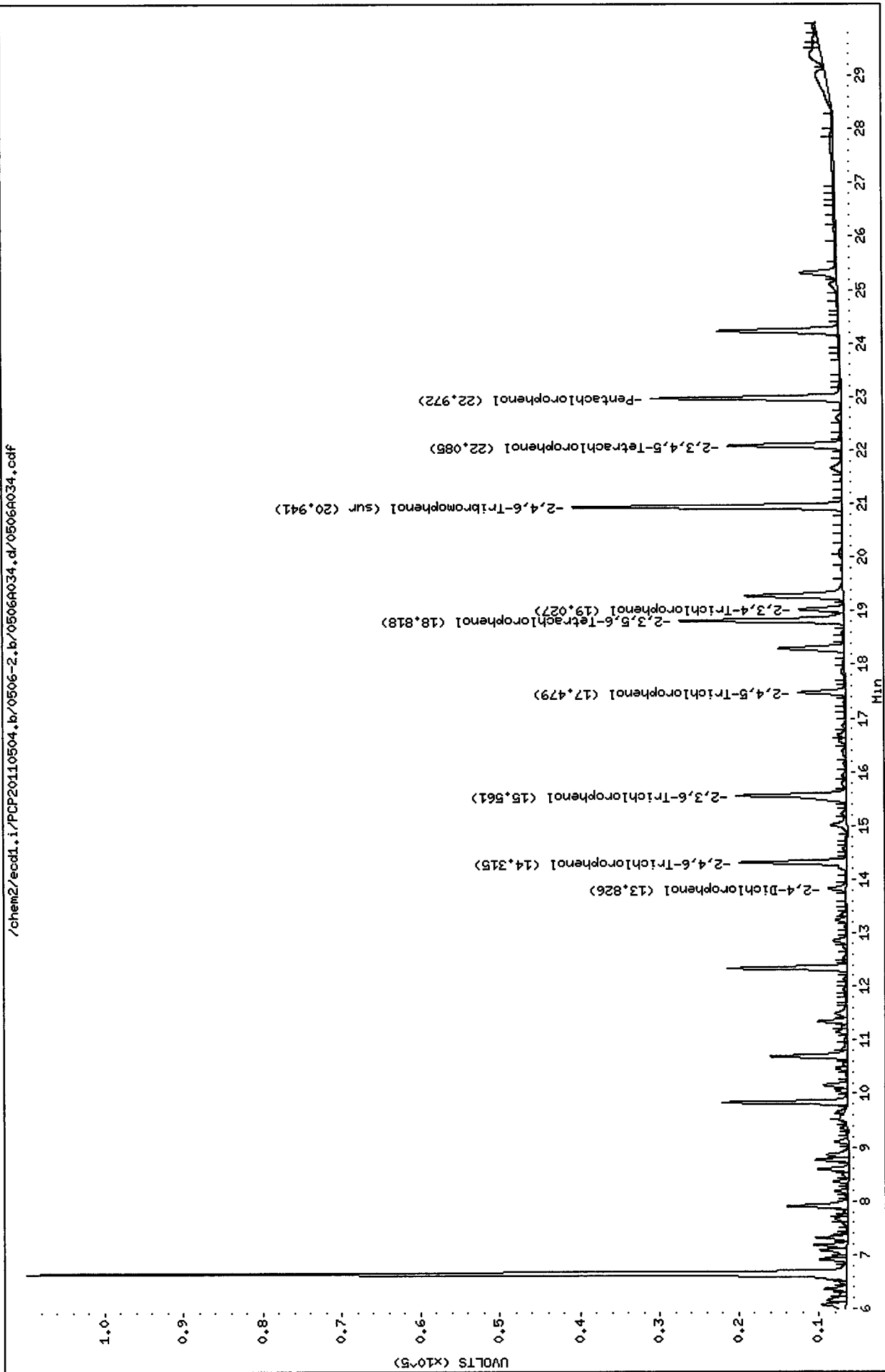
Instrument: ecd1.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A034.d
Date : 07-MAY-2011 10:16
Client ID:
Instrument: ecdl.i
Sample Info: S8830HS
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

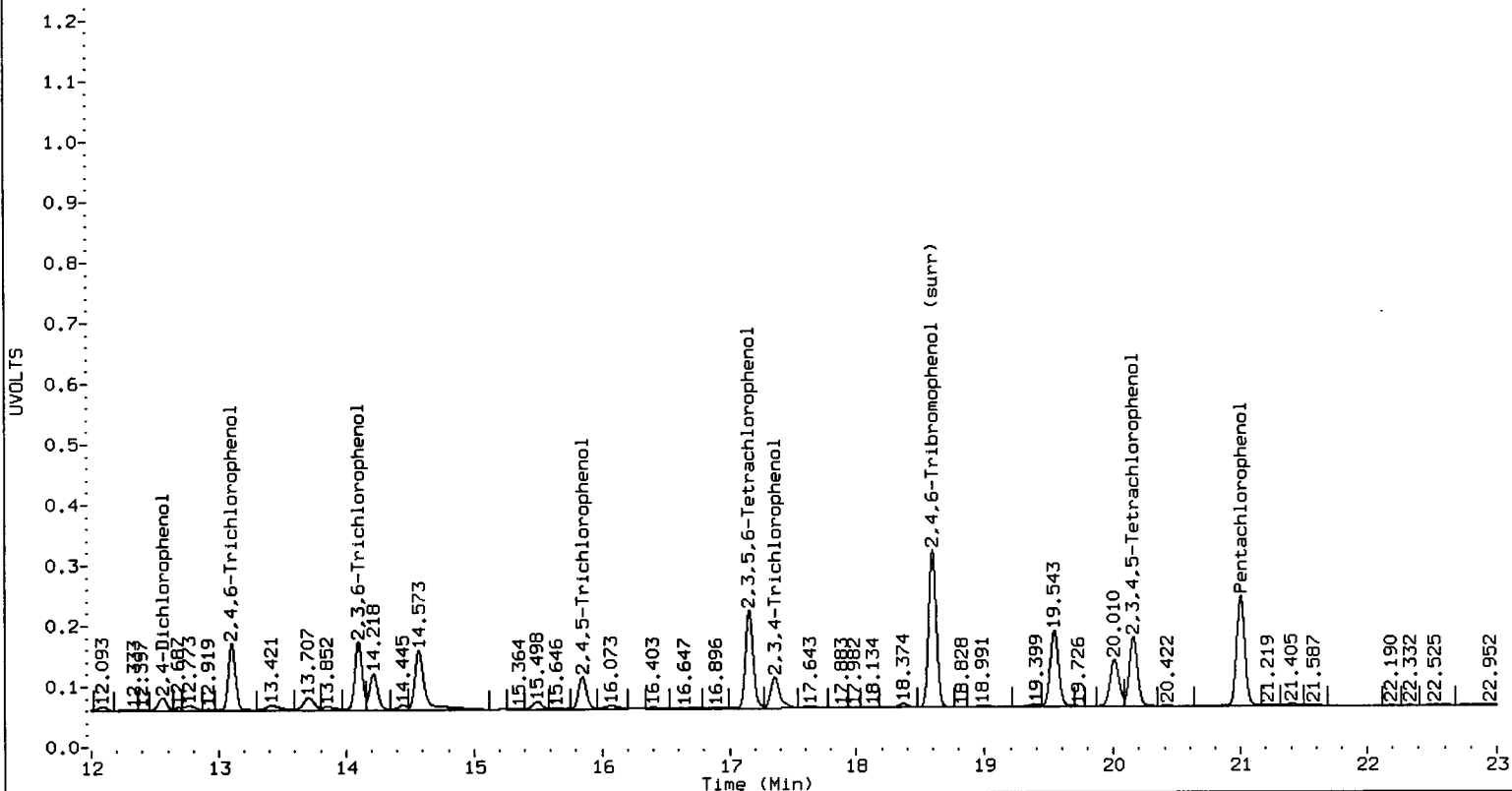
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A035.d ARI ID: SS83OMSD
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A035.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 10:53
 Compound Sublist: all Report Date: 05/09/2011 15:50
 Instrument: ecdl.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
21.003	0.005	419783	22.972	0.005	551250	20.8338	19.5751	6.2	Pentachlorophenol
13.105	0.004	217017	14.315	0.004	272224	17.8281	18.7822	5.2	2,4,6-Trichlorophenol
14.101	0.004	229181	15.561	0.004	332271	20.0112	23.1171	14.4	2,3,6-Trichlorophenol
15.850	0.005	112921	17.479	0.005	132427	16.2613	16.3578	0.6	2,4,5-Trichlorophenol
17.357	0.005	130631	19.027	0.004	130622	15.6345	13.4808	14.8	2,3,4-Trichlorophenol
17.157	0.005	343709	18.818	0.004	442677	20.3297	20.1786	0.7	2,3,5,6-Tetrachlorophenol
20.159	0.005	266277	22.084	0.004	315454	20.5117	20.2513	1.3	2,3,4,5-Tetrachlorophenol
12.560	0.005	48535	13.826	0.006	43283	64.0192	51.8854	20.9	2,4-Dichlorophenol
18.600	0.005	552399	20.941	0.005	714685	35.1	34.0	3.2	2,4,6-Tribromophenol (surr)

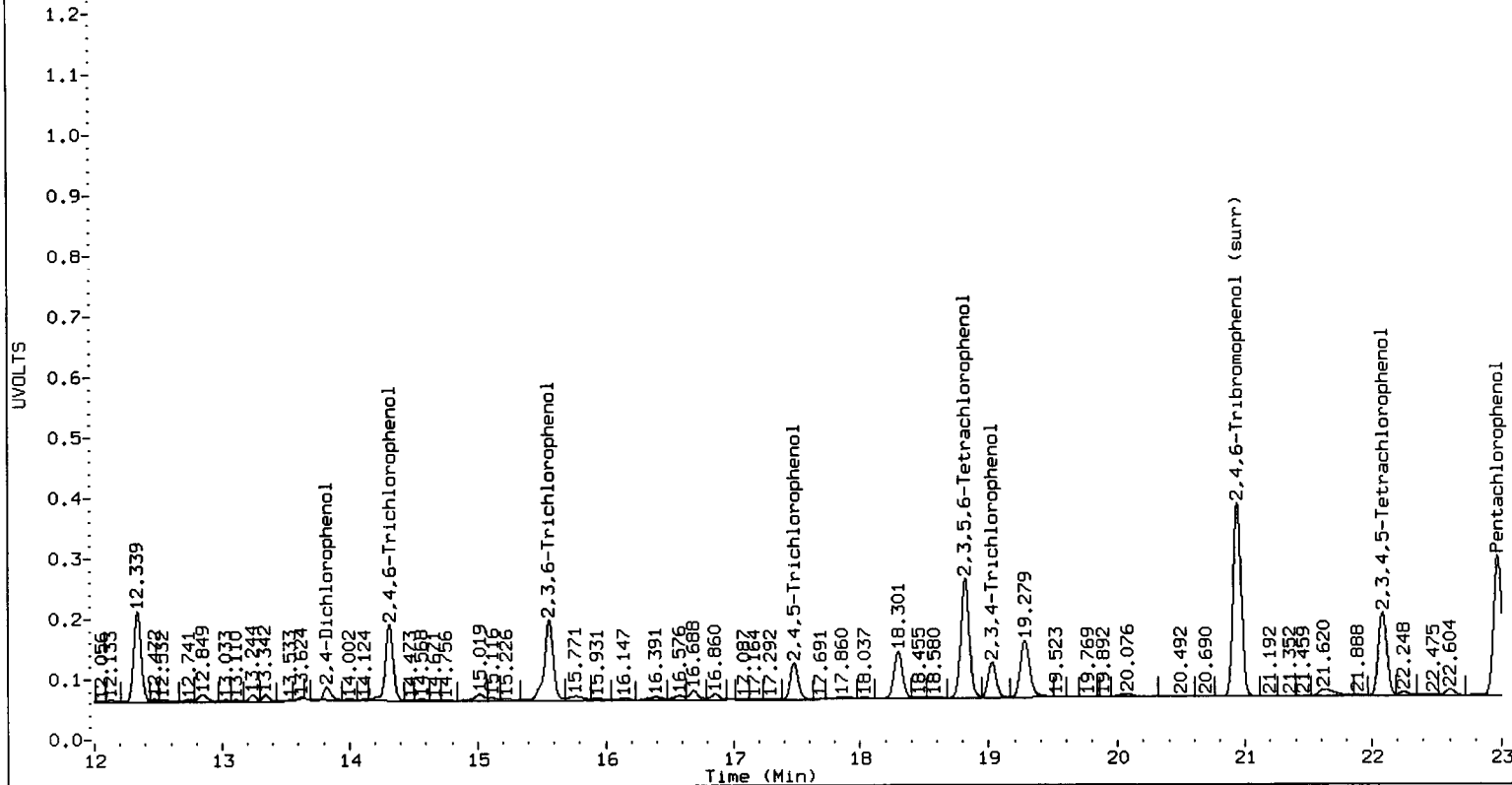
PERCENT RECOVERY

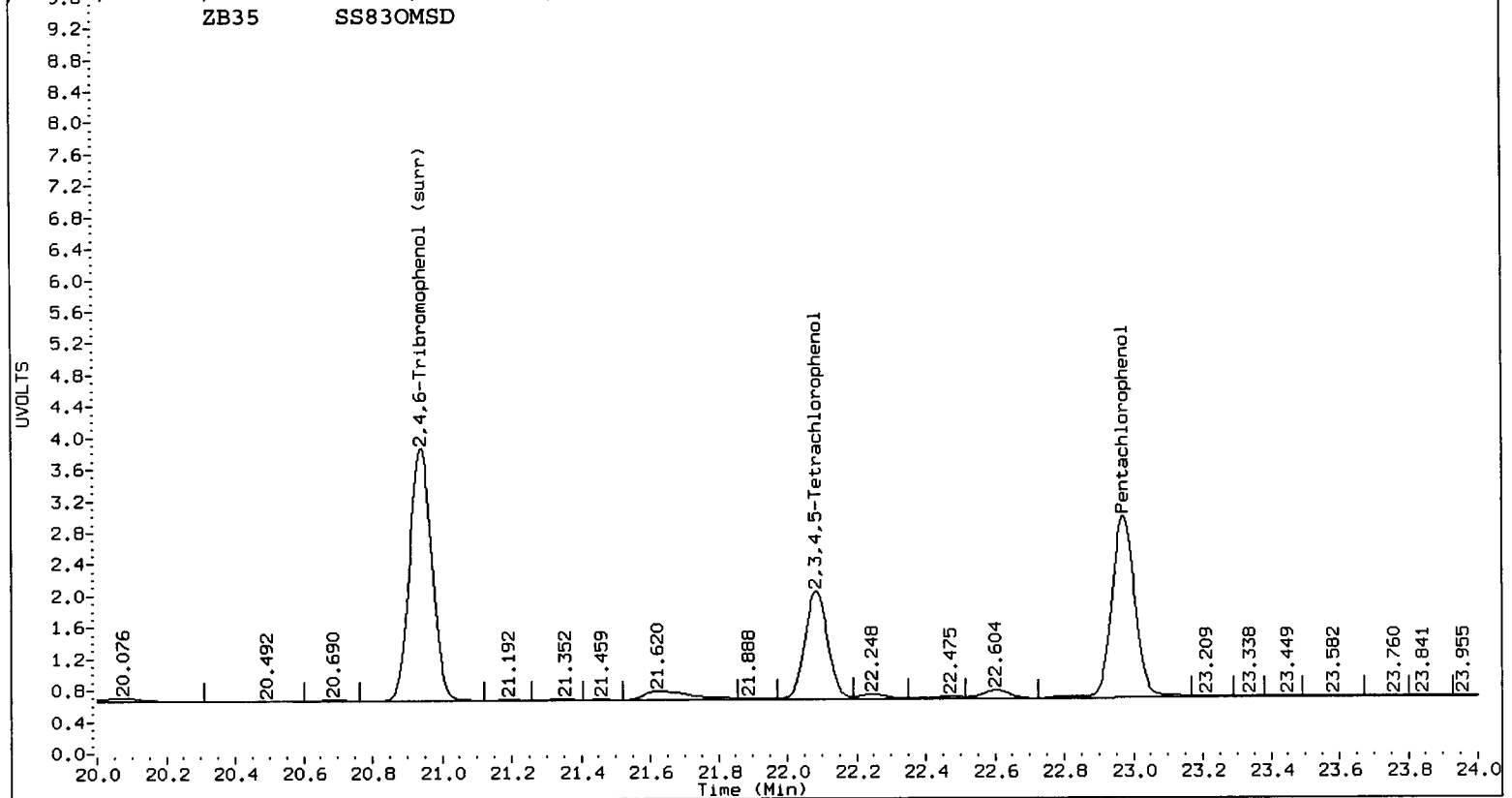
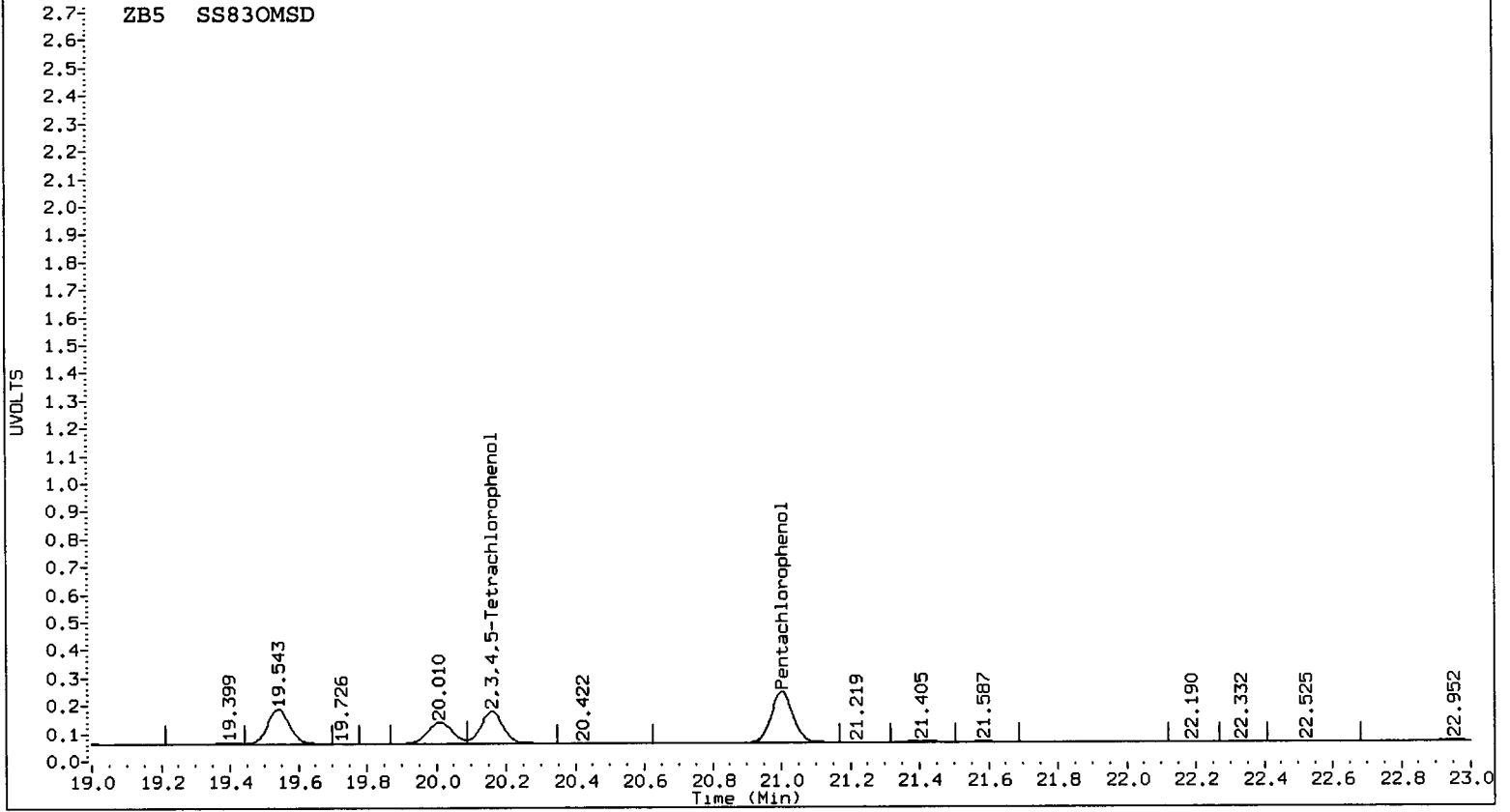
COMPOUND	Col1	Col2
Pentachlorophenol	83.3	78.3
2,4,6-Trichlorophenol	71.3	75.1
2,3,6-Trichlorophenol	80.0	92.5
2,4,5-Trichlorophenol	65.0	65.4
2,3,4-Trichlorophenol	62.5	53.9
2,3,5,6-Tetrachlorophenol	81.3	80.7
2,3,4,5-Tetrachlorophenol	82.0	81.0
2,4-Dichlorophenol	25.6	20.8
2,4,6-TBP (surr)	70.2	68.0

ZB-5 SS830MSD



ZB35 SS830MSD





Data File: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A035.d

Date : 07-MAY-2011 10:53

Client ID:

Sample Info: SS830HSD

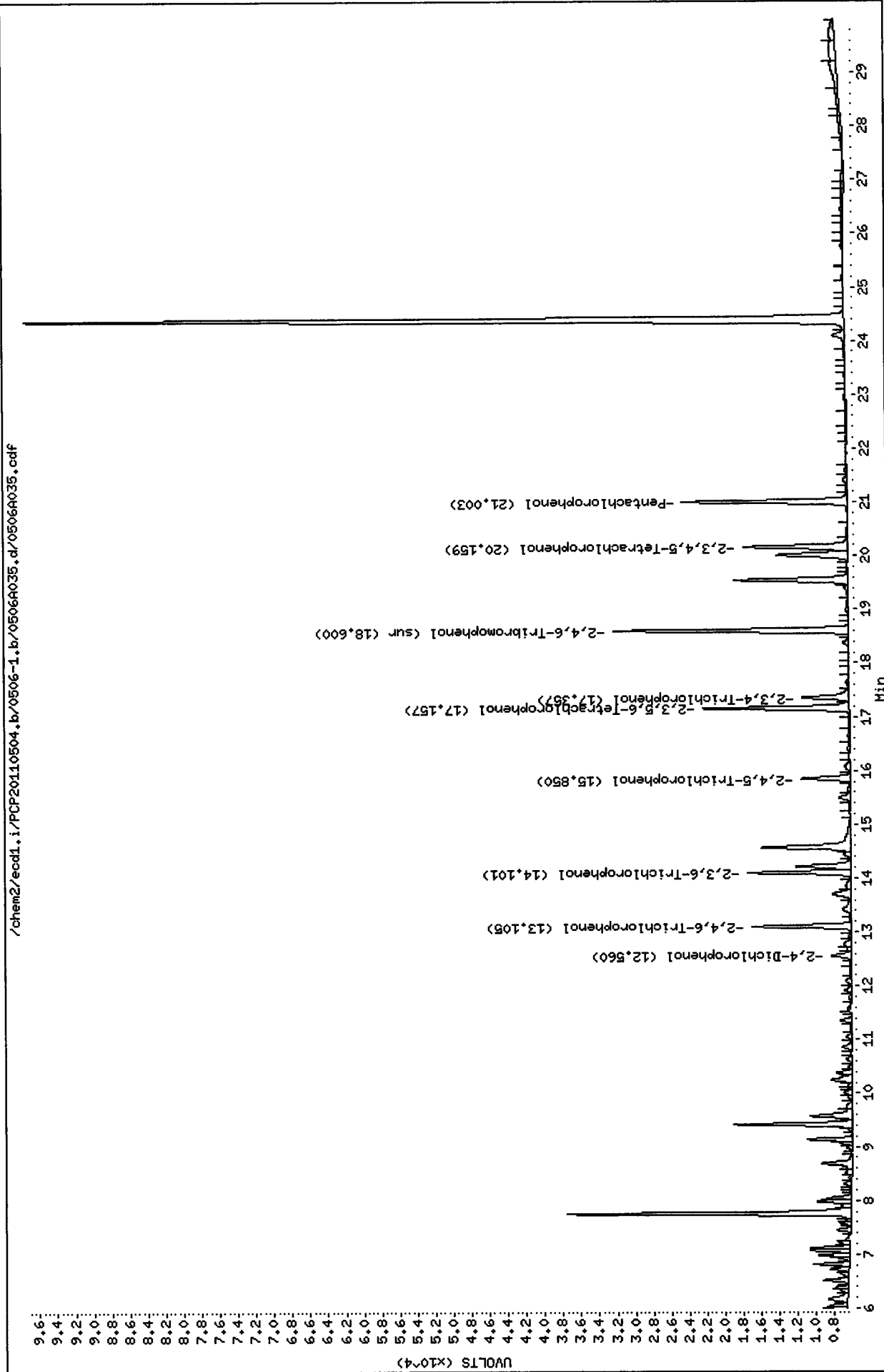
Purge Volume: 500.0

Column phase: STX CLP1

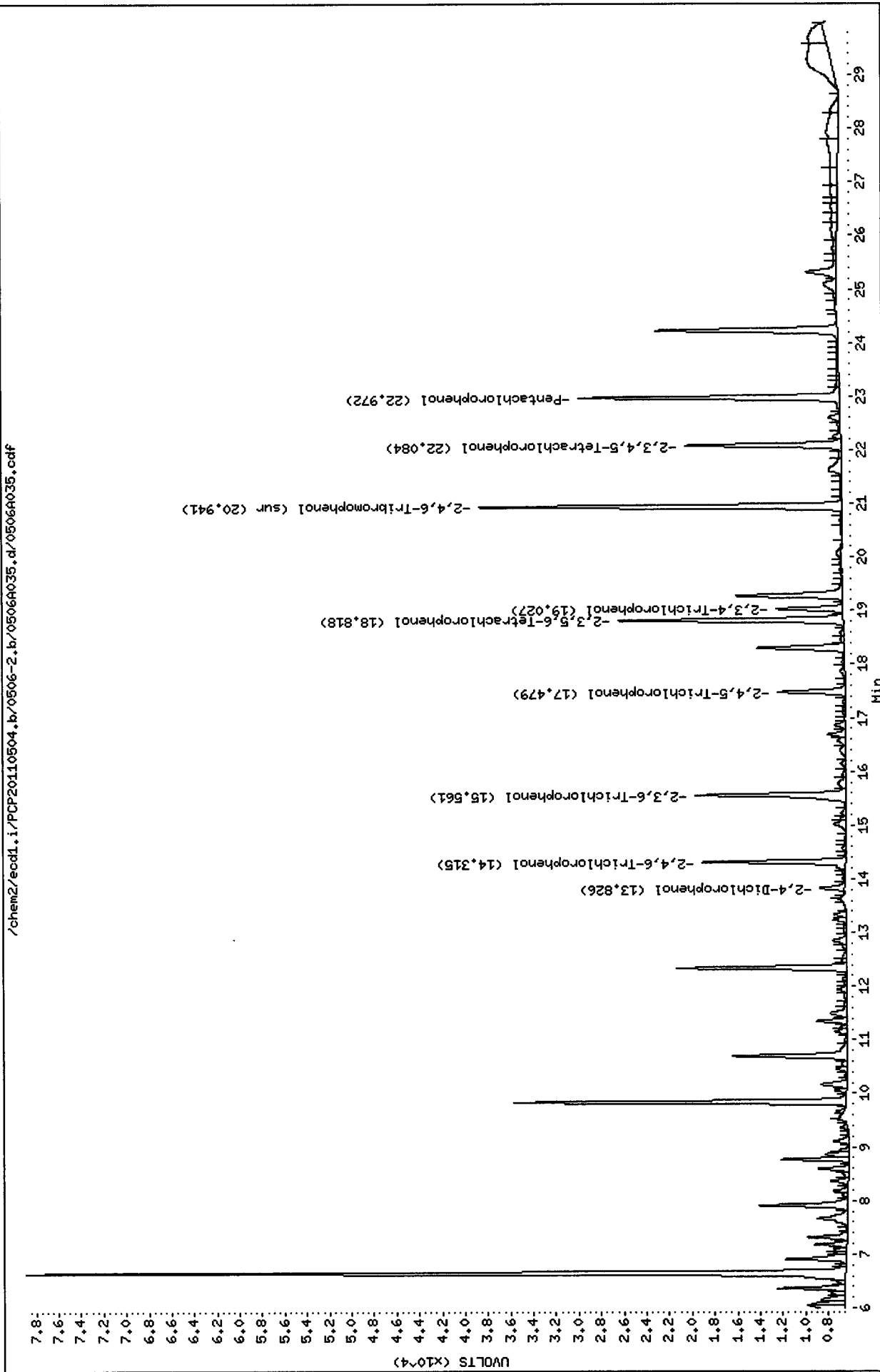
Instrument: ecdl.i

Operator: ar

Column diameter: 0.53



Data File: /chem2/ecdl1.i/PCP20110504.b/0506-2.b/0506A035.d
Date : 07-MAY-2011 10:53
Client ID:
Instrument: ecdl1.i
Sample Info: S8830HSD
Operator: ar
Purge Volume: 500.0
Column diameter: 0.53
Column phase: STX CLP2



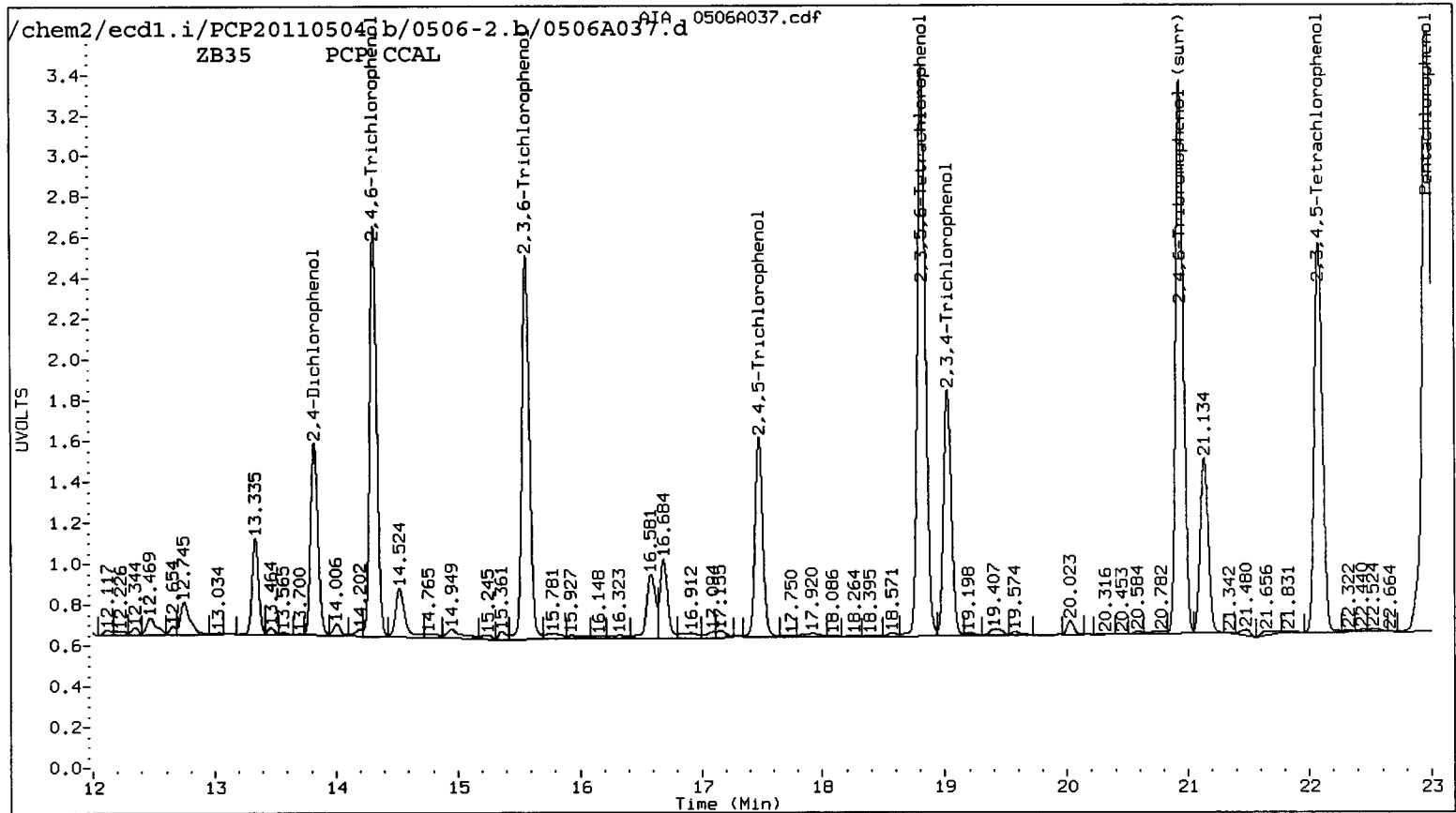
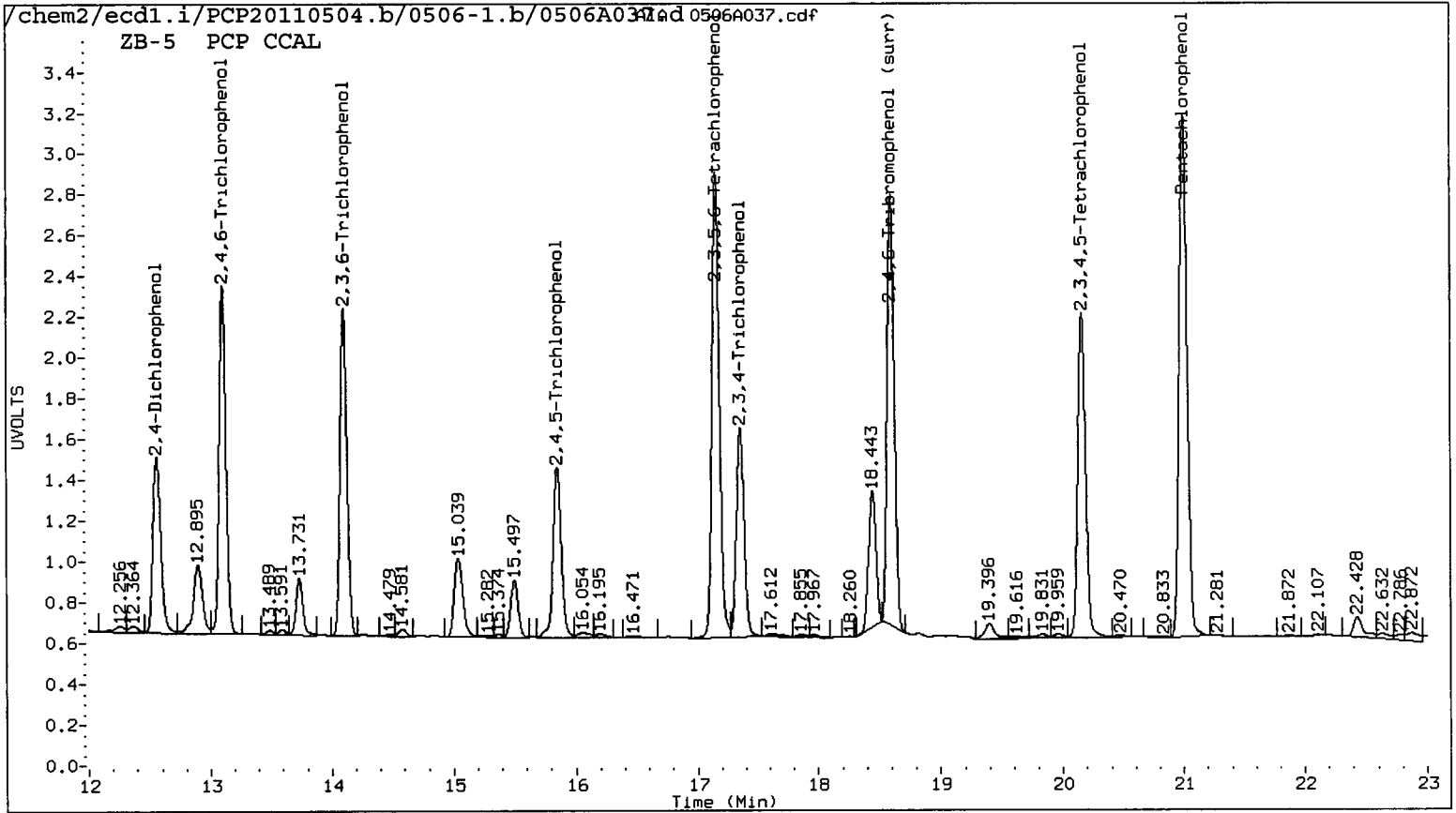
Analytical Resources Inc.
Dual Column 8041 Chlorinated Phenols Quantitation Report

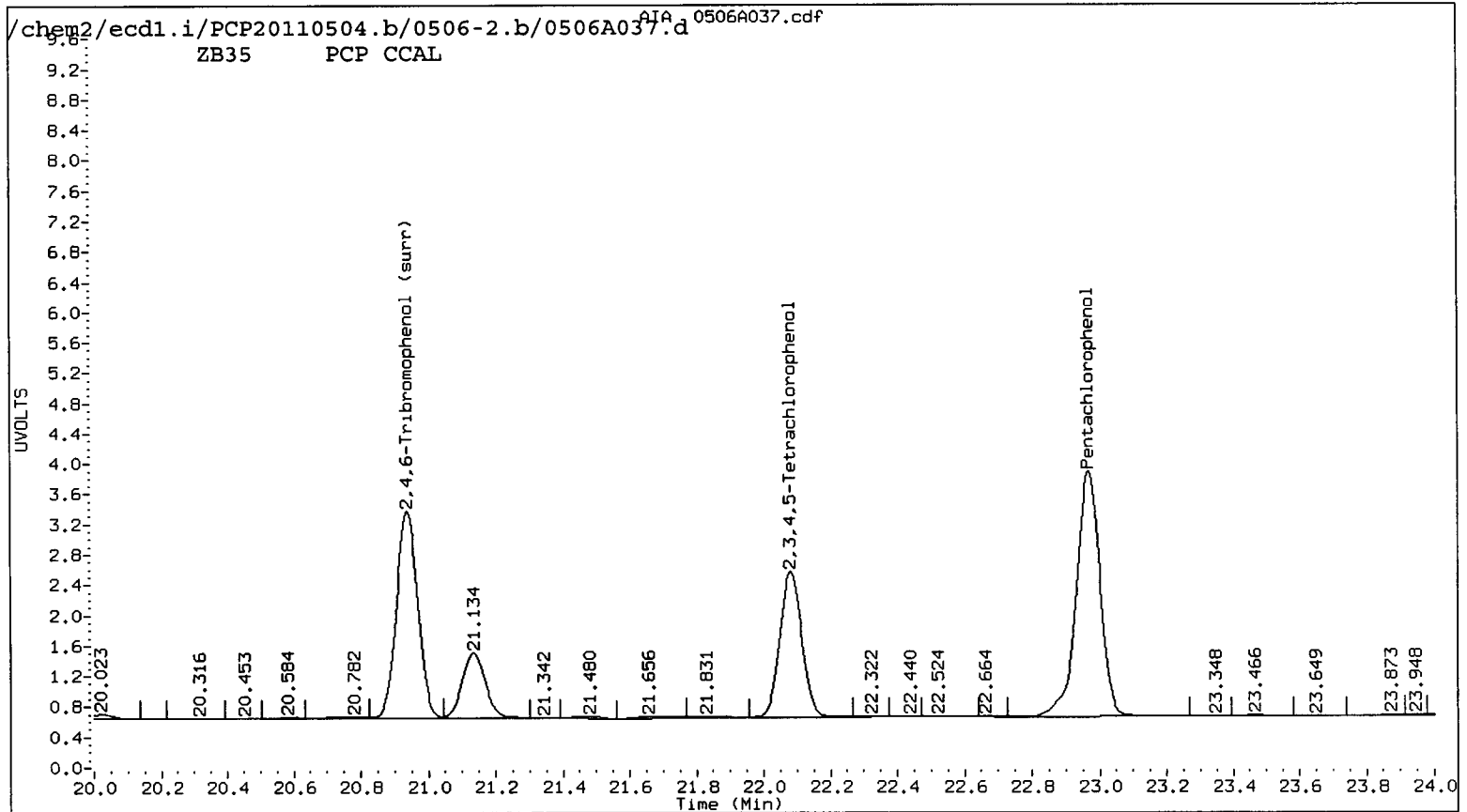
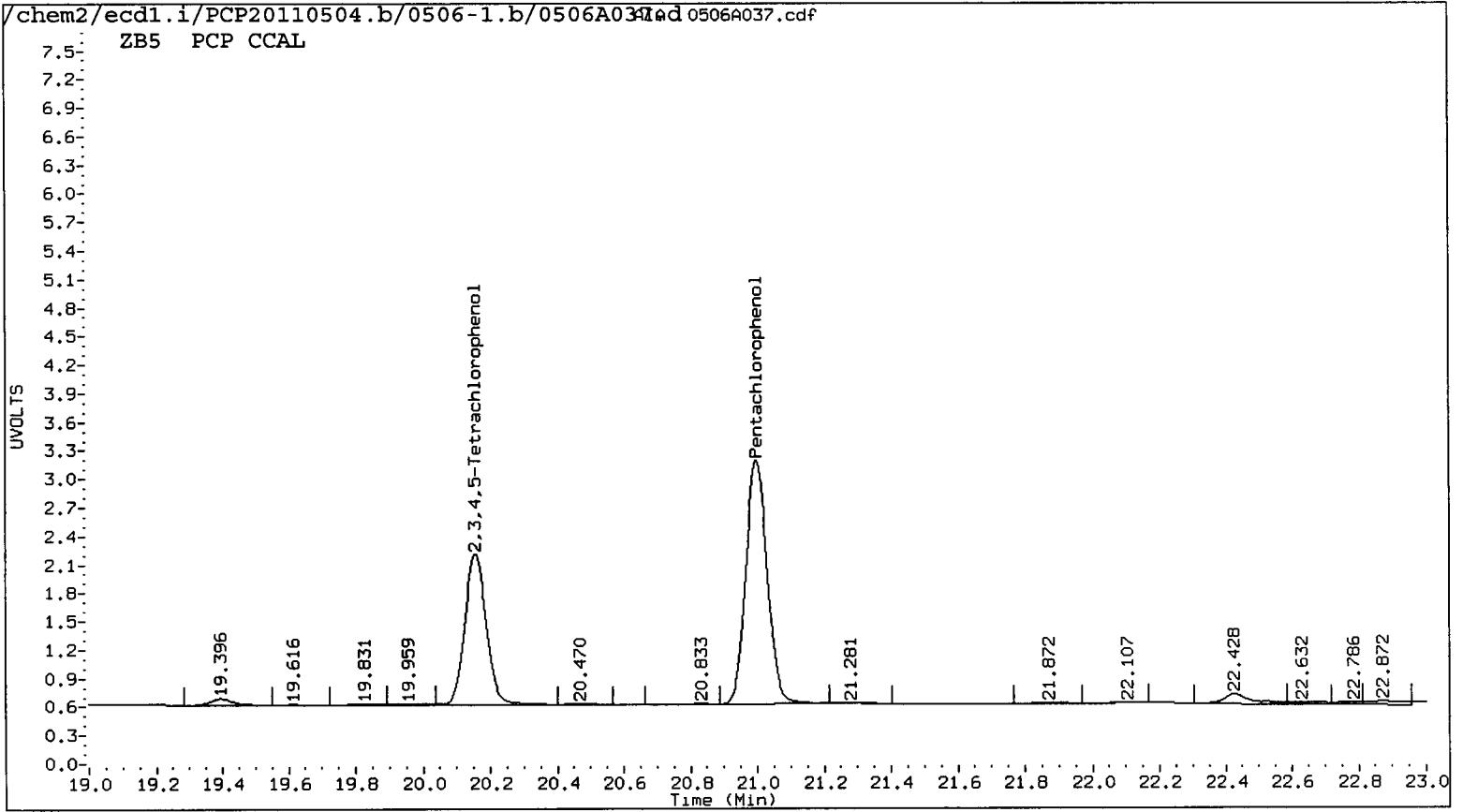
Data file 1: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A037.d ARI ID: PCP CCAL
 Data file 2: /chem2/ecdl.i/PCP20110504.b/0506-2.b/0506A037.d Client ID:
 Method: /chem2/ecdl.i/PCP20110504.b/PCP.m Injection Date: 07-MAY-2011 12:05
 Compound Sublist: all Report Date: 05/09/2011 15:32
 Instrument: ecd1.i Matrix: WATER
 Operator: ar Dilution Factor: 1.000

ZB-5 Col			ZB35 Col			ZB-5	ZB35	RPD	Compound
RT	Shift	Response	RT	Shift	Response	on col	on col		
20.999	0.002	576584	22.968	0.001	788732	28.6158	28.0081	2.1	Pentachlorophenol
13.103	0.002	335449	14.313	0.002	407708	27.5573	28.1299	2.1	2,4,6-Trichlorophenol
14.098	0.001	319186	15.559	0.002	405928	27.8701	28.2416	1.3	2,3,6-Trichlorophenol
15.847	0.002	189532	17.476	0.002	222904	29.1565	27.5338	5.7	2,4,5-Trichlorophenol
17.353	0.002	226220	19.024	0.001	270865	27.0749	30.2865	11.2	2,3,4-Trichlorophenol
17.155	0.002	489789	18.815	0.001	626037	28.9701	28.5367	1.5	2,3,5,6-Tetrachlorophenol
20.157	0.002	357703	22.081	0.001	435075	27.5543	28.8938	4.7	2,3,4,5-Tetrachlorophenol
12.557	0.002	188402	13.822	0.002	200111	295.1911	293.7063	0.5	2,4-Dichlorophenol
18.597	0.001	428312	20.938	0.002	597420	27.2	28.4	4.4	2,4,6-Tribromophenol (surr)

PERCENT RECOVERY

COMPOUND	Col1	Col2
Pentachlorophenol	114.5	112.0
2,4,6-Trichlorophenol	110.2	112.5
2,3,6-Trichlorophenol	111.5	113.0
2,4,5-Trichlorophenol	116.6	110.1
2,3,4-Trichlorophenol	108.3	121.1
2,3,5,6-Tetrachlorophenol	115.9	114.1
2,3,4,5-Tetrachlorophenol	110.2	115.6
2,4-Dichlorophenol	118.1	117.5
2,4,6-TBP (surr)	108.8	113.7



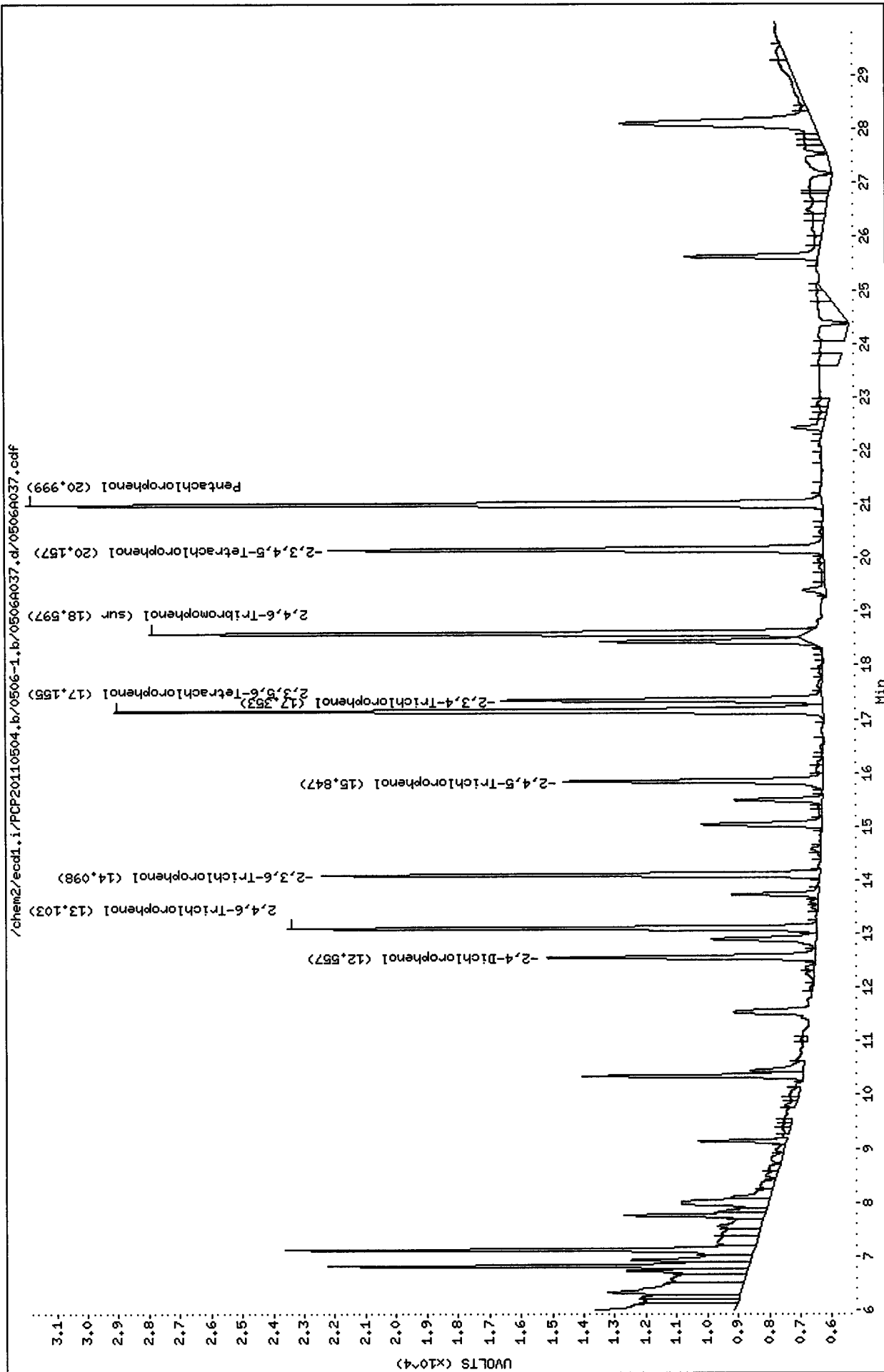


Data File: /chem2/ecdl.i/PCP20110504.b/0506-1.b/0506A037.d
Date : 07-MAY-2011 12:05
Client ID:
Sample Info: PCP CCAL
Purge Volume: 500.0
Column phase: STX CLP1

Instrument: ecdl.i

Operator: ar

Column diameter: 0.53



**TPHD Raw Data
Extraction Bench Sheets and Notes**

ARI Job ID: SS83



Preparation Test **(TPHD)HCID # 1**
ARI Job No(s) 5571, 5583

In-House (0.25-0.50ppm)
Batch set up by: ST

Bottle #	Extraction Requirements	Verify Client ID	Volume Extracted	DryVap Or (KD)	Turbo Vap (123)	Acid/Silica Clean (1:1) (Y/N)	Final Effective Volume	Volume to Lab	Comments
	5571 MBW	Date 4-23-11	500mL	↓	↓	1mL	1mL	1mL	
	SBW	↓	↓	↓	↓	↓	↓	↓	
	SBW Dup.	↓	↓	↓	↓	↓	↓	↓	
	QLS	↓	↓	↓	↓	↓	↓	↓	
23	✓ T	verified	500mL	↓	↓	↓	↓	↓	
9	5583 P	↓	↓	↓	↓	↓	↓	↓	

Analyst/Date: PD 4-23-11 RE: ybz 11 SP/4/25/11 SP/4/25/11 SP/4/25/11 SP/4/25/11

Standard	Standard ID	Volume	Expiration Date	Analyst	Witness
Surrogate	O _i	100µL	2/24/12	NL	PD
Spike	11	100µL	11/21/11	NL	PD
QLS Spike	18 _D	50µL	6/22/11	M	PD

Extraction Time: 11:59

SPECIAL INSTRUCTIONS: 1. Add Surr/Spk. 2. Acidify with 1 pipet of 1:1 Sulfuric Acid. 3. Check pH.

4. Extract 2X with 30mL DCM. 5. DryVap or **(KD)** at 80°. 6. TurboVap if KD. **(Acid/Silica Clean-ups? Y/N)**

8. Vial in DCM.
3014F

A. Archive **(Y/N)**
Both jobs

Revision 13
01/09/2011

5583 : 01113



Analytical Resources,
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Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: 5583

Client ID: Floyd Snider

Parameter: TPHD w/Ac/si

Client Project: Lora Lake Parcel - DMA

Note problems, concerns, corrective actions	Analyst/Date
Screens: Soil/Sediment/Solid/Other:	
<input type="checkbox"/> No Anomalies (standard soil/sediment)	
<input type="checkbox"/> Wet sediment/sludge=	
<input type="checkbox"/> Standing Water Decanted=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay (Difficult to homogenize/Mixed with Kitchen Aid)=	
<input type="checkbox"/> Rocks/Organics=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input checked="" type="checkbox"/> No Anomalies <u>P</u>	<u>FS 4-23-11</u>
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates=	
<input type="checkbox"/> Emulsions=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Other Notes/Comments=	



Preparation Test TPHD # 3

ARI Job No(s) 5583

In-House (5ppm)

Batch set up by: JH

Bottle #	Extraction Requirements	Verify Client ID	Volume Extracted (wet wt)	Transfer to Turbo Tube	TurboVap 23	Acid/Silica Clean (1:1) Y/N	TurboVap 123	Final Effective Volume	Volume to Lab	Comments
	5583 MBS	Date <u>NL</u>	10.00g	<u>NL</u>		<u>Y</u> N		1mL	1mL	
	↓ SBS	<u>4/22/11</u>	↓	<u>4/22/11</u>				↓	↓	
	SBS Dup.		↓					↓	↓	
	5583 QLS	↓	↓					↓	↓	
8	A	Checked	1φ. 22							
	B		1φ. 12							
	C		1φ. 16							
	D		1φ. 31							
	E		1φ. φ6							
	F		1φ. φ7							
	G		1φ. φ6							
	H		1φ. 25							
	I		1φ. φ7							
	J		1φ. φ8							
	K		1φ. φ6							
	L		1φ. φ8							
	M		1φ. 27							
	↓ N		1φ. φ5							
22	o		1φ. 1φ							
	↓ QMS		1φ. 1φ							
	↓ QMSd		1φ. 18							
Analyst/Date: <u>NL 4/22/11</u>					<u>04/25/11</u>	<u>04/25/11</u>	<u>04/25/11</u>	<u>04/25/11</u>	<u>04/25/11</u>	

Standard	Standard ID	Volume	Expiration Date	Analyst	Witness
Surrogate	O ₁	100μL	2/φ4/12	NL	PD
Spike	11	100μL	11/φ1/11	NL	PD
QLS Spike	18 _D	50μL	6/φ2/11	NL	PD
Extraction Time: <u>13:55</u>			Balance ID: <u>2175452φ</u>		

SPECIAL INSTRUCTIONS: 1. Weigh into 100mL beakers-dry with Sodium Sulfate. 2. Transfer to microwave vessel. 3. Add 20mL DCM to the vessel (if needed-Add 5mL increments until solvent is 1" above soil layer). 4. Add surr/spike. 5. Mix samples thoroughly before microwaving. 6. Microwave on appropriate power setting determined by # of samples. 7. After microwave-let cool 10-15 min. 8. Collect into turbo tube with sm. funnel containing glasswool and 1" sodium sulfate. 9. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube. 10. TurboVap. 11. Acid/Silica Clean-up?=YN. 12. TurboVap (if Silica Clean). 13. Vial in DCM.

A. Need Total Solids Y/N B. Archive/Freeze Y/N



Analytical Resources,
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Organic Extractions Laboratory Analyst Notes

ARI Job No.: 5583

Client ID: Floyd Snider

Parameter: TPHD w/AISI

Client Project: Lora Lake Parcel: DMA

Note problems, concerns, corrective actions	Analyst/Date
Screens: Soil/Sediment/Solid/Other:	
<input checked="" type="checkbox"/> No Anomalies (standard soil/sediment) A-D, E-K, M, N	NL 4/22/11
<input checked="" type="checkbox"/> Wet sediment/sludge = L, O	↓
<input type="checkbox"/> Standing Water Decanted =	
<input type="checkbox"/> Standing Water Homogenized (Shared samples) =	
<input type="checkbox"/> Clay (Difficult to homogenize/Mixed with Kitchen Aid) =	
<input checked="" type="checkbox"/> Rocks/Organics = A-D, F-G, H, J-O	
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors = J, K	
<input type="checkbox"/> Other (Details) =	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color =	
<input type="checkbox"/> Particulates =	
<input type="checkbox"/> Emulsions =	
<input type="checkbox"/> Other (Details) =	
<input type="checkbox"/> Other Notes/Comments =	

**TPHD Raw Data
Initial Calibration**

ARI Job ID: SS83



GC Analyst Notes / Corrective Action Log

ARI Project ID: Diesel AK102 curve Client ID: ATF

ARI SOP: o-Terphenyl 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): Diesel #2, AK102, o-Terphenyl

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8
FID-9 ECD-1 ECD-5 ECD-6 ECD-7

Dates: Curve: 3/21/11 Analysis Start: 3/21/11

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	YES / NO <u>NA</u>
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	YES / NO <u>↓</u>
CCal Meets RF & %RSD Criteria?	YES / NO <u>N/A</u>	Surrogate Recovery In Control?	<u>YES</u> / NO
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	<u>YES</u> / NO
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	YES / NO / <u>NA</u>

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

Additional Details on Reverse: Yes (No)

Analyst: ms Date: 3/31/11

Reviewer: VD Date: 4.1.11

Analytical Resources Inc.: Organics Instrument Log

FID-4A Serial No.: US00003247

Date: 3/21/11

Analysis: N/A TPHD

Analyst: MA

GC Program: TPH

Column No: 922444

Column Type: RTX-1

Instrument Tune (.U or .CT.): _____

EM Voltage: _____

Calibration File: _____

Curve Date: 3/24/11

IS/SS

Ical/Ccal

LCS/ICV

IS/SS	Ical/Ccal	LCS/ICV
<u>786-1</u> <u>1251-2</u> <u>1299-3</u> <u>1255-2</u>		

Inject Date/Time	Filename	DF	LabID
21-MAR-2011 14:31	0321a001.d	1	RINSE
21-MAR-2011 14:55	0321a002.d	1	RT
21-MAR-2011 15:19	0321a003.d	1	IB
21-MAR-2011 15:42	0321a004.d	1	DIESEL 50
21-MAR-2011 16:06	0321a005.d	1	DIESEL 100
21-MAR-2011 16:30	0321a006.d	1	DIESEL 250
21-MAR-2011 16:54	0321a007.d	1	DIESEL 500
21-MAR-2011 17:17	0321a008.d	1	DIESEL 1000
21-MAR-2011 17:41	0321a009.d	1	DIESEL 2500
21-MAR-2011 18:05	0321a010.d	1	DIESEL ICV
21-MAR-2011 18:28	0321a011.d	1	MOIL 100
21-MAR-2011 18:52	0321a012.d	1	MOIL 250
21-MAR-2011 19:16	0321a013.d	1	MOIL 500
21-MAR-2011 19:39	0321a014.d	1	MOIL 1000
21-MAR-2011 20:03	0321a015.d	1	MOIL 2500
21-MAR-2011 20:27	0321a016.d	1	MOIL 5000
21-MAR-2011 20:50	0321a017.d	1	MOIL ICV
21-MAR-2011 21:14	0321a018.d	1	RINSE
21-MAR-2011 21:38	0321a019.d	1	DIESEL#1
21-MAR-2011 22:02	0321a020.d	1	MOIL#1
21-MAR-2011 22:26	0321a021.d	1	SN61MBW1
21-MAR-2011 22:50	0321a022.d	1	SN61LCSW1
22-MAR-2011 23:14	0321a023.d	1	SN61QLS
22-MAR-2011 23:38	0321a024.d	1	SN61A
22-MAR-2011 00:01	0321a025.d	1	SN61B
22-MAR-2011 00:25	0321a026.d	1	SN61C
22-MAR-2011 00:48	0321a027.d	1	SN61CMS
22-MAR-2011 01:12	0321a028.d	1	SN61CMSD
22-MAR-2011 01:36	0321a029.d	1	SN61D
22-MAR-2011 01:59	0321a030.d	1	SN61E
22-MAR-2011 02:23	0321a031.d	1	DIESEL#2
22-MAR-2011 02:47	0321a032.d	1	MOIL#2
22-MAR-2011 03:11	0321a033.d	1	SN61F
22-MAR-2011 03:34	0321a034.d	1	SN61G
22-MAR-2011 03:58	0321a035.d	1	SN61H
22-MAR-2011 04:21	0321a036.d	1	SN61I
22-MAR-2011 04:45	0321a037.d	1	SN61J
22-MAR-2011 05:08	0321a038.d	1	SN61K
22-MAR-2011 05:31	0321a039.d	1	DIESEL#3
22-MAR-2011 05:55	0321a040.d	1	MOIL#3
22-MAR-2011 06:18	0321a041.d	1	SN67A
22-MAR-2011 06:41	0321a042.d	1	SN82A
22-MAR-2011 07:04	0321a043.d	1	SN82B
22-MAR-2011 07:28	0321a044.d	1	SN82C
22-MAR-2011 07:51	0321a045.d	1	SN82D
22-MAR-2011 08:14	0321a046.d	1	SN82E
22-MAR-2011 08:38	0321a047.d	1	SN82F
22-MAR-2011 09:01	0321a048.d	1	DIESEL#4
22-MAR-2011 09:24	0321a049.d	1	MOIL#4
22-MAR-2011 09:48	0321a050.d	1	SN57MBS1

Inject Date/Time	Filename	DF	LabID
51 22-MAR-2011 10:11	0321a051.d	1	SN57LCSS1
52 22-MAR-2011 10:35	0321a052.d	1	SN57LCSDS1
53 22-MAR-2011 10:59	0321a053.d	1	SN57QLS
54 22-MAR-2011 11:22	0321a054.d	1	SN57A
55 22-MAR-2011 11:46	0321a055.d	1	SN57B
56 22-MAR-2011 12:10	0321a056.d	1	SN57C
57 22-MAR-2011 12:33	0321a057.d	1	SN57D
58 22-MAR-2011 12:57	0321a058.d	1	SN57E
59 22-MAR-2011 13:21	0321a059.d	10	SN59A
60 22-MAR-2011 13:45	0321a060.d	1	DIESEL#5
61 22-MAR-2011 14:08	0321a061.d	1	MOIL#5
62 22-MAR-2011 14:32	0321a062.d	1	G/D HCID W
63 22-MAR-2011 14:56	0321a063.d	1	M HCID W
64 22-MAR-2011 15:20	0321a064.d	1	SN60MBW1
65 22-MAR-2011 15:43	0321a065.d	1	SN60A
66 22-MAR-2011 16:07	0321a066.d	1	DIESEL#6
67 22-MAR-2011 16:31	0321a067.d	1	MOIL#6

ms

[Large handwritten scribbles]

ms
4/1/11

Maintenance / Comments

Maintenance Verification (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

6a
DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Instrument: FID4A.I
Calibration Date: 21-MAR-2011

Client: 20110321
Project: DIESEL 250
SDG No.: 20110321

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	21003	19526	19442	19703	20026	19363	19844	3.1
AK Diesel	23452	21691	21713	21972	22362	21558	22125	3.2
OR Diesel	24212	21966	21934	22149	22514	21688	22410	4.1
Cal Diesel	23232	21603	21610	21876	22284	21486	22015	3.0
o-Terph	17994	17497	17465	17996	17929	15399	17380	5.8

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

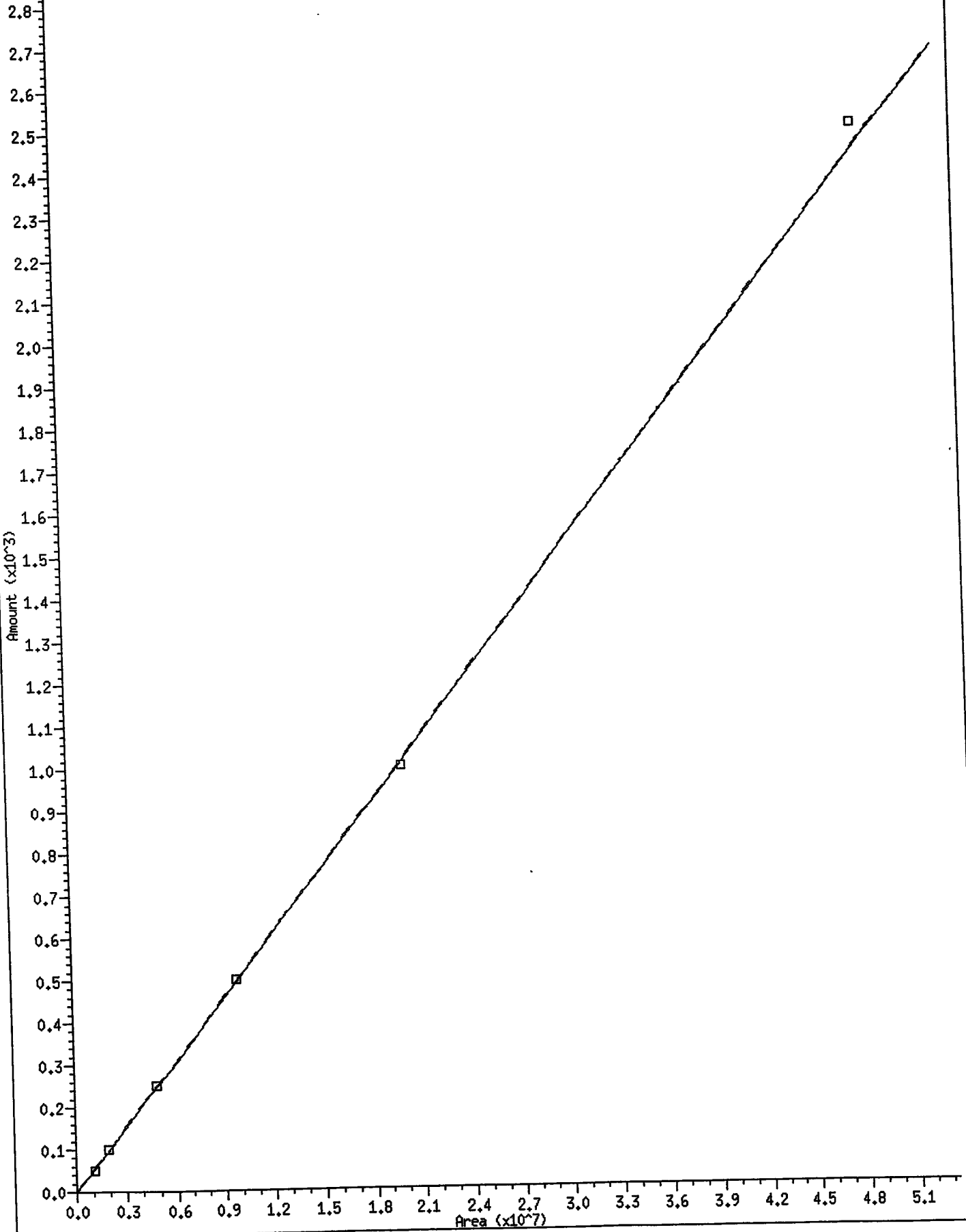
Quant Ranges : WA Diesel C12-C24 (4.517-8.324)
 AK Diesel C10-C25 (3.524-8.581)
 OR Diesel C10-C28 (3.524-9.347)
 Cal Diesel C10-C24 (3.524-8.324)

Calibration Files Analysis Time

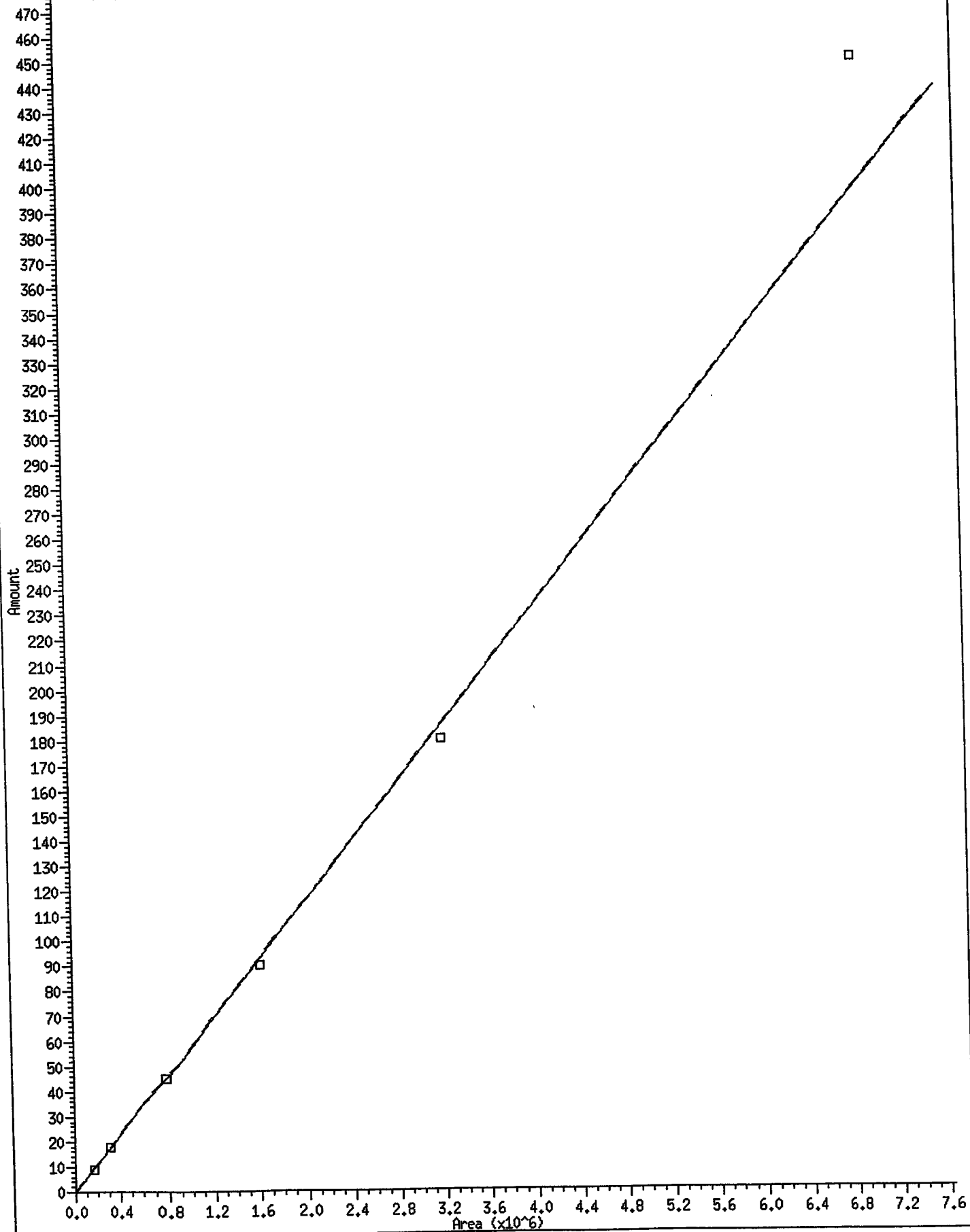
0321a004.d	21-MAR-2011 15:42
0321a005.d	21-MAR-2011 16:06
0321a006.d	21-MAR-2011 16:30
0321a007.d	21-MAR-2011 16:54
0321a008.d	21-MAR-2011 17:17
0321a009.d	21-MAR-2011 17:41

31 NW Diesel

Curve Type: Averaged By-Response
Amt = Rsp/19843.94
%RSD: 3.098



Curve Type: Averaged By-Response
Amt = Rsp/17380.19
%RSD: 5.755



ort Date : 01-Apr-2011 15:36

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

hod File: /chem3/fid4a.i/20110321.b/ftphfid4a.m
ch File: /chem3/fid4a.i/20110321.b
t ID: fid4a.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
NAME: 0321a004 0321a005 0321a006 0321a007 0321a008 0321a009
DATE: 21-MAR-2011 21-MAR-2011 21-MAR-2011 21-MAR-2011 21-MAR-2011 21-MAR-2011
TIME: 15:42 16:06 16:30 16:54 17:17 17:41

mpound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.548	1.548	1.524	1.533	1.546	1.517	1.536	1.436-1.636	1.536	0.014
40 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
39 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	0.546	0.496-0.596	+++++	+++++
36 JetA	+++++	+++++	+++++	+++++	+++++	+++++	0.787	0.737-0.837	+++++	+++++
37 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.718	0.668-0.768	+++++	+++++
38 Hydraulic Oil	1.173	1.189	1.194	1.172	1.170	1.166	1.167	1.117-1.217	1.177	0.011
2 C8	1.908	1.905	1.909	1.915	1.919	1.887	1.898	1.798-1.998	1.907	0.011
3 C10	3.527	3.525	3.527	3.526	3.528	3.515	3.524	3.474-3.574	3.525	0.005
4 C12	4.518	4.517	4.518	4.518	4.519	4.524	4.517	4.467-4.567	4.519	0.003
5 C14	5.290	5.289	5.291	5.292	5.295	5.284	5.292	5.242-5.342	5.290	0.004
6 C16	5.966	5.966	5.968	5.970	5.974	5.961	5.968	5.918-6.018	5.967	0.004
7 C18	6.601	6.602	6.606	6.608	6.614	6.597	6.606	6.556-6.656	6.605	0.006
8 o-terph	6.758	6.761	6.769	6.778	6.790	6.815	6.767	6.717-6.817	6.779	0.021
9 C20	7.208	7.209	7.210	7.212	7.215	7.225	7.213	7.163-7.263	7.213	0.006
10 C22	7.784	7.783	7.783	7.784	7.786	7.792	7.786	7.736-7.836	7.786	0.004
11 C24	8.324	8.323	8.321	8.320	8.321	8.323	8.324	8.274-8.374	8.322	0.001
12 C25	8.585	8.581	8.578	8.575	8.575	8.576	8.581	8.531-8.631	8.578	0.004

Viewer 1 Pro Date: 4/1/11
Viewer 2 NS Date: 4/1/11

Print Date : 01-Apr-2011 15:36

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Job File: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Ch File: /chem3/fid4a.i/20110321.b
t ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
13 C26	8.838	8.836	8.831	8.829	8.827	8.826	8.831	8.781-8.881	8.831	0.005
14 C28	9.346	9.357	9.353	9.352	9.348	9.343	9.347	9.297-9.397	9.350	0.005
15 Triacon Surr	9.894	9.896	9.895	9.895	9.895	9.891	9.887	9.837-9.937	9.894	0.002
16 C32	10.394	10.395	10.397	10.397	10.396	10.395	10.406	10.356-10.456	10.396	0.001
17 C34	10.917	10.943	10.942	10.938	10.945	10.938	10.933	10.883-10.983	10.937	0.010
18 Filter Peak	12.899	12.904	12.900	12.898	12.910	12.912	12.905	12.805-13.005	12.904	0.006
19 C36	11.459	11.461	11.462	11.461	11.462	11.459	11.450	11.400-11.500	11.461	0.001
20 C38	11.943	11.946	11.954	11.948	11.932	11.959	11.946	11.896-11.996	11.947	0.009
21 C40	12.419	12.423	12.424	12.422	12.422	12.420	12.426	12.376-12.476	12.422	0.002
31 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.687	0.637-0.737	+++++	+++++
32 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.660	0.610-0.710	+++++	+++++
33 AK Dies 102	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
30 NW MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 CRUDE	+++++	+++++	+++++	+++++	+++++	+++++	0.612	0.562-0.662	+++++	+++++
35 AK MO11 103	+++++	+++++	+++++	+++++	+++++	+++++			+++++	+++++

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a002.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: RT
Client ID: RT
Injection: 21-MAR-2011 14:55
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.536	0.000	347561	225139	GAS (Tol-C12)	753250	38.06
C8	1.898	0.000	130261	113758	DIESEL (C12-C24)	1252682	63.13
C10	3.524	0.000	333401	188669	M.OIL (C24-C38)	1632103	143.23
C12	4.517	0.000	296398	188861	AK-102 (C10-C25)	1656243	74.86
C14	5.292	0.000	289088	186547	AK-103 (C25-C36)	1449626	210.03
C16	5.968	0.000	276840	181503	CRUDE (Tol-C40)	3768551	498.96
C18	6.606	0.000	263027	182255	MIN.OIL (C24-C38)	1632103	121.74
C20	7.213	0.000	257207	176600			
C22	7.786	0.000	266969	186777			
C24	8.324	0.000	286483	199020			
C25	8.581	0.000	387505	279670			
C26	8.831	0.000	279277	208726			
C28	9.347	0.000	259393	215407			
C32	10.406	0.000	200459	212786	CREOSOT (C12-C22)	1028455	366.95
C34	10.933	0.000	174720	178286			
Filter Peak	12.905	0.000	1105	1269			
C36	11.450	0.000	155558	172930			
C38	11.946	0.000	119393	133846			
C40	12.426	0.000	91586	109084			
o-terph	6.767	0.000	780297	602418	JET-A (C10-C18)	971097	75.81
Triacon Surr	9.887	0.000	594261	650331			

M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

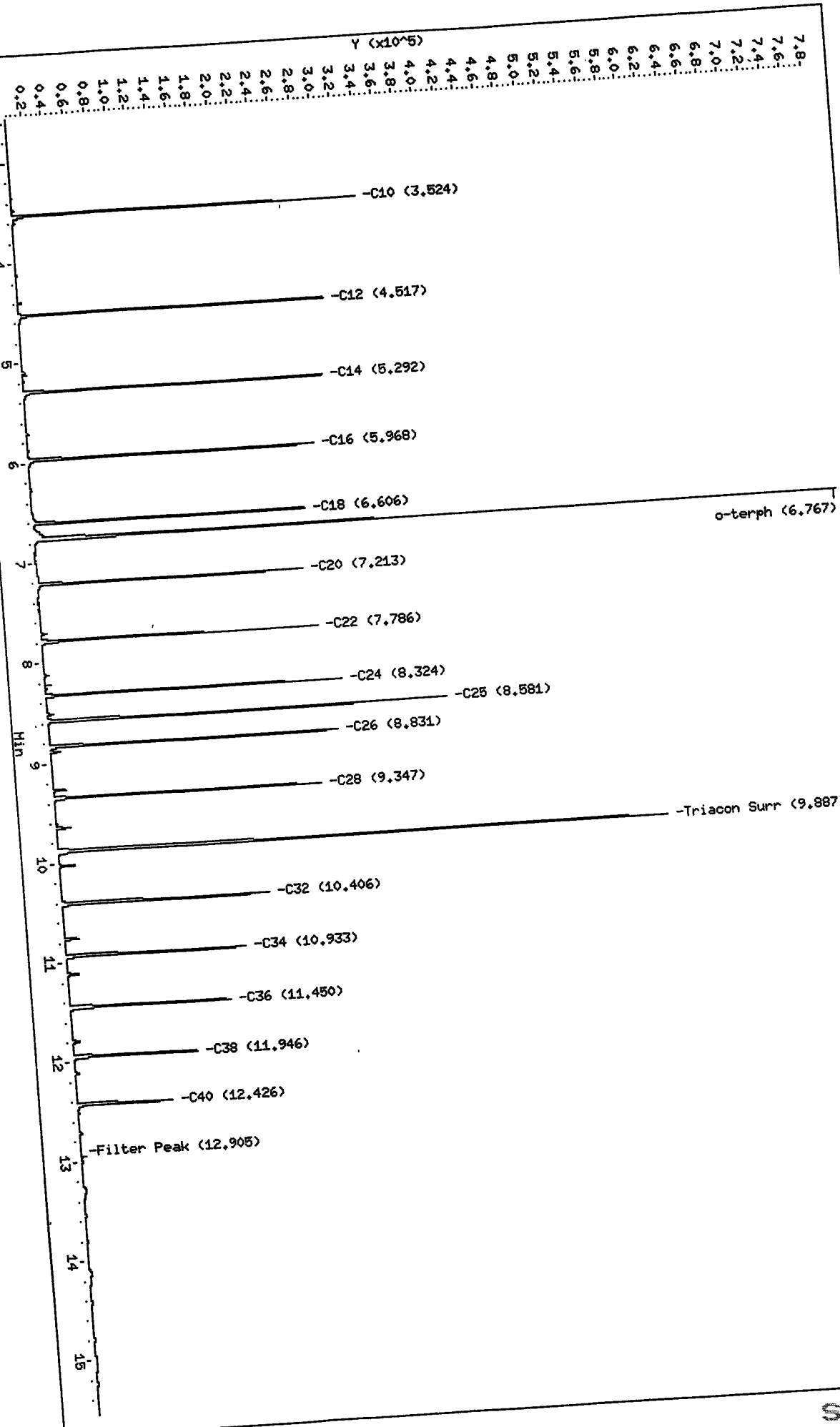
Surrogate	Area	Amount	%Rec
o-Terphenyl	602418	34.7	77.0
Triacontane	650331	38.3	85.1

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Handwritten signature

Data File: /chem3/fid4a.i/20110321.b/0321a002.d
Date: 21-MAR-2011 14:55
Client ID: RT
Sample Info: RT
Column phase: RTX-1

Instrument: fid4a.i
Operator: MS
Column diameter: 0.25
/chem3/fid4a.i/20110321.b/0321a002.d



Analytical Resources Inc.
407S TPH Quantitation Report

ARI ID: IB
Client ID: IB
Injection: 21-MAR-2011 15:19
Dilution Factor: 1

Sample file: /chem3/fid4a.i/20110321.b/0321a003.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Generator: MS
Report Date: 04/01/2011
Sample ID: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

FID:4A RESULTS					Range	Total Area	Conc
Compound	RT	Shift	Height	Area			
Toluene	1.542	0.007	1526	2291	GAS (Tol-C12)	49091	2.48
Benzene	1.905	0.006	451	706	DIESEL (C12-C24)	92735	4.67
Xylene	3.526	0.002	650	817	M.OIL (C24-C38)	188942	16.58
1,2-Dichlorobenzene	4.523	0.005	167	217	AK-102 (C10-C25)	115368	5.21
1,4-Dichlorobenzene	5.298	0.006	200	179	AK-103 (C25-C36)	152032	22.03
1,3-Dichlorobenzene	5.968	-0.001	357	818			
1,2,4-Trichlorobenzene	6.603	-0.003	666	991	CRUDE (Tol-C40)	365957	48.45
1,2,3-Trichlorobenzene	7.220	0.007	710	1448	MIN.OIL (C24-C38)	188942	14.09
1,2,4,5-Tetrachlorobenzene	7.793	0.007	637	1362			
1,2,3,4-Tetrachlorobenzene	8.326	0.002	728	2055			
1,2,3,5-Tetrachlorobenzene	8.582	0.001	742	2860			
1,2,3,6-Tetrachlorobenzene	8.832	0.001	715	1411			
1,2,3,4,5-Pentachlorobenzene	8.832	0.001	1021	1555			
1,2,3,4,6-Pentachlorobenzene	9.345	-0.003	1021	1555			
1,2,3,4,5,6-Hexachlorobenzene	9.345	-0.003	7043	13069	CREOSOT (C12-C22)	74269	26.50
1,2,3,4,5,6,7-Heptachlorobenzene	10.393	-0.014	746	2682			
1,2,3,4,5,6,7,8-Octachlorobenzene	10.948	0.014	1693	10510			
1,2,3,4,5,6,7,8,9-Nonachlorobenzene	12.912	0.007	7673	11661			
1,2,3,4,5,6,7,8,9,10-Decachlorobenzene	11.457	0.008	837	1933			
1,2,3,4,5,6,7,8,9,10,11-Undecachlorobenzene	11.955	0.009	4711	8930			
1,2,3,4,5,6,7,8,9,10,11,12-Dodecachlorobenzene	12.420	-0.006	1026523	889744	JET-A (C10-C18)	43700	3.41
1,2,3,4,5,6,7,8,9,10,11,12,13-Tridecachlorobenzene	6.770	0.003	689335	773682			
1,2,3,4,5,6,7,8,9,10,11,12,13,14-Tetradecachlorobenzene	9.888	0.001					

M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	889744	51.2	113.8
Triacotane	773682	45.5	101.2

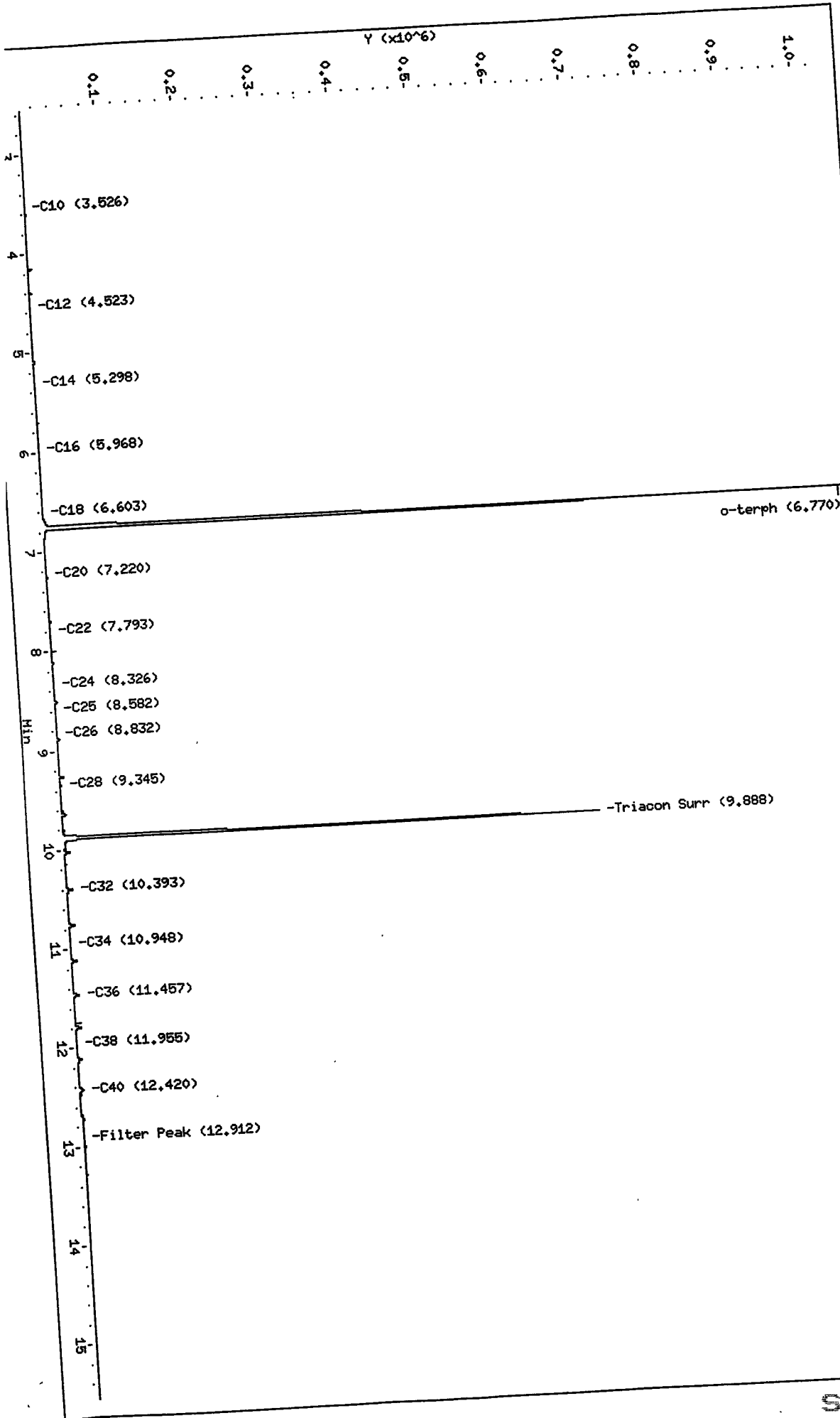
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a003.d
Date: 21-MAR-2011 15:19
Client ID: IB
Sample Info: IB

Column phase: RTX-1

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a003.d



Analytical Resources Inc.
407S TPH Quantitation Report

ata file: /chem3/fid4a.i/20110321.b/0321a004.d
ethod: /chem3/fid4a.i/20110321.b/ftphfid4a.m
nstrument: fid4a.i
perator: MS
eport Date: 04/01/2011
acro: 21-MAR-2011
alibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL 50
Client ID: DIESEL 50
Injection: 21-MAR-2011 15:42
Dilution Factor: 1

FID:4A RESULTS					Range	Total Area	Conc
Compound	RT	Shift	Height	Area			
Toluene	1.548	0.012	1303	1811	GAS (Tol-C12)	163102	8.24
C8	1.908	0.010	698	1433	DIESEL (C12-C24)	1050151	52.92
C10	3.527	0.003	3988	2388	M.OIL (C24-C38)	165190	14.50
C12	4.518	0.000	8839	8768	AK-102 (C10-C25)	1172600	53.00 M
C14	5.290	-0.002	17524	22113	AK-103 (C25-C36)	137630	19.94
C16	5.966	-0.003	32875	37909	CRUDE (Tol-C40)	1400170	185.39 M
C18	6.601	-0.005	29522	32264	MIN.OIL (C24-C38)	165190	12.32
C20	7.208	-0.004	16132	20445			
C22	7.784	-0.002	6884	10771			
C24	8.324	0.000	1897	7260			
C25	8.585	0.004	952	2436			
C26	8.838	0.006	554	426			
C28	9.346	-0.001	371	263			
C32	10.394	-0.012	11448	12997	CREOSOT (C12-C22)	1002640	357.74 M
C34	10.917	-0.017	364	599			
Filter Peak	12.899	-0.006	875	830			
C36	11.459	0.009	5761	8592			
C38	11.943	-0.003	445	587			
C40	12.419	-0.006	3106	5976			
o-terph	6.758	-0.009	261483	161945	JET-A (C10-C18)	818304	63.88
Triacon Surr	9.894	0.007	727	1672			

M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	161945	9.3	20.7
Triacotane	1672	0.1	0.2

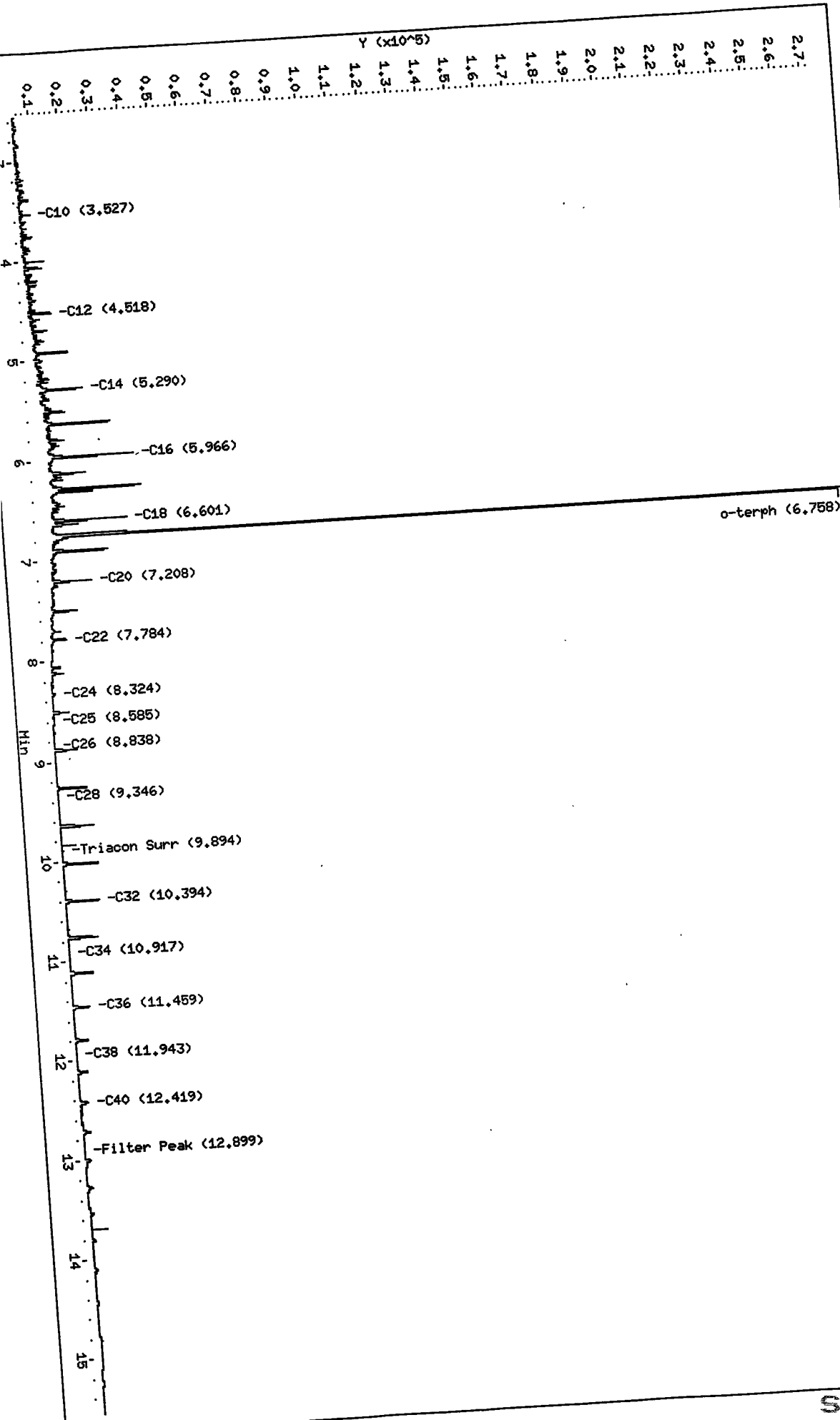
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

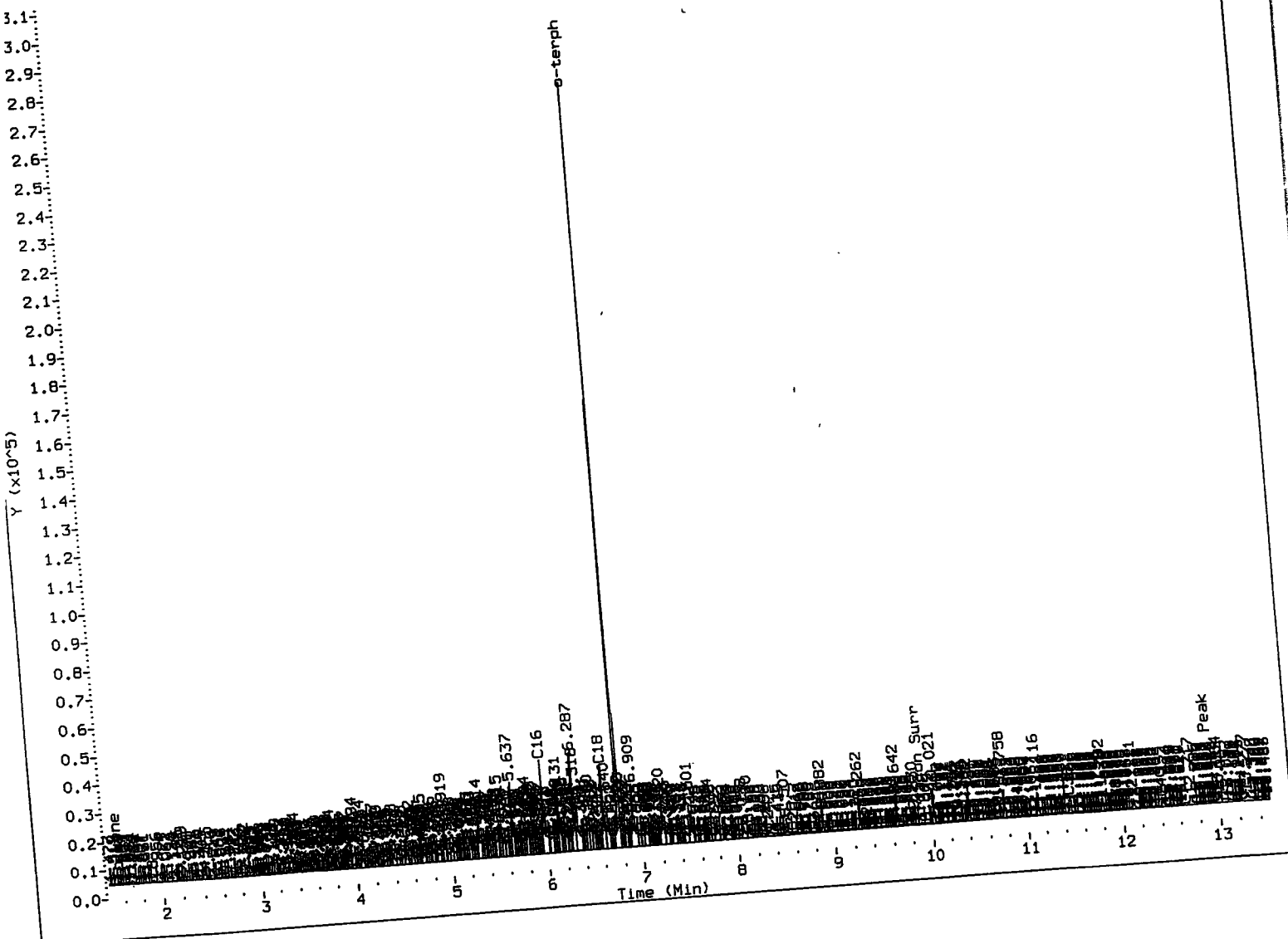
Data File: /chem3/fid4a.i/20110321.b/0321a004.d
Date: 21-MAR-2011 15:42
Client ID: DIESEL 50
Sample Info: DIESEL 50

Column phase: RTX-1

/chem3/fid4a.i/20110321.b/0321a004.d

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: Ma Date: 4/16/00

Analytical Resources Inc.
407S TPH Quantitation Report

ARI ID: DIESEL 100
Client ID: DIESEL 100
Injection: 21-MAR-2011 16:06

Data file: /chem3/fid4a.i/20110321.b/0321a005.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.548	0.013	2020	2649	GAS (Tol-C12)	294057	14.86
C8	1.905	0.006	1136	2095	DIESEL (C12-C24)	1952619	98.40
C10	3.525	0.001	7935	4662	M.OIL (C24-C38)	99318	8.72
C12	4.517	0.000	18280	15899	AK-102 (C10-C25)	2169134	98.04 M
C14	5.289	-0.002	35618	41859	AK-103 (C25-C36)	77939	11.29
C16	5.966	-0.003	67392	68131	CRUDE (Tol-C40)	2363758	312.97 M
C18	6.602	-0.005	57486	57882	MIN.OIL (C24-C38)	99318	7.41
C20	7.209	-0.004	33666	37324			
C22	7.783	-0.003	14346	17976			
C24	8.323	-0.001	3673	9056			
C25	8.581	0.000	1537	5686			
C26	8.836	0.005	702	1508			
C28	9.357	0.010	318	179			
C32	10.395	-0.011	3827	5036	CREOSOT (C12-C22)	1878323	670.19 M
C34	10.943	0.010	228	143			
Filter Peak	12.904	-0.001	678	1041			
C36	11.461	0.012	3500	5211			
C38	11.946	0.000	351	224			
C40	12.423	-0.002	2644	4908			
o-terph	6.761	-0.005	481404	314953	JET-A (C10-C18)	1556228	121.49
Triacon Surr	9.896	0.009	313	707			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	314953	18.1	40.3
Triacantane	707	0.0	0.1

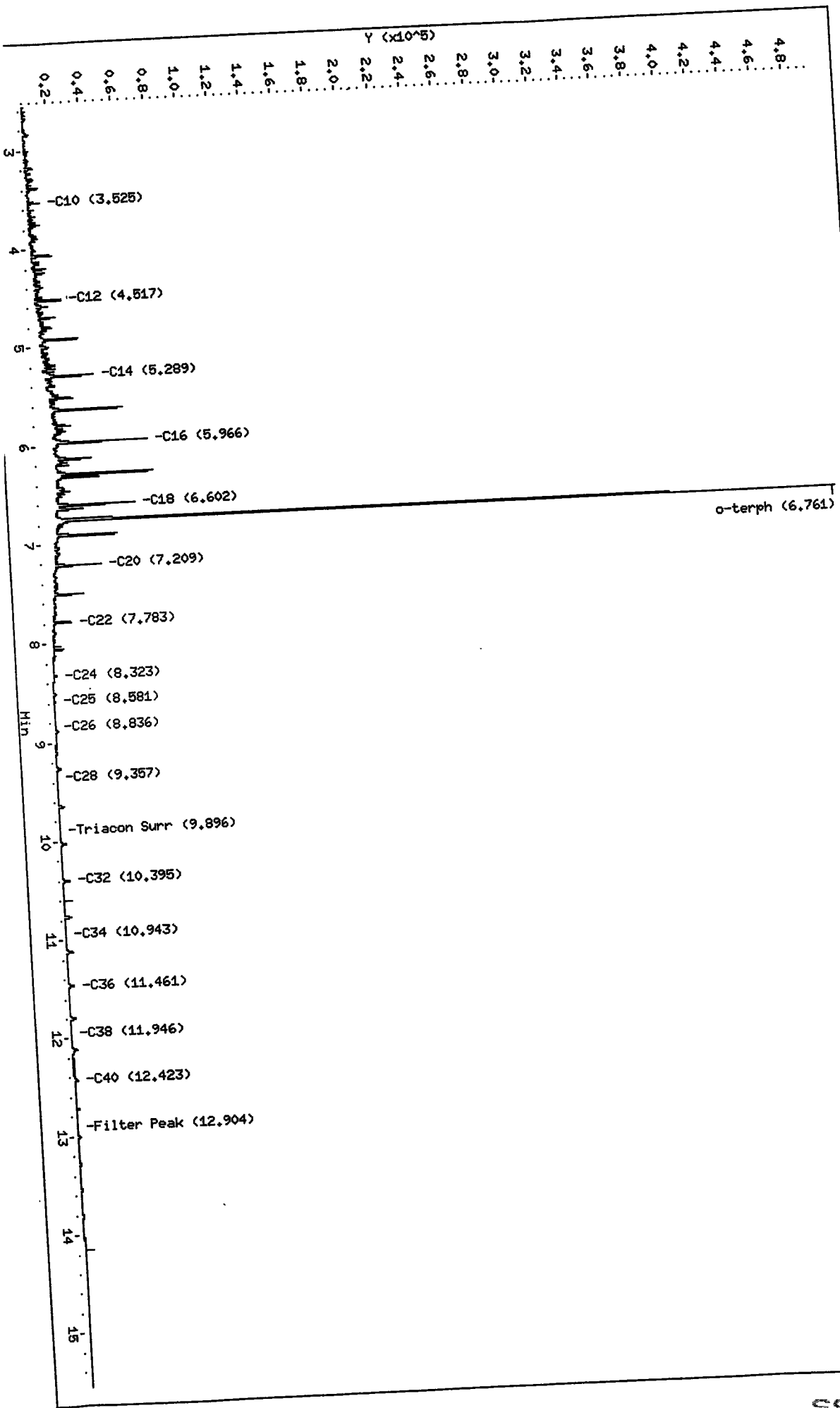
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a005.d
Date: 21-MAR-2011 16:06
Client ID: DIESEL 100
Sample Info: DIESEL 100

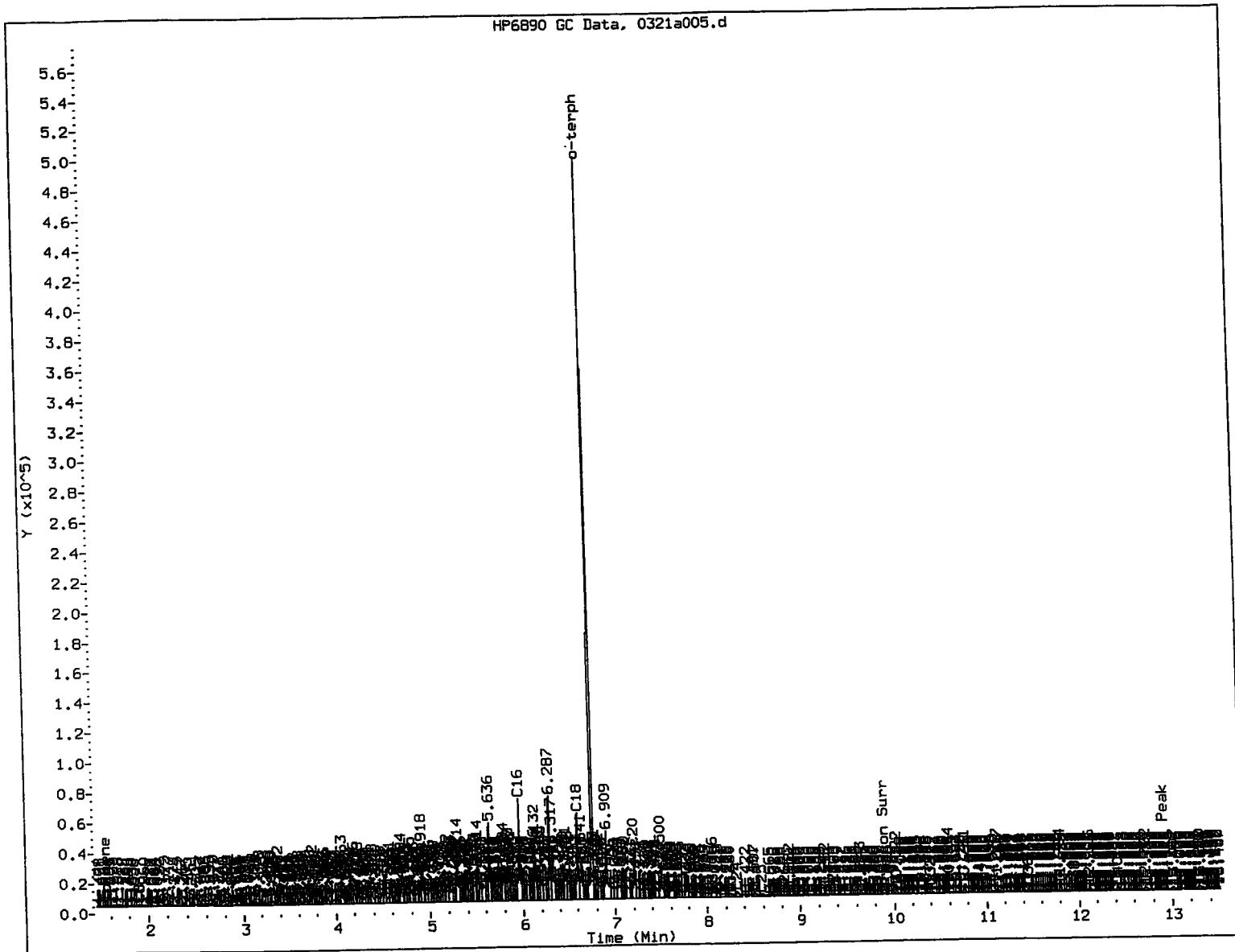
Column phase: RTX-1

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a005.d



HP6890 GC Data, 0321a005.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: *ME*

Date: 4/1/01

Analytical Resources Inc.
407S TPH Quantitation Report

ARI ID: DIESEL 250
Client ID: DIESEL 250
Injection: 21-MAR-2011 16:30
Dilution Factor: 1

File: /chem3/fid4a.i/20110321.b/0321a006.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Detector: MS
Report Date: 04/01/2011
Sample: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Chluene	1.524	-0.012	573	579	GAS (Tol-C12)	744515	37.62
8	1.909	0.011	2638	4540	DIESEL (C12-C24)	4860494	244.94
10	3.527	0.002	22150	12633	M.OIL (C24-C38)	162326	14.25
12	4.518	0.000	48222	41887	AK-102 (C10-C25)	5428276	245.35 M
14	5.291	-0.001	88490	107285	AK-103 (C25-C36)	124829	18.09
16	5.968	-0.001	167719	174162	CRUDE (Tol-C40)	5781470	765.48 M
18	6.606	0.000	131622	142640	MIN.OIL (C24-C38)	162326	12.11
C20	7.210	-0.003	86518	93094			
C22	7.783	-0.003	39224	44241			
C24	8.321	-0.004	11397	17695			
C25	8.578	-0.004	4692	11797			
C26	8.831	0.000	1768	3845			
C28	9.353	0.006	464	433			
C32	10.397	-0.010	7742	9143	CREOSOT (C12-C22)	4687091	1672.35 M
C34	10.942	0.008	212	134			
Filter Peak	12.900	-0.005	612	613			
C36	11.462	0.012	3377	4922			
C38	11.954	0.008	335	422			
C40	12.424	-0.002	2055	3942	JET-A (C10-C18)	3935905	307.25
o-terph	6.769	0.002	943315	785946			
Triacon Surr	9.895	0.008	521	1221			

M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

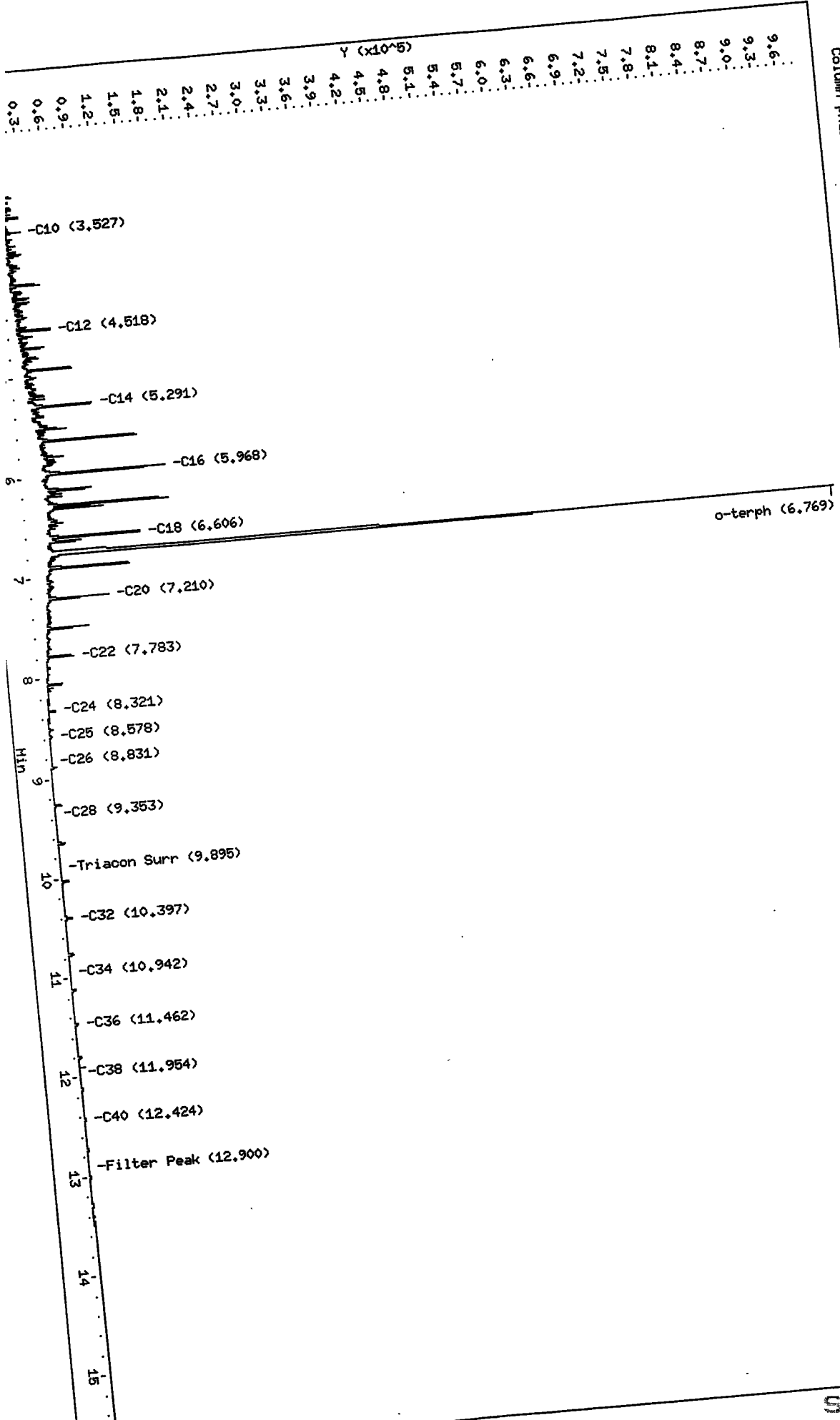
Surrogate	Area	Amount	%Rec
o-Terphenyl	785946	45.2	100.5
Triacontane	1221	0.1	0.2

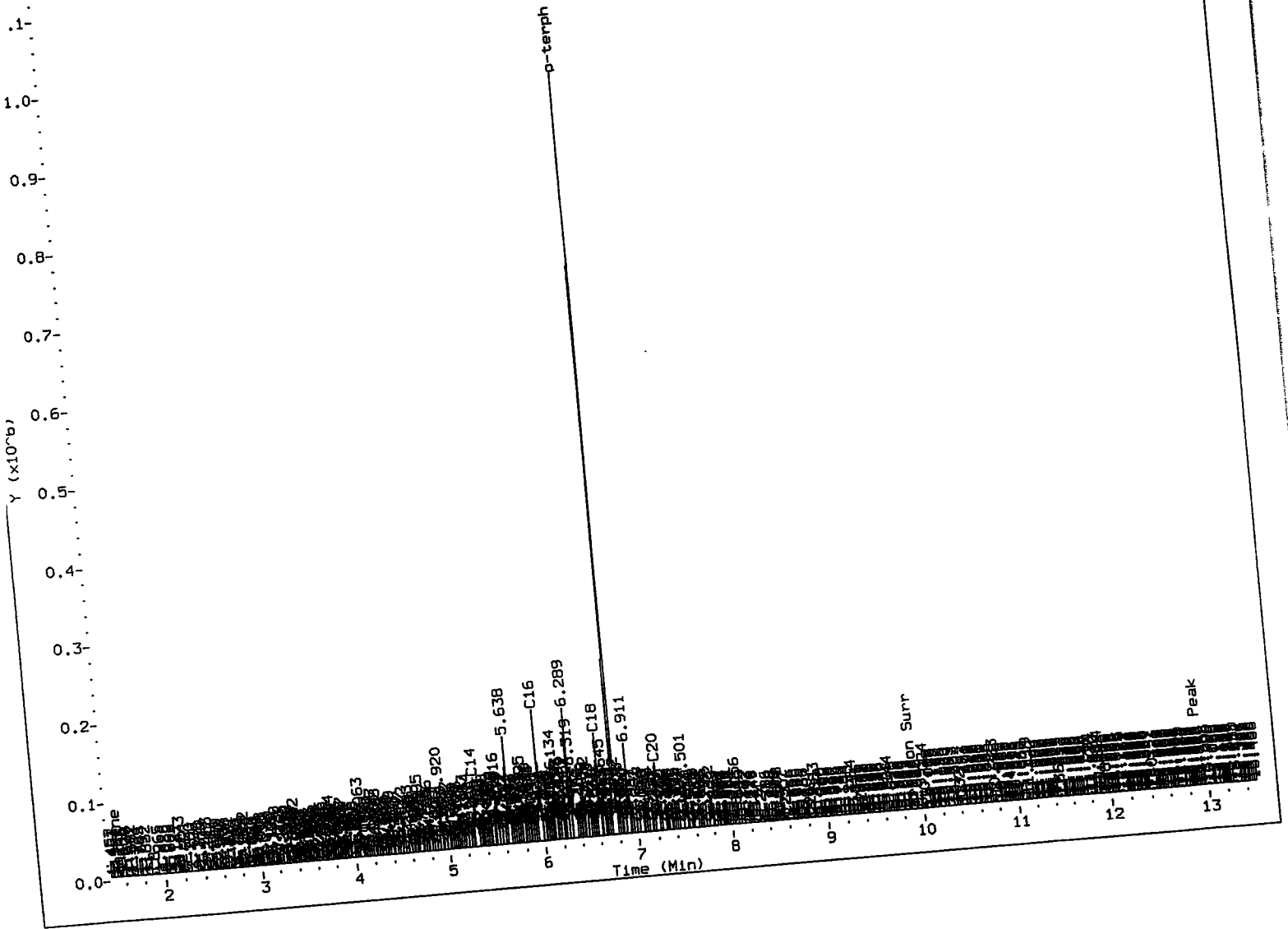
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a006.d
Date: 21-MAR-2011 16:30
Client ID: DIESEL 250
Sample Info: DIESEL 250
Column phase: RTX-1

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a006.d





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other

Analyst: *Mu*

Date: *4/1/6*

Analytical Resources Inc.
407S TPH Quantitation Report

ARI ID: DIESEL 500
Client ID: DIESEL 500
Injection: 21-MAR-2011 16:54

Dilution Factor: 1

Sample file: /chem3/fid4a.i/20110321.b/0321a007.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Detector: MS
Report Date: 04/01/2011
Sample Date: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

Compound	RT	Shift	Height	FID:4A RESULTS Area	Range	Total Area	Conc
Chlorobenzene	1.533	-0.003	589	589	GAS (Tol-C12)	1476663	74.61
8	1.915	0.017	5180	8340	DIESEL (C12-C24)	9851554	496.45
10	3.526	0.002	46342	26117	M.OIL (C24-C38)	228774	20.08
12	4.518	0.000	100066	86896	AK-102 (C10-C25)	10985753	496.53 M
14	5.292	0.001	176091	187363	AK-103 (C25-C36)	168908	24.47
16	5.970	0.002	329589	348959	CRUDE (Tol-C40)	11571930	1532.15 M
18	6.608	0.002	264722	301237	MIN.OIL (C24-C38)	228774	17.07
C20	7.212	-0.001	176992	162584			
C22	7.784	-0.002	81891	84627			
C24	8.320	-0.004	24726	30245			
C25	8.575	-0.006	10586	17649			
C26	8.829	-0.002	3679	6862			
C28	9.352	0.005	706	1141			
C32	10.397	-0.010	8347	10129	CREOSOT (C12-C22)	9501915	3390.28 M
C34	10.938	0.004	231	52			
Filter Peak	12.898	-0.007	587	1043			
C36	11.461	0.012	4994	7146			
C38	11.948	0.002	315	277			
C40	12.422	-0.004	2110	3675	JET-A (C10-C18)	7991771	623.87
o-terph	6.778	0.012	1524828	1619635			
Triacon Surr	9.895	0.008	522	1714			

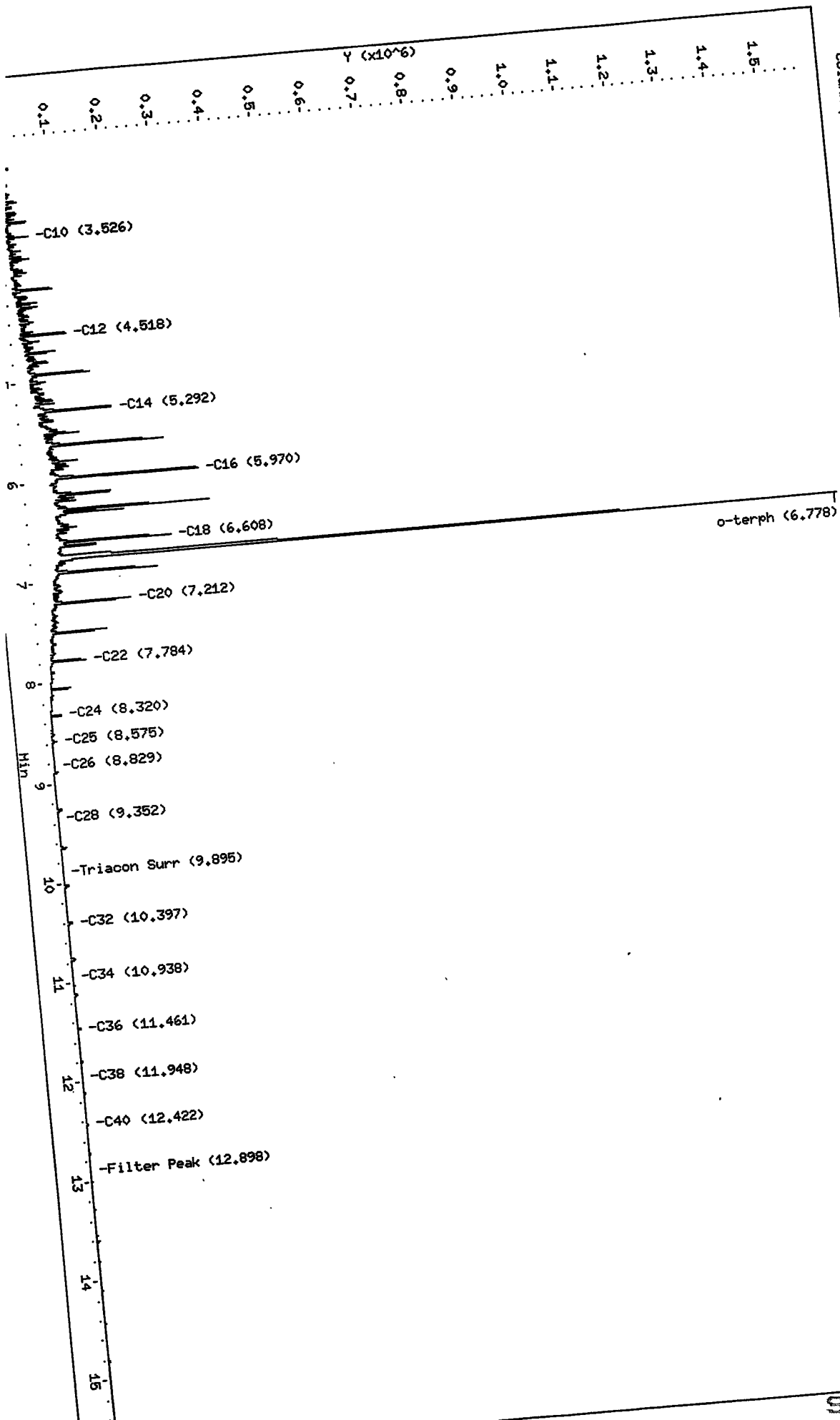
M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1619635	93.2	207.1
Triacotane	1714	0.1	0.2

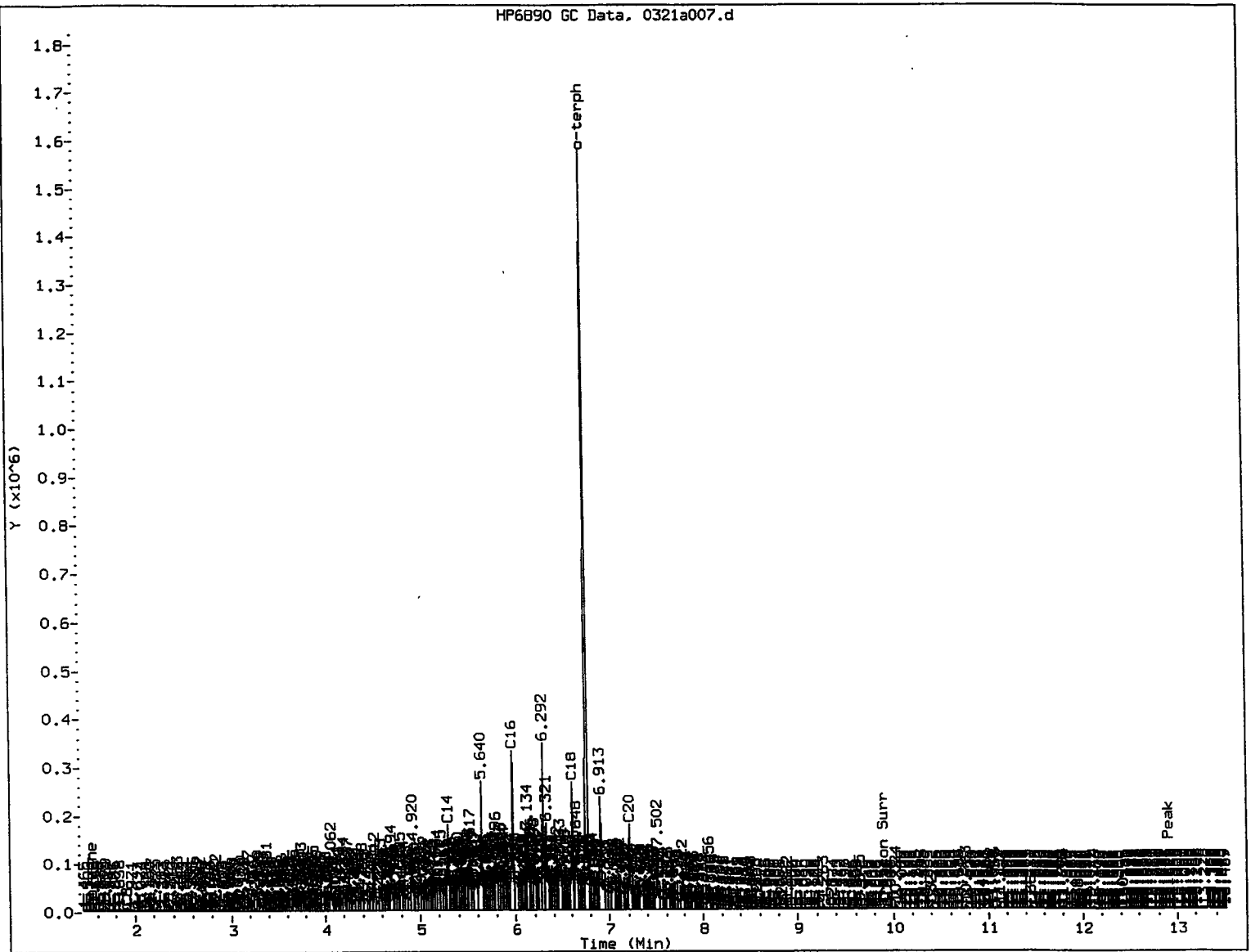
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a007.d
Date: 21-MAR-2011 16:54
Client ID: DIESEL 500
Sample Info: DIESEL 500
Column phase: RTX-1

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25
/chem3/fid4a.i/20110321.b/0321a007.d



HP6890 GC Data, 0321a007.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: *Mu* Date: 4/1/14

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a008.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL 1000
Client ID: DIESEL 1000
Injection: 21-MAR-2011 17:17
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.546	0.011	843	1155	GAS (Tol-C12)	3061157	154.67
C8	1.919	0.020	8203	5577	DIESEL (C12-C24)	20026067	1009.17
C10	3.528	0.004	100709	55572	M.OIL (C24-C38)	518309	45.49
C12	4.519	0.002	192173	182550	AK-102 (C10-C25)	22362157	1010.72 M
C14	5.295	0.003	327747	445532	AK-103 (C25-C36)	402700	58.34
C16	5.974	0.006	582099	704429			
C18	6.614	0.008	444713	647677	CRUDE (Tol-C40)	23668570	3133.77 M
C20	7.215	0.003	332711	380799	MIN.OIL (C24-C38)	518309	38.66
C22	7.786	0.000	157933	173386			
C24	8.321	-0.003	51386	67169			
C25	8.575	-0.006	22859	40290			
C26	8.827	-0.004	8501	13464			
C28	9.348	0.000	1218	1949			
C32	10.396	-0.010	40475	44033			
C34	10.945	0.011	330	178	CREOSOT (C12-C22)	19304689	6887.91 M
Filter Peak	12.910	0.005	612	1307			
C36	11.462	0.013	27882	33856			
C38	11.932	-0.014	500	1000			
C40	12.422	-0.003	20647	26424			
o-terph	6.790	0.024	2216294	3227262	JET-A (C10-C18)	16448169	1284.02
Triacon Surr	9.895	0.008	956	2425			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	3227262	185.7	412.6
Triacontane	2425	0.1	0.3

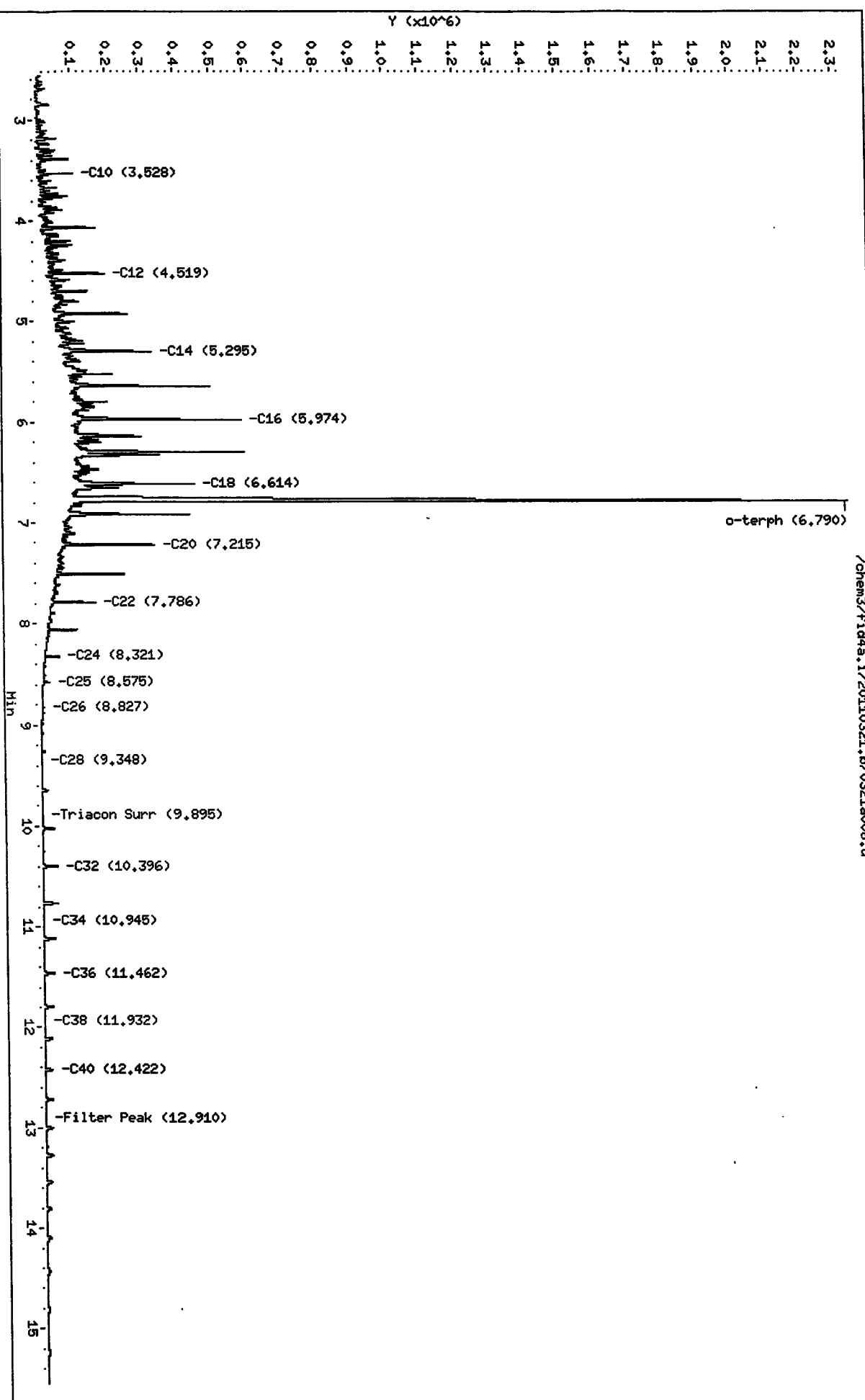
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

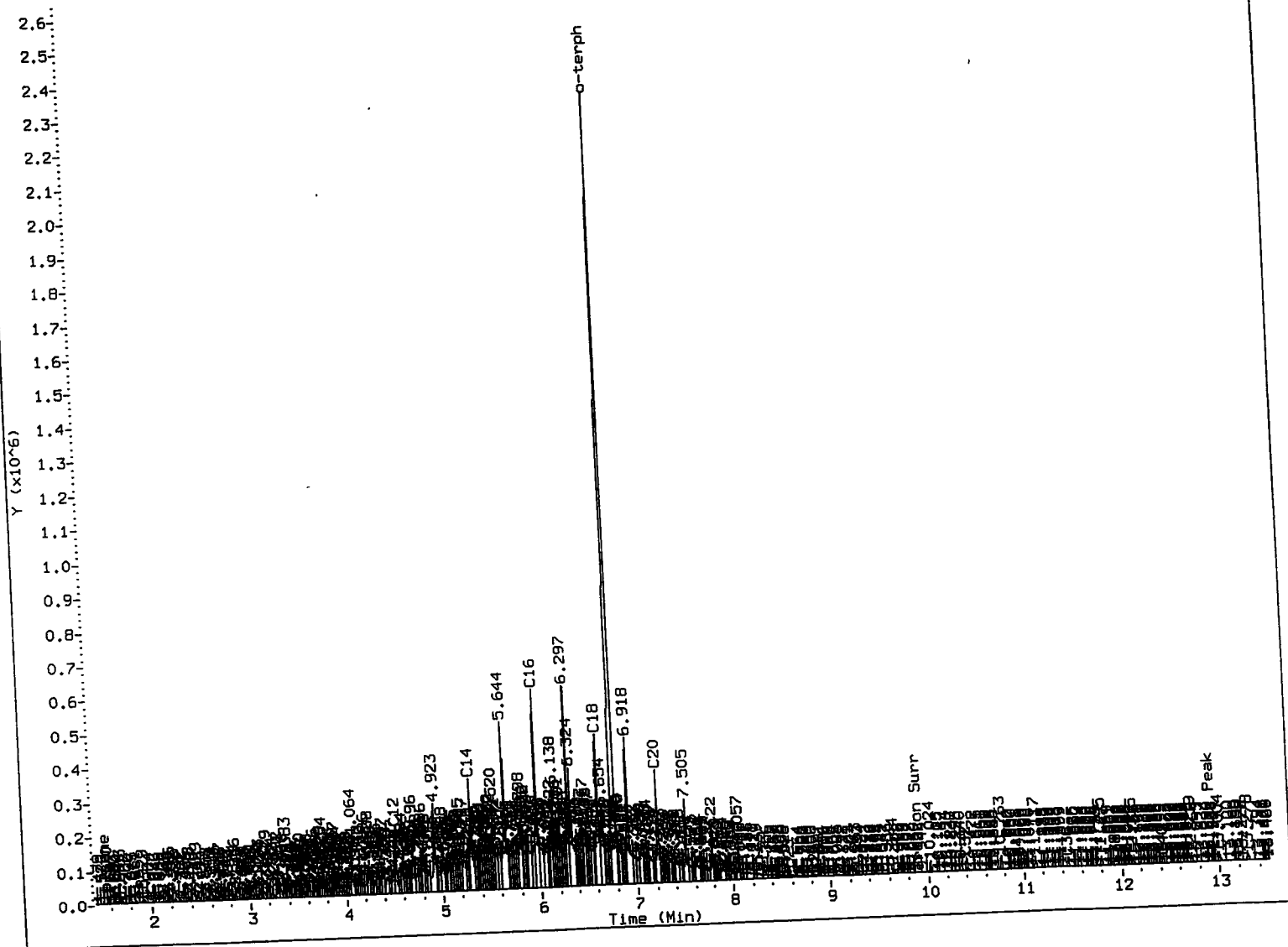
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Date: 21-MAR-2011 17:17
Client ID: DIESEL 1000
Sample Info: DIESEL 1000

Column phase: RTX-1

Instrument: fid4a.i
Operator: MS
Column diameter: 0.25

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MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other _____

Analyst: Me

Date: 7/1/11

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a009.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL 2500
Client ID: DIESEL 2500
Injection: 21-MAR-2011 17:41
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.517	-0.019	2302	4104	GAS (Tol-C12)	7152361	361.38
C8	1.887	-0.011	12738	13455	DIESEL (C12-C24)	48408123	2439.43
C10	3.515	-0.009	26840	16391	M.OIL (C24-C38)	634665	55.70
C12	4.524	0.007	373231	440602	AK-102 (C10-C25)	53895935	2435.97 M
C14	5.284	-0.008	357526	571327	AK-103 (C25-C36)	433531	62.81
C16	5.961	-0.008	498100	490835			
C18	6.597	-0.009	378716	536751	CRUDE (Tol-C40)	56213393	7442.77 M
C20	7.225	0.012	733606	726099	MIN.OIL (C24-C38)	634665	47.34
C22	7.792	0.006	380578	341935			
C24	8.323	-0.001	130502	119725			
C25	8.576	-0.006	59431	83708			
C26	8.826	-0.005	22270	33017			
C28	9.343	-0.005	2821	4149			
C32	10.395	-0.011	9588	11664			
C34	10.938	0.004	353	796	CREOSOT (C12-C22)	46709679	16666.02 M
Filter Peak	12.912	0.007	565	491			
C36	11.459	0.010	7798	10507			
C38	11.959	0.012	311	340			
C40	12.420	-0.006	3356	5074			
o-terph	6.815	0.048	3774114	6929645	JET-A (C10-C18)	38288623	2988.98
Triacon Surr	9.891	0.004	849	1609			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	6929645	398.7	886.0
Triacontane	1609	0.1	0.2

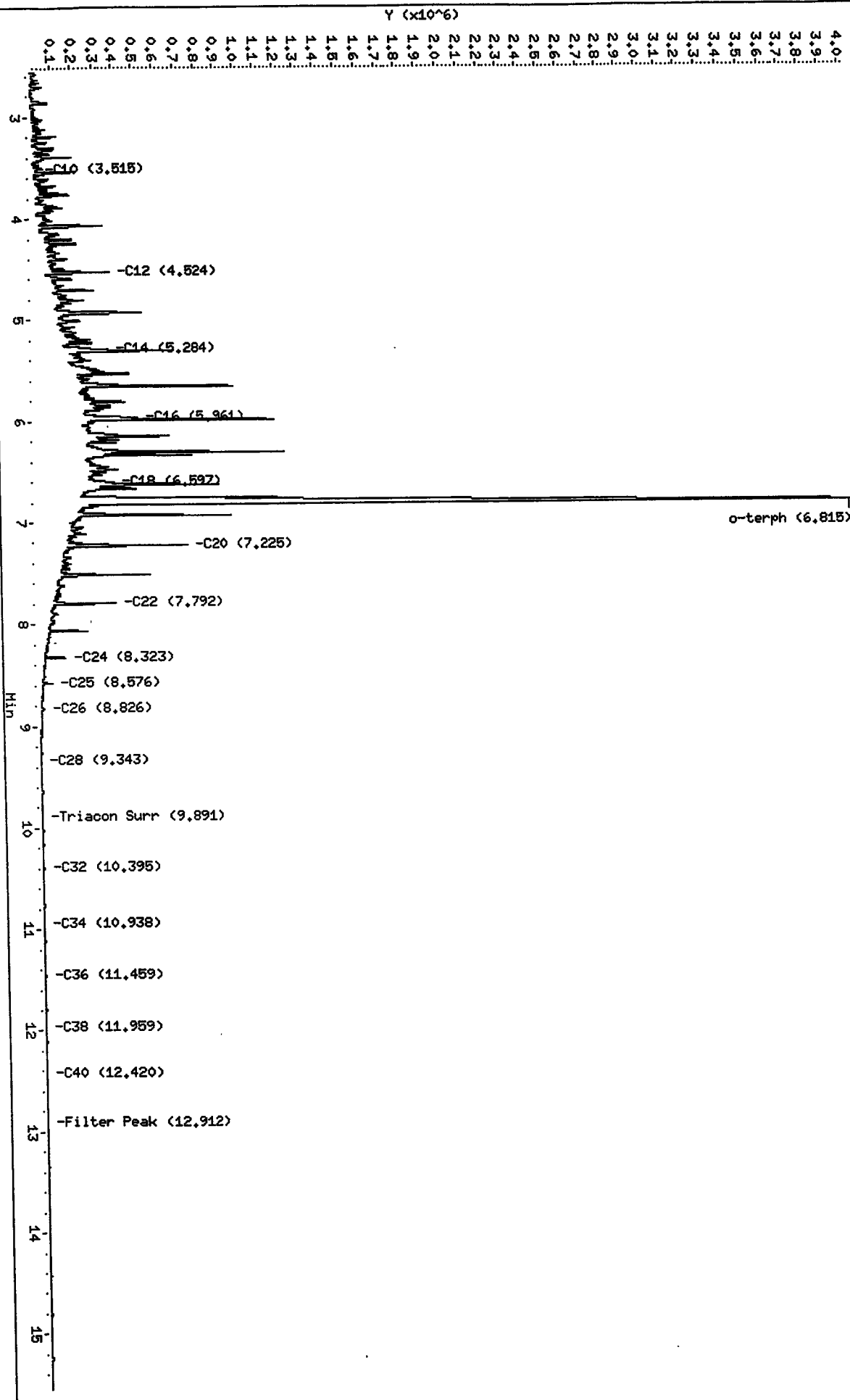
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a009.d
Date: 21-MAR-2011 17:41
Client ID: DIESEL 2500
Sample Infol: DIESEL 2500

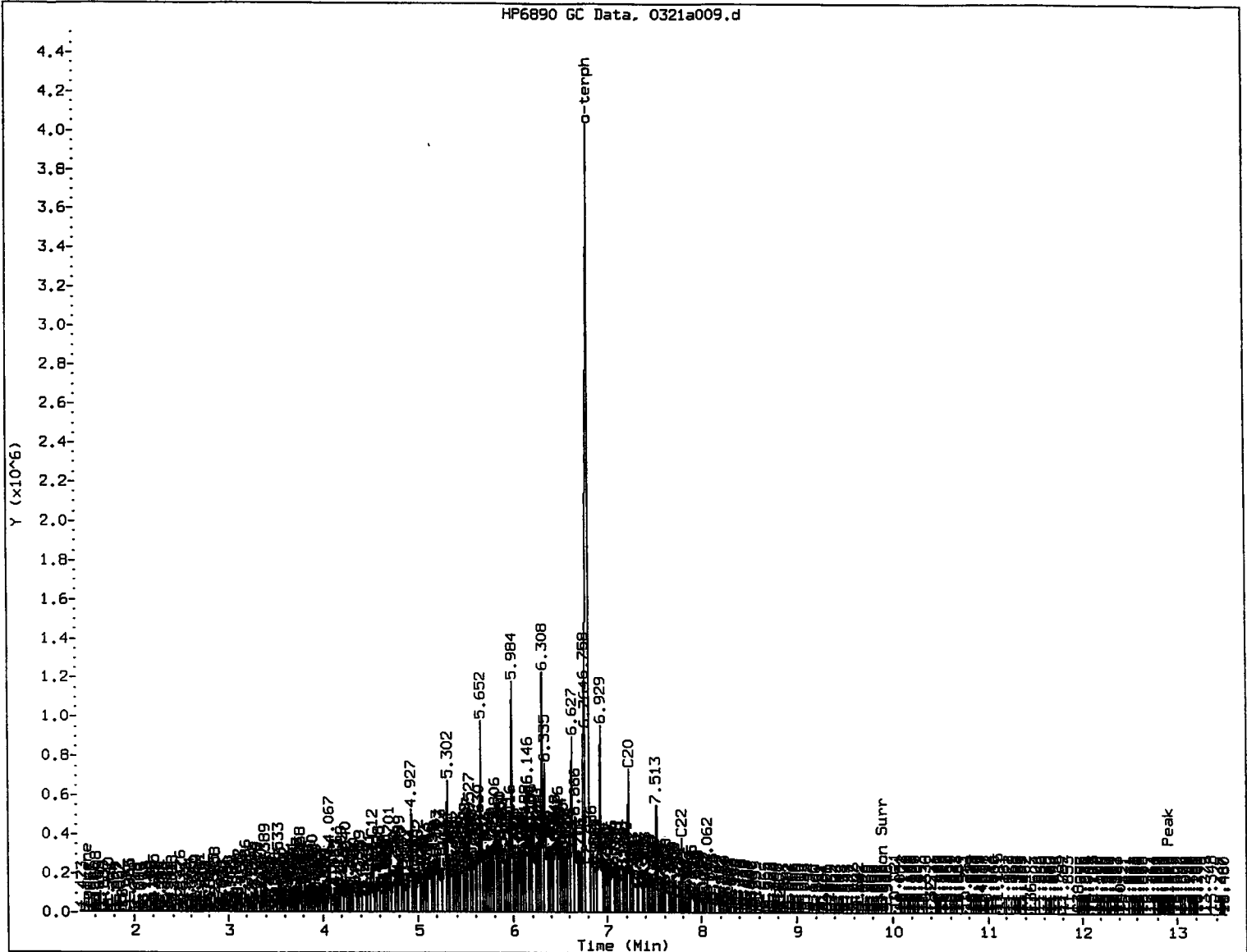
Column phase: RTX-1

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Instrument: fid4a.i
Operator: MS
Column diameter: 0.25



HP6890 GC Data, 0321a009.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: Muc

Date: 4/1/11

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a010.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL ICV
Client ID:
Injection: 21-MAR-2011 18:05
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.523	-0.013	680	689	GAS (Tol-C12)	723614	36.56
C8	1.909	0.011	2664	4629	DIESEL (C12-C24)	4753126	239.52
C10	3.525	0.001	21564	12274	M.OIL (C24-C38)	133224	11.69
C12	4.517	-0.001	46005	41089	AK-102 (C10-C25)	5297471	239.43 M
C14	5.289	-0.002	85196	104612	AK-103 (C25-C36)	97298	14.10
C16	5.966	-0.002	159945	161739			
C18	6.604	-0.002	129170	141895	CRUDE (Tol-C40)	5624394	744.68 M
C20	7.209	-0.004	83788	90298	MIN.OIL (C24-C38)	133224	9.94
C22	7.781	-0.005	38471	42295			
C24	8.319	-0.005	10373	21609			
C25	8.575	-0.006	4274	11115			
C26	8.830	-0.002	1505	3314			
C28	9.356	0.009	304	409			
C32	10.394	-0.012	6486	7290			
C34	10.941	0.008	86	64	CREOSOT (C12-C22)	4575440	1632.52 M
Filter Peak	12.902	-0.003	496	372			
C36	11.460	0.010	5775	7473			
C38	11.954	0.008	211	75			
C40	12.422	-0.004	2674	4169			
o-terph	6.768	0.002	915949	764215	JET-A (C10-C18)	3852690	300.76
Triacon Surr	9.893	0.006	305	696			

M Indicates manual integration within range.
Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	764215	44.0	97.7
Triacontane	696	0.0	0.1

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a010.d

Date: 21-MAR-2011 18:05

Client ID:

Sample Info: DIESEL ICV

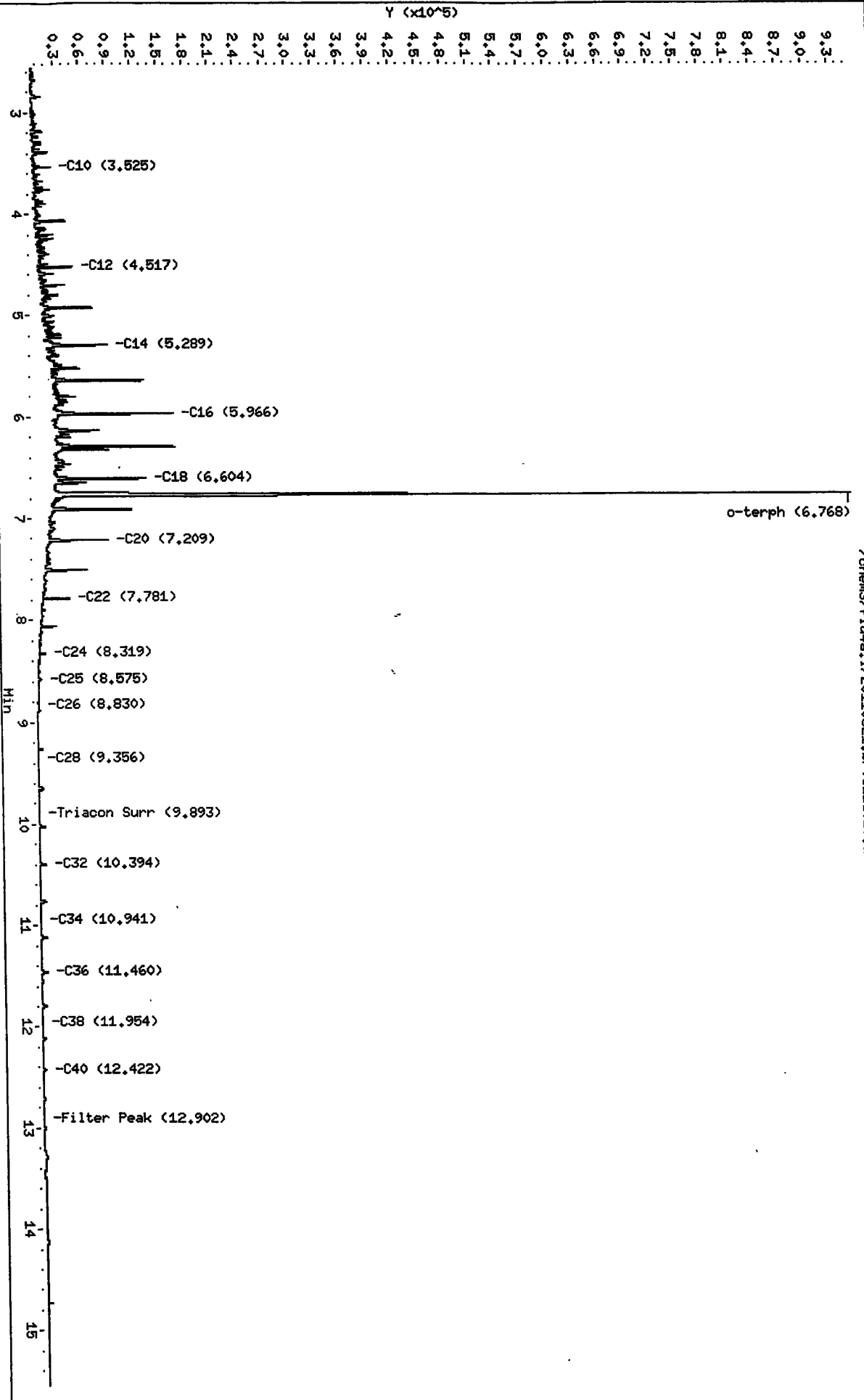
Column phase: RTX-1

Instrument: fid4a.i

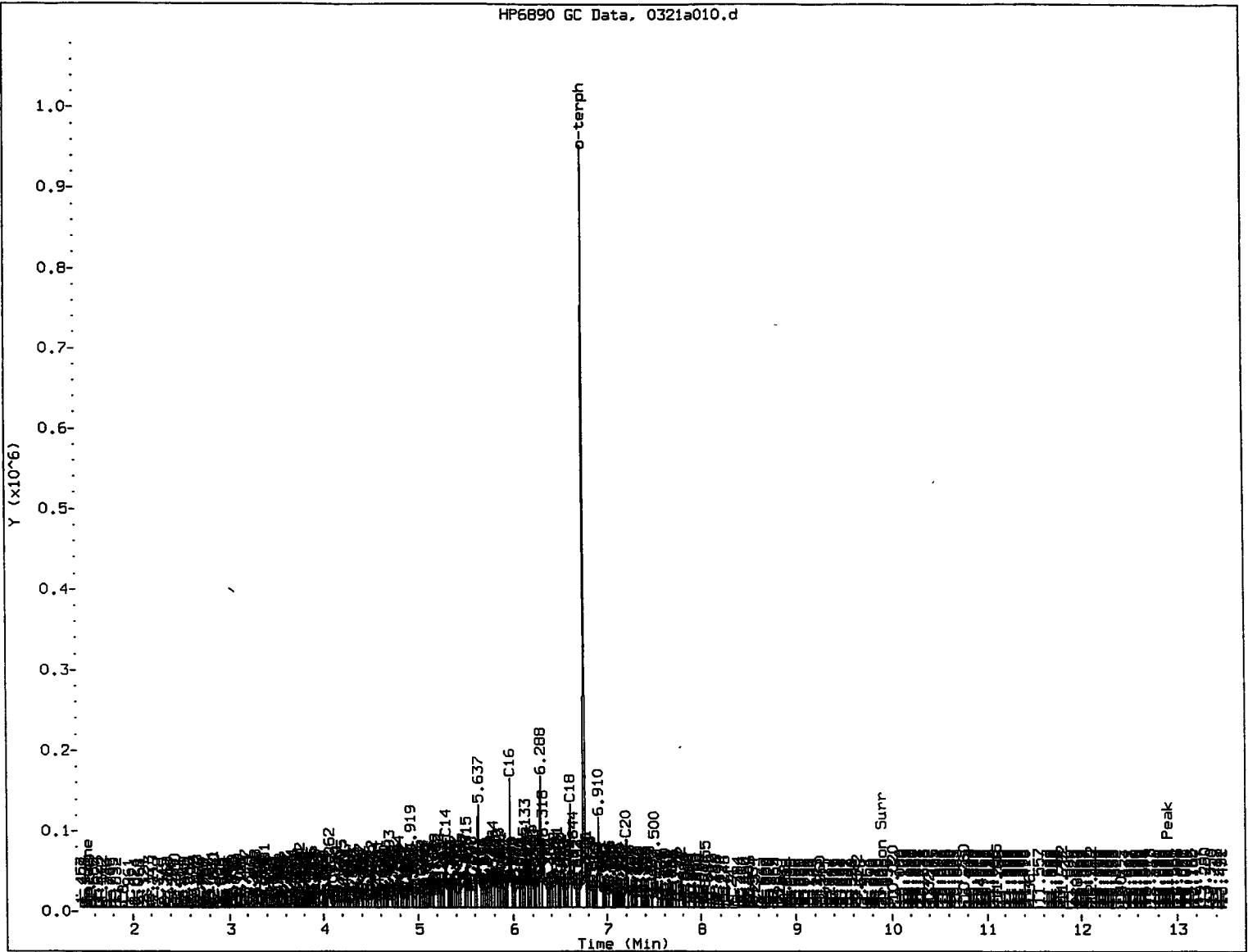
Operator: HS

Column diameter: 0.25

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HP6890 GC Data, 0321a010.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: *Me*

Date: *4/1/11*

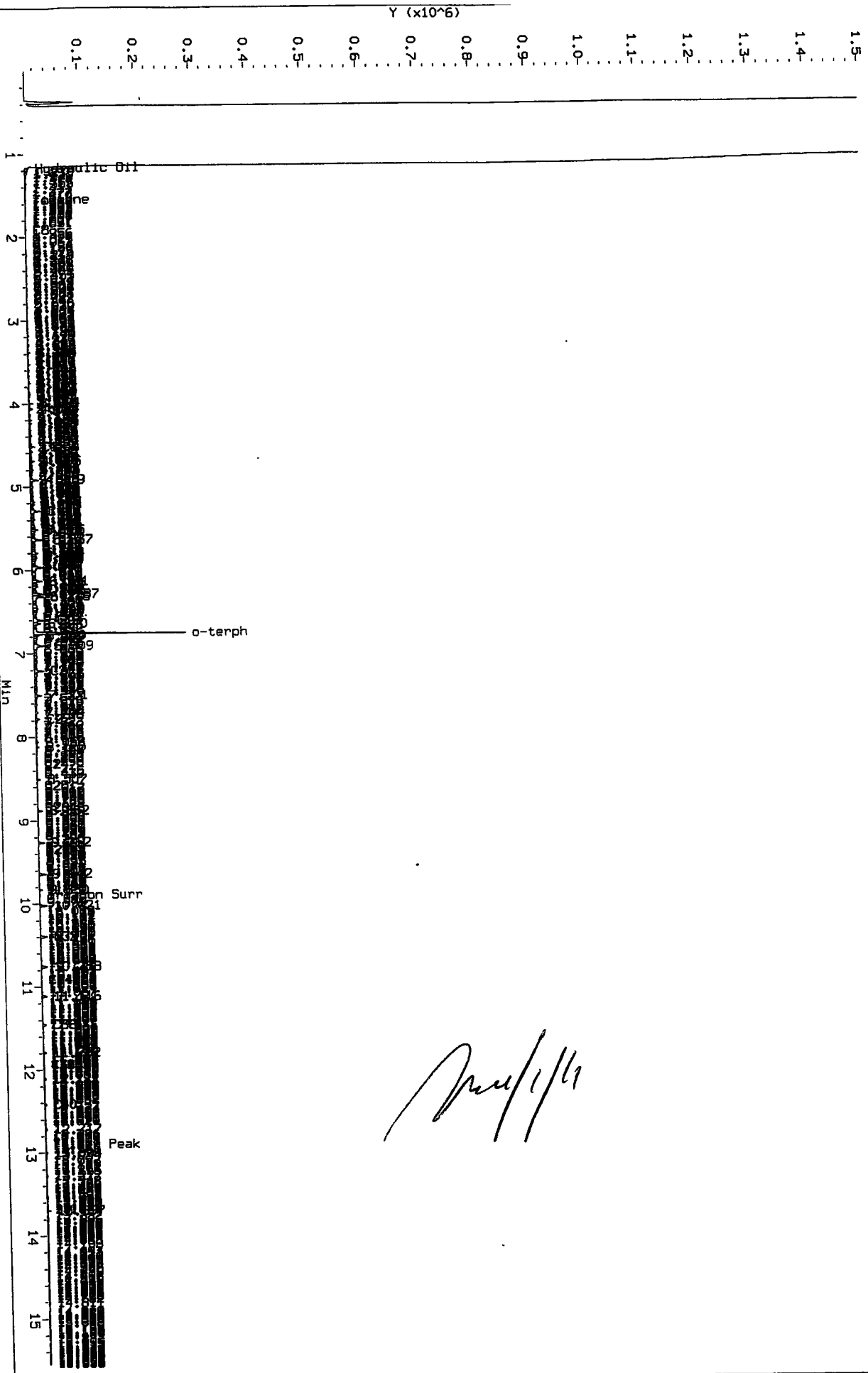
FILE INTEGRATION SUMMARY FOR DATABATCH - /chem3/fid4a.i/20110321.b

Job No.: RT Method: ftpnid4a.m Instrument: fid4a.i Date: 21-MAR-2011

Filename	LabID	ClientID	DF	Manually Integrated Compounds
0321a002.d RT	RT		1	NO MANUAL INTEGRATION
0321a003.d IB	IB		1	NO MANUAL INTEGRATION
0321a004.d DIESEL 50	DIESEL 50		1	o-terph,
0321a005.d DIESEL 100	DIESEL 100		1	o-terph,
0321a006.d DIESEL 250	DIESEL 250		1	o-terph,
0321a007.d DIESEL 500	DIESEL 500		1	o-terph,
0321a008.d DIESEL 1000	DIESEL 1000		1	o-terph,
0321a009.d DIESEL 2500	DIESEL 2500		1	o-terph,
0321a010.d DIESEL ICV	ICV		1	Triacon Surr,
0321a011.d MOIL 100	MOIL 100		1	Triacon Surr,
0321a012.d MOIL 250	MOIL 250		1	Triacon Surr,
0321a013.d MOIL 500	MOIL 500		1	Triacon Surr,
0321a014.d MOIL 1000	MOIL 1000		1	Triacon Surr,
0321a015.d MOIL 2500	MOIL 2500		1	Triacon Surr,
0321a016.d MOIL 5000	MOIL 5000		1	Triacon Surr,
0321a017.d MOIL ICV	ICV		1	Triacon Surr,

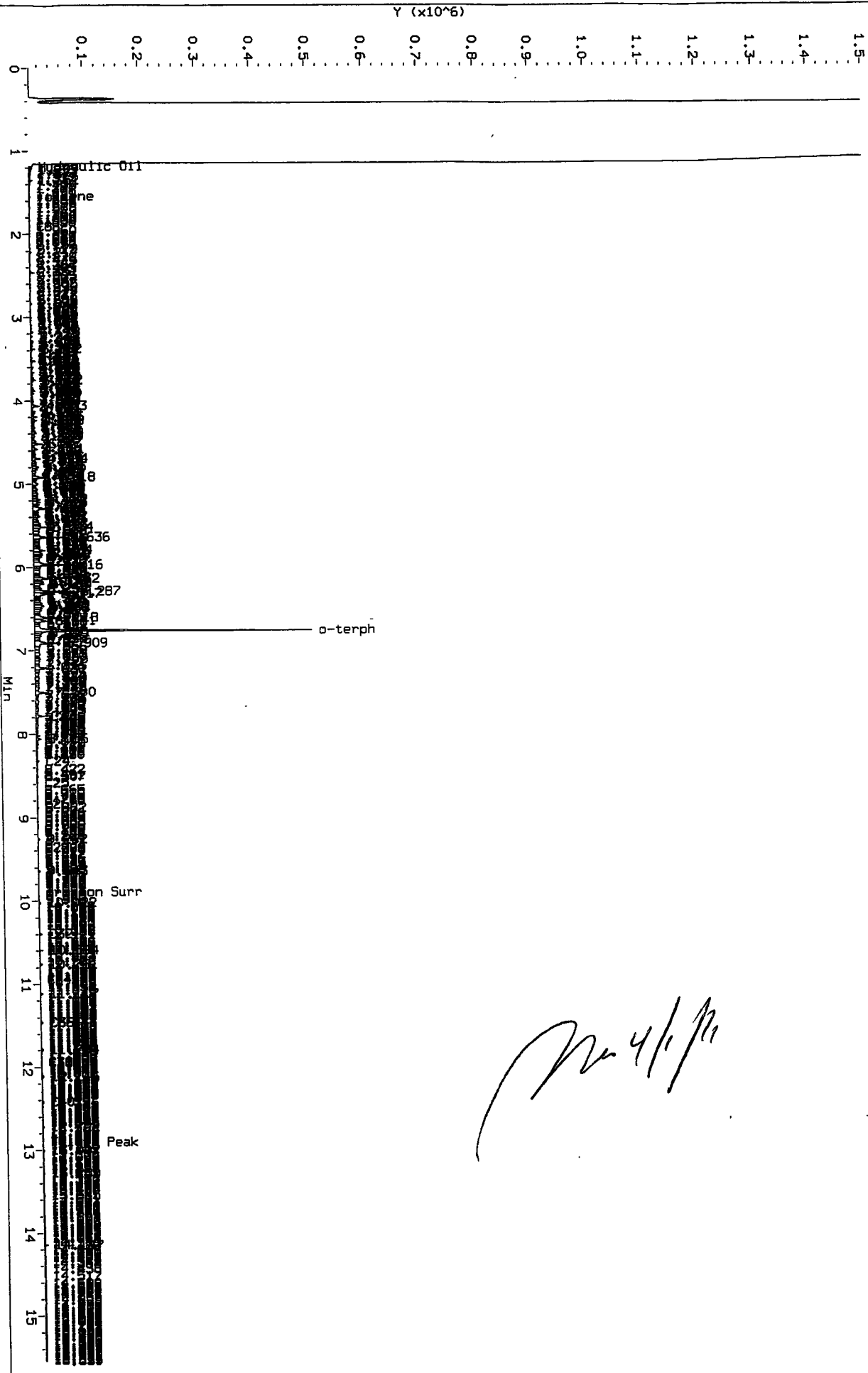
Data File: /chem3/fid4a.1/20110321.b/0321a004.d
Injection Date: 21-MAR-2011 15:42
Instrument: fid4a.1
Client Sample ID: DIESEL 50

HP6890 GC Data, 0321a004.d: 0.000 to 15.548 Min



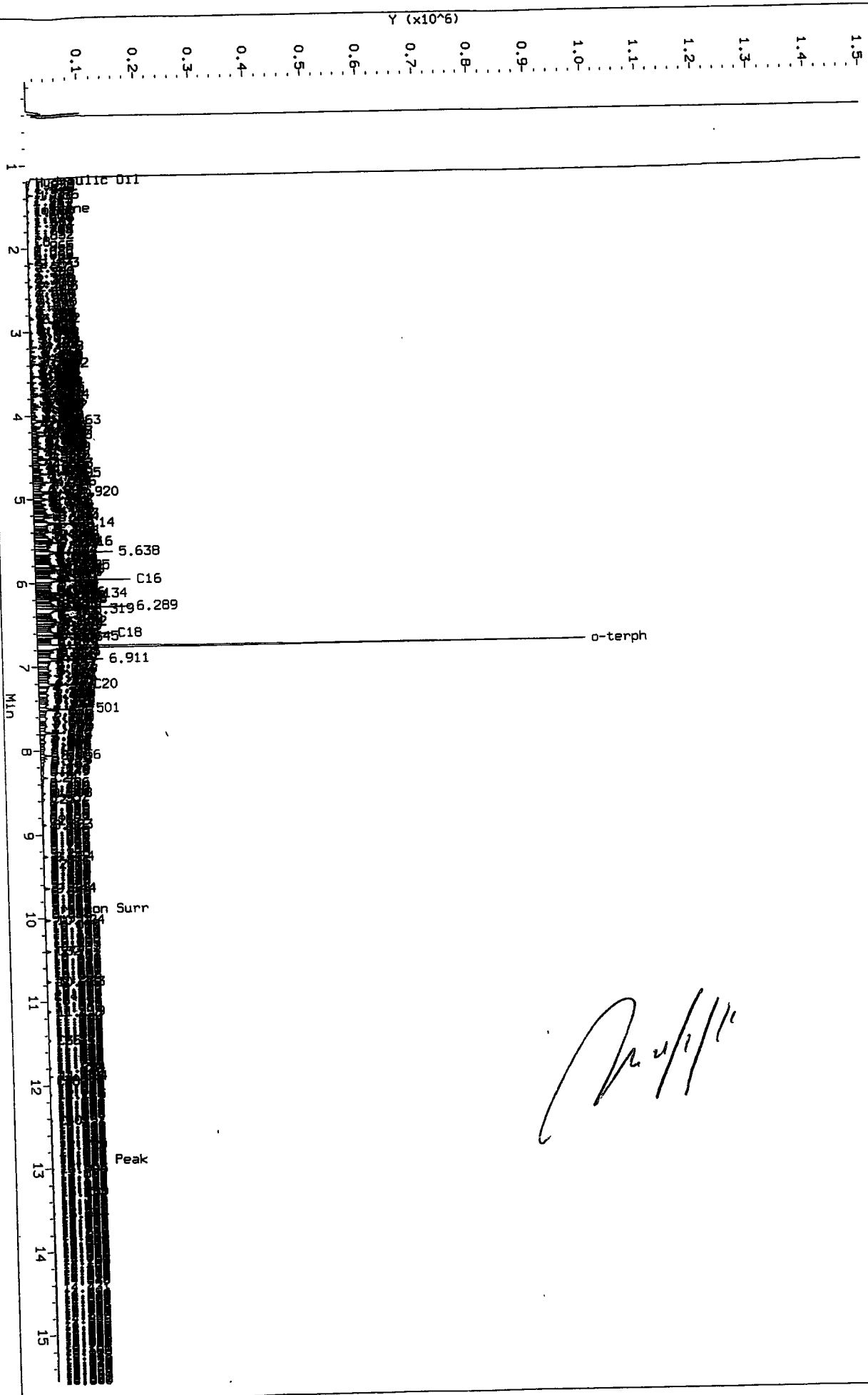
Data File: /chem3/fid4a.1/20110321.b/0321a005.d
Injection Date: 21-MAR-2011 16:06
Instrument: fid4a.1
Client Sample ID: DIESEL 100

HP6890 GC Data, 0321a005.d: 0.000 to 15.548 Min



Data File: /chem3/fid4a.1/20110321.b/0321a006.d
Injection Date: 21-MAR-2011 16:30
Instrument: fid4a.1
Client Sample ID: DISEL 250

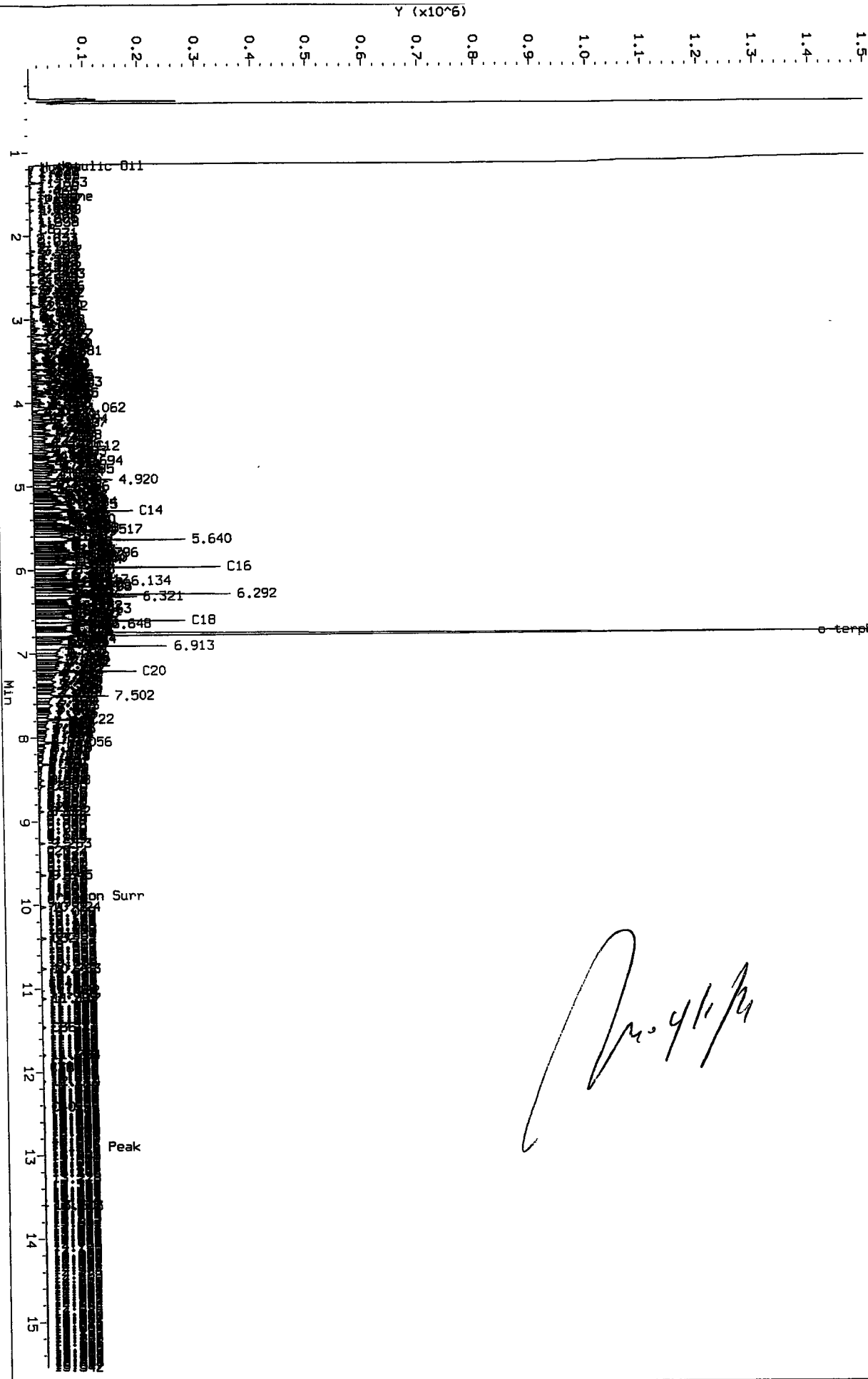
HP6890 GC Data, 0321a006.d: 0.000 to 15.548 Min



Handwritten signature

Data File: /chem3/fid4a.1/20110321.b/0321a007.d
Injection Date: 21-MAR-2011 16:54
Instrument: fid4a.1
Client Sample ID: DIESEL 500

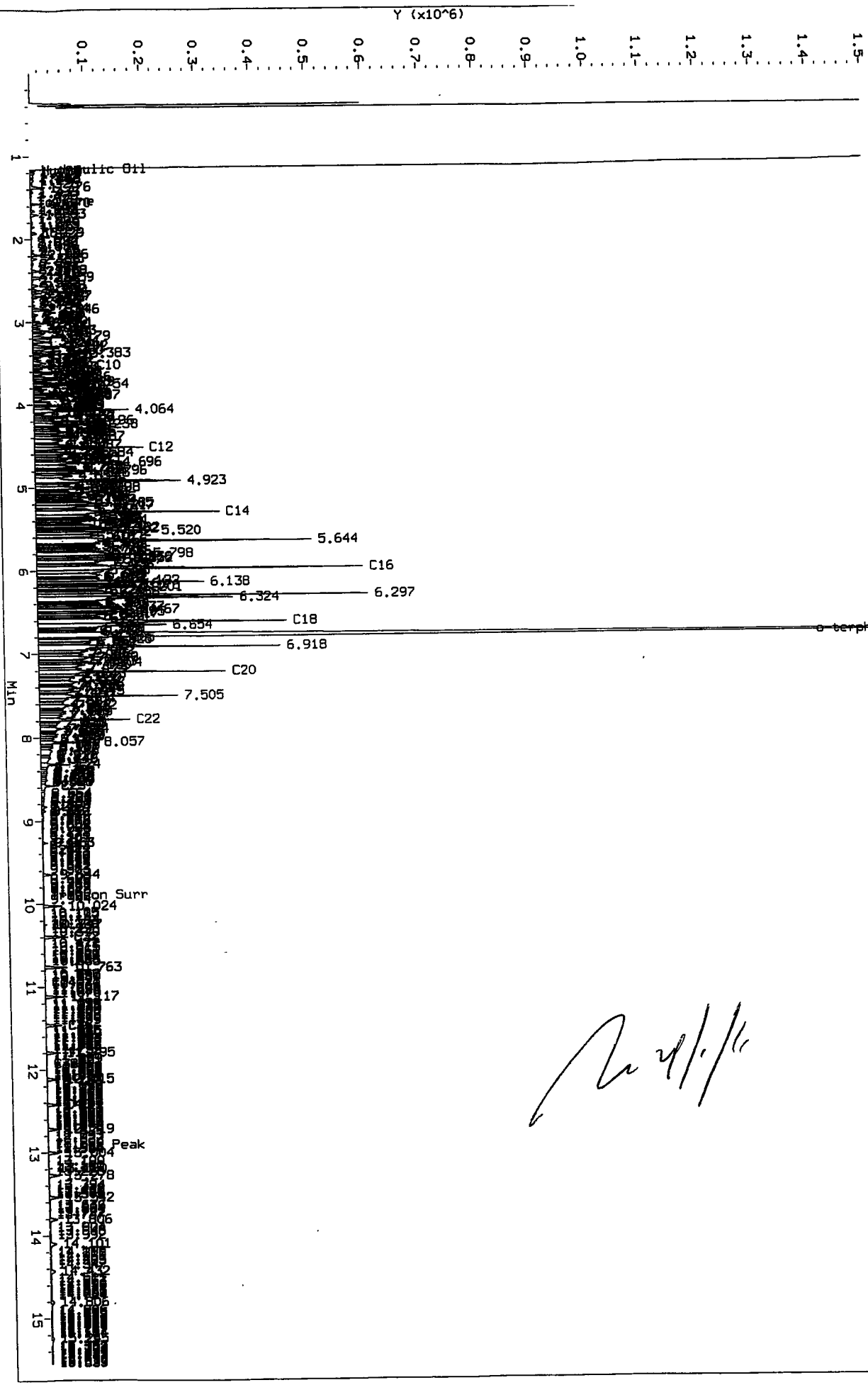
HP6890 GC Data, 0321a007.d: 0.000 to 15.548 Min



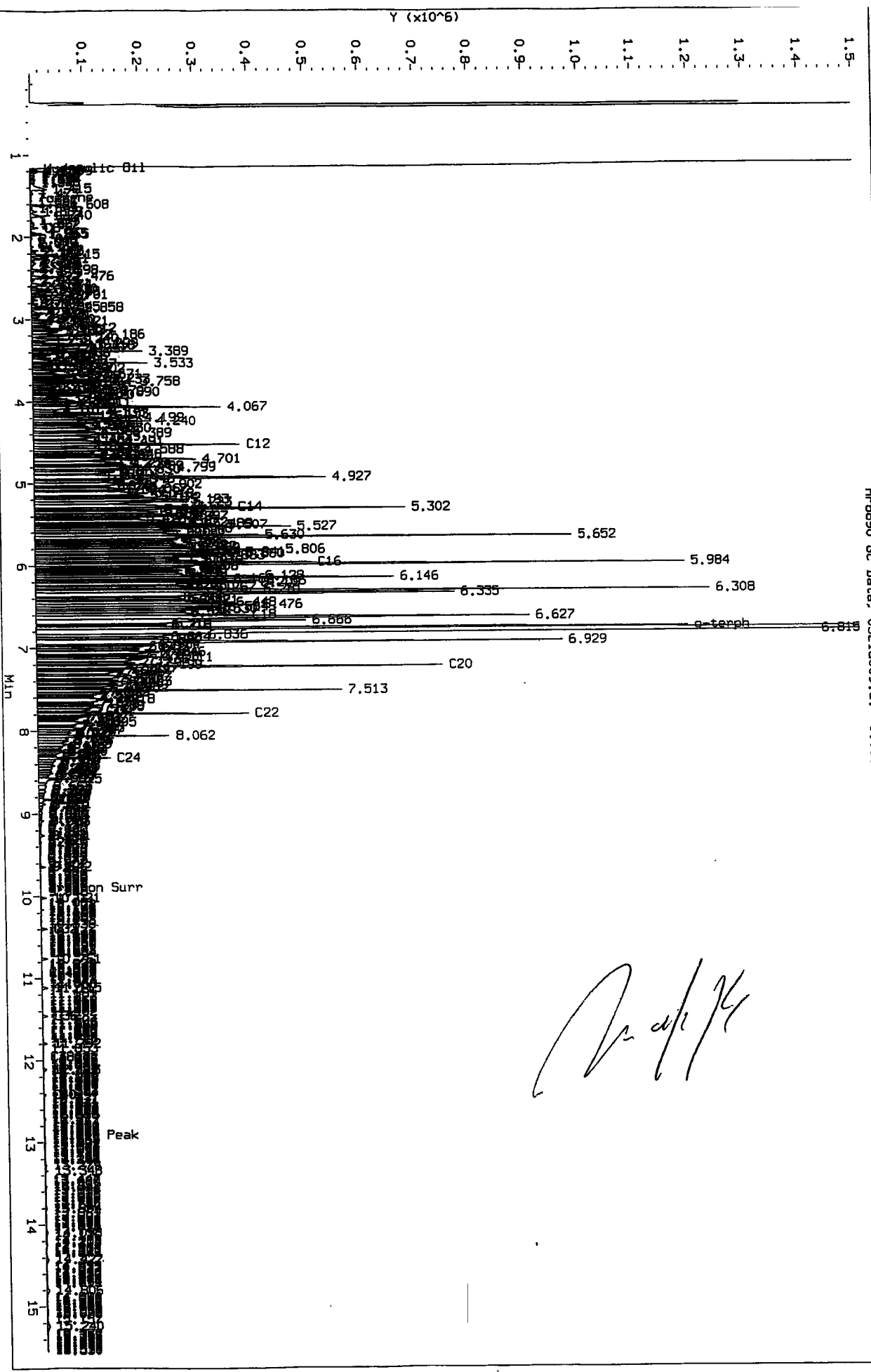
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data file: /chem3/fid4a.1/20110321.b/0321a008.d
Injection Date: 21-MAR-2011 17:17
Instrument: fid4a.1
Client Sample ID: DIESEL 1000

HP6890 GC Data, 0321a008.d: 0.000 to 15.548 Min



Data File: /chem3/fid4a.1/20110321.b/0321a009.d
Injection Date: 21-MAR-2011 17:41
Instrument: fid4a.1
Client Sample ID: DIESEL 2500



[Handwritten signature]



GC Analyst Notes / Corrective Action Log

ARI Project ID: 30wtMDI CURVE Client ID: ARI

ARI SOP: n-Triacontane
 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)
 427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): 3 Dwt. Motor Oil, n-Triacontane

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8
 FID-9 ECD-1 ECD-5 ECD-6 ECD-7

Dates: Curve: 3/21/11 Analysis Start: 3/21/11

Endrin/DDT Breakdown <15%? YES / NO NA Method Blank In Control? YES / NO NA
 ICal Meets RF & %RSD Criteria? YES / NO LCS/LCSD Recovery In Control? YES / NO YES
 CCal Meets RF & %RSD Criteria? YES / NO NA Surrogate Recovery In Control? YES / NO
 Manual Integrations for ICal? YES / NO Manual Integrations for Samples? YES / NO
 Internal Standard Meets Criteria? YES / NO / NA Special Analysis Criteria Met? YES / NO / NA

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

Additional Details on Reverse: Yes / No

Analyst: ms Date: 4/1/11

Reviewer: VB Date: 4.1.11

Analytical Resources Inc.: Organics Instrument Log

FID-4A Serial No.: US00003247

Date: 3/21/11 Analysis: NWTPHD Analyst: MJ
 GC Program: TPH Column No: 977444 Column Type: RTX-1

Instrument Tune (.U or .CT): _____ EM Voltage: _____

Calibration File: _____ Curve Date: 3/21/11

IS/SS	Ical/Ccal	LCS/ICV
_____	<u>F786-1</u>	_____
_____	<u>R51-2</u>	_____
_____	<u>1299-3</u>	_____
_____	<u>1255-2</u>	_____

Inject Date/Time	Filename	DF	LabID	Inject Date/Time	Filename	DF	LabID
21-MAR-2011 14:31	0321a001.d	1	RINSE				
21-MAR-2011 14:55	0321a002.d	1	RT				
21-MAR-2011 15:19	0321a003.d	1	IB	51	22-MAR-2011 10:11	0321a051.d	1 SN57LCSS1
21-MAR-2011 15:42	0321a004.d	1	DIESEL 50	52	22-MAR-2011 10:35	0321a052.d	1 SN57LCSDS1
21-MAR-2011 16:06	0321a005.d	1	DIESEL 100	53	22-MAR-2011 10:59	0321a053.d	1 SN57OLS
21-MAR-2011 16:30	0321a006.d	1	DIESEL 250	54	22-MAR-2011 11:22	0321a054.d	1 SN57A
21-MAR-2011 16:54	0321a007.d	1	DIESEL 500	55	22-MAR-2011 11:46	0321a055.d	1 SN57B
21-MAR-2011 17:17	0321a008.d	1	DIESEL 1000	56	22-MAR-2011 12:10	0321a056.d	1 SN57C
21-MAR-2011 17:41	0321a009.d	1	DIESEL 2500	57	22-MAR-2011 12:33	0321a057.d	1 SN57D
21-MAR-2011 18:05	0321a010.d	1	DIESEL ICV	58	22-MAR-2011 12:57	0321a058.d	1 SN57E
21-MAR-2011 18:28	0321a011.d	1	MOIL 100	59	22-MAR-2011 13:21	0321a059.d	10 SN59A
21-MAR-2011 18:52	0321a012.d	1	MOIL 250	60	22-MAR-2011 13:45	0321a060.d	1 DIESEL#5
21-MAR-2011 19:16	0321a013.d	1	MOIL 500	61	22-MAR-2011 14:08	0321a061.d	1 MOIL#5
21-MAR-2011 19:39	0321a014.d	1	MOIL 1000	62	22-MAR-2011 14:32	0321a062.d	1 G/D HCID W
21-MAR-2011 20:03	0321a015.d	1	MOIL 2500	63	22-MAR-2011 14:56	0321a063.d	1 M HCID W
21-MAR-2011 20:27	0321a016.d	1	MOIL 5000	64	22-MAR-2011 15:20	0321a064.d	1 SN60MBW1
21-MAR-2011 20:50	0321a017.d	1	MOIL ICV	65	22-MAR-2011 15:43	0321a065.d	1 SN60A
21-MAR-2011 21:14	0321a018.d	1	RINSE	66	22-MAR-2011 16:07	0321a066.d	1 DIESEL#6
21-MAR-2011 21:38	0321a019.d	1	DIESEL#1	67	22-MAR-2011 16:31	0321a067.d	1 MOIL#6
21-MAR-2011 22:02	0321a020.d	1	MOIL#1				
21-MAR-2011 22:26	0321a021.d	1	SN61MBW1				
21-MAR-2011 22:50	0321a022.d	1	SN61LCSW1				
22-MAR-2011 23:14	0321a023.d	1	SN61OLS				
22-MAR-2011 23:38	0321a024.d	1	SN61A				
22-MAR-2011 00:01	0321a025.d	1	SN61B				
22-MAR-2011 00:25	0321a026.d	1	SN61C				
22-MAR-2011 00:48	0321a027.d	1	SN61CMS				
22-MAR-2011 01:12	0321a028.d	1	SN61CMSD				
22-MAR-2011 01:36	0321a029.d	1	SN61D				
22-MAR-2011 01:59	0321a030.d	1	SN61E				
22-MAR-2011 02:23	0321a031.d	1	DIESEL#2				
22-MAR-2011 02:47	0321a032.d	1	MOIL#2				
22-MAR-2011 03:11	0321a033.d	1	SN61F				
22-MAR-2011 03:34	0321a034.d	1	SN61G				
22-MAR-2011 03:58	0321a035.d	1	SN61H				
22-MAR-2011 04:21	0321a036.d	1	SN61I				
22-MAR-2011 04:45	0321a037.d	1	SN61J				
22-MAR-2011 05:08	0321a038.d	1	SN61K				
22-MAR-2011 05:31	0321a039.d	1	DIESEL#3				
22-MAR-2011 05:55	0321a040.d	1	MOIL#3				
22-MAR-2011 06:18	0321a041.d	1	SN67A				
22-MAR-2011 06:41	0321a042.d	1	SN82A				
22-MAR-2011 07:04	0321a043.d	1	SN82B				
22-MAR-2011 07:28	0321a044.d	1	SN82C				
22-MAR-2011 07:51	0321a045.d	1	SN82D				
22-MAR-2011 08:14	0321a046.d	1	SN82E				
22-MAR-2011 08:38	0321a047.d	1	SN82F				
22-MAR-2011 09:01	0321a048.d	1	DIESEL#4				
22-MAR-2011 09:24	0321a049.d	1	MOIL#4				
22-MAR-2011 09:48	0321a050.d	1	SN57MBS1				

Maintenance / Comments

Maintenance Verification (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

6a
NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: 20110321

Instrument: FID4A.I

Project: MOIL 5000

Calibration Date: 21-MAR-2011

SDG No.: 20110321

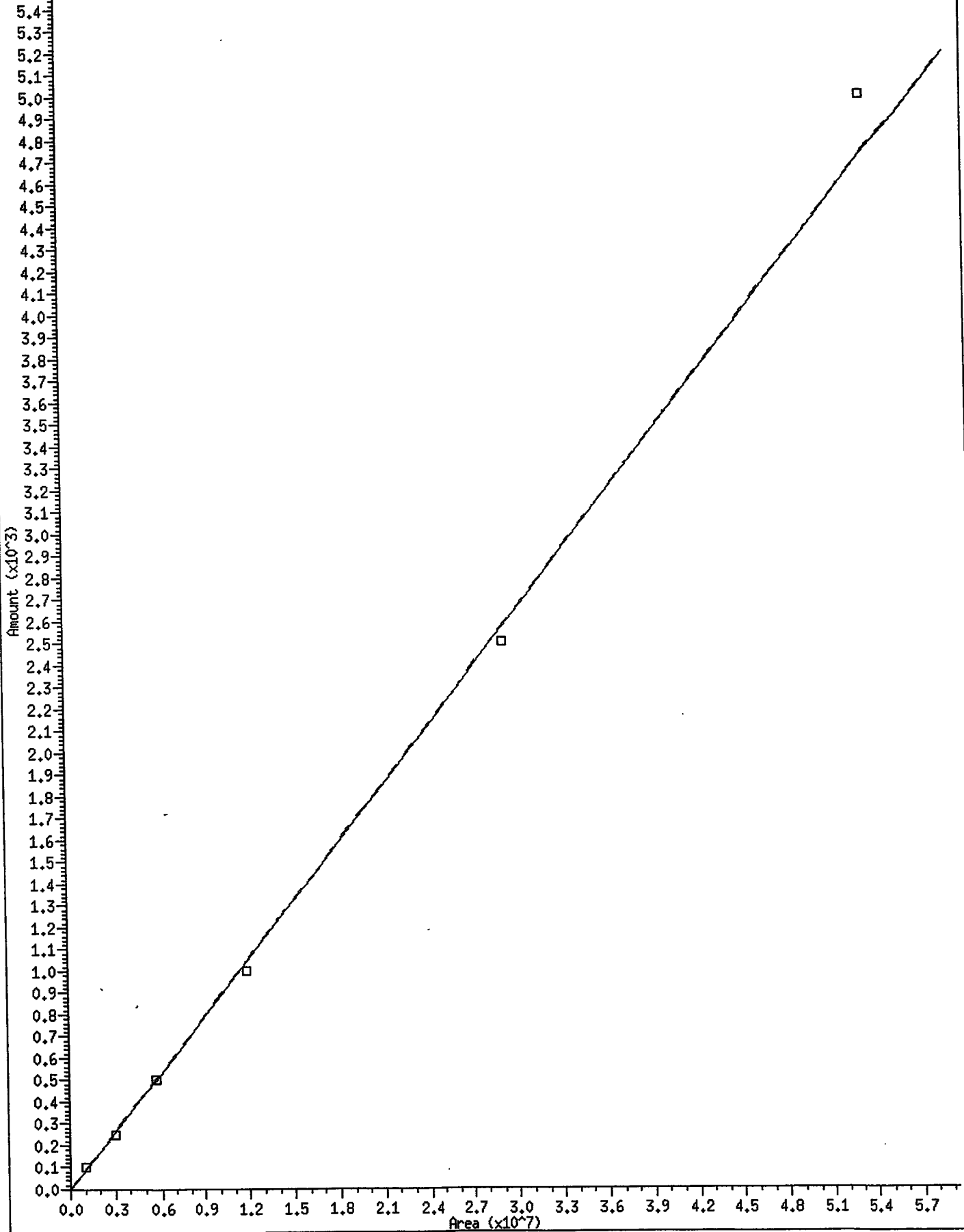
Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	10649	11986	11403	11850	11711	10774	11395	5.0
Triac Surr	13444	18260	17392	17990	17972	16861	16986	10.6

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files Analysis Time

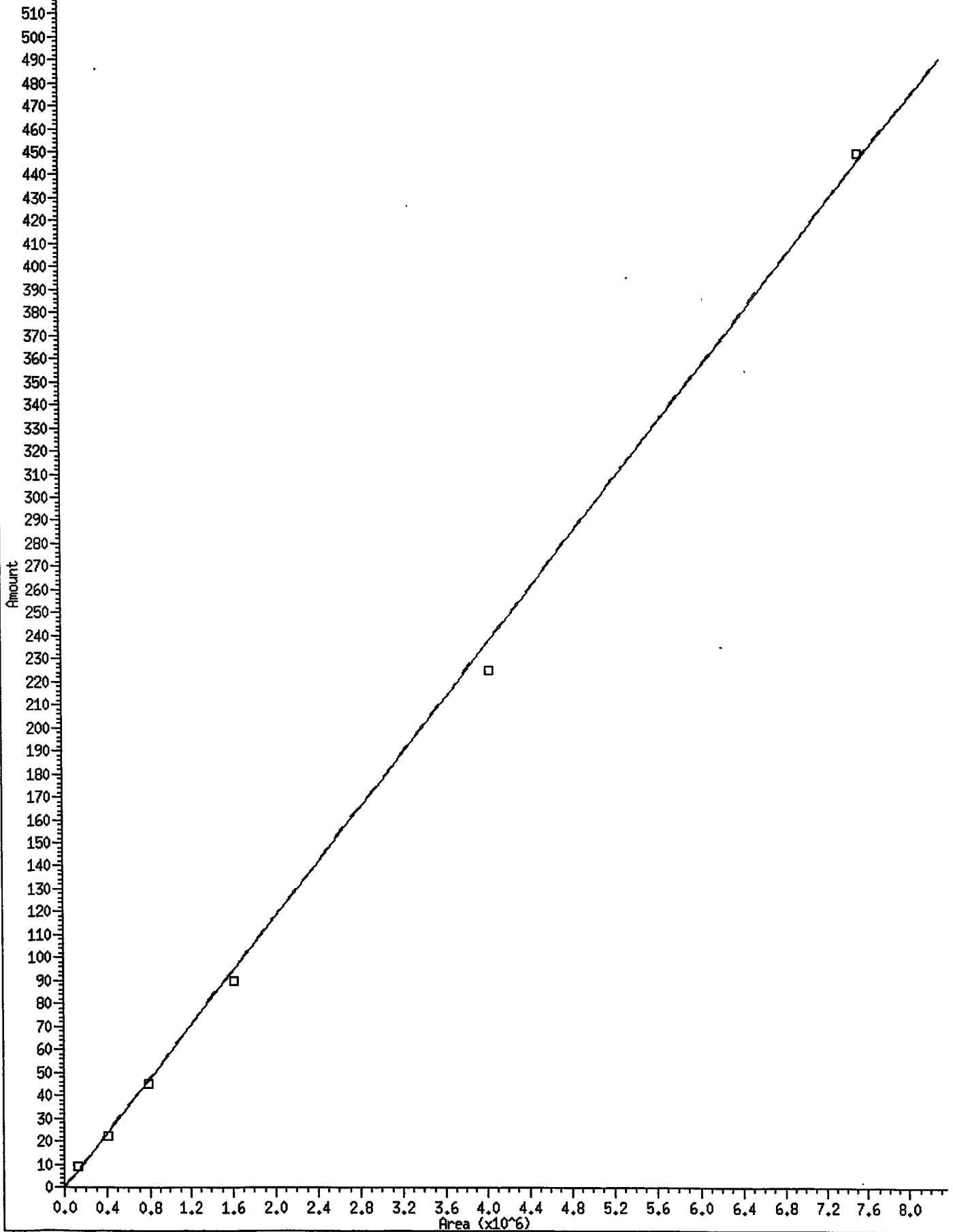
0321a011.d	21-MAR-2011 18:28
0321a012.d	21-MAR-2011 18:52
0321a013.d	21-MAR-2011 19:16
0321a014.d	21-MAR-2011 19:39
0321a015.d	21-MAR-2011 20:03
0321a016.d	21-MAR-2011 20:27

Curve Type: Averaged By-Response
Amt = Rsp/11395.43
%RSD: 4.962



* 15 Triacon Surr

540 Curve Type: Averaged By-Response
530 Amt = Rsp/16986.43
520 %RSD: 10.639



Report Date : 01-Apr-2011 15:36

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

Method File: /chem3/fid4a.i/20110321.b/ftphfid4a.m
atch File: /chem3/fid4a.i/20110321.b
st ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
LENAME:	0321a011	0321a012	0321a013	0321a014	0321a015	0321a016
J. DATE:	21-MAR-2011	21-MAR-2011	21-MAR-2011	21-MAR-2011	21-MAR-2011	21-MAR-2011
J. TIME:	18:28	18:52	19:16	19:39	20:03	20:27

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.546	1.541	1.532	1.530	1.529	1.540	1.536	1.436-1.636	1.536	0.007
40 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
39 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	0.546	0.496-0.596	+++++	+++++
36 Jexa	+++++	+++++	+++++	+++++	+++++	+++++	0.787	0.737-0.837	+++++	+++++
37 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.718	0.668-0.768	+++++	+++++
38 Hydraulic Oil	1.173	1.170	1.172	1.172	1.186	1.166	1.167	1.117-1.217	1.173	0.007
2 C8	1.886	1.896	1.909	1.909	1.913	1.919	1.898	1.798-1.998	1.905	0.012
3 C10	3.529	3.528	3.526	3.526	3.526	3.525	3.524	3.474-3.574	3.527	0.002
4 C12	4.512	4.513	4.524	4.519	4.517	4.517	4.517	4.467-4.567	4.517	0.004
5 C14	5.293	5.292	5.293	5.291	5.290	5.290	5.292	5.242-5.342	5.291	0.001
6 C16	5.968	5.968	5.967	5.965	5.966	5.965	5.968	5.918-6.018	5.966	0.002
7 C18	6.606	6.602	6.603	6.600	6.601	6.601	6.606	6.556-6.656	6.602	0.002
8 o-terph	6.757	6.756	6.756	6.779	6.755	6.755	6.767	6.717-6.817	6.760	0.009
9 C20	7.223	7.209	7.208	7.207	7.209	7.210	7.213	7.163-7.263	7.211	0.006
10 C22	7.787	7.784	7.783	7.791	7.791	7.784	7.786	7.736-7.836	7.787	0.004
11 C24	8.321	8.319	8.320	8.322	8.328	8.316	8.324	8.274-8.374	8.321	0.004
12 C25	8.578	8.591	8.576	8.585	8.580	8.585	8.581	8.531-8.631	8.583	0.006

viewer 1 Pms
viewer 2 VP

Date: 4/1/11

Analytical Resources, Inc.
RETENTION TIME SUMMARY REPORT

ethod File: /chem3/fid4a.i/20110321.b/ftphfid4a.m
atch File: /chem3/fid4a.i/20110321.b
nst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
13 C26	8.828	8.826	8.831	8.841	8.830	8.824	8.831	8.781-8.881	8.830	0.006
14 C28	9.358	9.342	9.355	9.363	9.341	9.352	9.347	9.297-9.397	9.352	0.009
15 Triacon Surr	9.874	9.884	9.894	9.908	9.942	9.976	9.887	9.837-9.937	9.913	0.039
16 C32	10.397	10.398	10.396	10.406	10.411	10.405	10.406	10.356-10.456	10.402	0.006
17 C34	10.936	10.938	10.939	10.932	10.930	10.942	10.933	10.883-10.983	10.936	0.004
18 Filter Peak	12.898	12.897	12.897	12.898	12.899	12.902	12.905	12.805-13.005	12.898	0.002
19 C36	11.456	11.462	11.441	11.454	11.450	11.460	11.450	11.400-11.500	11.454	0.008
20 C38	11.947	11.940	11.945	11.938	11.949	11.952	11.946	11.896-11.996	11.945	0.006
21 C40	12.422	12.422	12.423	12.424	12.416	12.430	12.426	12.376-12.476	12.423	0.004
31 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
32 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.687	0.637-0.737	+++++	+++++
33 AK Diesl 102	+++++	+++++	+++++	+++++	+++++	+++++	0.660	0.610-0.710	+++++	+++++
30 NW MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 CRUDE	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 AK MO11 103	+++++	+++++	+++++	+++++	+++++	+++++	0.612	0.562-0.662	+++++	+++++

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a002.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: RT
Client ID: RT
Injection: 21-MAR-2011 14:55
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.536	0.000	347561	225139	GAS (Tol-C12)	753250	38.06
C8	1.898	0:000	130261	113758	DIESEL (C12-C24)	1252682	63.13
C10	3.524	0.000	333401	188669	M.OIL (C24-C38)	1632103	143.23
C12	4.517	0.000	296398	188861	AK-102 (C10-C25)	1656243	74.86
C14	5.292	0.000	289088	186547	AK-103 (C25-C36)	1449626	210.03
C16	5.968	0.000	276840	181503			
C18	6.606	0.000	263027	182255	CRUDE (Tol-C40)	3768551	498.96
C20	7.213	0.000	257207	176600	MIN.OIL (C24-C38)	1632103	121.74
C22	7.786	0.000	266969	186777			
C24	8.324	0.000	286483	199020			
C25	8.581	0.000	387505	279670			
C26	8.831	0.000	279277	208726			
C28	9.347	0.000	259393	215407			
C32	10.406	0.000	200459	212786			
C34	10.933	0.000	174720	178286	CREOSOT (C12-C22)	1028455	366.95
Filter Peak	12.905	0.000	1105	1269			
C36	11.450	0.000	155558	172930			
C38	11.946	0.000	119393	133846			
C40	12.426	0.000	91586	109084			
o-terph	6.767	0.000	780297	602418	JET-A (C10-C18)	971097	75.81
Triacon Surr	9.887	0.000	594261	650331			

M Indicates manual integration within range.

Range Times: NW Diesel (4.517 - 8.324) AK102 (3.52 - 8.58) Jet A (3.52 - 6.61)
NW M.Oil (8.32 - 11.95) AK103 (8.58 - 11.45) OR Diesel (3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	602418	34.7	77.0
Triacontane	650331	38.3	85.1

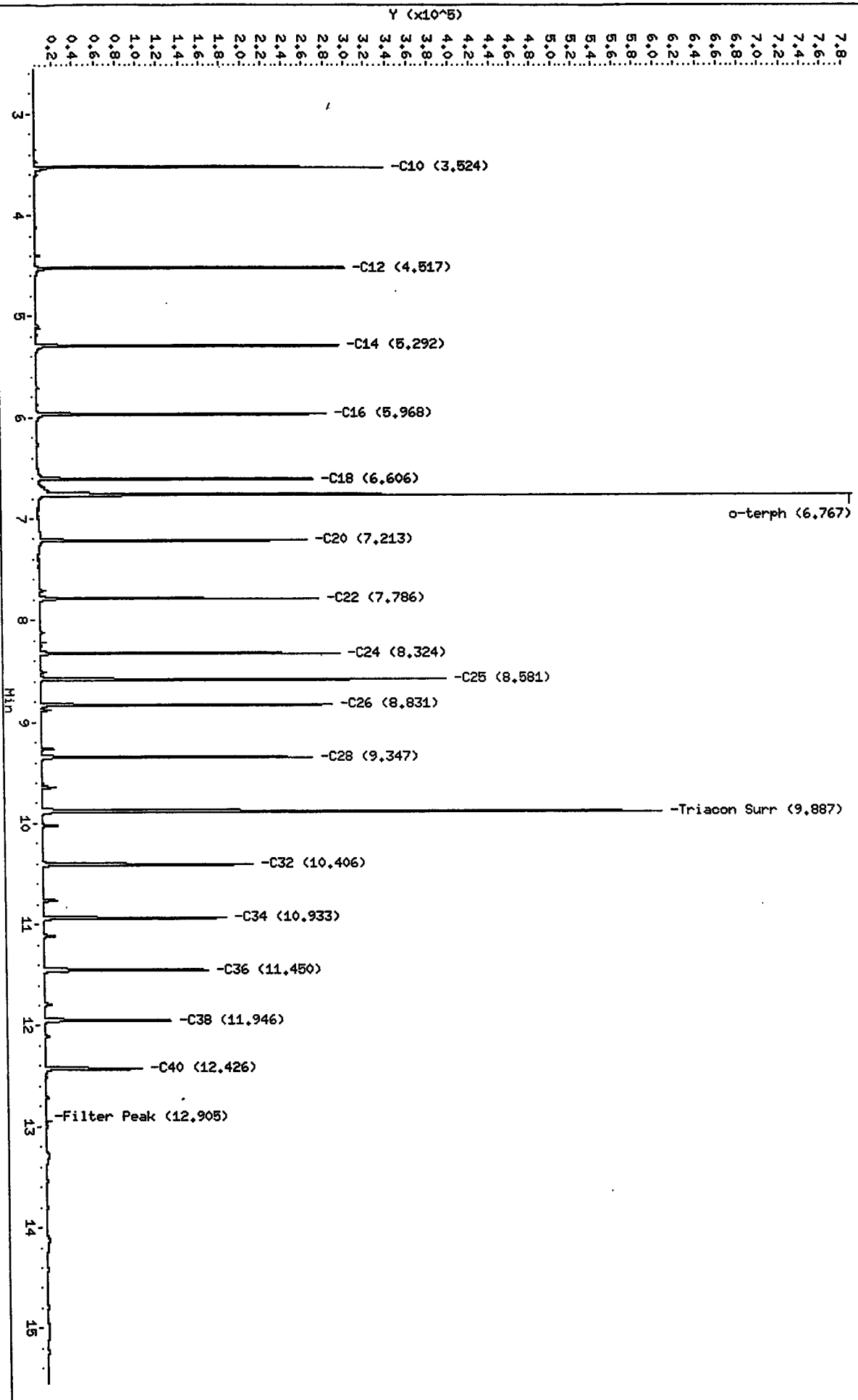
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a002.d
Date: 21-MAR-2011 14:55
Client ID: RT
Sample Info: RT

Column phase: RTX-1

Instrument: fid4a.i
Operator: HS
Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a002.d



Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a003.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: IB
Client ID: IB
Injection: 21-MAR-2011 15:19
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.542	0.007	1526	2291	GAS (Tol-C12)	49091	2.48
C8	1.905	0.006	451	706	DIESEL (C12-C24)	92735	4.67
C10	3.526	0.002	650	817	M.OIL (C24-C38)	188942	16.58
C12	4.523	0.005	167	217	AK-102 (C10-C25)	115368	5.21
C14	5.298	0.006	200	179	AK-103 (C25-C36)	152032	22.03
C16	5.968	-0.001	357	818			
C18	6.603	-0.003	666	991	CRUDE (Tol-C40)	365957	48.45
C20	7.220	0.007	710	1448	MIN.OIL (C24-C38)	188942	14.09
C22	7.793	0.007	637	1362			
C24	8.326	0.002	728	2055			
C25	8.582	0.001	742	2860			
C26	8.832	0.001	715	1411			
C28	9.345	-0.003	1021	1555			
C32	10.393	-0.014	7043	13069			
C34	10.948	0.014	746	2682	CREOSOT (C12-C22)	74269	26.50
Filter Peak	12.912	0.007	1693	10510			
C36	11.457	0.008	7673	11661			
C38	11.955	0.009	837	1933			
C40	12.420	-0.006	4711	8930			
o-terph	6.770	0.003	1026523	889744	JET-A (C10-C18)	43700	3.41
Triacon Surr	9.888	0.001	689335	773682			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	889744	51.2	113.8
Triacontane	773682	45.5	101.2

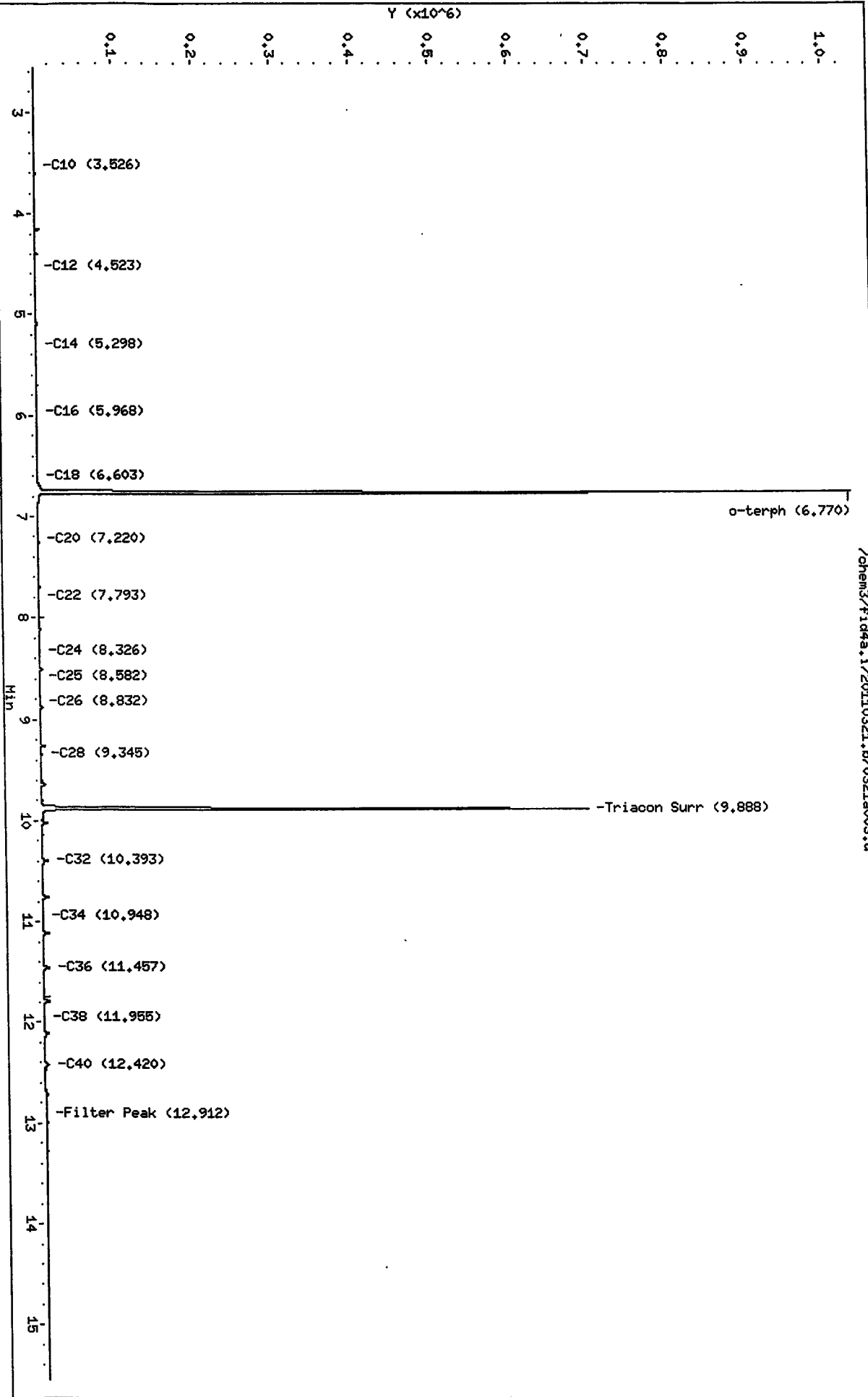
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a003.d
Date: 21-MAR-2011 15:19
Client ID: IB
Sample Info: IB

Column phase: RTX-1

/chem3/fid4a.i/20110321.b/0321a003.d

Instrument: fid4a.i
Operator: MS
Column diameter: 0.25



Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a011.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 100
Client ID: MOIL 100
Injection: 21-MAR-2011 18:28
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.546	0.010	930	1503	GAS (Tol-C12)	43639	2.20
C8	1.886	-0.013	396	176	DIESEL (C12-C24)	175191	8.83
C10	3.529	0.005	194	224	M.OIL (C24-C38)	1064870	93.45
C12	4.512	-0.005	53	40	AK-102 (C10-C25)	219710	9.93
C14	5.293	0.001	89	81	AK-103 (C25-C36)	908025	131.56 M
C16	5.968	0.000	125	77			
C18	6.606	0.000	292	338	CRUDE (Tol-C40)	1375822	182.16 M
C20	7.223	0.010	892	1536	MIN.OIL (C24-C38)	1064870	79.43 M
C22	7.787	0.001	1791	2608			
C24	8.321	-0.003	3311	5421			
C25	8.578	-0.003	4057	3542			
C26	8.828	-0.004	4521	2307			
C28	9.358	0.011	5234	6849			
C32	10.397	-0.010	12733	25049			
C34	10.936	0.002	5380	8692	CREOSOT (C12-C22)	92018	32.83
Filter Peak	12.898	-0.007	2277	2823			
C36	11.456	0.007	8344	20781			
C38	11.947	0.001	3626	1211			
C40	12.422	-0.004	4734	11245			
o-terph	6.757	-0.010	645	865	JET-A (C10-C18)	29051	2.27
Triacon Surr	9.874	-0.013	140140	120996			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	865	0.0	0.1
Triacontane	120996	7.1	15.8

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a011.d

Date: 21-MAR-2011 18:28

Client ID: HOIL 100

Sample Info: HOIL 100

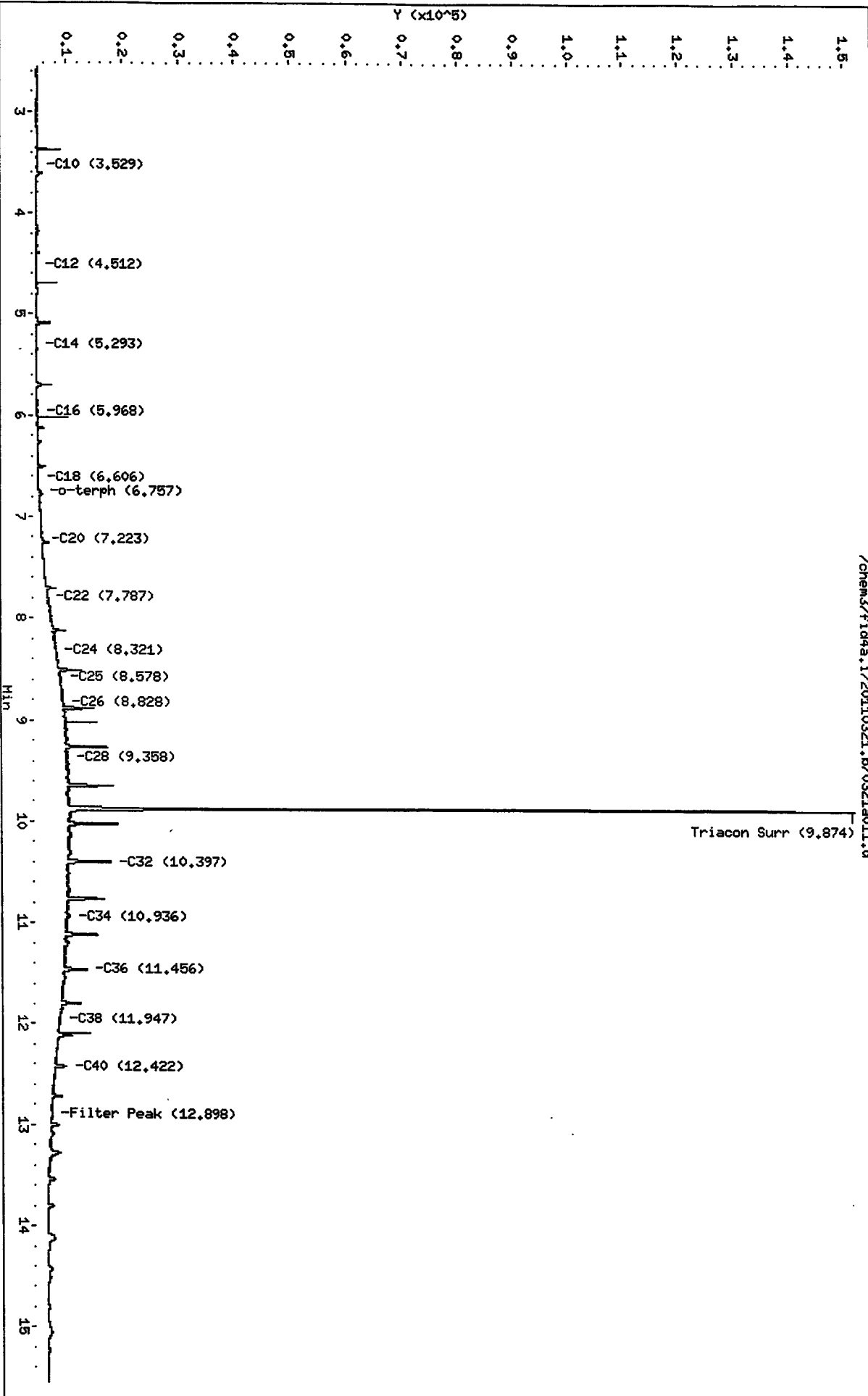
Column phase: RTX-1

Instrument: fid4a.i

Operator: HS

Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a011.d



Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a012.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 250
Client ID: MOIL 250
Injection: 21-MAR-2011 18:52
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.541	0.006	916	2019	GAS (Tol-C12)	43436	2.19
C8	1.896	-0.003	426	260	DIESEL (C12-C24)	432813	21.81
C10	3.528	0.004	301	385	M.OIL (C24-C38)	2996575	262.97
C12	4.513	-0.004	54	20	AK-102 (C10-C25)	535527	24.20
C14	5.292	0.001	100	69	AK-103 (C25-C36)	2570394	372.41 M
C16	5.968	-0.001	127	134			
C18	6.602	-0.004	427	888	CRUDE (Tol-C40)	3715763	491.97 M
C20	7.209	-0.003	1698	2020	MIN.OIL (C24-C38)	2996575	223.53 M
C22	7.784	-0.002	4913	3454			
C24	8.319	-0.005	9733	11082			
C25	8.591	0.010	15892	40762			
C26	8.826	-0.006	13770	3269			
C28	9.342	-0.005	15957	8484			
C32	10.398	-0.008	21162	59385			
C34	10.938	0.005	16567	8173	CREOSOT (C12-C22)	177083	63.18
Filter Peak	12.897	-0.008	4822	9773			
C36	11.462	0.012	16869	52934			
C38	11.940	-0.007	10738	13375			
C40	12.422	-0.003	8751	23261			
o-terph	6.756	-0.011	884	941	JET-A (C10-C18)	34830	2.72
Triacon Surr	9.884	-0.003	424442	410839			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	941	0.1	0.1
Triacontane	410839	24.2	53.7

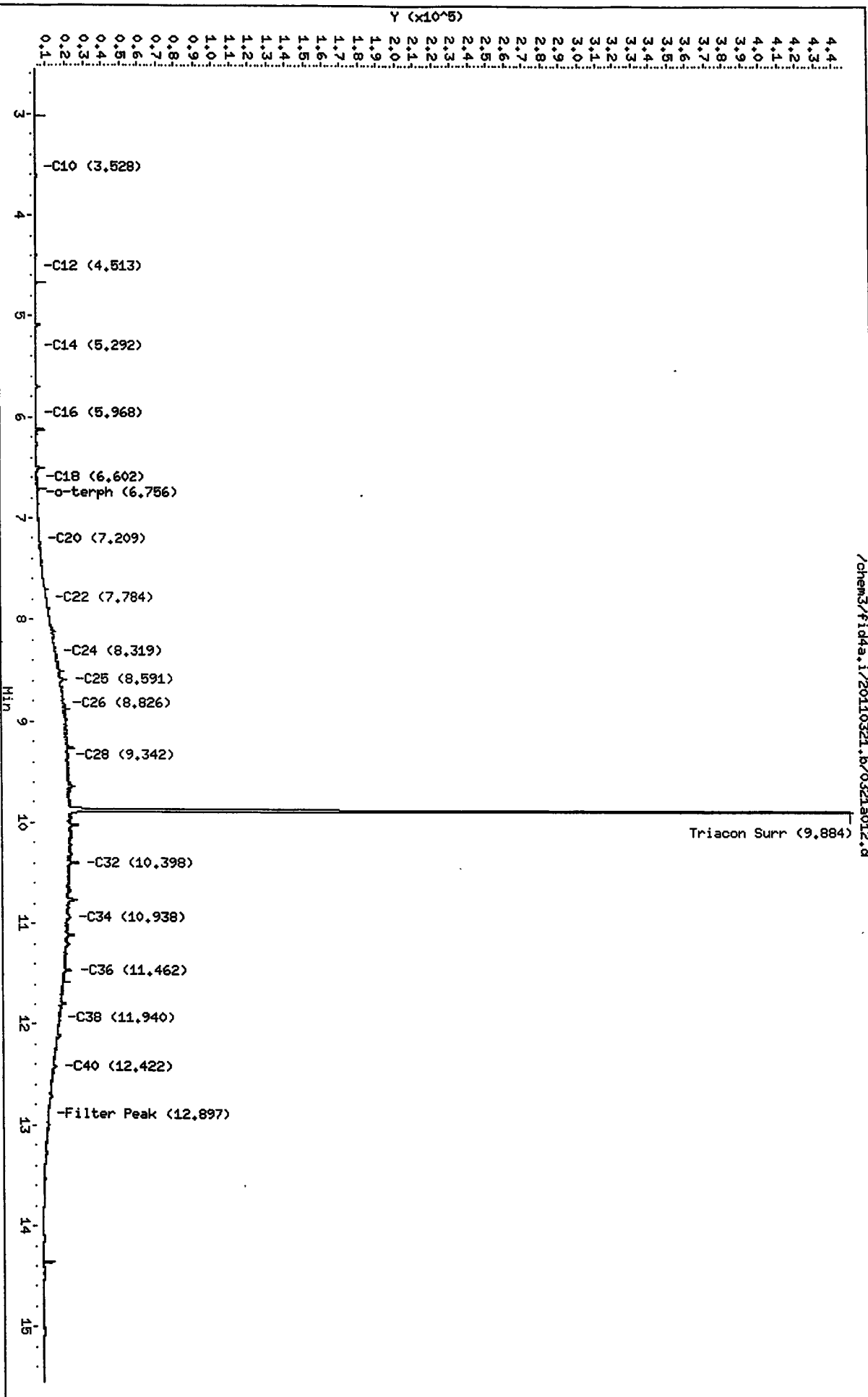
Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a012.d
Date: 21-MAR-2011 18:52
Client ID: MOIL 250
Sample Info: MOIL 250

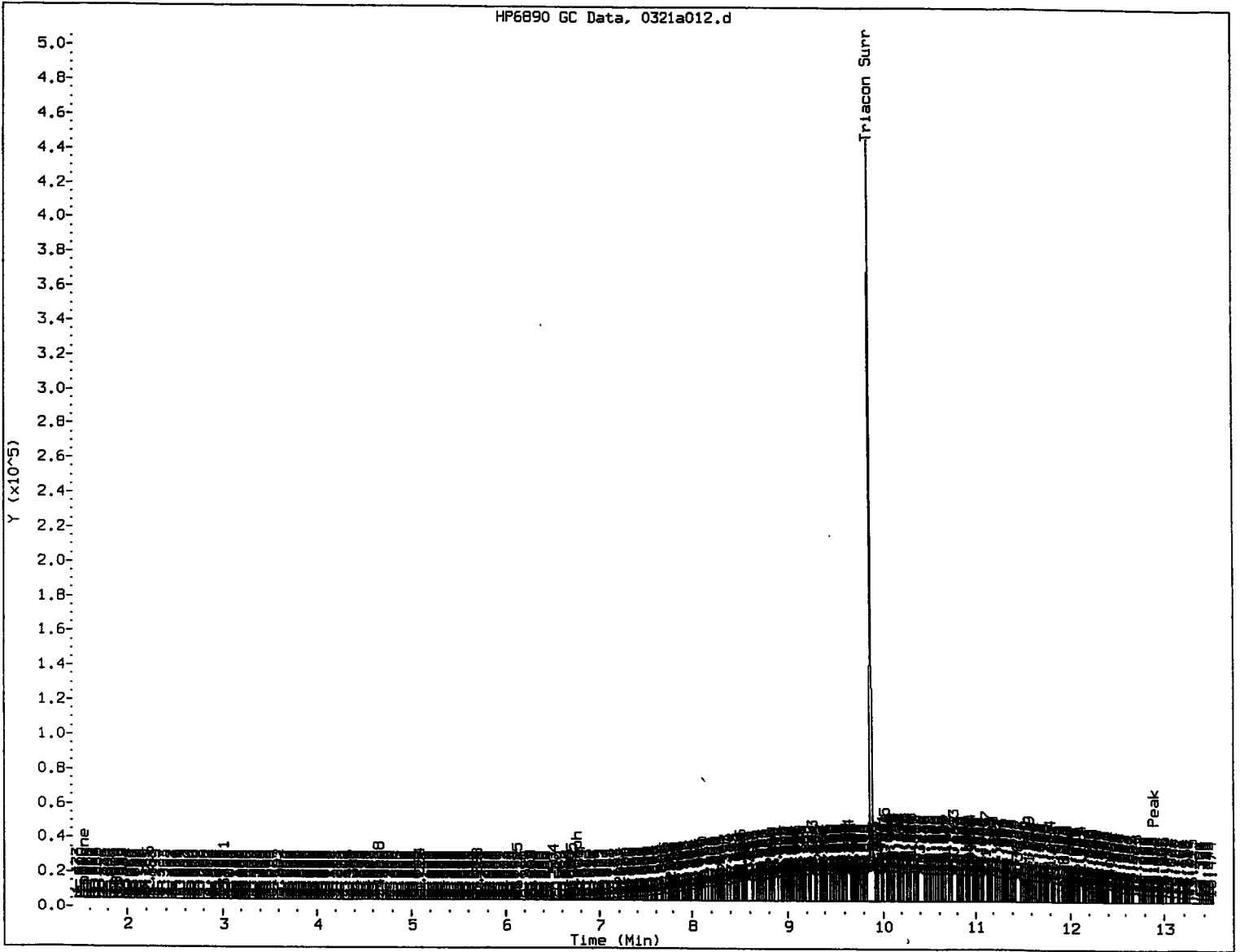
Column phase: RTX-1

Instrument: fid4a.i
Operator: MS
Column diameter: 0.25

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HP6890 GC Data, 0321a012.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: MS Date: 4/1/11

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a013.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 500
Client ID: MOIL 500
Injection: 21-MAR-2011 19:16
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.532	-0.004	1118	1003	GAS (Tol-C12)	49313	2.49
C8	1.909	0.011	563	934	DIESEL (C12-C24)	760405	38.32
C10	3.526	0.002	466	558	M.OIL (C24-C38)	5701654	500.36
C12	4.524	0.006	88	89	AK-102 (C10-C25)	941080	42.53
C14	5.293	0.001	132	92	AK-103 (C25-C36)	4949427	717.09 M
C16	5.967	-0.001	160	281			
C18	6.603	-0.004	618	886	CRUDE (Tol-C40)	6907591	914.58 M
C20	7.208	-0.004	2904	3456	MIN.OIL (C24-C38)	5701654	425.31 M
C22	7.783	-0.004	9091	7137			
C24	8.320	-0.004	18319	29414			
C25	8.576	-0.005	23418	18752			
C26	8.831	-0.001	26717	9492			
C28	9.355	0.007	30544	10215			
C32	10.396	-0.010	37300	69639			
C34	10.939	0.005	30429	56193	CREOSOT (C12-C22)	298133	106.37
Filter Peak	12.897	-0.008	6580	9650			
C36	11.441	-0.008	24391	13906			
C38	11.945	-0.001	18760	35494			
C40	12.423	-0.003	14109	40645			
o-terph	6.756	-0.011	1110	1275	JET-A (C10-C18)	44565	3.48
Triacon Surr	9.894	0.007	699520	782646			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1275	0.1	0.2
Triacontane	782646	46.1	102.4

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.1/20110321.b/0321a013.d

Date: 21-MAR-2011 19:16

Client ID: MOIL 500

Sample Info: MOIL 500

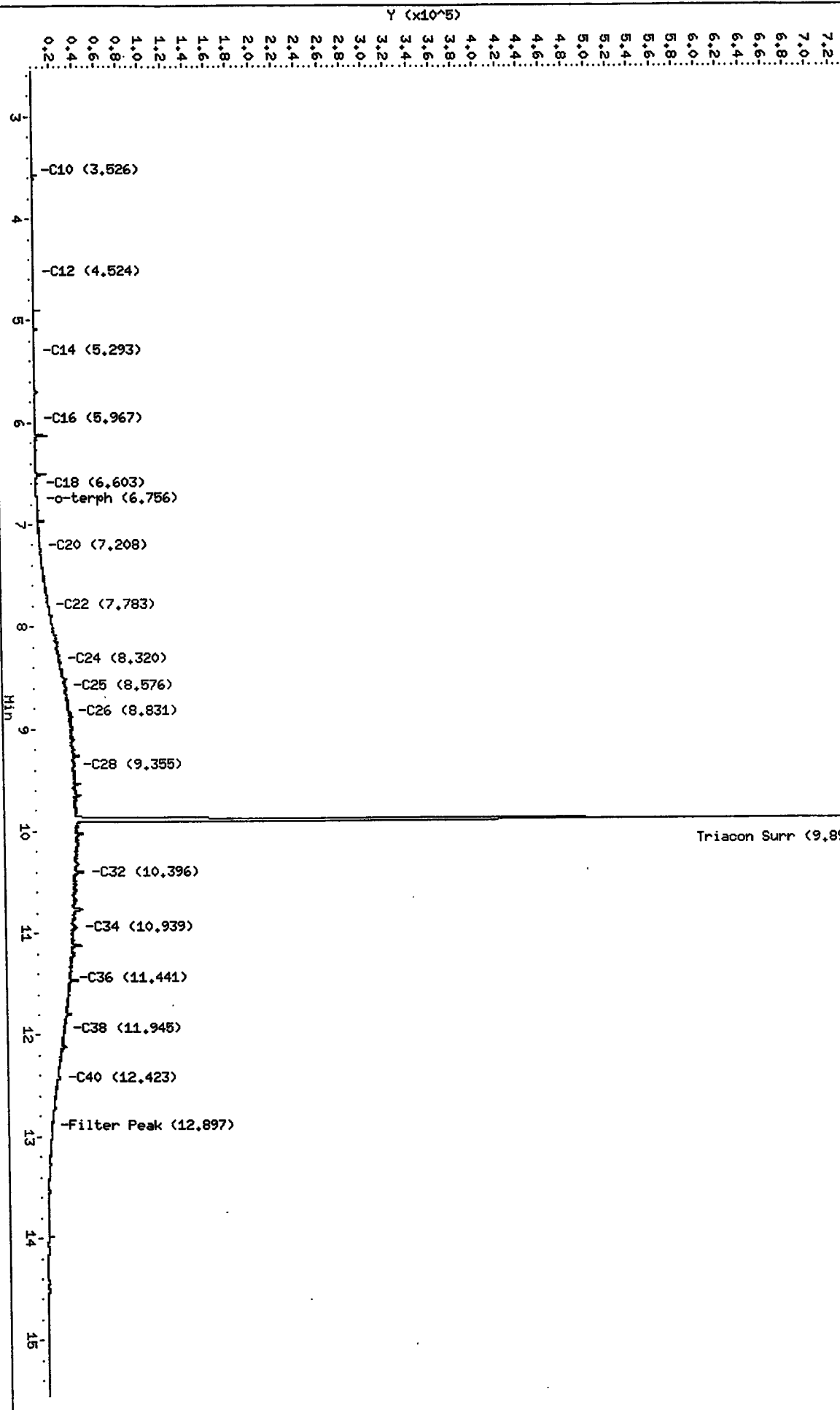
Column Phase: RTX-1

Instrument: fid4a.1

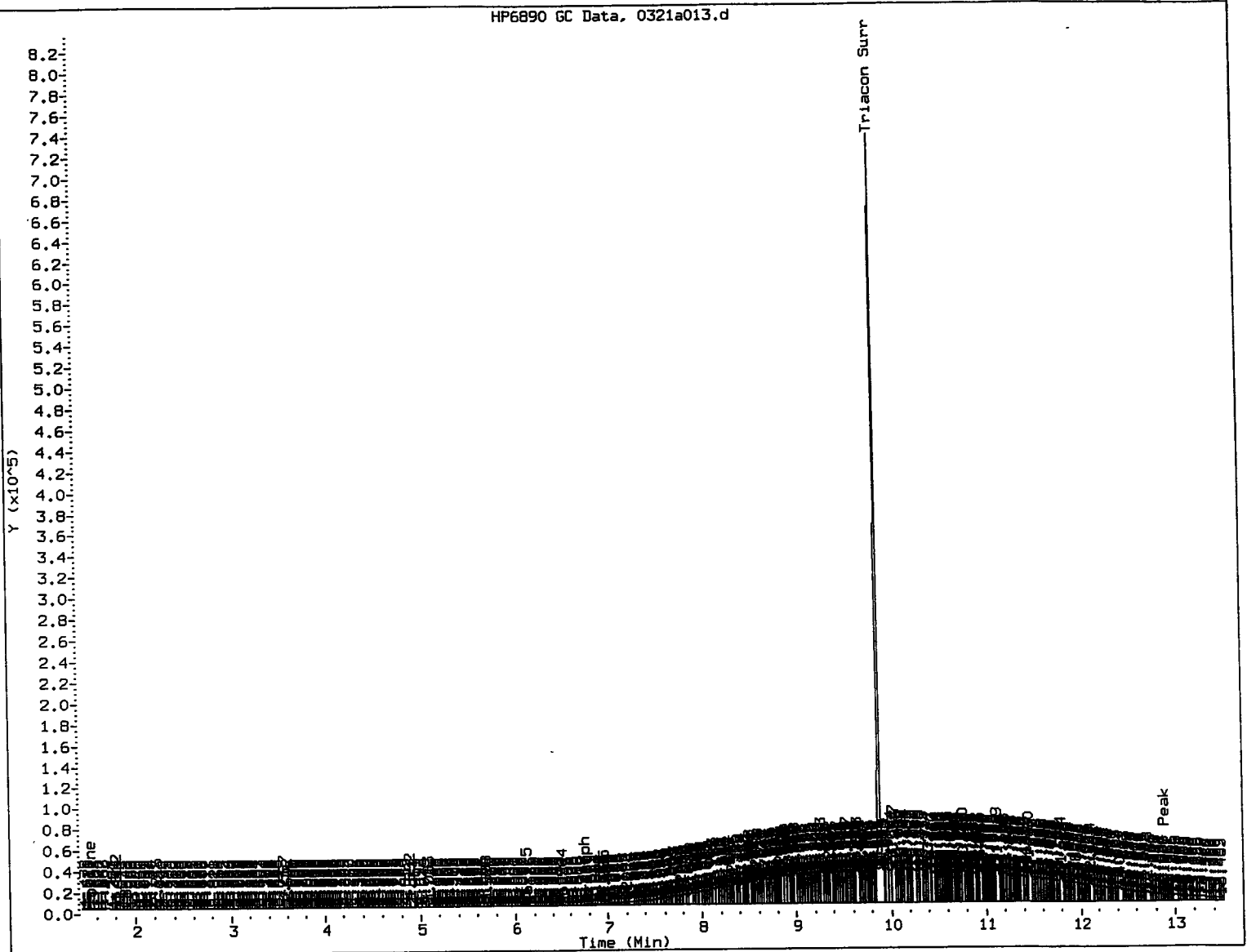
Operator: MS

Column diameter: 0.25

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HP6890 GC Data, 0321a013.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: AM

Date: 4/1/14

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a014.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 1000
Client ID: MOIL 1000
Injection: 21-MAR-2011 19:39
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.530	-0.006	1194	1228	GAS (Tol-C12)	39620	2.00
C8	1.909	0.010	430	729	DIESEL (C12-C24)	1462886	73.72
C10	3.526	0.002	869	710	M.OIL (C24-C38)	11849567	1039.89
C12	4.519	0.002	193	226	AK-102 (C10-C25)	1904567	86.08
C14	5.291	-0.001	231	299	AK-103 (C25-C36)	10138568	1468.91 M
C16	5.965	-0.004	279	330			
C18	6.600	-0.006	1071	2146	CRUDE (Tol-C40)	14128968	1870.70 M
C20	7.207	-0.006	5439	11204	MIN.OIL (C24-C38)	11849567	883.91 M
C22	7.791	0.005	18620	26270			
C24	8.322	-0.002	36828	28772			
C25	8.585	0.003	48336	34219			
C26	8.841	0.009	56795	61805			
C28	9.363	0.015	64163	121303			
C32	10.406	-0.001	69016	72045			
C34	10.932	-0.002	62748	80079	CREOSOT (C12-C22)	552494	197.13
Filter Peak	12.898	-0.008	13230	31146			
C36	11.454	0.004	53609	65248			
C38	11.938	-0.009	38452	63984			
C40	12.424	-0.002	27213	53913			
o-terph	6.779	0.012	1550	1830	JET-A (C10-C18)	64979	5.07
Triacon Surr	9.908	0.021	1094929	1619070			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1830	0.1	0.2
Triacontane	1619070	95.3	211.8

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

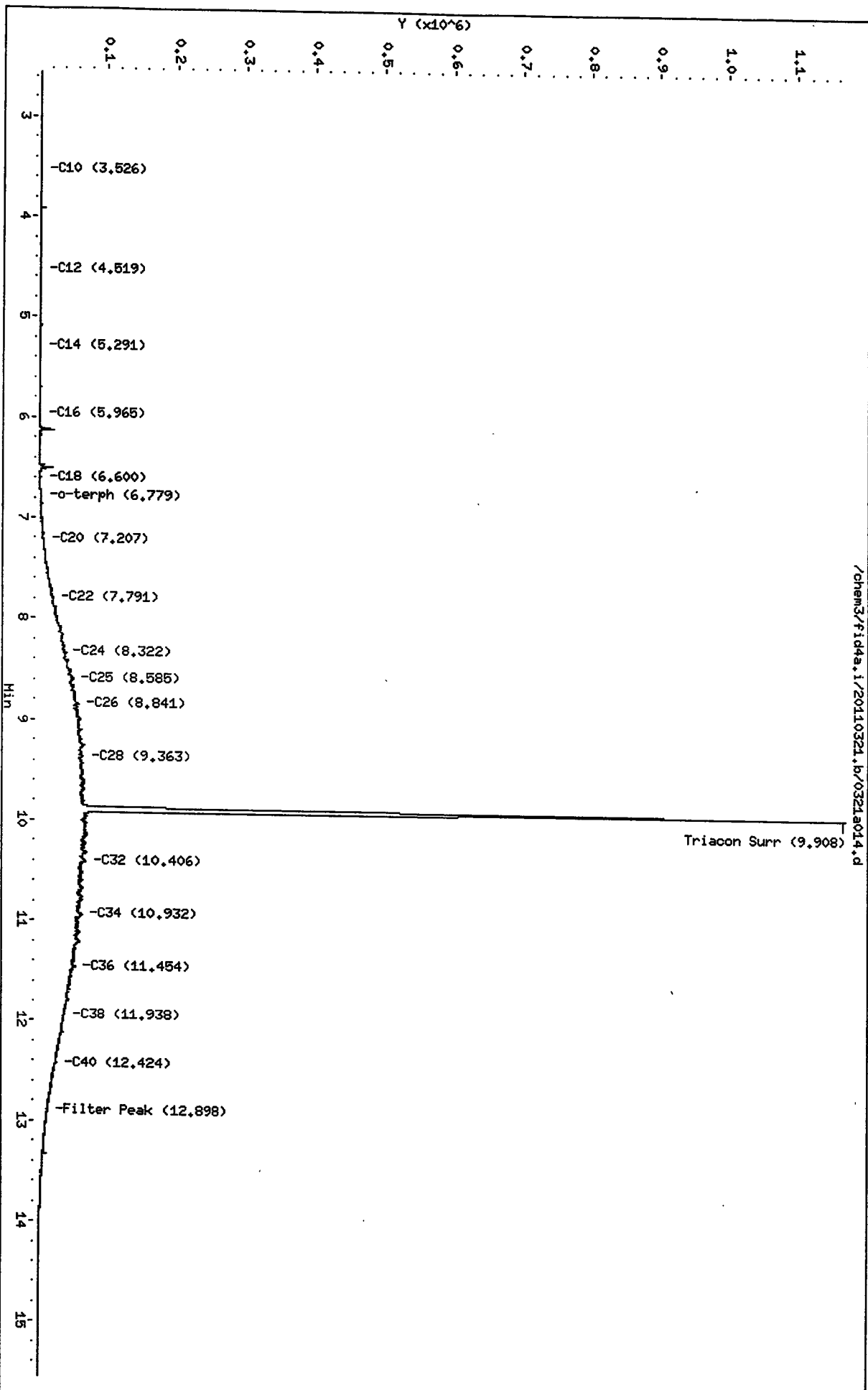
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Date: 21-MAR-2011 19:39
Client ID: HOIL 1000
Sample Info: HOIL 1000

Column phase: RTX-1

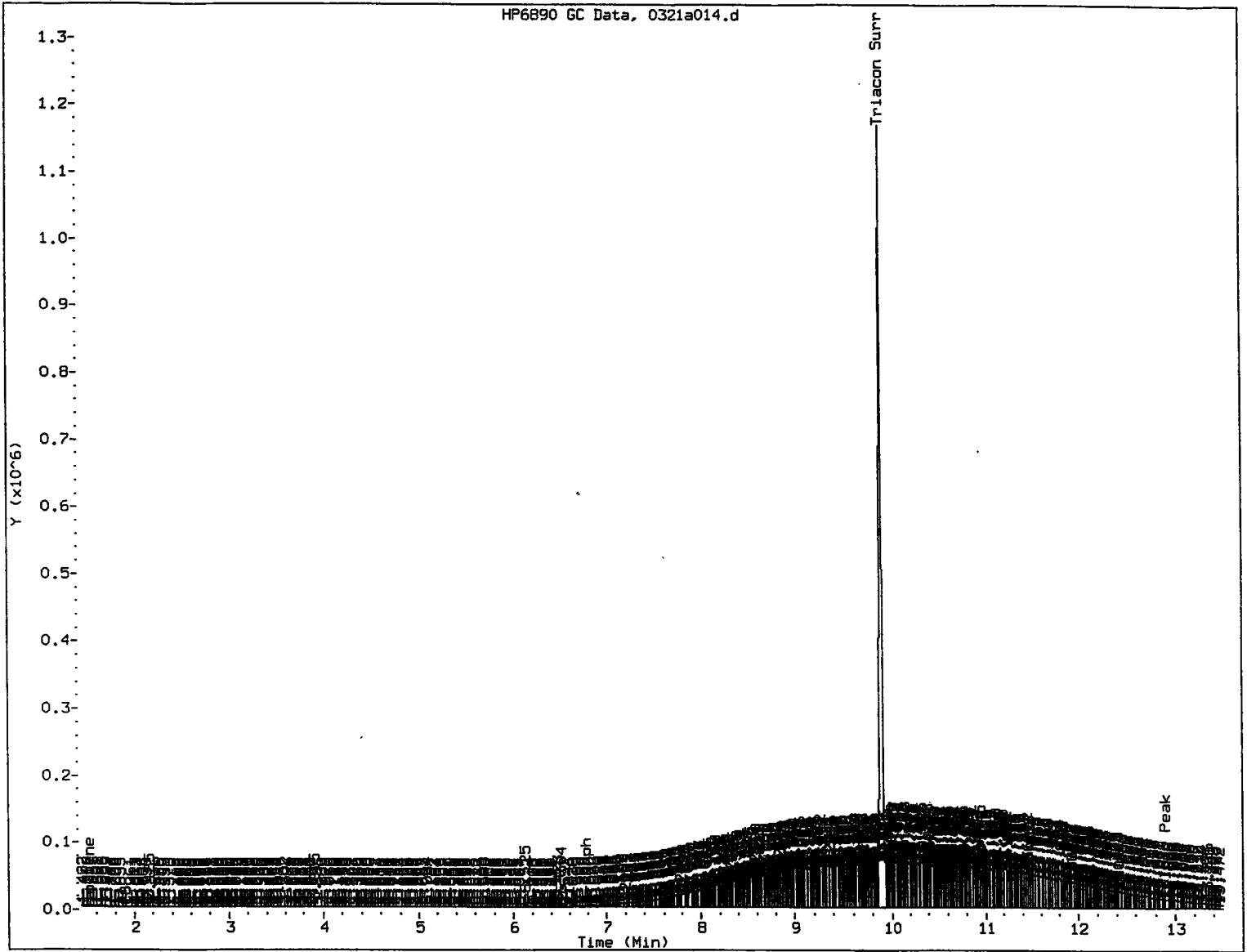
Instrument: fid4a.i

Operator: MS

Column diameter: 0.25



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MANUAL INTEGRATION

- 1. Baseline correction
 - 2. Poor chromatography
 - 3. Peak not found
 - 4. Totals calculation
 - 5. Other _____
- Analyst: Date: 4/1/11

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a015.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 2500
Client ID: MOIL 2500
Injection: 21-MAR-2011 20:03
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.529	-0.006	1948	1922	GAS (Tol-C12)	48140	2.43
C8	1.913	0.015	448	1190	DIESEL (C12-C24)	3626494	182.75
C10	3.526	0.002	2110	1521	M.OIL (C24-C38)	29276943	2569.28
C12	4.517	-0.001	792	877	AK-102 (C10-C25)	4691901	212.06
C14	5.290	-0.002	791	572	AK-103 (C25-C36)	25383690	3677.69 M
C16	5.966	-0.003	705	775			
C18	6.601	-0.005	2449	2641	CRUDE (Tol-C40)	34608439	4582.23 M
C20	7.209	-0.004	13221	16443	MIN.OIL (C24-C38)	29276943	2183.88 M
C22	7.791	0.005	46028	62839			
C24	8.328	0.004	93082	125024			
C25	8.580	-0.001	119963	72455			
C26	8.830	-0.002	134816	73781			
C28	9.341	-0.006	158526	165413			
C32	10.411	0.005	165122	45582			
C34	10.930	-0.003	146655	117837	CREOSOT (C12-C22)	1369980	488.81
Filter Peak	12.899	-0.006	22143	23636			
C36	11.450	0.001	123788	110812			
C38	11.949	0.003	87259	187338			
C40	12.416	-0.010	51423	58312			
o-terph	6.755	-0.012	3461	5225	JET-A (C10-C18)	136534	10.66
Triacon Surr	9.942	0.055	1851875	4043811			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	5225	0.3	0.7
Triacontane	4043811	238.1	529.0

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

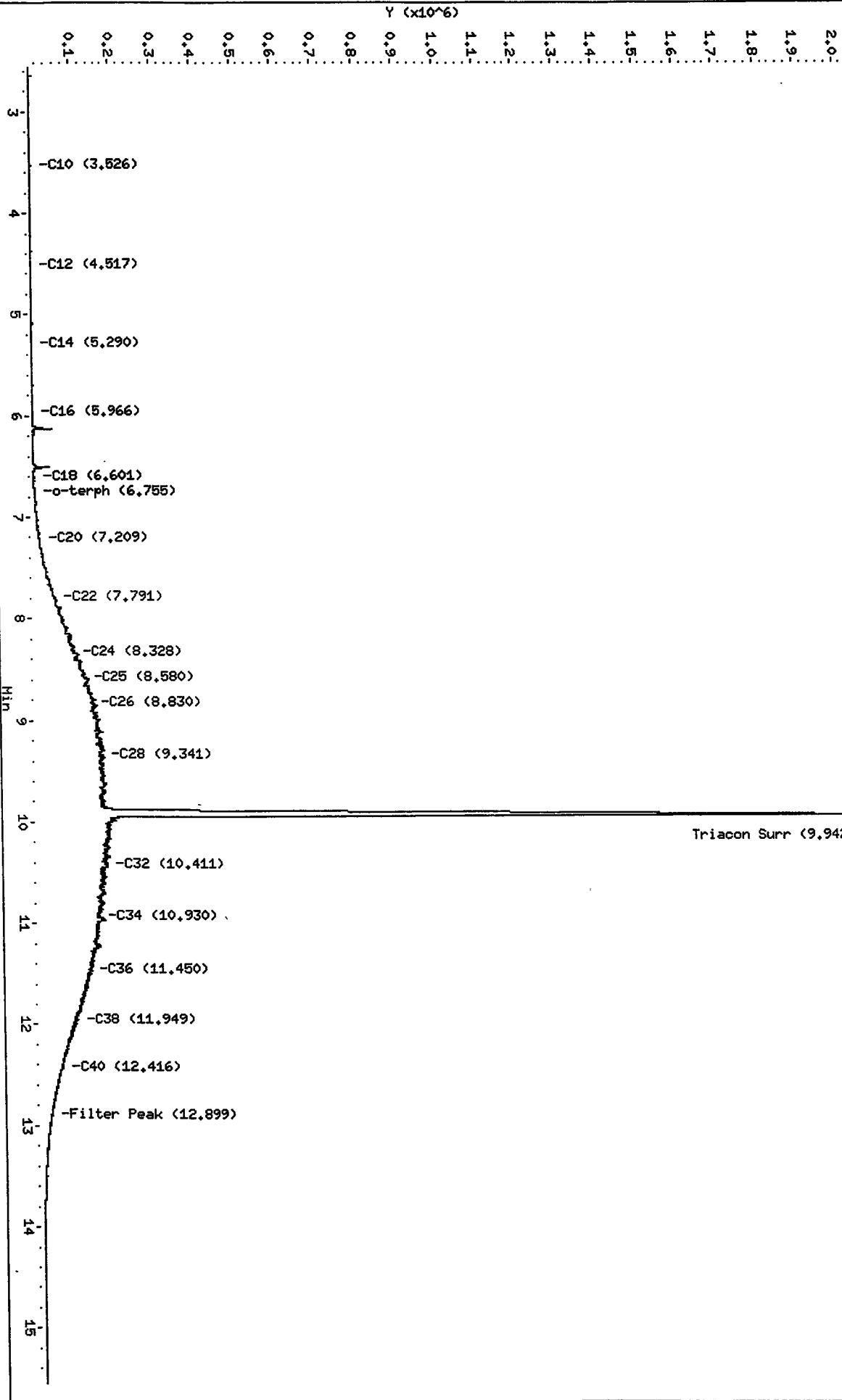
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Date: 21-MAR-2011 20:03
Client ID: MOIL 2500
Sample Info: MOIL 2500

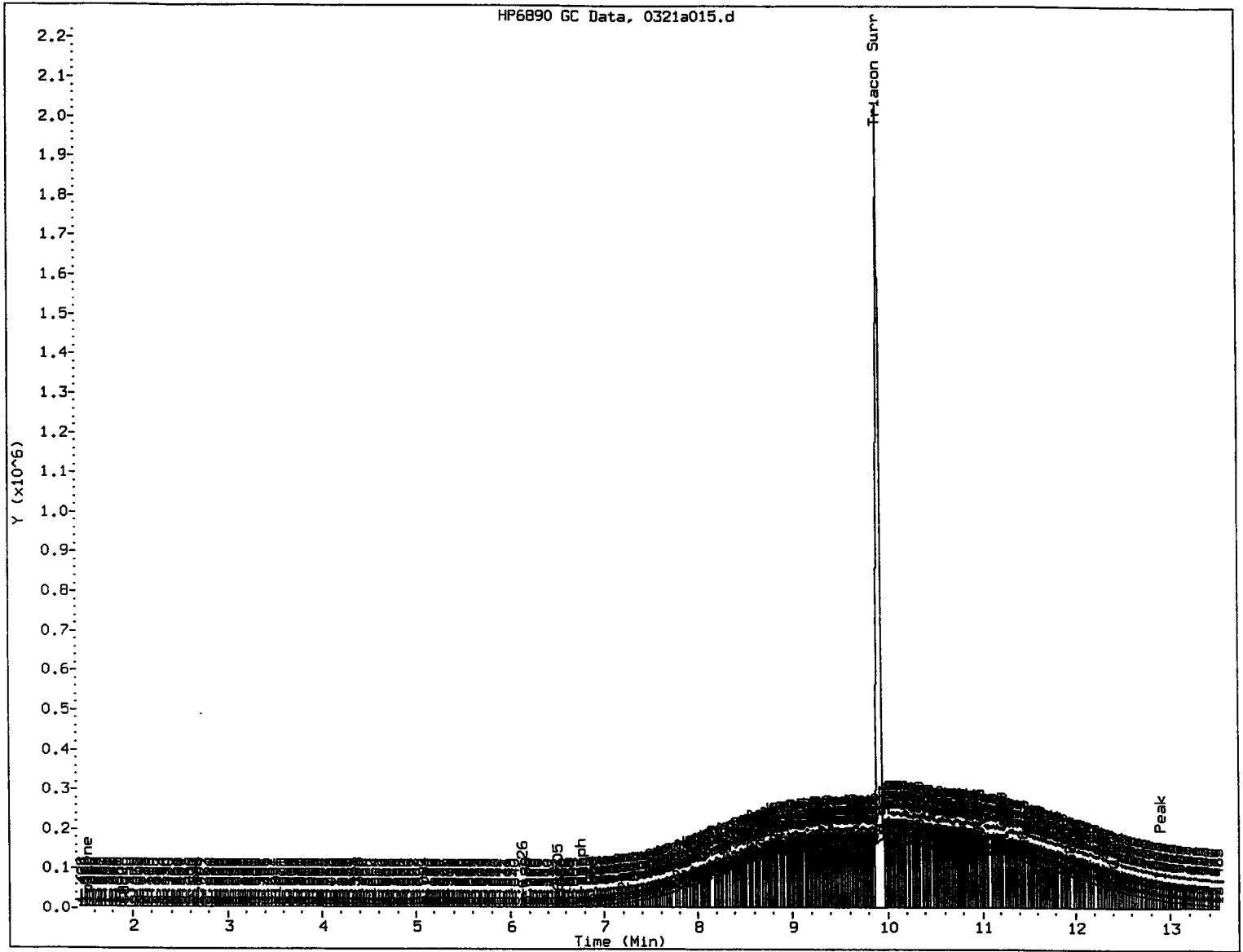
Instrument: fid4a.i

Column phase: RTX-1

Operator: MS
Column diameter: 0.25

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MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other _____

Analyst:

[Signature]

Date:

4/1/11

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a016.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL 5000
Client ID: MOIL 5000
Injection: 21-MAR-2011 20:27
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.540	0.005	3368	2972	GAS (Tol-C12)	66886	3.38
C8	1.919	0.021	531	1395	DIESEL (C12-C24)	7567830	381.37
C10	3.525	0.001	4314	2905	M.OIL (C24-C38)	53869616	4727.48
C12	4.517	0.000	2113	2634	AK-102 (C10-C25)	9530836	430.77
C14	5.290	-0.002	1970	1707	AK-103 (C25-C36)	48109167	6970.24 M
C16	5.965	-0.004	1730	2035			
C18	6.601	-0.005	5338	5072	CRUDE (Tol-C40)	63373123	8390.73 M
C20	7.210	-0.003	28030	33082	MIN.OIL (C24-C38)	53869616	4018.35 M
C22	7.784	-0.003	89174	66437			
C24	8.316	-0.008	184066	166356			
C25	8.585	0.004	244122	230741			
C26	8.824	-0.007	274420	290298			
C28	9.352	0.004	314168	307678			
C32	10.405	-0.001	307093	298434			
C34	10.942	0.008	255188	175558	CREOSOT (C12-C22)	2776165	990.54
Filter Peak	12.902	-0.003	20315	11964			
C36	11.460	0.011	191400	166230			
C38	11.952	0.006	112466	137463			
C40	12.430	0.004	50949	69622			
o-terph	6.755	-0.012	7105	9613	JET-A (C10-C18)	278840	21.77
Triacon Surr	9.976	0.089	2630602	7587358			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	9613	0.6	1.2
Triacontane	7587358	446.7	992.6

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a016.d

Date: 21-MAR-2011 20:27

Client ID: MOIL 5000

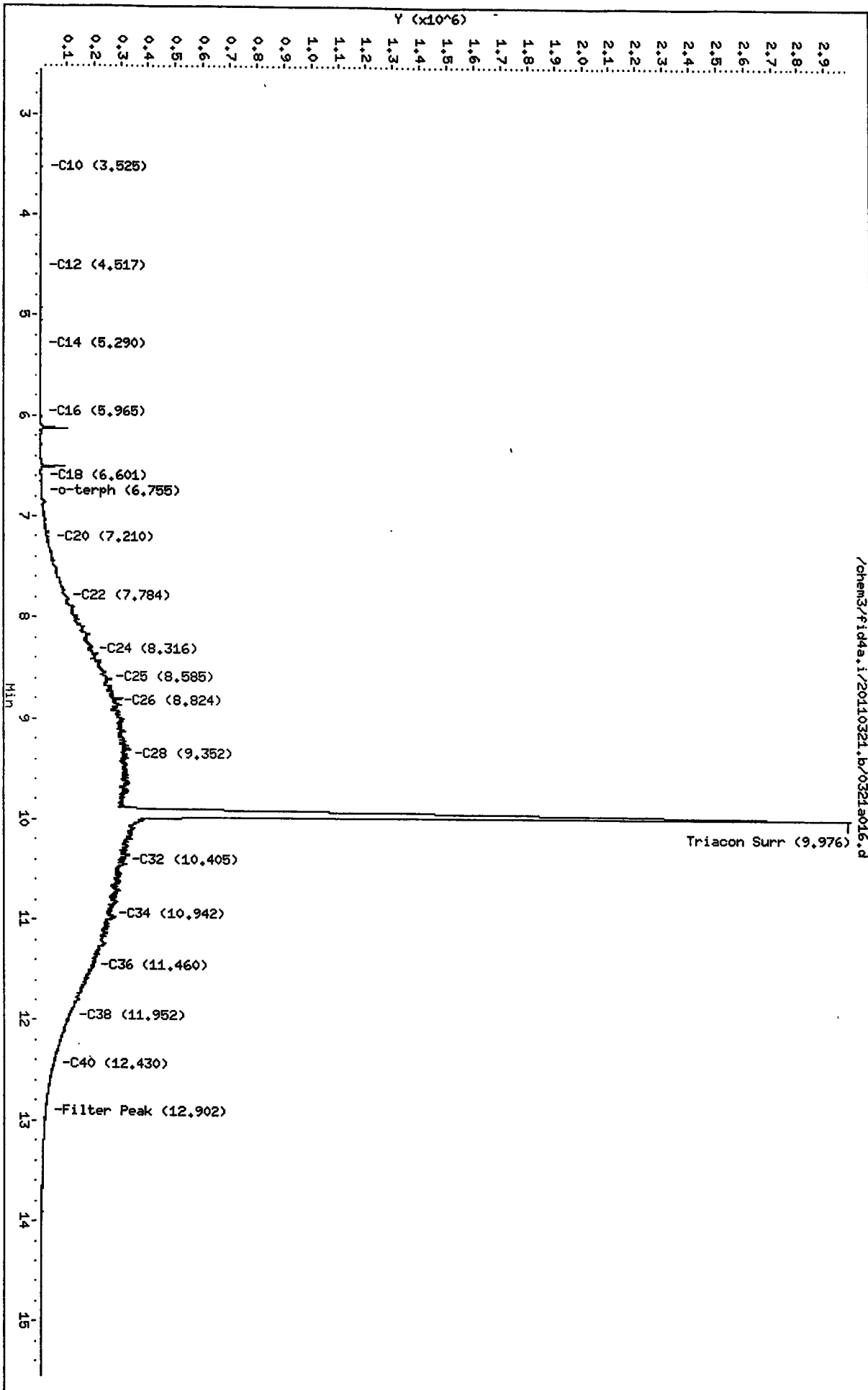
Sample Info: MOIL 5000

Column phase: RTX-1

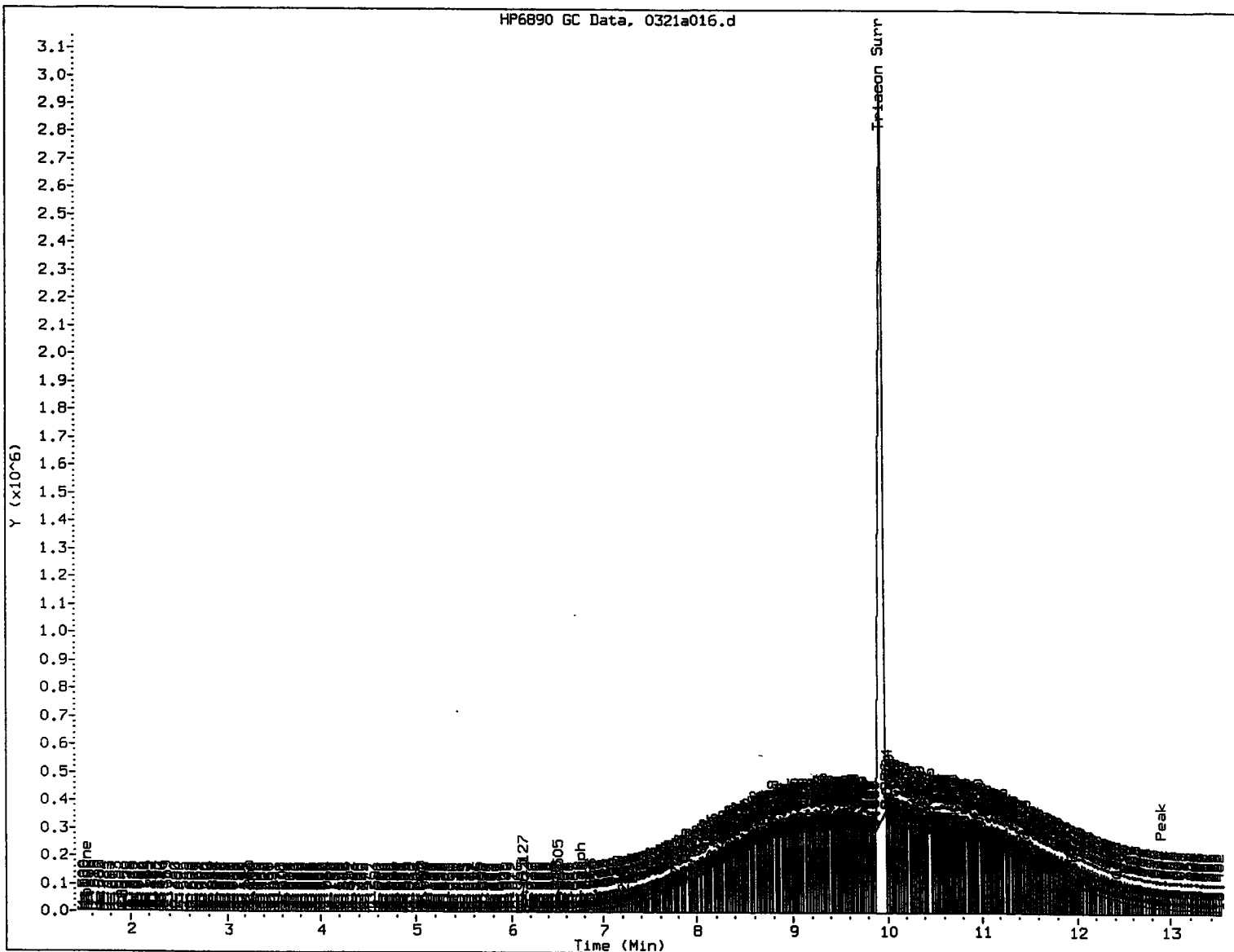
Instrument: fid4a.i

Operator: MS

Column diameter: 0.25



HP6890 GC Data, 0321a016.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst:

Date:

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110321.b/0321a017.d
Method: /chem3/fid4a.i/20110321.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MS
Report Date: 04/01/2011
Macro: 21-MAR-2011
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL ICV
Client ID:
Injection: 21-MAR-2011 20:50
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.531	-0.004	824	673	GAS (Tol-C12)	34935	1.77
C8	1.908	0.010	408	735	DIESEL (C12-C24)	818020	41.22
C10	3.527	0.003	444	446	M.OIL (C24-C38)	6382995	560.16
C12	4.523	0.006	61	60	AK-102 (C10-C25)	1038052	46.92
C14	5.295	0.004	94	106	AK-103 (C25-C36)	5523573	800.28 M
C16	5.965	-0.003	163	189			
C18	6.601	-0.005	636	875	CRUDE (Tol-C40)	7736532	1024.33 M
C20	7.208	-0.005	3025	4049	MIN.OIL (C24-C38)	6382995	476.13 M
C22	7.791	0.004	9522	13859			
C24	8.322	-0.002	19319	25462			
C25	8.584	0.003	25141	15761			
C26	8.834	0.003	28472	12736			
C28	9.347	-0.001	31435	8701			
C32	10.394	-0.013	58685	114695			
C34	10.939	0.006	33836	26557	CREOSOT (C12-C22)	310457	110.77
Filter Peak	12.910	0.005	7931	6796			
C36	11.461	0.011	44462	102907			
C38	11.953	0.007	20786	19760			
C40	12.421	-0.005	19499	45488			
o-terph	6.756	-0.011	1095	1177	JET-A (C10-C18)	41076	3.21
Triacon Surr	9.893	0.006	715319	843657			

M Indicates manual integration within range.

Range Times: NW Diesel(4.517 - 8.324) AK102(3.52 - 8.58) Jet A(3.52 - 6.61)
NW M.Oil(8.32 - 11.95) AK103(8.58 - 11.45) OR Diesel(3.52 - 9.35)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1177	0.1	0.2
Triacontane	843657	49.7	110.4

Analyte	RF	Curve Date
o-Terph Surr	17380.2	21-MAR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	12809.9	11-FEB-2011
Min Oil	13405.9	18-JAN-2011
CRUDE	7552.8	22-MAY-2010
Bunker C	7401.6	22-DEC-2010
Creosote	2802.7	21-JAN-2010

Data File: /chem3/fid4a.i/20110321.b/0321a017.d

Date: 21-MAR-2011 20:50

Client ID:

Sample Info: MOIL ICV

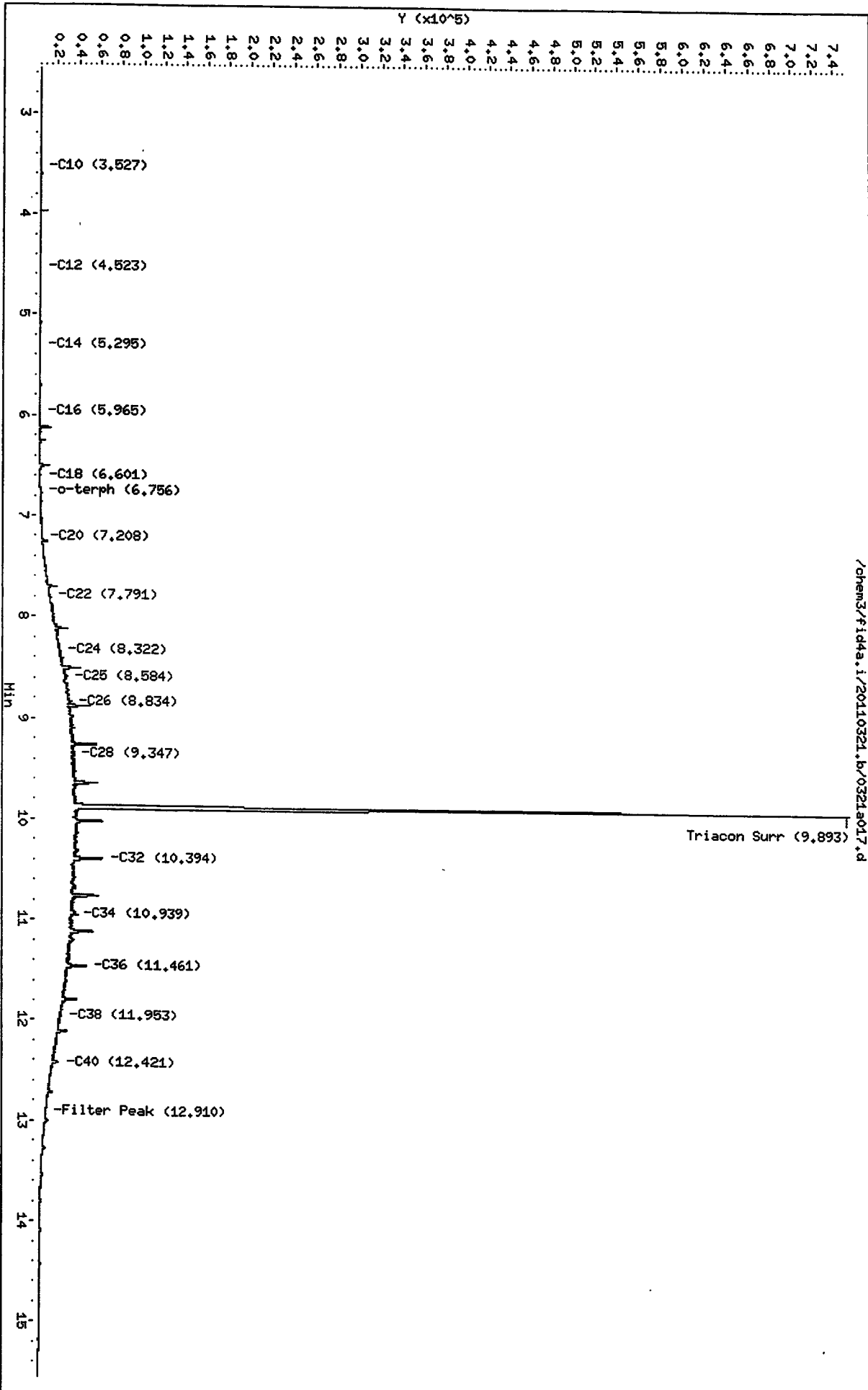
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Instrument: fid4a.i

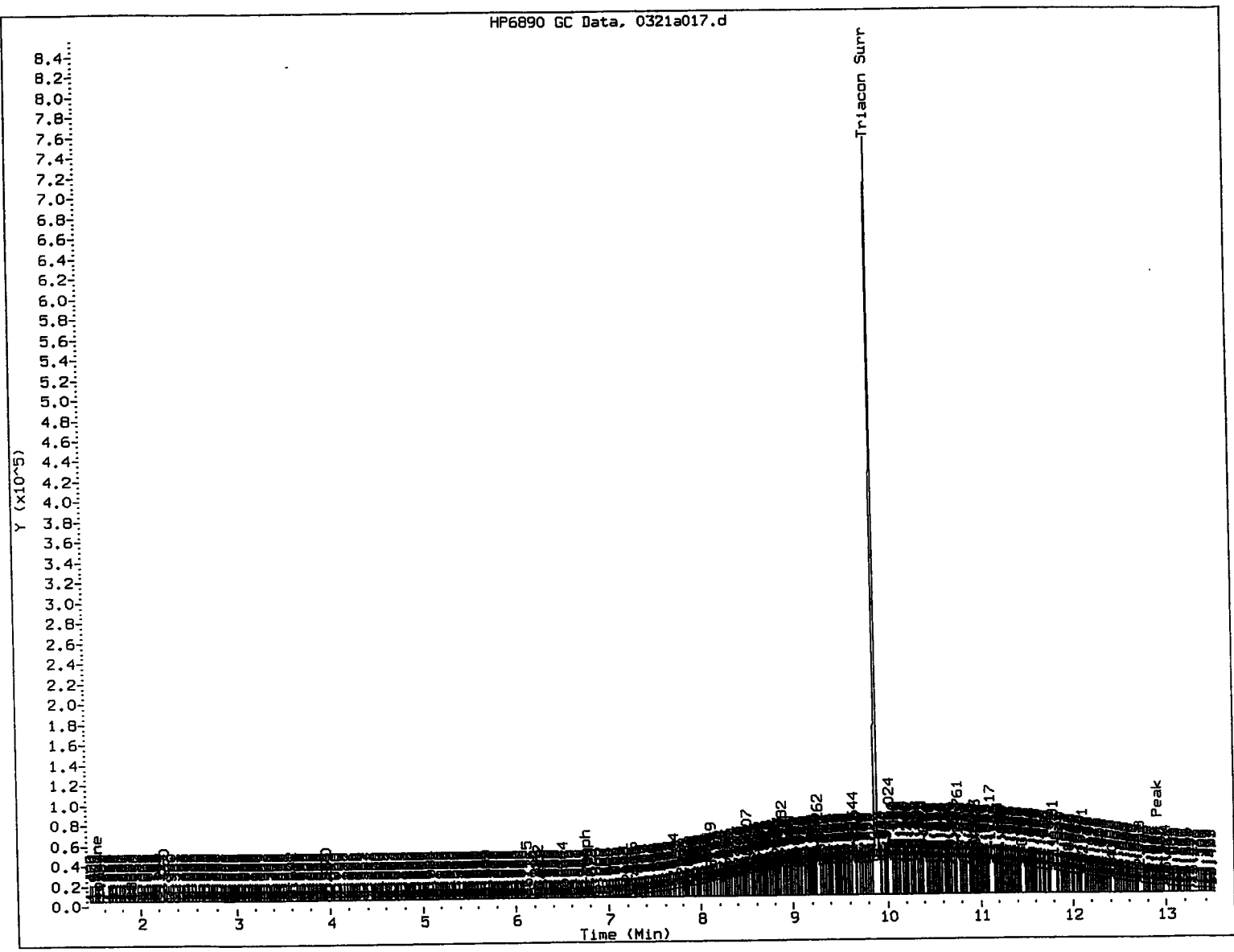
Operator: HS

Column diameter: 0.25

/chem3/fid4a.i/20110321.b/0321a017.d



HP6890 GC Data, 0321a017.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other _____

Analyst: *M* Date: *4/12/12*